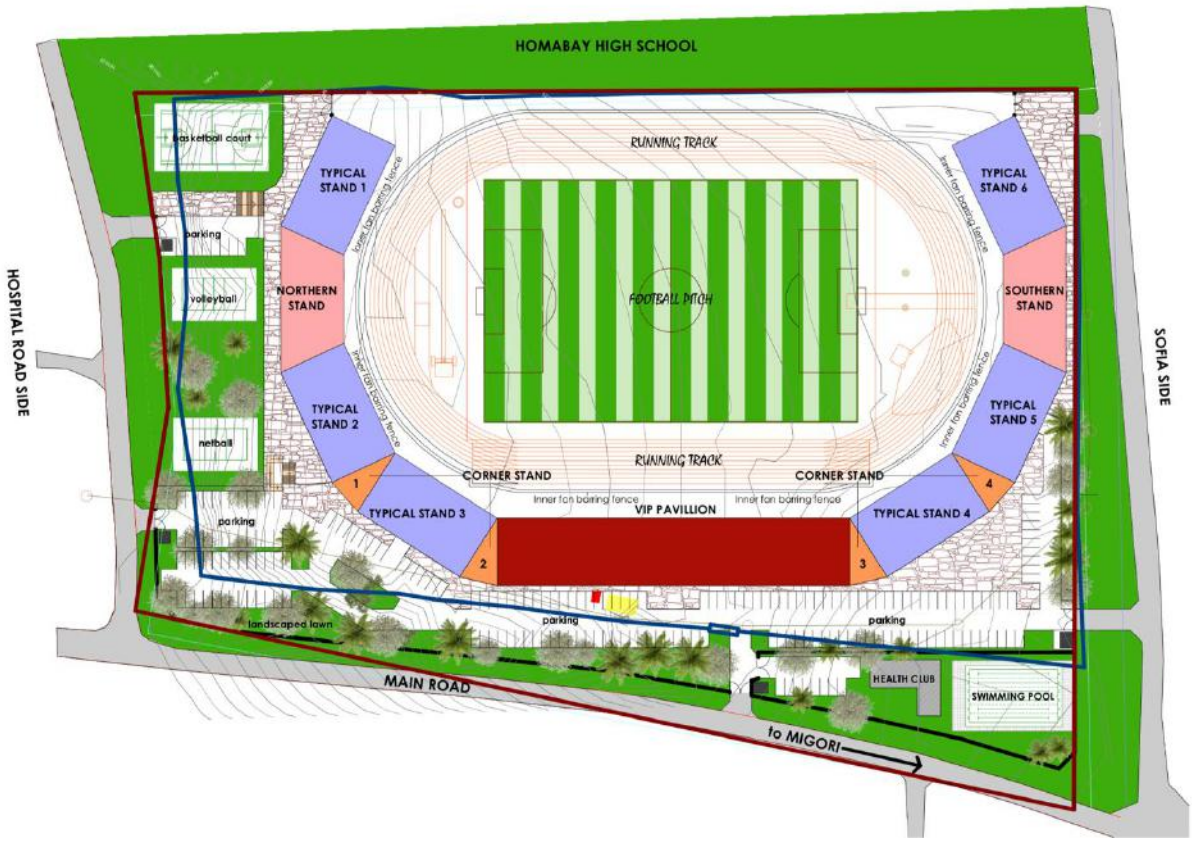
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FULL STUDY



FOR THE PROPOSED REFURBISHMENT OF HOMABAY STADIUM TO A MODERN SPORTING FACILITY LOCATE AT PLOT NUMBER 1432/145 AS AT 12TH JANUARY 1963

PROPONENT:

County Chief Officer,

Department of Sports

Homabay County Government,

P. O. BOX 52,

HOMABAY

CONSULTANT

LAKERS CONSULTANCY LIMITED

P. O. Box 19276-40123,Kisumu

NEMA EIA /Audit REG. No. 9125

LEAD EXPERT REG NO. 1682

September 2019

CONSULTANT SUBMISSION OF DOCUMENTATION
I **Mr. KEVIN MUSIEGA** on behalf of **LAKERS CONSULTANCY LTD (NEMA REG. 9125)** do hereby submit the following Environmental and Social Impact Assessment full Study Report for the Proposed refurbishment of Homabay Stadium to a Modern Sporting Facility to NEMA. This is in conformity with the requirements of the Environmental Management and Coordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations, 2003. To my knowledge, all information contained in this report is accurate and a truthful representation of all findings related to the proposed project.
Signed at Homabay on this…..……Day of **September 2019**. Signature: …… Stamp ---------- Designation: NEMA EIA/Audit Lead Expert REG. No. **1682**

PROPONENT SUBMISSION OF DOCUMENTATION
……..**-County Chief Officer**, on behalf of **Homabay County , department of Health** submit the following Environmental and Social Impact Assessment full Study Report for the Proposed refurbishment of Homabay Stadium to a Modern Sporting Facility in Homabay town, Homabay County to NEMA. This is in conformity with the requirements of the Environmental Management and Coordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations, 2003. To my knowledge all information contained in this report is accurate and a truthful representation of all findings related to the proposed project
Signed at Homabay on this…… Day of **September 2019**. Signatures: ……. Stamp ……. **As PROPONENT.**

ACRONYMS AND ABBREVIATIONS

A.S.L	Above the sea level
AIDS	Acquired Immune Deficiency Syndrome
BEPs	Best Engineering Practices
BOD	Biological Oxygen Demand
BOQ	Bill of Quantities
CHAN	Africa Nations Championship
CPP	Consultation & Public Participation
dB	Decibel
DMP	Disaster Management plan
DOSHS	DirectorateofOccupationalSafetyand Health Services
EA	Environmental Audit
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
ERPs	Emergence Response plans
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
GoK	Government of Kenya
KES	Kenya Shillings
KeBS	KenyaBureauofStandards
KNBS	Kenya National Bureau of Statistics
KWS	Kenya Wildlife Service
L.R. No.	Land Registration Number
NEAP	National Environmental Action Plan
NEMA	National Environment Management Authority
NLC	National Land Commission
NLC	National Land Commission
OHS	Occupational Health and Safety
OSHA	Occupational Safety and Health Act

PPE	Personal Protective Equipment
RA	Risks assessment
SWPPP	Storm Water Pollution Prevention Plan
VAT	Value Added Tax
WBG	World Bank Group
WHO	World Health Organization

TABLE OF CONTENTS

LIST OF PHOTOS

LIST OF TABLES

EXECUTIVE SUMMARY

Kenya has a rich history of sporting legends, and her prowess at football, track, field and marathon events lives on with past sporting greats like Kipchoge Keino, Joseph Ngugi, Moses Tanui, and current ones such as Victor Wanyama, Eliud Kipchoge, David Rudisha and Geoffrey Kamworor, among others.**Homa-Bay County Government**; herein referred to as proponent;plans to refurbish its existing stadium on **GPS coordinates -0.5388,34.4570**into a state-of-the-art facility.

Kenya has various stadiums in various towns and cities where different games and sports are held. Sporting events in Kenya are mainly held at the national sports stadia within Nairobi City Countysuch as Moi International Sports Center- Kasarani;Nyayo Stadium; and Nairobi City Stadium since there are no matching state-of-the -art facilities in the other counties.The Jubilee administration has attempted unsuccessfully tried to build five state-of-the-art stadiaas promised in their 2013 manifesto. One of the reasons for this failure is that sports is a devolved function and thus stadium development is the onus of county government. The administration, however, is working around the clock to construct one state-of-the-art stadium by the time President Kenyatta's term of office ends in 2022. Specific details have not been given.Unavailability of quality stadiums also led to Kenya being stripped the hosting rights for the 2018 Africa Nations Championship (CHAN).

This Environmental and Social Impact Assessment (ESIA) examined the potential positive and negative impacts of the proposed project on the surroundings with due regard to all the phases of construction, operation and decommission. It encompassed all aspects pertaining to the physical, ecological, socio-cultural, health and safety conditions at the site and its environs during and after construction.

Environment, Health and Safety (EHS) section addresses EHS concerns during the project's cycle. The main objective of EHS on the project is to develop guidelines for protecting, managing and responding, processes, situations/conditions that might compromise health, safety and security of workers and ecological wellbeing. To avoid or reduce negative environmental impacts, mitigation measures were proposed and an environmental and social monitoring and management plan (ESMMP) formulated. The proponent is also expected to observe recommendations in the ESMMP and carry out annual environmental audits once the project is in operation.

Overview of the Project

The primary objective of the proposed project is to refurbish the Homabay Stadium into a state-of-the-art facility that can provide recreational services to the public not only in Kenya but also the whole of East Africa region. The main design components of the project include, but not limited to the following:

- Football pitch;
- Running track;

- VIP Pavilion;
- Six typical stands for fans;
- Netball pitch;
- Volleyball pitch;
- Basketball court;
- Four (4) parking lots; and
- Landscape lawns.

Environmental and Social Impacts and Mitigation Measures

The potential negative environmental impacts of the proposed project and possible mitigation measures are summarized below:

Environmental/Social Impact	**Mitigation Measures**
Noise and Excessive Vibration	• Notify the public of any activities that may be perceived of as noisy and intrusive prior to starting. • Use of ear protection aids by construction workers • Construction to take place only during the day • Use of attenuated equipment • No unnecessary hooting by project vehicles • Installation of sound barriers • Temporarily fencing off of noisy machinery such as vibrators • Switch off machines when necessary Ensure that noise & excessive vibration from construction activities are within permissible levels as per the provision of the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009. This includes among others adhering to permissible noise and vibration level. • Use modern construction equipment, which produces the least noise; and • Useofnoiseshieldingscreensshouldbeusedandtheoperationofsuchmachineryrestrictedtowhen it is actually required. • No unnecessary hooting by project and occupants vehicles • Restriction of construction activities to day time • Use of equipment designed with noise control elements
Clearing of vegetation	• Planting grass to cover open/bare grounds • Minimal disturbance of areas not affected by the construction

Environmental/Social Impact	Mitigation Measures
	• Proper landscaping • Use specialized equipment to minimize damage to tree roots • If possible, plant new trees on approved public land to replace the trees cut down at the project site • Establishment of flower gardens and lawns around project site
Disturbance of soil structure	• Put soil traps around perimeter fence and on steep areas • Landscaping with trees, shrubs and grass • Maintaining specified routes for construction vehicles • Control earthworks • Use of light machinery and equipment
Soil and water pollution	• Openstockpilesofonsiteconstructionmaterialsshouldbecoveredwithtarpaulinorsimilarfabric during rainy season; • Prevention of the washing away of construction materials, soil, silt or debris into any drainage system; • All machinery and equipment be regularly maintained and serviced to avoid leak oils; • Maintenanceandservicingofvehicle,machineryandequipmentmustbecarriedoutinadesignated area (protected service bays); • Oil products and materials should be stored in site stores or in the contractor's yard; • Oil interceptors shall be installed along the drainage channels leading from such areas; • Allapplicablenationallaws,regulationsandstandardsforthesafeuse,handling,storageanddisposal of hazardous waste to be followed; and • Implementation of erosion and sediment control measures such as silt fences
Airborne emissions	• The project areawillbe cordoned offto minimize dust migration to nearby facilitiesbywind; • Staffworkingindustgeneratingactivitiese.g.sitepreparation,excavation,concretemixing,stone dressing should be providedwith personal protective equipment(PPE)the use of PPEshall be enforced; and • Motorized equipment bemaintained in good operating condition to reduce

Environmental/Social Impact	Mitigation Measures
	exhaust emissions; • Constructionsites,transportationroutes,diversionsandmaterialshandlingsitesto bewater-sprayed on dry and windy days to contain dust; • Haulage trucks to be covered or the aggregates sprayed with water before loading; • Avoiding open burning of solid wastes.
Increase in traffic flow	• Adequate road warning signs to traffic regulations • Set driving speed limits and erection of road bumps • Put acceleration and deceleration lanes to and from the main road • Choice of access routes during construction phase should ensure minimum disturbance to the neighbours • Develop a traffic plan to minimize traffic flow interference from construction activities e.g. schedule transport activities affecting traffic for off-peak hours
Increased Safety and Health Risks	• Regular supervision of works to ensure that safety conditions are met while any deviation from safety regulations is immediately reclaimed following the best practices regarding safety at work; • Develop evacuation procedures to handle emergency situations; • Controlled entry and exit from the premises; • Post in prominent places informative signage to inform of safety hazards and controls; • Provision of appropriate Personal Protective Equipment and enforce the use; • Hire qualified personnel in all project phases; and • Adhere to provisions of OSHA,2007 and rules under it • Use of Safety signage • Engagement of skilled laborers
Fire hazards and accidents	• Acquire firefighting facilities/equipment • Sensitize workers in fire safety • Avoid storage of flammable substances on the project site • Keep well stocked first aid kits • Proper handling and use of tools and machinery

Environmental/Social Impact	Mitigation Measures
Storm water run off	• Establish a storm water drainage system • Proper maintenance of the drainage system • Surface run-off and discharge should be controlled to prevent soil erosion • Harvest rainwater from roof for non-portable uses e.g. cleaning and watering plants
Generation of wastewater	• Proper connection of wastewater and sewerage system to existing city council system as per approved design • Provision of storm water drains • Proper decommissioning of wastewater and sewerage system • Proper maintenance of the drainage system
Generation of solid waste	• Provision of waste collection bins • Re-use of soil, construction debris and other reusable waste • Proper containment and disposal of solid waste • Contracting a licensed waste collection and disposal company • Creation of awareness on proper solid waste disposal methods • Re-use of timber off-cuts and wooden support for fuel or in other construction projects
Generation of waste	• Provision of waste collection bins designed to hold waste and hazardous waste. • Contracting a licensed waste collection and disposal company specialized in handling hazardous waste • Proper containment and disposal of the waste. • Creation of awareness on proper waste collection and disposal methods to the staff.
Increased demand for water and electricity	• Conservative use of water and electricity • Provision of adequate water storage facilities • Installation of wastewater recycling systems • Installation of rainwater harvesting structures • Re-use of water where possible, especially during the construction phase • Explore additional sources of water such as boreholes

Environmental/Social Impact	Mitigation Measures
	• Utilize alternative and renewable sources of energy such as installation of solar panels • Use of energy saving and efficient appliances
Security	• Guarding of site by a reputable security firm • Constant site patrol • Adequate screening of visitors to the site • Collaboration with existing security machinery

Conclusion and Recommendation

It is quiteevidentthatthe proposedprojectwillpioneerdevelopmentandbringpositive effects in the project area.

However,negativeimpactswillalsobeexperienced,hencetheneedtomitigatetheminordertoreducetheir adverse effects to the environment.Considering these positive socio-economic and environmental benefits that will accruebecauseofthedevelopment,andtheESIAproject reporthavingfoundnomajorsignificantimpactsto arise from the development. It is our recommendation that the project shouldbe allowed to proceed on the understanding thattheproponentwilladhere to the mitigationmeasuresrecommended hereinandwillfurtherstill implementthe proposed ESMMP to the letter. There are also guidelines for addressing EHS issues. This will be in compliance with the Environmental Management and Coordination Act (EMCA) of 1999 and the Environmental Impact Assessment and Audits regulations of 2003.

1.0 INTRODUCTION

1.1 Project Background

Kenya has a rich history of sporting legends, and her prowess at football, track, field and marathon events lives on with past sporting greats like Kipchoge Keino, Joseph Ngugi, Moses Tanui, and current ones such as Victor Wanyama, Eliud Kipchoge, David Rudisha and Geoffrey Kamworor, among others.

Kenya has various stadiums in various towns and cities where different games and sports are held. Just like most of many countries in the world, football is the main sport adored by majority of Kenyans. Kenya is also known for other sports like athletics, rugby, basketball and volleyball. Sporting events in Kenya are mainly held at the national sports stadiums, including: Moi International Sports Center- Kasarani;Nyayo Stadium; and Nairobi City Stadium.

Homa-Bay County is now planning to refurbish the existing Homa-bay stadium into a state-of-the-art stadium.

1.2 Need of theProject

The proposed stadium is planned to provide multi-specialty tertiary quality sporting services to the public not only in Kenya but will be a model stadium for the whole of East Africa region and Africa as a continent. It will also provide teaching facilities to the sports departments in the western Kenya regions. Owing to further increasing demand for sporting activities and services, Homabay County Government seeks to Refurbishment the current stadium to a modern sporting facility in Homabay town, Homabay County.

Moreover, the project is vital to the achievement of the Kenya Vision 2030 on sports and addressing the comprehensive recreational activities as entrenched in the Bill of Rights of Kenya in the 2010 constitution. The project further wishes to:

- Contribute to national development by provision of sporting facility hence the nation will at large benefit;
- Improve sport services through the completion of this stadium infrastructure;
- Improve the country's economy;
- Provide adequate parking for players, fans, visitors and staff; and
- Act asa learning center within the county.

1.3 Scope, Objectives and Terms of Reference (TOR)

1.3.1 Scope of ESIA

The proposed scope of works for the study is in compliance with the Environmental (Impact Assessment and Audit) Regulations 2003 and include:-

- Determination of baseline data using primary data generation and secondary data available from various government published on air, meteorology, water, soil, flora & fauna, socio-economics, infrastructure, sensitive areas (forest, Archaeological, historical etc.);
- Detailed description of all elements of the project activities during the preconstruction, construction and operational phase. The elements analyzed include the infrastructures of the project including drainage features, roads, waste collection, disposal and management, utility requirements and anticipated traffic changes;
- Identification of the source of pollution and assessing the impacts on the environment due to proposed project if any;
- Preparation of ESIA documents with recommendations on preventive and mitigative measures for limiting the impact on environment to the desired level during various stage of project.
- Development of a suitable post study-monitoring program to comply with various environmental regulations;
- Risks assessment (RA) and Disaster Management plan (DMP) describing the probable risks and preventive & precautionary measures to be followed in the event of emergency situations such as accidents, fire etc., and
- The social, economic and political impact of the proposed project

1.3.2 Overall objective of the ESIA study

The aim of ESIA study is to evaluate the effects/impacts of proposed development in relation to the general environmental aspects i.e. physical, biological, and social-economic environments. This is achieved by analyzing all the physical extent of the project site and its immediate environs, implementation works of the proposed development. Also taken into consideration, is the installation of key utilities and other facilities required for the optimal functioning of the Refurbishment of Homabay Stadium to a modern sporting facility.

Furthermore, it seeks to influence the protection and co-existence of the development with the surroundings as well as the compatibility of the proposed development to the area. Eventually, the study will guarantee and augment sustainable environmental management during implementation as well as operation of the project. Its objective the study will compliance with section 58 of the Environmental Management and Co- ordination Act (EMCA) No. 8 of 1999 and Environment Impact Assessment and Audit regulations (2003).The report will guide the proponent in environmental protection through the Environmental & Social Management and Monitoring Plan (ESMMP) prepared and lastly, assists NEMA in making an informed decision while approving the proposed project.

1.4 Terms of Reference (ToRs) For the ESIA.

The Terms of Reference (ToRs) for this report are in accordance with NEMAs' Environmental (Impact Assessment and Audit) regulations, 2003 under the Environmental Management and Co-ordination Act (EMCA, 1999) amended 2015 these are, to:

1) Describe location/site, objectives, scope, nature of the proposed project;
2) Describe the proposed project activities during the proposed project cycle; construction, operation, decommissioning phases;
3) Establish the suitability of the proposed project in the proposed location;
4) Review and establish all relevant baseline information as will be required by NEMA (Physical, Biological and Social Cultural and Economic)and identify any information gaps;
5) Describe and analysis the policy,, legal and institutional framework including but not limited to Kenyan policies, laws, regulation and guidelines; international guidelines related to the proposed project, which have a bearing on the proposed project and will also serve as benchmarks for monitoring and evaluation, and future environmental audits;
6) Undertake an in-depth description of the proposed project and associated works together with the requirements for carrying out the works;
7) Analyze the efficacy of the designs, technology, procedures and processes to be used, in the implementation of the works;
8) Carry out Consultation andPublic Participation (CPP): Identify key stake holders and affected persons; hold a publicmeeting (as need be) and provide /collect written evidence i.e. minutes/questionnaires
9) Identify and analyses proposed project alternatives including but not limited to Project site alternatives, no project alternatives, design alternatives, material alternatives and technologies alternatives;
10) Identify, predict and carry out in-depth analysis all actual potential and significant impacts on flora, fauna, soils, air, water, the social, cultural and community settings; the direct, indirect, cumulative, irreversible, short-term and long-term effects anticipated to be generated by the proposed project, both positive and negative throughout the project cycle;
11) Recommend sufficient mitigation measures for all the potential negative impacts identified and analyzed;
12) Analyze materials to be used in the construction and implementation of the project, and wastes to be generated proposing alternative/appropriate options/technologies;
13) Analyze occupational health and safety issues associated with the proposed project;
14) Develop an Environmental Management and Monitoring Plan proposing the measures for eliminating, minimizing or mitigating adverse impacts on the environment, including the cost, timeframe and responsibility to implement the measures;

15) Prepare a comprehensive ESIA study report inaccordance with EMCA 1999 (amendment) 2015 and legislation under it;
16) Submit a draft ESIA Study report to the client for review;
17) Incorporate comments into the ESIA study report after review by client into a final ESIA study report;
18) Submit 5 hardcopies and one soft copy of the ESIA study report to NEMA for the purposes of seeking a NEMA license that will approve the proposed project;
19) Submit to the client one copy of NEMA referenced ESIA study report, one soft copy of the ESIA study report and acknowledgment letter from NEMA;

1.5 Methodology

1.5.1 Environmental Screening

Environmental screening was carried out to determine whether an EIA study is necessary for this project and at what level of evaluation. This took into consideration the requirements of the Environmental Management and Coordination Act (EMCA), 1999, and specifically the second schedule of the same act. From the screening process, it was understood that this project will cause significant impacts on the environment.

