



Environmental Impact Assessment on the Proposed
Transport Termini of Asian Quarter (Bus station,
Modern Stalls, Business Park & Social Amenities

ESIA PROJECT REPORT

Submitted To:

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY – NEMA, KENYA
P.O. BOX 67839-00200 Nairobi, Popo Road off Mombasa Road, NAIROBI, KENYA

Submitted By:



Physical Planners, Environment, Research and Development Consultants
Mercantile Hse, Rm 214, Koinange st, P.O. Box 10982 - 00100, Nairobi, Tel: 020-2242685, 0722-369133.
Website: www.habitatplanners.com, Email: info@habitatplanners.com

www.habitatplanners.com

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SUBMISSION OF DOCUMENTATION

I **KIVUTI KARINGI** on behalf of the EIA Team of Experts and **HABITAT PLANNERS LIMITED (CONSULTANT)** submit the following Environmental and Social Impact Assessment (EIA) Report for the **PROPOSED CONSTRUCTION OF TRANSPORT TERMINI OF ASIAN QUARTER (BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES IN NYERI TOWN, NYERI COUNTY.**

I hereby confirm that to my knowledge, all information contained in this report is an accurate and truthful representation of all findings as relating to the proposed project as per project information provided by the proponent and contractor to the EIA consultants.

Signed in NAIROBI on this **date**.....

Signature and stamp:

Designation: **LEAD EXPERT**

SUBMISSION OF DOCUMENTATION

I -----on behalf of **COUNTY GOVERNMENT OF NYERI (PROPONENT)** submit this Environmental and Social Impact Assessment (EIA) Report for the **PROPOSED CONSTRUCTION OF TRANSPORT TERMINI OF ASIAN QUARTER (BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES IN NYERI TOWN, NYERI COUNTY.** To my knowledge, all information contained in this report is an accurate and truthful representation of all findings as relating to the proposed project and as per the project description provided to the EIA consultant.

Signed in NAIROBI on this **date**.....

Signature and stamp

Designation: **CHIEF OFFICER**

EIA TEAM

Core EIA Team

Name	Position
1. Francis Mwaura PhD, M.Sc., B.Sc. (Geography), University of Nairobi & McGill University (Canada)	Environmentalism
2. Kivuti Karingi, MA (Environment), MA (Planning), B.Sc (Geography & Botany)	Environmentalism
3. James Ndungu B.Sc. Botany & Zoology (University of Nairobi), MA Environmental Planning & Management (University of Nairobi)	Environmentalism/Social Expert
4. Peter Ndiba, PhD (Environmental Engineering, New Jersey Institute of Technology NJ, USA), M.Sc. (Civil Engineering, University of Nairobi), M.Sc. (Civil Engineering, University of Nairobi)	Civil Engineer/ Environmental Engineer

EIA Support Team

Name	Position
1. Tiffany Mwake (B.Ed.), University of Nairobi	Field/Office Assistant
2. Lynn Koske, BA (Planning)	Field/Office Assistant

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BAU	Business-as-Usual
BFs	Biofilters
BOD	Biological Oxygen Demand
BOQ	Bill of Quantities
CBD	Convention on Biological Diversity
CBO	Community Based Organization
CFAs	Community Forest Associations
CGN	County Government of Nyeri
CIDCs	Constituency Industrial Development Centres
CIDP	County Integrated Development Plan
COD	Chemical Oxygen Demand
COMESA	Common Market for Eastern and Southern Africa
CSR	Corporate Social Responsibility
DAS	Directly affected stakeholders
dB	Decibel
DRSRS	Department for Resource Survey and Remote Sensing
EA	Environmental Impact Assessment
EAC	East Africa Community
EACCCP	East Africa Community Climate Change Policy
EC	Electrical Conductivity
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMCA	Environment Management Coordination Act
EMP	Environmental Management Plan
EMS	Environmental Management System
ESAs	Ecologically Sensitive Areas
EIA	Environmental and Social Impact Assessment
EMP	Environmental and Social Management Plan
EU	European Union
GDP	Gross Domestic Product
GHG	Green House Gases
GISP	Global Invasive Species Programme
GoK	Government of Kenya
HDPE	High Density Polyethylene
HIV	Human Immunodeficiency Virus
ICTC	Integrated Counseling and Testing Centre
IFC	International Finance Corporation
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
KALRO	Kenya Agricultural and Livestock Research Organization
KAM	Kenya Association of Manufacturers
KeBs	Kenya Bureau of Standards
KEFRI	Kenya Forestry Research Institute
KEMFRI	Kenya Marine and Fisheries Research Institute
KEPSA	Kenya Private Sector Alliance
KFS	Kenya Forest Service
KIE	Kenya Industrial Estates
KNCCI	Kenya National Chamber of Commerce and Industry-Nairobi
KRA	Kenya Revenue Authority
kWh	Kilowatts per hour
KWS	Kenya Wildlife Service
LDPE	Low Density Polyethylene
LPG	Liquid Petroleum Gas
MDF	Medium Density Fibre
MSF	measured on a thousand square foot

NBSAP	National Biodiversity Strategy and Action Plan
NCA	National Construction Authority
NCCRS	National Climate Change Response Strategy
NEAP	National Environment Action Plan
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NMK	National Museums of Kenya
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
PR	Project Report
PSV	Public Service Vehicle
RA	Risk Assessment
RCOs	Regenerative Catalytic Oxidizers
RTO	Regenerative Thermal Oxidizers
SDGs	Sustainable Development Goals
SEPP	Stakeholder Engagement and Public Participation
SIC-	Standard Industrial Classification
STDs	Sexually Transmitted Diseases
SWM	Solid Waste Management
TDS	Total Dissolved Solids
ToR	Terms of Reference
UF	urea-formaldehyde
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USGS	United States Geological Survey
VAT	Value Added Tax
VOCs	Volatile Organic Compounds
WRA	Water Resources Authority

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NON-TECHNICAL EXECUTIVE SUMMARY

1. Background and Rationale

Nyeri town fully became a municipality in May 1971, (vide Gazette Notice No. 61, 1971) covering an area of about 73.04 km² (Mahinda 2016). The elevation was accompanied by a ten-fold increase in the Town area, from the area defined by 1913 survey and distribution of plots. Today, Nyeri Municipality covers an area of 200 km². Nyeri is now the largest town in the newly created Nyeri County, with a population of about 119,273 (KNBS, 2009). The population increase from 98,908 in 1999 to 119,273 in 2009 (Lekariap 2017). The town is linked to Nyandarua, Laikipia, Meru, Murang'a and Kirinyaga Counties through bitumen road surfaces and is only approximately a two hours drive from Nairobi. The town is proximity to Kenya's capital city of Nairobi and towns like Nanyuki, Meru and Nakuru, and tourist sites and parks like Mt. Kenya and Aberdare's has also been another major factor in the increase in the city's economic activity.

Nyeri town has experienced recurrent traffic congestion which is affecting business activities. According to Lekariap (2017), traffic jams occur frequently in Nyeri town urban areas. This is because people need to use the common infrastructures with limited capacity at the same time, especially during rush hours. Traffic congestion might give rise to traffic delays, traffic costs, economic losses, traffic pollution, and even lower degree of safety. It has a direct effect on our quality of life. It includes considerable costs for the community and a great deal of effort to be devoted in every large town to reduce the negative impact of this phenomenon.

The public vehicles in Nyeri town in Kenya aid in movement for those that lack means of private transportation in Nyeri and those that opt to use public means. The municipal council of Nyeri town in Kenya has the provision for bus stops and matatu stages within the Nyeri town in Kenya. There are at least three major bus stages in Nyeri town in Kenya. The different bus stops have public vehicles travelling to various destinations in Kenya from Nyeri town.

The Lower stage in Nyeri town in Kenya is a matatu terminal in Nyeri that is located on the lower part of Nyeri town. Lower stage matatu terminal in Nyeri town is located close to the Mudavadi market in Nyeri town along Gakere Road. The lower stage matatu terminus in Nyeri is the most busy bus terminus in Nyeri town. The lower stage matatu terminus in Nyeri has matatus that ply to Nairobi, Mukurweni, Karatina, Othaya and Thika parts of Kenya. Basically, all matatus that leave Nyeri town via the lower route near the Dedan Kimathi stadium in Nyeri are found in this lower stage bus terminus in Nyeri. The lower stage matatu terminus in Nyeri is surrounded by vendors in Nyeri dealing in small household appliances, shoe stores as well as hotels and other eateries in Nyeri. There is also a large market in Nyeri town found close to the lower bus terminus in Nyeri not to forget the famous Homage store in Nyeri that deals in school uniforms and other knitwear in Kenya.

The Middle bus stage in Nyeri is found on the upper side of Nyeri Town in Kenya. This middle stage terminus in Nyeri has public service vehicles in Kenya plying the Mweiga, Ihururu, Endarasha routes in Kenya. You can also find matatus to Kingo'ong'o, Outspan and Watuka parts of Kenya in this middle bus stage in Nyeri. The Nyeri middle bus stage in Kenya is also surrounded by small scale vendors in Nyeri selling fruits. There is also a Nyeri public toilet in this middle stage in Nyeri accessible to all and sundry at a small fee. The most prominent outlets close to this middle stage in Nyeri is the Slopes supermarket in Nyeri town and the Sullivan Hotels in Nyeri town in Kenya.

The Nyeri Upper bus terminus is located very close to the middle bus terminus in Nyeri town in Kenya. The names of the two bus stages in Nyeri town are often confused and used interchangeably. The two bus terminals in Nyeri are only separated by a road and a line of buildings. The matatus found in this Upper stage terminus in Nyeri town are those that ply to Nanyuki, Nyahururu, and Nakuru routes in Kenya. However, you can also find matatus in Nyeri that ply the Ihururu route in Kenya in this Upper bus terminus in Nyeri. In recent years, Nyeri town has experienced heavy traffic congestion as a result of the general location of the PSV termini within the CBD. The roads are chocking with traffic and major streets have been converted into garages and car washes that block the flow of traffic. The traffic problem has been compounded by lack of designated parking for large lorries, which have taken up space in the central business district. Some streets on the fringes of the town have been entirely taken

over by mechanics, who repair vehicles along them, leaving pedestrians and motorists to look for alternative routes.

2. The proposed Nyeri Town transport termini

The County Government of Nyeri (CGN) is planning to reduce the traffic congestion in Nyeri town by diverting some of the PSVs from the CBD by establishing an additional multipurpose terminus in the Asian Quarters area through a change of land use for the current municipal solid waste dumpsite which is set for decommissioning. This is also necessary because the dumping of garbage at the field has itself been an illegality as the area was never commissioned as a dumpsite thereby making the site a menace, eye sore and a health hazard for Nyeri town. In addition, the dumpsite has created a serious environmental risk of heavy metal water pollution in Githwariga River through leachate leakage from the solid waste.

