ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT PROJECT REPORT FOR THE CONSTRUCTION OF NGONG’ BUS TERMINUS IN KAJIADO COUNTY OF NAIROBI METROPOLITAN REGION

REPUBLIC OF KENYA

21st February 2017

PROPOSER
The Senior Principal Superintending Engineer
Ministry of Transport, Infrastructure, Housing and Urban Development - State department for Housing & Urban Development, P.O. Box 30130 - 00100
NAIROBI

LEAD EXPERT (NEMA No. 7284)
Eng. Stephen Mwaura, P. O. Box 16320-00100, NAIROBI
TEL 0729 377 629
### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Environmental Audit</td>
</tr>
<tr>
<td>ESIA</td>
<td>Environmental &amp; Social Impact Assessment</td>
</tr>
<tr>
<td>EHS</td>
<td>Environment, Occupational Health and Safety</td>
</tr>
<tr>
<td>EMCA</td>
<td>Environmental Management &amp; Coordination Act, 1999</td>
</tr>
<tr>
<td>ESMMP</td>
<td>Environmental &amp; Social Management and Monitoring Plan</td>
</tr>
<tr>
<td>EMS</td>
<td>Environmental Management System</td>
</tr>
<tr>
<td>ISO</td>
<td>International Standards Organizations</td>
</tr>
<tr>
<td>MoTIH&amp;UD</td>
<td>Ministry of Transport, Infrastructure, Housing &amp; Urban Development</td>
</tr>
<tr>
<td>NaMSIP</td>
<td>Nairobi Metropolitan Services Improvement Project</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Environment Management Authority</td>
</tr>
<tr>
<td>NMT</td>
<td>Non-Motorized Transport</td>
</tr>
<tr>
<td>OHS</td>
<td>Occupational Health &amp; Safety</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Act</td>
</tr>
<tr>
<td>PPC</td>
<td>Public Participation &amp; Consultation</td>
</tr>
<tr>
<td>PSP</td>
<td>Private Sector Participation</td>
</tr>
<tr>
<td>ToR</td>
<td>Terms of Reference</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

## CHAPTER ONE: INTRODUCTION

1.1 Introduction and Project Objectives ................................................................. 11
1.2 Study Approach and Methodology ..................................................................... 15
1.3 Project Description and Justification .................................................................. 17
1.4 Scope and content of project .............................................................................. 13
1.5 Description of the Project’s Construction Activities .............................................. 14
1.6 Description of the Project’s Operational Activities .............................................. 15
1.7 Description of the Project’s decommissioning activities ...................................... 15

## CHAPTER TWO: LEGAL, INSTITUTIONAL AND LEGISLATIVE FRAMEWORK

2.1 National, Legal and Institutional Framework ..................................................... 17
2.2 Environmental Management and Coordination Act of 2015 ................................. 17
2.3 Occupational Health and Safety, 2007 ................................................................. 17
2.4 Public Health Act Cap 242 .................................................................................. 18
2.5 Physical Planning Act, 1999 ............................................................................... 18
2.6 Land Planning Act Cap 303 ................................................................................ 18
2.7 Building Code 2000 ......................................................................................... 18
2.8 Other Relevant Laws ......................................................................................... 18
2.9 National Policy Framework ................................................................................ 20
2.10 World Bank Environmental and Social Safeguard Policies ................................. 22

## CHAPTER THREE: BASELINE INFORMATION OF THE STUDY AREA

3.1 Introduction ........................................................................................................ 24
3.2 Demographics .................................................................................................... 24
3.4 Infrastructure ...................................................................................................... 24
3.5 Population .......................................................................................................... 24
3.6 Economic Activities .......................................................................................... 25

## CHAPTER FOUR: PUBLIC PARTICIPATION AND CONSULTATION

4.1 Introduction ........................................................................................................ 26
4.2 Approach to Public Participation and Consultations ............................................ 26

## CHAPTER FIVE: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

5.1 Introduction ........................................................................................................ 30
5.2 Negative environmental impacts of construction activities ................................. 30
5.3 Negative Social Impacts .................................................................................... 32
5.4 Positive impacts of construction activities ........................................................... 32
5.4 Negative environmental impacts of operational activities ........................................... 33
5.5 Positive impacts of operational activities ................................................................. 33
5.6 Positive social impacts of operational activities ....................................................... 33
5.7 Negative environmental impacts of decommissioning activities ....................... 34
5.8 Positive environmental impacts of decommissioning activities .......................... 34

CHAPTER SIX: ANALYSIS OF PROJECT ALTERNATIVES ............................................ 35
6.1 Relocation Option ..................................................................................................... 35
6.2 Zero or No Project Alternative ................................................................................ 35
6.3 Analysis of Alternative Construction Materials and Technology ...................... 35
6.4 Solid waste management alternatives ..................................................................... 36

CHAPTER SEVEN: IMPACTS MITIGATION AND MONITORING ................................ 37
7.1 Introduction ................................................................................................................. 37
7.2 Mitigation of construction phase impacts ............................................................... 37
7.3 Mitigation of Social Impacts ...................................................................................... 39
7.4 Mitigation of operation phase impacts ..................................................................... 39
7.5 Mitigation of decommissioning phase impacts ....................................................... 39

CHAPTER EIGHT: ENVIRONMENTAL & SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP) ................................................................. 41
8.1 Significance of an ESMMP ....................................................................................... 41
8.2 Duties of the Proponent ......................................................................................... 41
8.3 Duties of the Contractor .......................................................................................... 41

CHAPTER NINE: AUXILLIARY INFORMATION ............................................................. 58
9.1 Budget ....................................................................................................................... 58
9.2 Monitoring Guidelines.............................................................................................. 58
9.3 Reporting .................................................................................................................. 58

CHAPTER TEN: CONCLUSION AND RECOMMENDATIONS .................................... 59

REFERENCES .................................................................................................................. 60
EXECUTIVE SUMMARY

1. Introduction

This Environmental & Social Impact Assessment (ESIA) report was prepared as per the provisions of the Environmental Management and Coordination Act No. 8 of 2015, and the Environmental Impact Assessment Regulations 2003. It is also in line with the World Bank Safeguards Policies, OP4.01 (Environmental Assessment). These safeguard policies are a set of instruments to ensure that the Bank supported lending operations minimize any adverse impacts on local people, their livelihoods, culture and the environment and are a mandatory mechanism for evaluating Bank financed projects during design, implementation and completion, mainly through environmental and social impact assessments. This Project Report gives the findings of the Environmental and Social Impact Assessment Study undertaken as an integral part of the design and construction process. The project highlights salient social, economic and environmental issues associated with the design, construction and operational aspects of the proposed Ngong’ Bus Terminus in Ngong’ Town of Kajiado County in the Nairobi Metropolitan Region.

2. Scope of the Project Report

This Environmental & Social Impact Assessment (ESIA) project report was prepared as per the provisions of the Environmental Management and Coordination Act No. 8, 2015 and more specifically to Environmental Impact Assessment Regulations 2003. It is also in line with the World Bank Safeguard Policies and specifically OP4.01 (Environmental Assessment). These Safeguard policies are a set of instruments to ensure that the Bank supported lending operations minimize any adverse impacts on local people, their livelihoods, culture and the environment and are a mandatory mechanism for evaluating Bank financed projects during design, implementation and completion, mainly through environmental and social impact assessments.

The study process leading to this project report was further designed to address client expectations as stipulated in the Terms of Reference.

3. Objectives of the Project Report Study

The main objective of the Study was to identify environmental and social impacts associated with the proposed Ngong’ Bus Park project and to recommend an appropriate environmental management strategy for the project. Thus, a core outcome of the Study is an Environmental and Social Management and Monitoring Plan (ESMMP) for the project.

4. Study Approach and Methodology

The systematic investigative and reporting methodology specified for conduct of Project Report Studies (Legal Notice 101 of EMCA) was adopted in this Study. Baseline data on project design was generated through discussion with the client and review of project documentation. Opinions formed were revalidated through field work entailing site investigations and interviews with potentially affected people and secondary stakeholders.
To identify, predict, analyze and evaluate potential impacts that may emanate from the project, diverse study methods and tools including use of checklists, matrices, expert opinions 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. Once approved by the Ministry of Transport, Infrastructure, Housing and Urban Development and NEMA, the Project Report will be disclosed as required from where accruing comments will be used to finalize the report.

5. Policy, Legal and Regulatory Framework
This Project Report has been developed to ensure that the proposed construction of the bus park 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-Kenya’s supreme environmental law and the National Constitution. 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. The entire study process has been designed to conform to the regulatory framework stipulated by the National Environment Management Authority (NEMA)-the body that will review this report and make decisions on grant of an environmental license to the development.

6. Project Description
The proponent aims to construct a modern bus park in Ngong’ Town in Kajiado County of Nairobi Metropolitan Region. The design for the construction works will include upgrading the park paving to concrete and bitumen standards for use by public transport vehicles. The works are located in Ngong’ Township in Kajiado County. The project covers a total area of approximately 4,422 square meters, (67,968 by 66,474 mm) square meters on approximately 0.85 Ha of land, that is on the current bus terminus Ngong’ Town.

7. Project Justification
The broad aim of the project is to ease congestion within Ngong’ township and reduce traffic jam especially during peak hours. This will also enhance mobility and restore order within the public transport sector.

8. Scope and content of project
The works shall include but not limited to:

   (a) Site clearance and earthworks as necessary
   (b) Excavation to remove unsuitable materials
   (c) Filling with approved materials as specified and directed.
   (d) Hand packing with approved stone as specified and directed
   (e) Base repairs as specified and directed
   (f) Repairs to existing drainage structures as specified and directed
9. **Scope of environmental and social assessment**

This Environmental & Social Impact Assessment (ESIA) Report considers the following aspects and others that may prove of significance during the study.

1. **Assess the project’s impacts on ecology.** This will in essence cover:
   
   i. Impacts due to loss of vegetation cover, if any
   ii. Surface run-off water, containment and flood control.

2. **Assess social implications of the development within the locality, region and nationally to include:**
   
   i. Economic implications of the development.
   ii. Security-threats, risk and enhancement.
   iii. Exacerbated social conflict over ownership and occupation of the bus park
   iv. Employment.
   v. Livelihoods.
   vi. Public health implications.
   vii. Demand and development of infrastructure and social amenities.

3. **Assess the impacts of development on landscape and land use such as:**
   
   i. Determine the impact on change on civic shape, scenery, aesthetic modifications.
   ii. Examine the compatibility and complementarity of the development with the surrounding land uses.
   iii. Examine the impacts of dumping of spoil at Ngong Dumpsite
4. Assess the impacts of the development on power demands, water demands, and access road congestion as well as possible impacts on surface run-off and ground water qualities and quantities, if any.

5. Impacts of safety during construction to children whose parents are traders and passengers – picking and dropping. This is mainly because of increased traffic during construction requiring better traffic management plan during construction for the safety of workers, safety of motorists and other road users during construction.

6. Develop an Environmental and Social Management and Monitoring Plan (ESMMP) that would mitigate the possible impacts on the environment.

10. Public Participation Process
Public participation and consultative forums were held at the site that included traders, business community, matatu associations, passengers and county government. The aim of the consultative meetings was to obtain data related to the past and present operations of the project bus park that are significant to the future environmental status of the area, the management of the project both during and after implementation. The stakeholders responded positively to the development as long as mitigation and mending up measures, waste management, and occupation conflicts among others are developed and implemented simultaneously with the project. The record of the consultations is presented in this report in the form of questionnaires, attendance sheets and minutes of meetings held that had been administered to the stakeholders seeking their views on the project and especially as regards environmental and social management during project implementation.

11. Findings from the Study
(i) Potential positive impacts anticipated:
The core observation of this study is that the proposed bus park construction project is aimed at improving commuter services and the broad transport sector. As such, the project in itself is already an activity in mitigation of an existing concern and this is the prime justification of the proposed investment. Other positive implications of the project will accrue from its potential to create short-term business and employment opportunities to both professional staff and workers during the design phase while, at construction phase, traders will benefit from opportunities to supply construction material while locals will be employed in works. Upon commissioning, the project will improve the transportation condition and order in the town leading to improved transport services.