1.5.2 Environmental Scoping

In scoping, focus was on environmental impacts of great concern. Environmental issues were categorized into physical, natural/ecological and social, economic and cultural aspects. Impacts were also classified as immediate and long-term impacts. This will include assessment of the proposed project in respect of but not limited to:

- Project Background: this will give the brief history of the proposed project site, the parties involved and justification of the project in terms of demand or lack of the same, the project area, relevant policy and legislation, identification of any associated project, or any planned projects including products within the region which may compete for the same resources; the project including products, by-products, processes both at implementation and operational level,resources required for successful implementation and operation of the project and the different options considered.
- The proposed project objectives; both in the short and long run; and how they are linked to the overall objectives.
- Present environmental conditions; description of the project site, ecological zoning as well as the state of the environment and its surroundings. Attempts will state if it is already suffering from degradation, causes of the original degradation if any established.
- Identification of Environmental Impacts; the report will distinguish between significant positive and negative impacts, direct and indirect impacts and immediate and long term impacts which are unavoidable and / or irreversible,

- Community/ Stakeholder Consultations: these will be undertaken to determine how the project will affect the local people / various stakeholders.
- Cost- Benefit Analysis; to evaluate the economics of the project and establish its viability in terms of the expected environmental concerns and measures.
- Development of an Environmental Management Plan (EMP); to mitigate negative impacts, recommending feasible and cost effective measures to prevent or reduce significant negative impacts to acceptable levels,
- Development of a Monitoring Plan; this will be used in monitoring the implementation of the mitigation measures and the impacts of the project during construction and operational phases, including an estimate of capital and operational costs, and Make necessary recommendations pertaining to the proposed development.

1.5.3 Desktop Study

This involved review of project documents, architectural drawings, past EIA, relevant policy, legal and institutional frameworks. Documents containing climatic, demographic and hydrological data for Homa-bay County were also relied upon.

1.5.4 Site Visits and Public Participation

Field visits were meant for physical inspections of the project site in order to gather information on the state of environment. Several photos of the project site were taken for inclusion in this report. The study also sought public opinion/views through Consultation and Public Participation (CPP) exercise. Questionnaires were administered to the public and interviews held with neighbors. The questionnaires have been included in this report (annexed).

1.5.5 Reporting

In the entire exercise, the proponent and EIA experts contacted each other on the progress of the study and signing of various documents. The proponent will have to submit 10 copies of this report alongside a CD to the National Environment Management Authority for review and issuance of an EIA license. All the materials and workmanship used in the execution of the work shall be of the best quality and description. Any material condemned by the architect shall be removed from the site at the contractors cost. Environmental concerns need to be part of the planning and development process and not an afterthought. It is therefore advisable to avoid land use conflicts with the surrounding area through the implementation of the ESMMP.

1.6 EIA Team Members

Table 1 ESIA team members

No.	Name	Terms OF Reference
1	**Kevin Musiega-PhD**** Environmental Policy (Environmentalist/Team	• Coordinating the other team members in the execution of the assignment.

	Leader)	• Keeping record of the assignment progress and reporting the same to client • Making of periodical supervision of the progress of individual team members. • Compiling the final report • Guidelines on the ESIA reporting/formats • Undertaking a flora and fauna survey of the study site by identifying and describing plant and animal communities present. • Undertaking a fauna survey of the study site identifying and describing fauna communities present. • Identification of fauna species and features of importance
	Naomi Apali Mogoria (Land use Planner, Environmentalist, Trainer and Researcher**)**	• Planning for the site infrastructure • Advising on the proper planning of the site
2	**Edward Odwori Adino**(Senior Technologist in the Department of Chemistry, Maseno University)	• Laboratory analysis of the samples collected from the site
3	**Juliana Akinyi Otieno**(Sociologist)	• Collecting socioeconomic and cultural baseline data of the project area • Mobilizing members of public for consultation exercise • Identifying the socioeconomic and cultural impacts likely to emanate from the project. • Developing mitigation measures for the negative impacts socioeconomic impacts. • Consultation of stakeholders.
4	**Moses Onyango Okode** (BSc Environmental Science, Msc Environmental Management. Associate Expert)	• Field visitation • Conducting public participation • Sample and data collection • Report compilation

2.0 POLICY, LEGAL AND LEGISLATIVE FRAMEWORK

2.1 Overview

Environmental Impact Assessment is an instrument for environmental management and development control. It is now accepted that development projects must be economically viable, socially acceptable and environmentally sound. It is a condition of the Kenya Government for developers to conduct Environmental Impact Assessment (EIA) on the development Projects. According to Sections 58 and 138 of the Environmental Management and Coordination Act (EMCA) No. 8 of 1999 and Section 3 of the Environmental (Impact Assessment and Audit) Regulations, 2003 (Legal Notice No.101), construction of buildings require an Environmental Impact Assessment project report prepared and submitted to the National Environment Management Authority (NEMA) for review and eventual licensing before the development commences. This was necessary as many forms of developmental activities cause damage to the environment and hence the greatest challenge today is to maintain sustainable development without interfering with the environment.

This section of the report considers the relevant Government of Kenya (GOK) legislation, policies and plans as well as relevant international safeguards such as the World Bank Guidelines and Safeguard Policies that also frame the approach towards environmental and social impacts of projects, and how they should be mitigated.

2.2 Policy Framework

2.2.1 National Environmental Action Plan (NEAP)

National Environmental Action Plan was a deliberate policy effort to integrate environmental concerns into the country's development initiatives/plans. This assumed a consultative and multi-sectoral approach. Such an approach ensured that environmental management and the conservation becomes integral in various decision making platforms.

As a result of its adoption and implementation, establishment of appropriate policies and legal guidelines as well as harmonization of the existing ones have been accomplished and/or are in the process of development. Under the NEAP process, Environmental Impact Assessments were introduced targeting the industrialists, business community and local authorities.

2.2.2 Sports Policy and Sessional Paper No. 3 of 2005 on Sports Development

This policy provides clear guidance and direction on management of sports in Kenya.

2.2.3 Policy Paper on Environment and Development (Sessional Paper No. 6 of 1999)

The key objectives of the Policy include:

- To ensure that from the onset, all development policies, programmes and projects take environmental considerations into account,

- To ensure that an independent environmental impact assessment (EIA) report is prepared for any industrial venture or other development before implementation,
- To come up with effluent treatment standards that will conform to acceptable health guidelines.

Under this paper, broad categories of development issues have been covered that require a "sustainable development" approach. These issues relate to waste management and human settlement. The policy recommends the need for enhanced re-use/recycling of residues including wastewater, use of low or non-waste technologies, increased public awareness raising and appreciation of a clean environment. It also encourages participation of stakeholders in the management of wastes within their localities. Regarding human settlement, the paper encourages better planning in both rural and urban areas and provision of basic needs such as water, drainage and waste disposal facilities among others.

2.3 Legal and Legislative Framework

Kenya has several provisions under the Constitution as well as various Acts that protect the environment and human health. These include:

2.3.1 The Constitution of Kenya, 2010

TheConstitutionofKenya2010actsastheoverarchinglegalframeworkformattersonenvironment.Itrecognizes the environment as part of the country's heritage, and which must be safeguarded for future generations. It provides for the right to a clean and healthy environment for every person in Article 42, obligating the state to enact legislation to protect that right as well as to establish systems of environmental impact assessment, environmental audit and monitoring of the environmentinArticle69.Article69 imposes on the State, other obligations including, to:

- Ensuresustainableexploitation,utilization,managementandconservationoftheenvironmentandnatural resources, and ensure the equitable sharing of the accruing benefits;
- Encourage public participation in the management, protection and conservation of the environment;
- Eliminate processes and activities that are likely to endanger the environment; and
- Utilize the environment and natural resources for the benefit of the people of Kenya.

Article69 (2) similarly poses a conservation obligation on parties such as the Kenya sports Association. The proponent is thus obligated to cooperate with State organs and other persons to protect and conserve the environment.

2.3.2 Environmental Management and Co-ordination Act, 1999 and Environment Management and Coordination (Amendment) Act, 2015

EMCA, 1999 and its 2015 Amendment provides a legal and institutional framework for the protection and conservation of the environment (inlinewithArticle42of the constitution),as well as

providing the necessary mechanism to monitor that, which include environmental impact assessment, environmental auditing and monitoring as prescribed by Article 69 of the Constitution.

InSection58. (1)OfEMCA1999,theActrequires that "Notwithstanding any approval, permit or license granted underthis Act orany other law in force in Kenya. Anyperson, being a proponent of a project, shall,before financing, commencing, proceeding with, carrying out, executing or conducting or causing to be financed, commenced, proceededwith, carried out, executed or conducted by another person any undertaking specified in the Second Schedule to this Act, submit a project report to the Authority, in the prescribed form, giving the prescribed information andwhich shall be accompanied by the prescribed fee". The project report should be conducted or prepared by individual experts or affirm of experts authorized by NEMA, which maintains a register of all experts authorizedto carry out environmental impact assessment studies and reports as Section 58(5) stipulates. The prescribed fee shall accompany the report.

The proponent therefore by engaging LAKERS CONSULTANCY LTD, undertakes this project report in fulfilment of the above requirement.

Section 60 of EMCA gives power to NEMA to require lead agencies to comment on an EIA Report. Considering the nature of the Project, NEMA may require relevant bodies/ agencies such as the ministry of health, lands and planning under Homabay County government to comment on the EIA Report.

Amended Section 59(1) states that upon receipt of an environmental impact assessment study report from any proponent undersection58 (2), theAuthority shallcause to be published inthe Gazette, in at least two newspapers circulating in the area or proposed area of the projectand over the radio". The public notice provides thefollowing information:-

1. A brief description of the project;
2. The place where the project shall be carried out;
3. The place where the EIA Report may be inspected; and
4. AtimelimitnotexceedingsixtyforthesubmissionoforalorwrittencommentsontheEIA Report.

Part VII on environmental audit and monitoring empowers NEMA to enter any premises for purposes of monitoring whether ongoing project activities conform to the statements made in EIA study report.

The proponent is required to submit annual audit reports to NEMA, describing how far the project conforms in operation with the statements made in the EIA report.

2.3.3 EMCA Related Regulations

To provide guidelines on how to actualize EMCA and its amendment, the governmenthas published host of regulations. These provide specific requirementsas related to water, air, waste,

EMCA (Environmental Impact Assessment and Audit) Regulations, 2003

ThesereiterateEMCAontheneedforconcludingandapprovalofanenvironmentalimpactassessmentproject report before project undertaking. The minimum requirements set for the content of such a project include:

- the nature of the project;
- the location of the project including the physical area that maybe affected by the project'sactivities;
- theactivitiesthatshallbeundertakenduringtheprojectconstruction,operationanddecommissioning phases;
- the design of the project;
- thematerialstobeused,productsandby-products, Includingwastetobegeneratedbytheprojectandthe methods of their disposal;
- thepotentialenvironmentalimpactsoftheprojectandthemitigationmeasurestobetakenduringandaf ter implementation of the project;
- anactionplanforthepreventionandmanagementofpossibleaccidentsduringtheprojectcycle;aplant o ensure the health and safetyof the workers and neighboring communities;
- the economic and socio-cultural impacts to the local community and the nation in general;
- the project budget

This projectreport conforms to the above requirements.

EMCA (Water Quality) Regulations 2006

The Water QualityRegulations (2006) are contained in theKenya Gazette Supplement No. 68, LegalNotice No. 120. These regulations apply to water used for a variety of purposes, including water used for domestic purposes, industrial, purposes, agricultural purposes etc. They protect lakes, rivers, streams, springs, wells and other water sourceswhere by contravening the regulations is an offence that attracts a fine not exceeding five hundred thousand shillings.

Of immediate relevance to the proposed project is Part II Sections4-6 as well as Part V Section24.

Part II Section 4 inhibits actswhich directly or indirectly, immediate or subsequentlycause water pollution.

Part II section 6 criminalize discharge of water from sewage treatmentworks, industry or other point sources into the aquatic environmentwithout a valid effluent discharge license.

PartVSection24prohibitsdischargeorapplicationofanypoison,toxic,noxiousorobstructingmatter, radioactivewastes,orotherpollutants,intowatermeantforfisheries,wildlife,recreationalpurposesor any other uses.

All waste water shall therefore be channeled into the sewer line to avoid ground and surface water pollution, and if a

pollutionincidenceoccurs,thecontractor/proponentshallnotifytheauthorityimmediately.Thecontractor/proponent will handle hazardous substances in a manner that is not likely to cause water pollution.

EMCA (Conservation of Biological Diversity) Regulations, 2006

These regulations apply to conservation of biodiversity that includes conservation of threatened species, inventory and monitoring of biodiversity and protection of environmentally significant areas, access to genetic resources, benefit sharing and offences and penalties. These regulations will guide the identification and protection of any endangered/threatened species found on the development site. Proper environmental management will be required to conserve the biological diversity within the affected.

EMCA (Wetlands, River Banks, Lake Shores and Sea Shore Management) Regulations, 2009

The aim of these Regulations is to ensure conservation and sustainable use of wetlands in Kenya. The regulations provide guidelines on wetland management even for those found on private land. The Regulation indicates that clear guidelines on management of the different types of wetlands found in the country has not been developed thus it is recommended that while working in aquatic environments the relevant Lead Agencies should be consulted to guide on the correct application of the law. Despite that, the regulation also recommends use of precautionary principal when working near wetlands in order to conserve them thus existing regulation on wetland management should be applied.

The proponent/ Contractor will ensure use of silt screens/curtains will be required particularly during the trenching at the land-water interface. Additionally Proponent/contractor should ensure that the existing wetland is conserved and enhanced both during the construction and operation period.

EMCA (Waste Management) Regulation, 2006

The Waste Management Regulations (2006) are contained in the KenyaGazetteNo.69, LegalNotice No.121.The Waste Management Regulations are meant to streamline the handling, transportation and disposal of various types of waste. The aim of the Waste Management Regulations is to protect human health and the environment. The regulations place emphasison waste minimization, cleaner production and segregation of waste at source. The regulation requires licensing of transporters of wastes and operators of disposal site (sections7and10respectively). Of immediate relevance to proposed development for the purposes of this project study report is Part II Sections4(1-2), 5 and6.

Section 4 (1) states that "No person shall dispose of any waste on a public highway, street, road, recreationalareaoranyotherpublicplaceexceptin adesignatedwaste receptacle". Section4(2) and6 explain that the waste generator must collect, segregate(hazardous waste from non-hazardous)and dispose waste in such a facility that shall be provided by the relevant local authority.

Section5providesmethodofcleanerproduction(soastominimizewastegeneration)whichincludesthe improvement of production processes through conserving raw materials and energy.

Section11providesthatanyoperatorofa disposalsiteorplantshallapplytherelevantprovisionsonwaste treatment under the local government act and regulations to ensure that such waste does not present any imminent and substantial danger to the public health, the environment and natural resources.

Part VI Section 38, 39 and 40 are relevant as far aswaste segregation, packaging and treatment is concerned.

Section 38 states that any person who generates waste shall at thepointof stages there after segregate the waste in accordance with the categories provided under the Seventh Schedule to these Regulations.

Section 39 states that all waste shall be securely packaged in biohazard containers, which shall be labelled with the symbols,set out in Part I and II of the Eighth Schedule to these Regulations.

While section 40 states that any person who generates waste shall treat or cause to be treated allwasteinthemannerset out in the NinthScheduletotheseRegulations,before such waste is stored or disposed of.

The Proponent (and byextension the developer/contractor appointed bythe proponent) is expected totake all responsibility to ensure that solid waste(both hazardous and non-hazardous) is properly handled, stored, transported and disposed as per the procedures provided in these regulations, as well as the various documented management plans and guidelines on health care waste management such as the National Health Care Waste Management Plan 2015-2020 and the WHO National Guidelines on Safe Disposal of Pharmaceutical Waste. The waste must be transported by licensed transporter and disposed inwaste treatment facility that is approved by the authority.

EMCA (Noise and Excessive Vibration Pollution Control) Regulations, 2009

These Regulations require that noperson oractivity shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment. In determining whether noise is loud, unreasonable, unnecessary or unusual, the following factors maybe considered:

- Time of the day;
- Proximity to residential area;
- Whether the noise is recurrent, intermittent or constant;
- The level and intensity of the noise;
- Whether the noise has been enhanced in level or range byany type of
- Whetherthenoiseissubjecttobecontrolledwithoutunreasonableeffortorexpensetothepersonmaking the noise.

These regulations also relate noise to its vibration effects and seek to ensure no harmful vibrations are caused by controlling the level of noise.

Part II Section 4 state that: except as otherwise provided in these Regulations, no person shall

Make or cause to be made excessive vibrations annoys, disturbs, injures or endangers the comfort, response, health or safety of others and the environment; or

Cause to be made excessive vibrations, which exceed0.5centimetrespersecondbeyondanysource property boundary or 30 meters from any moving source.

Part III Section 2 (1) statesthat any person wishing to a) operate or repair any machinery, motor vehicle, construction equipment, pump, fun, air conditioning apparatus or similar mechanical device; or b) engage inany commercialor industrial activity, which is likely to emit noise or excessive vibrations shall carry out the activity or activities within the relevant levels provided in the First Schedule to these Regulations. Any person who contravenes this Regulation commits an offence.

Noiseis expected during construction phase therefore, contractor is required to implement the provisions of the ESMMP, to ensure noise reduction. In addition, he shall be required to adhere to the provisions of maximum permissible levels for construction sites.

Table 2Second Schedule– Maximum Permissible Noise Levels for Construction Sites

Maximum permissible Noise levels for construction sites (measurements taken within the facility)			
	Facility	**Day**	**Night**
	Health facilities, educational	60	35
	Institutions. Homes for disabled etc.	60	35
	Areas other than those	75	65
Time frame: Day: 6.01 a.m. – 6.00 p.m. Night: 6.01 p.m. – 6.00 a.m.			

EMCA (Air Quality) Regulations, 2014

The objective of these Regulations is to provide for prevention, control and abatement of air pollution to ensure clean and healthy ambient air. The general prohibitions state that no person shallcause theemission of air pollutants listed under First Schedule (Priority air pollutants) to exceed the ambient air quality levels as required stipulated under the provisions of the SeventhSchedule (Emission limits for controlled and non-controlled facilities) andSecond Schedule (Ambient air quality tolerance limits).

The contractor and proponent will be guided by provisions of this act, during construction and operation phase respectively. Air quality monitoring will be guided by the standards stipulated thereof.

2.3.4 Other Environment, health and safety, physical planning related laws

Occupational Health and Safety Act, 2007

The Act makes provision for the health, safety and welfare of persons employed. The provision requires that all practicable measuresbetakentoprotectpersonsemployedfromanyinjury. Theprovisionsoftheactare also relevant to the management of hazardous and non- hazardous wastes, which may arise at the project site during constructionandoperation.Theactprovidesthatallmeasuresshouldbetakentoensure safety, health and welfare of allthe stakeholders in the work place.

Workers and occupants' safety will be given priority during both construction and operation phases of the project. It shallbethedutyofthecontractorandproponentrespectivelyinthiscasetoensure safety and health ofworkers during construction phase.

Theconstructionsitesfordifferentcontractorsshallberegisteredasworkplacewiththe directorate of occupational safetyandhealthservicesundertheministryoflaboursocialsecurityandservices. Afire audit, riskassessment and safety and health audit has to be conducted for the sites at least once every year.

All provisions of this Act relevant to the project activities shall be adhered to. All plants shall be subjected to periodical examinations as provided by law.

2.3.5 The Physical Planning Act of 1996CAP286

The Act provides for the preparation and implementation of physical development plans, and for connected purposes. In part V on control of development, Even though the stadiummaster plan has been approved, the proponent willberequiredtoapplyfordevelopmentpermissiongrantedbythelocalauthorityundersection33 priortothestartofanyphaseddevelopments.Failuretodosoisanoffenceandshallbeliabletoafinenot exceedingonehundredthousandshillingsortoanimprisonmentnotexceedingfiveyears or to both. In addition the development, development shall be discontinued.

Any application for development permission for development activities that are likely to have severe impact on the environment shall be submitted together with an environmental impact assessment report, as stipulated insection36.

2.3.6 The National Land Commission Act, 2012 (No. 5 of 2012)

Section 5 of the Act outlines the Functions of the Commission, pursuant to Article 67(2) of the Constitution as follows 5(1):- (a) to manage public land on behalf of the national and county governments; (b) to recommend a national land policy to the national government, (c) to advise the national government on a comprehensive programme for the registration of title in land throughout Kenya; (d) to conduct research related to land and the use of natural resources, and make recommendations to appropriate authorities; (e) to initiate investigations, on its own initiative .or on a complaint, into present or historical land injustices, and recommend appropriate redress; (f) to

encourage the application of traditional dispute resolution mechanisms in land conflicts; (g) to assess tax on land and premiums on immovable property in any area designated by law; and Environmental and Social Impact Assessment Study Report (h) to monitor and have oversight responsibilities over land use planning throughout the country.

The proponent has been cleared by the National Land Commission and issued with the title to the land. Squatters settled on the land have been given notice to vacate from the land.

2.3.7 The Land Act, 2012

This is an Act of Parliament to give effect to Article 68 of the Constitution, to revise, consolidate and rationalize land laws; to provide for the sustainable administration and management of land and land based resources, and for connected purposes. Part viii of this Act provides procedures for compulsory acquisition of interests in land. Section 111 (1) states that if land is acquired compulsorily under this Act, just compensation shall be paid promptly in full to all persons whose interests in the land have been determined. The Act also provides for settlement programmes. Any dispute arising out of any matter provided for under this Act may be referred to the Land and Environment Court for determination. The proponent has acquires land for the proposed project in accordance with this Act.

