Environmental and Social Impact Assessment of The Proposed New Kikuyu Market, Kiambu County

EIA Project Report

10th March 2018

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## PROJECT SUMMARY

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<th>Environmental and Social Impact Assessment of the Proposed New Kikuyu Market, Kiambu County</th>
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<tr>
<td>Main Project:</td>
<td>Nairobi Metropolitan Services Improvement Project (NaMSIP)</td>
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<tr>
<td>Objectives:</td>
<td>The objectives of the Proposed New Kikuyu Market is to provide better trading space and working conditions for the traders who are currently carrying out their trading activities at the current Kikuyu market. Having the modern market will give traders an opportunity to have decent, permanent and organized working locations. This will ensure security of tenure of the business premises to the traders and encourage stability in the business undertakings leading to better income generation and sustainability.</td>
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**Objectives of the New Kikuyu Market ESIA assignment are:**

- Provide a description of the environmental and socioeconomic issues associated with the proposed new market project;
- To generate baseline data for monitoring and evaluation of how well the mitigation measures will be implemented during the project cycle;
- Undertaking public and stakeholder consultations through interviews and holding meetings with members of the public, neighbouring communities, stakeholders and affected traders;
- Identification of anticipated environmental and social impacts with focus on physical and social environment, socioeconomic factors and natural resources aspects,
- Development of mitigation measures and an environmental and social management and monitoring plan for identified negative environmental and social impacts.
- To prepare an Environmental and Social Impact Assessment Project Report compliant with the World Bank safeguard policies and the Environmental Management and Coordination Act (1999) including the subsequent NEMA Regulations and detailing findings and recommendations
- Obtain appropriate EIA License from NEMA and approval by the World Bank

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<thead>
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<th>Client:</th>
<th>Ministry of Transport, Infrastructure, Housing and Urban Development, State Department of Housing and Urban Development</th>
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<td>Submission Date:</td>
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CERTIFICATION

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Position: Lead Expert
NEMA Reg. No: 0970
Signed: ...

For and on behalf of:

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### LIST OF ACRONYMS

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<thead>
<tr>
<th>Acronym</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>CBD</td>
<td>Central Business District</td>
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<tr>
<td>CBOs</td>
<td>Community Based Organization</td>
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<tr>
<td>CCTV</td>
<td>Close Circuit Television</td>
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<tr>
<td>DVR</td>
<td>Digital Video Recorder</td>
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<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EMCA</td>
<td>Environmental management and Coordination Act</td>
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<tr>
<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
</tr>
<tr>
<td>ESMMP</td>
<td>Environmental/Social Management and Monitoring Plan</td>
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<tr>
<td>FAO</td>
<td>Food Agricultural Organization</td>
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<tr>
<td>GIS</td>
<td>Geographic Information System</td>
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<tr>
<td>GoK</td>
<td>Government of Kenya</td>
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<tr>
<td>HIV/AIDS</td>
<td>Human Immuno-Virus/ Acquired Immune-Deficiency Syndrome</td>
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<tr>
<td>IDA</td>
<td>International Development Association</td>
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<tr>
<td>IBRD</td>
<td>International Bank for Reconstruction and Development</td>
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<tr>
<td>ILUT</td>
<td>Interdisciplinary Land-Use and Transportation Metropolitan Analysis -</td>
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<td>KCG</td>
<td>Kiambu County Government</td>
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<tr>
<td>LED</td>
<td>Light-Emitting Diode</td>
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<tr>
<td>LPG</td>
<td>Liquefied Petroleum Gas</td>
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<tr>
<td>MCA</td>
<td>Member of the County Assembly</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MoTIHUD</td>
<td>Ministry of Transport, Infrastructure, Housing and Urban Development</td>
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<tr>
<td>MoT</td>
<td>Ministry of Transport</td>
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<td>MRTS</td>
<td>Mass Rapid Transit System/ Mass Rapid Transit Study</td>
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<tr>
<td>MP</td>
<td>Measurement point</td>
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<td>MRTS</td>
<td>Mass Rapid Transit System/ Mass Rapid Transit Study</td>
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<td>MSP</td>
<td>Measurement Sampling Point</td>
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<td>NaMSIP</td>
<td>Nairobi Metropolitan Services Improvement Project</td>
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<td>NASA</td>
<td>National Aeronautics and Space Administration</td>
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<td>NEMA</td>
<td>National Environment and Management Authority</td>
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<td>NIUPLAN</td>
<td>Nairobi Integrated Urban Development Master Plan for the City of Nairobi</td>
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<td>NMR</td>
<td>Nairobi Metropolitan Region</td>
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<td>NMT</td>
<td>Non-Motorized Transport</td>
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<td>OHS</td>
<td>Occupational Health and Safety</td>
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<td>OP</td>
<td>Operation procedures</td>
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<td>PAPs</td>
<td>Project Affected Persons</td>
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<td>RE</td>
<td>Resident Engineer</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>SPC</td>
<td>Spatial Planning Concept Development Plan</td>
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<td>STDs</td>
<td>Sexually Transmitted Diseases</td>
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<tr>
<td>STIs</td>
<td>Sexually Transmitted Infections</td>
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<tr>
<td>TOD</td>
<td>Transit Oriented Development</td>
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<td>ToR</td>
<td>Terms of Reference</td>
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<td>WB</td>
<td>World Bank</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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<td>WRMA</td>
<td>Water Resources Management Authority</td>
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EXECUTIVE SUMMARY

The Ministry of Transport, Infrastructure, Housing and Urban Development (MoTIHUD) through the Nairobi Metropolitan Services Improvement Project (NaMSIP) intends to upgrade 15 markets within the Nairobi Metropolitan Region. The World Bank with the objectives of providing an enabling physical space for organized markets; creating market linkages for products; fostering access to services to promote efficiency and quality of products and promoting reliable linkages with financial institutions finances this initiative. The goal is to enhance livelihoods especially for the urban poor who are operating as vendors in these select markets.

Nairobi Metropolitan Services Improvement Project (NAMSIP) is an initiative that is in line with Nairobi Metro 2030 that was published by Ministry of Nairobi Metropolitan Development. The report proposed the upgrade of the existing markets and establishment of new markets within Nairobi Metropolitan region. Several markets were selected by Local Authority Development Action Plan team for upgrade or establishment. In this regard, Kikuyu Market was one of the primary markets to be selected for development.

The Proposed New Market site is located adjacent to the Kikuyu-Nairobi bus park in Kikuyu town, Kiambu County on GPS location (-1.243974, 36.664254). It borders the Nairobi Southern Bypass to the South. The market site is accessible through Post Office road to its North. Generally, the immediate neighborhood is a medium density with a mixture of low and middle-income population comprising of relatively modern and well-designed commercial and residential developments. The location is proximate to support facilities such as shops and banks and public transport facilities such as the bus stop and Kikuyu Railway Station.

The most practicable intervention at Kikuyu market according to the feasibility studies done will be to erect a new market building to house both the existing and future vendors. A critical analysis has been done in the design of the stalls, the layout of the building as well as the consideration for horizontal and vertical accommodation of the vendors. From the existing list of approximately 549 traders and the projected number in future, a typical multi-level arrangement accommodating all potential vendors was proposed by the market design team.

The four key elements that were considered by the design options are:
- Design of infrastructure based on identified and prioritized needs
- Calculation of required space based on existing infrastructure standards
- Site planning including layout of building and associated facilities
- Cost implications

Detailed description of the proposed market is provided in Chapter One of this report. However, in summary, the market will consist of the following:
- **Stalls** - two levels of stalls; bigger stalls designed for products demanding larger space such as clothes, which measure 2.0 by 2.5m, and smaller stalls that will measure 2m by 1.5m.
- **Infrastructure** - a car park, access roads, deceleration and acceleration lanes and internal passes (ramp and staircase) and drainages.
- **Water Supply and Reticulation** - Water supply will mainly be from Kiambu Water and Sewerage Company. A borehole will be drilled and installed at the market site.
The water will be stored in big capacity tanks to be installed in the space provided for in the market designs to ensure liable and sufficient water supply within the market premises. This will be supplemented by a water tower to be erected at the market site. Check meters will be in placed to monitor the water usage.

- **Sanitary Facilities** - toilet spacing will be 2.3m² per 1000 market users.
- **Fire Fighting** - fire exits and hydrants.
- **Garbage disposal** - Garbage collection cubicles for both recyclable and non-recyclable materials.
- **Ventilation** - The standard air changes will be used to determine extract fan and duct sizes. Natural ventilation will be the predominant way of ventilating the market.
- **Power** - A switch room with a meter board will be required for power distribution to the different stalls. There will be check meters for every stall for management purposes. Provisions for future expansion of the stalls operation will also be taken into consideration. Cabling to and from the switch room will be done by use of cable trays for efficient and neat cable management.
- **Lighting** - external lighting for security reasons, movement of security guards and to explore the possibilities of 24-hour market operation and internal lighting in the stalls.
- **Telecommunication systems** - ICT infrastructure to support the service provider.
- **Security** - CCTV cameras located at strategic locations and the DVR and CCTV monitors located in security room.

**ESIA Study and Objective**
The main objective of the ESIA study was to identify environmental and social impacts associated with the proposed construction of the proposed market and to recommend an appropriate environmental management strategy for the project. The core outcome of the Study is an Environmental and Social Management and Monitoring Plan (ESMMP), which will be used to enhance and mitigate any positive and negative impacts respectively for the project. Specific tasks included;

- Evaluation of the existing situation at the proposed project site,
- Appreciation of the project concepts through studying design documents, construction and intervention layout, feasibility of the project report and other documents,
- Identification of potential impacts associated with the proposed project
- Identification of suitable mitigation and preventive measures appropriate for impacts
- Development of a comprehensive environment and social management and monitoring plan for integration into the project implementation.

**ESIA Justification**
In accordance with the EMCA, (Amendment) 2015, all new projects must undergo environmental impact assessment study to comply with the EIA Regulation, 2003. The proposed construction of the new Kikuyu market is expected to have an overall positive impact to the people and the environment. However, project construction phase and other associated civil works are anticipated to have environmental and social impacts that would require mitigation.

Construction related projects including markets are listed in the second schedule of EMCA, (Amendment) 2015 as among projects that should undergo EIA processes. The magnitude of the projects further justifies the EIA study to provide an Environmental and Social Management and Monitoring Plan (ESMMP) for integration into implementation and operation processes.
In addition, the National Policy on building and construction as well as the building Act calls for Environmental Impact Assessment on construction related projects for long-term sustainability and acceptability by the beneficiaries.

**Approach and Methodology**

The ultimate goal of this approach was to identify positive and negative impacts resulting from the construction of the proposed project. The systematic investigative and reporting methodology specified in the conduct of Project Report Studies (Legal Notice 101 of EMCA) was adopted in this Study. Baseline data on project was generated through discussion with the client and review of project documents. Opinions formed were revalidated through fieldwork entailing site investigations and interviews with key primary stakeholders (e.g. traders, shoppers, market management) and holding public consultation meetings with secondary stakeholders (e.g. project area residents, traders and business persons operating in the neighborhood of the current market and immediate neighbours).

This helped in identifying, predicting, analyzing and evaluating potential impacts that may emanate from the project. Diverse study methods and tools including scoping the project area, use of questionnaires, direct stakeholder consultations, holding public consultation meeting and observations were employed. An Environmental and Social Management and Monitoring Plan comprising of an impact mitigation plan and modalities for monitoring and evaluation were then developed to guide environmental management during all phases of project development.

**Policy, Legal, and Regulatory Framework**

This Project Report has been developed to ensure that the proposed construction of the market is in conformity with national policy aspirations towards securing sustainable development. Specifically, this report has been developed to ensure compliance with requirements of the Environmental Management and Coordination Act (EMCA) 2015 which is Kenya’s supreme environmental law, the Constitution and World Bank’s safeguard polices. Section 58 of EMCA requires that all proposed development in Kenya to be subjected to environmental impact assessment and to be conducted in line with the Second Schedule (of EMCA) and the Legal Notice 101 (Regulations for Environmental Assessment and Audit) of June 2003.

**Anticipated Environment and Social Impacts**

This ESIA study process used a systematic, evidence-based approach to evaluate and interpret the potential impacts of the proposed Kikuyu Market on sensitive physical, biological and human receptors during construction, operation and decommissioning phases. The Legal Notice No. 101 (Environmental Impact Assessment and Environmental Audit) Regulations 2003 requires that a developer should provide a "description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development." The potential environment and social impacts anticipated during the construction, operation and decommissioning phase include the following:
**Anticipated Positive Project Impacts**

**Employment creation**
This project is anticipated to create employment opportunities for people within the County. Direct job creation will begin from the construction phase of the project whereby the locals will be employed to undertake both informal and formal jobs at the construction site. The socio-economic survey carried out for this project indicated that majority of the traders are in their youthful age. This shows that the market will attract more youth to venture into business and hence reduce the number of the unemployed population in the society.

**Source of revenue to the government**
The County government will get revenue from the traders through collection of levies. This contribution will enable the County government to maintain the market and carry out other developments within the County.

**Permanent business/ working location**
Having the modern market will give traders an opportunity to have permanent and organized working locations. This will ensure security of tenure of the business premises to the traders and encourage stability in the business undertakings leading to more income generation and sustainability.

**Economic growth**
Construction of the new market is likely to spur economic growth in the project area such as development of other business activities such as banking, insurance, warehousing, transportation and development of residential and commercial buildings among others.

**Solid Waste Management**
Solid waste management will be a shared responsibility among all the stakeholders who are the County government, traders who are the waste generators, shoppers, contracted and licensed waste handlers, owners and occupiers of the premises. Traders will be provided with separate collection bins for biodegradable and non-biodegradable waste at the new facility. Waste from such bins shall be collected on daily basis by the County workers for proper disposal.

Traders will also be provided with bins near their merchandising points to ensure waste generated is collected at garbage stations or transfer points and later disposed at the main collection points for further disposal by the County employees responsible for this.

**Shield against adverse weather conditions**
The construction of a modern market will ensure traders carry out their businesses without worrying of extreme weather such as vulnerability to rainfall, cold and heat from the sun since the market will have a roof and wall around it and will be well ventilated to receive fresh air and natural light.

**Anticipated Negative Impacts**

**Air Quality**
The project is anticipated to impact on ambient air quality through generation of dust and combustion gases (SO₂, NOₓ, CO, and particulates). Dust will be generated from construction activities especially removal of existing structures, grading and excavation; and increased traffic on unpaved roads. Fugitive dust will be greater during drier period in areas of fine textured soils.
The combustion emissions will be generated by diesel powered construction equipment: excavators, wheel loaders, trucks, motor graders and compactors.

Considering the Project dust controls (watering; stabilizing disturbed areas) and the fact that the fugitive dust and combustion emissions will be short-term and localized, air quality impacts from the construction activities are expected to be of low significance (low severity; low likelihood) at the site and negligible at the closest settlements.

**Soil erosion Impacts**

It is anticipated that the project will cause soil erosion during construction and decommissioning phases. Construction phase and demolition phase activities especially excavation and demolition of structures, respectively are likely to cause soil erosion at the construction site and surrounding areas. However, the impacts are expected to be short term and of low significance.

**Loss of vegetation**

The development of the proposed Market is expected to impact on both flora and fauna currently inhabiting the site. The site has approximately 25 trees and several shrubs and, grass while fauna include: butterflies, rats birds of different species and crawling animals such as lizards. Both flora and fauna at the site are not on IUCN Red list of threatened species.

There will be no effect on the terrestrial ecology during operation and decommissioning phases. During the operation phase, the site will be covered by the proposed development which include green landscaped areas while for decommissioning phase; the site will be restored and rehabilitated to the natural contours and replanted with grass, shrubs and trees.

**Impact on Water Resources**

During construction phase, potential water contamination could arise from disturbance of soil, spillage of oils, fuels, lubricants and other toxic materials at the construction site, discharge of silt-laden run off from site and disposal of waste and wastewater from sanitary convenient provided to construction workers.

During operation phase, solid waste generated from the Market if not managed appropriately could be washed down by storm water.

During the decommissioning phase, the potential negative impacts to water resources are likely to be very similar to those considered during the construction phase of the Project, and the appropriate mitigation measures should be employed to reduce impact on receptors.

The potential risk of water pollution from proposed project can be reduced by: adopting protective measures to prevent spills; putting in place suitable spill response plans; managing wastes appropriately; and controlling soil erosion. With these good practices the risk of water pollution from the project should be low.

**Noise and Vibration**

The ambient noise quality of the project site is characteristic of an urban setting. During construction phase, noise sources will include: manual removal and clearance of existing structures/ debris and vegetation, machine and equipment movement and rolling, pouring and piling of materials, concreting and equipment installation.
During operation phase, the primary noise sources at the site will include vehicles delivering the supplies to the market; customers’ vehicles, and market activities including playing of loud music or use of sound amplifiers to attract customers; a characteristic behavior in most markets in Kenya. During decommissioning phase, sources of noise will include; hammering to remove structures and vehicles carting away salvage materials.

**Landscape and Visual Impacts**
During the construction phase, sources of landscape and visual effects include:
- Site access and haulage routes.
- Materials stockpiles and construction compounds.
- Construction equipment and plant.
- Utilities, including lighting.
- Installation of site compound and security posts.

Taking into consideration the character of the neighborhood, the inherent low sensitivity of the receiving landscape, absence of any landscape and visual designations it is considered that the construction impacts are most likely to be of **low medium negative** significance with regard to visual impacts in the absence of mitigation measures.

The proposed market is not anticipated to alter the existing visual landscape of the area once it is developed. Instead, it will blend in with the surroundings buildings. Decommissioning will reduce the visual intrusion of the market infrastructure because much of the infrastructure will be demolished. However, there will be short term landscape and visual impacts from activities on the site including: stockpiling of wastes/rubbles generated from demolition activities.

**Disruption and damage of public utilities**
There is potential for a few disruptions of public utilities, especially the electric power and some water and sewer lines, especially the ones that might be located near or located at the site. Minimal disruption of electric power supply will occur during connection of power to the project site. During transportation of materials to construction site, the use of already existing tarmacked roads and paved surfaces leading to the site may be damaged if axle load weight limit is not observed, resulting to poor roads, and spending more money repairing the affected roads.

Water and sewer utilities may also be affected during construction through damage or disruption during connection periods. Mitigation measures include generation of a Utility Management Plan to minimize damage and interruption of public utilities.

**Increased demand of construction materials, energy and water**
Increased demand of construction materials, energy and water is bound to happen during construction activities. An elaborate waste material reduction is important to save on high demand for construction materials from the environment. Water storage and conservation measures should be adhered to indoor to save on water volume used.

During operation phase, water will be required for cleaning, welfare and hygiene. Demand for energy and water is not anticipated during decommissioning phase as energy and water supply infrastructure will also be removed from the site.

**Inconvenience and danger to proximate residents through increased road traffic and dust**
The project is not anticipated to impact on traffic on the nearby Post Office road and the Southern Bypass road. However, traffic around the site will increase during the construction phase as trucks collect and transport demolition debris/waste and excavated soil from the site and as they deliver construction materials to the site.
Construction and decommissioning phase (demolition) activities on site and road traffic will produce dust and noise, which could pose hazards to road users. The impacts will be for short duration (the construction and decommissioning periods) and are low significance. During operation phase, the market can generate light traffic from vehicles of suppliers delivering products to the markets. Traffic will increase when the new market facility is completed, as it will attract more customers who could currently be avoiding it due to congestion and lack of organized parking. When distributed over the wider road network particularly the Southern Bypass, the impacts will be low. However, as with construction, the relative increase in traffic around the site will be slightly significant, with associated implications for access and safety.

**Traders’ dissatisfaction due to perceived inequities in allocation of market stalls**

The development of the market as well as allocation of stall space for doing business has been discussed with the traders through public consultation. Against the background of this knowledge and expectation, there is a risk of dissatisfaction if procedures of allocation of stalls or space are not adequately applied, or if they are seen to be applied in an inequitable manner. There is therefore need to adhere to the market policy in allocation of stalls or space to traders; and implement grievance resolution mechanism which is part of the RAP for the market prepared separately from this report.

**Public Consultation, Participation and Disclosure**

Apart from the gathering of quantitative data through a socio-economic survey of the proposed project area of influence and a preliminary survey of project affected people, public and stakeholder consultation sessions (qualitative) were held with the affected persons and other local community stakeholders to share the information about the project and record their concerns/feedback associated with this project. The consultation was in two stages namely scoping and public and stakeholders/traders consultation. Consultative sessions discussed the topics related to the new market design, stall allocation, employment and livelihoods of the local communities, gender and women issues, Contractor’s camp and access to existing routes and related environmental issues.

The section on public and stakeholder consultations provides details of outcomes of consultations and covers issues and concerns raised by the members of the public and stakeholders/traders regarding the new market design, stall allocation, employment and livelihoods of the local communities, gender and women issues. To address the issues and concerns raised, mitigation measures have been developed and incorporated in the ESIA report. Overall, members of the public, traders and the stakeholders supported the project and anticipated numerous benefits as a result of the proposed project.

**Environmental and Social Management Plan**

Social and environmental safeguards and protection is very important in any development. Therefore, a detailed Environmental and Social Management and Monitoring Plan (ESMMP) has been proposed to be followed during the implementation of the project. The ESMMP details the important steps available to mitigate the impact that arise during all phases of the project. The Proponent and the Contractor are the responsible parties in the implementation of the ESMMP.

**Project and ESMMP Costs**

The proposed project construction period will be 9 months and defect liability of 3 months respectively. The project is estimated to cost approximately: Kshs. 295,165,281. The cost of implementation of ESMP is approximated to be Kshs 9,500,000.
Conclusion

The objective of the proposed project is to develop a market with modern facilities and atmosphere to increase trade and bring economic benefits to the project beneficiaries and the country as well. The environmental and social assessment of the Project ascertains that the Project is likely to cause some few and not significant adverse environmental and social impacts. However, the impacts identified can be readily addressed by some embedded control measures in the engineering design of the Project as well as additional mitigation measures as suggested in the Environmental and Social Management Plan. The Project received favourable support from the traders, local communities and other stakeholders during consultations and they anticipated numerous benefits as a result of the proposed project. The proposed project will not be located near any protected areas or sensitive receptors. No archaeological or protected monuments are located in the proposed project vicinity.

The Project will have both positive and negative impacts on the physical and social environment. The positive impacts include construction of modern facilities that will provide shelter to shield against adverse weather conditions to the traders and shoppers, rapid economic growth of the traders, creation of direct and indirect employment during construction and operations. Other anticipated benefits include; increase of revenue collection by the Kiambu County Government, provision of permanent business/working locations to the traders and organized, sustainable solid and liquid waste management.

During the construction phase of the Project, the key potential negative impacts include; noise and dust generation, disruption of public utilities and loss of vegetation. There is also a risk of soil erosion as result of removal of soil cover, excavation and movement of heavy construction vehicles and equipment. Contamination of soil, groundwater could occur also result from accidental spills and leaks of hazardous materials (e.g. oil and fuel) during handling, transportation and storage at the site. The adverse impacts identified are generally manageable through good housekeeping and a diligent implementation of the ESMMPP by the Contractor and its supervision by the Proponent. The nearest air quality, noise and water sensitive receptors will be a focus for monitoring of any impact arising due to the construction, operation and decommissioning activities.

Other possible negative impacts include conflicts and social concerns such as: traders’ dissatisfaction due to perceived inequities in allocation of the new market stalls; inconvenience to proximate residents through increased road traffic and dust. Other negative impacts include increased demand for energy and water resources in the area, potential occupational health and safety of the workers, and increase in HIV and AIDS prevalence. However, these impacts will be mitigated with appropriate mitigation measures built in as part of the Project planning process.

It was established that the Project activities will trigger World Bank Operation Policy (OP 4.01) on Environmental Assessment due to environmental and social impacts arising from the Project as presented in this report.

However, none of the other Operational Policies will be triggered by the project. Based on the analysis conducted in this ESIA, it is concluded that overall the Project will result in positive socio-economic benefits and the negative environmental impacts that have been identified are not significant, and will be minimized adequately through good design, appropriate application of mitigation measures and continuous supervision by the project Proponent.
Recommendation

Environmental monitoring is essential to track and sustain the effectiveness of the mitigation measures proposed in this report. An environmental monitoring plan has been prepared as part of the ESMMP. The focus areas of monitoring cover air, noise, traffic management, water and energy resources, occupational health and safety, as well as local employment and economic impact of the project during construction and operation phases. The burden of mitigation measures largely lies with the Project Contractor under supervision by the Proponent. Key observations are that most adverse impacts are short-term and will disappear once civil works ends. The Contract for the proposed project should bear relevant clauses binding the Contractor to institute environmental mitigation as recommended in this study. The core monitoring strategy for this project will be through site meetings, in which case, it is recommended that the County Environmental Officers be invited to such meetings. Other stakeholders such as the County Labour Officer should also attend such meetings to ascertain that measures towards securing the health and safety of workers have been put in place.

It is the duty of the Kiambu County Government to carry out annual environmental audits once the market has been commissioned. This will be in compliance with the Environmental Management and Coordination Act, EMCA of 1999 and the Environmental Impact Assessment and Audit Regulations, Legal Notice No. 101 of 2003.

The following are recommended for effective implementation of the mitigation measures for the project;

- All mitigation measures need to be specified in tender and contract documents, and must be included in the Engineering Drawings, Specifications and Bills of Quantities.
- Diligence on the part of the Contractor and proper supervision by the Project Engineer during construction and the initial operation phase is crucial for mitigating negative impacts.
- Periodic environmental and social monitoring is required by the project Proponent to ensure that mitigation measures have been implemented in order to prevent or avert any negative impacts of the project.
- The implementing agency should set up proper and applicable Grievance Redress Mechanism (GRM) for the project to deal with grievances and issues on the project.
- Reporting of the implementation of safeguard measures should be incorporated in the monthly reporting of the project.

The Contractor will prepare a Construction Environment Management Plan (CEMP) that shall be approved by the Proponent before beginning of works.
1 INTRODUCTION

1.1 Background and Context

The Government of Kenya is improving its economy and decentralizing development to County Governments by utilizing funds received from international organizations like World Bank and other foreign institutions to undertake major development projects at the County levels. Nairobi Metro 2030 is part of the overall national development agenda for Kenya which is encapsulated in Kenya Vision 2030. Following this effort, the Nairobi Metropolitan Region (NMR) through the National Government and respective County Governments intends to upgrade its dilapidated infrastructure, inclusive of markets, to achieve an economically, socially and environmentally sustainable modern urban centres.

Under Kenya Vision 2030 one of the key objectives is to bring overall development and poverty eradication by building regional trade and business service hubs. These hubs include the establishment of metropolitan markets and stalls for trade in the region. The benefits of these new markets will be felt by the residents and traders of the metropolitan regions and farmers around the republic. The market hub will encourage commercial farming and entrepreneurial culture in Kenya. Nairobi Metropolitan Services Improvement Project (NaMSIP) is a World Bank funded Project under the State Department of Nairobi Metropolitan Region in the Ministry of Transport, Infrastructure, Housing and Urban Development. NaMSIP’s mandate is to strengthen service delivery in the Nairobi Metropolitan Region (NMR) on various selected projects by investing in local infrastructure (markets, roads, street lighting, bicycle and pedestrian pathways, drainage, among others) and in providing large-scale metropolitan infrastructure in the areas of trade, solid waste management, transport, sewerage services, among others. NaMSIP has the following four major components;

- Institutional Reform and Planning;
- Local Government Infrastructure and Services;
- Metropolitan Infrastructure and Services;
- Project Management, Monitoring and Evaluation

Among the projects earmarked for improvement are fifteen (15) existing and new markets within NMR which fall under Component 2 (Local Government Infrastructure and Services) of the NaMSIP Project. Although population density in the markets has created opportunities due to concentrated demand for goods and services and provided income sources through trade and employment, it has also created concentrated problems such pollution, congestion, encroachment to road reserves and general sanitary problems within the NMR markets. Kikuyu market is among the 15 markets in the Nairobi Metropolitan Region set for construction among others as shown in the Table 1-1 below.

<table>
<thead>
<tr>
<th>Market</th>
<th>Location</th>
<th>Location (County)</th>
</tr>
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<tbody>
<tr>
<td>1. Jogoo Road</td>
<td>Nairobi city along Jogoo road</td>
<td>Nairobi</td>
</tr>
<tr>
<td>2. Karandini</td>
<td>Nairobi city near Dagoretti Corner on the western side of the intersection of Ngong Road and Naivasha Road</td>
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</table>
1.2 Proposed Project Location

The Proposed New Market site is located in Kikuyu town, Kikuyu Sub-County, Kiambu County adjacent to the Kikuyu-Nairobi bus park, on GPS location (-1.243974, 36.664254. It borders the Nairobi Southern Bypass to the South. The market site is accessible through Post Office road to its North. The new site is near other facilities that support the market activities such as the bus stage/ terminus and the proposed parking lot/ car park all of which are neighboring the site of the proposed market. Generally, the immediate neighborhood is a medium density mixture of low and middle-income population comprising of relatively modern and well-designed commercial and residential developments. The location is proximate to support facilities such as shops, banks and public transport facilities such as the bus stop and Kikuyu Railway Station.