(ii) Potential adverse impacts:
Construction activities will introduce nuisances such as dust, noise, vibrations and fumes which however can be effectively managed through shortening the construction period. Social vices associated with influx of job seekers can disturb the social order and even lay the ground for escalation of HIV/AIDS cases whose impacts are likely to be prolonged in prevalence. Some displacement and social disturbance of traders who have encroached the parking area as well as the
transports who currently use part of the park will occur but this will be mitigated by taking the traders as part of a resettlement action plan for the adjacent market that is to be rehabilitated under NaMSIP program whilst the transporters and traders will temporarily be relocated to an adjacent area that will be prepared for that purpose to minimize or eliminate interruption of livelihoods. The notable potential negative environmental impacts that were identified include among others:

i. Air pollution due to noise, vibration and dust;
ii. Traffic congestion during construction;
iii. Material sourcing and supply for the construction and maintenance works;
iv. Physical and economic displacement during construction. There will be displacement of traders encroaching the bus park area from the adjacent Ngong’ Market owing to inadequate space in the market area. These affected persons will be included in the Resettlement Action Plan (RAP) for the market that is to be carried out prior to proposed development of the Ngong’ Market that has also been planned under NaMSIP; and
v. Any effects from uncontrolled storm-water run-offs
vi. The project construction should also ensure management of influx of workers and other persons and adherence to a Code of Conduct to manage this influx

These have to be mitigated sufficiently for the project to progress. Mitigation measures include dust abatement, traffic management, and material sourcing from licensed quarries and borrow pits and a resettlement action plan for affected persons. The mitigation measures to manage these impacts are as identified in the Environmental Management and Monitoring Plan (EMMP) in the report.

(iii) Residual and cumulative impacts:
The project has no residual or cumulative impacts as all can be effectively mitigated.

12. The ESMMP
An ESMMP has been developed whose pursuit can greatly improve the overall net effect of the project. This report observes that the bulk of adverse impacts will manifest at the construction stage in which case, the core effort in mitigation will be concentrated in the contract for construction. This report therefore requires that the ESMMP be integrated into the design report with appropriate allocation of funds in the Bills of Quantities. The contract for construction should bear clauses binding the contractor to implement impact mitigation as part of the civil works. The NaMSIP’s PCT will mount own internal monitoring to ascertain environmental and social sensitivity at all stages of project development. During project development, a grievance redress mechanism will also be in place to handle all complaints and there will be creation of awareness and sensitization on HIV-AIDS. The ESMMP budget is estimated at about Kshs. 4,155,000. Moreover, this project’s potential benefits and positive impacts far outweigh the negative impacts.

12. Total Cost of the Project
Total cost of the project is approximated to be Kshs. 86,941,875/30.

13. Recommendations and Conclusions of this Project Report
In the view of this study, the project as currently proposed is environmentally sound. An ESMMP has been outlined to guide resolution of potential adverse impacts while enhancing the positive ones. Further, all negative impacts need to be mitigated and it is recommended that this project is granted NEMA licensing and other clearances to pave way for implementation.

Our conclusion is that the project is important for economic development of Kajiado County and has balanced environmental considerations and benefits. The ESIA team has given adequate measures to mitigate the negative impacts and a management plan proposed which the proponent should adhere to.
CHAPTER ONE: INTRODUCTION

1.1 Introduction and Project Objectives
Rapid urbanization has left Kenyan cities with huge unmet demand for critical infrastructure and basic services. This has constrained the productivity of businesses and negatively impacted the quality of life of residents. This uncoordinated urbanization has led to massive expansion of overcrowded and impoverished informal settlements; waste of man hours in daily traffic jams due to lack of mass transport; uncollected solid waste, which end up blocking drainage systems, and contributing to periodic flooding; and sewage seeps into ground water, contaminating rivers and streams. Further, most major cities are financially fragile or insolvent, and have weak management structures, while key institutions lack adequate capacity.

Nairobi Metropolitan Service Improvement Project (NaMSIP) is part of a wide municipal development initiative by the Government and the development partners to address these problems. NaMSIP is an initiative of the Kenya Government with the support of the World Bank under the Country Partnership Strategy (CPS). The CPS emphasizes the themes of growth, equity, and environment, with a special emphasis on governance. NaMSIP contributes to the governance, growth, and improved environmental management agendas. It seeks to strengthen structures of governance in the metropolitan area, including the county administration and the new metropolitan authorities. NaMSIP contributes to the CPS’s growth objective by supporting design and implementation of critical urban services—including transport, sanitation, and solid waste management—that will allow the metropolitan area to meet the needs of businesses and residents. Investment in infrastructure also contributes to the growth agenda by improving the competitiveness of Kenya’s cities as places to live and invest.

NaMSIP is intended to improve services in the metropolitan area which are critical for economic development that include solid waste management, transport systems, storm water management, water supply and sanitation, disaster management and security/street lighting among many others. In addition, the implementation of the project will give the Ministry an opportunity to build its human resource and technical capacity in carrying out metropolitan-wide activities. NaMSIP is in line with the Government’s national development priorities and policies as well as ongoing public sector reform agenda. The project also supports strengthening of public sector management and accountability.

1.2 Study Approach and Methodology
The systematic investigative and reporting methodology specified for conduct of Project Report Studies (Legal Notice 101 of EMCA) was adopted in this Study. Baseline data on project design was generated through discussion with the client and review of project documentation. Opinions formed were revalidated through field work entailing site investigations and interviews with potentially affected people and secondary stakeholders.
To identify, predict, analyze and evaluate potential impacts that may emanate from the project, diverse study methods and tools including use of checklists, matrices, expert opinions 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. Once approved by the Ministry of Transport, Infrastructure, Housing and Urban Development and NEMA, the Project Report will be disclosed as required from where accruing comments will be used to finalize the report. Consequently, this report provides the following;

- The location of the project including the physical environment that may be affected by the project’s activities.
- The activities that shall be undertaken during the project design, construction, operation and of the project.
- The materials to be used, products and by-products including waste to be generated by the project and the methods of disposal.
- The potential environmental and social impacts of the project and mitigation measures to be taken during and after the implementation of the bus park project.
- An action plan for prevention and management of possible accidents during the project cycle.
- A plan to ensure the health and safety of the workers and the neighboring communities.
- The economic and social cultural impacts to local community.
- The project cost – Kshs. 86,941,875/30
- Any other information that the proponent may be requested to provide by NEMA.

This report also seeks to ensure that all the potential environmental and social impacts are identified and that workable mitigation measures are adopted. The report also seeks to ensure compliance with the provisions of the EMCA 1999, Environmental (Impact Assessment and Audit) Regulations 2003 as well as other regulations and World Bank OP4.12.

The report emphasizes the duties of the proponent and contractor during the construction phase as well as the operation phase of this project. All the materials and workmanship used in the execution of the work shall be of the best quality and description. Any materials condemned by the Proponent shall be immediately removed from the site at the contractors cost.

The premises should also be planned to be landscaped and with adequate drainage facilities. Environmental concerns need to be part of the planning and development process and not an afterthought, it is therefore advisable to avoid land use conflicts with the surrounding area. To avoid unnecessary conflicts that retard development in the project area, the proponent undertook this ESIA and incorporated environmental concerns as advised by the Authority. Finally, a comprehensive Environmental Management and Monitoring Plan (EMMP) is mandatory for a project of this magnitude and nature because large quantities of solid wastes are likely to be generated with temporary interference to the general public and services during project execution. The proposed work at the bus park includes upgrading the bus park by removal of the underlying
soil and replacing it with pavement of concrete works and paving blocks and concrete, allowing for drainage and other necessary works including fencing. This is as described in the scope of works in this report and in the table below. This is the subject and objective of this ESIA.

1.3  **Project Description and Justification**
The works are located in Ngong’ Township in Kajiado County. The project covers a total area of approximately 4,422 square meters, (67,968 by 66,474 mm) square meters on approximately 0.85 Ha of land, that is on the current bus terminus Ngong’ Town. The broad aim of the project is to ease congestion within Ngong’ township and reduce traffic jam especially during peak hours. This will also enhance mobility and restore order within the public transport sector.

1.4  **Scope and content of project**
The works shall include but not limited to:

(q) Site clearance and earthworks as necessary
(r) Excavation to remove unsuitable materials
(s) Filling with approved materials as specified and directed.
(t) Hand packing with approved stone as specified and directed
(u) Base repairs as specified and directed
(v) Repairs to existing drainage structures as specified and directed
(w) Improvement/construction to the drainage facilities as directed
(x) Repairs and/or improvement/construction to footpaths and shoulders as directed
(y) Laying of bituminous/paving blocks standards on the existing earth sections
(z) Maintenance of the works during the construction and maintenance periods specified
(aa) Traffic Management through the works and from the works
(bb) Relocation and/or protection of other services including but not limited to water pipes, sewer pipes, Street lighting, Power and Telephone
(cc) Installation of Streetlights
(dd) Provision of sheds/sitting/utilities
(ee) Provision of NMT facilities
(ff) Any other works as instructed by the Engineer and/or as specified in this document

The project assessment investigates and analyses the anticipated environmental and social impacts of the proposed development in line with the Environmental (Impact Assessment and Audit) 2003 regulations.
A further scoping report is as shown in the table below.
ITEM | STATUS OF THE BUS TERMINUS | RECOMMENDATION
--- | --- | ---
Ngong Bus Terminus | o The works shall be carried out on the existing bus terminus. This has earth drains, no clearly marked walk ways and boundaries not very well defined. The surface is murred and there is a lot of ponding due to poor drainage. | o Upgrading to bituminous/paving blocks standards the existing earth sections; o Provision of sheds/sitting/utilities; o Provision of NMT facilities; o Provision of street/security lighting works; o Construction and Improvement of storm water drains; and o Any others as directed by the Engineer.

General GPS Coordinates

<table>
<thead>
<tr>
<th>Construction of Ngong’ Bus Terminus in Ngong’ Town of Kajiado County</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>1° 22’S</td>
<td>36° 38’E</td>
<td>1961metres above sea-level</td>
<td></td>
</tr>
</tbody>
</table>

1.5 Description of the Project’s Construction Activities

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

1.5.2 Demolition works
Any wastes or debris arising from any demolitions will be transported to licensed site for disposal.

1.5.3 Sourcing and transportation of construction materials
Construction materials will be transported to the project site from their extraction, manufacture, or storage sites using transport trucks. The materials to be used in construction of the project will be sourced from neighboring areas of Ngong’ Town. Greater emphasis will be laid on procurement of construction materials from within the local area, which will make both economic and environmental sense as it will reduce negative impacts of transportation of the materials to the project site through reduced distance of travel by the materials transport vehicles.
1.5.4 Storage of materials
Construction materials will be stored on site, if need be. Bulky materials such as rough stones, ballast, sand and suchlike will be brought to site only when needed owing to space constraints. To avoid piling large quantities of materials on site, the contractor should order bulky materials such as sand, gravel and stones in batches.

1.5.5 Excavation and foundation works
Excavation will be carried out to prepare the site for construction of foundations, pavements and drainage systems. This will involve the use of heavy earthmoving machinery, human effort and appropriate equipment.

1.5.6 Construction
This involves putting the different layers – sub-base, base and final finish – in aggregates and a final finish in blocks as well as compaction as required of different levels.

1.5.7 Landscaping
To improve the aesthetic value or visual quality of the site once construction ceases, the contractor will carry out landscaping.

1.6 Description of the Project’s Operational Activities

1.6.1 General repairs and maintenance
The bus park will be repaired and maintained by Kajiado County during its operational phases.

1.7 Description of the Project’s decommissioning activities

1.7.1 Demolition works
Upon decommissioning (unlikely), the project components including pavements and drainage systems will be demolished. This will produce a lot of solid waste, which will be reused for other construction works or if not reusable, disposed of appropriately by a licensed waste disposal company.

1.7.2 Site restoration
Once all the waste resulting from demolition and dismantling works is removed from the site, the site will be restored through replenishment of the topsoil.

1.7.3 Noise and Vibration
Little concern is over the possibility of high noise and vibration levels in the project site as a result of construction works. The sources of noise pollution will include transport vehicles, construction machinery and metal grinding and cutting equipment. However, the proponent will take appropriate steps to minimize noise impacts including provision of appropriate protective equipment to construction workers, planning and minimizing the frequency of materials transport, and ensuring that all equipment are well maintained. The construction works will also be carried out exclusively during the day.
1.7.4 Dust generation
There is possibility of generation of dust within the project site and surrounding areas as a result of transportation of building materials, especially if the construction is done in dry weather. The proponent will ensure that dust levels at the site are minimized through sprinkling water in areas being excavated and along the tracks used by the transport trucks within the site. Additional mitigation measures presented in the EMMP will be fully implemented to minimize the impacts of dust generation.

1.7.5 Transport trucks
The heavy transport trucks that will be turning around the project site while delivering construction materials may cause traffic file-up. In addition to contribution of noise and emission of exhaust fumes around the premises, such trucks may slow down traffic flow. The contractor will put in place measures to address such concerns by ensuring that delivery trucks are well driven and managed. In addition, the mitigation measures outlined in the EMMP will be fully implemented to address environmental issues relating to construction trucks.