The proponent has been issued with title to the land under the custody of Government of Kenya

2.3.8 The Penal Code CAP63

Chapter XVII on "Nuisances and offences against the land convenience" contained in the penal code strictly prohibits the release of foul air into the environment that affects the health of the persons. It states, "Any person who voluntarily vitiates the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carrying on business in the neighborhood or passing along a public way is guilty of misdemeanor"

Waste disposal and other project related activities shall be carried out in such a manner as to conform to the provisions of the code.Itistheresponsibility of the contractedlicensedwastehandlertoensurethatallkindsof wastesaredisposedappropriatelyasperthelegalprovisions. Quiteapartfromfear ofhealth hazards, the general public is very sensitive about the visual impact of anatomicalwaste. In no circumstances is it acceptable to dispose of anatomical waste in appropriately, such as on landfill or together with other solid wastes.

2.3.9 Public Health Act Cap. 242

The Act makes provisions for securing and maintaining health. Part IX, section 115, of the Act prohibits any person or institutionfromcausingnuisanceoraconditionlikelytocauseinjuryorwhichmightbedangeroustohumanhealth. As well, section 116 of the act mandates the relevant departments of the County government of

Homabay to take proceedings at law against any person causing or responsible for the continuance of any nuisance or conditionliable to be injurious or dangerous to human health.

This means that the main contractor and the proponent will be required to provide sanitary facilities and solidwaste handling containers for use by the construction workers on site during construction and operation phases. A licensed solidwaste transporter will also be contracted to collectall solidwaste from the site fordumping at approved sites. Wastewater from the proposed project developments during the operational phase will be channeled to the sewer line. The final effluent must meet the stipulated standard for disposal into the sewer line

2.3.10 The Health Act (No. 21 of 2017)

The Health Act, Section 88 (XIII) indicates that The Cabinet Secretary shall pursue strategies that are conducive to the development and regulation of private health services and their atonement to the needs of the population. Furthermore, the act stresses that the public and private health services and facilities shall complement each other in the provision of comprehensive and accessible health care to the people The first schedule of the act states that a quality health centre should provide out-patient care, provision of limited emergency care, maternity for normal deliveries, laboratories, oral health and referral services, provision of preventive and promotive services and in-patient observations. To achieve the requirements of the heath act, the proposed project architectural plans have been designed to be in line with the requirements of the health act as they cover all the provisions of a stadium as stated in the Act.

2.3.11 The Water Act, 2014

The Water Act (2002) provides for management, conservation, use and control of water resources. The sections of the Water Act (2002) that are relevant to development of industrial projects are:-

Section 2(1) that defines pollution in relation to water resources to mean any direct or indirect alteration of the water resources so as to make it less fit for any beneficial purpose for which it is or may reasonably be expected to be used, or harmful or potentially harmful to:

- The welfare, health and safety of human beings
- Any aquatic or non-aquatic life or property or
- The environment.

Section 94 (1) that states that no person shall, without authority under the Act:

- Willfully obstruct, interfere with, divert or abstract water from any water course or any water resource or negligently allow any such obstruction, interference, diversion or abstraction or,
- Throw or convey or cause or permit to be thrown or conveyed any rubbish, dirt, refuse, effluent, trade waste or other offensive or wholesome matter or thing into or near to any water resource, in such manner as to cause pollution of water resource.

Section 94 (2) underscores that a person who contravenes the above section shall be guilty of an offense.

2.3.12 The Food, Drugs and Chemical Substances Act (Cap 254)

This act relates to any representation by any means whatsoever for the purpose of promoting directly or indirectly the sale or disposal of any food, drug, cosmetic, device or chemical substance. The act also states that any person who labels, packages, treats, processes, sells or advertises any drug in contravention of any regulations made under this Act, or in a manner that is false, misleading or deceptive as regards its character, constitution, value, potency, quality, composition, merit or safety, shall be guilty of an offence. Additionally, any person who sells, prepares, preserves, packages, stores or conveys for sale any drug under insanitary conditions shall be guilty of an offence. It is therefore recommended that the proponent shall adhere to the law in the process of providing treatment and medication in form of drugs to patients. This will be achieved through the proponent employing quality staff and ensuring that drugs and sports equipment are kept as per the laws and policies.

2.3.13 Medical Examination Rules (Legal Notice No. 24 of 2005)

This is a subsidiary legislation to the Factories and Other Places of Work Act, CAP 514 of the Laws of Kenya. These rules were made in early 2005 by the Minister for Labour and Human Resource Development. These rules apply to factories and other workplaces where workers are exposed to hazardous substances and processes. The categories of workers who require medical examinations is given in section 45 (B) of the Factories and Other Places of Work Act of 1990. The category of workers to be examined is also given in the first schedule of Legal Notice No. 24.

According to this Legal Notice, the type of examination required for workers is dependent on the hazards that one is exposed to. Examples of work deemed hazardous include spray painting, sanding, and handling used oil or grease. Such workers must also undergo skin tests in accordance with these regulations.

2.3.14 The Standards Act Cap 496

ThisActpromotes the standardizationof the specification ofcommodities,andprovides for the standardizationof commoditiesand codes of practiceto ensurepublic healthand safety. ItestablishestheKenyaBureauofStandards (KeBS) and defines itsfunctionsas relatedto:

- promotion ofstandardization in industry and commerce; and
- Makingarrangementsor provision of facilitiesfor the testingand calibration of precision instruments, gauges andscientificapparatus,forthedeterminationof theirdegree ofaccuracybycomparisonwithstandardsapprovedbytheMinisterontheircommendationoftheCouncil,andfortheissueofcertificatesinregard thereto.

Thismeans the Proponent hastoensureallmaterialsandequipmentinuseduringconstructionaswellas operation of the facilityadheresto thehighest standardsand do not pose any human health and safety risk.

2.3.15 Sport Act of 2013

This Act establishes Sports Kenya which, among other functions, is mandated to:

- Manage and maintain the sports facilities specified in the First Schedule and any other facilities which the Cabinet Secretary may, by notice in the *Gazette*, declare to be sports facilities for the purposes of this Act;
- Establish, manage, develop and maintain the sports facilities, including convention centers, indoor sporting and recreational facilities for the purposes of this Act; and
- adopt, develop, plan, set stadia standards and licence and regularly inspect stadia for sporting and recreational use.

The proponent will develop the stadium in accordance with Sports Kenya standards.

2.3.16 County Government Act (2012)

The County Government act was formed after promulgation of the new constitution of Kenya (2010). The constitution calls for devolution of duties in the counties for effective results. These county governments may manage and let land besides regulating and licensing trade activities including construction in their areas of jurisdiction besides provision and maintenance of roads, footways, street lighting and sewerage in their areas.

Section 160 of the act empowers counties to establish and maintain sanitary services for the removal and destruction of, or otherwise deal with all kinds of refuse and effluent and where such service is established, compel its use by persons to whom the service is available. Similarly, section 163 (e) empowers the local Authorities to prohibit businesses which by reason of smoke, fumes, chemicals, gases, dust, smell, noise, vibration or other cause, may be or become a source of danger, discomfort or annoyance to the neighbourhood, and to prescribe conditions subject to which such business shall be carried on. It is in this vain that section 165 mandates the council to grant or to renew business licenses or to refuse the same.

In order to discharge its duties effectively, section 170 of the act allows the right of access to private property at all times by local authorities, its officers and servants for purposes of inspection, 27

maintenance and alteration or repairs of sewers. According to section 173, any person who, without prior consent in writing from the council, erects a building on; excavate or opens-up; or injures or destroys a sewer, drains or pipes shall be guilty of an offence. Any demolitions and repairs thereof shall be carried out at the expense of the offender. The Act, by virtue of section 176 also empowers the local authority to regulate sewerage and drainage, fix charges for use of sewers and drains and ensure that connecting premises meets the related costs.

2.3.17 The Electricity Power Act, 1997

Section 55 (1) in the execution of works in connection with the construction, modification, maintenance or operation of an electric supply line or apparatus or conductor connected thereto, every licensee shall:

In no way injure the works, conveniences or property belonging to any such other such authority, company or person, nor obstruct or interfere with public traffic, except with the previous consent of the board. Take adequate precautions to protect from danger any person engaged upon such works by the provision and maintenance in safe and efficient conditions of the necessary safety appliances for the use of such persons and by ensuring their proper use, or by other means approved by the board.

2.4 InternationalGuidelinesandpolicies

2.4.1 The World Commission on Environment and Development

The Commission commonly referred to as the Brundtland Commission focused on the environmental aspects of development, in particular the emphasis on sustainable development that produces no lasting damage to the biosphere, and to particular ecosystems. In addition, environmental sustainability is economic and social sustainability. Economic sustainable development is development for which progress towards environmental and social sustainability occurs within available financial resources. Social sustainable development maintains the cohesion of a society and its ability to help its members work together to achieve common goals, while at the same time meeting individual needs for health and wellbeing, adequate nutrition and shelter, cultural expression and political involvement.

The proponent is committed to adhere to the proposed EMP to ensure environmental enhancement and this would first be monitored through the initial environmental audit.

2.4.2 WorldBankGroup(WBG)Guidelines on Environmental,Health,andSafety (EHS), 2007

TheEnvironment,Healthand Safety(EHS)Guidelinescontainperformancelevelsandmeasuresfordevelopmentof industrialprojectsthat are consideredachievablein the newfacilitiesat reasonablecostsbyexisting technology.

Undertheseguidelines,theWorldBankhasseveralguidelinesmanyofwhichareapplicabletovariouscomponents of the proposed project namely:

- EHSGuidelines - Air Emissions andAmbientAir Quality
- EHSGuidelines - Waste Management
- EHSGuidelines –stadium Facilities
- EHSGuidelines - Hazardous MaterialsManagement
- EHSGuidelines – Constructionand Decommissioning

Air emissions and ambient air quality

Theseguidelinesaremeantforalltypesofprojectswith"significant''emissions,sourcesofairemissions,and potentialforsignificantimpactstoambientairqualitytopreventorminimizeimpactsbyensuringthatemissions do notresult inpollutantconcentrationsthatreachorexceedrelevantambientqualityguidelinesand standards. They requiretheapplicationofnationallegislatedstandard,orintheirabsence, thecurrentWHOAir Quality Guidelines, or otherinternationallyrecognizedsources.KenyacurrentlyhasEnvironmentalManagementand Coordination(Air Quality) Regulations, 2014 applicable to thisproject.

Inthisproject,therewillbefugitiveairemissionsthatareexpectedduringconstructionandoperationphases of the project. These guidelinesare usefulastheygive controland monitoring measures.

Waste Management

Theguidanceapplies to the management ofnon-hazardousand hazardous waste. Thisprojectiswillbe a major generator ofbothhazardousandnon-hazardouswaste.Theseguidelinesprovide categories of variouswastesand a summary oftreatmentanddisposaloptions.These guidelinesprovidegood guidanceonwaste on-site handling, collection,treatmentanddisposalforboththeproponentandthecontractorsduringconstructionandoperation phasesrespectively.

This report greatlyadoptstheguidancewhileformulating the environmentalmanagementplan.

Noise

This section addresses impacts of noise beyond the property boundary of the facilities. These guidelines are applicable during construction phase whereby construction equipment and activities are expected to emit noise. Our local regulations, EMCA (Noise and Excessive Vibration Pollution Control) Regulations, 2009 give permissible levels during construction works.

The proponent therefore has adequate guidance to ensure noise levels are maintained as low as reasonably practicable.

Occupational Safety and Health

These guidelines guide employers and supervisors in fulfilling their obligation to implement all reasonable precautionsto protect the health and safety of workers.Theguidelines provide guidance and examples of reasonable precautionstoimplement inmanaging principalriskstooccupationalhealthand safety.Although thefocusisplaced on the operational phase of projects,of the guidancealsoappliesto construction and decommissioning activities.Theguidelinesalso describe howfacilityoperationworkplace design should beundertakento prevent occupational health and safety risks and hazards.The guidelines also give examples of internationally published exposureguidelineswhichmaybeusedtomeasureoccupationalhealthandsafetyperformanceexamples,to include theThresholdLimit Value,occupational exposure guidelinesand

BiologicalExposureIndicespublished by AmericanConferenceofGovernmentalIndustrialHygienists,thePocketGuidetoChemicalHazardspublished by the United StatesNationalInstitute forOccupationalHealth and Safety,PermissibleExposure Limits published by the OccupationalSafetyand Health Administration of the UnitedStates, IndicativeOccupationalExposure Limit Values

Construction and decommissioning

Theseprovideadditionalandspecificguidanceonpreventionandcontrolofcommunityhealthandsafetyimpacts that may occur during new project development, at the end of the projectlife-cycle,ordue to expansion or modification ofexistingprojectfacilities.

2.5 Institutional Framework

At present, there are over twenty (20) institutions and departments which deal with environmental issues in Kenya. Some of the key institutions include the National Environmental Council (NEC), National Environmental Management Authority (NEMA), the Forestry Department, Kenya Wildlife Services (KWS) and others. There are also local and international NGOs involved in environmental activities that impact on the environment in one way or the other in the country.

2.5.1 National Environmental Management Authority (NEMA)

The object and purpose for which NEMA is established is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of the government in the implementation of all policies relating to the environment. A Director General appointed by the president heads NEMA. The Authority shall, among others:

- Co-ordinate the various environmental management activities being undertaken by the lead agencies and promote the integration of environmental considerations into development policies, plans, programmes and projects with a view to ensuring the proper management and rational utilization of the natural resources environment on a sustainable yield basis for the improvement of the quality of human life in Kenya.
- Take stock of the natural resources in Kenya and their utilization and consultation, with the relevant lead agencies, and develop land use guidelines.
- Examine land use patterns to determine their impact on the quality and quantity of the natural resources among others. Moreover, NEMA mandate is designated to the following committees:

2.5.2 Public Complaints Committee

The Committee is charged with the following functions:Investigating allegations/ complaints against any person or against the Authority (NEMA) in relation to the condition of the environment and its management, Prepare and submit to the Council periodic reports of its activities which shall form part

of the annual report on the state of the environment, and to perform such other functions and excise such powers as may be assigned to it by the Council.

2.5.3 National Environment Action Plan Committee

This Committee is responsible for the development of a 5-year Environment Action plan among other things. The National Environment Action Plan shall contain: Analysis of the Natural Resources of Kenya with an indication as to any pattern of change in their distribution and quantity over time, and Analytical profile of the various uses and value of the natural resources incorporating considerations of intergenerational and intra-generational equity among other duties as the EMCA specifies.

2.5.4 County Environmental Committees

Pursuant to section 29 of the Environmental Management and Coordination (Amendment) Act 2015, the county government is given the mandate to form an environmental committee to spearhead proper management of the environment within their counties. The committee may also perform additional functions as prescribed by EMCA Act 2015 amendments.

2.5.5 Standards and Enforcement Review Committee

This is a technical Committee responsible for environmental standards formulation methods of analysis, inspection, monitoring and technical advice on necessary mitigation measures. Standards and Enforcement Review Committee consists of the members set out in the third schedule to the Environmental Management and Co-ordination Act.

2.5.6 National Environmental Tribunal

This tribunal guides the handling of cases related to environmental offences in the Republic of Kenya. The Tribunal hears appeals against the decisions of the Authority. Any person who feels aggrieved may challenge the tribunal in the High Court.

3.0 PROJECT DESCRIPTION

3.1 Project Objectives

The primary objective of the proposed project is to refurbish the existing stadium on into a state-of-the-art facilityso as to provide recreational services to the public not only in Kenya but also the whole of East Africa region. It will also provide teaching facilities to the sports sector in western Kenya region and beyond.

3.2 Project Location

The proposed project site is located within Homa-bay town, Homa-bay County, with project site boundary demarcations on geographical position system (GPS) coordinates of GPS coordinates -0.5388,34.4570(0°32'19.7"S 34°27'25.2"E). The proposed land site measures 17.2 acres. The project site borders Homa-bay – Mbita road to the West and Homa-bay High School to the North. *See maps below.*

Photo 1 Project site

3.3 Project Site Ownership

The proposed project site is currently owned by Homa-bay County Government.

3.4 Project site description

The proposed project site is an undeveloped plot of land with the western and northern borders hosting temporary kiosks. There is grass naturally growing on the plot. Apart from the kiosks, the site is also used as a football pitch.

3.5 Project Components

The project will consist of:

- Football pitch: a standard football pitch is to be constructed in the middle.
- Running track: this comprises of six lanes that will be used for athletic sporting. Inner fan baring fence to prevent fans from invading the pitch during games
- VIP pavilion: this is a shade that is constructed to for the VIPs.
- Six typical stands that will be used by the fans during the games
- There will be four Conner stands, northern stand and a southern stand
- Net ball pitch, volleyball pitch and basketball court are all provided
- There will be four packing lots in the stadium to help fans, players and staff to park their cars.
- There will a well-managed landscape lawn in the compound.

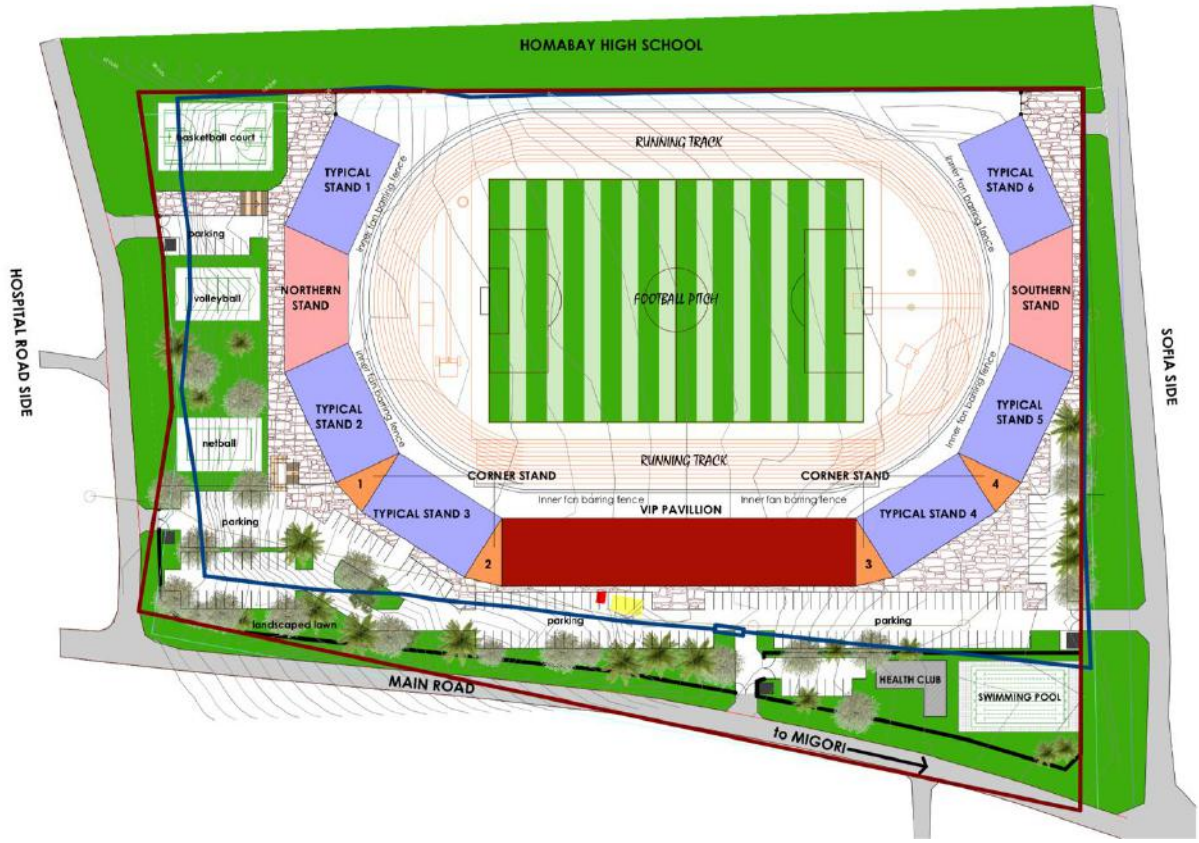


Photo 2 Project masterplan showing various components

3.6 Infrastructure

The development will have a comprehensive and robust infrastructure including access roads, parking areas, water storage, electricity distribution and waste disposal mechanism.

3.6.1 Electrical system

There will be connection to the existing electricity main line of the Kenya Power company, which will be used in all phases of the project. The necessary guidelines and precautionary measures relating to the use of electricity shall be adhered to.

3.6.2 Water Reticulation system

Water from **Homa-Bay** County **Water** and Sanitation Services **Company** (HOMAWASCO) Limitedline will be used during construction and operation phases. Moreover, there will be water storage tanks to increase water supply to various components of the stadium. Boreholes will also be drilled to supplement the supply by HOMAWASCO.

3.6.3 Sewerage

The area has a conventional sewer line and waste water will be disposed off through this sewer line. The proponent will also apply for the expansion of the sewer line.

3.6.4 Solid Waste

Solid waste management will consist of dustbins stored in cubicles protected from rain and animals. The solid wastes from each component will be assembled in the garbage collection point ready for disposal by a NEMA licensed waste disposal company. The waste will then be collected by a NEMA licensed private waste management company and be composited, palletized or re-cycled depending on the waste management strategy to be adopted in line with the Environmental Management and Co-ordination (Waste Management) Regulations, 2006.

3.6.5 Security

There will be the main entrance for easy security operations around the stadium, a boundary wall connected with security alarms, entry control, and quick response systems will be used within the project area.