The proposed transport termini next to the Asian Quarters will consist of a Bus station, modern stalls, business parks and the supporting social amenities such as a police post and public toilets, (Figure 2.4). The design comprises the following facilities;

- a) Lorry holding bay area (3339.19sqm)
- b) Market area (1316sqm)
- c) Tuk Tuk bays
- d) Police post (474sqm)
- e) Kiosks section
- f) Taxi bay
- g) Drop off zone
- h) Matatu loading bays
- i) Garage
- j) Fire station
- k) Three public toilets
- l) Boda boda bays
- m) Internal circulation roads with varying widths ranging from 6M, 9M, 12M.
- n) Shops and offices area
- o) Two entries and exits

The building materials will consist of masonry walls, steel or timber doors with roofing materials of sheets or any of the modern roofing materials. The bus terminii grounds will be paved with tarmac, cabro or any other paving material. The development will be connected to KPLC power supply and Nyeri water and Sanitation Company Ltd. (NYEWASCO) water supplies. Human and waste water from the facility will be connected to the NYEWASCO sewer

3. Project Justification

The proposed transport termini at the municipal dumpsite is justified from two perspectives:

- a) The closure of the dumpsite located in a residential estate and near the CBD will improve the environment and health status of the neighbourhood;
- b) Relocation of the bus parks from the CBD to the new site will help in decongesting the CBD and traffic organization within Nyeri town.
- c) The project will contribute towards the realization, in Nyeri County, of SDGs 1, 8, 9, 11, 13 and 14 as explained in the report

4. EIA Terms of Reference (ToR)

The CGN transport terminii project is subjectable to the submission of an EIA project report as part of the activities in Schedule 2 of the EMCA 1999 and revision 2015 (CaP 387) and Regulation 10 of the Environmental (Impact Assessment and Audit) Regulations, 2003, Legal Notice No. 101. The aim of the EIA study was to:

- a) Carry out environmental impact assessment on of the proposed transport termini of Asian quarter (Bus station, modern stalls, business parks and social amenities).

- b) Evaluation of the legislations that govern and control environmental impact assessment and audits and advise the proponent on preferred mitigation measures.
- c) Evaluate the status of the proponent's ability to interpret and articulate the environmental laws that regulate the undertaking and screen on the direct concerns with a view to prescribing appropriate mitigations.
- d) Assess the compliancy to all statutory and legal instruments of the environment governance and report all findings.
- e) Identify all areas of potential environmental challenges that may require monitoring and evaluation thereafter in line with unfolding social changes.
- f) Recommend enhancement measures to encourage positive aspects and mitigation/improve measures against negative aspects.
- g) Prepare a comprehensive Mitigation Plan, Monitoring Plan, Auditing Plan, and Environmental Management Plan.
- h) Submit to Department of Land, Housing, Physical Planning and Urbanization the final compiled Environmental Impact Assessment. The report must have been received and serialized by NEMA (Also provide an acknowledgement letter from NEMA).

5. EIA Process Approach and Methodology

A comprehensive EIA was undertaken because of the magnitude and complexity of the issues associated with the proposed transport terminii project. The general steps followed during the assessment included:-

-) Preliminary environment screening, during which the proposed terminii project was identified as among those requiring to be subjected to the EIA process as stipulated under Schedule 2 of Kenya Gazette Supplement No.74 (Acts No. 5) EMCA amendment, 2015,
-) Environmental scoping that provided the key environmental issues to be considered,
-) Desktop studies and documentary review of relevant reports, legal, institutional and policy frameworks,
-) Physical inspection and assessment of the proposed terminii site,
-) Analysis of project alternative options,
-) In-house consultative meetings with the proponent,
-) Preliminary baseline field environmental assessment,
-) Preliminary stakeholder consultations,
-) Detailed project impact analysis,
-) Impact mitigation planning,
-) EIA report writing.

6. Key Environmental Issues and Potential Impacts

- a) Positive impacts
 -) Decommissioning the municipal dumpsite at Asian Quarters which has been an environmental eye sore
 -) Improved landscape at Asian Quarters with decommissioning and restoration of the dumpsite
 -) Employment opportunities during construction of the termini
 -) Easing pressure on other PSV termini in Nyeri town
 -) Improved trip frequency for PSV operators
 -) Gains in the local and national economy
 -) Improved security in the Asian Quarters area through the establishment of a termini police post
 -) Improved commuter comfort and convenience – public toilets, recreational green zone, proximity to the Nyeri Referral Hospital

- b) Key potential negative impacts and recommended mitigation strategies

The key potential negative impacts and proposed mitigation measures for the proposed project are summarized in Table 1 below: -

Table 1: Potential negative impacts and mitigation measures

Possible Impacts	Recommended mitigation measures
River pollution	The dumpsite decommissioning and restoration plan should identify suitable engineering options for buffering the Githwariga riparian environment from contamination by hazardous waste materials in the dumpsite
Increased noise from termini operations	The PSV operators and traders through their associations will establish an appropriate self-regulating Code of Practice and appropriate penalties to ensure the minimization of vehicular and workers noise in the termini which will co-exist with a residential area (Asian Quarters) and County Referral Hospital
Traffic gridlocks in nearby transport links and interchanges	The CGN in partnership with Kenya Police Traffic Unit, PSV operators and traders through their associations will develop and apply an appropriate Code-of-Practice and appropriate penalties to ensure smooth traffic flow in termini entry routes especially Hospital Road and avoid gridlocks in nearby links and interchanges especially along Kenyatta Road
Air pollution due to increased vehicular emissions especially CO ₂ and NO _x	Preparation and enforcement of a traffic operation protocol by County Government of Nyeri for PSV vehicles in order to minimize unnecessary vehicular emission due to unnecessary idling of engines
Heavy energy consumption in the termini installations	The CGN should consider the use of solar energy for outdoor lighting purposes – security lights
Disturbance and contamination of Githwariga River by termini operation through the discharge of wastewater and contaminated stormwater	The termini construction works will include the installation of an appropriate leachate leakage structures such as sub-surface liner and secondary containment pond to avoid the contamination of Githwariga River by any remnant hazardous waste buried below the surface. The secondary containment point will be emptied and cleaned on regular basis

7. Conclusion & recommendation

The findings of the EIA based on the disclosed project details and the baseline site assessment indicated that the proposal to establish a new and modern transport termini at the dumpsite next to the Asian Quarters in Nyeri Town (A₁ option) is preferable compared to the A₀ option (No project option of not establishing the new and modern transport termini in Nyeri town and proceeding with Business-as-Usual) and A₂ option (Other option of expanding one of the existing transport termini within the CBD). The project is line with the vision of the Integrated National Transport Policy - Moving a Working Nation (2009) to ensure a “world-class integrated transport system responsive to the needs of people and industry” and “to provide efficient, reliable, safe and secure transport network”.

The project is desirable and will support the realization of national and county development goals as outlined in a number of national strategies. It is in line with the Nyeri Town Integrated Strategic Urban Development Plan (ISUDP) 2014-2034 which recommended the relocation of the Lower Bus Station to southern parts of Asian Quarters; and provide for public conveniences such as passenger waiting sheds, storage facilities, fast-food kiosks and toilets. The ISUDP recognized the need to establish peri-urban parking outside the CBD in order to ease the perpetual urban traffic jam in the town.

The proposed project will support the sectoral agenda for Transport, Public Works, Infrastructure and Communication in the Nyeri County Integrated Development Plan (2018-2022) of providing efficient, affordable and reliable transport infrastructure through design, construction, maintenance and effective management of roads and public works for sustainable economic growth and development of Nyeri. One of the performance indicators for CIDP 2018-2022 is the construction of bus parks in the county.

The project will help significantly in the realization of a number of Sustainable Development Goals including SDG 1 (No poverty) and SDG 8 (Productive employment and economic growth) by opening new employment opportunities in the termini, SDG 9 (Industries, innovation and infrastructure) and SDG 11 (Sustainable cities and communities) by improving the urban transport infrastructure in Nyeri Town. The project will also support SDG 13 (Climate action) by reducing urban traffic GHG emission and SDG 14 (Life Below Water) by improving the state of Githwariga River through the relocation of the municipal dumpsite at Asian Quarters. The project will also support the realization of the goals for the Kenya Vision 2030 by contributing in the economic pillar as well as the social pillar.

The EIA findings showed that the project design is the most suitable based on the current state of environment and the available technology. The project is feasible and desirable within the perspective of environmental and social economic evaluation undertaken in this study. Therefore, the project is necessary, and should be implemented as soon as possible. The overall benefits of the proposed development are far higher than the potential cost of the marginal negative environmental changes which are likely to occur. All other impacts of the project will remain far below acceptable limits after necessary mitigation as described and suggested in EIA report. The potential impacts for the MDF plant will be brought under acceptable limits by implementing the required hazard prevention and control measures. Thus, it has been concluded that there would not be any major impacts on environment due to the proposed project. The proposed project is desirable because it will improve the socio-economic status for the people in the Nyeri town. It will create employment and deliver a wide range of other socio-economic benefits.

The baseline environmental assessment of the proposed factory site indicated that the environment is already been under forestry use and does not contain any sensitive environment or endangered species according to the IUCN red list for Kenya, except the Githwariga River, Asian Quarters residential area and Nyeri Referral Hospital. The stakeholder engagement and consultation process also established that the local people were unanimously in support of the proposed project.

In view of the findings of the EIA, the proposed project is considered as environmentally sound. Further, the project proponent is willing to guarantee that the potential adverse impacts whose means of mitigation have been disclosed in this report and most of them have already been incorporated in the project design will be effectively implemented. On the basis of these findings, it is recommended that the proposed proposal to establish a modern transport termini (of Asian Quarter (Bus station, Modern Stalls, Business Park & Social Amenities) at the dumpsite next to the Asian Quarters in Nyeri Town be approved based on the willingness by the proponent to implement the proposed project in strict adherence to the Environmental and Social Management Plan (EMP) and Environmental Monitoring Plan. Further, NEMA should issue the proponent with an EIA license as required by Kenya's environmental laws.

1. PROJECT BACKGROUND

1.1: Urban Transport in Kenya

An efficient transport system is an important prerequisite for facilitating national and regional integration, promoting trade, economic development, contributing to poverty reduction and wealth creation and the achievement of the objectives of Vision 2030 and beyond. In Kenya, the transport sector consists of the following modes:-

- a) Road transport
- b) Rail transport
- c) Maritime and inland water transport
- d) Pipeline transport
- e) Air transport and
- f) Non-Motorised and Intermediate Means of Transport (NMIMTs)

Urbanisation in Kenya has been developing rapidly since independence. During the two inter censal periods (1969-1989) and the (1989-1999), the rate of growth of urban population increased from 8 % in 1980s to over 34 % in 2003 and is projected to reach over 50% by 2030. The population of Nairobi alone has reached about 3.2 million residents (2009)² with a day time population of 4.5 million people. This development has not been met with commensurate growth in urban transport infrastructure and services.

In major cities and urban areas, especially in Nairobi, Mombasa, Nakuru, Kisumu and Eldoret, urban transport is still characterized by inadequate supply of public transport (mostly buses and “matatus”), a large number of cars and Heavy Goods Vehicles (HGVs), heavy traffic congestion during peak hours, and stiff competition for limited road space among motorists, pedestrians and cyclists. Motor bikes known as “Boda Boda” have invaded town with grave consequences to road safety, insecurity, parking challenges and have become a traffic menace. Traffic congestion is further manifested in long queues of slow-moving vehicles and long waiting times, particularly in Nairobi and Mombasa.

Poor physical planning has led to scarcity of parking space in the CBD, especially in Nairobi. Because of the inefficiency of urban transport due to poor infrastructure, transport costs are high for both passengers and goods. The majority of low-income urban workers currently find public transport costly and financially inaccessible and hence meet most of their transport needs through walking and head loading. Some of them, however, risk their lives by utilizing non-motorized and intermediate means of transport (NMIMTs) (especially bicycles, motorcycles and “mikokoteni” for which there is no appropriate infrastructure. Given that about 50 per cent of the country's total GDP is generated in the urban areas, the adverse consequences of the above scenario on worker's efficiency and productivity, fuel consumption, education, health and the environment cannot be overemphasized.