1.7.6 Aesthetics
The proponent should ensure high hygiene standards within the premises and surrounding areas during construction and during the operation stages of the project. More so via the prescribed ESMMP, the proponent shall put in place several measures aimed at ensuring high standards of hygiene and housekeeping within the premises and surrounding areas.
CHAPTER TWO: LEGAL, INSTITUTIONAL AND LEGISLATIVE FRAMEWORK

2.1 National, Legal and Institutional Framework

Kenya has approximately 77 statutes that guide on environmental management and conservation. Most of these statutes are sector specific, covering issues such as public health, soil conservation, protected areas conservation and management, endangered species, public participation, water rights, water quality, air quality, excessive noise control, vibration control, land use among other issues.


2.2 Environmental Management and Coordination Act of 2015

This project report has been undertaken in accordance with the Environment (Impact Assessment and Audit) regulation 2003, which operationalize the environment management and coordination act 1999. The report is prepared in conformity with the requirements stipulated in the environmental management and coordination act no 8 of 1999 (EMCA) and the Environmental Impact Assessment and audit regulations 2003 regulation 7 (1) and the second schedule. Part II of the said act states that every person is entitled to a clean and healthy environment and has the duty to safeguard the same. In order to achieve the goal of a clean environment for all, new projects listed under the second schedule of Section 58 of EMCA No 8 of 1999 shall undergo an Environmental Impact Assessment. This includes development activities such as this new project. In additional to the legal compliance above, the following legal aspects have also have been taken into consideration or will be taken into consideration before commencement of construction:

2.3 Occupational Health and Safety, 2007

The said Act requires that before any premises are occupied or used a certificate of registration should be obtained from the chief inspector. The occupier must keep a general register with provision for health, safety and welfare of workers on site. For safety, fencing of the premise and
dangerous parts must be done. There should be provision for clean and sanitary working conditions. More so there must be also provision of quality and quantity wholesome drinking water.

2.4 Public Health Act Cap 242

Part IX section 115 of the Act states that no person or institution shall cause nuisance or condition liable to be injurious or dangerous to human health section 116 requires that local authorities take all lawful necessary and reasonable practicable measures to maintain their jurisdiction clean and sanitary to prevent occurrence of nuisance or condition liable to injurices or dangerous to human health. This will have to be provided for this project.

2.5 Physical Planning Act, 1999

The said Act section 29 empowers the local authorities to reserve and maintain all land planned for open spaces, parks, urban forests and green belts. The same section allows for prohibition or control of the use and development of an area.

Section 30 states that any person who carries out development without development permission will be required to restore the land to its original condition. It also states that no other licensing authority shall grant license for commercial or industrial use or occupation of any building without a development permission granted by the respective local Authority.

2.6 Land Planning Act Cap 303

Section 9 of the subsidiary legislation (the development and use of land Regulations 1961) under which it requires that before the local authority submits any plans to the minister for approval, steps should be taken as may be necessary to acquire the owners of any land affected by such plans. Particulars of comments and objections made by the landowners should be submitted, which intends to reduce conflict of interest with other socio economic activities.

2.7 Building Code 2000

Section 194 requires that where sewer exists, the occupants of the nearby premises shall apply to the Local Authority for permit to connect to the sewer line and all the wastewater must be discharged in to sewers. The code also prohibits construction of structures or building on sewer lines.

2.8 Other Relevant Laws

2.8.1 EMCA (Waste Management) Regulations, 2006

These Regulations guides on the appropriate waste handling procedures and practices. It is anticipated that, the proposed project will generate large quantity of solid waste (mostly excavated top soil) during construction which will need to be managed through reuse, appropriate disposal. Others include solid waste from the generated from construction materials such as cement bags, bitumen, empty drums, among others. This regulation requires that:-

i. The contractor should not dispose any waste on the highway, street road, recreational area and public places;

ii. Waste should be segregated and grouped according to their similarity for example plastics, toxic, organic etc;

iii. All waste should be deposited in a designated dumping are approved by the local authority;
iv. All waste handlers engaged by the proponent should be licensed by NEMA and possess all relevant waste handling documents such as waste transport license, tracking documents, license to operate a waste yard, insurance cover, vehicle inspection documents among others;

v. Contractor should implement cleaner production principles of waste management strategy namely reduce, reuse and recycle;

vi. All hazardous wastes are labeled as specified in section 24 (1-3) of the regulation.

vii. The fourth schedule lists wastes considered as hazardous and solvents, emulsifiers/emulsion, waste oil/water and hydrocarbon/water mixtures. Road and bus parks projects involve use of inputs which are likely to generate the mentioned wastes and thus will need to be handled as required by the regulations.

This law requires that all wastes generated by this project in all its phases are managed in an environmentally friendly manner.

2.8.2 EMCA (Noise and Vibrations Control) Regulations, 2009

These Regulations provides guidelines for acceptable levels of noise and vibration for different environments during the construction and operation phase. Section 5 of the regulation warns on operating beyond the permissible noise levels while section 6 gives guidelines on the control measures for managing excessive noises and copy of the first schedule indicating the permissible noise levels for different noise sources and zones. The project team should observe the noise regimes for the different zones especially when working in areas termed as silent zones which are areas with institutions and worship places. These areas are permitted exposure to sound level limits of not exceeding 40 dB (A) during the day and 35 dB (A) at night. The regulation states that a day starts from 6.01 a.m. to 8.00 p.m. while night starts from 8.01 p.m. – 6.00 a.m. Construction sites near the silent zones are allowed maximum noise level of 60 dB (A) during the day and night levels are maintained at 35 dB (A). The time frame for construction sites is adjusted and the day is considered to start at 6.01 a.m. and ends at 6.00 pm while night duration from 6.01 p.m. to 6.00 a.m. Part III of the regulation gives guidelines on noise and vibration management from different sources. Sections 11, 12 and 13 of the stated part give guidelines on noise and vibration management from machines, motor vehicles and night time construction respectively. Section 15 requires owners of activities likely to generate excessive noise to conduct an ESIA to be reviewed and approved by NEMA. It is anticipated that the proposed project will generate excessive noise and/or vibration due demolition of the existing road this noise will originate from the construction equipments, vehicles and the workers since the road neighbors homesteads and institutions in some sections and it is therefore recommended that the construction team develops mitigations to reduce noise propagation in the project area and also ensure that the project works are only conducted during the day.

2.8.3 EMCA (Air Regulations), 2014

This Act is meant to ensure that all activities at least maintain ambient quality standards of air and any pollution to air (in particulate matter, dust or obnoxious and poisonous gases) needs to be sufficiently mitigated.
2.8.4 Way Leave Act Cap 292
Section 3 of the Act states that the Government may carry any works through, over or under any land whatsoever, provided it shall not interfere with any existing building or structure of an ongoing activity. 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.

2.8.5 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.

2.8.6 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. This Ngong’ Bus Terminus project is under the provisions of the Act.

2.8.7 County Governments Act, 2012
This Act delineates the roles and responsibilities of county governments with their administrations as well as the role of county citizens in public participation and consultations regarding projects at the county level. CPP is part of this bus park project involving the county government and other stakeholders.

2.8.8 HIV Aids Prevention and Control (Cap 246A)
This Act is to promote public awareness about the causes, modes of transmission, consequences, means of prevention and control of HIV and AIDS. It also seeks to positively address and seek to address conditions that aggravate the spread of HIV infection. In the Ngong’ bus park project, there will be awareness creation and sensitization on the workers and other persons on the risks of infections and fostering prevention and control. It is also recommended that condoms for use by workers will be availed at site to prevent infections.

2.9 National Policy Framework
Several policies have been developed over the years to guide the development and management of proposed projects to ensure both economic and social sustainability these policies are discussed below.

2.9.2 The National Poverty Eradication Plan (NPEP)
The objective of the NPEP is to reduce the incidences of poverty in both rural and urban areas by 50 percent by the year 2015, as well as to strengthen the capabilities of the poor and vulnerable groups to earn income. It also aims to narrow gender and geographical disparities and create a healthy, better-educated and more productive population. This plan has been prepared in line with the goals and commitments of the World Summit for Social Development (WSSD) of 1995.
The plan focuses on the four WSSD themes of poverty eradication; reduction of unemployment; social integration of the disadvantage people and creation of an enabling economic, political, and cultural environment which can be achieved through developing the transport and communication sector. The plan will be implemented by the Poverty Eradication Commission (PEC) formed in collaboration with Government ministries, Community Based Organization (CBO), private sector, Non-Governmental Organization (NGO), bilateral and multilateral donors.

2.9.3 The Poverty Reduction Strategy Paper (PRSP)
The PRSP has the twin objectives of poverty reduction and enhancing economic growth. The paper articulates Kenya’s commitment and approach to fighting poverty; with the basic rationale that the war against poverty cannot be won without the participation of the poor themselves. The proposed project through improving transport in the area will, contribute towards economic growth, as well as relieve the daily pressure of poverty for sustainable number of people by enabling them reach the markets and suppliers on time.

2.9.4 National Environmental Action Plan (NEAP)
The NEAP for Kenya was prepared in mid 1990s. It was a deliberate policy whose main effort is to integrate environmental considerations into the country’s economic and social development. The integration process was to be achieved through multi-sectoral approach to develop a comprehensive framework to ensure that environmental management and the conservation of natural resources forms an integral part of societal decision-making. The application of this plan is widening as the government through NEMA does not approve a development project unless the impacts of the proposed project are evaluated and mitigation measures proposed for incorporation in the project’s development plan which is in line with the requirements of the NEAP.

2.9.5 Environmental and Development Policy (Session Paper No.6 1999)
As a follow-up to the foregoing, the goal of this policy is to harmonize environmental and developmental goals so as to ensure sustainability. The paper provides comprehensive guidelines and strategies for government action regarding environment and development. It is recommended that the requirements of this policy are observed, as much by:

i. Taking measures to enhance the water catchment by replanting trees, using clean energy to reduce deforestation;
ii. Undertaking environment friendly practices during project implementation;
iii. Take measures to reduce pollutants leading to eutrophication of water bodies both above- and underground water bodies; and
iv. Rehabilitate project affected areas and public infrastructure among other

2.9.6 International Policy Framework
Kenya is a signatory as well as a party to various international conventions, treaties and protocols relating to the environment which aims at achieving sustainable development. According to the Registrar of International Treaties and other Agreements in Environment (UNEP 1999), there are 216 treaties, 29 of which are of interest to Kenya. The country is a signatory to 16 such agreements, which range from use of oil, protection of natural resources and protection of the atmosphere. The agreements are both regional and international and became legally binding on Kenya upon
ratification thereof by the rightfully designated Kenyan Authority. The agreements of interest to Kenya can be categorized as those for protecting natural resources, atmosphere and social wellbeing of man.

2.9.7 The National Environment Management Authority

The responsibility of the National Environmental Management Authority (NEMA) is to exercise general supervision and, co-ordination of all matters relating to the environment and to be the principal instrument of government in the implementation of all policies relating to the environment. The Authority shall review the project report for the proposed project, visit the project site to verify information provided in the report and issue an ESIA license if it considers that all the issues relevant to the project have been identified and mitigation measures to manage them proposed.

2.10 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. The WBG EHS guidelines as stipulated by the Bank should be strictly adhered to in this project and the more stringent between the Bank’s or local legislation should be complied with.

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 its 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 if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. **This particular NaMSIP subproject has been categorized as B.**

(c) 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 EA action is required for a Category C project.

(d) 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.

The table below shows the applicability of World Bank Operational Safeguards as it applies to this construction of this Ngong’ Bus Terminus in Kajiado County of Nairobi Metropolitan Region.
## Table 1: Applicability of WB OPs

<table>
<thead>
<tr>
<th>OP</th>
<th>Title</th>
<th>Comments</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 project due to its road rehabilitation and other activities, as described</td>
</tr>
<tr>
<td>4.04</td>
<td>Natural Habitats</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>4.09</td>
<td>Pest Management</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>4.10</td>
<td>Indigenous Peoples</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>4.11</td>
<td>Physical Cultural Resources</td>
<td>Not applicable. Site visits and inventories have not indicated the presence of any cultural (historical, archaeological) sites in the sample settlements. 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>Applicable as far as the PAPs from the Ngong’ Market are concerned who are to be incorporated in the RAP planned to be conducted for the market for resettlement and compensation as these PAPs are traders taking advantage of the bus park area as a result of insufficient physical space inside the market. Kajiado County will have to organize a place for relocation of these PAPs including an alternative area for parking of public transport vehicles as they await completion of the project.</td>
</tr>
<tr>
<td>4.36</td>
<td>Forests</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>4.37</td>
<td>Safety of Dams</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>7.50</td>
<td>Projects on International Waterways</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>7.60</td>
<td>Projects in Disputed Areas</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
CHAPTER THREE: BASELINE INFORMATION OF THE STUDY AREA

3.1 Introduction
Ngong is a town near the Ngong Hills along the Great Rift Valley, located in the southwest of Nairobi, in southern Kenya. The word "Ngong" is a Maasai word meaning "knuckles", referring to the 4 hill peaks of the ridge, which stands alone rising from the plain around Nairobi. The Ngong Hills, from the eastside slopes, overlook the Nairobi National Park game reserve and, off to the north, the city of Nairobi. The Ngong Hills, from the west side slopes, overlook the Great Rift Valley dropping over 4,000 feet below, where nomadic Maasai live.