3.6.6 Fire safety

The development provides for firefighting facilities such as fire extinguishers in the form of hydrants and carbon dioxide gas extinguishers. Fire breaks have also been provided for.

3.6.7 Parking area

The drive ways and parking lots will be; paved, spacious and will accommodate many cars.

3.6.8 Perimeter Fence

A concrete perimeter wall will be erected around the project site.

3.6.9 Landscaping

The site will be landscaped after construction, using plant species available locally. This will include establishment of theme gardens and lush grass lawns to improve the visual quality of the site where pavements will not have taken space.

3.6.10 Buildings Construction

The technology used in the design and construction of the stadium will be based on international standards, which have been customized by various stadia in Kenya. The project will consist of stadium with associated facilities, parking lots and infrastructure as presented in the architectural drawings in the appendix.

The stadium will be constructed as per the respective structural engineer's detail as provided for in the drawings presented in the Appendix. Basically, the stadium structures will consist of concrete appropriately reinforced with metal (steel and iron). The roof will consist of structural steel and roofing sheets. The stadium will be provided with a well-designed concrete staircases for ease of access.

The stadium will be provided with facilities for drainage of storm water from the roof through peripheral drainage systems into the drainage channels provided and out into the natural drainage channel/system. Drainage pipes will be of the PVC type and will be laid under the stadium and the driveway encased in concrete. This is a densely built area and such need for public drainage channel suffices. The stadium will have adequate natural ventilation through provision of permanent vents in all habitable rooms, adequate natural and artificial light, piped water stored in above ground water tanks and firefighting facilities.

3.7 Description of the Project's Construction Activities

3.7.1 Pre-construction Investigations

The implementation of the project's design and construction phase will start with thorough investigation of the site's biological and physical resources in order to minimize any unforeseen adverse impacts during the project cycle.

3.7.2 Sourcing and Transportation of Building Materials

Building materials will be transported to the project site from their extraction, manufacture, or storage sites using transport trucks. The building materials to be used in construction of the project will be sourced from neighbouring areas. Greater emphasis will be laid on procurement of building materials from within the local area, which will make both economic and environmental sense as it will reduce negative impacts of transportation of the materials to the project site through reduced distance of travel by the materials transport vehicles.

3.7.3 Clearance of Vegetation.

The site has some vegetation cover including grass growing in it. All cleared vegetation will be replaced through landscaping.

3.7.4 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 proponent will order bulky materials such as sand, gravel and stones in bits. Materials such as cement, paints and glasses among others will be stored in temporary storage structures, which will be constructed within the project site for this purpose.

3.7.5 Excavation and Foundation Works

The soil cover in the proposed area is thin and the rocks are exposed to the surface in some areas, with a thin layer of black cotton soil about 4 inches deep. However, this shall be excavated and disposed off in approved sites (preferably exhausted quarries).

3.7.6 Masonry, Concrete Work and Related Activities

The construction of the stadium walls, foundations, floors, pavements, drainage systems, perimeter fence and parking area among other components of the project will involve a lot of masonry work and related activities. General masonry and related activities will 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 will be supplemented by machinery such as concrete mixers.

3.7.7 Structural Steel Works

The stadium and associated facilities will be reinforced with structural steel for stability. Structural steel works will involve steel cutting, welding and erection.

3.7.8 Roofing and Sheet Metal Works

Roofing activities will include sheet metal cutting, raising the roofing materials such as iron sheets and structural steel to the roof and fastening the roofing materials to the roof.

3.7.9 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.

3.7.10 Plumbing

Installation of pipe-work for water supply and distribution will be carried out within the entire stadium. In addition, pipe-work will be done to connect sewage from the premises to the HOMAWASCO mains sewer line.

3.7.11 Landscaping

To improve the aesthetic value or visual quality of the site once construction ceases, the proponent will carry out landscaping. This will include establishment of a theme garden and lush grass lawns where applicable and will involve replenishment of the topsoil. It is noteworthy that the proponent will use plant species that are available locally preferably indigenous ones for landscaping.

3.8 Description of the Project's Operational Activities

3.8.1 Solid Waste

The proponent will provide facilities for handling solid waste generated within the facility. These will include dust bins/skips for temporarily holding waste within the premises before final disposal at the designated dumping site. The solid wastes from each block will be assembled in the garbage collection point ready for disposal by a NEMA licensed waste disposal company. Private waste disposal companies that are approved by NEMA and County Government will be responsible for solid waste disposal.

3.8.2 Waste Water and storm water Management

Sewage generated from the stadium will be discharged into the existing sewer lines and then to the HOMAWASCO mains sewer line available on the site/area. Storm water will be properly channeled to improve drainage within the development.

3.8.3 Cleaning

The proponent will be responsible for regular washing and cleaning of the entire stadium. Cleaning operations will involve the use of substantial amounts of water, disinfectants and detergents.

3.8.4 General Repairs and Maintenance

The stadium and associated facilities will be repaired and maintained regularly during the operational phase of the project. Such activities will include repair of stadium walls and floors, repairs and maintenance of electrical gadgets and equipment, repairs of leaking water pipes, painting, maintenance of flower gardens and grass lawns, and replacement of worn out materials among others.

3.9 Description of the Project's Decommissioning Activities

Decommissioning is an important phase in the project cycle and comes last to wind up the operational activities of a particular project. It refers to the final disposal of the project and associated materials at the expiry of the project lifespan. If such a stage is reached, the proponent needs to remove all materials resulting from the demolition/ decommissioning from the site. The following should be undertaken to restore the environment.

- Remove all underground facilities from the site
- The site should be well landscaped by flattening the mounds of soil and
- Planting indigenous trees and flowers

- All the equipment should be removed from the site
- Fence and signpost unsafe areas until natural stabilization occurs
- Backfill surface openings if practical

3.9.1 Dismantling of Equipment and Fixtures

All equipment including electrical installations, furniture 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 stadia owners or contractors or donation of this equipment to schools, churches and charitable institutions.

3.9.2 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 topsoil and re-vegetation using indigenous plant species.

3.10 Building Materials and Energy Used

Several building materials will be required for construction of the stadium 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 locallyas well as 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 such as bulldozers and concrete mixers. The proponent intends to promote efficient use of building materials and energy through proper planning to reduce economic and environmental costs of construction activities.

3.11 Solid Waste Generated

Large amounts of solid waste will be generated during construction of the project. These will include metal cuttings, rejected materials, surplus materials, surplus oil, excavated materials, paper bags, empty cartons, empty paint and solvent containers, broken glass among others. The proponent will take steps to minimize the generation of such waste and to ensure proper disposal procedures.

A lot of domestic waste such as waste from foodstuffs, empty plastic containers, cartons, etc. will be generated during the operational phase of the project. The proponent will be responsible for waste management within the Stadium Project and will put in place measures such as provision of waste handling facilities and ensuring prompt and regular waste disposal.

On decommissioning, large quantities of solid waste will be generated from demolition works and equipment dismantling. The proponent will provide measures for recycling, reuse or disposal of such wastes.

4.0 BASELINE INFORMATION

4.1 Introduction

This chapter contains baseline information of the project area, Homabay Town in Homabay County in terms of location, size, physiographic conditions, and demographic profiles, administrative and political units. It also provides information on infrastructure, land use, employment, sources of income, and any other relevant information.

4.2 Physiographic and Natural Conditions

4.2.1 Climatic Conditions

Rainfall

The Homa Bay County experiences two rainy seasons, the long and the short rains, which fall between February and March and between the months of August and November, respectively. The rainfall pattern ranges between 250 and 700 mm per annum. The rainfall probabilities and nature of soil determine the activities of small scale farmers around the Homa Bay County. Crops grown here are, therefore, those requiring low rainfall like cassava, millet and sunflowers.

Winds

Generalized wind speeds average about 4 m/sec and have certain regularity due to the convection effect of the large water body of the lake that borders the often hot dry land.

Temperatures

Temperature varies with altitude and proximity to the lake and tends to increase towards the lowland with an average of 17.10 to 34.80 centigrade. Temperatures are highest between December and March with the hottest weather being experienced in February and the lowest in April and November.

Topography

The topography of Homa Bay County varies from uplands of different levels to plains and alluvial valleys. Along the shores of Lake Victoria steep mountains such as Gwasi and Gembe hills characterize the landscape. Soils in Homa Bay County have a moderate to high fertility in the east and low fertility in the south, the north and the center. The preferred crops in the county include maize, beans, sorghum, groundnuts, millet, cotton and cassava among other minor crops.

Soil and Geology

The majority of the County is underlain by relatively acid parent rock, causing soils of low fertility, and only small areas with basaltic rock types have better soils. Mountain soils have little profile development and vary greatly in texture. They often occur together with rock out crops and stones. These are the main soils for forests. On some of the hills, soils of varying depth and stoniness are found. Therefore the fertility is variable. On the associated foot-slopes most soils have a moderate fertility. On similar topography soils of sandier texture with lower fertility occur. The sloping

piedmont plains carry soils associated with vertisols where the topography becomes flat. They are fertile and suitable for crops which are able to stand on its heavy texture and tendency for water logging. On the uplands, a variety of soils occur.

The geological situation for the soils distribution is very different. The bedrock consists mainly of the old Nyanzian system, a period of folding and volcanic activity in East Africa. All these bedrocks give soil low fertility. In the West and North-West of the County the situation is a bit more complicated due to young tectonics: Uprising created mountains accompanied by some volcanic with stony soils. On the lower side of the rifts, Lambwe Valley lies here young deposits are found. They have a moderate fertility, but in the lowest parts the soils are affected by water logging as in the Game Reserve there a negative factor for agriculture

Vegetation

Vegetation is largely of acacia woodland and bush land growing over expansive black cotton soils that cover most of the district apart from the hilly areas which have rock outcrops. The vegetation of acacia woodland is characteristic of the kind of vegetation cover found in areas of dominate black cotton soils. There is also an assortment of species of indigenous species of trees.

Water Resources - Surface and Groundwater Resources

Homabay County lies within the Lake Victoria catchment zone and all its rivers drain into the lake. The main water sources in the County include rivers, dams, boreholes, shallow wells and springs. Lake Victoria forms a major sources of water income in the town. There are over 120 dams that were constructed by the colonial and current Governments for recreation purposes but are now water sources for households. There are also about 250 boreholes in the County of which 170 are registered. Most homes have shallow wells. There is abundant underground water and of good quality both for domestic and agricultural use. The water supply schemes in the County is Homabay Water and Sanitation. The project site has no stream or rivers near or passing through the project area, the only water resource found at the site is a tap which is served by water from county water service board.

4.2.2 Socio-economic Profile

Population

According to the 2009 Population and Housing Census, the total population of Homabay County stood at 963,794 with urban population contributing about 31% of the entire population. The population density is 267 persons per sq.km .The County has potential labor force of 550,000 (56%) of the entire population. Hence 44% of the population is dependent. The population growth rate is higher than the national growth rate at 2.9%. The population density is 267 persons per sq. Km. which is expected to increase to 362 persons per sq. km. by 2017.

Infrastructure and Access

Homabay has an extensive road network comprising of over 300 Kms of tarmac roads, 549 Kms of marrum and 377 Kms of earth roads. It also boasts over 179Kms of water routes. The Kabunde airstrip also located in Homabay town makes the region's service hub.

The roads adjacent to the project area are all marram road all roads at the moment except Migori Kisumu Highway which is tarmacked. All the roads are being upgraded to bitumen standard for easy accessibility of the stadium.

Communication

The County enjoys about 95% mobile phone coverage which is provided by all the major service providers in Kenya. It also has 16 post offices, 4 sub-postal offices and nine licensed service couriers. It is connected to the fibre optic cable thus, giving it access to fast internet connectivity. The availability of these services confirms the County's potential for fast economic development and an attractive location for investment.

Land and Land Use

The Homabay County has an average land holding of 3,154.7 km^2. Land use practices vary considerably across the County. In 2012 there were 875 landless households distributed in various schemes, with.

The project area land is only covered with vast grass and very few sparsely trees

Agricultural Activities

Homabay County covers an area of 3,154.7 km^2 with a human population of 963,794 and 204,000 households (NPC 2009). It has eight sub-counties; Suba, Mbita, Ndhiwa, Rangwe, Kabondo, Kasipul, Karachuonyo, and Homabay Town.

Arable land covers 2,995 sq km, 332.78 is non-arable (hilly and rocky), 23.4 sq km is water mass and 196 sq km is urban. The County is a highland plateau ranging from 1500m – 2700m above sea level and soils range from red brown loam to clay. Rainfall averages 900mm to 1200mm per annum with its peak in May and October, temperatures range from 8.4^0 c to 26.2^0 c (a mean of 18^0)

Water Resources and Supply

The main water resources in the County include dams, rivers, boreholes, shallow wells and springs. There are also about 260 boreholes in the County of which 160 are registered. Most homes have shallow wells. The water supply schemes in the County is Homabay Water and Sanitation Turbo.

Employment and Other Sources of Income

The County has potential labour force of 550,000 (or 56% of the entire population). This implies that 44% of the population is dependant. Out of the total labour force, also 44% are engaged in self-employment. It can be inferred from the foregoing that those seeking employment prefer wage employment pointing to the need to create more job opportunities in the County.

Non- Governmental Organizations

Some of the major NGOs operating in the County include the Red Cross, SNV, Catholic Relief Services and World Vision, Rusinga Island of Hope, Humanist etc. Most of them engage in social programmes relating to the provision of clean water and sanitation services, HIV and AIDS management, gender issues and peace building. There is need to catalogue the NGO subsector in terms of their roles, areas of interest, internal capacities for programme implementation and funding.

None of these organizations are found near the project area.

Squatters Occupancy of Project Site Land

On the edge of southern side next to Sofia stage part of the project site, around 100 squatter families occupy part of project site land. Most families claimed to have been living on a section of the land, earmarked for refurbishment of Homabay Stadium to a Modern Sporting Facility, for the last 60 years. The ESIA team had no means to ascertain the information of their occupancy, as no legal documents or payment receipts to land rates were availed to the team by any of the squatter families.

The Proponent, Homabay County, department of Healthowns and holds title to this parcel of land of which has been legally allocated by National Lands Commission (NLC). It´s on these legal grounds, the proponent and the government of Kenya, through the county commissioner's office, have issued eviction notice to the squatters to vacate the parcel of land.

5.0 CONSULTATION AND PUBLIC PARTICIPATION (CPP)

5.1 Introduction

Public consultation and participation is a fundamental principle of the ESIA process. It largely contributes to the successful design, implementation, operation and management of proposed projects. This process involved consultations with relevant project-affected persons/groups/businesses and concerned government authorities, documenting their concerns, assessing potential impacts, and exploring avoidance and mitigation options. The methodology entailed mainly public consultation exercises by use of open-ended questionnaires and interviews with the concerned stakeholders.

The aim of this exercise was to disseminate information to interested and affected parties (stakeholders), solicit their views and consult on sensitive issues, in order to add value to the project design considerations. Public consultation has also been highly useful for gathering environmental and socio economic data, understanding likely impacts determining institutions and individual preferences, selecting project alternatives and designing viable and sustainable mitigation measures.

5.2 Objectives of the Stakeholder Consultation and Public Participation (CPP)

- Informing stakeholders and members of public about the project
- To provide clear and accurate information about the project to the affected communities;
- To obtain the main concerns and perceptions of the population and their representatives regarding the proposed project;
- To obtain opinions and suggestions directly from the affected communities on their preferred mitigation measures;
- To identify local leaders through whom further dialogue can be continued in subsequent stages of the project;
- To improve project design and, thereby, minimize conflicts and delays in implementation;
- To reduce conflict through the early identification of contentious issues;
- To provide an opportunity for the public to influence project design in a positive manner thereby creating a sense of ownership of the project; and
- To reduce problems of institutional co-ordination.
- Increasing public confidence
- Improving transparency and accountability in decision making
- Reducing conflict

5.3 Stakeholder Consultation

Stakeholder consultation was conducted within the project areas. More emphasis was put on the local geography and the vicinity within which people may have a reasonable fear that they might be affected or have concerns about the project. Consultation was also done on the following:-

- Government agencies whose areas of operation are impacted by the project either positively or negatively e.g. Kenya Forest Service, Ministry of Public Health, Kenya Prisons Service, Kenya Airport Authority, Kenya rural Roads Authority, churches.
- Central government represented by the Local Administration
- County government administration
- Community based organizations
- Elected leaders, Area MCA, and MP.

5.1 Public Consultation Methodology

Public participation was mainly achieved through direct interviews, observations and questionnaire administration. The following is a discussion of the public consultation methodology used by the EIA team.

5.1.1 Direct Interviews

Direct interviews were used to get responses from the project architects whose comments were sought through engaging them in discussions about the proposed project designs, waste management, alternative technology and sites, among other related issues.

The project site neighbours were also interviewed to enlighten the experts about the area and any existing issues that should be put into consideration.

5.1.2 Questionnaire administration

Open-ended questionnaires were prepared and administered individually to collect the views of various stakeholders. Respondents were selected among the neighbours of the proposed project. These comprised of institutions and individuals neighboring the proposed project site (See list of attendance in annex 3). Sampled consultation questionnaires administered are attached at Annex 4 and 5.

The questionnaires were used to capture the interviewees' views in terms of the positive and negative impacts that anticipated from the project as well as possible mitigation measures. They were also requested to provide information about the area, focusing on aspects such as sensitive ecosystems, provision of various infrastructure facilities and socioeconomic impacts of the project in the area, amongst other issues.

The recommendations from the public consultations have been incorporated in the mitigation measures proposed in this report.

5.2 Summary of major concerns raised by respondents

While carrying out the public participation exercise, neighbours expressed a variety of concerns with regard to the proposed project. Some of the concerns raised were as follows:-

5.2.1 Positive impacts expressed by the public and other key stakeholders

- Employment opportunities - The project will create employment opportunities
- Increased aesthetic value of the area. The residents were positive about the increased aesthetics of structural buildings and their harmony with the environment within the area. The proposed project has designs from experienced engineers and architects who have ensured that the project design is attractive. The overall landscape of the area will have beautiful scenery from the mix of vegetation and the building structures.
- Availability, accessibility and improvement of quality sports services
- Increase in security during the operation stage.
- Economic Growth - The project area will experience accelerated social a and economic development as result of the project
- Enhancement of area economic activities mainly farming and thus improving livelihood
- Neighboring public Institutions such as schools and project area will benefit from the project via establishment public utility such as piped water
- Increased land value within the project proximity
- The project will ensure availability of public amenities, like water, drainage system, sewer line and other related facilities in the area.

5.2.2 Concerns from the public and key stakeholders

- Air pollution during construction and emissions from vehicles and machinery
- Possibility of generation of large amounts of dust within the project site and surrounding areas as a result of transportation of building materials and road diversions.
- Possibility of flooding on lower region of project like Sauri Yako estate if proper drainage infrastructures is not put in place
- Displacement of squatters living at the project site thereby impacting negatively on their livelihoods
- Wastewater management. The residents were concerned about the measures that will be taken to manage the effluent generated
- Possible increased of infections in surrounding area if proper handling of waste is not done at the facility.
- Excess Noise and Vibrations during the construction stage.
- Lack of public utilities such as sewer line, drainage system in the area
- Health and safety risks to the community and workers

- Increased Insecurity during the construction phase
- Loss of agricultural land
- Degradation of the environment as a result of clearing of vegetation
- Increase in social vices such as prostitution, theft as a result of influx of population

5.2.3 Suggested Recommendations/mitigations

- Abating dust by regular sprinkling of water on dusty area.
- Adopt a continuous public and stakeholder consultation process throughout the project cycle.
- Proponent to ensure proper drainage construction and connection to existing drainage systems.
- The local youth and people to be given priority during hiring of persons to work on the project.
- A police post/ station to be put up with the locality to increase security in area during project operations.
- Proponent to construct public utilities such as sewer line, drainage system.
- Adequate mitigation measures to be adopted to avert negative environmental impacts.
- Proper management and handling of waste.
- The project to be secured using perimeter masonry wall
- The squatters at the project site to be resettled in an alternative land or be allocated a portion of the land by Kenya Prisons.
- Adhere to engineering and construction standards
- Re-planting of indigenous trees and/or vegetation for landscaping.
- They suggested that dust covers be used during the construction and transportation of materials like cement and sand

The recommendations from the public consultations have been incorporated in the mitigation measures proposed in this report. Additional mitigation measures presented in the Environmental and Social Management and Monitoring Plan (ESMMP) should be fully implemented to minimize the raised impacts.

5.3 Overall decision:

Generally, all stakeholders consulted had no objections to the proposed project, there was a general acceptance of the project because of the overall benefits of the stadium and improvement of recreational services. They however requested the Proponent to implement the appropriate mitigation measures outlined in the ESIA report to minimize the negative impacts of the proposed project. Consequently, the proponent is putting sustainable development into practice as much as possible to ensure minimal air pollution and conservative use of energy and water.

Photo 3 Public participation meeting

Photo 4 Public participation

6.0 PROJECT ALTERNATIVES

6.1 Introduction

This section examines alternatives to construction of the proposed development in terms of the site, products, materials, technology and waste management. In addition, impacts of each alternative are identified, discussed and compared with those of this development proposal. With such information, reviewers have basis for decision making.

6.1.1 No Project Alternative

This option implies that the existing situation prevails i.e. no construction/development activity to take place. This option is mostly applicable in situations where the proposed project area is in ecologically sensitive areas. The land in which the proposed project is to be constructed is in a stable environment and therefore will not be affected by this development activity. From a socio-economic perspective the "**no action**" alternative may not be the best alternative as the numerous benefits to be gained from the development both locally and nationally would not be realized and the resources in the area would continue to be underutilized since the land lies idle. The *'**No Project Option'*** is the least preferred from the socio-economic and partly environmental perspective, since if the project is not undertaken:

The economic benefits, especially during construction e.g. provision of jobs for skilled and non-skilled workers will not be realized.