The Integrated National Transport Policy (INTP) recognizes the following as the major challenges in urban transport in Kenya:

- a) Inappropriate policy integration and coordination of transport planning and land use planning;
- b) Weak institutional frameworks for urban land use policy and traffic management;
- c) Lack of adequate human resource capacity and inadequate capital resource allocation for urban transport;
- d) Increased journey times, often due to transport system deficiencies and urban sprawl;
- e) An inadequate information base for planning action due to low investment in urban transport research;
- f) Poor state of transport infrastructure increasing cost of transport operations;
- g) There is increasing health problems associated with traffic related pollution in the urban environment. Other challenges include unsupportive legal or regulatory framework to address emerging transport issues; lack of recognition of problems and commitment to solving problems at the political level; and difficulty in providing for individual attitude, behaviour and choice in both users and decision makers.

The policy recommends, among others, the following policy intervention areas for urban transport:

- a) Optimal Planning and Provision of Transport Services to include both Motorised (MT) and NMT modes; dedicated bus lanes; options for mass transit; off-street parking and restriction on private car ownership and use; transport control and management.
- b) Enhancing Transport Safety and Security: vehicle standards; inspection; street lighting; interventions accident prevention and black-spot improvement programmes; Competition and Complementarities between different transport modes: give priority to mass transit; development of facilities for all modes; appropriate pricing regime for urban transport.
- c) Institutional Capacity building: Create, staff and equip transportation units within the Engineering Departments in Municipalities (Counties).
- d) Mitigating Environmental effects of transport: storm water drainage; planting of trees; paving of roads; and reducing congestion through use of PT and traffic management.
- e) Legal, Institutional, and Regulatory Framework for Transport: By-laws to regulate transport operations.
- f) Mobilization of private sector funding for infrastructure; prioritize transport infrastructure funding from budgets.

1.2: Nyeri town urban transport and current termini

Nyeri town is located along the B5 road. A stretch of approximately 20km of A2 international road transverses through the town. The main means of transport in Nyeri town is Road. Rail and Air transport facilities are also available though not operational. The total length of all classified roads in the town area is approximately 483km. Most of these roads lack NMT facilities and road furniture hence pedestrians share the roads with motorists. Some roads are impassable during the rainy season while in the dry season they are characteristically dusty. Such roads include Kamwenja Teachers college road, Gitathini road and Nyaribo road among others. There are two airstrips (Nyaribo and Mweiga) and one railway station (Kiganjo). Table 1.1 shows road surface type of all classified roads in the town.

Table 1.1: Major roads within Nyeri town

Type of road surface	Approx. Distance (km)	Percentages (%)
Gravel surface	117	24
Earth surface	283	59
Tarmac	83	17
Total	477	100

Source: Nyeri town ISUDP (2014-2035)

1.2.1 Critical Transportation Issues in Nyeri Town

The key issues concerning road transport in Nyeri town were found to be:

- a) Congestion on and off the carriageway
- b) Lack of facilities for Non-Motorised Transport (NMT) users
- c) Inadequate public transport provisions
- d) Poor state of roads and limited alternative roads
- e) Lack of effective traffic control measures like traffic signals, signs, and road markings
- f) Poor intersection designs and
- g) Traffic accidents.
- h) Uncontrolled land use development within and on the peripheries of the municipality

Traffic congestion is the most visible, most pervasive and immediate transport problem plaguing the town on a daily basis. It affects all modes of transportation and all socio-economic groups. All-important roads in the CBD area are congested because of mixed and uncontrolled use by all modes of traffic. On-street angular parking and street trading are major occupants of street space leaving little or no space for walking and cycling. The overcrowding of pedestrians, cyclists, and street vendors on the shoulders of roads also creates safety problems, since they often spill over onto the roadway. Uncontrolled on-street parking contributes to congestion and safety problems by narrowing the available right of way for moving traffic.

Another important source of congestion is the very diverse mix of transport modes forced to share the limited roadway space. Slow non-motorized modes such as bicycles, hand-pulled carts, and pedestrians obviously slow down faster motorized modes such as cars, trucks, and buses. Provision of facilities for NMT users and public transport does not seem to be in the development agenda of the town. The path taken is that of encouraging the freedom and dominance of the transport system by individual

motorized transport. The lack of termini outside the central areas for intercity PSVs is another contributor to traffic congestion in the town.

Most roads in the town are in a dismal state of repair, often riddled with potholes and with uneven or completely missing pavement. There is a general lack of modern traffic signals and signage, sometimes the police are manning the junctions to ensure smooth flow of traffic. A number of alternative roads/reserves are available that can be developed to distribute and divert traffic from the central area. However, these roads have not been prioritized for improvement as a measure of dealing with the transport problems.

With regard to the movement system in Nyeri and according to the road hierarchy there are three types of road classification in terms of functionality. These include primary routes which connect the town with the rest of the county and nationally, link roads which support local movement and bridge links which connect the town across natural elements. In addition, there are local access roads at the neighbourhood scale, (Figure 1.1).

a) Primary routes

Road	Remarks
Kimathi Way	Upgraded roadway and intersections to improve mobility into core area of CBD
Kenyatta Road	Mobility spine facilitating regional connectivity through town

b) Link Roads

Road	Remarks
Temple Road, Addis Ababa Road and Michezo Road	<ul style="list-style-type: none">) Enhanced north south cross connectivity within Asian Quarters) Improvement to existing connection lattice
Gakere Road	<ul style="list-style-type: none">) East west network complementary link upgrade) Increased mobility and access for Matatus between lower and upper termini) Support connection for linkage onto Temple road
Kaburini Road	<ul style="list-style-type: none">) Link supporting areas on northern town periphery (Majengo, Blue Valley etc.)) Alternative movement route connecting downtown to uptown) Formation of threshold along northern edge of town

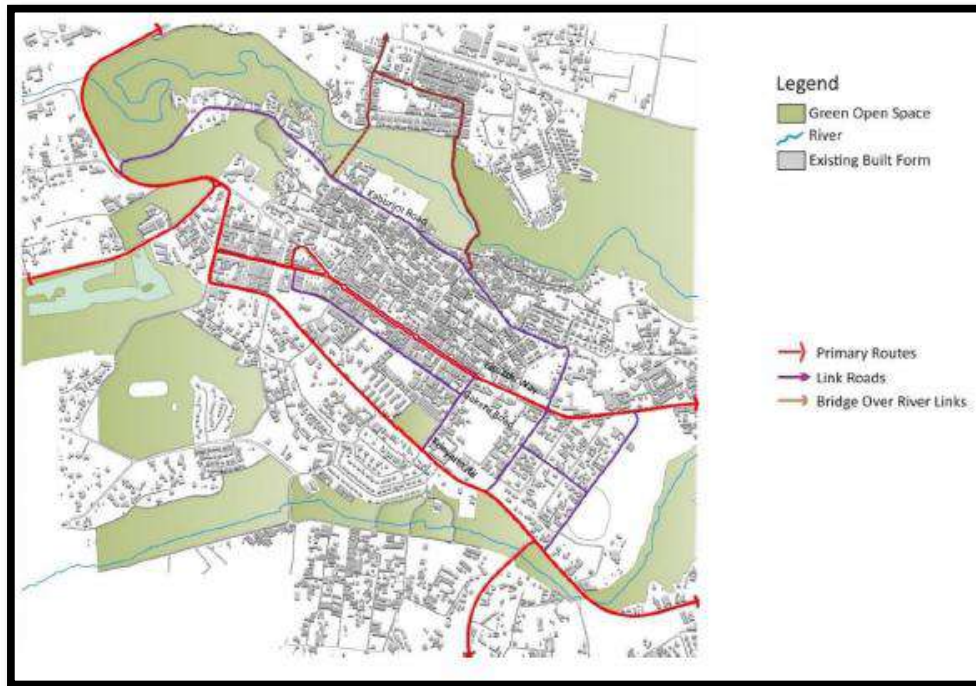
Nyeri town has provision for bus parks within the town set up. There are three main bus parks in within the central business district (CBD). The three bus parks have public vehicles travelling to various destinations within and outside the town. The first bus park known as the lower bus park is a public transport vehicles terminus located on the lower part of the CBD close to the Mudavadi market along Gakere Road. It is the busiest bus terminus in the town. It has matatus that ply to Nairobi, Mukurweni, Karatina, Othaya and Thika. Basically, all matatus that leave Nyeri town via the lower route near the Dedan Kimathi stadium in Nyeri are found in this bus terminus. The bus park is surrounded by vendors dealing in small household appliances, shoe stores as well as hotels and other eateries. There is also a large market within the CBD close to this bus terminus. Other notable business establishments in the vicinity include Homage store that deals in school uniforms and other knit wears.

The second bus park known as the middle bus park is located on the upper side of the CBD. It has public service vehicles plying the Mweiga, Ihururu, Endarasha routes. Other vehicles serve Kingo'ong'o, Outspan and Watuka areas within town. One of the most notable business near the bus park is the Slopes supermarket and the Sullivan Hotels. It is also surrounded by small scale businesses including fruit vendors. There is a public toilet within the precincts. The third bus park known as the upper bus terminus is located very close to the middle bus terminus within the CBD. These two bus termini are only separated by a road and a line of buildings. The "matatus" operating from this terminus ply the Nanyuki, Nyahururu, and Nakuru routes. Others ply the Ihururu route.

Nyeri town CBD is experiencing heavy traffic congestion as a result of the location of these transport termini within the CBD. The roads are chocking with traffic and major streets have been converted into garages and car washes that block the flow of traffic. Another cause of traffic congestion in the CBD is

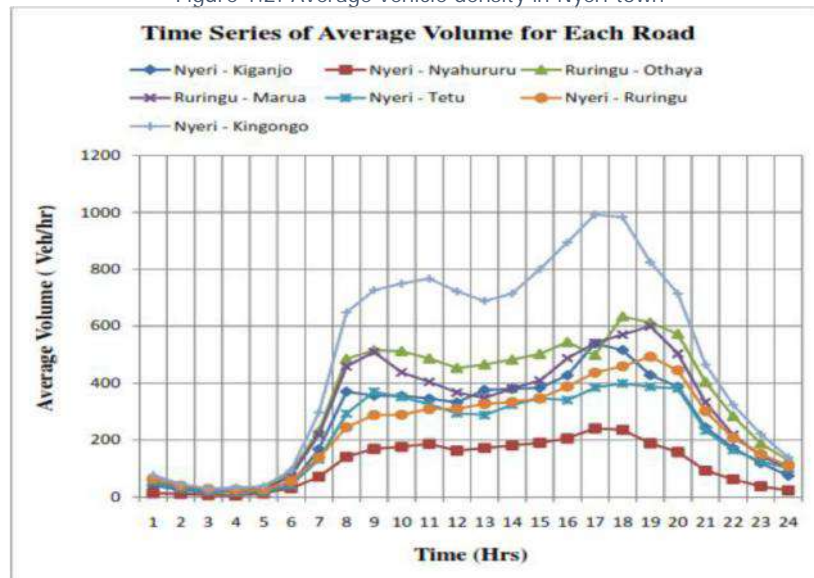
very many private vehicles. Their flow and parking within the CBD clogs the thoroughfares. The traffic problem has been compounded by lack of designated parking for Lorries, which have taken up space in the central business district. Some streets on the fringes of the town have been entirely taken over by mechanics, who repair vehicles along them, leaving pedestrians and motorists to look for alternative routes, (Figure 1.2).