1.3 Rationale for Improvement of Kikuyu Market

The Kenya Markets’ 2015 Economic Survey showed that the informal sector employed 82.7% of the total employed persons in Kenya by the year 2014 (KNBS, 2015 pg. 2). This thus underpins the significance of this sector in the local economy as a developing country. The report further indicated that the state has fallen short of providing jobs and the private sector is left to take up the biggest share of this role. However, the private sector has been unable to absorb the growing numbers of jobseekers, and thus the informal sector has stepped in to fill the gap. Mostly the informal sector works in small and often unregulated businesses.

Traders operating in the markets proposed for redevelopment comprise a visible part of this informal sector. The planned infrastructure improvement in their areas of operations will go a long way in encouraging entrepreneurship within a hospitable and dignified environment.

The factors contributing to rationale for improvement of Kikuyu market include:
- Pressures for change, both within and outside the marketing system;
• Changing operational practices within markets – e.g. Changes in user space requirements
• Changing organizational structure of commerce – e.g. Increasing volumes of produce handled; alterations to commercial practices and trading patterns, such as the private sector taking over markets;
• Demographic factors – e.g. Overall increase in population of the urban and semi urban centres and population shifts within these centres and surrounding areas;
• Changing transportation patterns – e.g. Increased traffic growth and resulting congestion; shifts in transport mode (i.e. the proportion of different types of vehicles); changes in the capacity and size of delivery and distribution trucks;
• To make use of the current asset more effectively, e.g. collection of rental charges from traders;
• To provide traders and consumers with a modern market with modern facilities and amenities and increased space;
• To comply with statutory requirements (such as public health, safety and environmental standards).

1.4 Current Market Profile

Kikuyu market has a management committee that serves as liaison with Kiambu County Government. Traders pay a daily-prescribed market fee (cess) to the County Government. The market has 549 vendors who are divided into different sections specializing in different products in a mixture of wholesale and retail trade.

The sections include: -

• Fresh produce (fruits and vegetables)
• Dry produce (cereals)
• Meat products (Beef, goat, poultry)
• Household commodities including kitchenware
• Personal products such as clothes and shoes

Clients: Majority of the population forming the customers of this market are from the neighbouring residential and commercial buildings.

Design and market facilities: The stalls in Kikuyu Market are a mix of permanent and temporary shades. Vendors have encroached on the available walkways within the market. The market area is fenced off. The perimeter wall is made of blocks only which leads to a challenge of inadequate ventilation within the market.

Water and electricity: Water is not available in the market. Traders depend on external suppliers for water to use at the market. Electricity is readily available but not well distributed. Traders organize for their own installations.

Lighting: The market is served with flood lights.

Loading/ Offloading and parking zone: There is no designated loading and offloading zones in Kikuyu market, therefore, the commercial vehicles have to load/offload from the streets. The market has no designated parking spaces. Market users park on the sides of the access roads to the market hence reducing the level of service of these roads.

Sewerage/ Sanitation: Sanitary facilities are inadequate. Kikuyu Town does not have a centralized sewerage system, majority of the properties within the town are served by pit latrines, soakage pits and septic tanks

Solid waste management: Solid waste management at the market is very poor. The waste is placed in receptacles and subsequently collected on a daily basis for offsite disposal by the County Government.
It was reported that sometimes the County Government is followed up by the market management members to collect the solid waste if they delay in collecting it as scheduled. Some traders dump solid waste at the nearby bus park where it is collected by the County Government waste department.

**Storm water drainage:** The market is fairly flat but well-drained. The artificial drainages are clogged up with solid waste.

### 1.5 Proposed Market Profile

The most practicable intervention at Kikuyu according to the feasibility studies done will be to erect new market buildings to house both the existing and future vendors. A critical analysis has been done in the design of the stalls, the layout of the building as well as the consideration for horizontal and vertical accommodation of the vendors. From the existing list of approximately 549 traders and the projected number in future, a typical multi-level arrangement accommodating all potential vendors is proposed by the market design team.

The piece of land where the proposed new Kikuyu market will be located belongs to the Kiambu County Government and it measures approximately 0.6Ha. Previously, the proposed new market site had several structures, which were being used as government facilities and whose previous users were relocated to other office buildings within Kikuyu town. The old and condemned structures are vacant, will be demolished to pave way for the construction of the new market building, and associated facilities.

**Plate 1: Proposed new market site with old, condemned and vacant buildings.**
The proposed market building will have 4 floors (ground floor and 3 upper floors) with a total of 625 stalls and several office and sanitation facilities on each floor. 45 parking slots and a green/landscaped area have been provided on the external part of the building within the expansive site. The market building design has a lot open spaces, which will provide natural lighting and ventilation.

The 4 key elements that were considered by the design options are:
- Design of infrastructure based on identified and prioritized needs
- Calculation of required space based on existing infrastructure standards
- Site planning including layout of buildings
- Cost implications

Figure 1-1: Layout of the Proposed Market Site
Source: Kiambu County Architectural Department
1.5.1 Stalls

There will be two levels of stalls; bigger stalls designed for products demanding larger space such as clothes, which measure 2.0 by 2.5m, and smaller stalls that will measure 2m by 1.5m. These standards have been adopted based on the retail markets planning guide by the Food and Agriculture Organization (FAO). Space for stores, stalls and stands shall not exceed 40% of total area.

Figure 1-2: Design of Proposed New Kikuyu Market
Source: Kiambu County Architectural Department

1.5.2 Zoning

The site will be organized to allow for different uses as outlined below:

- **Grouping of sale outlets** - retailers selling similar products will be grouped together
- **Customer flow**— staple products will be placed away from the point of arrival of customers so as to draw customers into the market
- **Facilities for temporary Vendors**— Regular operators will be appointed fixed locations while temporary vendors will be allotted separate spaces. Small-scale vendors will also be allocated space
- **Marketing of live animals**— special separate enclosures that are well-ventilated and close to the exits and that have separate supply of water, will be provided. Walls should be solid to prevent spread of contamination and disease while birds will be in cages.

1.5.3 **Infrastructure**

The plan includes construction of access roads and internal passes and drainages. There will be separate cars and pedestrian circulation systems and a car park. Delivery vehicles will have direct access to market stalls but delivery will be restricted to certain working periods e.g. early morning before trading starts so as to reduce traffic. Special signs will also be put up indicating parking regulations/restrictions.

1.5.4 **Water Supply and Reticulation**

Water supply will mainly be from Kiambu Water and Sewerage Company which supplies water to entire Kiambu County. A borehole will be drilled and installed at the market site. Water supply will be supplemented by a water tower, where the water will be pumped to an overhead storage tanks and reticulated via gravity. Check meters will be in place to monitor the water usage.

1.5.5 **Sanitary Facilities**

There is provision for public toilets to be constructed within the market block on ground and first floors to serve the new market. Toilet spacing will be 2.3m² per 1000 market users.

1.5.6 **Garbage disposal**

A garbage collection point and procedure has been provided for the market. Garbage collection bins will be located in various parts of the market for collection of different waste streams including recyclable and non-recyclable materials. The market maintenance team will be responsible for collecting the waste in the waste bins for disposal into the main market waste receptacle to be located on ground floor. Dustbins and garbage will be within 25m-50m from the furthest user. The County Government waste department will collect the non-recyclable wastes for disposal at the dumpsites and recyclable wastes will be sold off to waste recyclers.

1.5.7 **Ventilation**

The market will mainly utilize natural ventilation from the doors and windows. The market design will incorporate restaurants which necessitate ventilation of the kitchens. The air changes required per hour for the kitchens will be used to determine extract fan and duct sizes. UPVC pipe ducts can be used in place of aluminum ducts to cut costs. This forced ventilation will provide a much more habitable work/trade and shopping environment.
1.5.8 Power
A switch room with a meter board will be required for power distribution to the different stalls. Power requirement to the stalls will be calculated based on area and designated use.
This will allow the Contractors to confirm whether the existing transformer will be sufficient to cater for the improved market Power points will be installed in the market stalls to enable traders to connect their equipment and devices. There will be check meters for every stall for management purposes.
Provisions for future expansion of the stalls operation will also be taken into consideration. Cabling to and from the switch room will be done by use of cable trays for efficient and neat cable management.

1.5.9 Lighting
External lighting: For security reasons, movement of security guards and to explore the possibilities of 24-hour market operations, wall mounted lights and flood lights will be used to effectively light up the market at night.
Internal lighting: The lighting levels in the stalls will be of a high standard of luminance. LED lights will be used to provide sufficient lighting. LED lights have a longer lifespan and reduce electricity bills as compared to other lighting methods. The number of light fittings will be dependent on the Architectural design proposal.

1.5.10 Telecommunication systems
Access to internet is essential component in a modern market. ICT infrastructure will be provided for in the market to support the service provider. This will enhance communication between the buyers and sellers where orders can be placed online and enhance increase the traders’ coverage.

1.5.11 Security
CCTV cameras located at strategic locations will be installed to help curb insecurity in the market area. With the inclusion of ICT infrastructure, the security system can be linked to an emergency backup service provider to ensure quick response. The DVR and CCTV monitors will be located in security room.

1.6 Environmental Considerations
1.6.1 Water storage
In planning the construction, there will be adequate water storage in form of raised storage tanks. The size of these tanks will adequately provide water to the number of traders expected to be hosted by the market. This storage will come in two folds, both as storage for water to be used during fire emergencies within the market and water to be used in running the normal market operations during water shortages. The main source of water will be a borehole to be drilled and installed at the market. In addition, the water will be supplemented by harvesting rainwater from the market building roof.

1.6.2 Common washing trough/point
A common washing point will be provided within the market with modern water conserving taps installed.
This point will be away from the stalls and out in an open place within the market compound. This will ensure no water gets in the stalls which instead can lead to dampening the stalls and causing foul smell in the market.
Every trader will use this point to do any kind of washing, e.g. washing of fresh produce from the farm. A County worker or traders cleaning rounds will clean the washing point regularly.

1.6.3 Toilets
Modern toilets that will adequately serve the expected number of traders in the market will be constructed within the market building. Kikuyu Town does not have a centralized sewerage system, the business and residential buildings within the town are served by pit latrines, soakage pits and septic tanks. However, an African Development Bank funded extension of sewerage infrastructure to Kikuyu town from the existing Nairobi Rivers Trunk at Waithaka shopping center is currently underway. The toilets will be connected to the upcoming sewer line if completed before the market. Otherwise, the toilets will be connected with septic tank for a quality and perfect management of sewer. The toilets will be connected with tap water from the storage tanks and sinks installed. This will ensure high level of cleanliness and reduce chances of communicable diseases such as amoeba and cholera. Toilets will also be located at a safe distance from the stalls and furthest from section where food products are sold. This reduces chances of flies moving to and fro both the food products and toilets, hence minimizing chances of diseases breaking out.

1.6.4 Solid Waste Management
The market will generate solid waste, which will be divided into various categories depending on their physical or chemical characteristics and necessary method of handling of such waste. This will provide measures to ensure the health and safety of all users, including waste handlers and the wellbeing of the environment. This will also be enhanced by division of the stalls according to product and goods sold. The Kiambu County Government has come up with method to code litter bins, liner bags and other solid waste bags. This facilitates waste segregation at their points of generation i.e.
- Green liner container for organic wastes
- Blue liner container for plastic and paper wastes
- Brown liner container for any other waste
The following information will be clearly printed or marked of the liner bags, litter bins or containers:
- The name and logo of the service provider
- Address and phone number of the service provider
Traders will keep every litter bin and refuse containers continuously covered when not in use so as to prevent any escape of its content thereof or any soakage into the ground. Traders will also ensure that the refuse containers and litter bins are kept reasonably clean and maintained in good conditions. Traders will also ensure safe and sanitary disposal of their wastes in the right refuse container. Traders and customers in these markets will be sensitized on solid waste management in order to enhance the level of awareness and knowledge of solid waste management and disposal to ensure that waste is managed in a manner, which will protect human health and the environment against adverse effects, which may result from the waste.
Litterbins will be movable and with wheels, hence can be pushed down and up a ramp. This ensures safer movement of waste without spilling them on the ground.
1.7 Project Cost

The project is estimated to cost Kenya Shillings, Two Hundred and Ninety-Five Million, One Hundred and Sixty-Five Thousand, Two Hundred and Eighty One (Kshs. 295,165,281) to construct while the cost of implementing ESMP is estimated at Kenya Shillings, Nine Million Five Hundred Thousand (Kshs 9,500,000). The following Table 1-2 shows the summary cost estimate of the project.

Table 1-2: BoQ Cost Summary page

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<th>KSHS</th>
<th>FOR OFFICIAL USE ONLY</th>
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<td>8</td>
<td>ADD. 16% VAT</td>
<td>3,198,211.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUB-TOTAL</td>
<td>254,165,281.20</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>CONTINGENCY SUM</td>
<td>11,000,000.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL CARRIED TO FORM OF TENDER (KSHS)</td>
<td>265,165,281.20</td>
<td></td>
</tr>
</tbody>
</table>
1.8 Presentation of the report

The report is presented as outlined below:
Chapter 1: Introduction of the project which include Background, Scope of the proposed project. It also gives the format of the presentation of the report.
Chapter 2: Gives the Objectives, Scope, and Methodology of the ESIA Study.
Chapter 3: Gives the Policy, Legal, Institutional and Administrative Framework.
Chapter 4: Project Baseline Information of the Study Area.
Chapter 5: Outcome of the Public Consultation and Participation process.
Chapter 6: Analysis of Alternatives to the Project.
Chapter 7: Identification of Potential Impacts and mitigation measures of the project.
Chapter 8: Environmental and Social Management Plan (ESMP)
Chapter 9: Conclusion and recommendation
References
Annexes

1.9 ESIA Study Team

The study team composed of members from different professional disciplines. The team members included:
- Environmental Team Leader
- Sociologist
- Environmental support staff
2 ESIA OBJECTIVES, SCOPE AND METHODOLOGY

This environmental and social impact assessment has been undertaken to fulfill the legislative requirements of the Environmental Management and Coordination Act (Amendment), 2015 and the subsequent Kenya Gazette Supplement on Environmental Impact Assessment and Environmental Audit Regulations 2003 and World Bank Safeguard polices.

The ESIA identifies potential positive and negative environmental, social, and economic impacts of the proposed project and propose mitigation measures to the anticipated negative impacts.

2.1 Terms of Reference (TOR) for the ESIA Process

The following terms of reference for the proposed Kikuyu Market Development Project were used by the ESIA expert team:

- Provision of baseline and background information;
- Project and site description;
- Identification of environmental impacts of the proposed development in the various phases and their level of significance;
- Impact of the project on existing infrastructure;
- Evaluation of project alternatives;
- Stakeholder participation viz social survey of views from neighbors;
- Identification of possible conflicts;
- Suggest mitigation measures for identified negative impacts; and
- Prepare a comprehensive environmental management plan.

2.2 Scope and Objectives of the ESIA

In accordance with the EMCA, 1999, all new projects must undergo environmental impact assessment study such as to comply with the EIA Regulation, 2003 and to ensure provisions for environmental protection. Therefore, the main objective of environmental and social impact assessment associated with development of the proposed project is to comply with the current requirements of the EIA regulations of 2003 as established under the EMCA, 2015, in addition to the requirements of World Bank Safeguard polices and in particular OP 4.01 requirements.

2.3 Scope of the ESIA

The scope of ESIA study, therefore, covered the following key areas:

- Provide a description of the environmental and socioeconomic issues associated with the proposed new market project;
- To generate baseline data for monitoring and evaluation of how well the mitigation measures will be implemented during the project cycle;
- Undertaking public and stakeholder consultations through interviews and holding meetings with members of the public, neighbouring communities, stakeholders and affected traders;
- Identification of anticipated environmental and social impacts with focus on physical and social environment, socioeconomic factors and natural resources aspects;
- Development of mitigation measures and an environmental and social management and monitoring plan for identified negative environmental and social impacts.
- To prepare an Environmental and Social Impact Assessment Project Report compliant with the World Bank safeguard policies and the Environmental
2.4 ESIA Approach and Methodology

In accordance to the ESIA guidelines, the study included the following:

- A clear description of the proposed project including its objectives, design concepts, proposed interventions and anticipated environmental and social impacts,
- Description of the baseline conditions in the project area to cover the physical location, environmental setting, social and economic issues,
- A description of the legal, policy and institutional framework within which the proposed market development project will be implemented,
- Description of the project alternatives and selection criteria,
- Details of the anticipated impacts to the environment, social and economic aspects of the project area.
- Appropriate mitigation and/or corrective measures,
- Development of an environmental and social management plan (ESMP) presenting the project activities, potential negative impacts, mitigation measures and responsibilities, associated costs and monitoring indicators

According to the Environmental Management and Coordination Act (EMCA), 2015, section 58 requires that all projects falling under the second schedule of the Act must undergo comprehensive environmental and social impact assessment studies. ESIA study should also comply with the EIA Regulations of 2003 on the minimum and other convectional environmental guidelines. ESIA studies are adopted as integrated approach where desk documentary reviews, field investigations, consultations as well as interviews and discussions with stakeholders and affected communities are considered. The overall study was undertaken following these stages;

2.4.1 Environmental Screening

Screening process was undertaken to decide whether the proposed market project needed to be subjected to an ESIA study or not. Based on literature review, the proposed project falls under category 2 of projects to be subjected to EISA study as provided for by the second schedule of the Environmental Management and Coordination Act of 2015 and Category B under the World Bank Environmental and Social Safeguards Policies as defined in the Bank's Operational Procedures (OPs).

2.4.2 Environmental Scoping

The aim of this stage was to ensure that the ESIA study adequately addresses all the crucial issues of environmental and social concern to the decision-makers. This was done by narrowing down on the proposed Market Development project issues and also to those requiring detailed analysis. The process involved dialogue with all project stakeholders to ensure that this aim was fulfilled. It also involved the collection of primary and secondary data. From an evaluation of this data, a rapid assessment of the project site and its surrounding areas was made.

The key benefits of scoping include:

- Identification and engagement of key stakeholders
- Identification the existing gaps
- Ensures that the assessment focuses on the key likely environmental and social impacts
2.4.3 Documentary Review
Several relevant documents were reviewed for a clear understanding of the terms of reference, environmental status of the project area, data on demographic trends (for the project area, the beneficiary areas and the adjoining towns and counties), land use practices in the affected areas, development strategies and plans (Local, National and International) as well as the policy, legal and institutional documents. The documents reviewed were:

- Relevant Legal, Policy and Regulatory documents;
- EMCA (Amendment), 2015
- Nairobi Metro 2030, First edition 2008

2.4.4 Site Assessment
A physical inspection of the ground (proposed site and their surrounding environment) was conducted. This process was meant to appreciate the project’s scope of land requirements, and establish actual baseline as well as verification of facts stated for project designs. This was done with an aim of establishing the anticipated positive and negative impacts on the physical and biological environment (hydrology, climatic patterns and geology), social and economic trends (population trends, settlement trends, economic patterns, cultural setting and linkages, land ownership issues, etc.) and the project affected persons (PAPs) and beneficiaries.

Specific objectives of the field assessment included:

- Obtaining available and relevant information and data from the local public offices including environment, water, lands and agriculture;
- Evaluating the environmental setting around the proposed site - observations were focused on the topography, land tenure, surface and ground water sources, public amenities, land cover, climate, flora and fauna, soils, etc.
- Undertaking comprehensive consultative public participation exercises to reach a large section of the affected persons as well as other stakeholders. Public consultations were also organized with the stakeholders to evaluate the environmental setting around the proposed site.
- Evaluate social, economic and cultural settings in the entire project site.

2.4.5 Public Consultation and Participation
It is a Kenyan Government policy that beneficiaries and members of the public living near new or improvement project sites (both public and private) are consulted to seek their views and opinions regarding the proposed projects before they are implemented.

Interaction with the stakeholders, traders and communities living around the project area was undertaken through public and stakeholder consultation and participation meetings. Refer to Annex 2 to Annex 6 for the Minutes and Attendance Registers of the meetings and Completed Stakeholder Questionnaires. Through this process, the stakeholders and the PAPs had an opportunity to contribute to the overall project design by making recommendations and raising any environmental and social concerns of the project. In addition, the process aimed at creating a sense of responsibility, commitment and local ownership for smooth implementation and operation of the proposed project.
2.4.6 Impact Assessment and Mitigation Measures
The primary function of an environmental impact assessment study was to predict and quantify potential impacts, assess and evaluate their magnitude and importance and develop an Environmental and Social Management Plan to mitigate the impacts. Environmental impacts could be positive or negative, direct or indirect, local or regional and also reversible or irreversible. Assessment of impacts depends on the nature and magnitude of the activity being undertaken and also on the type of mitigation measures that are envisaged as part of the project concept.
For the proposed project, the anticipated impacts are divided into three components of the project: impacts based on Project Location, impacts during Construction phase, and impacts during De-commissioning and Operational phases. The identified potential positive and negative impacts of the project are presented in Chapter 7 of this report.

2.5 Environmental and social Management and Monitoring Plan (ESMMP)
The Consultants have developed an Environmental and Social Management and Monitoring Plan (ESMMP) to guide the project team in eliminating or reducing the project negative impacts to acceptable minimum/ standards. The ESMMP is based on good environmental practices of project implementation and safety of the operations. The proposed ESMMP can be improved through continuous monitoring and audits during project implementation. The plan is provided in a matrix form in Chapter 8 of this report and it identifies the anticipated impact; proposed measures to be undertaken; monitoring indicators; the party responsible for implementing the measures, and the estimated cost likely to be incurred to undertake the measures.
3 POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

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

3.1 Government of Kenya Policy Framework

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

3.1.1 The Constitution of Kenya 2010

The Constitution of Kenya, promulgated into law on 27 September 2010, is the supreme law of the Republic: It provides the broad framework regulating present and future development aspects of Kenya and along which all national and sectoral legislative documents are drawn.

With regard to environment, Section 42 inside the Bill of Rights of the Constitution, states that: every person has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures; particularly those contemplated in Article 69; and to have obligations relating to the environment fulfilled under Article 70.

Chapter 5 of the new constitution provides the main pillars on which the 77 environmental statutes are hinged and covers "Land and Environment" and includes the aforementioned articles 69 and 70. Part 1 of the Chapter dwells on land, outlining the principles informing land policy, land classification as well as land use and property. Part 2 of the Chapter directs focus on the environment and natural resources. It provides for a clear outline of the state’s obligation with respect to the environment. The Chapter seeks to eliminate processes & activities likely to endanger the environment.

Article 69 states that the State shall:

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

There are further provisions on enforcement of environmental rights as well as establishment of legislation relating to the environment in accordance to the guidelines provided in this Chapter.

In conformity with the Constitution of Kenya 2010, every activity or project undertaken within the Republic of Kenya must be in tandem with the state’s vision for the national environment as well as adherence to the right of every individual to a clean and healthy environment.

Section 70 provides for enforcement of environmental rights thus: -:
• If a person alleges that a right to a clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be, denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter.
• On application under clause (1), the court may make any order, or give any directions, it considers appropriate —
  • to prevent, stop or discontinue any act or omission that is harmful to the environment;
  • to compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; or
• To provide compensation for any victim of a violation of the right to a clean and healthy environment.
• For the purposes of this Article, an applicant does not have to demonstrate that any person has incurred loss or suffered injury.

Essentially, the New Constitution has embraced and provided further anchorage to the spirit and letter of the Environmental Management and Co-ordination Act (EMCA), 1999, whose requirements for environmental protection and management have largely informed Sections 69 through to 71 of the Document. In Section 72 however, the new constitution allows for enactment of laws towards enforcement of any new provisions of the Supreme Law. The proposed project complies with the Constitution by proposing a framework in its ESIA on Social, Health, safety and environmental protection.

3.1.2 The Kenya Vision 2030
Kenya Vision 2030 is the country’s development programme from 2008 to 2030. It was launched on 10 June 2008 by President Mwai Kibaki with the aim to help transform Kenya into a newly industrializing, middle-income country with a consistent annual growth of 10 % by 2030. Developed through an all-inclusive and participatory stakeholder consultative process, involving Kenyans from all parts of the country, the Vision is based on three "pillars": Economic, Social, and Political. The 2030 goal for urban areas, to reach “a well-housed population living in an environmentally-secure urban environment in particular, will be achieved by bringing basic infrastructure and services namely roads, street lights, water and sanitation facilities, storm water drains, footpaths, and others. It is likewise important the promotion of: environmental conservation and pollution and waste management, through the application of the right economic incentives in development initiatives.
Under the first Medium-Term Plan (MTP-1) (2008-12) of Kenya’s Vision 2030 strategy, significant efforts were made to promote growth and preserve sound economic policies under challenging circumstances. While reforms were being implemented across the board during 2008-12, the biggest achievements under MTP-1, as noted in the MTP-2, were in improving infrastructure as well as some social indicators, such as school enrolment rates. Through short of the targets set in MTP-1, average annual GDP growth reached 3.8 percent despite the impact of repeated droughts, high international commodity prices, the global financial and economic crisis, and political uncertainty in the run up to the 2013 general elections. Furthermore 2.7 million jobs were created between 2008 and 2012 compared with an objective of 3.3 million.

Kenya’s second Medium Term Plan (MTP-2) covers the 2013-2017 period. It seeks to build on the successes of the MTP 1, including macroeconomic stability, the enactment of the 2010 Constitution, infrastructure development, the growth of the services sector, and improved access to education. At the same time, it recognizes remaining challenges, including a low and declining share of manufacturing, low agricultural productivity, high energy costs, a still limited transport infrastructure, a narrow export base, and major economic and social disparities across the country. The MTP-2 aims to continue the positive trend in areas where substantial progress was achieved, as well as to increase attention on areas where progress was slower while keeping the same priority sectors.

The overall objectives of the MTP-2 are to accelerate growth to reach double-digit levels, to create jobs for the Kenyan youth, and to further reduce the still high poverty levels. The key thematic areas that seek to describe how these objectives will be achieved are: (i) the foundations for national transformation, which cover a broad range of areas including infrastructure, information technology, employment policies, land reform, ending drought emergencies, public sector reform, and national security; (ii) the economic pillar, which identifies the seven sectors that are expected to spur faster growth; (iii) the social pillar; and (iv) the political pillar. By promoting investment in the priority sectors identified under the Economic Pillar2, Vision 2030 seeks to achieve and sustain annual GDP growth rate at 10% up to 2030 and thereby generating resources required to address other SDGs. This creates the urgent need of investing in both Flagship Projects and requisite infrastructure.

The realization of the proposed project is a step towards realizing the Vision 2030 as provision of trading infrastructure that will create employment for the Kenyan population and spur economic growth for the country.

3.1.3 Nairobi metro 2030

Nairobi Metro 2030 was developed in the year 2008 to provide a guide for the NMR play its role in the National growth strategies under the Kenya Vision 2030. It is a transitional document that brings into focus challenges faced under urban growth and development. The document provides forum to achieve sustained rates of economic growth necessary for successful economic and social development. The Metro 2030 provides links with the Central Government through Kenya Vision 2030 and other development plans as well as seeking to strengthen the Local Authorities as part of the devolvement of power and recognizing need for ensuring efficient and effective management of resources at the grassroots.
Nairobi Metro 2030 carries the vision for Nairobi Metropolitan Region to be a World Class African Metropolis supportive to the overall national agenda under the Kenya Vision 2030. The agenda to achieve this vision is the need to enhance mechanisms for economic growth, employment creation, improved lifestyles and improved infrastructure. Therefore, the proposed project contributes to the Nairobi Metro 2030 by providing development that will contribute to the economic and employment growth within the metropolitan.

3.1.4 The Sustainable Development Goals

The 2030 Agenda comprises 17 new Sustainable Development Goals (SDGs), or Global Goals, which will guide policy and funding for the next 15 years, beginning with a historic pledge to end poverty.

The concept of the SDGs was born at the United Nations Conference on Sustainable Development, Rio+20, in 2012. The objective was to produce a set of universally applicable goals that balances the three dimensions of sustainable development: environmental, social, and economic.

The Global Goals replace the Millennium Development Goals (MDGs), which in September 2000 rallied the world around a common 15-year agenda to tackle the indignity of poverty.

The MDGs established measurable, universally-agreed objectives for eradicating extreme poverty and hunger, preventing deadly but treatable disease, and expanding educational opportunities to all children, among other development imperatives.

The MDGs drove progress in several important areas:
- Income
- Poverty
- Access to improved sources of water
- Primary school enrolment
- Child mortality

With the job unfinished for millions of people—we need to go the last mile on ending hunger, achieving full gender equality, improving health services and getting every child into school. Now we must shift the world onto a sustainable path. The Global Goals aim to do just that, with 2030 as the target date.