- There will be inadequate capacity in the stadium to handle increasing population in sports sector.
- There will be no generation of income by the developer and the Government.
- No employment opportunities will be created for Kenyans during operation phase.
- Discouragement for investors to produce this level of standard and affordable developments.

From the analysis above, it becomes apparent that the '**No Project Alternative'** is not the appropriate alternative for the proponent, Kenyans, and the Government of Kenya. In case the proposed development fails to be implemented, positive impacts associated with the proposed development will not accrue to the stakeholders, the development consultants, contractors and suppliers of materials.

However, from an environmental conservation perspective, this alternative will be beneficial in the sense that any potential negative impacts associated with the project will be avoided.

It is our recommendation that the "**No Action Alternative**" should not be adopted, as we need to encourage development so long as it is undertaken on a sustainable basis as per the environmental management plan developed in this report.

In addition, adopting the no action alternative will mean that the existing shortfall of quality health care and more specialized referral centres needs will continue to prevail unabated. This is not viable since the proponent already has land which is not into maximum use and will remain not in use, while

there remains capacity to utilize such in the provision of much needed services. If the project is stopped then the aim to have additional capacity with specialized referral centres and associated enabling infrastructure will not be possible. In this respect, the "No project alternative "is deemed inappropriate.

6.2 Proposed Project Alternative

The area for the proposed project will see some changes to its environmental attributes (physical). Drainage patterns, groundwater, surface water and soil quality may also be affected. From a Socio-Economic perspective, the proposed development will contribute significantly to partial national, regional and local income generation. In addition, numerous jobs will be created by the development either directly or indirectly.

6.3 Alternatives to Site

Currently, there is no other alternative site available to the proponent for the proposed development. The proponent owns 80.94hectares are currently not put into maximum use.

The current location is ideal as it is in close proximity to other related structures within the Homabay including Homabay Airstrip which will be used to support air sports services. Looking for alternative land to accommodate a project of this magnitude and the completion of official transactions on it may take a long period. It would also create disconnect between the sports services. In addition, it is not a guarantee that such land would be available at a prime location as this one.

The project design and planning before the stage of implementation would call for costs already incurred in the proposed development i.e. whatever has been done and paid to date would be counted as a loss to the proponent.

Assuming the project will be given a positive response after (say relocation) by the relevant Authorities including NEMA, it (project) would have been delayed for a long period before implementation.

The other consequence of this is that it would discourage both foreign and local investors especially in the building sector. In consideration of the above concerns and assessment of the current proposed site, relocation is not a viable option.

6.4 Construction Materials and Technology

There is a wide range of construction and furnishing materials, which can be sourced locally and internationally. In this construction, certified raw materials/equipment and modern technology will be used. The concrete walls will be made using locally sourced stones, cement, sand (washed and clean), metal bars and fittings that meet the Kenya Bureau of Standards (KBS) requirements. Alternative sources of energy such as electrical appliances that save energy will be given first priority.

7.0 ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION

In this section, prediction and analysis of possible positive and negative impacts of construction, operation and decommissioning of the proposed project is discussed. Prediction of impacts technically characterizes the causes and effects of impacts, and their secondary and synergistic consequences to the environment and the local community. Since the proposed site is within an already established stadium, most of the social and environmental impacts associated with this project will be direct in nature and mostly result from construction activities.

The magnitude of each impact is described in terms of being:

- Significance (minor or major)
- Temporary or permanent,
- Short-term or long term,
- Specific (localized) or widespread,
- Reversible or irreversible,

The process of determining the various impacts was done through stakeholder participation, public consultation, discussion with proponent's technical team, review of the facility specifications *etc*.

The prediction and analysis of the environmental impacts of the proposed project is based on:

- Compliance with the relevant Kenyan legislation and standards on environment, health and safety and the World Bank Safeguards as well as World Bank's Environment, Health and Safety guidelines.
- Professional judgment.

This section discusses all the significant impacts, both positive and negative.

7.1 CONSTRUCTION PHASE IMPACTS

Table 3Summary of Construction Phase Impacts

IMPACT	TYPE OF IMPACT
Employment Creation	Major Positive, Short-term, Reversible,
Increased Business Opportunities	Major Positive, short-term, reversible,
Income generation to material andequipment suppliers and contractors	Major Positive short-term, reversible,widespread
Optimal Use of Land	Major Positive short-term, irreversible,
Revenue to Government	Major Positive short-term, reversible,
Improved Infrastructure	Major Positive short-term, irreversible,
Noise and excessive vibration	Major Negative, short-term, irreversible,
Airborne Emissions	Minor Negative, Short-term, Irreversible,
Soil and Water Pollution	Minor negative, Short-term, Irreversible,

IMPACT	TYPE OF IMPACT
Increased water demands	Minor negative, Short-term, Irreversible,
Increased generation of solid waste	Major Negative, Long-term, Reversible,
Wetland Ecology	Major Negative, short-term, irreversible,
Vegetation Loss	Minor Negative, short-term, irreversible,
Increased runoff	Minor negative, Short-term, Irreversible,
Temporary scenic blight	Minor Negative, Short-Term, Temporary,
Occupational Safetyand Health Risks	Minor Negative, Short-term, Irreversible,
Traffic Snarl-up along Kisumu- Homabay road andAdjoining roads	Major Negative, Short-term, Reversible, Localized
Environmental Health And Safety	Major Negative, Long-term, irreversible,

7.2 Positive Impacts

7.2.1 Employment Creation

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

Enhancement measure

Wherever possible, local people from the neighboring areas should be considered for job opportunities matching their level of skills. Adequate occupational safety and health principles and standards should be provided to ensure the work environment is conducive.

7.2.2 Income Generation to material and equipment suppliers, contractors, and others

During project implementation, the proponent will hire contractors who will in turn appoint suppliers for variousgoods and services, as needed. There will be civil works thus necessitating materials such as sand, ballast, stones, cement, quarry chips, steel and timber. Construction equipment such as excavators, mixers, cranes are also often hired during construction.

Formal and informal businesses will benefit from the works. Informally, those who provide services to the workers on site e.g. catering businesses willexperience an upsurge in business. Similarly,

businesses that provide services such as waste management will also greatly benefit from increased sales.

Enhancement measure

Earth materials needed for construction, for example, stones and sand are obtained from quarry operations. Therefore, the contractorshould beconscious of the sources of these materials, as supplies from unlicensed operations indirectly promotes environmental degradation at illegal quarry sites and can cause medium-to long- term negativeimpacts. In this regard, the contractor shall enter into contractual agreements during procurement with all suppliers to procure construction materials from quarries legitimately licensed by the respective local government authorities.

The Proponent and contractor shall also ensure food vendors conform to hygiene standards related tofood handling and are licensed by the respective local government departments to supply food materials.

7.2.3 Optimal Use of Land

Modern Sporting Facilitydevelopment will leads to optimal use of land considering that the land currently is underutilized. The construction of the project will create land use change. By building the stadium, the design has incorporated an optimal use of the available land.

Enhancement measure

Proper design and planning of the stadium and facilities is sets precedence for optimal use of land hence minimal wastages of land parcels

7.2.4 Revenue to Government.

Value Added Tax (VAT) on construction materials/ tools to be purchased among others will be sources of revenue for the government and its institutions.

Enhancement

Ensuring all business transactions are conducted legally and have legal ETR receipts

7.2.5 Improved Infrastructure.

Project activities will lead to improvement of transport, sewerage, water supply and telecommunication networks. Such services are a prerequisite to development in any region.

Enhancement

Installing and ensuring that the neighboring areas to project site is connected to the public utilities.

7.2.6 Increased Business Opportunities

The large number of project staff required will provide ready market for various goods and services, leading to several business opportunities for small-scale traders such as food vendors around the construction site.

7.3 Negative Environmental Impacts

7.3.1 Noise and Excessive Vibration

Noise will be one of the most undesirable consequences of the construction phase. Somewhat high noise levels are expected in the area during the construction phase. Significant levels of noise and vibrations will mainly result from use of heavy equipment including bulldozers, graders and dump trucks during site preparation and construction activities.

Disturbanceordiscomfortresultingfromconstructionnoisecannotberuledoutgiventhattheproposedsiteis located near people's homes. Key receptors include members of community staying within the proposed site area.

Though the level of discomfort caused by noise is subjective, the most commonly reported impacts of increased noise levels are interference in oral communication and disturbance in sleep or during resting time.

Mitigation Measures

- Machineryandequipmentinusetobeservicedregularlytoensurethattheyareingoodconditionto minimizeexcessivenoise;
- Use piling system with lowestsound generation;
- Movablesoundattenuatingcurtainsorshroudsshouldbeusedonpiledrivinghammers,pumps,trucks , generators,andothernoisy equipmenttoreduce noise whenoperating in close proximitytoexisting operationalstadiumcomponentsandneighboring establishments;
- Notifythepublicofconstructionactivitiesthatmaybeperceivedofasnoisyandintrusivepriortostartin g construction;
- Establishmeansforthepublictocontacttheengineers-in-charge(i.e.providetelephonenumber,email, etc.) and methodsto handlecomplaints;
- The use of hearing protection gearsbyworkerswhen exposed to noiselevelsabove85 dB.
- Ensurethatnoise&excessivevibrationfromconstructionactivitiesarewithinpermissiblelevelsaspe rthe provision oftheEnvironmentalManagement andCoordination(Noise andExcessive Vibration Pollution) (Control) Regulations, 2009. Thisincludesamong othersadheringtopermissible noise and vibration level;
- Constructionworkshouldstrictlybeundertakenbetweenpermissibletimeperiodsasstipulatedinthe second Schedule– Maximum Permissible Noise Levels for Construction Sites of EMCA(Noise and Excessive Vibration Pollution)(Control) Regulations, 2009
- Carewhenselectingequipmenttoavoiduseoftimewornordamagedmachinerywithhighlevelofnois e emissionsthatwould have a negative impactintheenvironment.

7.3.2 Airborne emissions

Air pollution from dust particles is a potential environmental impact from the construction of the project. Thiscan be caused by removal of the surface layers of the soil, excavation activities, vehicle movement and materials handling. Uncovered stockpiles and mortar mixing plant operations are another source of dust.The generated dust particles can pollute the atmosphere and if inhaled can lead to related health hazards forworkers and the surrounding people at close proximity to the sites. Furthermore, the dust particles will cause dirt on the surrounding buildings and may cause further destruction to machines and equipment such as computers if the dust settles on the equipment.

Emissions from the vehicle exhausts such as Sulphur dioxide, carbon monoxides and hydrocarbons can also affect air quality. The main component of diesel exhaust that has been identified as having an adverse effect on human health is fine particulate matter.

Mitigation measures

- Construction equipmentwillbe maintained in good operating condition to reduce exhaust emissions;
- Constructionsites,transportationroutes,diversionsandmaterialshandlingsitestobewater-sprinkledon dry and windydays to abate excessive dust, especiallyif near sensitive receptors.
- Haulage trucks must be covered or theaggregates sprayedwith water before loading the haulagetrucks;
- All dieselfuelin use should be ultra-lowsulphur diesel;
- The project area will be cordoned off to minimize dust migration to nearbyfacilitiesbywind;
- Speed controlsbytemporaryspeed bumps on diversionswhere necessarywithin theconstructionsite
- Speed limiting of all construction Lorries and construction vehicles.
- Staffworkingindustgeneratingactivitiese.g.sitepreparation,excavation,concretemixing,stonedressing should be provided with personal protective equipment (PPE) and the use ofPPEshallbe enforced.
- Avoiding open burning of solidwastes;
- Periodical air quality tests by the proponent/ contractor to ascertain the status of air quality.
- Spraying of water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.

7.3.3 Soil and water pollution

The proposed construction activities impact on water and soil quality may arise from spills and poor management of oil, fuel and lubricants at the contractor's campsites, vehicle maintenance garages and fueling areas, which may lead to contamination of soil, underground water through leaching and ground water if it joins the storm drains.

During this phase, excavation works will also loosen the soil and expose it to erosive elements of air and water. To minimize the impact on surface water and groundwater quality, the following mitigation should be adopted.

Mitigation measures

- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on site should be covered with tarpaulin or similar fabric during rainy season;
- Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;
- All machinery and equipment be regularly maintained and serviced to avoid leak oils;
- Maintenance and servicing of vehicle, machinery and equipment must be carried out in a designated area (protected service bays) and where oils are completely restrained from reaching the ground. Such areas should be covered to avoid storm water from carrying away oils into the soil or water systems. Waste water/ wash water from these areas should be properly disposed;
- Oil products and materials should be stored in site stores or in the contractor's yard. They should be handled appropriately to avoid spills and leak;
- Car wash areas and other places handling oil activities within the site must be well managed and the drains from these areas controlled. Oil interceptors must be installed along the drainage channels leading from such areas;
- There should be no flooding within the site at all to prevent seepage of contaminated water into underground water sources;
- All applicable national laws, regulations and standards for the safe use, handling, storage and disposal of hazardous waste to be followed;
- Storage sites for petroleum products to be secured and signs to be posted which include hazard warnings, who to contact in case of a release (spill), access restrictions and under whose authority the access is restricted will be posted;
- If stored outside, containers to be labelled and products stored in weather-proof containers on spill containment pallets and under a weather-proof tarp, the contractor/spill response coordinator will monitor periodically for leaks, and check to ensure that labels are still present and legible;
- Once the exact areas where spillage shall occur are identified, subsurface investigations of the areas should be conducted. The investigations should involve the collection of subsurface soil and groundwater samples for laboratory analysis;
- Areas dedicated for hazardous material storage shall provide spill containment and facilitate clean up through measures such as dedicated spill response equipment.

7.3.4 Increased water demand

Both workers and the construction work will create an increased demand for water. Water will be mostly used in the creation of aggregates for construction work and for wetting surfaces for softening or hardening after creating formwork. Wastewater from the proposed project during the construction phase mainly includes cleaning water for the equipment, and water from concrete maintenance/wetting. The quality of this water is insignificant, and poses a small impact on the environment. If necessary, a simplified sedimentation tank can be installed on the construction site where the construction wastewater can be collected and settled. This water can be re-used for site sprinkling to reduce fugitive dust at the construction site.

Mitigation Measures:

- Avoid excessive use of the water or water wastages
- Roof catchments should be provided with gutters to facilitate collection of the run-off.
- This water should be stored for general use i.e. cleaning, firefighting, gardening etc.
- Sufficient storage water tanks should be provided.
- Install water conserving taps that turn-off automatically when water is not in use.
- Encourage water reuse/recycling mostly during construction and occupation phases.

7.3.5 Increased Solid Waste generation

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

Some of the waste materials such as paints, cement, adhesives and cleaning solvents contain hazardous substances, while others include metal cuttings and plastic containers that are not biodegradable and can have long-term and cumulative effects on the environment. Such are often menace, affecting the environment through blockage of drainage systems and negative impacts on human health.

Otherwastes that will be generated by non-construction activities because of the presence of the workers at the siteinclude food debris, contaminated water from washing, cleaning equipment, construction tools and vehicles.

Solid waste, if not well managed, has the 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 proposed project site will be enclosed and only the Proponent, Project Consultants and the construction workers will be able to access it easily.

Mitigation Measures:

- The construction workers will need to have proper sanitation facilities on site; portable toilets are recommended rather than pit latrines as these can be carted away after construction. They are also easier to maintain.
- The contractor or proponent should work hand in hand with Licensed approved NEMA waste handlers to facilitate sound waste handling, and disposal from the site. All waste must be taken to the approved dumpsites.
- Segregation and recycling of waste on site is encouraged i.e. some excavated stone materials can be used as backfills.
- There should be several bins – the bins should have a close fitting cover. The receptacle(s) must be kept in a good condition, and sanitarily clean by frequent washing and disinfecting.
- Train or educate the involved stakeholders on the importance and means of waste (garbage) management and handling especially during operation.
- Explore installation of an incinerator on the site to enhance disposal relevant material through burning. It is not advisable to burn waste material on open areas.
- During transportation of waste, it should be covered to avert dispersionalong the way.
- Hazardouswastewillnotbemixedwithothersolidwastegeneratedandshouldbemanagedbywayof incineration or landfilling.
- The contractor and proponent should enforce the 3Rs - Reduce, Reuse and Recycle waste management system.
- Waste,includingexcavatedsoilanddebrisshouldbeproperlydisposedofbybackfillingandlandscaping.
- During decommissioning of existing buildings at the site, the contractor should adopt the method of selective demolition as faras practicable. Thiswill enable theremovalofwastesofthesame categoryoneat a time thus facilitatingrecycling ofwastesforbeneficialreuse and minimizing the burden on dumpsites.
- Constructionwasteshouldberecycledorreusedtoensurethatmaterialsthatwouldotherwisebedisposed of aswaste are diverted for productive uses. In this regard, the proponent/contractor should be committed to ensuring construction materials leftoverattheend of constructionwill be used in otherprojectsratherthan being disposed of. Some of the waste can be sold or donated or recycled/reused by construction companies, local communitygroupsor institutions;
- Itisrecommendedthatduringtheconstructionphasethecontractorandtheproponentareexpectedto ensurethatthe waste isdisposedof according toEMCA(WasteManagement)Regulations,2006and the Homabay CountyGovernment by–laws;

7.3.6 Wetland Ecology

Three habitats (Wetland, Agricultural Land and grassland) were identified within the project area. The Project Area had very low diversity of plant species to a point of nonexistence. The overall faunal diversity was also low. These habitats were evaluated as having "Low" to "Low to Moderate" ecological value. Further site visits were undertaken in July 2018 to verify the habitat condition, and it was confirmed that the conditions of these areas are unchanged. The major impact of the proposed development is the residual loss of agricultural land and the wetland habitats in the southern side of the project Area. Hence the wetland should be retained and enhanced the through the following:-

Mitigation

- During Project planning, a construction schedule will be developed that will optimize efficiency while avoiding and/or minimizing impacts to natural resources.
- Wetland area enhancement to be prioritized during the construction and establishment periods of STADIUM
- The proposed project to avoid and minimizes impacts to wetlands, streams, and other regulated resources to the extent possible, rectifies temporary impacts wherever possible, and provides compensation for minimized, unavoidable negative effects to wetland, streams, and their functions, all consistent with federal and state regulatory requirements and guidance.
- Avoiding increased erosion and sedimentation into water bodies and wetlands from land
- disturbance in nearby construction areas, the Applicants will install temporary and permanent erosion control measures along the construction corridor and adjacent to soil stockpiles, as needed, and will manage construction storm water in accordance with a Storm Water Pollution Prevention Plan ("SWPPP") for the Project.
- The wetland mitigation sequencing (i.e., avoidance, minimization, and compensatory mitigation) to be carried out concurrently with the development of the transmission facility to the greatest extent practicable.
- For impacts to wetlands and aquatic resources that cannot be avoided, appropriate and practicable measures to minimize impacts will primarily be enacted through the implementation of Best Management Practices ("BMPs"), which provide basic methods and procedures to be followed during construction, operation and maintenance of the Project

7.3.7 Increased run-off from new impervious areas

Construction activities could result in additional run-off through creation of impervious areas and compaction of soils. Impervious areas and compacted soils generally have higher run-off coefficients than natural areas, and increased flood peaks are a common occurrence in developed areas.

Mitigation Measures:

- Storm water generated from roof catchments should be harvested, stored and made use in various activities i.e. general cleaning. This will minimize resultant soil erosion and other associated impacts.
- The contractor should come with ways reduce erosive forces and increase resistive forces.

7.3.8 Vegetation Loss

The construction of stadium buildings, associated facilities and road paths will result in some vegetation loss. However, this can be mitigated as indicated below. Although grass and very few trees mainly cover the project site, the proponent intends to leave the any indigenous flora untouched and will take proper measures to ensure minimal disturbance of the flora. In areas that will be cleared, the proponent intends to re-plant/landscape those areas with indigenous tree species.

Mitigation measures:

- Minimal disturbance of vegetation cover in areas not under construction.
- Avoid unnecessary clearing of vegetation by conserving vegetation not in the sections being built
- Re-vegetate cleared areas with indigenous vegetation as much as possible
- For areas of significant loss of vegetation, the developer has the option to replant similar vegetation at other sections of the property.

7.3.9 Traffic and Transportation

Automobile traffic will be impacted during the construction. The heavy commercial vehicles to the construction site through entrance to project site entrance will cause traffic snarl adjacent road, which will have a widespread impact to all roads neighboring the cite.

The transportation of earth material to the site during the construction phase may lead to dust and road spillage. These potential impacts are of a temporary nature. During the operational phase, there will be increased traffic from both the residential and non-residential areas.

Mitigation Measures:

- Ensure that material transported to the site during the construction phase is properly covered and the trucks fitted with tailgates.
- Construction activities that might substantially disrupt traffic e.g. Delivery of materials should not be performed during peak travel periods to the maximum extent practicable.
- Warning signs should be used as appropriate to provide notice of road hazards and other pertinent information to motorists and the general public.
- Signage and barricades should be used as part of the typical construction traffic controls.
- Temporary manual traffic control should be used when construction occurs at the site entrance.

- It is recommended that to further mitigate the negative impacts due to traffic, the contractor and the proponent are expected to adhere to Kenya Traffic Laws.

7.3.10 Extraction and Use of Building Materials

Several building materials will be required for construction of the proposed development and associated facilities. These will include sand, ballast, hard core, timber, cement, clay tiles, metal sheets, electrical gadgets, and steel, plumbing materials, glass and paint among others. Most of these materials will be obtained from the surrounding areas.