Figure 1.1: Central area road network in Nyeri town



Source: Nyeri town ISUDP (2014-2034)

Figure 1.2: Average vehicle density in Nyeri town



Source: (Lekariap, 2017)

1.2.2 Transport Strategies for Nyeri Town

1.2.2.1 Guiding Principles

The following should be the guiding principles in the development of sustainable urban transport as provided in the Nyeri ISUDP (2014-2034):

- i) A city that has sustainable transport would be one in which goods and services were easily accessible, in terms of time and money budgets, to a substantial number of the city residents.
- ii) The benefits of transport policies would be maximised and fairly distributed; the negative effects would be minimised and shared out equally. It would be physically structured in such a way as to allow residents to move around freely, with easy access to green areas.
- iii) The borders of the city would be fixed so that horizontal expansion would be difficult.
- iv) It would offer a clean environment, with good air quality and a low noise level. It would be a place that people cared about and wanted to keep in good condition.
- v) Public transport coverage would be good across the whole city and the service would be affordable.
- vi) Residents would be able to choose to use a car, but would not be obliged to do so in order to access such benefits as jobs, education and other social services.
- vii) The city should be easy to enter and to leave. People using motorised transport would pay any costs this generated, which would otherwise have to be paid by the whole society.

The vision and mission of such a city on the transport system would be:

Vision: To achieve safe, efficient and convenient movement of persons and goods in, out and within the town as well as improve regional connectivity and mobility.

Mission: A transport system, which ensures physical and environmental preservation, with public transport as the main mode of transport, supported by other modes, and removes transit traffic from urban centre and residential areas; minimise losses – time and cost of transportation and related accidents.

1.2.2.2 Key Strategies

i) Road Networks

There is need to re-classify all the roads within the town in accordance to their functions. The starting point should be to have clear road classification systems, with appropriate design standards showing road design layouts, for each road class. The roads need to be classified according to their intended "Functions" (access, local collector, collector and urban corridor) and then each is designed to a required "Shape" that will ensure proper "Use". The layouts would ensure that the functions are maintained and the roads properly used to facilitate movement of people and goods.

The road designs should ensure that motorized traffic is on the designated carriageways, PSVs use bus stops, and road shoulders are available to the pedestrians, while cyclists can either be mixed with MT (roads with access function) or on dedicated cycle tracks where MT traffic volumes and speeds are high (roads with the flow function). Measures such as open drains, trees, bollards, and railings, should be in place to ensure segregation.

The town authority should embark on a programme for improvement and upgrading of its roads to build more capacity into the road transport system. This programme should have priority projects that would involve the upgrading of all gravel roads within the central area to bitumen standards, NMT facilities like sidewalks, footbridges across river streams, etc. The programme would also involve the dualling of some roads around the CBD, improvement of intersections, and construction of a by-pass for the transit traffic.

ii) Road Upgrade

The classified roads within the planning area:

J Nairobi-Nanyuki (A2) road

Indirectly connects Nyeri to Nairobi, Meru and Isiolo urban areas. It is of bituminous standards, in fair condition except for the faded road markings. There are all categories of Motorised traffic with an average daily traffic of 3,509 (year 2014) vehicles, at Naromoru. A national Growth indicator signals that this traffic will be higher in the near future. Plans to dual the road are on way. This shall facilitate growth for Chaka centre and Nyeri County At Large. NMT facilities will be provided on the new road. This road is anticipated to spur more growth in Nyeri town. The A2 road is an international road Kenya

through Nyeri to Moyale and Tanzania hence the need to add its capacity for future traffic demand. The dualing of the road is to address expected traffic due to growth and provision of additional capacity.

) Nyeri-Nyahururu (B5) road

Directly connects Nyeri to Nyahururu. It is of bituminous standards, in fair condition except for the faded road markings in sections within the CBD and eastwards to Marua. There are all categories of Motorised traffic with an average daily traffic of 3,458 (year 2014) vehicles, at points close to the CBD. Motorcycles are characteristically of high volumes within the CBD locality. Construction of a climbing lane is proposed to ease congestion resulting from difference in speed on the mountainous terrain with long term dualling of section between Classic and King'ong'o.

) Nyeri-Othaya (C70) road

Connects Nyeri to Othaya one of the closest and agricultural town. It is paved, in fair condition but road markings are wearing away fast. There are all categories of Motorised traffic with an average daily traffic of 1,796 (year 2014) vehicles at around Classic area. Despite the short stretch within the planning area, this road is proposed for dualling in future to accommodate the projected population. This requires acquisition of land for the expansion.

) King'ong'o-Kiganjo (C75) road

Bypasses Nyeri in the northern part, and connects A2 to B5 at Kiganjo and King'ong'o' respectively. It is paved, and in good condition (2014, inventory). There are all categories of Motorised traffic with an average daily traffic of 5,050 (year 2014) vehicles, at King'ong'o. This road requires quick intervention of climbing lanes with dualling in the medium term.

) CBD Roads

Major roads within the CBD are paved, in fair to poor surface condition. Main traffic are saloon cars /taxis. Trucks have been confined to one area; some section of Gakere road and Upper bus terminus. The roads are; Kimathi Street (dual), Temple, Gakere, Kaburini, Chania bridge, Addis Ababa, Ring road and Mumbi Roads. These roads require improvement in terms of functions, shape, and surfacing. They should be raised to bituminous standards and parking relocated to allow flow. While the other roads act as collectors, Kimathi Street should be the backbone to channel traffic in and outside the CBD. NMT facilities should also be included; cycle trucks and footpaths, while upgrading the shape of these roads to serve the new functions. All these roads within the CBD should provide at least 1.5m walkways.

) Other Roads-(Outside CBD)

Most of roads outside the CBD are classified. Few are to pave and murram surface standards. The rest are earth roads in bad condition; making them impassable during rainy seasons. Nyeri-Kamakwa (D234) and Nyeri-Mathari (D235) are the only ones paved. Construction is going on along Gitathini-Othaya junction (E579) that will see some sections of this road paved. Paving is required in; Nyeri-Kangemi-Thunguma-Gatito (E591), Nyeri-Kamakwa-Gitathini (D234,E579), Mathari- Kihuyo-Kimathi University (E1693), Kimathi University-Gamerock-Thunguma (Unclassified/E586), Riamukurwe-Muthuaini (E1676) and Kamakwa-Mathari (unclassified).

These roads require upgrading in the medium/long term plans to be Public Transport routes. The roads will also serve as future transport networks for the future proposed land uses. Non-Motorised Transport facilities; foot paths and cycle tracks should be included in the upgrade plan, especially within the satellite centres, located along these roads.

iii) By-passes

The bypasses are meant to solve transit traffic problems within the CBD and thus ease the congestion. An improvement of Ruring'u-Kangemi-Kiawara-King'ong'o (E591/Unclassified) roads gives an inner eastern bypass to Nyeri town by directly linking B5 to C75. Gatitu-Thunguma-Gamerock-King'ong'o-Dedan Kimathi University (E591/E576/unclassified) roads is an eastern bypass in long term solution and future land use proposals.

Gatito-Mesha-Gitathini-Kamakwa- Mathari-King'ong'o (D431/E1674/E579/ unclassified/ D435) roads, improved, is proposed as southern and western bypass to Nyeri town. An extension of the same from

Mathari to Kihuyo (E1693) then joins B5 at Mweiga, will make a greater western bypass and will distribute traffic from King'ong'o in future. These areas around these proposed bypasses needs immediate modification for future bypass development.

iv) Grade Separation junctions

The junctions B5/C70 (classic), B5/C75 (King'ong'o), A2/B5 (Marua), A2/C75 (Kiganjo) should be improved to grade separated junctions; this will improve the expected deterioration of the level of service (LOS) at these junction, with normal growth and expected traffic generation from the future proposed land uses. Modification of these areas is required for such future developments.

v) High capacity connections

The junctions B5/D431 & B5/E591 (Gatitu), B5/D434 (Nyeri), B5/D435 (King'ong'o) B5/450A (Dedan Kimathi University), B5/D449 (Mweiga) will require high capacity junctions. This will facilitate smooth take off to bypasses in expected high traffic scenarios in the future, generated by normal growth, as well as proposed Land uses. Modifications of these areas are required for future developments of the high capacity junctions. Planning of maintenance of the transport network will be necessary to preserve invested funds and ensure sustainability of the benefits to the residents. The prioritisation should be based on road functions and traffic levels, taking into account the construction materials.

The proposed road upgrading will require road widening hence land acquisition will be done. The following table therefore discusses the road widening proposals, (Table 1.2).

Table 1.2: Major Road connections

Road	Surface	Distance (km)	Current width (m)	Proposed width (m)
Principal Roads				
Nairobi –Marua-Nanyuki (A2)	Tarmac	21	60	60
Marua-Nyeri-Nyahururu (B5)	Tarmac	23	60	60
Primary Roads				
Nyeri -Othaya	Tarmac	5	20	40
Chaka-Karundas			20	40
King'ong'o-Mathari-Ihururu	Tarmac	3.8	15	40
Gatitu-Muruguru	Earth	4	30	40
Link Roads				
Thunguma- Meshi	Earth	15	12	30
Classic-Asian Quarters-Kangemi	Earth	4.3		30
Kimathi Estate-Mumbi	Tarmac			30
Kiamwathi - Riamukurwe-Ruringu	Gravel	Missing Link	9	30
Gatitu- Thunguma-Marua	Earth	6.2	15	30
Kimathi University- Nyaribo-Chaka	Gravel	8.6	15	30
Kimathi University-Muringato-King Major Seminary-Ihururu-Mathari	Earth	Missing Link	15	30
Mathari-Kihuyo-Mweiga Airstrip	Gravel	7.6	12	30
Mweiga Airstrip-Kamatongu- Honi-Chaka	Gravel	13.1	15	30
Nyaribo-Kiganjo	Gravel	3	12	30
By-Passes				30
Gatitu-Mesha-Gitathini-Kamakwa-King'ong'o	Gravel And Earth	12	20	40
Gatitu- Thunguma-Kangemi-King'ong'o-Kimathi university	Earth	10.8	15	40

Source: Nyeri town ISUDP (2014-2034)

vi) Road Safety

The strategy for reducing accidents should focus on the following:

- Provision of NMT facilities to separate them from fast moving motorised traffic
- Improvement of hazardous road sections and intersections to improve flow and reduce conflicts
- Reduction of congestion through better traffic management measures
- Area-wide application of speed reducing measures. Studies published over the past few years show conclusively that vehicle speed is very strongly related to both the probability of a crash

and the severity of injury a 1% increase in average speed can result in a 3 – 4% increase in fatalities.

- e) Enforcement of traffic rules, especially among the “matatu” operators.

vii) Multi-modal transport system

One of the basic challenges in urban transport is to ensure a sustainable balance between public and private modes of travel. This can be achieved by adopting two general categories of measures, that is, public transport incentives and automobile disincentives. Since it will be too sensitive to adopt any automobile disincentive measure given the low level of auto ownership, the focus for ensuring a balanced development of urban transport should concentrate on providing public transport incentives and priorities. In order to reduce congestion, fuel use and improve air quality, many modern cities around the world have adopted high capacity public transport modes and priority measures to ensure their efficiency.

Free competition in combination with high unemployment appears to have led to situations with very large numbers of small, low-cost vehicles (matatus and motor-cycles) dominating the urban transport system. Now in its extreme form, the free competition concept has led to a quite inefficient use of road network.

It is proposed that the County should reform and restructure its public transport system by adopting a controlled competition model with clear division of responsibilities between the public and private sectors. The County should maintain the coordinated network approach to public transport and service structure and a competitively recruited private partner/s should operate the routes. It is proposed that the new roles of the County, through the creation of a new Transportation Unit, should be the overall planning of the transport system, including:

- a) Planning the route network in the best interests of the town and passengers;
- b) Providing the necessary infrastructure such as bus stops, bus ways, and terminals;
- c) Negotiating with and sub-contracting operators for routes or route packages in a competitive bidding process, and;
- d) Monitoring and controlling (quality) the performance of such operators.

This model has the strongest merit as it presents a combination of transport authority planning and control of public transport services on the one hand and competition between independent operators for the operation of public transport services, on the other. The development, management, and maintenance of terminals and stages should be privatised, through competitive bidding, and awarded under clear terms of reference. Security at the terminals and stages should be part of the responsibility of the investor.