This new development agenda applies to all countries, promotes peaceful and inclusive societies, creates better jobs and tackles the environmental challenges of our time—particularly climate change.

Nationally, the GOK has taken bold steps to domesticate the SDGs as illustrated by:
- Investment in the Poverty Reduction Strategy Paper (PRSP) process through which participatory mapping of poverty incidence at both District and National Level was undertaken,
- Implementation of the Economic Recovery Strategy for Wealth and Employment Creation, and
- Implementation of projects that directly confront specific aspects of the SDGs.

By anchoring the Economic Pillar of Vision 2030 which seeks to generate resources needed to address SDGs, implementation development of the proposed project is attuned to the national and indeed global agenda for economic and social development.

Kikuyu market project contributes to the policy by creating direct and indirect employment opportunities for many people that be served by the operation of the market.
3.2 **World Bank Environmental and Social Safeguard Policies**

Like in any project financed by, or with financial participation of, the World Bank, the environmental and social safeguards as defined in the Bank’s Operational Procedures (OPs) will be respected for the purposes of this project implementation. WB classifies its projects into four Environmental Assessment categories according to the likely impacts on the environment they will have. This classification is as follows (only main conditions mentioned):

a) **Category A**: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts.

b) **Category B**: A proposed project is classified as Category B if it’s potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects.

c) These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category A projects. *This particular NaMSIP subproject has been categorized as B.*

d) **Category C**: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further environmental assessment action is required for a Category C project.

e) **Category FI**: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts; this case, in any way, is not applicable to the NaMSIP project.

By virtue of source of funding, the proposed development of the market by the Ministry of Land, Housing and Urban Development, and Nairobi Metropolitan Development under the NaMSIP is also subject to World Bank requirements for impact assessment. As such, this Project Report study has been formulated to address and cater for both Kenyan and World Bank requirements for impact assessment. World Bank projects and activities are governed by Operational Policies, which are clearly spelt out in the Bank’s Operational Manual ("Bank Procedures" and "Good Practices"). The World Bank’s safeguard policies are designed to ensure that projects proposed for Bank financing are environmentally and socially sustainable, and thus improve decision-making. These operational policies include:

- OP 4.01 Environmental Assessment;
- OP 4.04 Natural Habitats;
- OP 4.09 Pest Management;
- OP 4.11 Cultural Heritage;
- OP 4.12 Involuntary Resettlement;
- OP 4.10 Indigenous People;
- OP 4.36 Forests;
- OP 4.37 Safety of Dams;
- OP 7.50 Projects on International Waterways;
- OP 7.60 Projects in Disputed Areas.
The Table 3-1 below shows the applicability of World Bank Operational Policies to the proposed project.

### Table 3-1: Analysis of potential triggers to World Bank Safeguards Policies

<table>
<thead>
<tr>
<th>OP</th>
<th>Title</th>
<th>Comments/Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.01</td>
<td>Environmental Assessment</td>
<td>Applicable. As a result of environmental and social screening, the project was identified as a Category B</td>
</tr>
<tr>
<td>4.04</td>
<td>Natural Habitats</td>
<td>Not applicable - there are no natural habitats at the project site</td>
</tr>
<tr>
<td>4.09</td>
<td>Pest Management</td>
<td>Not applicable - the project will not involve any pest management</td>
</tr>
<tr>
<td>4.10</td>
<td>Indigenous Peoples</td>
<td>Not applicable - there are no indigenous people at the site or project area</td>
</tr>
<tr>
<td>4.11</td>
<td>Physical Cultural Resources</td>
<td>Not applicable. Site inspections and literature searches have not indicated the presence of any cultural (historical, archaeological) sites in the construction area. However, to manage “chance finds” an appropriate procedure is included in this ESIA. Such procedure to be followed by contractors during the construction phase.</td>
</tr>
<tr>
<td>4.12</td>
<td>Involuntary Resettlement</td>
<td>Not applicable as the site is vacant and devoid of any human activities. However, a separate RAP report has been prepared for the traders who will be relocated from the current market to the New Market when completed</td>
</tr>
<tr>
<td>4.36</td>
<td>Forests</td>
<td>Not applicable - there is no forest at the site</td>
</tr>
<tr>
<td>4.37</td>
<td>Safety of Dams</td>
<td>Not applicable because the project will not involve construction of dams.</td>
</tr>
<tr>
<td>7.50</td>
<td>Projects on International Waters (OP 7.50)</td>
<td>Not applicable - the site does not sit on international waters</td>
</tr>
<tr>
<td>7.60</td>
<td>Projects in Disputed Areas</td>
<td>The site is not classified as disputed in the project area.</td>
</tr>
</tbody>
</table>

### 3.2.1 Environmental Assessment (OP 4.01)

OP 4.01 requires Environmental Assessment (EA) for projects proposed for Bank financing to ensure that they are environmentally sound and sustainable, and as a basis for decision making. Under OP 4.01 projects are screened and assigned either of four categories each of which requires different levels of environmental assessment as follows:

- **Category A**: A proposed project is classified in this category if it is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented. Moreover, the EA for this category includes examining the project’s potential negative and positive impacts in comparison with those of feasible alternatives and recommends any measures required to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental performance. These impacts may affect an area boarder than the sites or facilities subject to physical works.
• **Category B**: A proposed project is classified in this Category if it’s potential adverse environmental impacts on human populations or environmentally important areas, including wetlands, forests, grasslands, and other natural habitats, are less adverse than those of Category A projects. These impacts are site-specific, few of them are irreversible and in most cases the mitigation measures can be designed more readily than Category A projects.

• **Category C**: A proposed project is classified in this Category if it’s likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for Category C project.

• **Category FI**: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary in subprojects that may result in adverse environmental impacts.

The proposed improvement of the proposed project has been classified as environmental category B and hence requirement for this Project Report study.

3.2.2 Harmonization of both WB and GOK requirements for social and environmental sustainability

With regard to the project under review, our experience informs that when proposed projects are subjected to environmental and social impact assessment as stipulated under EMCA 2015 and its tools, the same process simultaneously fully resolves requirements of OP 4.01. Generally, both requirements are aligned in principle and objective in that:

• Both require Environmental Assessment before project implementation leading to development of comprehensive Environmental and social Management plans to guide resolution of social and environmental impacts as anticipated.

• Both require public disclosure of Project Report and stakeholder consultation during preparation.

• While OP 4.01 of World Bank stipulates different scales of Project Report for different category of projects, EMCA requires Project Report for all sizes of projects, which are required to be scoped as relevant.

• Where EMCA requires consultation of Lead Agencies comprising of relevant sectors with legal mandate under GoK laws, the WB has equivalent safeguards for specific interests.

• The Bank requires that stakeholder consultations be undertaken during planning, implementation and operation phases of the project which is equivalent to the statutory annual environmental audits at the operation phase of projects in Kenya.

The understanding of this Project Report study is that, pursuit of an in-depth Project Report process as stipulated by EMCA 1999 is adequate to address all World Bank requirements for environmental and social assessment. This is a major guiding principle in this study.

In keeping with this trend, public consultation has been done to the stakeholders, and their comments have been incorporated in the final Environmental Assessment and final design of the project.

In addition, the Environmental Assessment report will be made publicly available to all stakeholders through disclosure at the project’s proponent website, NEMA, and WB infoshop, as well as copy of the report available at the project site.
3.3 Legal and Regulatory Framework for Environment

3.3.1 The Environment Management and Coordination Act No 8, 1999 and the relative Amendment Act No 5, 2015


The EMCA is an act of Parliament that provides for the establishment of an appropriate legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto. The Act further aims to improve the legal and administrative co-ordination of the diverse sectoral initiatives in the field of environment so as to enhance the national capacity for its effective management. In addition Act seeks to harmonize all the 77 sector specific legislation touching on the environment in a manner designed to ensure protection of the environment.

As the principal environmental legislation in Kenya, EMCA sets the legal framework for environmental management basically as follows:-

Part II of the Act states that every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment.

In order to ensure the achievement, part VI of the same Act directs that any proponent of a new project, activity or operation should undertake an Environmental Impact Assessment (EIA) and a report prepared for submission to the National Environmental Management Authority (NEMA), who in turn may issue a license as appropriate; while projects already in place will undertake annual Environmental Audits (EA).

Section 58 of the Environmental Law requires that notwithstanding any approval, permit or license under this Act or any other law in force in Kenya, any person being a proponent of a project, shall before financing, commencing proceeding with carrying out, executing or conducting or causing to be financed, commenced, proceed carried out, executed or conducted by another person for 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 and shall be accompanied by the prescribed fee.

Section 68 and 69 of EMCA requires all on-going projects to conduct an EA with a view to finding out if the processes and activities have any negative impacts on the environment and to propose any mitigation measures to counter such impacts. EA are further expounded in Regulation 35 (1) and (2) of Legal Notice 101 of June 2003. Under EMCA 2015, NEMA has gazetted legal tools that govern how EIAs are conducted and general environmental protection. These guidelines are captured in the Contracts for Construction to ensure that contractors are legally bound to undertake mitigation alongside general construction work.
Under EMCA, NEMA has gazetted legal tools that govern conduct of EIAs and general environmental protection. The Proposed project by the NaMSIP falls under the requirement of this Act, and has been screened against these tools with results that six of the tools will be triggered as shown on Table 3-2 below.

<table>
<thead>
<tr>
<th>Legal Tool</th>
<th>Status</th>
<th>Trigger mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIA and Audit regulations</td>
<td>Triggered</td>
<td>EIA Study has to conform to these rules</td>
</tr>
<tr>
<td>Waste Management Rules</td>
<td>Triggered</td>
<td>Construction likely to generate solid waste</td>
</tr>
<tr>
<td>Water Quality rules</td>
<td>Triggered</td>
<td>Water for construction will be drawn from rivers or other sources and have to adhere to ensuring water quality is observed</td>
</tr>
<tr>
<td>Conservation of Biodiversity regulations</td>
<td>Not triggered</td>
<td>These regulations focus more on benefit sharing in biodiversity conservation.</td>
</tr>
<tr>
<td>National Sand Harvesting Rules</td>
<td>Triggered</td>
<td>Construction works will require concrete mixture which shall include sand</td>
</tr>
<tr>
<td>Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 Legal Notice No. 61:</td>
<td>Triggered</td>
<td>Both construction activities and construction equipment likely to generate noise</td>
</tr>
<tr>
<td>Air Quality Regulation (2014)</td>
<td>Triggered</td>
<td>Both construction activities and construction equipment likely to generate air pollution</td>
</tr>
</tbody>
</table>

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

3.3.2 **Environmental Impact Assessment and Audit Regulations, 2003**

Environmental impact Assessment (EIA) is a tool for environmental conservation and has been identified as a key component in new project implementation. At the national level, Kenya has put into place necessary legislation that requires EIA be carried out on every new project, activity or programme (EMCA), and a report submitted to the National Environmental Management Authority (NEMA) for approval and issuance of relevant certificates. These Regulations provide procedures for conducting an EIA study and detail the parameters to be evaluated during the study. It also provides guidelines on the payment of the EIA license fees, conducting environmental audits and development of project monitoring plans. In particular, specifications of these guidelines indicate that no proponent should implement a project which can have a negative environmental impact. This ESIA report has been undertaken in accordance with the Environment (Impact Assessment and Audit) regulation 2003, which operationalizes the Environment Management & Coordination Act (EMCA) 1999 and its subsequent amendment, the Environmental Management and Coordination Act (Amendment), 2015.
The report is prepared in conformity with the requirements stipulated in the Act and its amendment and the Environmental Impact Assessment and Audit regulations 2003 regulation7 (1) and the second schedule.

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

The regulations provide details on management (handling, storage, transportation, treatment and disposal) of various waste streams including:
- Domestic waste
- Industrial waste,
- Hazardous and toxic waste
- Pesticides and toxic substances
- Biomedical wastes
- Radioactive waste

Regulation No.4 (1) makes it an offence for any person to dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated waste receptacle.

Regulation 5 (1) provides categories of cleaner production methods that should be adopted by waste generators in order to minimize the amount of waste generated and they include:
- Improvement of production process through:
  - Conserving raw materials and energy
  - Eliminating the use of toxic raw materials and waste
  - Reducing toxic emissions and wastes
- Monitoring the product cycle from beginning to end by:
  - Identifying and eliminating potential negative impacts of the product
  - Enabling the recovery and re-use of the product where possible
- Reclamation and recycling

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

The Proponent shall ensure that the main contractor adopts and implements all possible cleaner production methods during the construction phase of the project.

Regulation 6 requires waste generators to segregate waste by separating hazardous waste from non- hazardous waste for appropriate disposal.

Regulation 14 (1) requires every trade or industrial undertaking to install at its premises anti-pollution equipment for the treatment of waste emanating from such trade or industrial undertaking.

Regulation 15 prohibits any industry from discharging or disposing of any untreated waste in any state into the environment.

Regulation 17 (1) makes it an offence for any person to engage in any activity likely to generate any hazardous waste without a valid Environmental Impact Assessment license issued by NEMA.

Regulation 18 requires all generators of hazardous waste to ensure that every container or package for storing such waste is fixed with a label containing the following information:
- The identity of the hazardous waste
- The name and address of the generator of waste
- The net contents
- The normal storage stability and methods of storage
- The name and percentage of weight of active ingredients and names and percentages of weights of other ingredients or half-life of radioactive material
- Warning or caution statements which may include any of the following as appropriate.
• the words "WARNING" or "CAUTION";
• the word "POISON" (marked indelibly in red on a contrasting background;
• The words "DANGER! KEEP AWAY / NO ENTRY FOR UNAUTHORIZED
   PERSONS";
• A pictogram of a skull and crossbones.

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

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

### 3.3.4 Environmental Management and Coordination Act (Water Quality) Regulation 2006

The Regulations provides for sustainable management of water resources including
prevention of water pollution and protection of water sources (lakes, rivers, streams,'
springs, wells and other water sources).

It is an offence under Regulation No.4 (2), for any person to throw or cause to flow
into or near a water resource any liquid, solid or gaseous substance or deposit any
such substance in or near it, as to cause pollution.

Regulation No. 11 further makes it an offence for any person to discharge or apply
any poison, toxic, noxious or obstructing matter, radioactive waste or other pollutants
or permit the dumping or discharge of such matter into the aquatic environment
unless such discharge, poison, toxic, noxious or obstructing matter, radioactive
waste or pollutant complies with the standards for effluent discharge into the
environment.

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

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

### Wastewater guidelines

Part of the study involves a review of the environmental standards that provides a
basis for monitoring and future audits. The table 3-3 below presents recommended
guidelines on wastewater quality for discharge into the public sewers and open water
bodies.

**Table 3-3: Standards for Discharge of Waste water into public sewers**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Maximum levels permissible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids (mg/L)</td>
<td>250</td>
</tr>
<tr>
<td>Total dissolved solids (mg/L)</td>
<td>2000</td>
</tr>
<tr>
<td>Temperature 0C</td>
<td>20 - 35</td>
</tr>
<tr>
<td>pH</td>
<td>6-9</td>
</tr>
<tr>
<td>Oil and Grease (mg/L) -where conventional treatment shall be used</td>
<td>10</td>
</tr>
<tr>
<td>Oil and Grease (mg/L)- where ponds is a final treatment method</td>
<td>5</td>
</tr>
<tr>
<td>Ammonia Nitrogen (mg/L)</td>
<td>20</td>
</tr>
<tr>
<td>Parameter</td>
<td>Maximum levels permissible</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Substances with an obnoxious smell</td>
<td>Shall not be discharged into the sewers</td>
</tr>
<tr>
<td>Biological Oxygen Demand BOD5 days at 20 oC</td>
<td>500</td>
</tr>
<tr>
<td>Chemical Oxygen Demand COD (mg/L)</td>
<td>1000</td>
</tr>
<tr>
<td>Arsenic (mg/L)</td>
<td>0.02</td>
</tr>
<tr>
<td>Mercury (mg/L)</td>
<td>0.05</td>
</tr>
<tr>
<td>Lead (mg/L)</td>
<td>1.0</td>
</tr>
<tr>
<td>Cadmium (mg/L)</td>
<td>0.5</td>
</tr>
<tr>
<td>Chromium VI (mg/L)</td>
<td>0.05</td>
</tr>
<tr>
<td>Chromium (Total) (mg/L)</td>
<td>2.0</td>
</tr>
<tr>
<td>Copper (mg/L)</td>
<td>1.0</td>
</tr>
<tr>
<td>Zinc (mg/L)</td>
<td>5.0</td>
</tr>
<tr>
<td>Selenium (mg/L)</td>
<td>0.2</td>
</tr>
<tr>
<td>Nickel (mg/L)</td>
<td>3.0</td>
</tr>
<tr>
<td>Nitrites (mg/L)</td>
<td>20</td>
</tr>
<tr>
<td>Phosphates (mg/L)</td>
<td>30</td>
</tr>
<tr>
<td>Cyanide Total (mg/L)</td>
<td>2</td>
</tr>
<tr>
<td>Sulphide (mg/L)</td>
<td>2</td>
</tr>
<tr>
<td>Phenols (mg/L)</td>
<td>10</td>
</tr>
<tr>
<td>Detergents (mg/L)</td>
<td>15</td>
</tr>
<tr>
<td>Colour</td>
<td>Less than 40 Hazen units</td>
</tr>
<tr>
<td>Alkyl Mercury</td>
<td>Not Detectable (nd)</td>
</tr>
<tr>
<td>Free and saline Ammonia as N (mg/L)</td>
<td>4.0</td>
</tr>
<tr>
<td>Calcium Carbide</td>
<td>Nil</td>
</tr>
<tr>
<td>Chloroform</td>
<td>Nil</td>
</tr>
<tr>
<td>Inflammable solvents</td>
<td>Nil</td>
</tr>
<tr>
<td>Radioactive residues</td>
<td>Nil</td>
</tr>
<tr>
<td>Degreasing solvents of mono-di-trichlorethylene type</td>
<td>Nil</td>
</tr>
</tbody>
</table>


### Table 3-4: Standards for Discharge of Waste water into Environment (Water body)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Max. Allowable(Limits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1-trichloroethane (mg/l)</td>
<td>3</td>
</tr>
<tr>
<td>1,1,2-trichloroethane (mg/l)</td>
<td>0.06</td>
</tr>
<tr>
<td>1,1-dichloroethylene</td>
<td>0.2</td>
</tr>
<tr>
<td>1,2-dichloroethane</td>
<td>0.04</td>
</tr>
<tr>
<td>1,3-dichloropropene (mg/l)</td>
<td>0.02</td>
</tr>
<tr>
<td>Alkyl Mercury compounds</td>
<td>Nd</td>
</tr>
<tr>
<td>Ammonia, ammonium compounds, NO3 compounds and NO2 compounds (Sum total of ammonia-N times 4 plus nitrate-N and Nitrite-N (mg/l))</td>
<td>100</td>
</tr>
<tr>
<td>Arsenic (mg/l)</td>
<td>0.02</td>
</tr>
<tr>
<td>Arsenic and its compounds (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Benzene (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand (BOD 5days at 20 oC) (mg/l)</td>
<td>30</td>
</tr>
<tr>
<td>Boron (mg/l)</td>
<td>1.0</td>
</tr>
<tr>
<td>Boron and its compounds – non marine (mg/l)</td>
<td>10</td>
</tr>
<tr>
<td>Boron and its compounds – marine (mg/l)</td>
<td>30</td>
</tr>
<tr>
<td>Cadmium (mg/l)</td>
<td>0.01</td>
</tr>
<tr>
<td>Cadmium and its compounds (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>0.02</td>
</tr>
<tr>
<td>Chemical Oxygen Demand (COD (mg/l)</td>
<td>50</td>
</tr>
<tr>
<td>Chromium VI (mg/l)</td>
<td>0.05</td>
</tr>
<tr>
<td>Chloride (mg/l)</td>
<td>250</td>
</tr>
<tr>
<td>Chlorine free residue</td>
<td>0.10</td>
</tr>
<tr>
<td>Chromium total</td>
<td>2</td>
</tr>
</tbody>
</table>
### Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Max. Allowable (Limits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>cis -1,2-dichloro ethylene</td>
<td>0.4</td>
</tr>
<tr>
<td>Copper (mg/l)</td>
<td>1.0</td>
</tr>
<tr>
<td>Dichloromethane (mg/l)</td>
<td>0.2</td>
</tr>
<tr>
<td>Dissolved iron (mg/l)</td>
<td>10</td>
</tr>
<tr>
<td>Dissolved Manganese (mg/l)</td>
<td>10</td>
</tr>
<tr>
<td>E.coli (Counts / 100 ml)</td>
<td>Nil</td>
</tr>
<tr>
<td>Fluoride (mg/l)</td>
<td>1.5</td>
</tr>
<tr>
<td>Fluoride and its compounds (marine and non-marine) (mg/l)</td>
<td>8</td>
</tr>
<tr>
<td>Lead (mg/l)</td>
<td>0.01</td>
</tr>
<tr>
<td>Lead and its compounds (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>n-Hexane extracts (animal and vegetable fats) (mg/l)</td>
<td>30</td>
</tr>
<tr>
<td>n-Hexane extracts (mineral oil) (mg/l)</td>
<td>5</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>Nil</td>
</tr>
<tr>
<td>Organo-Phosphorus compounds (parathion, methyl parathion, methyl demeton and Ethyl parantrophenyl phenylphosphorothioate, EPN only) (mg/l)</td>
<td>1.0</td>
</tr>
<tr>
<td>Polychlorinated biphenyls, PCBs (mg/l)</td>
<td>0.003</td>
</tr>
<tr>
<td>pH (Hydrogen ion activity—marine)</td>
<td>5.0 - 9.0</td>
</tr>
<tr>
<td>pH (Hydrogen ion activity—non marine)</td>
<td>6.5 - 8.5</td>
</tr>
<tr>
<td>Phenols (mg/l)</td>
<td>0.001</td>
</tr>
<tr>
<td>Selenium (mg/l)</td>
<td>0.01</td>
</tr>
<tr>
<td>Selenium and its compounds (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Hexavalent Chromium VI compounds (mg/l)</td>
<td>0.5</td>
</tr>
<tr>
<td>Sulphide (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Simazine (mg/l)</td>
<td>0.03</td>
</tr>
<tr>
<td>Total Suspended Solids, (mg/l)</td>
<td>30</td>
</tr>
<tr>
<td>Tetrachloroethylene (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Thiobencarb (mg/l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Temperature (in degrees celious) based on ambient temperature</td>
<td>± 3</td>
</tr>
<tr>
<td>Thiram (mg/l)</td>
<td>0.06</td>
</tr>
<tr>
<td>Total coliforms (counts /100 ml)</td>
<td>30</td>
</tr>
<tr>
<td>Total Cyanogen (mg/l)</td>
<td>Nd</td>
</tr>
<tr>
<td>Total Nickel (mg/l)</td>
<td>0.3</td>
</tr>
<tr>
<td>Total Dissolved solids (mg/l)</td>
<td>1200</td>
</tr>
<tr>
<td>Colour in Hazen Units (H.U)</td>
<td>15</td>
</tr>
<tr>
<td>Detergents (mg/l)</td>
<td>Nil</td>
</tr>
<tr>
<td>Total mercury (mg/l)</td>
<td>0.005</td>
</tr>
<tr>
<td>Trichloroethylene (mg/l)</td>
<td>0.3</td>
</tr>
<tr>
<td>Zinc (mg/l)</td>
<td>0.5</td>
</tr>
<tr>
<td>Whole effluent toxicity</td>
<td></td>
</tr>
<tr>
<td>Total Phosphorus (mg/l)</td>
<td>2 Guideline value</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>2 Guideline value</td>
</tr>
</tbody>
</table>


### 3.3.5 Air Quality Regulation, 2014

This regulation is referred to as “The Environmental Management and Coordination (Air Quality) Regulations, 2014”. The objective is to provide for prevention, control and abatement of air pollution to ensure clean and healthy ambient air. It provides for the establishment of emission standards for various sources, including as mobile sources (e.g. motor vehicles) and stationary sources (e.g. industries) as outlined in the Environmental Management and Coordination Act, 1999. It also covers any other air pollution source as may be determined by the Minister in consultation with the Authority. Emission limits for various areas and facilities have been set.

The Regulations prohibits the Proponent from:
• Acting in a way that directly or indirectly cause or may cause air pollution to exceed levels set out in the second Schedule to the Regulations
• Allowing particulates emissions into the atmosphere from any source not listed in the six schedule of the Regulations
• Causing ambient air quality in controlled areas (listed in Schedule Thirteen) to exceed those stipulated under second Schedule.
• Allowing (during construction and demolition) emission of particulate matter above the limits stipulated in second Schedule
• Causing or allowing stockpiling or storage of material in a manner likely to cause air pollution
• Causing or allowing emissions of oxides of nitrogen in excess of those stipulated in the eleventh Schedule of the Regulation

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

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

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

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

<table>
<thead>
<tr>
<th>Facility</th>
<th>Maximum Noise level permitted (leq) in dB (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day (6.01am-6.00pm)</td>
</tr>
<tr>
<td>(i) Health facilities, educational institutions, homes for disabled and residential areas</td>
<td>60</td>
</tr>
<tr>
<td>(ii) Residential</td>
<td>60</td>
</tr>
<tr>
<td>(iii) Areas other than those prescribed in (i) and (ii)</td>
<td>75</td>
</tr>
</tbody>
</table>

Under section 15, the Regulations require the Proponent during EIA studies to:
• Identify natural resources, land uses or activities which may be affected by noise or excessive vibrations from construction or demolition;
• Determine the measures which are needed in the plans and specifications to minimize or eliminate adverse construction or demolition noise or vibration impacts.
• Incorporate the needed abatement measures in the plans and specifications.

It is anticipated that the proposed project will generate noise and/or vibration during the construction phase that will originate from the construction equipment, vehicles and the workers since the project neighbours homesteads and businesses in some sections. It is therefore recommended that the construction team develops mitigations to reduce noise propagation in the project area.

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

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

Table 3-6 Comparison between WHO and NEMA Noise Guidelines

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

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

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

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

The strategy plan as stated above denotes an annual plan to be adopted in the county assembly following the integrated development plan, and the Act requires the board of town committee to formulate the strategy plan soon after the adoption of the integrated development plan (Article 39).

The integrated development plan as stipulated in the Act has to reflect:

- Vision for the long term development of the city or urban area;
- An assessment of the existing level of development;
- Any affirmative action measures to be applied; development priorities and objectives;
- Development strategies which shall be aligned with any national or county sectoral plans and planning requirements;
- A spatial development framework;
- Operational strategies; and
- Applicable disaster management plans;
- A regulated city and municipal agricultural plan;
- A financial plan and;
- the key performance indicators and performance targets (Article 40).

The integrated development plan thus formulated has to be submitted to the county executive committee, and the committee has to submit the plan to the county assembly with an opinion within 30 days (Article 41).

*Kikuyu market project complies with the urban area and other cities act its integrated in the County integrated Development plan, and will comply with all the regulations set in the Act.*

3.3.8 The County Government Act 2012

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

- County integrated development plan
- County Sectoral plans
- County spatial plan
- Cities and urban areas plans as stipulated by Urban Areas and Cities Act
The act also stipulates that the County Government will be responsible for functions stipulated in article 186 and assigned in the Fourth Schedule of the Constitution which includes control of air pollution, noise pollution, other public nuisances and outdoor advertising.

The Proponent will ensure the project will be compliant with County Government Act 2012 by controlling all forms of pollution. Additionally, an Environmental and Social Management/monitoring plan has been provided in this report with measures for mitigating potential environmental pollution anticipated from the development of the project.

3.3.9 The National Land Commission Act (2012)

Section 5 of the Act, the Commission’s functions are to manage public land, recommend national land policy, advise the GoK on a land registration program, conduct research on land use and natural resources, and monitor and oversee land use planning throughout the country. The same section goes on to stipulate that the NLC ensure that state owned land is managed sustainably for future generations. The project will be subjected to this act by ensuring the land used for the project is a public land and has no encumbrances to be used for development of a market.

3.3.10 National Sand Harvesting Guidelines, 2007

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

3.3.11 Traffic Act Chapter 403

This Act consolidates the law relating to traffic on all public roads. The Act also prohibits encroachment on and damage of roads including land reserved for roads. The proposed project is under the provisions of the Act, in that it will utilize the roads near the project.

3.3.12 The Water Act, 2002

The Act vests the water in the State and gives the provisions for the water management, including irrigation water, pollution, drainage, flood control and abstraction. It is the main legislation governing the use of water. The proposed project shall require some quantities of water during the construction phase and generation of equally large volumes of surface run-off during operations. The water supplied by the local water provider and local rivers might be the sources of water for construction. The river near the project will be receiving bodies for the surfaces run-off, as all the drainage systems shall be designed to discharge into them.

The contractor shall ensure that there will be no pollution to the nearby rivers and streams, and will seek the necessary permits to abstract the water from the rivers, or any other sources, and shall abide by the conditions attached to the permit(s).