3.2 Demographics
The population of Ngong is approximately 136,019 (projected from 2009 national census) and the elevation of Ngong town is 1,961 meters in altitude, but the altitude of the hills is about 2,460 meters above sea level. Ngong was the central town of Ngong division while Kajiado County was a district. During the years of British colonial rule, the area around the Ngong Hills was a major settler farming region, and many traditional colonial houses are still seen in the area. Today Ngong and its environs is a well-developed outskirt providing a good residing place for many of Nairobi's workers. Ngong division consists of the Nairobi suburbs of Ongata Rongai, Kiserian, [Matasia] (Oloolua Area) and Kitengela where the residents are primarily Nairobians who build houses in the more quiet regions of the city.

3.3 Climate
The climate in Ngong is warm and temperate. There is a great deal of rainfall in Ngong, even in the driest month. This climate is considered to be Cfb according to the Köppen-Geiger climate classification. The temperature here averages 16.7 °C. In a year, the average rainfall is 865 mm. There is a difference of 174 mm of precipitation between the driest and wettest months. The variation in temperatures throughout the year is 4.0 °C. March is the warmest month of the year. The temperature in March averages 18.2 °C. The lowest average temperatures in the year occur in July, when it is around 14.2 °C.

3.4 Infrastructure
Due to such rapid urban growth, provision of basic infrastructure for all has become an important concern of development planners in Ngong’. Basic infrastructural services that have deteriorated due to such rapid increase in population include: Solid Waste Management (SWM) system; water and sewage systems; drainage and flood protection from Ngong’ Hills; roads and vehicles parking; transportation; and telecommunications. Greater environmental pollution, congestion and other problems have been the result of under-provision of such basic services.

3.5 Population
The actual and projected population of Ngong’ Town is as shown in the following table.
Environmental & Social Impact Assessment Project Report for the Construction of Ngong’ Bus Terminus in Kajiado County of Nairobi Metropolitan Region

<table>
<thead>
<tr>
<th>Urban Centres</th>
<th>2009</th>
<th>2015</th>
<th>2017 (Projected)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Femal e</td>
<td>Total</td>
</tr>
<tr>
<td>Ngong</td>
<td>5245</td>
<td>3</td>
<td>10407</td>
</tr>
<tr>
<td></td>
<td>51620</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

3.6 Economic Activities

Ngong’ Town is a key centre of commercial activities in Kajiado County. The major economic activities include trading, farming and cattle rearing. Like most such towns, Ngong’ has a crowded market and trading areas, middle class suburbs, and spacious mansions for the better off individuals. It also has dwellings for the under-privileged and high unemployment.

3.7 Ngong’ Bus Park Administration

The bus park initially on an unpaved area is managed by the County Government with public transport vehicles currently managed by about four cooperative companies who pay levies to use the park to the County Government. The number of matatus or buses operating from the park number about 53. It was not possible to establish the total revenue paid to the county government from the levies paid.

3.8 Baseline Environmental and Socio-Economic Conditions

The current location of the bus park is a fairly flat topography and surrounded by commercial premises and the main tarmac road in Ngong’ Town. It is next to the main market in Ngong’ Town and owing to the congestion of traders in this market, about 300 traders have spilled over from the main market area to the park, causing heavy congestion also in the park. The soils in this area are clay soils that are well drained. Owing to the non-paving of the park, dust especially during dry weather is prevalent and high levels of noise and congestion especially during market days.
CHAPTER FOUR: PUBLIC PARTICIPATION AND CONSULTATION

4.1 Introduction

Legal Notice 101 of EMCA 1999 (The Environmental Regulations, 2003) requires that all environmental assessment process in Kenya to incorporate Public Consultation. The aim is to ensure that all stakeholder interests are identified and incorporated in project development, implementation and operation. Of necessity, stakeholder consultations should take place alongside project design and implementation to ensure that the project puts in place measures to cater for stakeholder concerns in all project phases.

4.2 Approach to Public Participation and Consultations

In case of the proposed Ngong’ Bus Park Project, public participation and consultations followed these steps:

1) Identification of Stakeholders

Like in all civil works projects, the core stakeholders comprise people to be directly served by the bus park and include traders, matatu and bus drivers and their conductors, businessmen, passengers and surrounding community. This is the group that is likely to benefit or be affected by the proposed development hence the primary stakeholders. This study also identified a second category of stakeholders comprised of GoK officers, market committee officials, matatu associations officials, county government heads and institutions in charge of diverse sectors (Ministry of Transport, among others), which are likely to be impacted by the bus park construction project. This category was also consulted as key informants on sectoral policy and to advise this EIA study on mitigation measures to be put in place so as to minimize adverse impacts in respective sectors. Each category of stakeholders called for a different approach to consultation.

2) Modalities for stakeholder consultation

The following techniques and instruments were used for public participation and consultation;

- Photography and direct observation

Photography was particularly useful as it captured the real situation on the ground that was relevant to the study. Direct observation involved site viewing of the proposed project location to see the extent of development on it and the condition of the existing railway station as shown on the plates below.
Photographs of Stakeholders Meeting No. 1 – September 2, 2016

Public Participation & Consultation with chairmen of the different cooperative societies of public transportation organizations and county administrator – disclosure of project design and status conducted

Further Public Participation & Consultation guided by the local World Bank Social Safeguards Specialist
Photographs of Stakeholders Meeting No. 2 – September 29, 2016

Meeting with the traders who were displaced from the park and resettled temporarily across from the park.

Meeting with officials of the market committee and officials of the transport saccos.
Interviews

Interviews and stakeholder engagements were carried out in the form of a public meeting where attendance sheets were filled in and minutes of meeting taken. It also included filling in of questionnaires to solicit views regarding this project from these persons. The status of the project as well as its design was disclosed to the stakeholders at this point. The questionnaire initially gave introduction and created awareness to these stakeholders of the proposed project. Afterwards, the ESIA team enquired on the acceptance of the project and whether the project would cause any negative impacts on the following:

- Local residents and their businesses;
- Ecology of the area;
- Human environment;
- Recreational and leisure facilities;
- Public health and safety;
- Effect on water resources and quality;
- Effect on the soils;
- Effect on road transport and;
- Waste disposal.

The said parameters were directly mentioned to foresee which could have intense negative impact.

4.3 Issues Raised

The issues raised in the public meeting included the following:

1. What would happen to the traders currently occupying the park – they will be relocated by the County Government and be subject to the RAP for the adjacent NaMSIP market development as the traders are a spill-over from the congested market.
2. How long the project would take – about six months.
3. What would happen to the buses and other public transport vehicles currently using the park and will they be allowed back once the project is completed – they will be provided with alternative parking area by the county government and relocated back once the project is complete.

During the key stakeholders meeting, it was reported that the county government would take care of the relocation of the traders and the transporters. Further issues are as reflected in the minutes of meetings in the Annexure.

The attendance sheets, questionnaires and minutes of meeting for CPP are as attached in this report.
CHAPTER FIVE: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

5.1 Introduction
This chapter outlines the potential negative and positive impacts that will be associated with the bus park 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 bus park 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.

5.2 Negative environmental impacts of construction activities

5.2.1 Extraction and use of construction materials
Construction materials such as rough stone, ballast and bitumen required for construction of the bus park project will be obtained from quarries and bitumen dealers. Since substantial quantities of these materials will be required for construction of the park, the availability and sustainability of such resources at the extraction sites will be negatively affected, as they are not renewable in the short term. In addition, the sites from which the materials will be extracted may be significantly affected in several ways including landscape changes, displacement of animals and vegetation, poor visual quality and opening of depressions on the surface leading to several human and animal health impacts.

5.2.2 Dust emissions
During construction, the project will generate substantial quantities of dust at the construction site and its surrounding. The sources of dust emissions will include excavation and leveling works, and to a small extent, transport vehicles delivering building materials. Emission of large quantities of dust may lead to significant impacts on construction workers and the local residents, which will be accentuated during dry weather conditions.

5.2.3 Exhaust emissions
The trucks used to transport various building materials from their sources to the bus park project site will contribute to increases in emissions of CO$_2$, NO$_2$ and fine particulate along the way as a result of diesel combustion. Such emissions can lead to several environmental impacts including global warming and health impacts. Because large quantities of building materials are required, some of which are sourced outside Ngong’, such emissions can be enormous and may affect a wider geographical area. The impacts of such emissions can be greater in areas where the materials are sourced and at the construction site as a result of frequent running of vehicle engines, frequent vehicle turning and slow vehicle movement in the loading and offloading areas.
5.2.4 Noise and vibration
The construction works, delivery of construction materials by heavy trucks and the use of machinery/equipment including bulldozers, generators, tippers and concrete mixers will contribute to high levels of noise and vibration within the construction site and the surrounding area. Elevated noise levels within the site can affect project workers and the residents, passers-by and other persons within the vicinity of the project site. The movement of trucks and other equipment in the project area during the works implementation will cause noise and dust if the works will be in dry weather. This noise and dust may also affect the schools in the vicinity of the construction works.

5.2.5 Risks of accidents and injuries to workers
Because of the intensive engineering and construction activities including concrete work, construction workers will be exposed to risks of accidents and injuries. Such injuries can result from accidental falls, injuries from hand tools and construction equipment and risk of vehicular accidents.

5.2.6 Increased soil erosion
Excavation works associated with this project may lead to increased soil erosion at the project site and release of sediments into the drainage systems. Uncontrolled soil erosion can have adverse effects on any local water bodies.

5.2.7 Solid waste generation
Large quantities of solid waste will be generated as a result of demolitions and excavations in the existing park. Such solid waste materials can be injurious to the environment through blockage of drainage systems, choking of water bodies and negative impacts on human and animal health. This may be accentuated by the fact that some of the waste materials contain hazardous substances such as paints, cement, adhesives and bitumen, while some of the waste materials including plastic containers are not biodegradable and can have long-term and cumulative effects on the environment.

5.2.8 Energy consumption
The park project will consume fossil fuels (mainly diesel) to run transport vehicles and construction machinery. Fossil energy is non-renewable and its excessive use may have serious environmental implications on its availability, price and sustainability. The project may also use electricity supplied by Kenya Power & Lighting Company (KPLC) Ltd. Electricity in Kenya is generated mainly through natural resources, namely, water and geothermal resources. In this regard, there will be need to use electricity sparingly since high consumption of electricity negatively impacts on these natural resources and their sustainability.

5.2.9 Water use
The construction activities will require large quantities of water mainly be used for concrete mixing, dust suppression and sanitary and washing purposes. Excessive water use may negatively impact on the water source and its sustainability.
5.2.10 Increased Traffic
The construction phase will be characterized by increased traffic that may cause traffic jams and inconvenience to transporters and commuters.

5.3 Negative Social Impacts

5.3.1 HIV-AIDS Infections
There is risk of infections to workers and other persons to sexually transmitted diseases and HIV-AIDS during project implementation following increased incomes of workers as well as some of the contractor workers being away from their homes.

5.3.2 Physical and Economic displacement
The construction works will result in physical and economic displacement of traders and matatus during the construction phase of the project and the market. The park is currently occupied by about three hundred traders from the congested Ngong’ market and these have to be given adequate and legal notice for moving and relocated by the county government so that their livelihoods are uninterrupted. The ongoing RAP for the market will include the traders who have been moved out of the bus terminus area. The county government will provide alternative land for the public service vehicles as they await implementation of the project.

5.3.3 Gender Mainstreaming
It is important that both men and women are considered for the works. A situation whereby there is preponderance of men even for tasks that women can do is a negative impact on gender. All need to have equitable opportunities.