The provision of public transport (PT) service must be part of an overall set of policies, which also includes urban planning, traffic restraint, and measures to improve conditions for pedestrians and cyclists. The critical issue with public transport (PT) is its flexibility – and key to passengers is simplicity and predictability. Paradoxically, to be flexible, PT must also be rigidly predictable.

viii) Parking in central areas

The following strategies should be implemented by the County:

- a) Provide adequate parking facilities in the CBD by constructing additional off-street parking within the buildings, using appropriate guidelines (see table below). On-street parking should be parallel parking instead of angular. The municipal council should then charge parking fees, not as a revenue source but a deterrent measure, (Table 1.3).
- b) Relocate the Lower bus station to southern parts of Asian Quarters; and provide for public conveniences such as passenger waiting sheds, storage facilities, fast-food kiosks and toilets. This mainly would serve transit traffic for other main towns and local movements to the southern part; Classic, Skuta, Mathari and Kangemi areas. The parking should be properly designed and paved to improve drainage, preferably with concrete blocks.
- c) Relocate middle bus terminus to where Lower terminus is. Designate this to serve local routes of Mathari and Kamakwa to western parts of Nyeri. However, this terminus will need relocation to outside CBD, western side, in long term measures. The space left behind should be left as open space, and renovated to become a park.

- d) Maintain the upper bus park with improvement of outlook; paving, sheds, fast food kiosks and toilets. Designate this to serve Nyahururu and Nyeri areas, (Table 1.4).

Table 1.3: Urban parking spaces

Usage	One car space for every usage
Housing	2 houses or lodgings
Specialized market place	50 to 60sq. m of covered area
Market	30 to 50 sq. of covered area
Office and Administration	50 to 60 sq. m of covered area
Hotel	5 to 8 beds
School	(a) 0.5 classroom/secondary school and above (b) 1.0 classroom/ below secondary school level
Restaurant, Cinema and Theatre	12 seats
Mosque / churches	10 to 12 prayer space
Hospital	5 to 10 beds
Sports field	10 to 20 seats or spectators
Industrial establishment and workshops	6 to 10 workers

Source: Nyeri town ISUDP (2014-2034)

Table 1.4: Terminal facilities

Terminus	Area	Proposals
The Lower bus stage (Stage ya Nairobi)	0.2574 ha	<ul style="list-style-type: none"> ➤ To be relocated to the southern part of Asian Quarters (2.1Ha) ➤ Construction of shelter /shades ➤ Landscaping ➤ Provision of waste bins
The Middle (Kamakwa/Mathari)	0.2793 ha	<ul style="list-style-type: none"> ➤ Relocation to lower terminus space and the market space ➤ The space be used as an open space ➤ Construction of shelter /shades at the new terminus ➤ Provision of waste bins
The Nyeri Upper (Nyahururu/Nakuru)	0.2014 ha	<ul style="list-style-type: none"> ➤ Construction of shelter /shades ➤ Landscaping ➤ Provision of waste bins
Chaka. Kamakwa, Gatitu		Provision of Designated termini

Source: Nyeri town ISUDP (2014-2034)

ix) Improvement of NMT facilities

a) Pedestrianize the CBD area:

Proposal for introduction of properly designed pedestrian-walkways, complete with rails at some points and bollards at others to keep cyclists and motorists away from the pedestrian walkways, minimize conflict and improve pedestrian safety. The area bounded by the following roads Temple, B5, Kanisa and Kaburini road; should be improved in short term plans by providing foot paths and cycle tracks. This will ease the current congestion from mixed use and will improve safety. Kimathi way should be considered as most urgent as it spans the heart of the CBD and it is of priority than residents are comfortable and safe as they walk around shopping. Another big issue regarding pedestrianization is to cross River Chania; this is the biggest natural barrier to transport routes. This river is currently crossed at Kiawara, which is not adequate as it leads to increased journey times for some pedestrians.

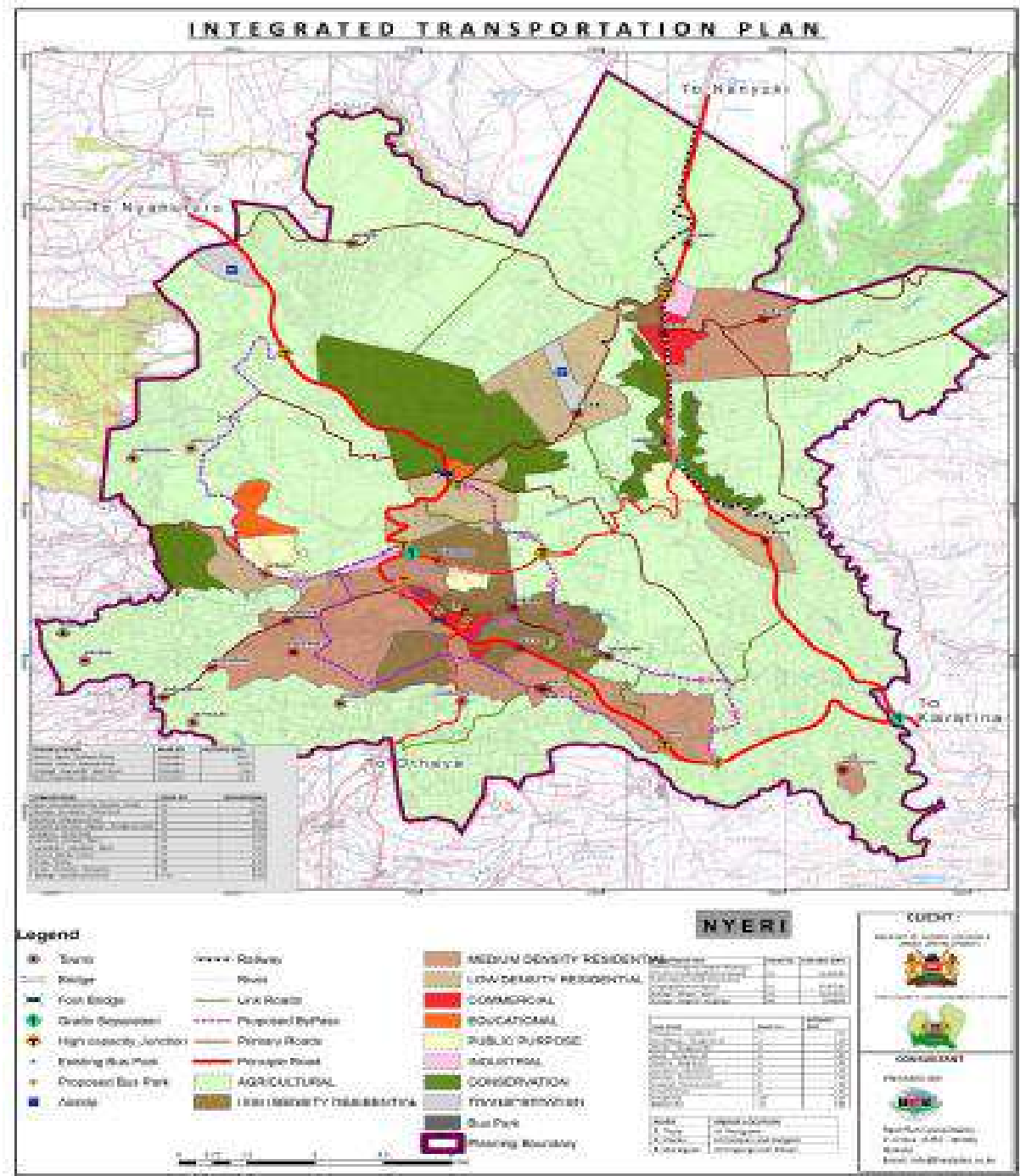
Crossings points should be availed at considerate intervals along this river by providing simple steel bridges, which can bear up to loadings from motorcycles. Planting trees on shoulders of some main arteries like B5, C70 and C75 roads should create a boulevard that can also provide shade for pedestrians from the sun, as well as a tool for landscaping to improve environmental aesthetics.

"Boda-boda", and motor vehicle taxis should have designated base of operation that is well designed complete with sheds they can shelter in during rainy periods, pedestrian resting, as well as places of convenience. These cycle stages should be located not far from the main bus stations and satellite bus station to allow pedestrians easy access to them as they change modes.

b) Carts:

Carts are mainly used for carrying goods to the markets in the town. They are a favourite for traders because they carry many goods and charge affordable fees as opposed to the cars or pick-up trucks which would be hired more expensively. Because of their slow speeds, they need to be restricted to operating on some roads as they can contribute to serious congestion on main streets, (Figure 1.3).

Figure 1.3: Nyeri town integrated transport plan



Source: Nyeri town ISUDP (2014-2034)

Table 1.5 highlights the strategies devised to address the above problems. Table 1.6 the land acquisition strategy to be used in the above strategy.

Table 1.5: Transport strategies

Road transport					
Problem	Areas most affected	Objective	Action plan	Actors	Time frame
Traffic congestions and delays	CBD Kimathi street Gakere road Nyeri-Nyahururu	To ensure smooth flow of traffic	<ul style="list-style-type: none"> ➤ Restricting CBD through traffic ➤ Provision of alternative parking instead of on-street parking along Kimathi street ➤ Construction of climbing lanes along Nyeri-King'ong'o, Meeting Point-White rhino, Marua-Muruguru road. ➤ Restricting trade along Gakere road ➤ Develop additional by-pass roads to divert traffic from the town centre: ➤ Several link roads proposed (see roads projects report) ➤ Regulate on the private cars getting into the CBD ➤ Improving public transport-introducing bus transport system 	KURA KeNHA CGN	Short 2016-2021
Narrow roads	CBD and areas outside the nyeri town.	Have adequate road widths to support current and projected traffic	<ul style="list-style-type: none"> ➤ Widen roads according to the traffic demand ➤ Implement the proposed road widening strategy (mapped and tabulated) 	KURA KeRRA KeNHA CGN	Short 2016-2021
Encroachment on road reserves	All neighborhoods	Recover encroached road reserves	<ul style="list-style-type: none"> ➤ Set up neighborhood committees to identify encroached areas ➤ Task the committees in conjunction with the county Government to devise measures to address the problem 	KURA KeRRA Kenya Police service CGN GoK	Short
Poor surface drainage on roads	Gakere road Temple road Earth roads Non-classified roads	Have proper surface drainage on all roads	<ul style="list-style-type: none"> ➤ Unclog blocked drainage channels ➤ Construct new drainage channels where none exist 	KURA CGN	Short
Inadequate terminal facilities for both local and outbound matatus	Nyeri town	Provide sufficient space for terminal facilities	<ul style="list-style-type: none"> ➤ Construction of other terminal facilities at designated areas ➤ Relocate the terminal facilities from the CBD ➤ Introduce drop and pick system of transport 	CGN	Medium
Inadequate parking spaces for cars and trucks	Nyeri town	Provide adequate parking facilities	<ul style="list-style-type: none"> ➤ Designate parking spaces for taxis ➤ Provision of underground parking spaces for new constructed buildings ➤ Measures to reduce number of private cars getting to the CBD 		Medium

Source: Nyeri town ISUDP (2014-2035)

Table 1.6: Land acquisition strategy

Project	Land requirement	Acquisition options	Action
By-pass roads	40m road reserve	Compulsory acquisition Land Buying	KURA CGN
Link roads	30m road reserve	Compulsory acquisition Land Buying	KURA KERRA CGN
Terminal facilities (2 No.)	Minimum 1.2Ha each	Land Buying Compulsory acquisition	CGN
Road widening		Surrender during Development application Compulsory acquisition	KURA KeNHA CGN

Source: Nyeri town ISUDP (2014-2034)

1.3: Nyeri town bus project

The County Government of Nyeri is proposing to construct a modern Transport Termini for the Asian Quarter within Nyeri Town. The termini will consist of the following installations: -

- a) Bus station
- b) Modern Stalls
- c) Business Park and
- d) Social Amenities

1.4: Terms of Reference (ToR) for the Nyeri Termini Project EIA

The government policy in Kenya for urban civil work project and activities like the one proposed by the CGN requires that environmental and social issues related to the project are addressed through that an Environmental and Social Impact Assessment (ESIA).