These Rules are described in Legal Notice Number 171 of the Kenya Gazette Supplementary Number 52 of 2007. They apply to all water resources and water
bodies in Kenya, including all lakes, water courses, streams and rivers, whether perennial or seasonal, aquifers, and shall include coastal channels leading to territorial waters.

The Water Resources Management Rules empower Water Resources Management Authority (WRMA) to impose management controls on land use falling under riparian land. It also enables any person with a complaint related to any matter covered by these rules to the appropriate office in WRMA as per the Tenth Schedule which provides a format for report on complaints. WRMA is to reply to the complainant with “copies to all other relevant parties within twenty one days of receiving the complaint, starting with what action is being taken, the position of the Authority on the matter and any recommendation to the complainant.”

The contractor shall seek the necessary permits to abstract the water from the rivers, or any other sources, and shall abide by the conditions attached to the permit(s).

The contractor/proponent will adhere to the provision of this regulation by obtaining relevant water permit from WRMA or consult with Kiambu Water and Sewerage Company for its water sources.

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

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

- Employees of all government ministries, departments, authorities, and other agencies as well as employees of private and informal sectors.
- The information on HIV/AIDS is expected to be treated with confidentiality at the work place and positive attitude towards infected employees.

In allocating contractors to the proposed project, the proponent should ensure that the contractor offers such training to the worker as provided by law.

3.3.15 Occupational Safety and Health Act OSHA, 2007

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

The contractor shall adhere to all Sections of the Act as it relates to this project, such as observing safety guidelines, provision of protective clothing, clean water, and insurance cover are observed so as to protect all from work related injuries or other health hazards.

3.3.16 Work Injury Benefits Act, 2007

This is an Act of Parliament to provide for compensation to employees for work related injuries and diseases contracted in the course of their employment and for
connected purposes. An employee is a person who has been employed for wages or a salary under a contract and includes apprentice or indentured learner.

The proposed project will adhere to the provisions of this act throughout the construction period of the project.

3.3.17 The Public Health Act (Cap. 242)

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

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

This provision is supplemented by Section 126A that requires local authorities to develop by-laws for controlling and regulating among others private sewers, communication between drains and sewers and between sewers as well as regulating sanitary conveniences in connection to buildings, drainage, cesspools, etc. for reception or disposal of foul matter.

Part XII (prevention and destruction of mosquitoes) Section 136 states that all collections of water, sewage, rubbish, refuse and other fluids which permits or facilitate the breeding or multiplication of pests shall be deemed nuisances and are liable to be dealt with in the manner provided by this Act.

The operations and activities of the proposed project can be detrimental to human and environmental health and safety in the absence of appropriate measures. For example waste, dust, noise and air emission generated from activities and process of the proposed project can directly or indirectly have adverse impacts on human and environment.

The Act prohibits the Proponent from engaging in activities that cause environmental nuisance or those that cause danger, discomfort or annoyance to inhabitants or is hazardous to human and environmental health and safety.

The proponent will therefore observe the public Health act to mitigate on the negative environmental health and safety to the public.
3.3.18 The Physical Planning Act (Cap. 286)
Section 24 of the Physical Planning Act gives provision for the development of local physical development plan for guiding and coordinating development of infrastructure facilities and services within the area of authority of County, municipal and town council and for specific control of the use and development of land. The plan shows the manner in which the land in the area may be used. Section 29 of the physical Planning Act gives the county councils power to prohibit and control the use of land, building, and subdivision of land, in the interest of proper and orderly development of its area. The same section also allows them to approve all development applications and grant development permissions as well as to ensure the proper execution and implications of approved physical development plans. On zoning, the act empowers them to formulate by-laws in respect of use and density of development.

The proposed project adheres to this act by ensuring that the proposed project is being developed as per the plans approved by the Ministry of Lands and Physical Planning in accordance to the law.

3.3.19 Way Leave Act Cap 292
Section 3 of the Act states that the Government may carry any sewer, drain or pipeline through, over or under any land whatsoever, but may not in doing so interfere with any existing building. Notice, however, should be given one month before carrying out any such works (section 4) with full description of the intended works and targeted place for inspection.

Any damages caused by the works would then be compensated to the owner as per Section 8 of the Act that states that any person whom without consent causes any building to be newly erected on a way leave, or cause hindrance along the way leave shall be guilty of an offence and any alterations will be done at his/her costs.

The proponent shall observe this Way leave Act when developing or improving the sewer and drainage system for the project.

3.3.20 The Building Code 2009
This code was formulated to provide rules and guideline to be observed during construction it requires the proponent to adhere to the set rules and guidelines in the code. The code requires building plans to be approved by county government. It also prohibits;
- Erection, or causing or permitting erection of temporary buildings (e.g. a site office, store, builder’s shed etc.) to which the Regulations apply without a permit granted under Regulations and
- Knowingly occupying a temporary building which is erected in contravention to the regulations

The proponent is committed to developing the proposed project in accordance to the building codes, the national standards and other international building standards and guidelines.

3.3.21 Public Roads and Roads of Access Act (Cap 399)
Sections 8 and 9 of the Act provides for the dedication, conservation or alignment of public travel lines including construction of access roads adjacent to lands from the nearest part of a public road.

Sections 10 and 11 allows for notices to be served on the adjacent land owners seeking permission to construct the respective roads.
The proponent shall issue notices to land owners adjacent to the project area before construction works begins. In addition, the proponent will inform the relevant authorities on the intended modifications of the roads near the proposed project.

3.3.22 National Gender and Equality Commission Act, 2011
The Commission was established through an Act of parliament and is mandated but not limited to perform the following functions:
(a) promote gender equality and freedom from discrimination in accordance with Article 27 of the Constitution; (b) monitor, facilitate and advise on the integration of the principles of equality and freedom from discrimination in all national and county policies, laws, and administrative regulations in all public and private institutions; (c) co-ordinate and facilitate mainstreaming of issues of gender, persons with disability into the overall national development framework.
The provisions of this Act shall be invoked in the implementation of the project, especially in ensuring gender equity, by offering opportunities to women in employment and allocation of stalls.

3.3.23 The Sexual Offences Act (No. 3 of 2006)
Relevant Sections in this Act include:-
• 24- Sexual offences relating to position of authority and persons in position of trust.
• 25- Sexual relationship which pre-date position of authority or trust.
• 26- Deliberate transmission of HIV or any other life threatening sexually transmitted disease.
The proposed project will ensure that this Act is adhered to, by ensuring that there will be NO sexual offences committed, especially during the construction period.

3.4 The Institutional Framework
3.4.1 Ministry of Environment and Natural Resources
Kenya’s Ministry of Environment and Natural Resource is mandated to monitor, protect, conserve and manage environment and natural resources of the country. The Ministry is to achieve this monumental task through sustainable exploitation of natural resources for socio-economic development geared towards eradication of poverty, improving living standards and maintaining a clean environment for present and future generations.

3.4.2 The Ministry of Transport, Infrastructure, Housing and Urban Development (MoTIHUD)
The MoTIHUD is the project proponent and is implementing the development of Kikuyu Market through Nairobi Metropolitan Services Improvement Project (NaMSIP).

3.4.3 National Environment Management Authority (NEMA)
The Government established the administrative structures to implement EMCA as follows: -
3.4.3.1 The National Environmental Council
The National Environment Council (the Council) is responsible for policy formulation and directions for the purposes of the EMCA Act. The Council also sets national goals and objectives, and determines policies and priorities for the protection of the environment.

3.4.3.2 The National Environmental Management Authority
EMCA allows for formation of the National Environmental Management Authority (NEMA) as the body charged with overall responsibility of exercising general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of government in the implementation of all policies relating to the environment. In the context of the EIA process NEMA is responsible for approving the ToR for the ESIA and for the approval of the ESIA. Without this latter approval, the project cannot proceed. The Authority shall review this ESIA Report for the proposed project, visit the project site to verify information provided in this report and emanate an ESIA license whether all the relevant issues to the project have been identified and mitigated in accordance to the proposed measures.

3.4.3.3 County Environmental Committees
The County Environmental Committees also contribute to decentralized environmental management and enable the participation of local communities. These environmental committees are to be constituted by the governor and are responsible for the proper management of the environment within the county for which it is appointed.

3.4.3.4 Public Complaints Committee
Under EMCA 2015, a Public Complaints Committee has been established to provide an administrative mechanism for addressing environmental harm. The Committee whose membership include representatives from the Law Society of Kenya, NGOs and the business community has the mandate to investigate complaints relating to environmental damage and degradation.

3.4.4 The Directorate of Nairobi Metropolitan Development
In the capacity of Employer, the Transport, Infrastructure, Housing and Urban Development, Nairobi Metropolitan Development through the NaMSIP PCT has administrative jurisdiction over the EIA process.

3.4.5 The Market committees, local CBOs and other Civil Society
Members of the market committees at Kikuyu, civil society working in the area in related fields are responsible for sensitizing the people and empower them to realize maximum benefits from the project. They will be involved in the training and creating awareness of the project, and assisting in grievance handling (if any) for the proposed project.
4 PROJECT ENVIRONMENTAL AND SOCIAL BASELINE

4.1 Project Background

Kikuyu Market forms part of the Nairobi Metropolitan Service Improvement Project being implemented by the Ministry of Transport, Infrastructure, Housing and Urban Development with financial support from the World Bank. The objectives of this project is providing an enabling physical space for organized markets; creating market linkages for products; fostering access to services so as to promote efficiency and quality of products, and promoting reliable linkages with financial institutions. The goal is to enhance livelihoods especially for the urban poor who are operating as vendors in these select markets. The selection of the Kikuyu market was on the basis of the existing local participatory process from prioritizing local investment called the Local Authority Service Development Action Plan.

The current Kikuyu Market was established in 2006 and sits on approximately 0.237Ha of land. The traders have done the business structures on the premises but the toilet and wall on the Western side of the market were constructed by the Kiambu County Government. The operators run throughout the week from 7am till 5pm selling both retail and wholesale goods. All types of farm produce are traded within the market, in addition to a Jua-Kali section. There are 507 temporary structures/stalls, 42 permanent stalls, I public toilet and 10 metre floodlight.

The new Kikuyu Market will be built at a site that is approximately 200m from the current market. The new site is near other facilities that support the market activities such as the bus stage/ terminus and the proposed parking lot/ car park making it more favorable. The new site has a different ground orientation, access routes and the available parcel of land is bigger than the site of the current market. The piece of land where the new Kikuyu market will be located belongs to the Kiambu County Government and it measure approximately 0.6Ha.

Previously, the proposed new market site had several structures, which were being used as government facilities and whose previous users were relocated to other office buildings within Kikuyu town. The old and condemned structures are vacant, will demolished to pave way for the construction of the new market building, and associated facilities.

Kikuyu market has a management committee that serves as liaison with Kiambu County Government. Traders pay a daily-prescribed market fee (cess) to the County Government. The market has 549 vendors who are divided into different sections specializing in different products in a mixture of wholesale and retail trade. The sections include:

- Fresh produce (fruits and vegetables)
- Dry produce (cereals)
- Meat products (Beef, goat, poultry)
- Household commodities including kitchenware
- Personal products such as clothes and shoes
4.2 Physical Environment

Baseline information for Kikuyu market assumes the larger Kiambu County’s baseline environmental and social conditions. Discussed below is the physical and social environment for the project area.

4.2.1 Drainage and Hydrology

The significant hydrologic water features around Kikuyu town include Kikuyu Springs and Ondiri Swamp. Kikuyu Springs is located approximately 500 metres on the south Eastern part of the project site while Ondiri Swamp is located approximately 800 metres on the south Western side of the project site. The general drainage slope inclines towards the South Eastern side of Kikuyu town. Kikuyu spring and streams (Nyongara River) that originate from Ondiri wetland are part of catchment for Nairobi River. Ondiri Wetland is also a source of Athi River when it passes underground through Thogoto forest and resurfacing at Karinde near Karen Estate.

4.2.2 Climatic Condition

The region is characteristic by equatorial climatic conditions and rainfall is highly influenced by altitude and proximity to the Aberdare forest. Rainfall in the area comes in two seasons, long rains come between March to May then followed by a cold season and short rains come between October and December. The cold season is characterized by drizzles and frost which occur in the months of June to August. The annual mean rainfall varies from 1070mm to 1750mm per annum. The nearest meteorological station registered in the Kenyan Meteorological Department is the Thika meteorological station.

The mean temperature in the project area is approximately 26°C with temperature ranging from 17.1°C in the upper highlands to 34°C in the lower midlands. July and August are the months during which the lowest temperatures are experienced, whereas January to March is the hottest months. The main wind – direction is easterly, evaporation ranging from 100 to 150mm per month while the humidity varies from 50% to 90%.

4.2.3 Topography

The project area is characterized by steep slopes and deep valleys and in most places has springs or streams at the lower point of the valleys. Aberdare ranges influence the physiographic of the project area with the topography varying from steep slopes in west and east to undulating rolling landforms (volcanic foothill ridges) in much of the northern part of the Lari division. Consequently, mild to steep ridges and valleys with a general slope towards the east and southeast are notable through most of the project area. The project area lying at about 1968 meters above sea level is located in the Upper Highland Zone, which is an extension of the Aberdare ranges.
4.2.4 Geology and Soils
The county is covered by three broad categories of soils which are: high level upland soils, plateau soils and volcanic footbridges soils. These soils are of varying fertility levels with soils from high-level uplands, which are from volcanic rocks, being very fertile. Their fertility is conducive for livestock keeping and growth of various cash crops and food crops such as tea, coffee, horticultural products, pyrethrum, vegetables, maize, beans, peas and potatoes. These soils are found in the highlands, mostly in Gatundu South, Gatundu North, Githunguri, Kiambu, Kiambaa, Lari, Kikuyu, Kabete and Limuru Constituencies. Low fertility soils are mainly found in the middle zone and the eastern part of the county which form part of the semi-arid areas. The soils are sandy or clay and can support drought resistant crops such as soya beans and sunflower as well as ranching. These soils are mostly found in parts of Juja, Thika Town, Ruiru, Kabete, Limuru, Gatundu North and Gatundu South Constituencies.

Most parts of the county are covered by soils from volcanic footbridges. These are well drained with moderate fertility. They are red to dark brown friable clays, which are suited for cash crops like coffee, tea and pyrethrum. However, parts of Thika Town, Ruiru, Juja and Lari constituencies are covered by shallow soils, which are poorly drained, and these areas are characterized by low rainfall, which severely limits agricultural development. However, these areas are suitable for ranching and growth of drought resistant crops.
The soils around at site have been disturbed by human activities over a long period of time because it an existing town. The soil at the market consists of sandy clay soils type of origin.

4.2.5 Biological Environment
Information in Kiambu indicates that the County has few wildlife resources since many gazetted forests were allocated illegally to individuals. An example is Kinare forest in Lari Constituency, whose ecosystem constitutes of a dense forest with elephants, hyenas, bush baby, baboons, colombus monkeys, dik-dik, bush pigs, tree and ground squirrels, porcupines and many species of birds such as weaver, guinea fowls, sparrow among others. The proposed market area is within a built environment. The site has approximately 25 trees and several shrubs and, grass while fauna include: butterflies, rats birds of different species and crawling animals such as lizards.

Plate 2: Vegetation at the proposed new market site.

4.2.6 Air Quality
A limited spot check air quality survey and analysis was undertaken in the Project site as part of this ESIA process. Measurements of the baseline PM10, SO2 and NO2 levels were undertaken at proposed market site The results obtained were well within WHO and Kenyan standards; Environmental Management and Coordination (Air Quality) Regulations 2014. The air quality is expected to be impacted by construction, operation and demolition activities; however, implementation of the proposed recommended mitigation measures will keep the levels within the acceptable limits. The results are presented in Table 4-1 overleaf.
### Table 4-1: Air Quality Results for Kikuyu Market

<table>
<thead>
<tr>
<th>Site/Location Unit</th>
<th>GPS Coordinates</th>
<th>Parameter</th>
<th>Results ug/m³</th>
<th>Kenyan Limits (NEMA) ug/m³</th>
<th>IFC/WB Guidelines ug/m³</th>
<th>EU standards/WHO Guidelines ug/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP 1</td>
<td>1°14′45.81″S, 36°39′52.43″E</td>
<td>PM₁₀</td>
<td>23.00</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO₂</td>
<td>13.23</td>
<td>80</td>
<td>200</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SO₂</td>
<td>&lt;0.76</td>
<td>80</td>
<td>20</td>
<td>20/20</td>
</tr>
<tr>
<td>MP 2</td>
<td>1°14′46.23″S, 36°39′50.75″E</td>
<td>PM 10</td>
<td>28.00</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

#### 4.2.7 Ambient Noise Levels

Noise surveys were taken between 2nd and 10th September 2016 as part of this assessment. Measurements were undertaken at 2 locations: 1°14′45.81″S, 36°39′52.43″E (MP1) and 1°14′46.23″S, 36°39′50.75″E (MP2) at the proposed project site using Type 1 Precision Impulse Integrating Sound Level Meter, in accordance with international standards for sound level meter specifications IEC 61672:1999, IEC 61260:1995 and IEC 60651, as well as ISO 19961:2003 and ISO 3095:2001 for the measurement and assessment of environmental noise.

Ambient noise levels measured at the site during this study ranged between 57 dB (A) and 62 dB (A) as shown in Table 4-2. The levels are expected to increase during construction and demolition phases; however, implementation of the proposed recommended mitigation measures will keep the levels within the acceptable limits.

### Table 4-2: Noise Survey Results for Kikuyu Market

<table>
<thead>
<tr>
<th>Measurement Points</th>
<th>Type of Zone</th>
<th>Noise Level (dB(A))</th>
<th>NEMA Limits</th>
<th>WB Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP1</td>
<td>Commercial/residential</td>
<td>62</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>MP2</td>
<td>Commercial/residential</td>
<td>57</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>

World Bank Guidelines:
- Residential: Daytime: 55 dB(A), Night-time: 45 dB(A),
- Industrial: Daytime: 70 dB(A), Night-time: 60 dB(A)
- Mixed Residential (with some commercial and places of entertainment): 55 dB(A)

#### 4.3 Socioeconomic Environment

Majority of the traders were between the ages of 18 to 35 years old. Refer to figure 4-2. Majority of traders were unregistered by the county but had temporary, immovable structures within the market. It was found that majority of these traders had only one source of income. 50% of traders resided within a radius of 1-5km from the market.

#### 4.3.1 Distribution of Traders by Age

The traders at Kikuyu market are fairly youthful with majority (52%) of the respondents falling between the age group of 18-35 years old with those between
The ages 36-60 years old being 43%. Those above the age of 60 years old are only 4% with those less than 18 years old being 1% of the respondents. The youthful population engaged in business signifies a human resource that is still energetic and who can be empowered by providing organized and relevant trading opportunities and infrastructure.

![Figure 4-2: Average ages of respondents](source: Kikuyu NaMSIP RAP Report 2016)

### 4.3.2 Distribution of Traders by Gender and Martial Status

The composition of Kikuyu Market represents that majority (66.8%) of the traders are women with the male counterparts being 33.2%. Of this, majority (67%) are married, followed by 24% who are single, 6% are widowed while 3% are separated. This implies that a lot of families are relying on the trading business income to support their families.

![Figure 4-3: Marital status of traders](source: Kikuyu NaMSIP RAP Report 2016)
4.3.3 Education
Kiambu County has high literacy level which stands at 90.1%. The project area is thus characterized with high literacy levels. There are several ECD centres, primary and secondary schools within the project area and its immediate neighborhood. Majority of the respondents are literate with 47% having attained secondary education, 39% having attained primary education while 12% having tertiary education. Of this, 81.1% are able to speak English and Kiswahili. This depicts literate community that is able to make informed decisions.

![Education Levels among Traders](image)

**Figure 4-4: Education levels among traders**
*Source; Kikuyu NaMSIP RAP Report 2016*

4.3.4 Income Levels
The average estimated total monthly household income for traders is Kshs 18,858 with 37.1% of the traders having their income falling between Kshs 1,000-10,000. The estimated average household income of Kshs 18,858 against the net business profit of Kshs 13,550 and expenditure of Kshs 14,065 reveals that the traders do not solely rely on the income from the market trading activities since this cannot entirely cater for the household needs. Improved trading facilities will thus enhance business space and entrepreneurship giving the traders an opportunity to explore more business opportunities hence increasing their returns.
4.3.5 Demographics
Kenya Population and Housing Census 2009 indicate Kiambu County population at 1,623,279 with 802,609 being male and 820,670 being female. The average population growth rate in the County is 2.81% and the sex ratio is approximately 1/1.02.

4.3.6 Energy
Electricity is readily available in the County with many of the markets centres connected to the national grid. However, some households have not connected despite availability of the Rural Electrification Programme. The main source of energy in the area is electricity from the national grid though there are many other sources of energy such as fire wood, kerosene and biogas which people use for cooking food, lighting and other household activities.

4.3.7 HIV/AIDS
The HIV/AIDS Policy of 2009 identifies HIV/AIDS as a global crisis that constitutes one of the most formidable challenges to economic development and social progress. The pandemic heavily affects the Kenyan economy through loss of human resource due to deaths, loss of man hours due to prolonged illnesses, absenteeism, reduced performance, increased stress, stigma, discrimination and loss of institutional memories, among others. Due to the large of number of traders, business activities and the social stature of Kikuyu market, HIV/AIDS has been considered as one of the possible impacts and adequate mitigation measures have been proposed to that effect.

The Kenya HIV County profile of 2016 indicates that HIV prevalence in Kiambu is comparable to the national prevalence at 5.6% (Kenya HIV Estimates 2015). The HIV prevalence among women in the County is higher (8.2%) than that of men (2.9%) indicating that women are more vulnerable to HIV infection than men in the County. Kiambu County contributed to 4.7% of the total number of people living with HIV in Kenya, and is ranked the sixth highest nationally. By the end of 2015, a total of 70,971 people were living with HIV in the County, with 10% being young people aged 15-24 years and 4% being children under the age of 15 years.

4.3.8 Infrastructure
The County has a good road network. It has a total of 2,034km of roads under bitumen standards, 1,480.2 km under gravel surface and 430.1 km under earth surface. There is a great need in improving the condition of the earth roads since during the rainy season, most of the roads become impassable. However, the terrain poses a great challenge for road maintenance. There has been a lot of improvement in the roads subsector with the example of Thika-Nairobi highway.

It also has 131 km of railway line and four railway stations in Ruiru, Githurai, Juja, Thika, Kikuyu and Limuru towns. The rail is not fully utilised in the County and only passenger trains operate in the morning and evenings between the City of Nairobi and the four stations.
However, there is a great potential in the sector and hence efforts need to be put in place to ensure the rail infrastructure is improved, which will encourage introduction of modern efficient trains.

The Proposed Market site is accessed through Post Office road to the North and it borders the Nairobi Southern Bypass to the South.

4.3.9 Administrative Units

Kiambu County is divided into ten (10) sub-counties namely: Gatundu North, Gatundu South, Ruiru, Thika East, Thika West, Githunguri, Kiambu, Limuru, Kikuyu and Lari. Lari sub-County is the largest in size while Thika East is the smallest. The proposed Kikuyu Market is located in Kikuyu Sub County. The sub-counties are further subdivided into 29 divisions, 95 locations and 236 sub-locations. Kiambu town is the commercial and administrative capital of Kiambu County. Due to its proximity to the City of Nairobi (16 kilometres), the town hosts key government offices for the main ministries. See the constituencies in figure 4-6 below:

![Figure 4-6: Constituencies in Kiambu County](source: UNEP (2009), Kiambu County Environment Outlook)

4.3.10 Political Units

The County has 12 parliamentary constituencies: Gatundu South, Gatundu North, Juja, Ruiru, Thika Town, Kiambu, Kabete, Githunguri, Limuru, Kikuyu, Kiambaa and Lari. Kiambu town is the County headquarters.
5 PUBLIC CONSULTATION AND PARTICIPATION

5.1 Stakeholder Mapping and Consultations

Public participation is basically concerned with involving, informing and consulting the public in planning, management and other decision-making activities. Public participation tries to ensure that due consideration is given to public values, concerns and preferences when decisions are made. It encompasses the public actively sharing in the decisions that government and other agencies make in their search for solutions to issues of public interest.

Public consultation in this project was carried out with the following aims:

- To inform the local people, leaders and other stakeholders about the proposed project and its objectives
- To seek views, concerns and opinions of people in the area concerning the project
- To establish if the local people foresee any positive or negative environmental effects from the project and if so, how they wish the perceived impacts to be addressed

5.2 Public Consultation Methodology

The ESIA team conducted public participation within the project area in order to give the community a platform of expressing their environmental and social concerns; the team also conducted institutional consultations with all relevant lead agencies. The table below illustrates the identified stakeholders consulted.

Table 5-1: Stakeholder Mapping Checklist

<table>
<thead>
<tr>
<th>Primary Stakeholders</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Name</td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>NaMSIP</td>
<td>Project Proponent</td>
</tr>
<tr>
<td>Project Affected Persons/Traders</td>
<td>Project Affected Persons</td>
</tr>
<tr>
<td>Kiambu County</td>
<td>County Government</td>
</tr>
<tr>
<td>Local Administration</td>
<td></td>
</tr>
</tbody>
</table>

5.2.1 Initial Interviews

Interview of the stakeholders was undertaken during the ESIA study process. The principle was to assess the initial opinions and attitude of the stakeholders to the project including all the components.

5.2.2 Socio-Economic Survey

This process involved a socioeconomic surveys conducted on both the Project Affected Persons (Traders) and neighboring community through direct interactions with the local communities and other stakeholders and through questionnaire administration. A quantitative survey was conducted at project site and its neighborhood using structured questionnaires, which were designed to generate the required information. Refer to Annex 4 for the Completed Stakeholder/Affected Community Questionnaires.
The information was used to answer questions related to status of social and economic parameters within the project site including the public knowledge of the proposed project, how the proposed project is likely to affect the community, present of any cultural heritage site, and hydrogeological sites. The respondents were also given an opportunity to give their views on opportunities and challenges that the proposed project would create.

5.2.3 Public Consultation and Participation Meetings

Two public consultation and participation meetings were held at the proposed New Kikuyu Market Site. The first meeting was a general public meeting (baraza) that was held on Wednesday, 24 January 2018 at 4.30pm. The purpose of this meeting was to sensitize the traders and the public on the change of location of the proposed New Kikuyu Market from the old site where the current market is located to the new market site and to seek their views and opinions. This meeting was organized and facilitated by NaMSIP and KCG Officers and the local politicians. The second meeting was a joint meeting between the NaMSIP and KCG Officers, the Market Committee and the Area MCA. The purpose of the meeting was to present the revised detailed designs to the market committee and the area MCA. During these two meetings NaMSIP and KCG provided all the details of what necessitated the change of the site location and the new market designs.

Table 5-2: Summary of Meetings held with Traders and Stakeholders

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Time</th>
<th>Category of Participants</th>
<th>No. of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24th January 2018</td>
<td>3pm</td>
<td>Kikuyu Market Traders &amp; Neighboring Business Communities</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kiambu County Government</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NaMSIP</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>6th March 2018</td>
<td>3.30pm</td>
<td>Kikuyu Market Committee Members</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kiambu County Government</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NaMSIP</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total in Attendance</td>
<td>404</td>
</tr>
</tbody>
</table>

The stakeholders and traders provided their views and opinions on the new market project which added value to the market design and entire project planning. There was consensus from the participants at these meetings that it was a wise and brilliant decision to construct the new market at the proposed new site. This helped in enhancing the social and economic benefits of the project and in the proposing mitigation measures against negative impacts and acceptability of the project hence avoiding possible conflicts. Refer to Annex 2 to Annex 6 for the Minutes and Attendance Registers of the meetings and Completed Stakeholder Questionnaires.