Building materials such as hard core, ballast, cement, rough stone and sand required for construction of the project will be obtained from quarries, hardware shops and sand harvesters who extract such materials from natural resource banks such as rivers and land. Since substantial quantities of these materials will be required for construction of the buildings, the availability and sustainability of such resources at the extraction sites will be negatively affected, as they are not renewable in the short term. In addition, the sites from which the materials will be extracted may be significantly affected in several ways including landscape changes, displacement of animals and vegetation, poor visual quality and opening of depressions on the surface leading to several human and animal health impacts.

The main sources of energy that will be required for construction work will include mainly 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.

Mitigations

- The proponent will source building materials such as sand, ballast and hard core from registered quarry and sand mining firms, whose projects have undergone satisfactory environmental impact assessment/audit and received NEMA approval. Since such firms are expected to apply acceptable environmental performance standards, the negative impacts of their activities at the extraction sites are considerably well mitigated.
- To reduce the negative impacts on availability and sustainability of the materials, the proponent will only order for what will be required through accurate budgeting and estimation of actual construction requirements. This will ensure that materials are not extracted or purchased in excessive quantities.
- The proponent will ensure that wastage, damage or loss (through run-off, wind, etc.) of materials at the construction site is kept minimal, as these would lead to additional demand for and extraction or purchase materials.

- In addition to the above measures, the proponent shall consider reuse of building materials and use of recycled building materials. This will lead to reduction in the amount of raw materials extracted from natural resources as well as reducing impacts at the extraction sites.
- 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
- 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
- Use of building materials that have minimal packaging to avoid the generation of excessive packaging waste
- Use of construction materials containing recycled content when possible and in accordance with accepted standards.
- Construction materials should be sourced from licensed dealers and suppliers
- Quality should be thoroughly controlled through regular tests to avoid material wastages.
- Procurement of the materials should follow specifications by the structural and architectural engineers

7.4 ENVIRONMENTAL HEALTH AND SAFETY (EHS)

7.4.1 EHS Management and Administration

The EHS is a broader and holistic aspect of protecting the worker, the workplace, the tools / equipment's and the biotic environment. It is an essential tool in determining the EIA study. The objective of the EHS on the proposed project is to develop rules that will regulate environmentally instigated diseases and occupational safety measures during construction and the operation phases of the proposed project by:

- Avoidance of injuries
- Provision of safe and healthy working environment for workers' comfort to enhance maximum output.
- Control of losses and damages to plants, machines, equipment and other products.
- Enhance environmental sustainability through developing sound conservation measures.

7.4.2 Policy, Administrative and Legislative Framework

It is the primary responsibility of the contractor to promote a safe and healthy environment at the workplace and within the neighborhood in which the proposed project will be constructed by implementing effective systems to prevent occupational diseases and ill health, and to prevent damage to property. The EHS Management Plan when completed will be used as a tool and a checklist by the contracted engineers in planning and development of the construction of this project.

7.4.3 Organization and implementation of the EHS Management Plan

The contactor/proponent shall use the EHS plan at the proposed project site during both construction and operation. The engineer will use it during construction phase with the assistance of an EHS consultant who shall enforce its provision throughout the life of the project.

The Guiding Principles to be adopted by the contractor

The contractor will be guided by the following principle: -

- It will be a conscious organization committed to the promotion and maintenance of high standards of health and safety for its employees, the neighboring population and the public at large.
- Ensuring that EHS activities are implemented to protect the environment and prevent pollution.
- Management shall demonstrate commitment and exercise constant vigilance in order to provide employees, neighbors of the project and the environment, with the greatest safeguards relating to EHS.
- Employees will be expected to take personal responsibility for their safety, safety of colleagues and of the general public as it relates to the EHS management plan.

7.4.4 EHS management strategy to be adopted by the contractor and proponent

The following strategies will be adopted to achieve the above objectives:

- Create an Environment Health and Safety Management committee and incorporate EHS as an effective structure at various levels and units to manage and oversee EHS programs in all construction and operation phases of the project
- Maintain an effective reporting procedure for all accidents.
- Provide appropriate tools and protective devices for the success of the project.
- Encourage, motivate, reward and support employees to take personal initiatives and commitment on EHS.

7.4.5 Safety Agenda for both the proponent and contractor

There will be a permanent EHS agenda during construction.

A) Contractors

The EHS management plan code of practice shall be applicable to the contractors working in the premises, and shall be read and signed. It shall be incorporated into the contract to perform work. This should also remind the contractor of his/her-

- Legal requirements.
- Statutory obligations.

- Obligation to lay-down a system for reporting accidents
- Responsibility to ensure that his/her employees are supplied with personal protective equipment and where applicable as per the EHS management plan for the whole project.
- Responsibilities as it relates to contracting an EHS consultant in liaison with the proponent
- Obligation to ensure that he obtains detail of jobs and areas where permit-to-work must be issued

A) All residents' and workers' responsibility

Know the location of all safety equipment, and learn to use them efficiently

7.4.6 Safety requirement at the project site during construction and operation Period

The contractor

The contractor will ensure that:

- Safe means of entry and exit at the proposed project site.
- Ensure adequate briefing of job at hand on the safe system of work before commencement of work.
- The EHS coordinator must be in attendance at all times throughout the duration of the project.
- The EHS consultant must maintain constant assessment of the risk involved as the work progresses
- A safety harness must be worn before entry into all confined spaces
- An EHS consultant must be posted at the entrance at the project site to monitor progress and safety of the persons working at the construction site.

The Traffic / Drivers

Within the construction premises, the following traffic rules will be observed: -

- Observe speed limits and all other signs and obey traffic rules.
- Use the vehicle for the purpose to which it is intended only.

7.4.7 Fire hazard at the construction site,

Workers at the site shall ensure that: -

- Oxy-acetylene cylinders are not contaminated with grease or oil.
- Check your fire code for guidelines regarding the storage of flammable gas cylinders.
- Store cylinders in a clearly identified, dry, well-ventilated storage area that is not exposed to heat or the direct rays of the sun, and away from doorways, aisles, elevators, and stairs.
- Post "**NO SMOKING**" signs in the area.

- Store cylinders, both empty and full, in the upright position and secure with an insulated chain or non-conductive belt.
- During storage, close the cylinder valves with the protective caps in place.
- With outside storage, place on a fireproof surface and enclose in a tamper-proof enclosure.
- Protect cylinders from contact with ground, water, salt, corrosion, and high temperatures.
- Protect cylinders from falling. Use a chain or adequate support system. Consider securing each cylinder separately to prevent other cylinders from falling when items are removed from storage.

7.4.8 Welding at the construction site

It is the responsibility of the contractor during construction to: -

- Ensure that welding clamp is fixed such that no current passes through any moving parts of any machine.
- Ensure that all welding clamps are in good operating condition and conduct current without arcing at the point of contact.
- Ensure that welding clamps are free from any contact with explosive vapors i.e. Oil spillage, Fuel tanks, Coal dusts and miscellaneous combustible material (e.g. Cotton rags filter bags, rubber belting, and wood shavings).
- Ensure that any slag or molten metal arising from welding activities does not start up fires by:
- Clearing combustible material to a distance of at least 3 meters away from the working area or covering area with metal or asbestos sheet.
- Appropriate fire extinguisher is to be kept available for immediate use at all times

7.4.9 Emergency procedure during construction and operation

An emergency means:

- Unforeseen happening resulting in serious or fatal injury to employed persons or the neighboring communities.
- Fire or explosion, Natural catastrophe.

In the event of such an emergency during construction, the workers shall:

- Alert other persons exposed to danger.
- Inform the EHS coordinator, Do a quick assessment on the nature of emergency.
- Call for ambulance on standby, When emergency is over the EHS coordinator shall notify the workers by putting a message: "**ALL CLEAR**"

7.4.10 Workers accidents and hazards during construction

During construction of the proposed project, it is expected that construction workers are likely to have accidental injuries because of poor handling of construction equipment and materials, and lack or

neglect of the use of protective wear. All necessary health and safety guidelines should be adhered to so as to avoid such circumstances.

There is also a chance, though slight, that workers may be exposed to disease from contact with potentially harmful building materials. It is therefore recommended that before construction activities, there is need for the materials to be well inspected and harmonized to the occupational health and safety standards.

In addition, falling debris could injure workers if personal protective equipment (PPE) are not provided or properly used. Back injury could occur if workers lift heavy objects using inappropriate body posture. Other potential hazards might be, driving equipment with improper brake system, lack of concentration while working and exposure to hazardous wastes such as paints, cement, adhesives and cleaning solvents.

Mitigation measures:

- Provide properly fitting PPE depending on tasks being performed to avoid injuries and illness including working boots, overalls, helmets, goggles, earmuffs, masks, gloves etc.
- Factories Act abstract should be posted at a strategic point on site. The requirements of the Factories and other places of work Act should be strictly adhered to, the Building code and other relevant regulations. Only specialized machine operators should operate machinery and specialized equipment and all moving parts should be provided within the site. This should be fully equipped at all times and should be managed by qualified persons.
- Adhere to provisions of Occupational Safety and Health Act of 2007 and the rules formulated under it.
- Adapt effective emergency response plans especially during construction phase.
- Safety awareness may be gained through regular safety meetings, safety training or personal interest in safety and health. This awareness will increase ability to respond if, some day in future, one is a bystander in an emergency.
- The contractor should have workmen's compensation cover. It should comply with workmen's compensation Act, as well as other ordinances, Regulations and Union Agreements.
- Regular drills shall constantly follow on various possible incidences. This will test the response of the involved stakeholders. Such drills will keep workers alert and ensure response mechanism in the case of incidences are improved.
- Use signage to warn staff and/ or visitors that are not involved in construction activities.
- Restrict non-essential staff from the construction sites.
- Strict instructions shall be given for drivers of heavy equipment.

- Supervision of works shall be done regularly to ensure that safety conditions are met while any deviation from safety regulations is immediately reclaimed following the best practices regarding safety at work
- Develop evacuation procedures to handle emergencies.
- Truck drivers should maintain a speed limit of not more than 20Km/hr.
- Speed controls by temporary speed bumps where necessary within the construction site.
- Compliance to all international, national and local health and safety standards that may exist.
- Clear marking of work site hazards and training in recognition of hazard symbols.
- Training of all personnel in fire prevention and protection.
- Regular inspection, testing and maintenance of equipment and machinery.
- Provide full first aid kits at the construction yard.
- Use of water sprays to arrest dust.
- Containment of hazardous materials.
- Provide adequate protective gear to construction workers.

The guide below shall be useful:

Table 4Basic Protective gear guide for use during construction phase

Hearing	• (Over 80 Decibels for 8 hours a day requires hearing protection) • Ear Muffs: One size fits all, comfortable, less ear infection risk • Ear Plugs: Small, lightweight, can get dirty and cause infection
Face/Eye	• (Working with any chemical or using any mechanical equipment) • Face Shield: Protect face from splashing and particles • Safety Glasses: Protection from solids (cutting, sanding, grinding) • Safety Goggles: Protects eyes from splashing
Hand	• (Use correct gloves for the job) • Chemical Gloves: (Nitrile, Latex, PVC) • Gloves for other use: special gloves for cutting prevent burning, abrasions/ blisters
Body	• Overalls: protect against dust, vapors and splashes
Foot protection	• If electrical hazard present ensure boots offer protection • Safety Toe/Steel Toe Boots: Always worn when potential for falling hazards exists • Water/Chemical Resistant Boots: Use in a spill situation • Non-slip boots for working on wet/slippery floors.

7.5 OPERATION PHASE IMPACTS

Table 5Summary of operation phase Impacts

SIGNIFICANT IMPACT	TYPE
Provision of high quality and reliable health care services	Major Positive, Long-term, Widespread
Increase in revenue to the central and county government	Major Positive, Long Term, Widespread
Employment opportunities	Major Positive, Long Term, Widespread
Optimal Land use	Major Positive, Long-term, Localized
Promotion of social cohesion	Major Positive, Long Term, Widespread
Security	Major Positive, Long-term, Localized
Economic investment hence increases in wealth	Major Positive, Long Term
Employment opportunities	Major Positive, Long-term, Widespread
Improper management of waste	Major Negative, Long-term, Localized
Increased Risk of Occupational Health and Safety Incidences	Major Negative, Long term, Localized
Increased Effluent Waste and Surface/Storm Runoff Generation	Minor Negative, long-term, widespread
Increased Water Demand	Minor Negative, long-term, widespread
Increased traffic volume	Major Negative, Long-term, Localized
Gender Inequality	Minor Negative, Short term, Localized

7.6 Positive Impacts

7.6.1 Provision of high quality and reliable health care services

The upcoming development will positively impact the health of Kenyans and the East African region through ease of access to specialized services for almost all health conditions. It will help to enhance access to diagnostic services for specialized services and improve capacity to serve many people.

7.6.2 Promotion of social cohesion

The development will bring together people with diverse traditions and culture. It will lead to promotion of cultural interaction especially when the academy becomes operational.

Enhancement measures:

Appropriate staffing with technical and sports personnel adequately trained in use of newly refurbished stadium.

7.6.3 Employment opportunities

Operation of the specialist sporting centers will create additional long-term technical and non-technical job opportunities for sport professionals and other non-sport professionals.

Enhancement measure

Wherever possible, local qualified people will be considered for job opportunities. Adequate occupational health and safety standards should be provided to ensure the work environment is conducive.

7.6.4 Optimal Land use

This will be beneficial as the proponent pays land rates for the entire parcel of land whereas it' s yet to be utilized to full potential.

7.6.5 Increase in revenue to the central and county government

Through payment of relevant taxes, rates and fees to the government and the local authority, the project will contribute towards the national and local revenue earnings.

7.6.6 Economic investment hence increases in wealth

The proponent will receive returns on his investments. In improved health of citizen leads to improved wealthy.

7.6.7 Improved health care

The new facility will also contribute towards the improvement of health infrastructure, health services and opportunities in Kenya and the East African region. The Republic of Kenya requires an improved health system that will ensure that improved provision of health services to its citizens leading to health nation and enhancing Kenya's international competitiveness and economically viability.

7.6.8 Enhanced Security.

During the operation of the project, security will be enhanced in the vicinity of the project site through distribution of suitable security lights and presence of a security guard. This will lead to improvement in the general security in the surrounding area.

7.7 Negative Environment Impacts

7.7.1 Increased liquid waste

As result of the operationof the proposed stadiumfacility components, it is expected that some waste is generated. Mainly there will be domestic waste and hazardous liquid waste..

Therefore, improper liquid waste sanitization and disposal can cause public health risksdue to environmental pollution. Impaired air quality, storm water contamination of water courses and infections when people or children rummage through improperly dumped infectious waste or raw waste stockpiles that can belief threatening.

Mitigation Measures

- Liquid Waste Management and Disposal through the treatment facility.
- The stadium will put up its own sewerage treatment plant within the facility before disposing to the sewer line.
- Human Excrement from Modern Sporting Facilityand associated facilities: The stadium will be connected and served by the sewer line, managed by the Homabay sanitation and water company.

7.7.2 Process Wastewater

Waste water may come from the wash room, irrigation of the lawns, washing of cars etc.

Mitigation Measures

- Provide a separate holding tank and facility treatment tank before being discharged to thesewer line.
- Processwastewater mustbetreatedwithchemicaldisinfectants,neutralizedbefore being flushed intothe sewer system.
- Thetreatedeffluentbeingdischargedtothesewerlineshouldconformtothelimitsasprovidedforunder Environmental Management Co-ordination(Water Quality)Regulations,2006;Standardsforeffluent discharge into public sewers-Schedulefive shown in table Below 10:

Table 6Standards for Effluent Discharge into Public Sewers

PARAMETER	MAXIMUM LEVELS PERMISSIBLE
Suspended solids (mg/L)	250
Total dissolved solids (mg/L)	2000
Temperature 0C	20 - 35
pH	6-9

Oil and Grease (mg/L) -where conventional treatment shall be used	10
Oil and Grease (mg/L)- where ponds is a final treatment method	5
Ammonia Nitrogen (mg/L)	20
Substances with an obnoxious smell	Shall not be discharged into the sewers
Biological Oxygen Demand BOD5 days at 20^{o}C (mg/L)	500
Chemical Oxygen Demand COD (mg/L)	1000
Arsenic (mg/L)	0.02
Mercury (mg/L)	0.05
Lead (mg/L)	1.0
Cadmium (mg/L)	0.5
Chromium VI (mg/L)	0.05
Chromium (Total) (mg/L)	2.0
Copper (mg/L)	1.0
Zinc (mg/L)	5.0
Selenium (mg/L)	0.2
Nickel (mg/L)	3.0
Nitrates (mg/L)	20
Phosphates (mg/L)	30
Cyanide Total (mg/L)	2
Sulphide (mg/L)	2
Phenols (mg/L)	10
Detergents (mg/L)	15
Colour	Less than 40 Hazen units
Alkyl Mercury	Not Detectable (nd)
Free and saline Ammonia as N (mg/L)	4.0
Calcium Carbide	Nil
Chloroform	Nil
Inflammable solvents	Nil

Degreasing solvents of mono-di-trichloroethylene type	Nil

- Sewagefromstadium shouldneverbeusedforagricultural,aqua-cultural,drinkingwater,or recreationalpurposes.
- Additionally,wastesegregationmeasuresshallbeemployedtominimizeentryofsolidwasteintothe wastewater stream
- Regularmonitoringofpre-treatedcontaminatedprocesswatershallbedonequarterlybysubjectivea sample to accreditedlaboratoryanalysis and such results shared with the sewer lineproviders

7.7.3 Increased Water demand

Increased water usage is anticipated after the completion of the Modern Sporting Facilityand it is therefore important to adopt water conservation best practices. The stadium will be connectedtopipedwaterby.Theproponenthasproposedtosinkanotherboreholeonsitetomeetthe expected water demand without straining the water supply.

Mitigation measures

- Implementwatersaving devices for domesticwater usee.g.dual flush toilets, automaticshut-off taps, etc.;
- Portablewatershouldnotbeusedforirrigationpurposesandlandscapesmustbedesignedtoabsorbrai nwater run-off rather than having to carry itoff-site instorm water drains;
- Indigenousvegetation to be used forlandscaping to minimizewatering requirements;
- Cleaningmethodsutilizedforthecleaningofvehicles,floors,containers,yardsetc.mustaimtominimi zewater use;
- Maintenance of proper pressure within fire watersystemsto limit water use;
- Practice rainwater harvesting;
- Conducting of regular auditsof water systemstoidentifyandrectifyanypossiblewater leakages; and
- Implementingasystemforthepropermeteringandmeasurementofwaterusetoenableproperperform ance reviewand management.

7.7.4 Increased EffluentWaste and Surface/Storm Runoff Generation

The proposed project will definitely lead to increased demand for sewage disposal. The surface run off from the building roof and paved ground will lead to increased volume and velocity of stormwater or run-off flowing from the proposed project site. Thiswill in turn lead to increased amounts of storm water entering the drainage system potentially resulting to additional flow.

Mitigation measures

- Ensurethatseweragedischargepipesarenotblockedordamagedsincethiscanleadto releaseofthe effluent,resultinginlandandwatercontamination. Thiswillbe donethroughcontinuousandregular inspectionandmaintenance of the system.Blockageor damageswillbe fixedexpeditiously;
- Ensurethatnosurfacewastewaterisdirectedintothesewersystemtoavoidoverloadingthesewerage system;
- Monitoreffluent qualityregularlyto ensurethat the stipulateddischarge rulesand standardsare notviolated;
- Harvest rainwater from roof fornon-portableusese.g. cleaning andwatering plants.

7.8 Negative Social Impacts

7.8.1 Increased Risk toSafety and Health

Health service workers to be engaged in the stadium will be exposed to different types of risk from infection. Risk areas include but are not limited to operating theatres, acute medicine, Intensive care units, emergency and ambulance services, dialysis, laboratories, especially where there is exposure to blood and blood products, potentially, hazardous devices and instruments, or handling of aggressive patients and pathology.

Mitigation Measures

Theprimarymeasuretomitigateoccupationalsafetyandhealthimpactsisprevention, which entails identificationof risks and instituting pro-active measures to avoid them. This can be achieved by following national guidelines and international best practices. For unavoidable risks, rated Personal Protective Equipment (PPE) should be provided to workers.

- Conductbasicoccupationaltrainingprogramsandspecialtycoursesasneeded,toensurethatworkers are oriented to thespecifichazards of individualworkassignments.Training shouldgenerallybe provided to management,supervisors, workers, and occasionalvisitorsto areasof risksand hazards;
- Conductstatutoryassessmentsi.e.riskassessments,firesafetyauditsandOccupationalSafetyandHealth auditsannuallythroughlicensedadvisorsandauditorsbytheDirectorateofOccupationalSafetyand Health Services(DOSHS);
- ConductstatutorytrainingsunderOSHA,2007andRulesunder it. i.e.basicfirstaid,firesafety training, andOccupationalSafetyandHealthcommittee training throughapprovedtraininginstitutionsbythe Directorateof OccupationalSafetyand HealthServices(DOSHS);
- Provide adequate lighting in allworkrooms;
- Passagewaysforpedestriansandvehicleswithinandoutsidebuildingsshouldbeprovidedsegregated and for easy, safe,andappropriateaccess;

- Provision of firefighting equipmentinstrategicand welllabelled sites;
- Conductdrillsatreasonableintervalstotestthedisasterpreparednesslevelattheworkplace,usingthe resultstoimprove the response mechanisms;
- Eye-wash stations and/or emergency showers should be provided close to all workstations where immediate flushing with wateristhe recommended first-aidresponse;
- Materialshandlingoperationsshouldfollowtheinstructionsofusegivenbythemanufacturer (MaterialSafetyData Sheets);
- Trainworkersonsafe workpractices, and provideappropriatePPE;
- Enforcement of use ofPPEsuch as gloves, dustcoats,nosemasks inallworkroomsrequiring use;
- Trainstaffonhowtopreventandmanageincidences.Thisshouldinvolveproperhandlingofelectricit y, water etc. and sensitization on various modes of escape,conduct and responsibility during such incidences;
- Regular safetydrillstoconstantlyfollowonvariouspossibleincidences;
- Usesignagetowarnsstaffand/orvisitorsofdangerousplaces.Thesignagemustbevisibleandplaced strategically; and
- Develop evacation proceduresto handle emergencies.