5.3.4 Community Health and Safety
It is important that during the construction phase, the project considers the health and safety of the surrounding community including proper barricading or fencing of site, management and control of construction vehicles – low speed limits, flagmen assigned to control traffic and designation of routes for bringing materials to and from site - use of warning signs and optimizing on number of vehicles trips through better material inventory management. There should be a safety officer on site to ensure elimination or reduction of accidents to workers and surrounding community.

5.4 Positive impacts of construction activities

5.4.1 Creation of temporary employment opportunities
Several employment opportunities will be created for construction workers during the construction phase of the project. This will be a significant impact since unemployment is currently quite high in Ngong’ and the surrounding areas.

5.4.2 Provision of market for supply of construction materials
The project will require supply of large quantities of construction materials most of which will be sourced locally in Kajiado County and the surrounding areas. This provides ready market for construction material suppliers such as quarrying companies, hardware shops and individuals with such materials.
5.4.3 Increased business opportunities
The large number of project staff required will provide ready market for various goods and services, leading to several business opportunities for small-scale traders such as food vendors around the construction site.

5.4 Negative environmental impacts of operational activities

5.4.1 Increased storm water flow
The pavements will lead to increased volume and velocity of storm water or run-off flowing across the area covered by the roads. This will lead to increased amounts of storm water entering the drainage systems, resulting in overflow and damage to such systems in addition to increased erosion or water logging in the neighboring areas if not adequately mitigated.

5.5 Positive impacts of operational activities

5.5.1 Revenue to national and local governments
Through payment of relevant taxes, rates and fees to the government and the local authority, the roads project will contribute towards the national and local revenue earnings from those using the improved facilities.

5.5.2 Other positive impacts
Other positive impacts include reduction of dust emissions, reduction of traffic jams and enhanced emergency preparedness and response access.

5.6 Positive social impacts of operational activities
The operational activities after this project is commissioned will have several positive long-term social impacts that include the following;

- Improved parking to improve public transport
- Easier accessibility for commuters
- Improved ease of use of public transport to passengers through use of the bus lay-byes
- Improved drainage will reduce the flood damage and improve accessibility especially for pedestrian traffic and residents
- Improved accessibility will spur physical development in the area leading to increased jobs for Ngong’ Town residents
- Cleaner and orderly environment
- Improved safety and security for all.
5.7 Negative environmental impacts of decommissioning activities

5.7.1 Solid waste
Demolition of the park and related infrastructure will result in large quantities of solid waste. The waste will contain the materials used in construction including concrete, metal, kerbs, bitumen, stones and ballast. Although demolition waste is generally considered as less harmful to the environment since they are composed of inert materials, there is growing evidence that large quantities of such waste may lead to release of certain hazardous chemicals into the environment. In addition, even the generally non-toxic chemicals such as chloride, sodium, sulphate and ammonia, which may be released as a result of leaching of demolition waste, are known to lead to degradation of groundwater quality.

5.7.2 Dust
Large quantities of dust will be generated during demolition works. This will affect demolition staff as well as the neighboring residents.

5.7.3 Noise and vibration
The demolition works will lead to significant deterioration of the acoustic environment within the project site and the surrounding areas.

5.8 Positive environmental impacts of decommissioning activities

5.8.1 Rehabilitation
Upon decommissioning the project, rehabilitation of the project site will be carried out to restore the site to its original status. This will include replacement of topsoil that will lead to improved visual quality of the area.

5.8.2 Employment Opportunities
Several employment opportunities will be created for demolition staff.
CHAPTER SIX: ANALYSIS OF PROJECT ALTERNATIVES

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

6.1 Relocation Option
Relocation option to a different site is not an option available for the project implementation as this project is to improve bus parking facilities in Ngong’.

6.2 Zero or No Project Alternative
The No Project option in respect to the proposed project implies that the status quo is maintained. 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, involve several losses both to the county and the community as a whole. The bus park will continue to be run inefficiently and this will not help maximize usage and utilization of this park. 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 Kenyans and the local people would remain unchanged.
- The bus park would remain under utilized.
- No employment opportunities will be created for thousands of Kenyans who will work in the project area.
- Increased urban poverty and crime in Kenya.
- Discouragement for investors and loaners
- Development of infrastructural facilities will not be undertaken.

From the analysis above, it becomes apparent that the No Project alternative is no alternative to the local people, Kenyans, and the government of Kenya.

6.3 Analysis of Alternative Construction Materials and Technology
The proposed project will be constructed using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. Equipment that saves energy and water will be given first priority without compromising on cost or availability factors. The bus park will be made using locally sourced stones, cement, sand (washed and clean) and other materials that meet the Kenya Bureau of Standards requirements.

The alternative technologies available include the conventional concrete, prefabricated concrete panels, or even temporary structures. These may not be desirable from a cost and durability perspective. The technology to be adopted will be the most economical and one sensitive to the environment.
6.4 Solid waste management alternatives

A lot of solid wastes will be generated from the proposed project. An integrated solid waste management system is recommendable. First, the proponent will give priority to reduction at source of the materials. This option will demand a solid waste management awareness program 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 program 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 agreement with the Kajiado County 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 delineated options.
7.1 Introduction
This chapter highlights the necessary mitigation measures that will be adopted to prevent or minimize significant negative environmental, health and safety impacts associated with the project during its construction, operation and decommissioning phases. Allocation of responsibilities, time frame and estimated costs for implementation of these measures are presented in the Environmental Management and Monitoring Plan (EMMP).

7.2 Mitigation of construction phase impacts
7.2.1 Efficient sourcing and use of raw materials
The contractor will source construction materials such as sand, ballast and hard core from registered quarry and sand mining firms, whose projects have undergone satisfactory environmental impact assessment/audit and received NEMA approval. Since such firms are expected to apply acceptable environmental performance standards, the negative impacts of their activities at the extraction sites are considerably well mitigated.

To reduce the negative impacts on availability and sustainability of the materials, the contractor will only order for what will be required through accurate budgeting and estimation of actual construction requirements. This will ensure that materials are not extracted or purchased in excessive quantities. Moreover, the proponent will ensure that wastage, damage or loss (through run-off, wind, etc) of materials at the construction site is kept minimal, as these would lead to additional demand for and extraction or purchase materials.

In addition to the above measures, the contractor shall consider reuse of construction materials and use of recycled materials. This will lead to reduction in the amount of raw materials extracted from natural resources as well as reducing impacts at the extraction sites.

7.2.2 Excavations
The existing park will have to be excavated to make for new park and associated facilities and the removed materials will be taken to licensed sites or reused.

7.2.3 Minimization of run-off and soil erosion
The contractor will put in place some measures aimed at minimizing soil erosion and associated sediment release from the project site during construction. These measures will include silt traps, barriers, vegetation planting, terracing and leveling the project site to reduce run-off velocity and increase infiltration of rainwater into the soil. In addition, construction vehicles will be restricted to designated areas to avoid soil compaction within the project site, while any compacted areas will be ripped to reduce run-off.

7.2.4 Minimization of construction waste
It is recommended that demolition and construction waste is properly collected, stored, recycled or reused to ensure that materials that would otherwise be disposed off as waste are diverted for productive uses. In this regard, the proponent is committed to ensuring that construction materials left over at the end of construction will be used in other projects rather than being disposed off. The proponent shall put in place measures to ensure that construction materials requirements are
carefully budgeted and to ensure that the amount of construction materials left on site after construction is kept minimal.

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

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

7.2.5 Reduction of dust generation and emission

Dust emission during construction will be minimized through strict enforcement of on-site speed controls as well as limiting unnecessary traffic within the project site. Traffic routes on site have to be sprinkled with water regularly to reduce amount of dust generated by the construction trucks.

7.2.6 Minimization of exhaust emissions

This will be achieved through proper planning of transportation of materials to ensure that vehicle fills are increased in order to reduce the number of trips done or the number of vehicles on the road. In addition truck drivers will be sensitized to avoid unnecessary racing of vehicle engines at loading/offloading areas, and to switch off vehicle engines at these points. Vehicles should be maintained to manufacturers’ specifications.

7.2.7 Minimization of noise and vibration

Noise and vibration will be minimized in the project site and surrounding areas with strict adherence to designated working hours; and through sensitization of construction truck drivers to switch off vehicle engines while offloading materials. In addition, they will be instructed to avoid running of vehicle engines or hooting especially when passing through sensitive areas such as residential areas and schools. In addition, construction machinery shall be kept in good condition to reduce noise generation and maintained in accordance with manufacturers’ specifications. It is recommended that all generators and heavy duty equipment be insulated or placed in enclosures to minimize ambient noise levels. They should also be located in areas of the site where they cause minimum nuisance.

7.2.8 Reduction of risks of accidents and injuries to workers

The contractor will have to be committed to adherence to the occupational health and safety rules and regulations stipulated in Occupational Health and Safety Act, OSHA. In this regard, the contractor is committed to provision of appropriate personal protective equipment, as well as ensuring a safe and healthy environment for construction workers as outlined in the ESMMP. This will also include use of a traffic management plan.
7.2.9 Reduction of energy consumption
The proponent shall ensure responsible electricity use at the construction site through sensitization of staff to conserve electricity by switching off electrical equipment or appliances when they are not being used.
In addition, proper planning of transportation of materials will ensure that fossil fuels (diesel, petrol) are not consumed in excessive amounts. Complementary to these measures, the proponent shall monitor energy use during construction and set targets for reduction of energy use.

7.2.10 Minimization of water use
The contractor shall ensure that water is used efficiently at the site by sensitizing construction staff to avoid irresponsible water usage.

7.2.11 Relationships between communities
It shall be ensured that there is adequate public participation and stakeholder engagements to ensure that all issues are raised and attended to. In addition, a grievance redress mechanism will be in place to ensure any complaints and grievances are adequately addressed during project implementation.

7.3 Mitigation of Social Impacts
7.3.1 Relocation of Traders
The county government will have to temporarily relocate the traders and transporters to a new area as completion of construction of the bus park is awaited for them to continue with their businesses for minimum interruption of livelihoods. This approach will be described in the RAP for the adjacent market.

7.3.1 HIV-AIDS Management
It is recommended that there is sensitization and awareness creation to safeguard workers and other persons against infections from sexually transmitted diseases including HIV-AIDS.

7.3.2 Grievance Redress Mechanisms
Grievance redress mechanisms will be employed for this project to handle and manage any complaints or grievances received from concerned persons. Documentation for this that will be applied is attached to this report. It is expected that a standard form is applied to receive complaints / grievances and a grievance log is kept on site by the Resident Engineer.

7.4 Mitigation of operation phase impacts
7.4.1 Management of storm-water runoff
The contractor will ensure that proper drainage is provided and regularly maintained for storm-water runoff management. The maintenance and repairs fall under the jurisdiction of the county government.

7.5 Mitigation of decommissioning phase impacts
7.5.1 Efficient solid waste management
Solid waste resulting from demolition or dismantling works will be managed as described above.
7.5.2 Reduction of dust concentration
High levels of dust concentration resulting from demolition or dismantling works will be minimized as described earlier.

7.5.3 Minimization of noise and vibration
Significant impacts on the acoustic environment will be mitigated as described.
CHAPTER EIGHT: ENVIRONMENTAL & SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP)

8.1 Significance of an ESMMP
An Environmental and Social Management and Monitoring Plan (ESMMP) for developing projects is used to provide a logical framework within which identified negative environmental impacts can be avoided, mitigated and monitored. In addition the ESMMP assigns responsibilities of actions to various actors and provides a timeframe within which mitigation measures and monitoring can be done. The ESMMP is a vital output of an Environmental and Social Impact Assessment as it provides a checklist for project monitoring and evaluation. The ESMMP outlined below will address the identified potential negative impacts and mitigation measures of the Project based on the chapters on Environmental Impacts and Mitigation Measures of the Negative Impacts.

8.1.1 Pre-Construction & Construction Phases ESMMP
The necessary objectives, activities, mitigation measures, and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the construction phase of the project are as outlined below.

8.2 Duties of the Proponent
It will be the duty of the proponent to ensure that all legal requirements as pertaining to the development are met as specified by the law, including World Bank Safeguards and specifically OP4.01 (Environmental Assessment).

- The proponent shall hand over the site to the Contractor for implementation of the project
- The proponent will fund the project
- The Proponent will acquire the NEMA license
- The proponent will the project and will also ensure its satisfactory implementation
- The proponent shall ensure that there is a functional stakeholder engagement plan and grievance redress mechanism.
- The proponent shall define the area of the site, which may be occupied by the contractor for use as storage, on the site
- The contractor shall include all recommendations from ESIA into the contract.