Table 5-3: Various issues raised during Market Traders and Stakeholders Meetings

<table>
<thead>
<tr>
<th>Issues/ Queries Raised</th>
<th>Responses by NaMSIP and Kiambu County Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The participants requested for employment of the local community during the construction phase</td>
<td>The Contractor will vet and offer employment to eligible members of the community during the construction phase</td>
</tr>
<tr>
<td>2. How will the contractor control pollution to the neighbouring communities caused by potential noise and dust levels which will be</td>
<td>The workforce and residents will be sensitized on potential noise and dust levels which will be</td>
</tr>
<tr>
<td>Issues/Queries Raised</td>
<td>Responses by NaMSIP and Kiambu County Government</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| dust, noise and vibration generated during the construction phase                    | controlled through use of appropriate PPEs by workers  
There will be controlled operation of construction plant and equipment to ensure that dust and noise are kept within the acceptable levels  
No blasting shall be done on site                                               |
| 3. The proposed market is along a main road which may cause traffic snarl up during the construction and operation phases. How will this be managed? | The Market design has provided for a deceleration and acceleration lanes to and from the site respectively with a separate entrance and exit to manage the flow of traffic to and from the site  
Proper traffic control signage should be installed at the junctions leading to the site. Delivery of materials haulage of excavated materials should be timed during traffic off-peak periods  
The Contractors will prepare a plan for communication with residents and businesses surrounding the construction site |
| 4. The how and when will relocation of traders from the current Kikuyu market be carried | This has been documented din the RAP Report.  
The traders in the current market have been documented and their entitlement will be to be allocated a stall each at the new market when completed |
<p>| 5. What will be size of the market stalls?                                             | The dimensions of the market stalls will be 1.5m by 2.0m (Ground Floor) and 2.0m by 2.5m (1st, 2nd and 3rd Floor) |
| 6. Will the market stalls be open stalls or they will be enclosed?                    | They will be marked and numbered open spaces/ stall areas which the Kiambu County Government will provide the designs for the preferred and desirable stands to be erected for the specific types of goods being sold at a particular zone within the market. |
| 7. Will the market building have meeting areas?                                        | The market design has provided for meeting rooms/offices |
| 8. Since the stalls will be marked/numbered open spaces, how will the market users move around the market as they buy goods without crossing over the stall areas? | The market design has provided for pedestrian movement pathways clearly marked on the design drawing and will as well be clearly demarcated at the completed market building floor |
| 9. How will the clothes stalls be like; open or closed?                                | They will be marked and numbered open spaces which the Kiambu County Government will provide the designs for the preferred and desirable stands/enclosures to be erected for the specific types of goods being sold at a particular zone within the market. |
| 10. Will dried food (cereals) and wet food stuff (fruits and vegetables) be sold together since the wet ones may spill on the dry ones and make them rot/spoil faster? | The market/ stalls layout is zoned such that retailers selling similar/related products will be grouped and allocated stalls near each other to avoid soiling and mixing of and by undesirable materials. |
| 11. How many entrance and exits will the market site have?                            | The market site will have one entrance and one exit with deceleration lanes and acceleration lanes respectively for the motorized traffic. A pedestrian access has been provide strategically right across the main market building entrance to provide easy and direct access to the market by the non-motorized market users. |</p>
<table>
<thead>
<tr>
<th>Issues/Queries Raised</th>
<th>Responses by NaMSIP and Kiambu County Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. How will the traders have ownership of the stalls?</td>
<td>All the stalls will be owned by the Kiambu County Government who will allocate the stalls to all the enumerated 549 PAPs while the rest of general public will be allocated the remaining stalls on application to the Kiambu County Government</td>
</tr>
</tbody>
</table>

Plate 3: A member of the community contributing at the consultation meeting held at the New Market Site

Plate 4: NaMSIP Architect responding to questions raised by the market committee members
6 ANALYSIS OF ALTERNATIVE

6.1 Introduction
Regulation 18(1) of Legal Notice 101 specifies the basic content of an Environmental Impact Assessment Study Report subsequent to which, subsection (i) requires an analysis of alternatives including project site, design and technologies and reasons for preferring the proposed site, design and technologies. This section analyses the project alternatives in terms of site, technology and waste management options.

6.2 Relocation Option
Relocation of the selected market site to a different site is not an option available for the implementation as the proposed market. This is because the selected site is considered the most suitable compared to the current market site as it is near other facilities that support the market activities such as the bus terminus and the proposed parking lot/ car park all of which are neighboring the site of the proposed market. The initial proposal was to construct the market at the site of the current market but this was reversed due to the consideration of the current site as being a better and bigger site.

6.3 Zero or No Project Alternative
The No Project option in respect to the proposed project implies discontinuation of the project proposal hence the status quo is maintained. The result is the site being retained in its existing form. This option is the most suitable alternative from an extreme environmental perspective as it ensures non-interference with the existing conditions. This option will however have the greatest implications on the socioeconomic environment of the area and surrounding communities. This will mean the market will not be developed, and the land will remain underutilized for the specific purpose it is supposed to serve. The No Project Option is the least preferred from the socio-economic and partly environmental perspective due to the following factors:
- The economic status of the direct and indirect users of the market will remain unchanged,
- The proposed improved market site will stay underutilized
- No employment opportunities will be created for local citizens who will work in the project area and after the development of the market,
- Increased urban poverty and crime in Kenya will continue to rise,
- Development of infrastructural facilities (roads and associated infrastructure) will not be undertaken.

From the analysis above, it becomes apparent that the No Project alternative is not attractive to the local people, Kenyans, and the Government of Kenya.

6.4 Analysis of Alternative Construction Materials and Technology
The proposed project will be constructed using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. The market construction works will be made using locally sourced materials that meet the Kenya Bureau of Standards requirements.

The consultant presented three options for QW construction materials, which are:
• Option 1. Traditional material. This is primarily represented by concrete structures, and concrete or clay bricks  
• Option 2. Steel frame and precast concrete/granite panels  
• Option 3. Steel frame and thermo-acoustic aluminum panels

The construction materials selected for the modules by the Client is Option 2 as outlined below:
• Concrete foundation  
• Metallic structures for columns, beams and roof  
• Thermo-acoustic panel for the roof  
• Precast concrete panels  
• Security windows  
• Metallic doors and louvers  
• Granite tiles in the floor and/or concrete finishing non-skid with hardener in the floor  
  These materials were selected for these advantages:  
• Use of recycled materials  
• Reduction in noise levels at construction sites  
• Reduction in the amount of construction waste  
• Reduction in transport cost  
• Reduction in site disturbance  
• Savings in construction time and cost

6.5 Solid Waste Management Alternatives

A lot of solid wastes will be generated from the proposed project, which could be detrimental to the environment. An integrated solid waste management system has been recommended to mitigate any impacts of solid waste generated from the project during construction and operation of the proposed project. First, the proponent will give priority to reduction at source of the materials. This option will demand a solid waste management awareness programme in the management and the staff. Recycling and reuse options of the waste will be the second alternative in priority. This will call for a source separation programme to be put in place. The third priority in the hierarchy of options is combustion of the waste that is not recyclable.

Finally, the proponent will need to establish an agreement with Kiambu County Government to ensure regular waste removal and disposal in an environmentally friendly manner. In this regard, a NEMA registered solid waste handler would have to be engaged. This is the most practical and feasible option for solid waste management considering the described options.
7 ENVIRONMENTAL AND SOCIAL IMPACTS ASSESSMENT AND MITIGATION MEASURES

7.1 Introduction
This chapter outlines the potential negative and positive impacts that will be associated with the project. The impacts will be related to activities to be carried out during construction of the project and the operation stage of the project. The operational phase impacts of the project will be associated with the activities carried out within the premises. In addition, closure and decommissioning phase impacts of the project are also highlighted. The impacts of the project during each of its life cycle stages (construction, operation and decommissioning) can be categorized into: impacts on the biophysical environment; health and safety impacts and socio-economic impacts.

7.2 Approach
The process involved in assessing the potential impacts of the project used the following steps:
Prediction: What will happen to the environment as a consequence of the project?
Evaluation- will it have beneficial or adverse effects? How big is the change expected to be? How important will it be to the affected receptors?
Mitigation- if the impact is of concern, can anything be done to avoid, minimize, or offset the impact? Or to enhance potential benefits?
Assessment of Residual impact-After mitigation, is the impact still of concern?

7.3 Anticipated Positive Project Impacts

7.3.1 Employment creation
This project is anticipated to create employment opportunities for many people within Kiambu County. Direct Job creation will begin from the construction phase of the project whereby the locals will be employed to undertake both informal and formal jobs at the construction site. The socio-economic survey carried out for this project indicated that majority of the traders are in their youthful age. This shows that the market will attract more youth to venture into trade business and hence reduce the number of the unemployed population in the society.

7.3.2 Source of revenue to the government
The County government can source for revenue from the traders through collection of levies. This contribution enables the County government to maintain the market and carry out other developments within the County.

7.3.3 Socialization
Socialization and interactions realized among traders within the market encourages sharing and dissemination of important and helpful information among people of the same social groups and interests.
7.3.4 Permanent working location
Having the modern market will give the traders an opportunity to have permanent and organized working locations. This encourages stability in business undertakings hence more income generation.

7.3.5 Improved public health
Construction of the modern market will improve the state of public health for the market and its vicinity as the project will entail provision of good drainage system, adequate water provision, sanitary facilities, and organized waste management systems.

7.3.6 Reduced Congestion
The upcoming development will enable reduction of congestion as currently witnessed in the market. All the traders will be accommodated in the new market building.

7.3.7 Economic growth
Construction of the market is likely to spur economic growth in the area such as development of other business activities including; banking, transportation and residential among others.

7.3.8 Solid Waste Management
Solid waste management will be a shared responsibility among all the stakeholders who are the County government, generators, shoppers, contracted and licensed waste handlers, owners and occupiers of premises. Traders will be provided with separate collection bins for biodegradable and non-biodegradable waste at the new facility. Waste from such bins shall be collected on daily basis by the County workers for proper disposal.

Traders will also be provided with bins near their merchandising points to ensure waste generated is collected at garbage stations or transfer points and later disposed at the main collection points for further disposal by the County government.

7.3.9 Shield against adverse weather conditions
The construction of a modern market will ensure traders carry out their businesses without worry of extreme weather such as vulnerability to rainfall and heat from the sun since the market will have a roof and wall around it.

7.4 Anticipated Negative Project Impacts and Mitigation Measure
7.4.1 Biodiversity and vegetation loss
The project will have a direct impact to the existing biodiversity in the market centre since the construction phase will involve removal of the vegetation cover and trees planted in the market. However, this development will have minimal impact to the biodiversity because the area is a business area as categorised by Kiambu County Government.

Mitigation
With the rating of low medium impact, the Proponent is advised to compensate the loss of biodiversity by planting additional trees, flowers and other aesthetic plants once the project is complete.
The Contractor will persevere as many trees as possible some of which are currently not on the way of the project’s civil works area but at the areas earmarked for landscaping and along the boundary of the site.

7.4.2 **Soils and Geology disturbance**
Since the construction phase will involve use of heavy plant machinery and excavations, soil disturbance is bound to happen. Therefore, the Contractor should put in place mitigation measures to aim at minimum soil disturbance and soil erosion. These measures will include clearing the project site of excavated materials or protect excavated sections from storm water, avoid excavation through flood plains or into stream banks, creating proper channels for waste water and solid waste disposal, develop emergency measures and procedures for protection of soils.

**Mitigation**
The impact rating is low, however the Proponent through the Contractor should ensure that Excavations are undertaken safely in that shoring and good slope banking is put in place and by adhering to all safety rules.

7.4.3 **Depletion of Water Resources during Construction phase**
Construction works demand high level of water utilization. This high water demand will in turn impact to the water supply in the County. The impact will be reduced water supply to other adjacent areas that shares the same water infrastructure.

**Mitigation**
The Impact rating is low. The Contractor is advised to consult with Kiambu Water and Sewerage Company to get permit for their share allocation of water. This consultation and collaboration with water supplier will be encouraged so that water demand conflict will not arise. The Contractor is also advised to install water storage tanks and other water saving technology at the site to save on water usage.

7.4.4 **Soils and groundwater Contamination**
The Proponent and Contractor will prepare a hazardous substance control systems and emergency response plans that will include preparations for quick and safe cleanup of accidental spills. It will prescribe hazardous-materials handling procedures to reduce the potential for a spill during construction, and will include an emergency response programme to ensure quick and safe cleanup of accidental spills.

**Mitigation**
The following mitigation measures should be undertaken:
- Pave and shield the waste collection area from direct sunlight and rains;
- Place all oily and contaminated wastes on paved surfaces;
- Dispose offsite oily waste appropriately;
- Obtain spill kits for use in case of accidental spillages on site;
- Obtain portable secondary spill containments for use on site

7.4.5 **Air pollution (Dust generation)**
The construction activities often result in increased dust and gas emission. These pollutants emanate from movement of construction machinery and trucks as well as dust generated during construction.
Mitigation

- Practice prevention measures such as dampening dust by use of water (sprinkling water on surfaces that produce dust or covering them);
- Provide PPEs such as nose masks to the workers on the construction site;
- Control over areas generating dust particles. Such areas should be regularly cleaned;
- Workers should be encouraged to go for regular health check-ups to ascertain their health standards;
- Regular air quality tests to enhance air quality monitoring;
- Wet sweeping of the surfaces that produces a lot of dust particles;
- Establishment of optimum green spaces in the compound particularly at the perimeter fence as the vegetation helps in extracting pollutants from the air.

7.4.6 Air pollution (Generation of exhaust emission)

The following measures are recommended to mitigate impact of air pollution associated with exhaust emissions;

- Maintaining equipment appropriately;
- Keeping vehicle idling time to the very minimum.
- Use of alternative fueled construction equipment where feasible.

7.4.7 Noise and excessive Vibration generation

Noise refers to unwanted sound that can affect job performance, safety and health. Physical impacts may include; loss of hearing, pain, nausea and interference with communications when the exposure is severe. Psychological effects could be disruption of concentration and cause of annoyance. Construction activities tend to cause noise which affects the immediate environment and even disrupt other nearby operations. The noise will affect small animals and birds which are sensitive to noise.

Mitigation

- Construction activities should be carried only during the day when most the neighbours are active or carrying on with their normal day chores. The appropriate time could be between 0800hrs to 1800hrs.
- Construction vehicle's drivers and machine operators should be sensitized to adopt a habit of switching off engines of their vehicles or machinery when they are not in use.
- Regular maintenance of the construction machinery is highly encouraged to reduce the noise resulting from friction.
- The Proponent should provide a well-marked billboard at the construction site gates. This is meant to notify the public of the construction activity and timings.
- Unnecessary hooting should be avoided at all costs by the construction vehicles and even during project occupation.
• Personal protective equipment and materials such as earmuffs and earplugs should be provided to the workers when operating noisy machinery and in a noisy environment. This measure ensures physical barrier that reduces inner noise levels and guard against hearing loss.

7.4.8 Construction solid/liquid wastes generation
Construction operations will generate solid wastes within the site. The wastes may include; rods of metal, pieces of iron sheets, broken glasses, pieces of wood, empty containers and broken stones.

Mitigation
• The Proponent should liaise with private waste handlers and the Kiambu County Government to have a sound waste handling and disposal.
• The wastes should be properly segregated and separated to facilitate recycling of some useful waste materials. For example; broken stones can be used for backfills. Integrated solid waste management system may also be adopted through hierarchy of options like source reduction, recycling, composting and reuse.
• The Proponent should ensure that measures are put in place to ensure that construction materials required for the project are carefully budgeted to ensure the amount of construction materials left are kept to the minimal level possible.
• All the solid wastes should be collected by NEMA licensed waste collectors and dumped in NEMA recognized dumpsite
• E portable Human waste will be discharged into toilets and disposed appropriately by the mobile toilet handler.

7.4.9 Health and safety Impacts
Construction activities such as excavation and concreting can pose occupational hazards and risks to construction workers and the general public living and working in the neighbourhood of the construction site. They can cause respiratory infections and injuries to limbs and body due to exposure to, dust and combustion gases, operation of equipment and handling of construction materials. Accidents may occur during construction as a result of workers falling from heights or being hit by falling construction materials or tools. Dust and combustion gases can irritate the eyes causing trachoma and respiratory problems. While the operation of construction equipment and handling of materials can result in injuries to the workers especially in the absence of appropriate protective devices. The health of the site workers may be further compromised by the food which is often supplied by mobile individuals with no licenses to handle food and some of the foodstuffs may be prepared in unhygienic manner.

Mitigation
• Depending on the occupational safety and health hazards encountered while performing assigned tasks, workers may require using properly fitting personal protective equipment (PPE) to avoid injuries and illness. They (workers) must be provided with full protective gear. These include working/safety boots, overalls, helmets, goggles, earmuffs, masks, gloves etc.
• Adapt effective emergency response plans. A good start of learning how to respond to an emergency is through certification in Basic First Aid. Regular drills and emergency situations should be followed to impart the anticipated insight and awareness to the workers.
• A first aid kit should be provided within the site. This should be fully equipped always and should be managed by qualified persons.
• Safety awareness may be gained through regular safety training or personal interest in safety and health.
• Local individuals preparing food for the workers at the site must be controlled to ensure that food is hygienically prepared. Allow only authorized food vendors to supply food for the workers in the site.
• 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.
• Workers should always be sensitized on social issues such as drugs, alcohol, diseases etc.

7.4.10 Disruption of water supply
Disruption of water supply can occur during construction phase. During excavation activities, the underground water pipes supplying water to other businesses and residents may be accidentally broken.

Mitigation
Contractor should promptly contact Kiambu Water and Sewerage Company immediately any water pipe is damaged during construction to prevent prolonged water disruptions to neighboring businesses and residents.

7.4.11 Increased surface runoffs
Increase in the runoffs emanating from expansive rooftops and paved grounds shall be mitigated. These runoffs often lead to flooding and overflow of the drainage system.

Mitigation
• Construct gutters along the roofs for rainwater harvesting and provide tanks for water storage;
• Construct efficient drainage systems within the market.

7.4.12 Landscape and Visual destruction
At the initial stages of construction, excavators and landscape distortion can be an eye sore to the passerby.

Mitigation
• The Contractor shall put up a perimeter fence using non-transparent material to prevent people from accessing the site.
• The Proponent shall beautify the building and the site after its completion by painting it and planting aesthetic plant round it.
7.4.13 Hazardous materials use/storage
There may be the need to use hazardous materials for construction. These materials can lead to minor or major destructions to life, soils and water. They may include paint; reacting chemicals among others.

Mitigation
- Ensure that all chemicals used in construction are appropriately labeled or marked and that material safety data sheets containing essential information regarding their identity, suppliers’ classification of hazards, safety precautions and emergency procedures are provided and are made available to employees and their representatives;
- Keep a record of all hazardous chemicals used at the premises, cross-referenced to the appropriate chemical safety data sheets;
- There should be no eating or drinking in areas where chemicals are stored or used.

7.4.14 Food poisoning
Construction workers may contract food poisoning by buying food from food vendors. This may lead to reduces work personnel and may lead to delay of works and increased expenses for training new workers.

Mitigation
- Allow only authorized food vendors to supply food for the workers in the site;
- Sensitize workers on the possibility of food poisoning from the vendors.

7.4.15 Poor sanitation
Poor sanitation may be realized during construction when construction workers do not have access to toilets and water for washing hands thereafter.

Mitigation
- Provide Suitable, efficient, clean, well-lit and adequate gender specific sanitary conveniences for construction workers;
- Provide water and soap for washing hands after visiting the toilets.

7.4.16 Traffic snarl up and accidents
Activities related to construction works and operation will undoubtedly induce uncharacteristic levels of additional vehicular traffic at the site and roads leading to the market construction site. Related issues of vehicle congestion and reckless driving by truck drivers delivering construction materials and supplies to the site and market will be sources of potential accidents to road users and pedestrians. Disturbance of normal living conditions to the local population and business people due to the increased traffic in the area will also be expected especially during the construction period.

Mitigation measures during construction
The Proponent shall implement the following measures to minimise inconvenience and danger to proximate residents through increased road traffic and dust, and reduced access to worksites:
• Determine the main access and egress points for the site throughout the project duration, along with scheduled changes in these access and egress points, if applicable. These points need to be shown on the site layout (i.e., site setup) drawings.
• Proper traffic control signage should be installed. This includes road signage to be erected near all the entrances and junctions to control construction traffic.
• Delivery of materials should be planned at night when there is minimal traffic.
• Any excavated materials should be hauled at night or timed during traffic off-peak periods.
• Prepare a plan for communication with residents and businesses surrounding the construction site. Effective communication with local stakeholders is essential to minimise the inconvenience to the surrounding community.
• The Contractor shall prepare a traffic management plan to be approved by the RE.
• The Contractor’s vehicles and equipment must be in proper working condition and have registration plates, and numbering.
• The Contractor shall ensure proper driving discipline by its employees, and sanctions those in breach.
• Excavated sites, embankments, and dangerous locations are protected with proper safety barriers, tape and warning signs.
• Maintain a log detailing every violation and accident on site or associated with the project work activities, including the nature and circumstances, location, date, time, precise vehicles and persons involved, and follow-up actions with the police, insurance, families, community leaders, etc.
• Implement grievance resolution mechanism.

Mitigation measures during Operation
• Make the necessary arrangements for coordinating and controlling delivery vehicles.
• Make arrangements with the traffic police and County personnel to manage traffic in the area to mitigate against traffic accidents and traffic jam built up at the entry and exit points of the market.
• Delivery of supplies should be limited to off-peak hours when the market is not operational to minimize traffic jams in the area.

7.4.17 Housekeeping

During construction, organization of the construction area is important to ensure prevention of accidents and incidences within the site. Clear gangways and pathways enable faster movements even during normal working time and during response to emergencies.

Mitigation
Ensure that there is a well-organized housekeeping plan in place at the construction site.
7.4.18 Crime Management, Child protection and Gender equity

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

Crimes might occur in the project area during the construction and operation such as stealing of construction materials or individual property, fighting, petty crimes such as pick pocketing, drug abuse and alcoholism among others.

There is also potential that gender inequality might occur during project construction through unequal distribution of work, discrimination against women, and unequal pay for women, lack of provision of separate facilities for women, among others. Sexual harassment against women might also happen because of mixing of women and men at the construction site.

Mitigation Measures (design)

- Proper design incorporating lighting to enhance security at the market
- Provision for fencing along the property boundary should be part of the design to control entry and exit points

Mitigation measures during construction

- Ensure no children are employed on site in accordance with national labor laws
- Ensure that any child sexual relations offenses among Contractors’ workers are promptly reported to the police
- The client and the Contractor shall adopt a ‘Child Protection Code of Conduct’ which sets stringent standards for personal behavior to avoid child exploitation and abuse.
- The Contractor shall require his employees, sub-Contractors, sub-Consultants, and any personnel thereof engaged in construction works to individually sign and comply with this Code of Conduct.
- Removing any employee who persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform to any provisions of the contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment.
- Taking all reasonable precautions to prevent unlawful, riotous or disorderly conduct by or amongst the Contractor’s personnel, and to preserve peace and protection of persons and property on and near the site.
- Prohibiting alcohol, drugs, arms, and ammunition on the worksite among personnel.
- The Contractor and Supervision Consultant should register in a log all events of a criminal nature that occur at the worksite or are associated with the civil works activities.
The Contractor and Supervision Consultant should report all activities of a criminal nature on the worksite or by the Contractor's employees (whether on or off the worksite) to the police and undertake the necessary follow-up. Crime reports should include nature of the offense, location, date, time, and all other pertinent details.

Sensitize the construction workers, locals, and security to be on the lookout on suspicious activities near the site.

The Contractor's responsibility for workers' conduct within the worksite should include but not limited to:

- Contractor to prepare and enforce a “No Sexual Harassment Policy” in accordance with national law where applicable
- Contractor and implementing agency to prepare and implement a Gender Action plan to include at minimum, in conformance with local laws and customs, equal opportunity employment, gender sensitization
- Provision of gender disaggregated bathing, changing, sanitation facilities
- Grievance redress mechanisms including non-retaliation should be set up for the workers
- Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and shoppers during operation
- The market management should hire a security firm to manage security within the market

7.4.19 Complaints and Grievances/Social Conflict

During construction, the neighbouring community and traders may have complaints and grievances regarding the ongoing activities. There is also potential for social unrest among the local population if they are not considered for employment. This can bring negative publicity during construction including stoppage of work and can delay the projects progress.

The development of the market as well as allocation of space for doing business has been discussed through public consultation, and there are many expectations on who will occupy the stalls when the development is completed. Against the background of this knowledge and expectation, there is a risk of dissatisfaction if procedures of allocation of stalls and spaces are not adequately applied, or if they are seen to be applied in an inequitable manner.

Mitigation

- Provide grievance redress mechanism for the public and traders;
- Advice the public and traders on where to report grievances;
- Consider prioritizing the local manpower for both skilled and unskilled labour.
- Adhere to the market policy in allocation of stalls and spaces to traders;
- Implement proposed grievance resolution mechanism

7.4.20 Increased HIV/AIDS prevalence and other diseases

Construction sites in developing countries are potentially primary centres of HIV-AIDS because construction sectors provide entry-level local jobs, which may be crucial to the survival of youth-headed households and extended families.
Mitigation

- HIV-AIDS awareness methods used in campaign to increase understanding about the disease;
- Raising awareness about HIV/AIDS;
- Promote the benefits of abstinence / avoidance;
- Distribute condoms to construction workers;
- Encourage workers to go for HIV voluntary counseling, testing and referral services;

7.5 Operation Phase Impacts

7.5.1 Poor Solid and liquid waste

The market building after completion and upon occupation will generate solid and liquid wastes. The efficient management of the solid waste generated by the project during the operation phase rests on the hands of the Kiambu County Government.

Mitigation

- Wastes should be disposed off in a regular and an appropriate manner. It is recommended that the Proponent should put measures in place to ensure that the wastes are disposed of efficiently through reuse, recycling and proper disposal procedures
- The Proponent should provide waste handling facilities such as waste bins for holding wastes temporarily before disposal by appropriate waste handlers.
- The Proponent should ensure that the market is connected to the septic tank to ensure proper discharge of liquid waste.

7.5.2 Increased Energy consumption and demand

The building will be connected to the electric line which is already available in the area. However, increase in energy consumption will be experienced in the existing electric supply infrastructure.

Mitigation

- The Proponent shall install energy-efficient system within the building for instance the use of energy saving bulbs. This will promote energy conservation during the operational phase of the project.
- The occupants of the building will be sensitized to ensure energy efficiency in their commercial operation.
- The above measures will be complemented by monitoring energy use during the operation of the market and set targets for efficient energy use.
- Maintenance of regular checks of the electrical systems and appliances.
- Switching off security and internal lights during the day when natural lighting can be used.

7.5.3 Occupational Health and Safety Concerns

The market premise should be maintained at its optimum useful state and high standards of hygiene maintained to avoid any disease outbreak. All electrical installations should be properly fixed and maintained to avoid any risk of fire outbreak.
Mitigation

- Local individuals preparing food for at the market must be controlled to ensure that food is hygienically prepared and served.
- Adapt effective emergency response plans. A good start of learning how to respond to an emergency is through certification in Basic First Aid. Regular drills and emergency situations should follow to impart the anticipated insight and awareness to the workers.
- A first aid kit should be provided within the market. This should be fully equipped always and should be managed by qualified persons.
- Safety awareness may be gained through regular safety training or personal interest in safety and health.
- Traders should be sensitized on social issues such as drugs, alcohol, diseases etc.

7.5.4 Fire Outbreak

The anticipated occupants/traders are likely to use LPG Gas cylinder, electricity and charcoal as their source of cooking fuel. The occupants/traders are also likely to store flammable materials since the premise is a trading hub dealing with different good. Therefore, the risk of fire outbreak is likely and should be prevented as much as possible.

Mitigation

- Installation of firefighting equipment, which must be strategically placed
- All electrical systems must undergo regular checks
- If appliances or equipment that can cause fire like petroleum and liquid gas may be used in the shops/supermarket/restaurant/hardware, then the occupants/traders must be sensitized on the fire risks they are exposed to
- Highly inflammable paints should be avoided in the kitchen walls and other areas where cooking activities are anticipated.

7.5.5 Blockage of drainage systems

The plumbing system and drainage might be blocked if proper use and maintenance is not exercised by the occupants/traders

Mitigation

- The Proponent should ensure that unwanted materials such as sticks and cloths are not allowed into the drainages. Special bins for handling sanitary materials or clothes should be provided in the toilets.
- Regular maintenance of the drainage should be done to avoid blockages.

7.5.6 Water Pollution

During the operation phase, water pollution may occur when market users litter the drainages, channeling contaminated water to the drainage systems and disposal of liquid waste inappropriately.

Mitigation

- Avoid channeling contaminated water onto the public drainage systems.
- Channel unrecyclable water into the public sewer line. There is no drainage system within the market even though a sewer main line belonging to NCC exist a short distance from the market. There is need for a drainage system within the market to be connected to the main sewer line
7.5.7 Depletion of Water Resources during Operation phase
Operation of the market will lead to a higher demand of water by the market users. This demand may lead to depletion of the water from the water service provider and at times water rationing will be required.

Mitigation
- Install water tanks and other water saving technology at the site to save on water usage;
- Train market users on water saving techniques;
- Carry out rainwater harvesting to supplement tapped water.

7.5.8 Air pollution (Dust; Source emissions; odour/foul smells)
Air pollution may occur due to operation activities at the market. These include piling of solid waste for a long time, rotting food stuffs especially vegetables and meats, use of sanitary facilities without proper cleaning, burning waste on site, and source emissions from the generators as well as occurrence of uncovered manholes at the market.

Mitigation
- Clean and dust away all market areas regularly;
- Solid waste should be regularly removed from the market collection points;
- Carry out proper maintenance of generators used on site;
- Manholes should be covered using airtight covers in the sewerage lines to reduce any air pollution inform of foul smell;
- There is no drainage system within the market even though a sewer main line belonging to NCC exist a short distance from the market. There is need for a drainage system within the market to be connected to the main sewer line;
- Frequently (Hourly) clean the sanitary facilities by use of detergents;
- Unnecessary combustion of materials within the compound should be avoided.
- All rotting vegetables and meat must be removed from the market and disposed of appropriately.