The Environmental Management and Coordination Act (EMCA) 1999 (Amendment 2015) Cap 387 in the Second Schedule categorises all new roads as High-Risk projects that require a full-scale ESIA Study to be undertaken before implementation. Item 2 of the Second Schedule is on Urban Development including Shopping centres and complexes.

An ESIA should therefore be carried out at the planning stages of the proposed urban development in Nyeri town in order to ensure that significant impacts on the environment are taken into consideration during the design, construction, operation and decommissioning of such projects, programmes or activities.

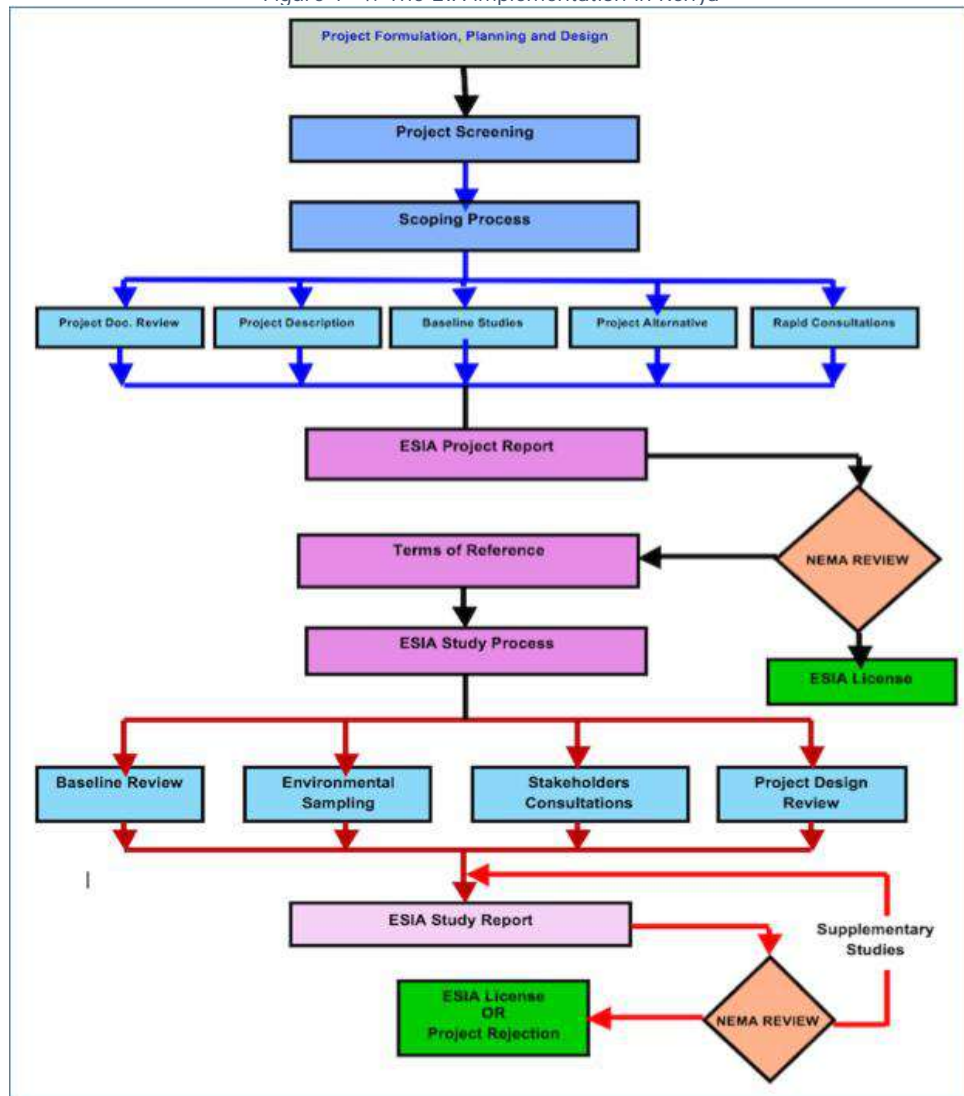
The Terms of Reference provided by the Client for the ESIA were to:-

- i) Carry out environmental impact assessment on of the proposed transport termini of Asian quarter (Bus station, modern stalls, business parks and social amenities).
- j) Evaluation of the legislations that govern and control environmental impact assessment and audits and advise the proponent on preferred mitigation measures.
- k) Evaluate the status of the proponent's ability to interpret and articulate the environmental laws that regulate the undertaking and screen on the direct concerns with a view to prescribing appropriate mitigations.
- l) Assess the compliancy to all statutory and legal instruments of the environment governance and report all findings.
- m) Identify all areas of potential environmental challenges that may require monitoring and evaluation thereafter in line with unfolding social changes.
- n) Recommend enhancement measures to encourage positive aspects and mitigation/improve measures against negative aspects.
- o) Prepare a comprehensive Mitigation Plan, Monitoring Plan, Auditing Plan, and Environmental Management Plan.
- p) Submit to Department of Land, Housing, Physical Planning and Urbanization the final compiled Environmental Impact Assessment. The report must have been received and serialized by NEMA (Also provide an acknowledgement letter from NEMA).

1.5: Purpose of the EIA Report

This EIA Project Report is part of the EIA implementation framework in Kenya and is expected to assist NEMA in decision making concerning the project as shown in Figure 1-4.

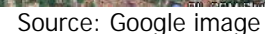
Figure 1- 4: The EIA implementation in Kenya



The key purpose of the EIA Project Report is to ensure that the key environmental and social issues associated with the project are identified early enough so that the necessary mitigation measures are noted and integrated in the final project design. The EIA report is part of the EIA implementation framework in Kenya and is expected to assist NEMA in the issuances of an operational EIA license for the project in accordance with usual practice.

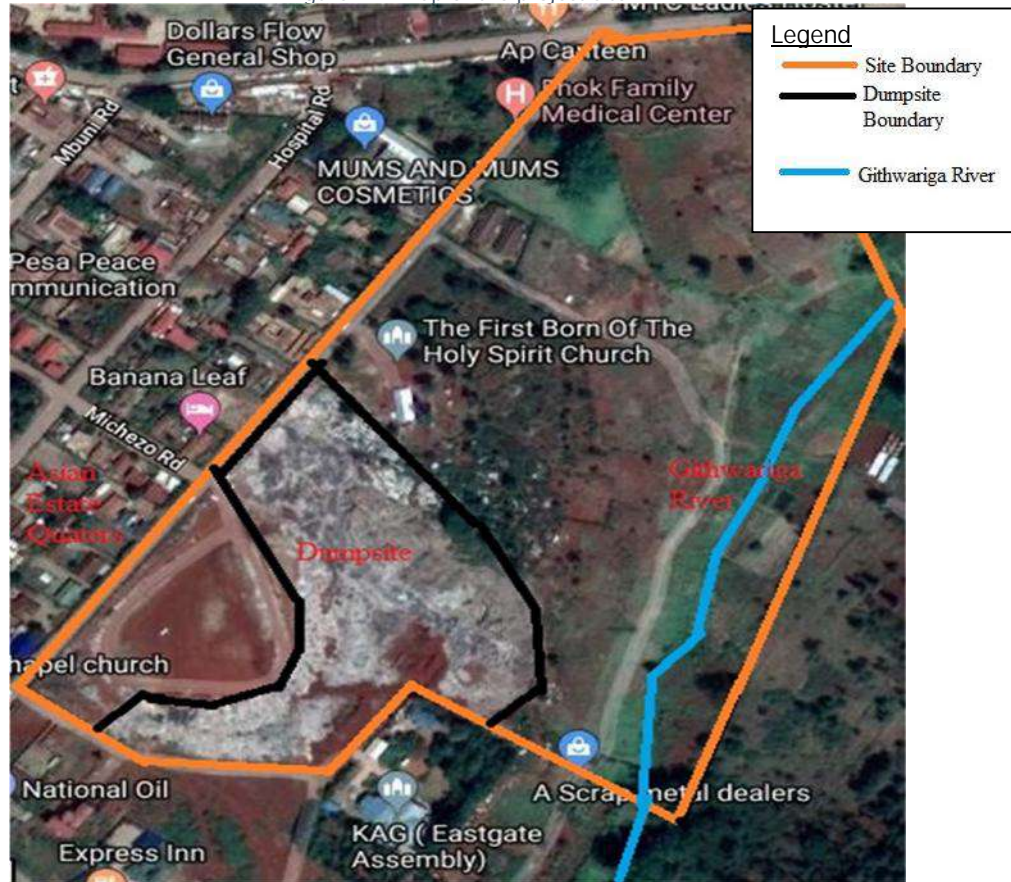
2.1: The Nyeri Town Transport Termini Project

Figure 2.1: Nyeri town with location of the project site



The site is located approximately 2 km kilometers outside the CBD within a residential zone right adjacent to the Asian Quarters residential estate, which is approximately 1-2km southeast of the town CBD. It is an uncontrolled dumpsite without fencing, gas or leachate management. Waste disposal is done through open dumping method and sometimes the waste is covered with a layer of soil. The site is 9.64 acres on land Title Number: Nyeri Municipality/Block II/175, owned by the Nyeri Municipal council (Figure 2.2). However, solid waste dumping is done in about 5 acres of the land bordering the Asian Quarters. The dumpsite is a source of livelihood to about 30 waste scavengers some of whom reside in the dumpsite in the section bordering the river (Plate 2.1). Some waste recyclers operate in the area using small trucks (Plate 2.2).

Figure 2.2: Map of the project site



Source: Google image

Plate 2.1: Dumpsite



Source: Fieldwork survey 2019

Plate 2.2: Temporary structures bordering the river



Source: Fieldwork survey 2019

Plate 2.3: Waste collection recyclers



Source: Fieldwork survey 2019

The site is bordered to the east by the Asian Quarters Residential area consisting of single-family dwelling units on about $\frac{1}{4}$ acre plots. Most of the buildings are single storey units (Plate 2.4)

Plate 2.4: A Single residential unit in Asian Quarter



Source: Fieldwork survey 2019

To the west is the Githwariga River. The site slopes to the river. The area is not developed but is under nippier grass. It has red loamy soils. The dump site residents have built house of plastic papers where they undertake material recovery and pig rearing from the dump waste. Across the river is agricultural

land under subsistence crops such as maize, bananas, Napier grass and trees. The land owned by the Nyeri county government is across the river (Plate 2.5)

Plate 2.5: Agricultural activities along the Githwariga River



Source: Fieldwork survey 2019

To the south is the area between the dumpsite and Nyeri-Nairobi road, are the residential houses mainly flats, with some commercial facilities such as shops and guest houses (Plate 2.6).

Plate 2.6: Developments on the southern side



Source: Fieldwork survey 2019

To the north the land is fallow. There is a cemetery and some area under maize and napier grass. About 300 meters from the site are the residential settlements. Nyeri County Referral Hospital is about 50m from the dumpsite. A portion of the dumpsite is occupied by a disused football pitch whose terrain has been well graded. The dumpsite location is a major land use conflict. It is located adjacent to the Asian quarter's residential estate and at steep slopes overlooking River Githwariga. There are probabilities that leachates and some solid wastes are washed into the river by the surface runoffs.