8.3 Duties of the Contractor
- Prepare and maintain an approved time and progress work-chart, showing clearly the period allowed for each section of the work.
- The contractor is to comply with all regulations and by-laws of the local authority including serving of notices and paying of the fees.
During the night, public holidays and any other time when no work is being carried out on-
site, the contractor shall accommodate only security personnel and never should a labor
camp be allowed onsite.

The contractor shall make good at his own expense any damage he may cause to the public
and private roads, drainages and pavements in the course of carrying out the bus park work.

The contractor shall provide at his own risk, and cost all water required for use in
connection with the works including the work of subcontractors, and shall provide
temporary storage tanks, if required

The contractor shall make his own arrangements for sanitary conveniences for his workmen.
Any arrangements so made shall be in conformity with the public health requirements for
such facilities and the contractor shall be solely liable for any infringement of the
requirements.

The contractor shall be responsible for all the actions of the subcontractor in the first
instance.

The contractor shall take all possible precautions to prevent nuisance, inconvenience or
injury to the neighboring properties and to the public generally, and shall use proper
precaution to ensure the safety of wheeled traffic and pedestrian.

All work operations which may generate noise, dust, vibrations, or any other discomfort to
the workers and/or guests of the client and the neighbors must be undertaken with care, with
all necessary safety precautions taken.

The contractor shall take all effort to muffle the noises from his tools, equipment and
workmen to not more than 80dBA. This should also comply with the requirements of the
WBG EHS Guidelines, whichever is the more stringent.

The contractor shall upon completion of working, remove and clear away all plant, rubbish
and unused materials and shall leave the whole site in a clean and tidy state to the
satisfaction of the Proponent. He shall also remove from the site all rubbish and dirt as it is
produced to maintain the tidiness of the premises and its immediate environs.

No blasting shall be permitted without the prior approval of the proponent and the local
authorities.

Borrow pits will only be allowed to be opened up on receipt of permission from the
proponent.

The standard of workmanship shall not be inferior to the Kenya Bureau of Standards and/or
current British codes of practice where existing. No materials for use in the permanent
incorporation into the works shall be used for any temporary works or purpose other than
that for which it is provided. Similarly, no material for temporary support may be used for
permanent incorporation into the works.

The contractor shall maintain good working relationship with the community and
implement the stakeholder engagement plan and the grievance redress mechanism.

This section will be reviewed carefully against the contract documentation to ensure it is
included in the contract documentation.
Table 3: The ESMMP for the Construction Phase of Ngong’ Bus Park Project in Ngong’ Town of Kajiado County

<table>
<thead>
<tr>
<th>Objective/Plan</th>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Increased exploitation of raw materials</td>
<td>- Maximize sourcing of construction materials from suppliers who use environmentally friendly processes in their operations. Only suppliers that have the relevant permits and consents etc in place shall be used as sources of material for the project, also as required by the National Construction Authority, NCA.</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>- Ensure accurate budgeting and estimation of actual construction material requirements to ensure that the least amount of material necessary is ordered</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>- Ensure that damage or loss of materials at the construction site are kept minimal through proper storage</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td>2) Run off and soil erosion</td>
<td>- Apply soil erosion control measures such as leveling of the project site to reduce run-off velocity and increase infiltration of storm water into the soil, e.g. silt traps, barriers, tree planting.</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>- Ensure that construction vehicles are restricted to existing graded roads to avoid soil compaction within the project site.</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>- Ensure that any compacted areas are ripped to reduce run-off.</td>
<td>Contractor</td>
<td>6 months</td>
<td>-</td>
</tr>
</tbody>
</table>
### Objective/Plan: Recommended Mitigation Measures

<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Through accurate estimation of the sizes and quantities of materials required, order materials in the sizes and quantities they will be needed, rather than cutting them to size, or having large quantities of residual materials.</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 3) Solid waste generation

<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Ensure that construction materials left over at the end of construction will be used in other projects rather than being disposed of.</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>▪ Ensure that damaged or wasted construction materials will be recovered for refurbishing and use in other projects</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>▪ Utilize opportunities for donating recyclable/reusable or residual materials to local community groups, institutions and individual local residents or home owners.</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>▪ Use of durable, long-lasting materials that will not need to be replaced as often, thereby reducing the amount of construction waste generated over time</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td>▪ Provide facilities for proper handling and storage of construction materials to reduce the amount of waste caused by damage or exposure to the elements</td>
<td>Contractor</td>
<td>One-off</td>
<td>20,000</td>
</tr>
</tbody>
</table>
### Objective/Plan

<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase of perishable construction materials such as paints should be done incrementally to ensure reduced spoilage of unused materials</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td>Use construction materials that have minimal or no packaging to avoid the generation of excessive packaging waste</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td>Reuse packaging materials such as cartons, cement bags, empty metal and plastic containers to reduce waste at the site</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td>Dispose waste more responsibly by dumping at designated dumping sites or engaging the use of a registered waste disposal company or Nairobi City Council</td>
<td>Contractor &amp; Nairobi City Council</td>
<td>Throughout construction period</td>
<td>10,000/month</td>
</tr>
</tbody>
</table>

4) Air/ Dust pollution

<table>
<thead>
<tr>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprinkle water on graded access routes as necessary to reduce dust generation by construction vehicles</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>10,000/month</td>
</tr>
<tr>
<td>Sensitize truck drivers to avoid unnecessary racing of vehicle engines at loading/offloading points and parking areas. Switch off or keep vehicle engines at these points</td>
<td>Contractor</td>
<td>Throughout construction period</td>
<td>-</td>
</tr>
<tr>
<td>Objective/Plan</td>
<td>Recommended Mitigation Measures</td>
<td>Responsible Party</td>
<td>Monitoring Mechanism</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
</tr>
</tbody>
</table>
| 5) Air pollution | ▪ Ensure proper planning of transportation of materials to ensure that vehicle fills are increased in order to reduce the number of trips done per vehicle or the number of vehicles on the road  
▪ Sensitize construction vehicle drivers and machinery operators to switch off engines of vehicles or machinery not being used. | Contractor | Throughout construction period | - |
| 6) Noise Pollution | ▪ Sensitize construction drivers to avoid gunning of vehicle engines or hooting especially when passing through sensitive areas such as residential areas and schools  
Ensure that construction machinery are kept in good condition to reduce noise generation and serviced in accordance with manufacturers requirements  
▪ Ensure that all generators and heavy duty equipment are insulated or placed in enclosures to minimize ambient noise levels and located in areas that cause minimum nuisance. | Contractor | Throughout construction period | - |
| 7) Depletion of energy resources | ▪ Ensure planning of transportation of materials to ensure that fossil fuels (diesel, petrol) are not consumed in excessive amounts  
▪ Monitor energy use during construction and set targets for reduction of energy use. | Contractor | Throughout construction period | - |
<table>
<thead>
<tr>
<th>Objective/Plan</th>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8) Exploitation of water</td>
<td>▪ Promote recycling and reuse of water as much as possible.</td>
<td>Contractor</td>
<td>Throughout construction</td>
<td>-</td>
</tr>
<tr>
<td>resources</td>
<td>▪ Organize collection of rainwater on site.</td>
<td></td>
<td>period</td>
<td></td>
</tr>
<tr>
<td>9) Accidents</td>
<td>▪ Ensure that provisions for reporting incidents, accidents and dangerous occurrences during construction using prescribed forms obtainable from the local Occupational Health and Safety Office (OHSO) are in place.</td>
<td>Contractor</td>
<td>Continuous</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that the premises are insured as per statutory requirements (third party and workman’s compensation)</td>
<td>Proponent</td>
<td>Annually</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Develop, document and display prominently an appropriate SHE policy for construction works</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Provisions must be put in place for the formation of a Health and Safety Committee, in which the employer and the workers are represented</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>10) Hygiene</td>
<td>▪ Suitable, efficient, clean, well-lit and adequate gender specific sanitary conveniences should be provided for construction workers</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>11) Medical Examinations</td>
<td>▪ Arrangements must be in place for the medical examination of all construction employees before, during and after termination of employment.</td>
<td>Contractor</td>
<td>Continuous</td>
<td>-</td>
</tr>
<tr>
<td>Objective/Plan</td>
<td>Recommended Mitigation Measures</td>
<td>Responsible Party</td>
<td>Monitoring Mechanism</td>
<td>Approximate Cost (Kshs)</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>12) Machinery Safety</td>
<td>▪ Ensure that machinery, equipment, personal protective equipment, appliances and hand tools used in construction do comply with the prescribed safety and health standards and be appropriately installed maintained and safeguarded</td>
<td>Contractor</td>
<td>One-off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Arrangements must be in place to train and supervise inexperienced workers regarding construction machinery use and other procedures/operations</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td>13) Injuries caused by</td>
<td>▪ Ensure that equipment and work tasks are adapted to fit workers and their ability including protection against mental strain</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td>machineries and</td>
<td>▪ All machines and other moving parts of equipment must be enclosed or guarded to protect all workers from injury</td>
<td>Contractor</td>
<td>One-off</td>
<td></td>
</tr>
<tr>
<td>equipments.</td>
<td>▪ Arrangements must be in place to train and supervise inexperienced workers regarding construction machinery use and other procedures/operations</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Equipment such as fire extinguishers must be examined by a government authorized person. The equipment may only be used if a certificate of examination has been issued</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Reports of such examinations must be presented in prescribed forms, signed by the examiner and attached to the general register</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that materials (cement bags, aggregates, bitumen drums) are stored or stacked in such manner as to ensure their stability and prevent any fall or collapse</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
</tbody>
</table>
### Objective/Plan

<table>
<thead>
<tr>
<th>Objective/Plan</th>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Approximate Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14) Poor storage of materials</strong></td>
<td>▪ Conduct sensitization campaign for the public on risks related to construction sites.</td>
<td>Contractor</td>
<td>Twice (before construction begins) and repeated after 1 month.</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that items are not stored/stacked against weak walls and partitions.</td>
<td>Contractor</td>
<td>Continuous</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ All floors, steps, stairs and passages of the premises must be of sound construction and properly maintained</td>
<td>Contractor</td>
<td>Continuous</td>
<td>-</td>
</tr>
<tr>
<td><strong>15) Emergencies.</strong></td>
<td>▪ Design suitable documented emergency preparedness and evacuation procedures to be used during any emergency. Such procedures must be tested at regular intervals</td>
<td>Contractor</td>
<td>Every 3 months</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that adequate provisions are in place to immediately stop any operations where there in an imminent and serious danger to health and safety and to evacuate workers</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that the most current emergency telephone numbers posters are prominently and strategically displayed within the construction site</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Provide measures to deal with emergencies and accidents including adequate first aid arrangements</td>
<td>Contractor</td>
<td>Continuous</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Sensitize the public on potential emergency situations</td>
<td>Contractor</td>
<td>Twice (before construction begins) and repeated after 1 month.</td>
<td>-</td>
</tr>
<tr>
<td>Objective/Plan</td>
<td>Recommended Mitigation Measures</td>
<td>Responsible Party</td>
<td>Monitoring Mechanism</td>
<td>Approximate Cost (Kshs)</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>16) Food and toxins.</td>
<td>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</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Provision must be made for persons to be trained in first aid, with a certificate issued by a recognized body.</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Fire-fighting equipment such as fire extinguishers should be provided at strategic locations such as stores and construction areas.</td>
<td>Contractor</td>
<td>One-off</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td>Regular inspection and servicing of the equipment must be undertaken by a reputable service provider and records of such inspections maintained</td>
<td>Contractor</td>
<td>Every 3 months</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td>Signs such as “NO SMOKING” must be prominently displayed within the premises, especially in parts where inflammable materials are stored</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Enough space must be provided within the premises to allow for adequate natural ventilation through circulation of fresh air</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Well stocked first aid box which is easily available and accessible should be provided within the premises</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>Objective/Plan</td>
<td>Recommended Mitigation Measures</td>
<td>Responsible Party</td>
<td>Monitoring Mechanism</td>
<td>Approximate Cost (Kshs)</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>▪ Keep a record of all hazardous chemicals used at the premises, cross-referenced to the appropriate chemical safety data sheets</td>
<td>Contractor</td>
<td>Continuous</td>
<td>_</td>
</tr>
<tr>
<td></td>
<td>▪ There should be no eating or drinking in areas where chemicals are stored or used</td>
<td>Contractor</td>
<td>Continuous</td>
<td>_</td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that workers at the excavation sites and other dusty sites are adequately protected from inhalation of substantial quantities of dust through provision of suitable protective gear (e.g. nose masks)</td>
<td>Contractor</td>
<td>One-off</td>
<td>_</td>
</tr>
<tr>
<td>17) Provisions of PPE to Workers.</td>
<td>▪ Provide workers in areas with elevated noise and vibration levels, with suitable ear protection equipment such as ear muffs</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Suitable overalls, safety footwear, dust masks, gas masks, respirators, gloves, ear protection equipment etc should be made available and construction personnel must be trained to use the equipment</td>
<td>Contractor</td>
<td>Once off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that construction workers are provided with an adequate supply of wholesome drinking water which should be maintained at suitable and accessible points</td>
<td>Contractor</td>
<td>One-off</td>
<td>5,000/month</td>
</tr>
<tr>
<td></td>
<td>▪ Provide and maintain adequate and suitable accommodation for clothing not worn during working hours for construction employees</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td>Objective/Plan</td>
<td>Recommended Mitigation Measures</td>
<td>Responsible Party</td>
<td>Monitoring Mechanism</td>
<td>Approximate Cost (Kshs)</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>▪ Provide and maintain, for the use of all workers whose work is done standing, suitable facilities for sitting sufficient to enable them to take advantage of any opportunities for resting which may occur in the course of their employment</td>
<td>Contractor</td>
<td>One-off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Ensure that conveniently accessible, clean, orderly, adequate and suitable washing facilities are provided and maintained in within the site</td>
<td>Contractor</td>
<td>One-off</td>
<td></td>
</tr>
<tr>
<td>18) Sanitary</td>
<td>▪ All work places must be kept in a clean state, and free from effluvia arising from any drain, sanitary convenience or nuisance</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Accumulations of dirt and refuse should be cleaned daily from the floors, benches, staircases and passages</td>
<td>Contractor</td>
<td>Daily</td>
<td></td>
</tr>
<tr>
<td>19) Insecurity</td>
<td>▪ Ensure the general safety and security at all times by providing day and night security guards and adequate lighting within and around the Construction site.</td>
<td>Contractor</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Conduct sensitization campaign for the public on risks related to construction sites.</td>
<td>Contractor</td>
<td>Twice (before construction begins) and a repeated after 1 month.</td>
<td></td>
</tr>
</tbody>
</table>
### 20) Presence of traders in the bus park
- Agree with the county government to relocate the traders sufficiently so that their livelihoods remain uninterrupted though their occupation of the bus park is considered illegal encroachment
- Incorporate the traders in the Resettlement Policy Framework (and RAP process) of the Ngong’ Market as they emanated from there owing to physical space constraints in the market
- Provide temporarily alternative area for the transporters for parking and dropping and picking passengers as they await completion and commissioning of the bus park project