7.5.9 Accidents and incidence occurrence
Accidents and incidences may occur during operations of the project. Occurrence of such incidences may include falling, being knocked down by vehicles, damage to goods and property.

Mitigation
- Ensure that provisions for reporting incidents, accidents and dangerous occurrences during operations using prescribed forms obtainable from the local Occupational Health and Safety Office (OHSO) are in place;
- Provisions must be put in place for the formation of a Health and Safety Committee, in which the County Government and the traders are represented;
- Train employees on how to respond to incident and accident occurrences.

7.5.10 HIV/AIDS prevalence
HIV-AIDS prevalence is likely to increase among market traders when many youths get self-employed and earn income. Without proper campaign on prevention, the
spread of HIV can be rampant within traders.

Mitigation

• Awareness methods used in campaign to increase understanding about the disease;
• Raising awareness about HIV/AIDS;
• Promote the benefits of abstinence / avoidance;
• Availing condoms to traders;
• Encourage traders to go for HIV voluntary counselling, testing and referral services;
• Monitoring of outcomes, in collaboration with National HIV/AIDS Authorities

7.6 Decommissioning Phase Impacts

7.6.1 Solid wastes (Scraps and other Debris Onsite)

Demolition works generates a lot of solid wastes. These wastes range from; wood, tiles, waste metals and stones amongst others.

Mitigation

• The Proponent should liaise with private waste handlers and the Kiambu County Government to have a sound waste handling and disposal.
• The wastes should be properly segregated and separated to facilitate recycling of some useful waste materials. For example; broken stones can be used for backfills. Integrated solid waste management system may also be adopted through hierarchy of options like source reduction, recycling, composting and re-use.
• All the solid wastes should be collected by NEMA licensed waste handlers and dumped in NEMA recognized dumpsite.

7.6.2 Air, Water and Soil Pollution

Demolitions also generate a lot of waste that can contaminate water, air or soil. These wastes may include liquids, dust or waste water.

Mitigation

Solid waste and liquid waste resulting from demolition or dismantling works will be managed as described in the construction phase.

7.6.3 Occupational Health and Safety Concerns

The decommissioning phase may cause accidents; inhalation of dust; generation of noise and occupational incidences like fall.

Mitigation

• Depending on the occupational safety and health hazards encountered while performing assigned tasks, workers will use properly fitting personal protective equipment (PPE) to avoid injuries and illness. Workers must be provided with full protective gear. These include working/safety boots, overalls, helmets, goggles, earmuffs, masks, gloves etc.
• A first aid kit should be provided within the site. This should be fully equipped at all times and should be managed by qualified persons.
• Local individuals preparing food for the workers at the site must be controlled to ensure that food is hygienically prepared.
• 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.
• Workers should always be sensitized on social issues such as drugs, alcohol, diseases etc.
• Grievance redress mechanisms including non-retaliation should be set up for the workers.

7.7 Cumulative Impacts
Cumulative impacts are those that result from the successive, incremental, and/or combined effects of an action, project, or activity. For practical reasons, the identification and management of cumulative impacts are limited to those effects generally recognized as important based on scientific concerns and/or concerns of affected communities. Cumulative impacts can only occur where, following the implementation of mitigation, significant residual impacts are predicted by the ESIA process.

The cumulative impacts considered in this project include the following:
• Air quality,
• Water quality,
• Waste management
• Noise impacts
• Traffic
• Social economics

7.7.1 Assessment of the impacts

The ESIA assessment looked at the likelihood of an impact having a residual impact that can build up or interact with other impacts from other market projects after the implementation of the mitigation measures proposed in this report. The impact was then rated likely or unlikely. The distances between the markets were also taken into consideration. The distance of other proposed markets to Kikuyu market is set out in table 7-1 below.

Table 7-1: The distance of Kikuyu Market in reference to other 14 markets on a straight line

<table>
<thead>
<tr>
<th>Market</th>
<th>Approximate distance from/to Kikuyu Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Muthurwa</td>
<td>19.34 Km</td>
</tr>
<tr>
<td>2. Jogoo Road</td>
<td>22.32 Km</td>
</tr>
<tr>
<td>3. Githurai</td>
<td>28.14 Km</td>
</tr>
<tr>
<td>4. Kiambu Market</td>
<td>20.02 Km</td>
</tr>
<tr>
<td>5. Kihara</td>
<td>11.72 Km</td>
</tr>
<tr>
<td>6. Mwariro</td>
<td>19.17 Km</td>
</tr>
<tr>
<td>7. Karandini</td>
<td>11.89Km</td>
</tr>
<tr>
<td>8. Ngong</td>
<td>12.58 Km</td>
</tr>
<tr>
<td>9. Ole Kasasi</td>
<td>20.91 Km</td>
</tr>
</tbody>
</table>

1 IFC), 2013, Good Practice Handbook Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets
The following tables look at the significance of an impact to have residual cumulative impact. The impacts are rated as negligible, minor or moderate.

**Residual cumulative impact of air quality**
No significant local air quality effects are predicted following the good construction practice, which incorporates the implementation of the identified mitigation measures in the ESMP.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Significance (Pre-mitigation)</th>
<th>Residual Significance (Post-mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>negligible</td>
<td>negligible</td>
</tr>
<tr>
<td>Operation</td>
<td>negligible</td>
<td>negligible</td>
</tr>
</tbody>
</table>

**Residual cumulative impact of water quality**
No significant impacts on the local water environment are predicted with the implementation of proposed mitigation measures. Therefore, in reference to the fifteen markets, interaction of the impacts to produce cumulative impact is negligible.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Significance (Pre-mitigation)</th>
<th>Residual Significance (Post-mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>minor</td>
<td>negligible</td>
</tr>
<tr>
<td>Operation</td>
<td>minor</td>
<td>negligible</td>
</tr>
</tbody>
</table>

**Residual cumulative impact of Waste management**
In waste management, cumulative impact to the waste services could be impacted if mitigation measures are not implemented and the impact significance could be minor. Therefore, following the implementation of mitigation measures cumulative impact are localised and impossible to spread and combine to produce any significant cumulative impact.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Significance (Pre-mitigation)</th>
<th>Residual Significance (Post-mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>minor</td>
<td>negligible</td>
</tr>
<tr>
<td>Operation</td>
<td>negligible</td>
<td>negligible</td>
</tr>
</tbody>
</table>

**Residual cumulative impact of Noise quality**
For the proposed market project, the noise generation is predicted to be localized. In addition to distance between the markets it is impossible for the noise level to combine and produce significant cumulative impact.
### Phase Significance (Pre-mitigation) | Residual Significance (Post-mitigation)
--- | ---
Construction | negligible | negligible
Operation | negligible | negligible

**Residual cumulative impact of traffic congestion/interruption**

Due to the geographical location of the markets and the fact that all the markets are not going constructed at the same time. It’s unlikely that any significant cumulative traffic impacts arising from the market improvement projects. In addition, the haulage routes and access roads for the markets are different and widespread; therefore, no significant impact will arise following the implementation of the localized mitigation measures.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Significance (Pre-mitigation)</th>
<th>Residual Significance (Post-mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>minor</td>
<td>negligible</td>
</tr>
<tr>
<td>Operation</td>
<td>negligible</td>
<td>negligible</td>
</tr>
</tbody>
</table>

#### 7.7.1.1 Cumulative impact on socio economic

Cumulative impacts on socio economic as a result of all the fifteen markets being built at the same time is likely to have positive impacts to the socio economic of the metropolitan region. Some of the benefits include the following:

- Increased number of people employed in the building sector as casual/permanent during the construction and as traders or business assistants during operation phase
- Improved markets will reduce produce loses because of the improved storage conditions and working condition and increase profitability of the businesses in the markets
- The County revenue tax will increase due to the increase of number of traders in the market.
- The quality of life of both the traders and the customers will improve from trading and buying commodities in modern and hygienic conditions

#### 7.7.2 Conclusion

The possibility of the interaction of the anticipated impact is unlikely to produce any cumulative impact due to the distance between the 15 markets and their geographic location. In addition, the markets will not be constructed at the same time, which make the interaction of the impacts unlikely or even produce any cumulative impacts.
8 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP)

8.1 Significance of ESMMP

The purpose of the Environmental/Social Management & Monitoring Plan is to initiate a mechanism for implementing mitigation measures for the potential negative environmental impacts and monitor the efficiency of these mitigation measures based on relevant environmental indicators. The ESMMP assigns responsibilities of actions to various actors and provides a timeframe within which mitigation measures can be implemented, supervised and monitored. Further, it provides a checklist for project monitoring and evaluation. The objectives of the ESMMP are:

- To provide evidence of practical and achievable plans for the management of the proposed project.
- To provide the Proponent and the relevant Lead Agencies with a framework to confirm compliance with relevant laws and regulations.
- To provide community with evidence of the management of the project in an environmentally acceptable manner.

The ESMMP outlined below will address the identified potential negative impacts and mitigation measures on the following project stages:

- Pre-construction and Construction Phases ESMMP
- Operation Phase ESMMP and
- Decommissioning Phase ESMMP.

Once all the operational activities have ceased, it is necessary to highlight the basic mitigation measures that will be required during the decommissioning phase of the project. Thus, the crucial objectives, mitigation measures, allocation of responsibilities, time frames and costs pertaining to prevention, minimization and monitoring of all potential impacts associated with the decommissioning and closure phase of the project.

8.2 Environmental and Social, Management and Monitoring Plan

ESMMP is a detailed summary of the impacts and the proposed mitigation measures. It further specifies who is responsible for implementation of the proposed actions and the cost involved in the action. It describes monitoring schedule and the parameter to be monitored. The following table 8-1 outlines the ESMMP for the market.
Table 8-1: Environmental and Social Management and Monitoring Plan

<table>
<thead>
<tr>
<th>Project Environmental and Social Impact</th>
<th>Proposed Mitigation and Aspects for Monitoring</th>
<th>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</th>
<th>Parameters for Monitoring/Indicators</th>
<th>Timing - Recommended frequency of monitoring</th>
<th>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of vegetation</td>
<td>CONSTRUCTION PHASE</td>
<td>Design Engineer, Project Engineer, Contractor, KCG, Environmental Experts</td>
<td>(c) - construction</td>
<td>Continuous during construction &amp; operation phases</td>
<td>Included in the BoQ under excavations Approximately Ksh 500,000</td>
</tr>
<tr>
<td></td>
<td>• Minimize clearing of unnecessary areas at the construction site • Replant vegetation through landscaping upon completion</td>
<td></td>
<td>(o) - operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPERAION PHASE</td>
<td></td>
<td>(d) - Decommissioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Replenish vegetation at the open areas of the market regularly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil erosion</td>
<td>CONSTRUCTION AND DECOMMISSIONING PHASES</td>
<td>Design Engineer, Project Engineer, Contractor, KCG, Environmental Experts</td>
<td>(c, o &amp; d) Soil erosion levels</td>
<td>During rainy seasons</td>
<td>Included in the BoQ under Drainage Structures Normal maintenance budget of the market during operation</td>
</tr>
<tr>
<td></td>
<td>• Provide erosion channels to natural drains and rivers/streams to minimize erosion • Design to incorporate existing drainage pattern and avoid disturbing the same • Avoid doing earthworks during the rainy season</td>
<td></td>
<td>(c, o &amp; d) Soil deposited in the neighboring area drains</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPERAION PHASE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Regular cleaning and proper maintenance/repair of drainage structures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disruption of Public Utilities</td>
<td>DESIGN and CONSTRUCTION PHASE</td>
<td>Project Engineer, Contractor</td>
<td>(c) Down time of utilities affected</td>
<td>daily</td>
<td>Budget under provisional sums of Utilities in the BoQ Kshs 6,000,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(c) No of utility disruptions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Environmental and Social Impact</td>
<td>Proposed Mitigation and Aspects for Monitoring</td>
<td>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</td>
<td>Parameters for Monitoring/ Indicators</td>
<td>Timing - Recommended frequency of monitoring</td>
<td>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
</tbody>
</table>
| Disruption of Businesses or Livelihood | CONSTRUCTION PHASE | The Proponent Kiambu County Government | (c) Implementation of the RAP  
(c) Monitor grievance or complaint recorded by local leaders/market official/leaders and traders | Before construction starts | RAP Budget which is OUTSIDE the Costs build in the planning and administration costs of the Contractor |
| Air Pollution | CONSTRUCTION AND DECOMMISSIONING PHASES | Project Engineer  
Contractor  
Environmental Experts  
NEMA | (c & d) inspection / observation  
(c & d)Dust levels (particulate matter) - the levels should be within the limits set out in the First Schedule of EMC (Air Quality) Regulations, 2014. At the project site boundary, the 24hour and annual time weighted average should not exceed 70 and 50 µg/m3 respectively.  
(c & d) Exhaust fumes from the vehicles- the emission levels should not exceed the levels prescribed under | daily/ random | Equipment - costs build in the planning and administration costs of the Contractor |
| Environment and Social Impact Assessment of Proposed New Kikuyu Market, Kiambu County | Utilities Providers | • Design to incorporate existing public utilities and avoid disturbing the same  
• Contractor to generate utility management plan  
• Contractor to minimize damage to public utilities | (c) Complaints recorded from neighbouring communities | | |
<table>
<thead>
<tr>
<th>Project Environmental and Social Impact</th>
<th>Proposed Mitigation and Aspects for Monitoring</th>
<th>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</th>
<th>Parameters for Monitoring/Indicators</th>
<th>Timing - Recommended frequency of monitoring</th>
<th>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise pollution</td>
<td>CONSTRUCTION AND DECOMMISSIONING PHASES</td>
<td>Project Engineer Contractor Environmental Experts NEMA</td>
<td>Kenya Standards (KS1515:2000 on vehicular emission) e.g. CO shall not exceed 0.5 per cent volume and hydrocarbons (HC) concentrations shall not exceed 0.12 per cent volume (1200ppm) • (c &amp; d) Maintenance levels of plant and equipment • (c &amp; d) Availability, provision and proper use of appropriate PPE against dust • (c &amp; d) Dust related complaints recorded from constructor workers and neighbouring communities</td>
<td>daily/ random</td>
<td>Costs build in the planning and administration costs of the Contractor</td>
</tr>
</tbody>
</table>

- Regular Sensitization of workforce and residents on potential noise levels
- Controlled operation of construction plant and equipment
- No blasting shall be done on site

Processing, control and monitoring of dust and noise emissions

- Regular monitoring of dust and noise levels at the construction site
- Random checks of dust and noise levels at the construction site

- Project Engineer: Responsible for managing the overall project
- Contractor: Responsible for implementing the project
- Environmental Experts: Responsible for monitoring the environmental impact
- NEMA: Responsible for enforcing environmental regulations
<table>
<thead>
<tr>
<th>Project Environmental and Social Impact</th>
<th>Proposed Mitigation and Aspects for Monitoring</th>
<th>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</th>
<th>Parameters for Monitoring/Indicators</th>
<th>Timing - Recommended frequency of monitoring</th>
<th>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(c) - construction</td>
<td></td>
<td>(c &amp; d) Noise levels- as provided in the Second Schedule of the above regulations the levels should not exceed Leq 60 and 30 dB(A) in diurnal and nocturnal schedules respectively.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(o) - operations</td>
<td></td>
<td>(c &amp; d) Vibration levels do not exceed 0.5 centimeters per second beyond any source property boundary or 30 metres from any moving source.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(d) - Decommissioning</td>
<td></td>
<td>(c &amp; d) Availability, provision and proper use of appropriate PPE against noise</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(c &amp; d) Noise related complaints recorded from constructor workers and neighbouring communities</td>
</tr>
<tr>
<td>Project Environmental and Social Impact</td>
<td>Proposed Mitigation and Aspects for Monitoring</td>
<td>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</td>
<td>Parameters for Monitoring/Indicators</td>
<td>Timing - Recommended frequency of monitoring</td>
<td>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Water Resources Usage</td>
<td><strong>CONSTRUCTION PHASE</strong></td>
<td>Project Engineer and Contractor&lt;br&gt;Kiambu water and Sewerage Company&lt;br&gt;WRMA&lt;br&gt;WRMA</td>
<td>(c) Inspection /method of waste collection&lt;br&gt;(c) Water related complaints from the neighbouring communities or the authorities&lt;br&gt;(c) Amount of water abstracted</td>
<td>monthly</td>
<td>Costs build in the planning and administration costs of the Contractor</td>
</tr>
<tr>
<td></td>
<td>• Develop water abstraction plan to minimize conflict with residents&lt;br&gt;• Manage use of piped water and other water sources mainly used by local people&lt;br&gt;• Abstraction licenses should be obtained from WRMA</td>
<td><strong>OPERATION PHASE</strong>&lt;br&gt;KCG</td>
<td>(o) Inspection&lt;br&gt;(o) Amount of water used&lt;br&gt;(o) Repairs damaged water facilities</td>
<td>monthly</td>
<td>Normal maintenance budget</td>
</tr>
<tr>
<td></td>
<td>• Monitor water wastage and usage during operational stages of the market&lt;br&gt;• Install pressure taps that minimize and time usage&lt;br&gt;• Repair damaged taps and toilets to minimize waste</td>
<td><strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong>&lt;br&gt;Project Engineer&lt;br&gt;Contractor&lt;br&gt;Sub-County Health &amp; Environmental Officer, NEMA, WRMA&lt;br&gt;KCG</td>
<td>(c, o &amp; d) Inspection&lt;br&gt;(c, o &amp; d) Discharge into roadside storm water drain&lt;br&gt;(c, o &amp; d) Complaints from the neighbouring communities or the authorities&lt;br&gt;(c, o &amp; d) Visible solid waste and oil stains in the storm water drainage</td>
<td>daily&lt;br&gt;regularly</td>
<td>Costs build in the planning and administration costs of the Contractor &amp; Maintenance costs of the market</td>
</tr>
<tr>
<td>Project Environmental and Social Impact</td>
<td>Proposed Mitigation and Aspects for Monitoring</td>
<td>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</td>
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<td>(c) - construction (o) - operations (d) - Decommissioning</td>
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<td>(c &amp; d) Inspection and accident reports (c &amp; d) availability of appropriate Safety Gear/Harnesses etc/Records (c &amp; d) Use of Proper Safety Equipment/PPE (c &amp; d) Workers OHS compliance (use and adequacy) (c &amp; d) Number of construction activities related accidents</td>
<td>daily regularly</td>
<td>Costs build in the planning and administration costs of the Contractor</td>
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<tr>
<td>• The design will incorporate oil sumps at the parking areas to isolate oil spills from parked vehicles that might spill to the storm drains</td>
<td></td>
<td>Project Engineer Contractor Sub-County Health, Safety &amp; Environmental Officer,</td>
<td></td>
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<tr>
<td>• Not any form of solid and liquid waste, fuels or oils shall be discharged on land surface, into the storm water drains.</td>
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<td>OPERATING PHASE</td>
<td></td>
<td>• Monitor oil spills and other leakages at the parking lots, and delivery areas • Regular cleaning of oil sumps and storm water drains</td>
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<tr>
<td>CONSTRUCTION AND DECOMMISSIONING PHASES</td>
<td></td>
<td>• Cordon the site with barrier tapes to isolate site (working) area to bar intruders for safety reasons • Implement a fall protection program that includes training in climbing techniques and use of scaffolds and harnesses to avoid fall • Use of helmets and other protective devices will mitigate against injury from various activities; • Provide first aid facilities at the site</td>
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<tr>
<td>Working at Heights</td>
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<td>Traffic safety</td>
<td><strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong> Contractor to prepare a Traffic Management Plan for approval to address the following issues;  • Initiation of a safety program and measures by creating awareness and educational campaigns for workers and local communities  • Installation of appropriate road signage, speed signs, and other warning signs at the site and access roads  • Copies of drivers’ licenses and insurance policies for the Contractor’s drivers and vehicles respectively should be provided to the Supervision Consultant.  • The Contractor’s vehicles and equipment must be in proper working condition and have registration plates, and numbering.  • The Contractor ensures proper driving discipline by its employees, and sanctions those in breach.  • Excavated sites, embankments, and dangerous locations are protected with proper safety barriers, tape and warning signs.</td>
<td>Project Engineer  Contractor  Local Police  KCG</td>
<td>(c &amp; d) - construction  (o) - operations  (d) - Decommissioning</td>
<td>monthly</td>
<td>Costs build in the planning and administration costs of the Contractor  Contract clause No 18</td>
</tr>
<tr>
<td>Project Environmental and Social Impact</td>
<td>Proposed Mitigation and Aspects for Monitoring</td>
<td>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</td>
<td>Parameters for Monitoring/Indicators (c) - construction (o) - operations (d) - Decommissioning</td>
<td>Timing - Recommended frequency of monitoring</td>
<td>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</td>
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| Settlement/Induced settlement changes  | **CONSTRUCTION, OPERATION AND DECOMMISSIONING PHASES**  
- Maintain a log detailing every violation and accident at site or associated with the project work activities, including the nature and circumstances, location, date, time, precise vehicles and persons involved, and follow-up actions with the police, insurance, families, community leaders, etc. (including during operation stages)  
- Ensure the site is fenced off to discourage informal settlement and trading around the construction site and the market  
- Discourage informal business settlement near the market | KCG, Local sub-County Authorities | • (c, o & d) Inspection/observation  
• Number of informal business set up near the project | monthly | No direct costs to ESMMP, costs build in the planning and administration costs of the Contractor |
| Social Issues/employment               | **CONSTRUCTION AND DECOMMISSIONING PHASES**  
- Utilization of local skilled and unskilled workers;  
- Adhere to the local labour laws of 30% women in employment and remuneration of workers above the minimum wage | Contractor  
Project Engineer | • (c & d) observation /reports  
• (c & d) Number/percentage of contractor workers sourced from the local communities  
• (c & d) Number of female employees;  
• (c & d) Employment records of workers in adherence to the law | Monthly | No direct costs to ESMMP, costs build in the planning and administration costs of the Contractor |
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<tr>
<th>Project Environmental and Social Impact</th>
<th>Proposed Mitigation and Aspects for Monitoring</th>
<th>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</th>
<th>Parameters for Monitoring/ Indicators (c) - construction (o) - operations (d) - Decommissioning</th>
<th>Timing - Recommended frequency of monitoring</th>
<th>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</th>
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</table>
| Workers and traders’ health and sanitation | **CONSTRUCTION AND DECOMMISSIONING PHASES**  
- Contractor shall also provide clean drinking water at the construction site for his workers at all times  
- Contractor to provide clean and adequate sanitation facilities for the workers at all times; Separate facilities for men and women to be in place  
**OPERATION PHASE**  
- KCG to provide clean and adequate sanitation facilities for the traders and their customers at all times; Separate facilities for men and women to be in place  
- KCG to ensure that the market including its compound are maintained through frequent cleaning and garbage collection and emptying of the septic tank | Contractor  
Project Engineer  
KCG | • (c & d) Complaints from the neighbouring communities or the authorities  
• (c & d) Provision of drinking water to contractor’s workers  
• (c, o & d) Inspection/ observation/ reports  
• (c, o & d) Number and separation of sanitation facilities  
• (c, o & d) Sanitation facilities cleanliness  
• (c, o & d) Number of disease outbreaks | Daily Monthly reports | No direct costs to ESMMP, costs build in the planning and Administration costs of the Contractor & Normal maintenance costs during operation |
<table>
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<tr>
<th>Project Environmental and Social Impact</th>
<th>Proposed Mitigation and Aspects for Monitoring</th>
<th>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</th>
<th>Parameters for Monitoring/Indicators</th>
<th>Timing - Recommended frequency of monitoring</th>
<th>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</th>
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<tbody>
<tr>
<td>Security and Crime</td>
<td><strong>CONSTRUCTION, OPERATION AND DECOMMISSIONING PHASES</strong>&lt;br&gt;• Proper design incorporating lighting to enhance security at the site and at the market&lt;br&gt;• Sensitize the construction workers, locals, traders and security providers to be on the lookout for any suspicious activities near the site and the market&lt;br&gt;• Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and traders</td>
<td>Contractor&lt;br&gt;Project Engineer&lt;br&gt;Local police&lt;br&gt;KCG</td>
<td>• (c, o &amp; d) Reporting&lt;br&gt;• (c, o &amp; d) Number of crimes reported (target =0)</td>
<td>Monthly</td>
<td>No direct costs to ESMMP, costs build in the planning and administration costs of the Contractor &amp; Normal operational costs during operation</td>
</tr>
<tr>
<td>HIV/AIDS, STDs</td>
<td><strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong>&lt;br&gt;• Initiate a sensitization and awareness campaign on HIV/AIDS and STDs to be done to workers and local community;&lt;br&gt;• Reduce risk of transfer through provision of male and female condoms for all workers&lt;br&gt;• Provide free STI and HIV/AIDS screening, diagnosis, counselling for workers and local people near the site</td>
<td>Contractor, Project Engineer&lt;br&gt;Sub-County Health &amp; Environmental Officer, Local sub-County authorities</td>
<td>• (c &amp; d) Observation / reports&lt;br&gt;• (c &amp; d) No of HIV/AIDS programs conducted by the Contractor&lt;br&gt;• (c &amp; d) No of testing, counselling provided&lt;br&gt;• (c, &amp; d) Prevalence of prostitution, HIV/AIDS and STDs in the area during various project phases</td>
<td>Monthly</td>
<td>HIV/AIDS awareness campaign&lt;br&gt;HIV/AIDS prevention campaign&lt;br&gt;Kshs 2,000,000; provided in the BoQ</td>
</tr>
<tr>
<td>Project Environmental and Social Impact</td>
<td>Proposed Mitigation and Aspects for Monitoring</td>
<td>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</td>
<td>Parameters for Monitoring/ Indicators (c) - construction (o) - operations (d) - Decommissioning</td>
<td>Timing - Recommended frequency of monitoring</td>
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<td><strong>OPERATION PHASE</strong></td>
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<td></td>
<td>(o) Observation / reports (o) Information flow, dissemination and awareness on HIV/AIDS (o) No of posters at the market</td>
<td>Continuous Response to HIV/AIDS issues</td>
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<tr>
<td>Solid Waste</td>
<td></td>
<td></td>
<td>(o) Observation / reports (o) Information flow, dissemination and awareness on HIV/AIDS (o) No of posters at the market</td>
<td>Continuous Response to HIV/AIDS issues</td>
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<tr>
<td><strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong></td>
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<td></td>
<td>(c &amp; d) Inspection (c &amp; d) Availability of solid waste receptacles at site (c &amp; d) Disposal methods of solid waste from the site (c &amp; d) Complaints on health and safety aspects related to construction activities (c &amp; d) Site cleanliness (c &amp; d) Amount of waste/debris on site</td>
<td>daily</td>
<td>Costs build in the planning and administration costs of the Contractor</td>
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<tr>
<td>Contractor</td>
<td>Project Engineer</td>
<td></td>
<td>(c &amp; d) Inspection (c &amp; d) Availability of solid waste receptacles at site (c &amp; d) Disposal methods of solid waste from the site (c &amp; d) Complaints on health and safety aspects related to construction activities (c &amp; d) Site cleanliness (c &amp; d) Amount of waste/debris on site</td>
<td>daily</td>
<td>Costs build in the planning and administration costs of the Contractor</td>
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<td><strong>OPERATION PHASE</strong></td>
<td>KCG</td>
<td></td>
<td>(o) Inspection (o) Availability of solid waste disposal bins at designated areas at the market (o) Accumulation of garbage at the market (o) Complaints by traders (target =0) (o) Number of drainage areas clogged (o) Facilities cleanliness status</td>
<td>daily</td>
<td>KCG budget</td>
</tr>
<tr>
<td>Provision of disposal bins at designated areas at the market</td>
<td>Regular collection and disposal of garbage by the KCG Clean storm water drains to minimize clogging Provision of separate collection bins for biodegradable and non-biodegradable waste at the new facility.</td>
<td>(o) Observation / reports (o) Information flow, dissemination and awareness on HIV/AIDS (o) No of posters at the market</td>
<td>(o) Inspection (o) Availability of solid waste disposal bins at designated areas at the market (o) Accumulation of garbage at the market (o) Complaints by traders (target =0) (o) Number of drainage areas clogged (o) Facilities cleanliness status</td>
<td>daily</td>
<td>KCG budget</td>
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<td>• Traders to be provided with bins near their merchandising points to ensure waste generated is collected at garbage stations or transfer points and later disposed at the main collection points for further disposal by the County authorities. • All the collection bins and collection points/stations shall be properly maintained on regular basis</td>
<td>• Project Engineer • Sub-County Health &amp; Environmental Officer</td>
<td>• (c &amp; d) Inspection • (c &amp; d) No of PPEs provided • (c &amp; d) Workers OHS compliance (use and adequacy) • (c &amp; d) Number of construction activities related accidents</td>
<td>Monthly</td>
<td>Standard conditions of contract for insurance - Clause 18 of contract Bill No 1, Item A Health &amp; Safety for Workers and Equipment – Approx. Kshs 1,000,000</td>
</tr>
<tr>
<td>Occupational Health and Safety</td>
<td>The Contractor to prepare a Health and Safety Plan that will include consideration of the following; <strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong> • Provide adequate and right safety tools, and enforce use of PPEs to all workers • Appoint a fulltime OHS personnel • Ensure provisions of first aid for staff, insurance, and access to ambulance service at all worksites, and arrangement to access local hospital/dispensary with qualified medical staff by workers • The site shall be fenced off and provided with security at the access gates to reduce potential accidents and injuries to the public</td>
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<td>Project Environmental and Social Impact</td>
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<tr>
<td>Child protection</td>
<td><strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong></td>
<td>Contractor</td>
<td>(c &amp; d) Observation/reports/random checks</td>
<td>Regularly</td>
<td>No Direct costs</td>
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<td></td>
<td>• The Contractor to have and enforce ‘Child Protection Code of Conduct’</td>
<td>Project Engineer,</td>
<td>(c &amp; d) Inspection of employees working at the site</td>
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<td></td>
<td>• Ensure no children are employed on site in accordance with national labor laws</td>
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<td>(c &amp; d) Labour Records by the Contractor</td>
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<td>• Ensure that any child sexual relations offenses among Contractors’ workers are promptly reported to the police</td>
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<td>Gender equity and Sexual harassment</td>
<td><strong>CONSTRUCTION, OPERATION AND DECOMMISSIONING PHASES</strong></td>
<td>Contractor, Project Engineer, KCG</td>
<td>(c, o &amp; d) Observation/reports</td>
<td>monthly</td>
<td>No direct costs to EMMP, costs build in the planning and administration costs of the Contractor</td>
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<td>• Contractor to prepare and enforce a No Sexual Harassment Policy in accordance with national law where applicable</td>
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<td>(c, o &amp; d) Number of incidences (target =0)</td>
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<td>• Contractor and KCG to prepare and implement a Gender Action Plan to include at minimum, in conformance with local laws and customs, equal opportunity employment, avoid sexual exploitation of women, give equal opportunities to women in allocation of the new stalls and at market management committees, avoid harassment by male counterparts.</td>
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<td>(c, o &amp; d) Number of women employed</td>
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<td>(c, o &amp; d) Labour Records by the Contractor</td>
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<td>(c, o &amp; d) No. of grievances recorded at the site and during allocation of stalls and market operations</td>
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<td>(c, o &amp; d) Number and separation of sanitation facilities</td>
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<td>Project Environmental and Social Impact</td>
<td>Proposed Mitigation and Aspects for Monitoring</td>
<td>Responsibility for intervention and monitoring during Design, Construction, Operation and Decommissioning</td>
<td>Parameters for Monitoring/Indicators</td>
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<td>Estimated Mitigation &amp; Monitoring costs to be included in the BoQ (Kshs)</td>
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<tr>
<td>• Provision of gender disaggregated bathing, changing, sanitation facilities</td>
<td>• Grievance redress mechanisms</td>
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| Loss of life, injury, or damage to people and private property | **CONSTRUCTION AND DECOMMISSIONING PHASES**  
• Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the RE may reasonably require  
• Insuring against liability for any loss, damage, death or bodily injury which may occur to any physical property or to any person which may arise out of the Contractor’s performance of the contract  
• Insuring against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor’s personnel.  
• The construction site shall be fenced off to prevent access to members of the public. | Contractor  
Project Engineer, | • (c & d) Number of incidences reported (target=0)  
• (c & d) Complaints from contractor workers, the neighbouring communities or the authorities | | No direct costs to EMMP, costs build in the planning and administration costs of the Contractor Schedules, BOQ |
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<tr>
<th>Project Environmental and Social Impact</th>
<th>Proposed Mitigation and Aspects for Monitoring</th>
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<tr>
<td>Chance Finds</td>
<td><strong>CONSTRUCTION AND DECOMMISSIONING PHASES</strong></td>
<td>Contractor, Project Engineer, KCG</td>
<td>• (c &amp; d) Log of chance find;</td>
<td>Constant monitoring during excavation</td>
<td>No cost implication</td>
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<td>The Contractor should have and implement the Chance Finds Procedure set out in Annex 6 in the event that cultural heritages is discovered</td>
<td>• (c &amp; d) 100% implementation of Chance Finds Procedure</td>
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<td>TOTAL APPROXIMATE COSTS OF ESMMP</td>
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<td>Kshs.9,5000,000</td>
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8.3 Grievance redress Mechanisms (GRM)
Proper and strong Grievance mechanisms are very important in ensuring the stakeholders grievances and issues as they relate to the proposed project are addressed in a timely and appropriate manner, to enhance the relationship between the project Proponent, Contractor, traders and the stakeholders. It is therefore recommended that the project Proponent should therefore put in place a GRM for the project to ensure any issues raised by traders and stakeholders related to the project safeguards are addressed during the construction and operational phases of the project.