2.3: Termini layout and design concepts

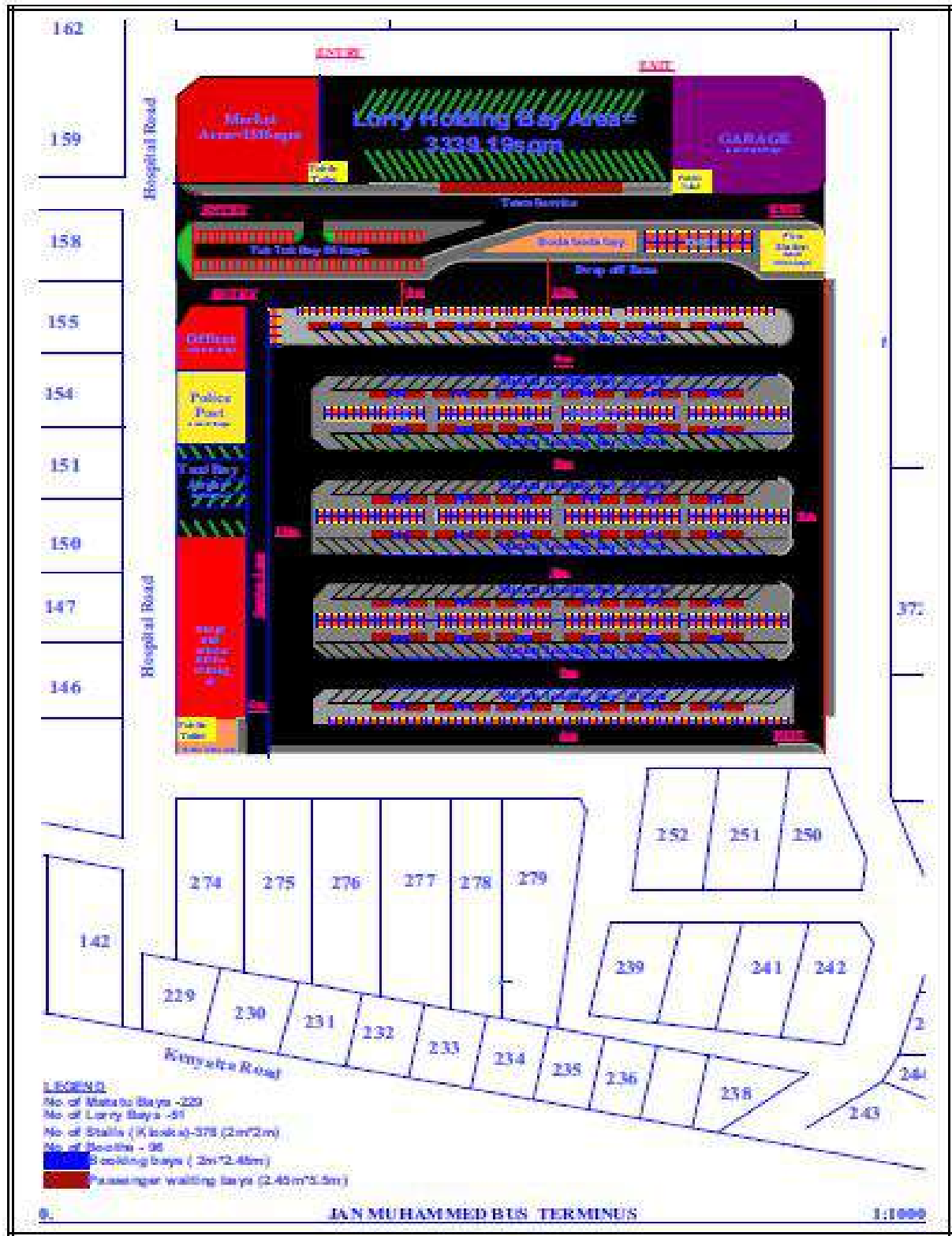
The proposed transport termini next to the Asian Quarters will consist of a Bus station, modern stalls, business parks and the supporting social amenities such as a police post and public toilets, (Figure 2.4). The design comprises the following facilities;

- p) Lorry holding bay area (3339.19sqm)
- q) Market area (1316sqm)
- r) Tuk Tuk bays
- s) Police post (474sqm)
- t) Kiosks section
- u) Taxi bay
- v) Drop off zone

- w) Matatu loading bays
- x) Garage
- y) Fire station
- z) Three public toilets
- aa) Boda boda bays
- bb) Internal circulation roads with varying widths ranging from 6M, 9M, 12M.
- cc) Shops and offices area
- dd) Two entries and exits

The building materials will consist of masonry walls, steel or timber doors with roofing materials of sheets or any of the modern roofing materials. The bus terminii grounds will be paved with tarmac, cabro or any other paving material (Figures 2.2-2.6). The development will be connected to KPLC power supply and Nyeri water and Sanitation Company Ltd. (NYEWASCO) water supplies. Human and waste water from the facility will be connected to the NYEWASCO sewer.