<table>
<thead>
<tr>
<th>Proponent</th>
<th>One-off</th>
<th>Kshs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1,000,000</td>
</tr>
</tbody>
</table>

### 21) HIV-AIDS Management
- Awareness creation and sensitization to workers and other persons engaged in the project to reduce or eliminate chances of infections of HIV-AIDS and other sexually transmitted diseases

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Continuous</th>
<th>Kshs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2,500,000</td>
</tr>
</tbody>
</table>

### 22) Management of complaints and/or grievances
- Employ a grievance redress mechanism incorporating a negotiation and/or mediation team or party

<table>
<thead>
<tr>
<th>Grievance Chairman / Committee (Steward by Resident Engineer)</th>
<th>Continuous</th>
<th>-</th>
</tr>
</thead>
</table>
The key responsibilities regarding compliance to the above ESMMP rest on the Contractor. However, it is important that the project proponent ensures adequate monitoring and evaluation for the Contractor for no non-conformances.

### 8.1.1 Operational Phase ESMMP

The necessary objectives, activities, mitigation measures, and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the operational phase the project are outlined below.
### Table 4: ESMMP for the Operational Phase of the Project

<table>
<thead>
<tr>
<th>Objective/Plan</th>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Monitoring Mechanism</th>
<th>Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Storm Water Run-off Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Provide proper storm water drainage from the paved roads.</td>
<td>Contractor</td>
<td>One-off</td>
<td>Part of project costs</td>
<td></td>
</tr>
<tr>
<td>▪ Provide regular inspection and maintenance of the drains.</td>
<td>County</td>
<td>Continuous</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2) Health and Safety Risks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Implement all necessary measures to ensure health and safety of workers and the general public during operation of the project as stipulated in OSHA 2007</td>
<td>County</td>
<td>Continuous</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3) Solid waste management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Implement measures to ensure adequate solid waste management in the park including putting wastes receptacles and disposal</td>
<td>County</td>
<td>Continuous</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4) Park management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Implement a sustainable park management plan after hand-over with clear structure of management</td>
<td>County</td>
<td>Continuous</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5) HIV-AIDS Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Awareness creation and sensitization to workers and other persons post-project to reduce or eliminate chances of infections of HIV-AIDS and other sexually transmitted diseases</td>
<td>County</td>
<td>Continuous</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### 8.1.2 Decommissioning Phase

In addition to the mitigation measures provided above, it is necessary to outline some basic mitigation measures that will be required to be undertaken once all operational activities of the project have ceased. The necessary objectives, mitigation measures, allocation of responsibilities, time frames and costs pertaining to prevention, minimization and monitoring of all potential impacts associated with the decommissioning and closure phase of the project are outlined in below.
### Table 5: ESMMP for the Decommissioning Phase

<table>
<thead>
<tr>
<th>Environmental Impact</th>
<th>Recommended Mitigation Measures</th>
<th>Responsible Party</th>
<th>Time Frame</th>
<th>Cost (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sold Waste Generation.</strong></td>
<td>• All removed materials that will not be used for other purposes must be removed and recycled/reused as far as possible</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>• Where recycling/reuse of the removed materials and other demolition waste is not possible, the materials should be taken to a licensed waste disposal site or dumpsite or arrangements made with Kajiado County</td>
<td>Contractor</td>
<td>One-off</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td>• Donate reusable demolition waste to charitable organizations, individuals and institutions</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td><strong>Degeneration of vegetation at the construction site</strong></td>
<td>• Implement an appropriate re-vegetation program to restore the site to better status</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>• Consider use of indigenous plant species in re-vegetation</td>
<td>Contractor</td>
<td>One-off</td>
<td>-</td>
</tr>
</tbody>
</table>
- Trees should be planted at suitable locations so as to interrupt slight lines (screen planting), between the adjacent commercial premises area and the development.

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Once-off</th>
<th>-</th>
</tr>
</thead>
</table>
CHAPTER NINE: AUXILIARY INFORMATION

9.1 Budget
The summary of the certified Bills of Quantities that form the cost of the project is as attached in the Annexes. The total project cost is Kshs. 86,941,875/30.

9.2 Monitoring Guidelines
Continuous observations and assessment is essential so that if unforeseen safety dangers are noticed, alternatives must be sought for. Risk assessment of accidents, and other adverse impacts should not be ignored in the construction plan. Waste management in the construction should be strictly followed. Mitigation measures of storm water management are essential. Safety standards should constantly be maintained, with indicators like condition of equipment, contractor compliance with the set regulations, and tracking of accidents on-site logged regularly.

9.3 Reporting
Constant reporting by the site contractor to the contractor and proponent is necessary to ensure the project is executed as per the plans and drawings. The safety officer should always remain on site to report any safety concerns for urgent mitigation. The officer should also at all times enforce safety requirements as per the relevant legislation. The contractor must consult the proponent to maintain a clear understanding of all the aspects of the project. Kajiado County Government should be involved where necessary in early stages of the project to increase acceptance and ensure necessary partnership is in place (e.g. waste removal requirements) and also to relocate the traders who have encroached the bus park from the congested Ngong’ Market so that their livelihoods remain uninterrupted as well as incorporating them in the Resettlement Policy Framework and RAP for the proposed rehabilitation of the Ngong’ Market as these traders originated from there.
CHAPTER TEN: CONCLUSION AND RECOMMENDATIONS

During the preparation of this report for the development of the proposed development, it is observed and established that most of the negative environmental and social impacts on the environment can be mitigated and have potentially short term low significant effects. The positive impacts are highly rated and will benefit all stakeholders and Ngong’ residents at large. The project proponents have proposed to adhere to prudent implementation of the environmental management and monitoring plan. The contractor is committed to obtaining all necessary permits and licenses from the relevant authorities and have qualified and adequate personnel to do the project as proposed. The proponent has proposed adequate safety and health mitigation measures as part of the relevant statutory requirements.

It is the duty of NEMA to consider licensing the project subject to annual environmental audits once it 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 World Bank also is to clear the project consistent with the Bank’s safeguards requirements.
REFERENCES


Kenya gazette supplement Acts Building Code 2000 by government printer, Nairobi

Kenya gazette supplement Acts Land Planning Act (Cap. 303) government printer, Nairobi

Kenya gazette supplement Acts Local Authority Act (Cap. 265) government printer, Nairobi

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

Kenya gazette supplement Acts Physical Planning Act, 1999 government printer, Nairobi

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


Resettlement Policy Framework

The Environmental Management & Coordination Act 1999 (EMCA 2015).

World Bank Safeguards Documents
  o Environmental Assessment (OP 4.01) Safeguard
  o Involuntary Resettlement (OP 4.12) Safeguard
Annexure

i. Site Layout Plan
ii. Sample Chance Find Procedures
iii. Consultations and Public Participation
   a. Minutes of Stakeholder Meetings
   b. Signed-in Attendance Sheets
   c. Questionnaires
iv. Grievance Redress Mechanisms Documents
Location Plan

NGONG BUS PARK
Sample Chance Find Procedures

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

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

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

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

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

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

Construction work may resume only after permission is given from the responsible local authorities or the Ministry of State for National Heritage and Culture concerning safeguard of the heritage.
Consultations and Public Participation
CONTRACT NO: NCB/MoLH&UD/DONMED/NaMSIP/WKS-10/2015-2016
CONSTRUCTION OF NGONG BUS TERMINUS, KAJIADO COUNTY
MINUTES OF THE MEETING HELD ON 13/07/2016 WITH STAKEHOLDERS AT
THE BOARDROOM OF THE OFFICES OF KAJIADO NORTH
SUBCOUNTY, NGONG TOWN, AT 11.00 AM

IN ATTENDANCE

<table>
<thead>
<tr>
<th>S/No</th>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Eng. S.W Gitau (Chairing)</td>
<td>Metropolitan</td>
</tr>
<tr>
<td>2.</td>
<td>Eng. Dickson Ntikoisa</td>
<td>Kajiado County</td>
</tr>
<tr>
<td>3.</td>
<td>Hon Supet Paul (MCA)</td>
<td>Ngong Ward</td>
</tr>
<tr>
<td>4.</td>
<td>Eng. J.M. Kinyua</td>
<td>Metropolitan</td>
</tr>
<tr>
<td>5.</td>
<td>Eng. B.K. Njenga</td>
<td>Metropolitan</td>
</tr>
<tr>
<td>6.</td>
<td>Malika Badiribu</td>
<td>Kajiado County</td>
</tr>
<tr>
<td>7.</td>
<td>Eng. E. S. Sampao</td>
<td>Kajiado County</td>
</tr>
<tr>
<td>8.</td>
<td>Eng. G. K Mungania (Site Agent)</td>
<td>Jomat Construction</td>
</tr>
<tr>
<td>9.</td>
<td>David Mugai (Site Foreman)</td>
<td>Jomat Construction</td>
</tr>
<tr>
<td>10.</td>
<td>Sebastian Wambugu</td>
<td>Jomat Construction</td>
</tr>
<tr>
<td>11.</td>
<td>Eng. Joshua Ndiangui (Director)</td>
<td>Jomat Construction</td>
</tr>
<tr>
<td>12.</td>
<td>Dominic Meoli (Inspector)</td>
<td>Kajiado County</td>
</tr>
</tbody>
</table>

ALSO IN ATTENDANCE

<table>
<thead>
<tr>
<th>S/No</th>
<th>Name</th>
<th>Organisation</th>
<th>Tel No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Samuel Mwangi</td>
<td>Madiba/Compliant Sacco</td>
<td>0724403113</td>
</tr>
<tr>
<td>2.</td>
<td>Peter Kusero</td>
<td>Market Committee</td>
<td>0725117779</td>
</tr>
<tr>
<td>3.</td>
<td>Dickson Gakuya</td>
<td>Compliant Sacco</td>
<td>0724409640</td>
</tr>
<tr>
<td>4.</td>
<td>Solomon Thiongo</td>
<td>Luminous Sacco</td>
<td>0725724671</td>
</tr>
<tr>
<td>5.</td>
<td>Samuel Mwangi</td>
<td>Market Committee</td>
<td>0728333285</td>
</tr>
<tr>
<td>6.</td>
<td>Joseph Kinuthia</td>
<td>Market Committee</td>
<td>0722757390</td>
</tr>
<tr>
<td>7.</td>
<td>Kibiru Joseph</td>
<td>Market Committee</td>
<td>0721370397</td>
</tr>
<tr>
<td>8.</td>
<td>David Mwiti</td>
<td>Route Manager, 111</td>
<td>0727840250</td>
</tr>
<tr>
<td>9.</td>
<td>Samwel Thairu</td>
<td>Market Committee</td>
<td>0727840250</td>
</tr>
<tr>
<td>10.</td>
<td>Jane Wanjurir</td>
<td>Market Committee</td>
<td>0726955896</td>
</tr>
<tr>
<td>11.</td>
<td>John Seuri</td>
<td>Chairman, Ngong Market</td>
<td>0724527849</td>
</tr>
<tr>
<td>12.</td>
<td>Ruto Kamilakwan</td>
<td>Alfahul Ltd</td>
<td>0717808990</td>
</tr>
</tbody>
</table>
Agenda
1. Introduction
2. Project Briefing
3. Any Other Business.