It is important to emphasize that grievance redress mechanisms are for all aspects and phases of a project, not just environmental and social safeguards. The implementing agency should prepare and disseminate grievance redress guidelines for the project, including a hierarchy of reporting levels for redress, roles, and responsibilities. Public information about grievance redress should be posted in visible locations in project area of influence. Where needed, Grievance Redress Committees (GRCs) should be established, with the necessary authority, training and resources. Entities involved in grievance redress should keep proper records and logs. Project budgets should include resources for the establishment and operation of the Grievance Redress System. The implementing agency should on regular occasions review the GRM and verify that they are working properly. A sample grievance process has been provided in Annex 7 of this report.
9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Environment and Social Assessment Conclusions
The EIA study revealed that the proposed project has got both socioeconomic and environmental benefits and costs. It emerged that the benefits exceed the costs. Also, all the identified environmental impacts can be mitigated to a level of minimum or no significance throughout the project cycle. Further, none of the potential impacts would result to permanent irreversible damage on the ecosystem components.

9.2 Environment and Social Assessment Recommendation

Environmental monitoring is essential to track and sustain the effectiveness of the mitigation measures proposed in this report. An environmental monitoring plan has been prepared as part of the ESMP. The focus areas of monitoring cover air, noise, traffic management, water and energy resources, occupational health and safety, as well as local employment and economic impact of the project during construction and operation phases. The burden of implementing the mitigation measures largely lies with the Project Contractor under supervision by the Proponent. Key observations are that most adverse impacts are short-term and will disappear once civil works ends. The construction contract for the proposed project should bear relevant clauses binding the Contractor to institute environmental mitigation as recommended in this study. The core monitoring strategy for this project will be through site meetings, in which case, it is recommended that the County Environmental Officers be invited to such meetings. Other stakeholders such as the County Labour Officer should also attend such meetings to ascertain that measures towards securing the health and safety of workers have been put in place.

It is the duty of the Proponent to carry out annual environmental audits once it has been commissioned. This will comply with the Environmental Management and Coordination Act, EMCA of 1999 and the Environmental Impact Assessment and Audit Regulations, Legal Notice No. 101 of 2003.

The tentative budget allocated for the proposed project is Ksh. 295,165,281 and an ESMP cost of Ksh. 9,500,000. It is the responsibility of the project Proponent to allocate this budget to facilitate diligent implementation of the mitigation measures and minimize potential negative impacts at construction and operational phases of the project.

The following are recommended for effective implementation of the mitigation measures for the project:

All mitigation measures need to be specified in tender and contract documents, and must be included in the Engineering Drawings, Specifications and Bills of Quantities.

Diligence on the part of the Contractor and proper supervision by the Project Engineer during construction and the initial operation phase is crucial for mitigating impacts.

Periodic environmental and social monitoring is required by the project Proponent to ensure that mitigation measures have been implemented to prevent or avert any negative impacts of the project.

The Contractor will be required to prepare a Construction Environment Management Plan (CEMP) which shall be approved by the Proponent before beginning of works;
The Proponent should set up proper and applicable Grievance Redress Mechanism (GRM) for the project to deal with grievances and issues on the project.
10 REFERENCE

1 Feasibility study report Kikuyu market 2015
4 The Constitution of Kenya 2010
5 Kenya Vision 2030
6 Nairobi Metro 2030
8 Kenya, the Urban Areas and Cities Act 2011
9 Kenya, the County Government Act 2012
13 Kenya Republic of (1994), The National Environmental Action Plan (NEAP), revised in
16 Kenya Republic, Air Quality Regulation, 2014
17 Kenya Republic, Occupational Safety and Health Act OSHA, 2007
18 Kenya, Republic of (2009), Environmental Management and Coordination Act (Noise and Excessive Vibrations Pollution Control) Regulations, 2009
19 Kenya gazette supplement Acts Building Code 2000 by government printer, Nairobi
20 Kenya gazette supplement Acts (1972), Public Health Act (Cap. 242) government printer, Nairobi
21 Kenya, Republic of (1996), The physical planning Act (cap 286)
23 Kenya Republic, The Way Leave Act Cap 292
26 Kenya Republic, Public Procurement and Disposal Act 2005
27 Kenya Republic, Public Roads and Roads of Access Act (Cap 399)
Annex 1: Lead Expert’s NEMA Certificate & License
NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/ERPL/7079
Application Reference No: NEMA/EIA/EL/9902

M/S Irene Muchoki Munene
(individual or firm) of address
P.O Box 53147-00200, Nairobi

is licensed to practice in the capacity of a (Lead Expert/Associate Expert/Firm of Experts) Lead Expert
registration number 970

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

Issued Date: 2/6/2018
Expiry Date: 12/31/2018

Signature.....

(Seal)
Director General
The National Environment Management Authority
THE ENVIRONMENTAL MANAGEMENT AND COORDINATION ACT
CERTIFICATE OF REGISTRATION AS AN ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT EXPERT

This is to certify M/s IRENE WANJIKU MUCHOKI
of P.O. BOX 53147-00200, NAIROBI (Address)
has been registered as an Environmental Impact Assessment Expert in accordance with the provisions of the Environmental Management and Coordination Act and is authorised to practice in the capacity of a Lead Expert/Associate Expert/Firm of Experts (Type) EXPERT

Dated this 2ND Day of 2010

Signature

(Seal)

for Director General
The National Environment Management Authority
Annex 2: Minutes of Public and Stakeholders Consultation Meeting
MINUTES OF THE PUBLIC AND STAKEHOLDERS CONSULTATION MEETING FOR THE NEW KIKUYU MARKET HELD AT THE PROPOSED NEW SITE ON WEDNESDAY, 24 JANUARY, 2018 AT 4:30PM.

ATTENDANCE LIST: SIGNED ATTENDANCE REGISTER ATTACHED

AGENDA OF THE MEETING

1. Opening prayer
2. Introduction of the participants (NaMSIP Team, County and Local Administrators, Neighbors and Traders Representatives).
3. Purpose of conducting the Public and Stakeholders Meeting
4. Brief description of the proposed New Market site and building;
5. Market Committee and Local Leaders’ address to the people

MINUTE 01: OPENING PRAYER
The meeting was called to order at 4.30pm and began with a word of prayer from one of the participants.

MINUTE 02: INTRODUCTION OF THE PARTICIPANTS.
The area MCA and CEC in charge of Trade and Tourism welcomed everyone in attendance to the meeting. They acknowledged and thanked them for finding time to attend the meeting. They led the various categories of stakeholders in self-introduction by name, their relationship to the proposed Market project and/or the administrative areas they were representing. They explained the purpose of the meeting and encouraged the participants present to actively engage in the discussions about the proposed project.

MINUTE 03: PURPOSE OF CONDUCTING THE PUBLIC AND STAKEHOLDERS MEETING
The NaMSIP technical experts gave a brief introduction and the need for the proposed Market project. The proposed Market project will provide trading space for the traders currently trading at the current Kikuyu market. Therefore, there is need to conduct an ESIA Study of the proposed new Market project as per the NEMA requirements. They explained the importance of the project citing its positive impacts, the anticipated negative impacts and the possible mitigation measures to reduce the negative impacts. They stated that it is a legal requirement for public participation and consultation in any project or and matter that affects the people directly or indirectly. The main purpose of the public and stakeholders meeting was for the affected traders, the stakeholders and members of the public to meet and engage with the project proponents and to receive correct and timely information and to give their comments/feedback. The participants were also informed that a RAP study had been carried earlier on the traders currently going business at the current market. Detailed information about these traders is available and will be used in relocating traders to the new market when constructed and is ready for occupation. Besides RAP and ESIA studies, feasibility studies, detailed designs and geotechnical investigation of the site have been done on the proposed market site to ensure that it is suitable for the intended purpose.

MINUTE 04: BRIEF DESCRIPTION OF THE PROPOSED NEW MARKET SITE AND BUILDING
The proposed new market site has old structures which are currently being used as government offices whose users will be relocated to another identified office building within Kikuyu town. The structures will then be demolished to pave way for the construction of the new market building.

The project area does not have a sewerage system so the proposed new market will be connected to a septic tank that will be constructed on site to ensure proper discharge and management of liquid waste. Water supply and reticulation to the new market will be mainly from Kiambu Water and Sewerage Company and check meters will be in place to monitor the water usage.

Kenya Power will connect the new market to the national grid for provision of electrical power for use in lighting and other uses required in the running and operation of the market. Kiambu County Government will manage the market operations once the new market is functional. It will ensure that the market is kept clean and organized both on its inside and outside including the drains. The KCG will ensure all the market facilities and utilities are maintained and solid waste/garbage is collected daily from the new market.

The proposed Market project will have a total of 650 stalls which will be enough to accommodate all the 549 traders who were enumerated during the in-situ RAP census survey at the current market. These 549 traders are hence eligible for compensation and any other assistance under the project RAP such as provision of new trading spaces. The 549 PAPs are well known by the proponent and hence there will be no joy-riders and strangers taking up the stalls at the new permanent market when completed. The stalls at the new market will be laid out in groups with retailers selling similar products being grouped and allocated stalls near each other.

The piece of land where the new Kikuyu market will be located belongs to the Kiambu County Government.

MINUTE 05. MARKET COMMITTEE AND LOCAL LEADERS’ ADDRESS TO THE PEOPLE

Kikuyu Ward MCA; Mr. Kangiri
The area MCA confirmed that the planning of the parcel of land where the market and other public facilities will be constructed has been completed and the PDP prepared. The PDP has been gazetted as an important milestone towards getting the Letter of Allotment for the particular land designated for the market. The rest of the public land neighboring the designated market land will be used for the construction of a car park and a bus terminals. He stated that the planning of this parcel of land to have all the 3 public utilities (Market, car park/ parking lot and the bus terminus) located close to each other is very strategic in provision of quality service and infrastructure to the people of Kikuyu and its neighborhood.

Assistant County Commissioner 1 (ACC1); on befall of the DCC
The Assistant County Commissioner 1 who was representing the national government said that the national government is working closely with the county government towards achieving the development agenda in the county. She said that they are coordinating activities of the national government and providing the security in the area as required.

Kikuyu Market Committee representatives
The representatives of the Kikuyu market traders were elated about the proposal and the government’s acceptance of their request to have the new market built on the new site instead of being built at the location of the current market. They said that the current market site is on the rear side of the town and hence not attractive to customers if the current situation is anything to go by. They stated that the current market is in such poor operational and hygiene state since it floods during the rainy season and is cold and dump most of the year round. Therefore many customers do not get into the market or deep into the market but instead prefer to buy goods and wares from the traders who sell from the streets or near the entrance of the market. Those who choose to keep their businesses in the market risk having no income at the end of the day due to lack of customers. This has therefore resulted is a lot of hawkers within Kikuyu town after the traders left the current market for the streets. The location of the proposed new market will therefore be a welcome relief for them as it will be attractive to customers. In the interim, the traders actually requested the county government to allow them to use the streets/parking areas in the evenings and on the weekend to do business as they are not many cars at the parking lots. They praised the idea to have the new and permanent market constructed at the new site which is near other facilities that support the market activities such as the bus stage/terminus and the proposed parking lot/car park all of which are neighboring the site of the proposed market. They appreciated the teamwork shown by their leaders commonly known as “Team Kiambu” which has culminated to the change of the market construction location to a better and bigger site. They stated that Kikuyu is a peaceful place that promotes the welfare of all people regardless of the socioeconomic status. The MCA actually came from among the Market traders before being elevated to the current position of ward leadership. They said that the current Senator Kimani Wamatangi had donated 2 big tanks to the traders for storage of water at the current market and they urged the county government to assist in installing them so that they can have clean water supply at the current market during its remaining life before they move after the new market whose completion in mid next year. The traders requested that the County government to include the current security providers (security guards) under their payroll so as to ease the burden of paying for their services from their scare resources which is currently done through contributions from all the traders. They request for the upper floor of the market building to be a designed social hall which could be used for the promotion of other social needs or for youth enterprise development.

Kikuyu Constituency MP
The Area Member of Parliament accepted to pay the security services for the period February to December 2018 after which the Governor could take over. He was applauded by the members of the public on confirming that the new site was where the market will be built and not the site where the current market is located. He said that after the relocation of the traders from the old market to the new one, the old site could be used for other public purposes with the current plan being to use it as a garage area where all the Jua Kali mechanics and artisans could be moved to and
conduct their business activities from there and hopefully reduce the current crisis of unemployed youth.

He said that there are other projects which the county government is working on and others are planned such as upgrading of the access roads and storm water drainage construction and improvement.

**Kiambu County Governor**

He said that he had received request from his people to relocate the current market from its current location at the rear of the town and bring it to the prime business area near other related facilities such as the bus terminus and the proposed car park area. He was happy that he was able to honor the promise he made. He retaliated that he could do all within his means to bring this promise and others into reality.

He said that the land belongs to the County Government. He said that the new market building project was on course with the County Government working closely with the National government to ensure that all World Bank guidelines are followed and there is timely execution and completion of the project. He said that the building’s upper floor would be used as a social hall. The market project could also include sheds which would accommodate excess traders.

The governor instructed the Chief Officer in charge of Land and Housing that starting the following day, all the officers and staff whose offices are at the site of the proposed market project to be moved to the new office constructed under the CDF which was recently finished with all amenities in place.

He stated that the permanent structures within the current Kikuyu market will not be interfered with/ demolished but would be used as spares part shops when the area becomes a garage.

He stated other projects in the area such as reclaiming the road reserve from Kidfamaco which had been grabbed and now due for construction to connect this area directly to Kikuyu town.

He said that all the water companies in Kiambu County had been merged and consolidated into one big water Company called Kiambu Water and Sewerage Company, which is now able to be well managed and enjoys economies of scale in its operations.

He asked the area MP to forward to him 5 qualified youths from the area for employment by the County Government of Kiambu.

He said they had a bill under preparation which would help to fight against alcoholism and drug abuse in the County and hopefully make the youths more economically productive and socially acceptable.

He said that the one of the flagship pillars of the Jubilee Government is affordable Health care. Hence, he will expect that all the people within the County to be registered under NHIF and he wishes not to hear the continued fund raising by family to pay medical bills and some deceased person leaving a huge financial burden to their family due to hospital bills.
He said that he will aim at developing Youth employment Centre where the County youths can be trained and the trained ones can get certifications so that they can be more marketable for the various jobs such as mechanics and electricians.

He said the Kiambu County Government is a people’s government

MINUTE 06: CLOSING PRAYER
There being no other business, the meeting ended at 6.30pm with a word of prayer from one of the participants.
Annex 3: Attendance Register of the Public and Stakeholders Consultation Meeting
## Attendance List for Public Participation & Consultation Meeting at Proposed New Kikuyu Market, Kiambu County

**Date:** Wednesday, 24 January 2018 at 3:00PM

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<th>S/No.</th>
<th>Name of Participant</th>
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Annex 4: Completed Stakeholder/ Affected Community Questionnaires
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the Proposed New Kikuyu Market, Kiambu County. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

Project Name: Proposed New Kikuyu Market, Kiambu County

Project Proponent: Ministry of Transport, Infrastructure, Housing and Urban Development
                      State Department of Housing & Urban Development

Date: 24/01/2018

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?
   Yes [ ]  No [ ]  Explain ________________________________

2. Do you think the proposed project will affect the normal land use in the area and if so in what way (s)?
   No

3. Are there historical or cultural heritage sites that would be affected by this proposed project? If so, state them.
   No

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them.
   No

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?
   Yes, there will be waste. The contractor should compile the waste and collect it as required.
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

Yes: Access to trading services near the main source of public transport.

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

Yes; Pollution especially noise in consideration of the surrounding offices.

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

Yes. The proximity of the proposed site project is near a main road, hence associated side effects.

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

Chronological involvement of the affected stakeholders to minimize disruption of activities.

10. In your conclusion, do you welcome the project in the said area?

Yes, I welcome the project.

11. Any relevant observations, recommendations or comments on this project.

Consider lighting, sewer system, water input and storage tanks, parking and office stalls to accommodate all needs.

Name (Optional): Marinam N. Ngigi

ID Number (Optional): 2.6.8.2852.3

Distance of your area of occupation from the Proposed Project Site: 0.1 KM

Telephone (Optional): 0725544322

Signature: (With Company Stamp if Institution)
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the Proposed New Kikuyu Market, Kiambu County. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

Project Name: Proposed New Kikuyu Market, Kiambu County

Project Proponent: Ministry of Transport, Infrastructure, Housing and Urban Development
State Department of Housing & Urban Development

Date: 24/15/2018

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?
   Yes [ ] No [ ]
   Explain: I am a street vendor
   So very much concerned about the market.

2. Do you think the proposed project will affect the normal land use in the area and if so in what way(s)?
   No Because this land belong to the government. So if a Public Market

3. Are there historical or cultural heritage sites that would be affected by this proposed project? If so, state them.
   No

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them.
   No

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?
   No Because its early construction

1 | Page
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

Employee: to our jobless youth.

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

Only dust and noise as its mainly the Construction Phase.

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

No.

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

No. because its help no big effect to the community.

10. In your conclusion, do you welcome the project in the said area?

Yes 100%.

11. Any relevant observations, recommendations or comments on this project.

Only that the Construction should be well observed because its a public place.

Name (Optional): Jackson M. Guthrie

ID Number (Optional): 1111576478

Distance of your area of occupation from the Proposed Project Site: 0.2 KM

Telephone (Optional): 0724143567

Signature: [Signature]

(With Company Stamp if Institution)
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the **Proposed New Kikuyu Market, Kiambu County**. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

**Project Name:** Proposed New Kikuyu Market, Kiambu County

**Project Proponent:** Ministry of Transport, Infrastructure, Housing and Urban Development

State Department of Housing & Urban Development

**Date:** 24/01/2018

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?

   Yes [ ]  No [ ]  Explain

2. Do you think the proposed project will affect the normal land use in the area and if so in what way(s)?

   Yes [ ]  No [ ]

   It will not because they are already informed even before

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

   Yes [ ]  No [ ]

   It is not there

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them

   Yes [ ]  No [ ]

   If there’s they will be reconstructed

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   Yes [ ]  No [ ]

   No
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

Town will become organized because pipe will settle in one place.

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

No negative impacts.

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

No

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

To make sure every businessman got a small space.

10. In your conclusion, do you welcome the project in the said area?

Yes.

11. Any relevant observations, recommendations or comments on this project.


Name (Optional):  

ID Number (Optional):  

Distance of your area of occupation from the Proposed Project Site...........0.5.....KM

Telephone (Optional):  

Signature: (With Company Stamp if Institution)
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the Proposed New Kikuyu Market, Kiambu County. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

Project Name: Proposed New Kikuyu Market, Kiambu County

Project Proponent: Ministry of Transport, Infrastructure, Housing and Urban Development
State Department of Housing & Urban Development

Date: 

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?

   Yes [ ]  No [ ] Explain It's in the appropriate place

2. Do you think the proposed project will affect the normal land use in the area and if so in what way(s)?

   No

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

   No

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them

   If found, it will be handled

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   No

   If there, it will be handled.
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

   It will increase business opportunity

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

   It will not affect

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

   To make sure they do it in a genuine way

10. In your conclusion, do you welcome the project in the said area?

    We're happy about the project

11. Any relevant observations, recommendations or comments on this project.

Name (Optional): Dorothy Ann

ID Number (Optional): 286548 01

Distance of your area of occupation from the Proposed Project Site: 2.0 km

Telephone (Optional): (71) 2568 43 1

Signature: (With Company Stamp if Institution) GAKL

Page 2
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the **Proposed New Kikuyu Market, Kiambu County**. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

**Project Name:** Proposed New Kikuyu Market, Kiambu County

**Project Proponent:** Ministry of Transport, Infrastructure, Housing and Urban Development

**State Department of Housing & Urban Development**

**Date:** 24/11/2023

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?

   Yes [ ] No [ ] Explain ____________________________

   ride at agricultural area

2. Do you think the proposed project will affect the normal land use in the area and if so in what way (s)?

   No ____________________________

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

   No ____________________________

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them.

   No ____________________________

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   They should be recycled in

   or burned they can be sold as manure to

   Surrounding farmers
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

This will improve development income and create job opportunities.

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

None

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

Not really.

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

Those affected to be given alternative sites to operate their business.

10. In your conclusion, do you welcome the project in the said area?

Much needed.

11. Any relevant observations, recommendations or comments on this project.

This will transform the town.

Name (Optional): ...Mary W...Nyago

ID Number (Optional): ...S5310.11...

Distance of your area of occupation from the Proposed Project Site: ...0.75 KM

Telephone (Optional): ...07255376300...

Signature: (With Company Stamp if Institution) ...
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the **Proposed New Kikuyu Market, Kiambu County**. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

**Project Name:** Proposed New Kikuyu Market, Kiambu County

**Project Proponent:** Ministry of Transport, Infrastructure, Housing and Urban Development  
State Department of Housing & Urban Development

**Date:** ________________

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?

   Yes [ ]  No [ ]  Explain ________________

2. Do you think the proposed project will affect the normal land use in the area and if so in what way(s)?

   ________________

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

   ________________

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them

   ________________

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   ________________
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

General cost savings and time improvement

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?


8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

No

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

Adhere to the max of Low

10. In your conclusion, do you welcome the project in the said area?

Yes

11. Any relevant observations, recommendations or comments on this project.

Should be done within the stipulated time

Name (Optional): ...Nguyen Minh Dat

ID Number (Optional): ...123456789

Distance of your area of occupation from the Proposed Project Site...26km...

Telephone (Optional): ...Blanu...254.733.97.6822

Signature: (With Company Stamp if Institution)...
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the Proposed New Kikuyu Market, Kiambu County. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

Project Name: Proposed New Kikuyu Market, Kiambu County

Project Proponent: Ministry of Transport, Infrastructure, Housing and Urban Development
State Department of Housing & Urban Development

Date: 24/01/2019

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?

   Yes □ No □ Explain MEAD THE BUS SEGREATION

   LEARNING EFFICIENCY THROUGH DISTANCE

2. Do you think the proposed project will affect the normal land use in the area and if so in what way(s)?

   IT'S WITOUT AFFECT IN ANY WAY

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

   NONE

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them

   NONE

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   DUMPING IN LOCAL WASTE DEHABLITATION

   USE OF LEAD AND CHEMICALS
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

Employment Opportunities, Increased Efficiency

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

The Likely Depiction of Agricultural Offices

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

None

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

Inclusivity and Local Labour

10. In your conclusion, do you welcome the project in the said area?

Much Welcome

11. Any relevant observations, recommendations or comments on this project.

This Project Will Have Positive Impact Will Be For Access Generations

Name (Optional): M. C. HENRY LAGANA

ID Number (Optional): .................................................................

Distance of your area of occupation from the Proposed Project Site.......0.1.......KM

Telephone (Optional): 0723 681 765

Signature: (With Company Stamp if Institution)............................................
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the **Proposed New Kikuyu Market, Kiambu County**. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

**Project Name:** Proposed New Kikuyu Market, Kiambu County

**Project Proponent:** Ministry of Transport, Infrastructure, Housing and Urban Development  
State Department of Housing & Urban Development

**Date:**

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?
   - Yes [✓]  
   - No [ ]  
   - Explain ________________________________

2. Do you think the proposed project will affect the normal land use in the area and if so in what way (s)?
   - Yes
   - No
   - Explain ________________________________

3. Are there historical or cultural heritage sites that would be affected by this proposed project? If so, state them.
   - Yes
   - No

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them
   - Yes
   - No

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?
   - Yes
   - No
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

- Creating employment
- Enhancing economy growth

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

- Increase Inflation

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

- Yes, by increasing reclamation measures

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

- Increasing county workers

10. In your conclusion, do you welcome the project in the said area?

- Yes

11. Any relevant observations, recommendations or comments on this project.

- We hope the project will be effective

Name (Optional): .................................................................

ID Number (Optional): ...........................................................

Distance of your area of occupation from the Proposed Project Site: 0.1 KM

Telephone (Optional): ............................................................