7.8.2 Increased traffic volume

During operation, the stadiumwill experience an up surge in clients and visitors. This means an increased number of vehicles accessing the facility. This in turn may have undesirable effect on traffic flow within the area.

Mitigation Measures

- Kenya ruralRoadsAuthorityisintheprocessofimprovementofHomabay-Kisumu road. The improvementstarget ease oftrafficflow and improve on accessibility on the area.
- Designatevehicleregistration and checkpointswill be situated inside thepremise to avert unnecessary trafficsnarl upalong adjacent roadscausedbyvehicleswaitingto accessthestadium.
- Parking strategy: there willbeadequate parking space in the project that will provide for 1,063cars.
- Therewillbeaninternalring roadthatshalladdressthemovementandaccessibilitywithinthestadium compass
- Influx ofpeopleand increased demand forinfrastructure
- Provide adequatesocial andotherinfrastructure to meet needs of the tenants, visitors andcustomers.

7.8.3 Gender Inequality

There is need to promote gender equality in all aspects of economic development. Women's roles in road infrastructure construction are mainly confined to supply of unskilled labour and vending of food stuffs to the construction workers.

Mitigation measures

- Giveequalemploymentopportunitiesforbothmenandwomen,andencouragewomentoapply for jobs that match their skills, including those theycan be good at;
- Exposeandinvolvewomeninconstructionandmaintenanceactivitiesinanefforttotransferrequired skillsto them;
- Involve women groups in activities that they are good at such as treeplantingandbushclearing;
- Enhance gendersensitivityand reduce gender discrimination inconstruction activities.

8.0 ENVIRONMENTAL&SOCIAL IMPACTSMANAGEMENTAND MONITORINGPLAN (ESMMP)

8.1 Significance of ESMMP

ESMMP involves the protection, conservation and sustainable use of the various elements or components of the environment. The ESMMP for the proposed project provides all the details of project activities, impacts, mitigation measures, time schedules, costs, responsibilities and commitments proposed to minimize environmental impacts of activities, including, monitoring and evaluation and environmental audits during implementation and Decommissioning phases of the project. It is important to observe that various measures have already been integrated by the project Proponent at the design stage of the project cycle.

The ESMMP given in Table **12** contains mitigation measures for project impacts at the construction, operation and decommissioning phases.

Table 7Environmental and Social Management and Monitoring Plan

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
A	**CONSTRUCTION PHASE**				
i. A	**ENVIRONMENTAL IMPACTS**				
1.	**Site management**	• Provide training to workers to ensure that they understand the requirements of the environmental management plan as applicable to their responsibilities; • Conduct drills to check on preparedness and response time to emergencies; • Implement practices and procedures that promote proper handling and storage of construction materials and other stockpiles to prevent or reduce storm water pollution, injury to workers or visitors, ground water pollution, and soil contamination; • Minimize or eliminate the discharge of pollutants into storm water drainage systems/natural water channels, surface water bodies or aquifer by reducing hazardous material use on site, using alternative products, and	Contractor / Engineer in charge	Housekeeping practices vis a vis EMP requirements; environmental pollution and H&S concerns arising during construction **Timeframe** Continuous throughout construction phase	• 200,000 for worker's training • 100,000 for drills • 300,000 for housekeeping measures • 400,000 for pollution prevention • 200,000 for protection of stock piles • 600,000 for waste management ▪ 300,000 for management and containment of materials to prevent spillages/leakage

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		training employees in proper handling and use of construction materials; • Ensure protection of stockpiles to reduce the potential for air and storm water pollution originating from stockpiles of construction materials, topsoil and subsoil; • Ensure measures to prevent the discharge of wastes (solid waste, sanitary/effluent waste, hazardous waste, concrete waste) into the ground or the area's surface watercourses /water bodies; • Institute practices and procedures to reduce or prevent leaks or spills which may be discharged into the environment; and • Develop a plan that addresses the sequence of construction activities as it relates to local climate to minimize soil erosion from exposure to wind, rain, runoff and vehicle tracking. • Have an Environmentalist available throughout the			

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		construction period			
2.	**Increased Exploitation of Raw materials**	• Source building materials from suppliers who use environmentally friendly processes in their operations. • Ensure accurate budgeting and estimation of actual construction material requirements to ensure that the least amount of material necessary is ordered. • Ensure that damage or loss of materials at the construction site are kept minimal through proper storage • Use at least 5%-10% recycled refurbished or salvaged materials to reduce the use of raw materials and divert material from landfills	Contractor / Engineer in charge	Material site rehabilitation Throughout the construction period	880,000.00
3.	**Noise and Excessive Vibration**	• Use modern equipment, which produces the least noise. Any unavoidably noisy equipment should be identified and located in an area where it has least impact; • Install portable hoods to shield compressors and other small stationary equipment where	Contractor / Engineer in charge	• Noise Survey Audit • Permissible noise levels during constructions • No noise Complains	1,000,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		necessary; • Endeavour to use equipment installed with noise abatement devices as much as practicable; • Reduce idling time on trucks and other noisy equipment; • Encourage drivers to turn off vehicle engines when not in use; • Noise shielding screens should be used and the operation of such machinery restricted to when required; • For mobile equipment, fit efficient silencers and enclose engine compartments in plant vehicles; • For fixed plants, isolate source by enclosure in acoustic structure; • Raise barriers around noisy equipment; • Notify the public of construction activities that may be perceived as noisy and intrusive prior to starting construction; • Establish means for the public to contact the engineers-in-		**Timeframe** Continuous throughout construction stage	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		charge (i.e., provide telephone number, email, etc.) and provide methods to handle complaints; • The use of hearing protection gears by workers when exposed to noise levels above 85 dB(A); • Ensure that noise & excessive vibration from construction activities are within permissible levels as per the provision of the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009. This includes among others adhering to permissible noise and vibration level; • Care should be exercised when selecting equipment to avoid use of time worn or damaged machinery with high level of noise emissions that would have a negative impact in the environment.			
4.	**Airborne emissions**	• Construction equipment will be maintained in good operating	Contractor & Engineer in charge	• Regular Air quality monitoring	1,600,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		condition to reduce exhaust emissions; • Construction sites, transportation routes, diversions and materials handling sites to be water-sprayed on dry and windy days to lay dust; • Haulage trucks must be covered by use of tarpaulins to cover trucks carting away spoil using public roads or the aggregates sprayed with water before loading the haulage trucks; • Use environmentally friendly fuels such as low sulphur diesel; • The project area will be cordoned off to minimize dust migration to nearby facilities by wind; • Minimize exposed areas through the schedule of construction activities to enable dust control; • Maintain equipment and machinery to manufacturers specifications by regular servicing to maintain efficiency in combustion and reduce carbon emissions;		• No material spillage on the roads • entries in the complaints register Equipment maintenance records, **Timeframe** Continuous throughout construction stage	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Ensure no burning of waste on sites/non-designated areas; • Minimize the period for machinery idling; • Rehabilitation of disturbed areas once completed; • Proper planning in transportation of spoil to ensure that the number of trips done or the number of vehicles used is as minimum as possible; and • Speed controls by temporary speed bumps on diversions where necessary within the construction site; • Staff working in dust generating activities e.g. site preparation, excavation, concrete mixing, stone dressing should be provided with personal protective equipment (PPE) the use of PPE shall be enforced;			
5.	**Soil and water pollution**	• Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric during rainy season;	Contractor & Engineer in charge	• Annual Environmental audits • Quarterly water	1,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Prevent the washing away of construction materials, soil, silt or debris into any drainage system; • All machinery and equipment should be regularly maintained and serviced to avoid leak oils; • Maintenance and servicing of vehicle, machinery and equipment must be carried out in a designated area (protected service bays) Oil products and materials should be stored in site stores or in the contractor's yard; • Car wash areas and other places handling oil related activities within the site must be well managed, and the drains from these areas controlled. Oil interceptors must be installed along the drainage channels leading from such areas; • There should be no flooding within the site at all to prevent seepage of contaminated water into underground water sources; • All applicable national laws,		quality analysis • Soil test analysis in spill occurrence areas **Timeframe** *Continuous throughout construction stage*	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		regulations and standards for the safe use, handling, storage and disposal of hazardous waste to be followed; • Storage sites for petroleum products should be secured and signage posted, which include hazard warnings, who to contact in case of a release (spill), access restrictions and under whose authority the access is restricted will be posted; • Label products and store in weatherproof containers on spill containment pallets and under a weatherproof tarp. The contractor/spill response coordinator will monitor periodically for leaks, and check to ensure that labels are still present and legible; • Implementation of erosion and sediment control measures such as silt fences; and • Cover open stockpiles of construction materials with			

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		tarpaulin or similar fabric during rainstorms. And where oil is completely restrained from reaching the ground;			
6.	**Increased solid waste**	• Adopt the method of selective demolition (for existing buildings) to the extent possible; • Waste (such as metal scrap or wood waste) that can be reused/ recycled may be donated to local people; • Segregate waste onsite; • Ensure that waste is disposed of according to EMCA (Waste Management) Regulations, 2006 and the Homabay County Government by – laws; • Contracted waste handlers should be licensed to transport and dispose waste at approved dumpsites only, • During transportation of waste, it should be covered to avert dispersion along the way; and • Hazardous waste will not be mixed with other solid waste	Contractor & Engineer in charge	• Contract licensed waste handlers • No reports of illegal waste dumping • Monitoring on waste generation, disposal and minimization by Proponent and Engineer. • Auditing on contractor(s) waste management performance **Timeframe** *Continuous throughout construction stage*	1,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		generated and should be managed by way of incineration or landfilling.			
7.	**Water resource management**	• Develop and implement a site construction waste and wastewater management plan to minimize environmental damage from construction activities; • Provide appropriate sanitary facilities at construction camp and sites, worker compounds and other construction facilities; • Install secondary containment measures in areas where fuels, oils, lubricants etc. are stored and loaded or unloaded, including filling points; • Implement soil erosion control measures; • Install and regularly empty sediment traps in surface drains around construction areas; • Minimize soil disturbance and excavation during wet season; • Obtain appropriate consents for any abstractions from, and	Contractor & Engineer in charge	• Water consumption levels, • water pollution incidences • housekeeping practices that could cause water pollution **Timeframe** Continuous throughout construction phase	900,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		discharges to watercourses during the construction period;			
8.	**Soil Erosion**	• Control the earthworks, • Landscaping to create contours towards the drainage systems, • Create embankments around the premises with excavated earth to prevent loss. • Salvage, stockpile and ensure re-use of native topsoil during re-vegetation activities in disturbed areas; • Develop and implement a reinstatement plan; • Reinstatement to ensure that backfill material is compacted to a similar value to the surrounding soils; • Ensure that clearance of vegetation is limited to the plinth of proposed structures and trench line to prevent soil erosion that would ensue after loss of vegetation; • Ensure that construction vehicles use predetermined tracks at the	Contractor & Engineer in charge	• Silt loading in the drainage systems during rains • Level of soil erosion observed at the sites; and • Quantity of excavated soil carted away/re-used at the site • Housekeeping practices that have impact on erosion & pollution prevention **Timeframe** Continuous throughout construction phase	1,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		site to reduce ground compaction; • Stabilize and maintain access roads created to access project sites to minimize erosion and dust from vehicular traffic; • Stabilize construction sites and camp(s) entrances/exits to reduce the amount of sediment tracked off-site by construction vehicles; • Oils, fuels, paints and any hazardous materials to be stored in accordance with their respective MSDS's, and in such a manner to avoid spillages or leakages; and • Seeding and planting of trees, shrubs and ground cover for temporary or permanent stabilization of soil in areas such as: cleared areas without on-going construction activity; open space and fill areas; spoil piles or temporary stockpile of fill material			
9.	**Ecology and biodiversity**	• Locate all associated structures, temporary, and permanent construction-related sites (e.g. the	Contractor & Engineer in charge	Extent of vegetation clearance, vegetation damage from pollution	210,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		construction camp) as far as possible within the zone of inundation or on disturbed habitat locations to minimize overall habitat loss; • Avoid unnecessary removal/destruction of vegetation in site clearance; • Development and implementation of a Reinstatement Plan; • Re-vegetation of disturbed grounds with indigenous species; • Incorporate existing vegetation into landscaping plans where possible and ensure that proper care is taken for this vegetation before and after construction; • Ensure the protection of existing vegetation using any of the following methods: mark, flag or fence areas of vegetation to be preserved; • Designate limits of root systems (tree drip line); limit grading to within one foot of the tree drip lines if grading under the tree is		incidences **Timeframe** Continuous throughout construction phase	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		necessary; and • Locate construction traffic routes, spoil piles etc. away from existing vegetation; • Ensure the prevention of vegetation and soil contamination by hydrocarbon/chemical pollution events through development and implementation of pollution prevention plans and emergency response plans. • Provide for rescue of rare or distressed animals; • Begin reservoir inundation after the dry season once hibernating animals have emerged; • Implement 'nuisance' plant monitoring programme for the construction site			
B)	**SOCIAL IMPACTS**				
1.	**Temporary scenic blight**	• Ensure minimal footprint of construction activities. • Project workers and activities restricted to construction site.	Contractor & Engineer in charge	Fenced construction site **Timeframe** *Continuous throughout construction stage*	210,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
2.	**Increased Safety and Health Risks**	• Regular drills shall be undertaken to test the response of the involved stakeholders; • Use signage to warn staff and/ or visitors that are not involved in construction activities of areas that pose risk; • Strict instructions shall be given for drivers of heavy equipment; • Supervision of works shall be done regularly to ensure that safety conditions are met while any deviation from safety regulations is immediately reclaimed following the best practices regarding safety at work; • Develop evacuation procedures to handle emergency situations; • Truck drivers should maintain a speed limit of not more than 20Km/hr.; • Speed controls by temporary speed bumps where necessary shall be undertaken within the construction site; • Compliance to all international,	Contractor & Engineer in charge	• OSH training records • Presence of informative signage • Safety and Health audits • Provision of first aid boxes, firefighting equipment • Maintenance of equipment and plants logs • Material safety data sheets **Timeframe** *Continuous throughout construction stage*	6,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		national and local health and safety standards that may exist; • Clear marking of work site hazards and training in recognition of hazard symbols; • Training of all personnel in fire prevention and protection; • Regular inspection, testing and maintenance of equipment and machinery; • Provide full first aid kits at the construction yard; • Use of water sprays to arrest dust; • Containment of hazardous materials; and • Provide adequate protective gear to construction workers			
3.	**Squatters**	• Squatter to be given enough notice prior to eviction or relocation. • Where it is not feasible to avoid resettlement/relocation/eviction of squatters, the activities should be conceived and executed in humane manner. • The dislodgment of persons should be avoided where feasible,	Government of Kenya (GoK)/ Proponent/ Contractor	No of families/ individuals evicted or relocated. **Timeframe** Once Before beginning of Construction Phase	To be determined

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		or minimized, exploring all viable amicable alternatives or alternative settlement scheme. • Displaced person should be informed about their options and rights pertaining to resettlement/eviction/relocation; • Squatters should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation • Squatters should be meaningfully consulted and any legal option exhausted prior to planning and implementing eviction program.			
4.	**Community Health, HIV/AIDs safety and security**	• Inform local communities of major activities in advance; • Ensure all dangerous construction sites are fenced off; • Enforce and monitor road safety standards; • Identify water sources for		• Number of public awareness meetings; • Housekeeping practices with impact on public	3,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		construction that will not deplete local water supplies and ensure that construction minimizes its use of water; • Implement measures to prevent the entry of sediment from construction areas into local waterways; • Follow best practice to prevent the creation of breeding areas for vermin; • Spray construction areas and roads regularly with water to suppress dust emissions; • Ensure that potentially disturbing construction noise is not produced outside of working hours; • Provide safety training, traffic management and place a high priority on public safety • Ensure that the workers camp(s) and construction areas are open only to formal employees; • Develop and enforce a strict code of conduct for workers to regulate behavior in the local communities;		health and safety; • Construction methodology, length and duration of open trenches • and other excavations; and • Frequency of incidents/accidents and fatalities. **Timeframe** *Continuous throughout construction stage*	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Provide awareness training to the workforce regarding the transmission of STDs, and traffic safety awareness; • The contractor to keep carrying HIV/AIDS campaign for awareness creation and prevention of spread of diseases. • Warning literature and notices prepared and posted at strategic points within campsite. • There was regular refilling of the condom dispensers at the construction camps			
5.	**Traffic snarl up along Homabay-Kisumu and adjoining roads**	• Construction activities that might substantially disrupt traffic e.g. delivery of materials should not be performed during peak travel periods to the maximum extent practicable; • Any work that disturbs normal traffic signal operations shall be coordinated with the relevant authorities, • Ensure that the Entry/Exit to the project site is located where it will	Contractor, Engineer in charge	• Well flowing • traffic • Traffic marshal site access by large vehicles likely to obstruct traffic • Logs of traffic offences **Timeframe** *Continuous throughout*	1,000,000

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		cause minimal traffic, • Ensure all construction vehicles to and from the construction site use the designated Entry/Exit to the project site, • Warning signs should be used as appropriate to provide notice of road hazards and other pertinent information to motorists and the general public; • "NO PARKING" signs will be posted around the building where Parking is prohibited and likely to cause obstruction as well as other necessary traffic signs, • Signage and barricades should be used as part of the typical construction traffic controls; • Temporary manual traffic control should be used when construction vehicles are entering and leaving the site through Kisumu-Homabay road; and • Adherence to Homabay County Government Traffic By-Laws and Kenya Traffic Laws.		*construction stage*	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
6.	**Gender Inequality**	• Equal employment opportunities will be provided for both men and women; • Expose and involve women in road construction and maintenance activities in an effort to transfer required skills to them; • Involve women groups in activities that they are good at such as landscaping; and • Enhance gender sensitivity and reduce gender discrimination in construction activities.	Contractor,	Gender equality **Timeframe** *Continuous throughout construction stage*	-
7.	**First aid**	• Well stocked first aid box which is easily available and Accessible should be provided within the premises • Provision must be made for persons to be trained in first aid, with a certificate issued by a recognized body.	Contractor/ Proponent	Contents of the first aid kit.	30,000.00
8.	**Security**	• Provide security guards and facilities during the entire project cycle. • Strategic installation of lighting as well as security alarms and backup	Contractor, Engineer in charge	**Timeframe** *Continuous throughout construction stage*	2,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		systems • The site shall be fence			
B	**OPERATION PHASE**				
i. A	**ENVIRONMENTAL IMPACTS**				
1.	**Waste water generation**	• Process wastewater must be treated with chemical disinfectants, neutralized and then flushed into the sewage system; • Chemical waste should first be neutralized with appropriate reagents and then flushed into the sewer system; • The treated effluent being discharged to the sewer line should conform to the limits as provided for under Environmental Management Co-ordination (Water Quality) Regulations, 2006; Standards for effluent discharge into public sewers-Schedule five; • Sewage from health care facilities should never be used for agricultural, aqua-cultural, drinking water, or recreational purposes;	Kenya sports Association	• Efficient wastewater management • Quarterly Effluent test results • Waste segregation initiatives **Timeframe** Continuous throughout Operation stage	3,000,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Minimize entry of solid waste into the wastewater stream by collecting separately urine, faeces, blood, and vomit from patients treated with genotoxic drugs to avoid their entry into the wastewater stream; and • Ensure that sewerage discharge pipes are not blocked or damaged.			
2.	**Solid Waste Generation**	• Consider waste minimization practices; • Segregate waste at the point of generation; • All waste to be handled and managed in accordance with the EMCA (Waste management) Regulations of 2006; • All waste containers to be labelled/ color-coded depending on waste category; • Waste storage areas to have the following design consideration: Hard, impermeable floor with drainage, and designed for cleaning / disinfection with available water supply, secured by	• Contracted waste handler • Kenya sports Association	Efficient solid waste management • Contractual documents with waste handler • Monitor solid waste quantities Waste management training programs **Timeframe** *Continuous throughout Operation stage*	210,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		locks with restricted access, designed for access and regular cleaning by authorized cleaning staff and vehicle, protected from sun, and inaccessible to animals / rodents, equipped with appropriate lighting and ventilation, segregated from food supplies and preparation areas; equipped with supplies of protective clothing, and spare bags / containers; • Appoint a waste handler who is licensed by NEMA and permitted by the local government to handle, transport and treat wastes at approved treatment sites using recommended treatment procedures laid down by the legal framework and respective government agencies; • Waste destined for off-site treatment facilities should be transported according to the guidelines for transport of hazardous wastes / wastes in EMCA(Waste Management)			

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		Regulations, 2006; • Package for infectious waste should include an inner, watertight layer of metal or plastic with a leak-proof seal. • Outer packaging should be of adequate strength and capacity for the specific type and volume of waste; • Packaging containers for sharps should be puncture-proof; • Waste should be labeled appropriately, noting the substance class, packaging symbol (e.g. infectious waste, radioactive waste), waste category, mass / volume, place of origin within stadium, and final destination; and • Transport vehicles should be dedicated to waste and the vehicle compartments carrying waste sealed.			