<table>
<thead>
<tr>
<th>Minute No</th>
<th>Details</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>1.01</td>
<td>All assembled at the boardroom the offices of the Kajiado North Sub county in Ngong Town at 11.00 am. After a prayer, a brief self introduction was conducted.</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>Project Briefing.</td>
<td></td>
</tr>
<tr>
<td>2.01</td>
<td>The Chair of the meeting requested the Resident Engineer to give a brief of the scope of works which was given as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Excavation to formation levels,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Backfills with suitable approved material to form the subgrade,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hand packing with Nairobi Blue Stone (or equivalent) to form the base and sub base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Surfacing of the bus bays with 80 mm concrete blocks and surfacing of footpaths with 30 mm thickness concrete blocks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Construction of drains</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Construction of an deceleration lane to the terminus and acceleration lane out of the terminus and auxiliary lane throughout</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Street lighting.</td>
<td></td>
</tr>
</tbody>
</table>

The Chair of the meeting remarked that he hoped that Kajiado County, which was a partner in the execution of project would facilitate the successful relocation of the traders and Matatus from the terminus so that the works would take place. He also informed all that the project duration was expected to be Six Months from commencement, One or Two weeks from the date of this meeting. The Contract Sum was about KShs 84 Million.

2.02 The CECM, Roads, Public Works, Transport and Energy,
Kajiado County informed the meeting as follows:

- That the works are being financed by NaMSIP, and Kajiado County is the beneficiary, for that, they welcome the project.
- That this project is the culmination of Two Years of continuous liaison between Kajiado County with NaMSIP.
- That market traders have taken over the whole site in the bus park and Kajiado County have not been aggressive in enforcing the space over time to ensure the space is used as was originally intended.
- That a series of meetings had been held between the County, matatu saccos and traders and it was agreed that they temporarily move out to enable the works to progress. There would be original resistance but that should not stop the progress of the works. The area demarcated for this is the land opposite the bus park.
- That is a disputed area, 5 No plots had been created but the works in the non disputed area should continue. County Surveyor and County Planner were expected to point out the boundaries of the bus park, inclusive of the disputed areas immediately after this meeting.
- That there was a proposal as a County that the entry to the bus park be not from Ngong Road but the road that loops around and links the bus park at the rear, and whether this could also be included in the works.
- That, because the temporary relocation is to a site almost 300 Metres by 40 Metres, the site is to be divided into Two, one portion for Matatus and the other for traders.
- He made a request that some gravelling works be done in the temporary relocation site to make it more habitable for the Matatus and traders.
- That staff from the County would be available for maintenance purposes

The Chair of the meeting thanked the CECM for his remarks and informed all that Inspectors would be available every day. He undertook to have a design and cost estimate for the loop road done to see whether funds would be available within this
contract to have it done as well. Costs of the works on the temporary relocation site would be met from the Contingencies of this contract. A cost estimate would be done immediately and those works would precede the works in the bus park to enable the temporary relocation.

He also informed all that there would soon be another contract for the rehabilitation of the temporary relocation site. If funds would not be available in this contract, then the loop would be included in the other contract.

It was agreed that the time frame for the temporary relocation works would be complete within Two Weeks from the date of this meeting. Contractor to expedite the works.

It was also agreed that the County would administer the relocation so that it would take place in a timely and orderly manner.


Signed_________________________________________________

Confirmed as a true record by ________________________________

Signed_________________________________________________

Confirmed as a true record by ________________________________

Signed_________________________________________________
PUBLIC CONSULTATION MEETING HELD AT NGONG’ BUS PARK – MEETING NO. 2

Session 1 – Officials of Market Committee, Kajiado County, NaMSIP, Business Community and Transport SACCOS

DATE: September 29, 2016 TIME: 10.30AM – 12Noon VENUE: Bus Park

LIST OF PERSONS MET

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Janet Seren</td>
<td>Ward Administrator, Kajiado County</td>
</tr>
<tr>
<td>2. Eng. Stephen Mwaura</td>
<td>NaMSIP</td>
</tr>
<tr>
<td>3. Eng. Malika Badiribu</td>
<td>Kajiado County</td>
</tr>
<tr>
<td>4. Samuel Orket</td>
<td>NMOA Limited Chairman (Matatu Sacco)</td>
</tr>
<tr>
<td>5. Julius Mbogo</td>
<td>NMOA</td>
</tr>
<tr>
<td>6. Peter Njenga Njoroge</td>
<td>Market Committee (Former chairman)</td>
</tr>
<tr>
<td>7. Joseph Kinuthia</td>
<td>Market Committee Chairman</td>
</tr>
<tr>
<td>8. Johnson Opoyi</td>
<td>Kajiado County</td>
</tr>
</tbody>
</table>

Min 1/02. Introduction
The meeting was started by a word of prayer by Mr. Peter Njenga Njoroge. The Ward Administrator then welcomed everybody to the meeting. She then allowed introductions to be done by all those present. Participants introduced themselves mentioning their names and the position they held in their respective organizations.

Min 2/02. Disclosure of Project
Eng. Stephen Mwaura then explained the project to the session and the role of the different stakeholders and emphasized on the need to have the consultations and public participation. All were required to give their views. He explained that the Government of Kenya through NaMSIP intends to rehabilitate and improve the bus park enhance transport and mobility in the area. The project is funded by World Bank. It was explained that the purpose of the meeting was to create awareness that there is a plan of improving and modernizing the bus park. The proposed project will consist of paving, improving drainage and general accessibility of the bus park.
Min 3/02. Open discussion
Following the discussions, participants were invited to air their fears and give out recommendation in as far as the project is concerned. Participants presented their fears/concerns and made recommendations on the proposed project as presented here below.

<table>
<thead>
<tr>
<th>Name of Participant</th>
<th>Question/fears and recommendations</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samuel Orket</td>
<td>Will water and issues of sanitation be taken care of during project implementation since there are sewage management issues? Matatus need to be controlled by county government in their new area to be orderly.</td>
<td>Electricity, water and public toilets to be catered. The ward administrator promised to look into it.</td>
</tr>
<tr>
<td>Peter Njoroge</td>
<td>The project needs to at least have a sign-board Hoarding needs to be completed What is the extent of construction? What about those that have been forcibly removed?</td>
<td>Matter to be addressed with RE urgently. Hoarding ongoing to be completed Construction of park only to cover county government land and not private land. These are mostly traders from the over-congested market adjacent and had been given notice to move by the county government. They are being catered for in the construction of the market as project affected persons who will be incorporated in the market designs.</td>
</tr>
</tbody>
</table>

Min. 4/02. Filling questionnaires
Most of the members of these organizations had filled in questionnaires in the meeting held on September 2, 2016. It was agreed these participants proceed to a bigger meeting of traders and other stakeholders from the business community that constituted Session 2 on the same day for further consultations and public participation.
PUBLIC CONSULTATION MEETING HELD AT NGONG’ BUS PARK – MEETING NO. 2

Session 2 – Traders and other business persons affected by project together with participants of Session 1

DATE: September 29, 2016 TIME: 12Noon - 2.30PM VENUE: Bus Park

Participants: Traders and other business persons affected by project together with participants of Session 1 as above – see attendance list

Min 1/02. Introduction
The meeting was started by a word of prayer by Mr. Peter Njenga Njoroge. The Ward Administrator then welcomed everybody to the meeting. Most of the participants were displaced traders.

Min 2/02. Disclosure of Project
Eng. Stephen Mwaura then explained the project to the session and the role of the different stakeholders and emphasized on the need to have the consultations and public participation. All were required to give their views. He explained that the Government of Kenya through NaMSIP intends to rehabilitate and improve the bus park enhance transport and mobility in the area. The project is funded by World Bank. It was explained that the purpose of the meeting was to create awareness that there is a plan of improving and modernizing the bus park. The proposed project will consist of paving, improving drainage and general accessibility of the bus park.

Min 3/02. Open discussion
Following the discussions, participants were invited to air their fears and give out recommendation in as far as the project is concerned. Participants presented their fears/concerns and made recommendations on the proposed project as presented here below.

<table>
<thead>
<tr>
<th>Name of Participant</th>
<th>Question/fears and recommendations</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Kinuthia</td>
<td>Are there any market designs for the bus park and are the drawings available?</td>
<td>Yes there are drawings and they can be disclosed to anyone interested</td>
</tr>
<tr>
<td></td>
<td>The county government need to manage the matatus that are blocking the road and entrances</td>
<td>County government is aware and will make effort to control them</td>
</tr>
<tr>
<td></td>
<td>There is need to improve security</td>
<td>The county government will provide if required</td>
</tr>
<tr>
<td>Name</td>
<td>Statement</td>
<td>Action</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>John Mburu</td>
<td>The displaced traders are too near the road and are at danger of speeding matatus</td>
<td>Speed bumps will be erected</td>
</tr>
<tr>
<td>Uhuru</td>
<td>This project is unfair as it has displaced people and they do not know their fate</td>
<td>The displaced traders will be part of the RAP for the market and will be catered for in the market development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>County government to organize for solid wastes management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The wastes from the traders are too much and need collection otherwise cholera can break out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anastasia Wangechi</td>
<td>Will there be job opportunities?</td>
<td>Residents of Ngong’ will be given first priority in all job opportunities</td>
</tr>
</tbody>
</table>

**Min. 4/02. Filling questionnaires**
As the crowd was too large, it was not possible to administer the questionnaires.
GRIEVANCE RESOLUTION MECHANISM

1. Steps in dealing with grievances
   1.1. Complaint received in writing from affected person
   1.2. Recording of grievance in standard form
   1.3. Reconnaissance site visit with the complainant.
   1.4. Submission of detailed complaint to Resident Engineer for resolution by negotiation.
   1.5. Submission of detailed complaint to the Grievance Committee for resolution by mediation.
   1.6. Submission of complaint to NaMSIP for resolution.

2. Composition of grievance committee

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Designation</th>
<th>Organization</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eng. Michael Nderitu</td>
<td>Resident Engineer</td>
<td>Nairobi City County</td>
<td>Committee Secretary</td>
</tr>
<tr>
<td>2</td>
<td>Janet Seren</td>
<td>County Ward Administrator</td>
<td>Kajiado County</td>
<td>Committee Assistant Secretary</td>
</tr>
<tr>
<td>3</td>
<td>Eng. G K Mungania</td>
<td>Site Administrator / Agent</td>
<td>Contractor - Jomat</td>
<td>Member</td>
</tr>
<tr>
<td>4</td>
<td>Peter Njenga Njoroge</td>
<td>PAP representative – Market Traders</td>
<td>Market Committee</td>
<td>Member</td>
</tr>
<tr>
<td>5</td>
<td>Samuel Orket</td>
<td>PAP Representative - Transporters</td>
<td>Transport Sacco</td>
<td>Member</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Community Member</td>
<td>Local communities</td>
<td>Community Representative</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Business Member</td>
<td>Business members</td>
<td>Business Representative</td>
</tr>
</tbody>
</table>
**GRIEVANCE RESOLUTION PROCEDURE**

- All complaints should be received in the standard form to authenticate them.
- All resolved grievances need to be stored in the form of a retrievable grievance log.
- All complaints need to be resolved within 7 days from receipt of complaint.
- All, especially the PAPs need to be made aware of the existence and utility of this grievance mechanism.

---

**NB:**

- All complaints should be received in the standard form to authenticate them.
- All resolved grievances need to be stored in the form of a retrievable grievance log.
- All complaints need to be resolved within 7 days from receipt of complaint.
- All, especially the PAPs need to be made aware of the existence and utility of this grievance mechanism.