Signature: (With Company Stamp if Institution)..............................
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the **Proposed New Kikuyu Market, Kiambu County**. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

**Project Name:** Proposed New Kikuyu Market, Kiambu County

**Project Proponent:** Ministry of Transport, Infrastructure, Housing and Urban Development  
State Department of Housing & Urban Development

**Date:**  
24/11/2018

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?
   - Yes [ ]
   - No [ ]

   Explain: Written to Stage

   Opposite County Commissioners Office

2. Do you think the proposed project will affect the normal land use in the area and if so in what way (s)?
   - No

3. Are there historical or cultural heritage sites that would be affected by this proposed project? If so, state them.
   - No

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them.
   - No

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?
   - Yes Here would

   They should be transported elsewhere.
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

[Blank]

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

[Blank]

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

[Blank]

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

[Blank]

10. In your conclusion, do you welcome the project in the said area?

[Blank]

11. Any relevant observations, recommendations or comments on this project.

[Blank]

Name (Optional): [Signature]

ID Number (Optional): [Signature]

Distance of your area of occupation from the Proposed Project Site: [Signature] KM

Telephone (Optional): [Signature]

Signature: (With Company Stamp if Institution) [Signature]
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the Proposed New Kikuyu Market, Kiambu County. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

Project Name: Proposed New Kikuyu Market, Kiambu County

Project Proponent: Ministry of Transport, Infrastructure, Housing and Urban Development
State Department of Housing & Urban Development

Date: 24/11/2012

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?

   Yes ☐ No ☐ Explain ________________________________________

2. Do you think the proposed project will affect the normal land use in the area and if so in what way (s)?

   Yes have no permanent structure.

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

   No

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them

   No

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   With the help of County government helpers.
   Condition: It will be effective due to co-operation.
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

The positive impact will be due to: 1. Space, 2. reduces time.

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

The only negative effect is any relocation of families.

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

No, the site is spacious.

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

Set up a clean water, meeting point.

10. In your conclusion, do you welcome the project in the said area?

Yes, 100%.

11. Any relevant observations, recommendations or comments on this project.

This will increase working hours towards 24 hour economy.

Name (Optional): Stephen Mwangi

ID Number (Optional): 27577032

Distance of your area of occupation from the Proposed Project Site: 2 KM

Telephone (Optional): 0777348994

Signature: (With Company Stamp if Institution)
This questionnaire is intended to ensure there is adequate Public Participation & Consultation before implementation of the **Proposed New Kikuyu Market, Kiambu County**. It is proposed this questionnaire is filled and signed by members of the surrounding community and institutions in the area of the said project, as required by the National Environment Management Authority, NEMA.

**Project Name:** Proposed New Kikuyu Market, Kiambu County

**Project Proponent:** Ministry of Transport, Infrastructure, Housing and Urban Development

State Department of Housing & Urban Development

**Date:** 24/1/2018

1. Are you aware of the construction of the proposed project in the area and do you know its exact location?
   
   Yes [ ] No [ ] Explain [at the parking site also with few offices of residential council leader.

2. Do you think the proposed project will affect the normal land use in the area and if so in what way(s)?

   No, it won’t since it is used as a parking and a few of council residents.

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

   No — only old council buildings used as residential.

4. Are there hydro-geological (ground-water) or surface water resources condition that will likely be affected by the proposed project? If so, state them.

   No

5. Do you think there will be any solid and liquid wastes generated during this proposed project and how do you propose that they are handled?

   Maybe solid and can be handled by disposing it in the excess soil.
6. What are the expected POSITIVE impacts of the proposed project from construction phase through to commissioning and operations phases?

It will help the small scale traders very much by uplifting their living standards.

7. What are the expected NEGATIVE impacts of the proposed project to people and the environment from construction phase through to commissioning and operations phases?

Just, noise and relocation of the residents.

8. Do you think construction, commissioning and operations will cause any problems of aesthetics, traffic flow, noise, lighting etc? Please explain.

No but with that cannot be handled.

9. What suggestions would you make to mitigate any adverse environmental and social impacts during the project construction, commissioning and operations?

Fencing the construction site.

10. In your conclusion, do you welcome the project in the said area?

Yes. 100 %.

11. Any relevant observations, recommendations or comments on this project.

If it can be started immediately and so as it be constructed in a lesser time.

Name (Optional): Helen Muhire

ID Number (Optional):

Distance of your area of occupation from the Proposed Project Site... 1.5... KM

Telephone (Optional): 0724-874-802

Signature: (With Company Stamp if Institution)
Annex 5: Minutes of Consultation Meeting on the Revised Kikuyu Market Design
MINUTES OF CONSULTATION MEETING ON REVISED KIKUYU MARKET DESIGN HELD AT THE PROPOSED NEW SITE ON TUESDAY, 06 MARCH 2018 AT 3:30PM.

ATTENDANCE LIST:

Kikuyu Market Committee Members, Area Member of County Assembly (MCA), Kiambu County Government Officers and NaMSIP Officers,

SIGNED ATTENDANCE REGISTER ATTACHED

AGENDA OF THE MEETING

7. Opening prayer
8. Introduction of the participants
9. Purpose of Holding the Consultation Meeting on Revised Market Design
10. Brief description of the proposed New Market site and building;
11. Feedback from Market Committee on the design

MINUTE 01: OPENING PRAYER
The meeting was called to order at 3.30pm and began with a word of prayer from one of the participants.

MINUTE 02: INTRODUCTION OF THE PARTICIPANTS.
The County Executive Committee Member (CEC) in charge of Trade, Tourism, Cooperatives and Enterprise Development welcomed everyone in attendance to the meeting. She acknowledged and thanked them for finding time to attend the meeting. She introduced the NaMSIP and Kiambu County Government representatives present at the meeting by their names and roles in the project.

MINUTE 03: PURPOSE OF CONDUCTING THE PUBLIC AND STAKEHOLDERS MEETING
In addition, the CEC reminded participants of the public and stakeholders meeting held at the new market site on 24 January, 2018 in which many of the current participants were present. The participants at the referenced meeting had been informed about the need to change the former market design due to the change of the market development location to the new site. The new site has a different ground orientation, access routes and the available parcel of land is bigger than the previous one. She recalled that the committee members and the general public present at this previous meeting had unanimously accepted the new site as the place to construct the new market. She stated that the new market designs were now ready and hence the essence of the day’s consultation meeting to present the detailed design drawings to the committee members and the area Member of the County Assembly on behalf of the other traders and the community.

MINUTE 04: BRIEF DESCRIPTION OF THE PROPOSED NEW MARKET SITE AND BUILDING
Previously, the proposed new market site had several structures which were being used as government facilities whose previous users were relocated to other office buildings within Kikuyu town. The old structures are condemned, vacant and will demolished to pave way for the construction of the new market building and associated facilities.

The Project Architects from NaMSIP and the Kiambu County Government presented the new designs to the Market Committee and the Area MCA.
The revised proposed market building will have 4 floors (ground floor and 3 upper floors) with a total of 625 stalls and several office and sanitation facilities on each floor. 45 parking slots and a green/landscaped area have been provided on the external part of the building within the expansive site. The market building design has a lot open spaces that will provide natural lighting and ventilation. The main departure of the revised design from the previous one is that the market building will have no basement floor but instead it will have an additional aboveground floor.

This new market design will accommodate more traders and more parking slots than the previous design which had been designed to accommodate 535 stalls and 25 parking slots. Hence the new design has provided for 90 extra stalls and 20 extra parking lots. The new market design will be enough to accommodate all the 549 traders who were enumerated during the in-situ RAP census survey at the current Kikuyu Market. The stalls at the new market will be laid out in groups with retailers selling similar products being grouped and allocated stalls near each other.

The project area does not have a sewerage system so the proposed new market will be connected to a septic tank that will be constructed onsite to ensure proper discharge and management of liquid waste generated from the market operations. Storm water drainage channels will be constructed around the market site circumference to prevent offsite storm water from following into the market premises. All onsite surface run-off water will be channeled to these storm water drainage lines at appropriate locations. Water supply and reticulation to the new market will be mainly from Kiambu Water and Sewerage Company and check meters will be in place to monitor the water usage. A borehole will be sunk and installed at the site to supplement water supply from KWSC. Large capacity water storage tanks will be installed at the market to store water and ensure a steady and reliable water supply at the market.

Kenya Power will connect the new market to the national grid for provision of electrical power for use in lighting and other uses required in the running and operation of the market. A standby Generator will be provided for power backup in the event of power outranges. Kiambu County Government will manage the market operations once the new market is functional. It will ensure that the market is kept clean and organized both on its inside and outside including the drainage lines. The Kiambu County Government will ensure all the market facilities and utilities are maintained and solid waste/ garbage is collected daily from the new market.

The piece of land where the new Kikuyu market will be located belongs to the Kiambu County Government.

MINUTE 05. FEEDBACK FROM MARKET COMMITTEE ON THE DESIGN (QUESTION AND ANSWER SESSION)

Q1: What will be size of the market stalls?
A2: The dimensions of the market stalls will be 1.5M by 2.0M (Ground Floor) and 2.0M by 2.5M (1st, 2nd and 3rd Floor)

Q2: Will the market stalls be open stalls or they will be enclosed?
A2: They will be marked and numbered open spaces/ stall areas which the Kiambu County Government will provide the designs for the preferred and desirable stands to be erected for the specific types of goods being sold at a particular zone within the market.

Q3: Will the market building have meeting areas?
A3: The market design has provided for meeting rooms/ offices
Q4: Since the stalls will be marked/numbered open spaces, how will the market users move around the market as they buy goods without crossing over the stall areas?
A4: The market design has provided for pedestrian movement pathways clearly marked on the design drawing and will as well be clearly demarcated at the completed market building floor.

Q5. How will the clothes stalls be like; open or closed?
A5: They will be marked and numbered open spaces which the Kiambu County Government will provide the designs for the preferred and desirable stands/enclosures to be erected for the specific types of goods being sold at a particular zone within the market.

Q6: Will dried food (cereals) and wet food stuff (fruits and vegetables) be sold together since the wet ones may spill on the dry ones and make them rot/spoil faster?
A6: The market/stalls layout is zoned such that retailers selling similar/related products will be grouped and allocated stalls near each other to avoid soiling and mixing of and by undesirable materials.

Q7: How many entrance and exits will the market site have?
A7: The market site will have one entrance and one exit with deceleration lanes and acceleration lanes respectively for the motorized traffic. A pedestrian access has been provided strategically right across the main market building entrance to provide easy and direct access to the market by the non-motorized market users.

Q8: How will the traders have ownership of the stalls?
A8: All the stalls will be owned by the Kiambu County Government who will allocate the stalls to all the enumerated 549 PAPs while the rest of general public will be allocated the remaining stalls on application to the Kiambu County Government.

MINUTE 06: CLOSING PRAYER
There being no other business, the meeting ended at 4.30pm with a word of prayer from one of the participants.
Annex 6: Attendance Register of the Consultation Meeting on the Revised Kikuyu Market Design
Consultation Meeting on the New Market design, held at the New Kikuyu Market site on 06th March 2018 @ 3:30pm

ATTENDANCE LIST

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Organization</th>
<th>Mobile No</th>
<th>Email</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. Isabel Waiyaki</td>
<td>Kiambu County</td>
<td>0721451122</td>
<td><a href="mailto:isabelwaiyaki@gmail.com">isabelwaiyaki@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Hon. Henry Kahiri</td>
<td>M. C.A.</td>
<td>0723681765</td>
<td><a href="mailto:raharykahiri@gmail.com">raharykahiri@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Julius Mohee</td>
<td>Kiambu County</td>
<td>0726551308</td>
<td><a href="mailto:juliusmohee@gmail.com">juliusmohee@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Dr. Edward Onyita</td>
<td>NAMSIIP</td>
<td>0715766266</td>
<td><a href="mailto:egentita@gmail.com">egentita@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Irene Muchoki</td>
<td>NAMSIIP</td>
<td>0724163255</td>
<td><a href="mailto:imuchoki2004@gmail.com">imuchoki2004@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Rev. J. Muso</td>
<td>Public Works</td>
<td>0726399024</td>
<td><a href="mailto:jeang@live.com">jeang@live.com</a></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>David Munthiri</td>
<td>Kiambu County</td>
<td>0724924105</td>
<td><a href="mailto:raharymunthiri@gmail.com">raharymunthiri@gmail.com</a></td>
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<tr>
<td>8</td>
<td>Arch Lawrence Mwirigi</td>
<td>NAMSIIP</td>
<td>0722275447</td>
<td><a href="mailto:maimilawrence@gmail.com">maimilawrence@gmail.com</a></td>
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14.
## ATTENDANCE LIST

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organization</th>
<th>Mobile No</th>
<th>Email</th>
<th>Sign</th>
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<tr>
<td>1.</td>
<td>Siera Grace</td>
<td>Camden</td>
<td>0722356120</td>
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<tr>
<td>2.</td>
<td>Wanjiru Silvia</td>
<td>Secretary</td>
<td>0728112016</td>
<td><a href="mailto:Wanjiru@camdenrugby.com">Wanjiru@camdenrugby.com</a></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Kamau Paul</td>
<td>Camden</td>
<td>0725762965</td>
<td></td>
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<tr>
<td>4.</td>
<td>Muiru Jackson</td>
<td>Treasurer</td>
<td>0724448161</td>
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<td>5.</td>
<td>Amuru James</td>
<td>NICAS CEO</td>
<td>0210257343</td>
<td>James@<a href="mailto:nicas@camden.rgby.com">nicas@camden.rgby.com</a></td>
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<tr>
<td>6.</td>
<td>Gikung Caroline</td>
<td>Committee</td>
<td>0707583788</td>
<td>carol@<a href="mailto:nicas@camden.rgby.com">nicas@camden.rgby.com</a></td>
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<td>7.</td>
<td>Wairimu Moses</td>
<td>Committee</td>
<td>0722768997</td>
<td><a href="mailto:Moses@camdenrugby.com">Moses@camdenrugby.com</a></td>
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<tr>
<td>8.</td>
<td>Kimani William</td>
<td>Committee</td>
<td>0726368991</td>
<td><a href="mailto:William@camdenrugby.com">William@camdenrugby.com</a></td>
<td></td>
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<tr>
<td>9.</td>
<td>Wairimu Lucy</td>
<td>Administrator</td>
<td>0121758650</td>
<td>Lucy@<a href="mailto:nicas@camden.rgby.com">nicas@camden.rgby.com</a></td>
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<tr>
<td>10.</td>
<td>Kiunjuri Millian</td>
<td>Committee</td>
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<td>11.</td>
<td>Kagwina Susan</td>
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<td>12.</td>
<td>Mugenye Stephen</td>
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<td>13.</td>
<td>Owusu Julius</td>
<td>Committee</td>
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<tr>
<td>14.</td>
<td>Katur Fabian</td>
<td>Committee m.</td>
<td>070280118</td>
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<td></td>
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![Number 2]
# ATTENDANCE LIST

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Mobile No</th>
<th>Email</th>
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<tr>
<td>Paul Thiongo</td>
<td>MCA's Office</td>
<td>0725925557</td>
<td><a href="mailto:Paul.thiongo@mymail.com">Paul.thiongo@mymail.com</a></td>
<td></td>
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<tr>
<td>James Gathuka</td>
<td>MCA's Office</td>
<td>0710</td>
<td><a href="mailto:James.gathuka@mymail.com">James.gathuka@mymail.com</a></td>
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<tr>
<td>Alice Ngumi</td>
<td>MKT Committee</td>
<td>0726622726</td>
<td></td>
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</tr>
<tr>
<td>Hannah Wangui</td>
<td>Committee</td>
<td>0726209585</td>
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</tr>
<tr>
<td>David K. Kamau (Rt)</td>
<td>MKT Committee</td>
<td>0727919861</td>
<td><a href="mailto:dkamau861@gmail.com">dkamau861@gmail.com</a></td>
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<tr>
<td>Eric Waweru M.</td>
<td>Committee</td>
<td>0720294086</td>
<td><a href="mailto:Eric06_cric@outlook.com">Eric06_cric@outlook.com</a></td>
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<tr>
<td>Samuel I. Kamau</td>
<td>Committee</td>
<td>0720294087</td>
<td><a href="mailto:Samuelk17@gmail.com">Samuelk17@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Ronald Wachira</td>
<td>MKT</td>
<td>0729871384</td>
<td></td>
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<tr>
<td>Hudson Mureithi</td>
<td>NAMSP</td>
<td>0715904232</td>
<td><a href="mailto:mureithiway@gmail.com">mureithiway@gmail.com</a></td>
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<tr>
<td>Naomi Nambala</td>
<td>MKT</td>
<td>0726552557</td>
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<tr>
<td>George Karuga Senior</td>
<td>Member</td>
<td>0719268684</td>
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<tr>
<td>Joseph Njoroge</td>
<td>Chairmen</td>
<td>0714627916</td>
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<tr>
<td>James Njoroge</td>
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<td>0717026650</td>
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<tr>
<td>David Maina</td>
<td>Member</td>
<td>0723305363</td>
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Annex 7: Grievance Redress Process
## Grievance Redress Process

<table>
<thead>
<tr>
<th>Process</th>
<th>Description</th>
<th>Time frame</th>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of grievance</td>
<td>Face to face; phone; letter, e-mail; recorded during public/community interaction; others</td>
<td>1 Day</td>
<td>Email address; hotline number</td>
</tr>
<tr>
<td>Grievance assessed and logged</td>
<td>Significance assessed and grievance recorded or logged (i.e. in a log book)</td>
<td>4-7 Days</td>
<td>Significance criteria: Level 1 – one off event; Level 2 – complaint is widespread or repeated; Level 3- any complaint (one off or repeated) that indicates breach of law or policy or the ESIA provisions</td>
</tr>
<tr>
<td>Grievance is acknowledged</td>
<td>Acknowledgement of grievance through appropriate medium</td>
<td>7-14 Days</td>
<td></td>
</tr>
<tr>
<td>Development of response</td>
<td>Grievance assigned to appropriate party for resolution</td>
<td>4-7 Days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Response development with input from management/ relevant stakeholders</td>
<td>7-14 Days</td>
<td></td>
</tr>
<tr>
<td>Response signed off</td>
<td>Redress action approved at appropriate levels</td>
<td>4-7 Days</td>
<td>Project staff at project proponent to sign off</td>
</tr>
<tr>
<td>Implementation and communication of response</td>
<td>Redress action implemented and update of progress on resolution communicated to complainant</td>
<td>10-14 Days</td>
<td></td>
</tr>
<tr>
<td>Complaints Response</td>
<td>Redress action recorded in grievance log book</td>
<td>4-7 Days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confirm with complainant that grievance can be closed or determine what follow up is necessary</td>
<td>4-7 Days</td>
<td></td>
</tr>
<tr>
<td>Close grievance</td>
<td>Record final sign off of grievance</td>
<td>4-7 Days</td>
<td>Final sign off on by project proponent</td>
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<tr>
<td></td>
<td>If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law.</td>
<td>4-7 Days</td>
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</table>
Annex 8: Sample Chance Find Procedures
Sample Chance Find Procedures

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

- If the Contractor discovers archaeological sites, historical sites, remains and objects during excavation or construction, the Contractor shall:
  - Stop the construction activities in the area of the chance find;
  - Delineate the discovered site or area;
  - Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Ministry of State for National Heritage and Culture take over;
  - Notify the supervisor, Project Environmental Officer and Resident Engineer who in turn will notify the responsible local authorities and the Ministry of State for National Heritage and Culture immediately (within 24 hours or less).
  - Responsible local authorities and the Ministry of State for National Heritage and Culture would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the National Museums of Kenya. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values.
  - Decisions on how to handle the find shall be taken by the responsible authorities and the Ministry of State for National Heritage and Culture. This could include changes in the layout (such as when finding irremovable remains of cultural or archaeological importance) conservation, preservation, restoration and salvage.
  - Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.
  - Construction work may resume only after permission is given from the responsible local authorities or the Ministry of State for National Heritage and Culture concerning safeguard of the heritage.
Annex 9: Copy of the PDP of the New Market Site and surrounding areas
Annex 10: Project Plan/ Building Designs
PROPOSED NAMSIP MARKET
AT
KIKUYU MARKET;
KIAMBU COUNTY.
A - EXISTING BUS PARK
Area - Approx. 0.2 Ha

B - PROPOSED MARKET
Area - Approx. 0.6 Ha
PROPOSED NAME: MARKET AT KIKUYU TOWN.

COUNTY WORKS OFFICER
DIRECTORATE OF PUBLIC WORKS
COUNTY ARCHITECTURAL DEPARTMENT.
P. O. BOX 189. KIAMBU.
JANUARY 2018

ARCH. MACHARIA
DRAWN:
CHECKED:
SCALE: 1:100
DATE: KIAMBU COUNTY

TYPICAL FIRST FLOOR PLAN

1,500mm Wide, R.C. Ramp with Rough Cast Finish and Inclined at 10° to the Horizontal all to S.E. Details.

Typical Shop Fronts

Office
Cleaner's Store

Table with Dimensions
PROPOSED MARKET

25 METER ROAD

COUNTY WORKS OFFICER
DIRECTorate of PUBLIC WORKS
COUNTy ARCHITECTURAL DEPARTMENT.
P. O. BOX 189. KIAMBU.

JANUARY 2018

DRAWN: ARCH.MACHARIA
CHECKED: ARCH.MACHARIA
DATE: JANUARY 2018

COUNTY: KIAMBU COUNTY
PROJECT: PROPOSED MARKET
TITLE: BLOCK PLAN
SCALE: 1:100
JOB NO.
DRG NO.
CLIENTS SIGNATURE.

PROPOSED NAMSIP MARKET
AT KIKUYU TOWN.

J.MUGO
COUNTY WORKS OFFICER
DIRECTORATE OF PUBLIC WORKS
COUNTY ARCHITECTURAL DEPARTMENT.
P. O. BOX 189. KIAMBU.

ARCH.MACHARIA
DRAWN:

CHECKED:

DATE:

TITLE:

CLIENT:

PROJECT:

SCALE:

10,200
8,300
6,700
8,300
6,700
4,800
9,900
4,900
1,800
8,750
3,400
3,400
4,100
4,950
6,000
6,300
6,750
6,800
9,350
7,200
6,300
6,800
6,000

8,400
6,300
6,700
6,900

4,100
3,700
3,400
3,900
1,900

5,200
5,400
1,700
4,600
10,700
8,300
6,700
6,900
9,200

25 METER ROAD

existing u-shaped offices to be retained as market administrative offices

PROPOSED WING TO BE DEMOLISHED
Elevation 01

Scale: 1:100

Ground Level
First Floor Level
Second Floor Level
Third Floor Level
Roof Level

Elevation 01
Scale 1:100

Roof Notes:
- Coloured Galvanized Iron sheets on 75x100mm rafters at 900mm c/c stained & varnished to approval.
- All soffits and edges concealed with 60mm high stone cast parapet walling, plastered & painted to approval.

200mm Masonry Walling Plastered & Finished to Approval.

2,400 x 1,800mm Steel Casement Window to Schedule

5,100 x 3,800mm R.C. Staircase
- Tread: 300mm
- Riser: 150mm

200mm Masonry Walling Plastered and Cladded to Approval

900 x 13,200mm Slit Opening(s) on Walling for Natural Ventilation & Lighting

Cladding on 200mm Walling for Aesthetic Appeal
ROOF NOTES:

ROOF PITCH 10°
COLOURED GALVANISED IRON SHEETS ON 75X100MM RAFTERS
AT 900MM C/C STAINED & VARNISHED TO APPROVAL.
ALL EDGES AND EAVES CONCEALED WITH 600MM HIGH INSITU
CAST PARAPET WALLING, PLASTERED & PAINTED TO APPROVAL.

500MM DIAMETER, 9,000MM HIGH, PRECAST DORIC CONCRETE COLUMN
TO SUPPORTING 450MM R.C. BEAM ALL TO LATER S.E. DETAILS

900 X 13,200MM SLIT OPENING(S) ON WALLING FOR NATURAL VENTILATION & LIGHTING

1,500MM WIDE, R.C. RAMP WITH ROUGH CAST FINISH AND INCLINED AT 110°
TO THE HORIZONTAL ALL TO S.E. DETAILS.

200MM MASONRY WALLING PLASTERED & CLADDED TO APPROVAL

900 X 13,200MM SLIT OPENING(S) ON WALLING FOR NATURAL VENTILATION & LIGHTING

1,500MM HIGH, 50MM THICK BURGLAR PROOF RAILING TO SPECIFICATION

200MM MASONRY WALLING PLASTERED & FINISHED WITH WALLMASTER TO APPROVAL

1,500 X 2,400MM STEEL PANEL DOOR TO SCHEDULE

900 X 13,200MM SLIT OPENING(S) ON WALLING FOR NATURAL VENTILATION & LIGHTING

ELEVATION 02
Scale 1:100

GROUND LEVEL
FIRST FLOOR LEVEL
SECOND FLOOR LEVEL
THIRD FLOOR LEVEL
ROOF LEVEL
Proposed Namsip Market
At
Kiuju Town, Kiambu County

Elevation 03

Scale 1:100

DATE: January 2018

DRAWN: J.Mugo

CHECKED: Arch. Macharia

Title: Elevation 03

Client: Kiambu County

Direction of Public Works
County Architectural Department
P.O. Box 189, Kiambu
Elevation 04
Scale 1:100

ROOF NOTES
- ROOF PITCH 10°
- COLOURED GALVANISED IRON SHEETS ON 75x100mm RAFTERS AT 900mm C/C STAINED & VARNISHED TO APPROVAL.
- ALL EDGES AND EAVES CONCEALED WITH 600MM HIGH IN-SITU CAST PARAPET WALLING, PLASTERED & PAINTED TO APPROVAL.

3,000MM HIGH, 50MM THICK BURGLAR PROOF RAILING TO SPECIFICATION

900 x 2,400MM SLIT OPENING(S) ON WALLING FOR NATURAL VENTILATION & LIGHTING

500MM DIAMETER, 9,000MM HIGH, PRE-CAST DORIC CONCRETE COLUMN TO SUPPORTING 450MM R.C. BEAM ALL TO LATER S.E. DETAILS

2,400 X 1,800MM STEEL CASEMENT WINDOW TO SCHEDULE

200MM MASONRY WALLING PLASTERED AND CLADDED TO APPROVAL

200MM MASONRY WALLING PLASTERED & FINISHED WITH WALLMASTER TO APPROVAL

2,400 X 1,800MM IRON MONAGERY PEDESTRIAN ACCESS GATE TO SCHEDULE & ANCHORED TO 300 X 2,100MM IN-SITU CAST R.C. COLUMN

3,000MM HIGH, 50MM THICK BURGLAR PROOF RAILING TO SPECIFICATION

900 x 2,400MM SLIT OPENING(S) ON WALLING FOR NATURAL VENTILATION & LIGHTING

500MM DIAMETER, 9,000MM HIGH, PRE-CAST DORIC CONCRETE COLUMN TO SUPPORTING 450MM R.C. BEAM ALL TO LATER S.E. DETAILS

2,400 X 1,800MM STEEL CASEMENT WINDOW TO SCHEDULE

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200MM MASONRY WALLING PLASTERED & FINISHED WITH WALLMASTER TO APPROVAL

2,400 X 1,800MM IRON MONAGERY PEDESTRIAN ACCESS GATE TO SCHEDULE & ANCHORED TO 300 X 2,100MM IN-SITU CAST R.C. COLUMN
ROOF NOTES:

ROOF PITCH 10\(^\circ\)

COLOURED GALVANISED IRON SHEETS ON 75x100mm RAFTERS
AT 900MM C/C STAINED & VARNISHED TO APPROVAL.
ALL EDGES AND EAVES CONCEALED WITH 600MM HIGH IN-SITU
CAST PARAPET WALLING, PLASTERED & PAINTED TO APPROVAL.

900 x 13,200MM SLIT OPENING(S) ON WALLING FOR NATURAL VENTILATION & LIGHTING

150MM R.C. SLAB SUPPORTED BY 450MM R.C. BEAM ALL TO S.E. DETAILS

500MM DIAMETER, 9,000MM HIGH, PRE-CAST DORIC CONCRETE COLUMN
TO SUPPORTING 450MM R.C. BEAM ALL TO LATER S.E. DETAILS

300 x 400MM, 14,250MM HIGH R.C. COLUMN TO S.E. DETAILS

150MM R.C. SLAB SUPPORTED BY 450MM R.C. BEAM ALL TO S.E. DETAILS

1,500MM WIDE, R.C. RAMP WITH ROUGH CAST FINISH AND INCLINED AT 100
TO THE HORIZONTAL ALL TO S.E. DETAILS.
PROPOSED NAMSIP MARKET AT KIKUYU, KIAMBU COUNTY.

The Main Entrance.

Side View 01

Back View (with Existing Building).

Back View (with Parking Area).
Annex 11: Photographic Plates
Photo 1: Members of the public registering at a public consultation meeting held at the site

Photo 2: One of the condemned and vacant structures at the proposed Market Site
Photo 3: A relatively new structure at the proposed market site, which has been incorporated into the New Market Design

Photo 4: The relatively new structure that has been vacated by the previous occupants