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
3.	**Increased water demand**	• Water abstractions should be as per the Water Resources Management Authority (WRMA) permit; • Monitor water use; • Implement water saving devices for domestic water use e.g. dual flush toilets, automatic shut-off taps, etc.; • Portable water should not be used for irrigation purposes and landscapes must be designed to absorb rainwater run-off rather than having to carry it off-site in storm water drains; • Indigenous vegetation to be used for landscaping to minimize watering requirements; • Cleaning methods utilized for the cleaning of vehicles, floors, containers, yards etc. must aim to minimize water use; • Maintenance of proper pressure within fire water systems to limit water use; • Practice rain water harvesting;	Kenya sports Association	Borehole EIA License Water meter readings **Timeframe** *Continuous throughout Operation stage*	500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Conducting of regular audits of water systems to identify and rectify any possible water leakages; and • Implementing a system for the proper metering and measurement of water use to enable proper performance review and management			
4.	**Energy utilization:**	• Develop an energy management plan; • Construction machinery and vehicles should be maintained and used in accordance with manufacturer's specifications, to maximize efficiency and lower use of energy, e.g. drivers of construction vehicles should be instructed not to leave them idling for extended periods; • Construction workers should be sensitized on the importance of energy management	Proponent	• Large Power bills **Timeframe** *Continuous throughout Operation stage*	100,000.00
5.	**Increased Surface/Storm Runoff**	• Ensure that no surface wastewater is directed into the sewer system to avoid overloading the sewerage	Kenya sports Association and Proponent	• Efficient storm water management Unobstructed	800,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
	Generation	system; • Monitor effluent quality regularly to ensure that the stipulated discharge rules and standards are not violated; and • Harvest rainwater from roof for non-portable uses e.g. cleaning and watering plants • Reduce erosive forces and increase resistive forces		drainage • incidences of flooding **Timeframe** *Continuous throughout Operation stage*	
ii. B)	**SOCIO-ECONOMIC IMPACTS**				
1.	**Increased Risk of Occupational Health and Safety Incidences**	• Conduct basic occupational training programs and specialty courses as needed; • Ensure that workers are oriented to the specific hazards of individual work assignments. Training should generally be provided to management, supervisors, workers, and occasional visitors to areas of risks and hazards; • Conduct statutory assessments i.e. risk assessments, fire safety audits and Occupational Safety and Health audits annually through	Kenya sports Association and Proponent	• Annual Occupational Safety and Health audits • Annual Fire risk assessments Biosafety, occupational safety & health trainings • Safety & health committees • Incidents monitoring • No Injuries or cross- infections	3,500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		licensed advisors and auditors by the directorate of occupational safety and health services (DOSHS); • Conduct statutory trainings under OSHA, 2007 and Rules under it. i.e. basic first aid, fire safety training, and Occupational Safety and Health committee training through approved training institutions by the Directorate of Occupational Safety and Health Services (DOSHS); • Provide adequate lighting in all workrooms; • Passageways for pedestrians and vehicles within and outside buildings should be segregated and should provide for easy, safe, and appropriate access; • Provision of firefighting equipment in strategic and well labelled sites; • Conduct drills at reasonable intervals to test the disaster preparedness level at the		• Safety & health management & monitoring plan **Timeframe** *Continuous throughout Operation stage*	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		workplace, using the results to improve the response mechanisms; • Provide eye-wash stations and/or emergency showers should be provided close to all workstations where immediate flushing with water is the recommended first-aid response; • Materials handling operations should follow the instructions of use given by the manufacturer-The "Material Safety Data Sheets)"; • Train workers on safe work practices, and provide appropriate PPE; • Enforcement of use of PPE such as gloves, dustcoats, nose masks in all workrooms requiring use; • Restriction of access to high risk areas to authorized personnel only i.e. radiation rooms, surgery rooms; • Operate places with radiations in accordance with in accordance			

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		with the radiation protection Act Cap 243 Radiation Protection (Standards) Regulations, 1986 and recognized international safety standards and guidelines on radiation; • Orient all staff on safe work practices and guidelines and ensure that they adhere to them; • Training staff on how to prevent and manage incidences. This should involve proper handling of electricity, water etc. and sensitization on various modes of escape, conduct and responsibility during such incidences; • Regular safety drills to constantly follow on various possible incidences; • Use signage to warn staff and/ or visitors of dangerous places. The signage must be visible and placed strategically; • Set up (fire) assembly points; and • Develop evacuation procedures to handle emergencies.			

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
2.	**Influx of people and increased demand for infrastructure**	• Provide adequate social and other infrastructure to meet needs of the tenants, visitors and customers;	Kenya sports Association	No overcrowding Adequate amenities for all **Timeframe** *Continuous throughout Operation stage*	3,000,000
3.	**Increased Traffic Volume**	• Kenya Rural Roads Authority is in the process of improvement of Homabay-Kisumu road. The improvements target ease of traffic flow. • Designate vehicle registration and checkpoint inside the premise to avert unnecessary traffic snarl up along adjacent roads caused by vehicles waiting to access the stadium. • There will be a lot of parking in the project that will provide for 1,063 cars. • There will be an internal ring road that shall address the movement and accessibility within the stadium.The master plan is in tandem with greater Kisumu-	Kenya sports Association	Well flowing Traffic **Timeframe** *Continuous throughout Operation stage*	500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		Homabay Road improvement plan. • Liaison has been made with KERRA and the Homabay County on the same. • There are dedicated exits and entries; one gate on Kisumu-Homabay road with a dedicated emergency route/ lane dedicated for emergencies and ambulance access only; two gates on Kisumu-Homabay road for access both exit and entry by visitors, patients and general stadium users.			
C	**DECOMMISSIONING PHASE**				
i. A	**ENVIRONMENTAL IMPACTS**				
1.	**Generation of solid waste**	• All solid waste to be collected at a central location and stored temporarily until removal by a licensed solid waste handler; • Adopt the method of selective demolition as far as practicable to enable the removal of wastes of	Contractor, Project Engineer in charge	**Timeframe** Continuous throughout Decommissioning	1,000,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		the same category one at a time thus facilitating recycling of wastes for beneficial reuse and minimizing the burden on dumpsites; • 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; • General waste is to be collected either by the County Government or via a licensed waste disposal contractor. The frequency of collections should be such that waste containment receptacles do not overflow; • Waste generated at the site should be categorized by the contractor and disposed of in a suitable manner into different waste streams (including general and hazardous waste). Wherever		stage	

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		possible recycling should be carried out; • Litter generated by the construction crew must be collected in rubbish bins and disposed of weekly at registered waste disposal sites; • All rubble must be removed from the site to an approved disposal site as approved by the Engineer. Burying rubble on the site is prohibited; • Ensure that no litter, refuse, wastes, rubbish, rubble, debris and builders wastes generated on the premises is placed, dumped or deposited on adjacent/surrounding properties during or after the decommissioning period of the project are disposed of at dumping site as approved by the County government.			
2.	**Waste Water generation**	• Ensure that any wastewater generated during decommissioning is exhausted by a licensed exhauster;	• Contractor, Engineer in charge, • Kenya sports	**Timeframe** Continuous	1,000,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Storm water should be managed in such a way that no overland flow is possible onto the site from any adjacent area; • Storm water drains in the area should be routinely inspected for solid waste to avoid blockages and associated problems.	Association	throughout Decommissioning stage	
3.	**Soil erosion**	• Re-vegetate the site with grass and trees of indigenous tree species. • Reduce erosive forces and increase resistive forces • Limit soil exposure. • Reduce runoff velocity. Altering slope, and increasing surface roughness via specialized grading and rock dams	Contractor	**Timeframe** Continuous throughout Decommissioning stage	800,000.00
4.	**Air pollution**	• Active earth work areas, stockpiles and loads of soil being transported must be watered to reduce dust; • All areas disturbed during closure of the site that are not required for a specific activity must be re-vegetated; • Diesel exhaust emissions from	Contractor	**Timeframe** Continuous throughout Decommissioning stage	500,000.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		heavy machinery on site (excavators, front end loaders and hauling trucks) must be controlled and minimized by regular checks and servicing of vehicles; and • Any demolition machine found to be emitting excessive smoke should be withdrawn from operation and given mechanical attention.			
5.	**Noise and excess vibrations**	• Use modern equipment, which produces the least noise. Any unavoidably noisy equipment should be identified and located in an area where it has least impact; • Use noise-shielding screens. The operation of such machinery restricted to when it is actually required; • For mobile equipment fit efficient silencers and enclose engine compartments in plant vehicles; • For fixed plants, isolate source by enclosure in acoustic structure; • Carefully select fixed plant site for remoteness from sensitive areas;	Contractor	**Timeframe** Continuous throughout Decommissioning stage	500,00.00

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		and • Raise barriers around noisy equipment.			
6.	**Accidental Leaks and spillages**	• Ensure employees are aware of the procedure for dealing with spills and leaks; • The source of the spill should be isolated and the spillage contained using sand berms, sandbags, sawdust and/or absorbent material; • Accident areas should be cordoned off and secured; • Notify the relevant authorities of any spills that occur; • Ensure that the necessary materials and equipment for dealing with the spills and leaks are available on site at all times.	Contractor	**Timeframe** Continuous throughout Decommissioning stage	800,000.00
ii. B	**SOCIAL IMPACTS**				
1.	**Safety and Health risks**	• Decommissioning works workers be issued with appropriate PPEs and the decommissioning contractor to enforce their use; • Restrict onlookers/scavengers from site;	Contractor		-

No.	Nature Of Negative Environmental /Social Impacts	Mitigationmeasures	Responsibility	Performance Indicators Monitoring Activity and Timeframe	Cost Per Year(Kes)
		• Develop safe work procedures for demolition works; and • Follow mitigations measures given for construction phase in section B (Social Impacts) no 2 on health safety.			
2.	**Displacement of patients /tenants and workers**	• Adequate notice on the impending decommissioning should be given to Interested and Affected Parties (IAP) to enable them make arrangement for alternative arrangements.	Kenya sports Association		300,000.00
3.	**Livelihood and economic Loss**	• Businesses associated with the development should be notified of intention of decommissioning in good time to relevant adjustment; and • Redeployment of the affected workerswhere feasible should be undertaken.	Kenya sports Association		-

9.0 EMERGENCY RESPONSEPLAN (ERP)

Emergenciesanddisasterscanoccuranytimewithoutwarning.Moresoconstructionsitesarepronetosuch, thus it is important for the proponent to prepare for them, and be in a good position to act to minimize panic and confusion when they occur. Emergency Response Plans (ERP) will have tobeinstitutedthroughouttheprojectcycle.Thefollowingelementsofaconventionalemergencyresponsepla narerecommendedassummarizedin table13below.

Table 8Emergency Response Plan

Emergency Response Plan Components	**Actions/Requirements**	**Responsibility**
Potential Emergency	Identification of all potential emergencies associated with the proposed project at the project site, Include, Fires, Accidents & Incidents, Security, and Terrorism ***etc***.	• Contractor during construction and Decommissioningphases. • Proponent during operation phase.
Emergency Operations Coordinator (EOC)	Designate a primary and secondary contact person.	• Contractor during construction and decommissioning phases. • Proponent during operation phase.
Emergency contact Numbers	Give &display contact for Forestation, Ambulance, police, Hospitals, and others	• Contractor during construction and decommissioningphases • Proponent during operation phase.
Installation of emergency equipment	• Fire sensors, • Fire alarms, • Fire extinguishers, • Fire hose, • Panic alarm button, • Provision and enforcement of use of PPEs, • Emergency Communication equipment, such as Phone & alarm bells	• Contractor during construction and decommissioning phases. • Proponent during operation phase.
Trainingfor emergency response	• Regular training for emergency response	• Contractor during construction and decommissioningphases. • Proponent ,during operation phase
First Aid	Provision of first aidkits, First aid management training	• Contractor during construction and decommissioningphases.

		• Proponent during operation phase.
Signage	• Fire sensors • Signage, action poster, alarm bell/panic button	• Contractor during construction and decommissioningphases. • Proponent during operation phase.

10.0 CONCLUSION AND RECOMENDATION

10.1 Conclusion

The success of the proposed development project will impact positively in regard to provision of quality health care that is accessible and accommodative to all citizens of Kenya and beyond. From the socioeconomic angle, the project comes with positive impacts. These include job creation, improvement of the local economy and as a source of revenue to the local and national governments. However, at this stage of project development, there are a number of areas that need attention to ensure that the project will meet acceptable environmental performance and acceptability. Most of the issues have been discussed in the earlier sections of this report and should be followed up and implemented.

A comprehensive Environmental and Social Management and Monitoring Plan (ESMMP) has been formulated and sufficient mitigation measures for the predicted negative environmental and social impacts during construction, operation, and decommissioning phases have been proposed therein. It is in this regard that the Lead experts recommend that the project proponent fully implement the ESMMP and that NEMA considers issuing the proponent with an EIA License under condition that the outlined mitigation measures shall be strictly adhered to.

10.2 Recommendations

Adhere to the formulated Environmental and Social Management and Monitoring Plan (ESMMP) to mitigate the predicted negative environmental and social impacts during construction, operation, and decommissioning phases.

Conduct statutory Environmental audits, Fire risk assessments and Occupational Safety and Health audits annually through licensed advisors during construction and operations phase.

Waste, including excavated soil and debris should be properly disposed of by backfilling and landscaping. During decommissioning of existing buildings, the contractor should adopt the method of selective demolition as far as practicable. This will enable the demolition and removal of wastes of the same category one at a time thus facilitate recycling of wastes for beneficial reuse, and minimizing the burden on dumpsites.

11.0 REFERENCES

Barnes, J., O'Hanlon, B., Feeley, F., McKeon, K and Gitonga, N., and Decker C (2010) Private Health Sector Assessment in Kenya. World Bank: Washington D.C

GOK (Government of Kenya) (2015) Environmental Management and Coordination (Amendment) Act. Nairobi: Government printers.

GOK. (Government of Kenya) (2003). the Environmental (Impact Assessment and Audit).

Nairobi: Government printers.

GOK. (Government of Kenya) (1999). Environment Management and Coordination Act. Nairobi: Government printers.

GOK. (Government of Kenya) (2009). Government of Kenya, 2009.Kenya Vision 2030:

Government of Kenya (1994), The National Environment Action Plan, Government Printer, Nairobi

Kenya gazette supplement Acts, Physical Planning Act, 1999 Government Printer, Nairobi

Kenya gazette supplement Acts, Water Act, 2002 Government Printer, Nairobi

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

Kenya gazette supplement Acts, Occupational Safety and Health Act, 2007 Government Printer, Nairobi; Government printer.

GOK. (Government of Kenya) (1998). Local Government Act (Cap 265). Nairobi: Government Printer.

GOK. (Government of Kenya) (1994). National Environmental Action Plan. Nairobi: Government Printer.

GOK (Government of Kenya) (1999) Sessional paper No 6 of 1999 on Environmental and Development. Government Printers

Good land, R., Mercier, J.R., and Shimwayi M (EdS) 1995. Environmental Assessment in Africa. World Bank Commitment.

NEMA (National Environment Management Authority) (2009). Environmental Management and Coordination Noise and Excessive Vibrations Pollution) (Control) Regulations. Nairobi: government printer.

NEMA (National Environment Management Authority) (2006). Environmental Management and Coordination (Waste Management) Regulations. Nairobi: Government printer.

NEMA (National Environment Management Authority) (2006). The Environmental Management and Coordination (Water quality) Regulations. Nairobi: Government printer.

Open Capital Advisors (2012) The Next 33,000,000: How the private sector is reforming health care for Kenya's Mass market. Nairobi.

Situma, G. M. (2002). Environmental management in Kenya: A guide to the Environmental Management and Coordination Act. Nairobi: FAN.

World Bank (2007). Environmental, Health, and Safety General Guidelines.

Republic of Kenya. National Infection Prevention and Control Guidelines for Health Care Services in Kenya. Nairobi: Kenya

UNEP (United Nations Environment Programme), Secretariat of the Basel Convention (SBC) and World Health Organization (WHO) (2000-2004) (Preparation of National Health-Care Waste Management Plans in Sub Saharan Countries; Guidance manual.

AWE (Air Water Earth Limited), MOH (Ministry of Health-Uganda) (2014) Environmental and Social Impact Assessment for the Construction/Rehabilitation of the National TB Reference Laboratory and Five Satellite Laboratories in Uganda. Kampala: Uganda.

United Nations (1987), The Rio Declaration on Environment and Development

United Nations (2000), World Commission on Environment and Development

UoN, Groundwater Potential of Nairobi area, Kenya

SUMMARY OF THE MINUTES ON PUBLIC PARTICIPATION FOR KEY STAKE HOLDERS FOR ESIA FOR THE PROPOSED REFURBISHMENT OF HOMA BAY STADIUM TO MORDERN SPORTING FACILITY HELD AT HOMA BAY STADIUM GROUND ON 15TH FEB. 2019 AS FROM 1131—1254HOURS.

Attendants

Refer to the attendance list.

Agenda

1. Introductions from attendees.

2. Introduction on ESIA with regards to the project.

3. Reactions (s) from attendees on the proposed project.

4. AOB.

1. Introduction from attendees

The meeting kicked off at 1131 hours without a prayer by introduction from members who attended. Each and every member present was given a time to introduce themselves and the organisation/departments they represent. The floor was opened by Mr. Moses Okode. Madam Omwenga being the moderator.

2. Introduction on ESIA with regards to the project

Mr. Moses Okode was granted the opportunity to shed light on what Lake Consultancy do and also brief the attendees the role of LC in the project. He also clarified further on the questionnaires delivered.

3. Reactions of attendees on the proposed project

The first reaction was from Mr. Odero Raphael who stated that his main concern is the people who were evacuated from the area only to be dumped and not shown what next. The hawkers as well as the business women who were generating their daily bread from the area were chased away without proper warning and awareness on why they are being evacuated. He also added that, victims on the other hand were tax payers to the county. This was responded to by Mr. Francis who termed the people who were operating their businesses near the stadium as *"Squatters"* who were operating on the stadium's land. To second Mr. Francis on his respond to Mr. Odero Raphael was Madam Omwenga who added that, the project may not be welcomed by the public at the beginning of the phase. The public will only come to feel it's important at later days after it has started functioning.

The second reaction was from Mr. Noah who wanted to know the phases in the project, a reaction that was directed to Mr. Kodiko (the county architecture). Mr. Kodiko on his response stated the following:

Phase 1

Fencing the stadium. Zero gradient to the field.

Phase 2

- Construction of the pitch and the 8 lanes track.

- Construction of terrace pavilion (12 terraces upward) on the side facing Rongo-Homa Bay road (a capacity of 2,500). This will include the media and VIP sections. Everybody will be roofed. The timeline is approximated to be 12 months.

- Carpet grass to be included.

- Construction of pavilion on the Homa Bay High School lane with a capacity of 3,000.

N/B: the above two phases is expected to consume a total cost of 4400.

Phase 3

- Construction of the curvature pavilions of the goal posts, a capacity of 2,500.

- Construction of parking spaces, restaurants, changing rooms, offices and business premises.

Phase 4

Construction of volley ball and netball pitches and other field events.

Mr. Kodiko also wanted to know the source of water for the project and how the water will be managed in maintaining the Stadium.

In addition, Mr. Kodiko added that once the construction is complete, it will be advertised so that the public would be aware of it and when they access it. He also went further to seek further clarifications from the National Construction Authority (ANC) representative, Mr. Christopher Omondi on the proper documentation of the project and also its approval.

When replying, Mr. Christopher Omondi, said that they only comply or approve projects based on the proper and legal documents presented to them from various authorities such as NEMA, Lands etc. He went further saying that as ANC, their mandates are:

- Quality assurance on the project;
- Checking on a genuine contractor(s);
- Safeties e.g. PPE in place, fencing from the public, safety signs at the site, signboards that shows the activity going on at the site;
- Register projects.

The third reaction came from Mr Lawi from NEMA who wanted to know the real owner of the land where the project is to be built as he thinks the land belongs to Homa Bay High School. This was answered by Mr. Francis who clarified that the land is a property to the county and they have proper documents to prove it hence, they are in the process of obtaining a title deed.

The fourth reaction came from Mr. Opande who was interested in knowing who enforces the recommendations after ESIA has been done.

Mr. Moses Okode concluded the reactions by touching on the ESIA where he stated the effects of the project to the environment. The following effects were captured and broadly explained to the attendees:

Waste management both liquid and solid from the project.

Dust Pollution from the moving vehicles and moving machines;

The vegetation destruction/biodiversity destruction ;

Soil degradation.

He also touched on the OSHA 2007.

4. AOB

The AOB of the day were recommendations from the attendees.

The following recommendations were brought to table by various Attendants.

Mr. Kodiko requested that the stakeholders representing the construction of the project to give the contractor humble time to deliver his/her best. He added that the stakeholders need to take away politics from the project. He also requested that the sewer lines be diverted. This was also backed up by the representative from the procurement department.

Mr. Christopher Omondi also urged that the construction materials be sourced within. He added that the locals need to be given first priority both the skilled, semi-skilled and unskilled. He was backed up by Mr. Moses Okode who added that the locals need to be given priority to help them feel the importance of the project and they take it as theirs and for security purposes. They also shared the same opinion that the technical skills can be sourced from outside.

Mr. Opande requested the project to be fenced from the public for safety. The client need to work close with NEMA for enforcement of the recommendations from experts from registered by NEMA.

Lastly, both Mr. Moses Okode and Madam Omwenga requested the members who attended the discussion to spread the exact message they have captured to the rest of the public.

The meeting was adjourned at 1255 hours by Madam Omwenga.

Prepared by James Okinyi Oyungu