Figure 2.3 : Asian Quarters bus termini master plan



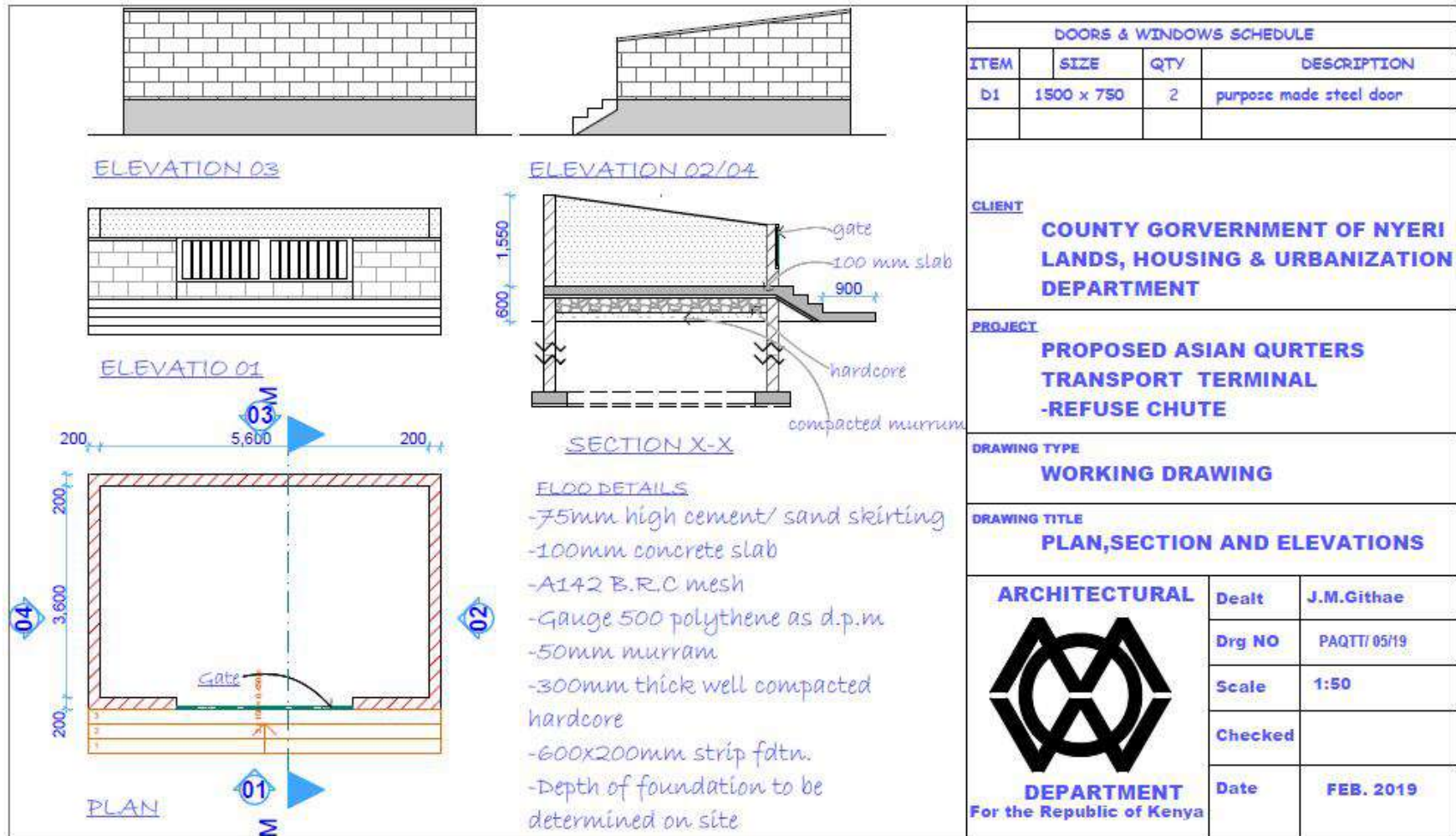
Source: Nyeri county government

Figure 2.4: Kiosks plan layout



Source: Nyeri county government

Figure 2.5: Refuse chute plan layout



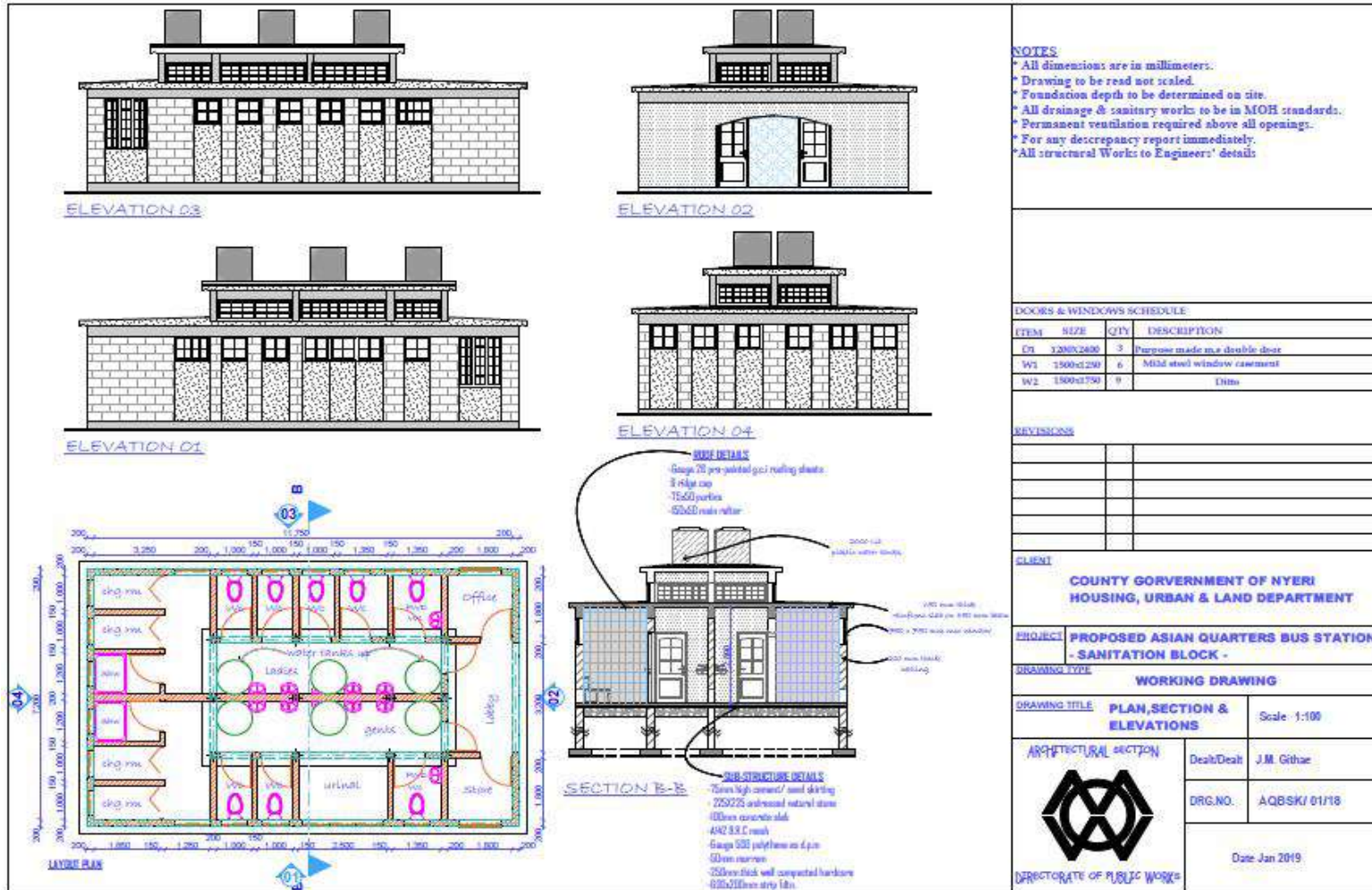
Source: Nyeri county government

Figure 2.6: Office blocks plan layout



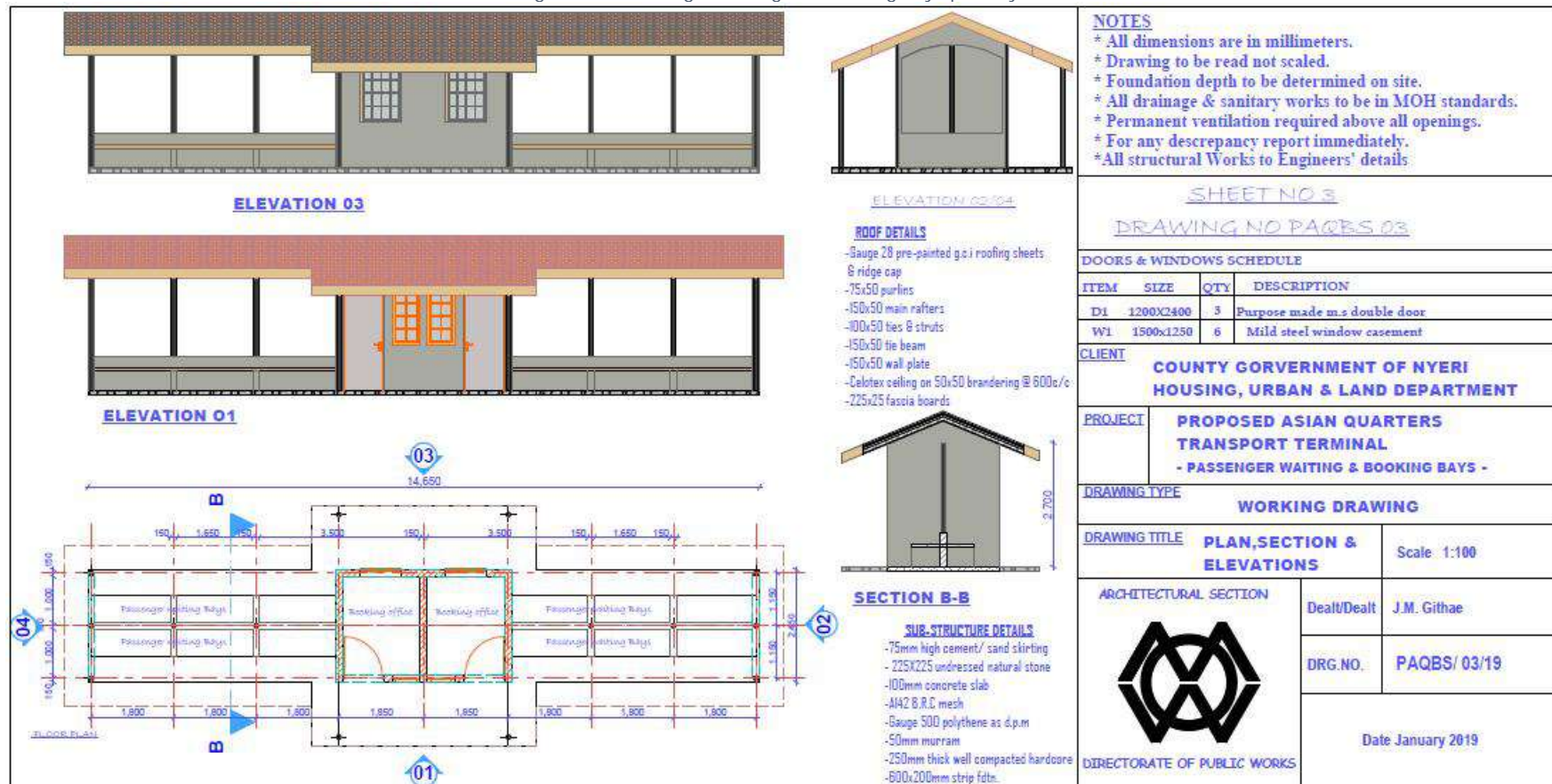
Source: Nyeri county government

Figure 2.7: Sanitation block plan layout



Source: Nyeri county government

Figure 2.2: Passenger waiting and booking bays plan layout



Source: Nyeri county government

2.4 Dumpsite decommissioning plan

With the relocation of the bus termini to the current dumpsite, health requirements will also dictate relocating the dumpsite to a distant location far from the dense population. This is because it is an incongruent activity with a bus termini. Nyeri county government is looking for a new landfill site. To close the existing dumpsite it will require a decommissioning plan to ensure it is done in an environmentally sustainable way which will uphold public health and social considerations. The decommissioning plan prepared by the department of water, environment, natural resources and sanitation of the county government of Nyeri details the decommissioning tasks and programme in the following sections. Table 2.1 provides a summary of the dumpsite decommissioning plan.

The proposed option is decommissioning of the existing solid waste dump site with a coverage of 3 acres of land. The activities that are anticipated to occur during the decommissioning of the site include excavation and dredging of a waste cell, grading of slopes, cell lining, setting up of leachate drains and landfill gas pipes, transportation of the solid waste to the cell and spreading and compacting it in predetermined layers, covering and capping the site, and the revegetation and landscaping of the site, a section of which will be used as a public recreational park eventually. Daily operations on the site will include intensive application of manpower, machinery and materials. Site supervision, monitoring and management is required due to the nature of site operations process taking place and associated impacts and as such, there is need for comprehensive forward planning in compliance to the closure plan set.

2.3.1 Site clearing

This will be done for the area where the pit will be dug for burying of existing garbage as well as creating an access road to the dug cell to allow for continuous spreading and compacting of waste during operations. This will include removing of vegetation on site and pushing of waste. Continuous cleaning of surrounding environment which will be effected even as the project progresses and landfilling takes place.

2.3.2 Cell construction

The cell will be excavated up to a reasonable depth of 120metres maximum for the protection of underground water. The soil excavated will be used during covering and capping. The excavation will be done in such a way that the base will have a minimum final slope of 2% to encourage lateral migration towards the leachate collection trench as well as efficient compaction of waste.

Composite lining will be employed on the cell and this will be done using compacted clay, geomembrane liner, a layer of gravel and soil. This will also be done for the protection of the soil and water resources, to avoid contamination from leachate movement. Clay used will be got locally, and will have a layer thickness of 0.5 metres minimum at the base of the cell. The clay will also be used before final capping to protect water leaking into the cell during rainy season, as this is likely to increase leachate flow underneath. Geomembrane will be sourced, delivered and laid by a qualified supplier in this kind of project. A layer of gravel will be laid for maximization of the amount of leachate diverted to and collected by the laid leachate pipes. Cell lining will be completed by a layer of superimposed soil. Lining will also be done on the leachate collection trench set nearby the cell.

Perforated leachate collection pipes of a minimum diameter of half a foot will be laid between the gravel layers. The pipes will be horizontally connected near and towards a collection trench. Piping will also be done for gas management. Passive venting system will be employed whereby perforated pipes will be installed vertically, and the natural pressure of the gas will push it up and outwards. This method has been chosen due to expected low gas generation as the waste volumes are low and already been subjected to aerobic decomposition.

2.3.3 Waste sorting

As site clearing is taking place and the cell is being prepared, waste pickers will be allowed to sort from the dumpsite recyclables and reusable. Sorting will also be done to separate hazardous waste from non-hazardous waste to the most efficient level manually. Depending on type, hazardous waste will be taken to the relevant drop off facilities, incinerated or to recycling centres. This will not only reduce volumes to

be landfilled, but also ensure that toxic materials are not buried as this may have detrimental effect on the environment in the future.

2.3.4 Waste spreading and compacting

Once the cell is done, the waste if far from the cell, will be gathered using a wheel loader into a tipper, into the cell. If nearer the cell, the wheel loader will deposit in. A bulldozer will be used to spread the waste in the cell and thereafter compaction will be done. Compaction will be done after unloading of waste into the cell has been done to at most 3 metres. This exercise will be continuous and machinery will be availed on site.

2.3.5 Site Covering and capping

Waste covering will be done daily with a uniform layer of at least half a foot. Soil will majorly be used with alternates of ash, synthetic tarp or debris from construction or demolition waste when available. During weekends when less activity will take place, a thicker layer cover will be laid. For final capping, a layer of compacted clay and of compacted soil of a depth of at least 1.5 feet will be laid. This will be done to reduce infiltration of water and prevent damage from burrowing animals, prevent the emergence of insects and rodents, and minimize escape of odor. A layer of top soil will be laid finally to a depth of at least 1 foot. Both onsite and imported soil will be used in this exercise.

2.3.6 Revegetation and landscaping

The site will be levelled using the required machinery and a layer of top soil will be spread. This will be done as a restoration strategy of the site. Vegetation will then be planted for both improving the visual of the area as well as other environmental benefits. Other than for landscaping purposes, specific type of trees, grass and flowers will be planted on and around the landfill as a phytoremediation strategy of soil and air quality management, as well as leachate management. Vegetation is known to absorb toxins and certain gases from both air and soil, and in return gives out oxygen. Leachate collected at the drains can also be used to water the vegetation, also as a water conservation strategy as discussed by Erdogan and Zaimoglu (2015).

Other than immediate planting of bamboo tree and nipper grass as buffer towards the stream, other trees, flowers and grass with potential to absorb toxins and clean the environment will be planted. Types of vegetation will also be dependent on ability to maintain and landscape and potential to thrive in this climate, in consultation with Kenya Forest Service and a qualified landscaper.

Table 2.1: Proposed dumpsite decommissioning framework

Activity	Timeframe	Remarks
Waste sorting and notice	1 month	To allow informal waste pickers to do a final picking of waste, as well as county workers time to sort the waste.
Site clearing	2 weeks	To be done around the area where the landfill cell will be set.
Cell construction	1 ½ months	Dependent on weather. Will be done according to design
Waste spreading and compacting, cell filling	1 ½ months	Will be done per layer and covering done. Dependent on weather.
Site covering and capping	2 weeks	
Revegetation and landscaping	1 month	Will be done all around site and in accordance to a layout designed.
All activities	6 months	Site decommissioning complete and ready for use as a public recreational facility.

Source: Nyeri County Government (2019)

2.4 Land acquisition

The land belongs to Nyeri County Government so issues of compensation will not arise since a bus park is a public amenity.

2.5 Labour and employment plan

The dumpsite decommissioning, bus park construction and operation is a labour intensive venture. It will create employment for many cadre of professionals such as engineers, masons, business people, drivers, and other support staff. Most of the personnel will be sourced locally which is economically and socially beneficial to the Nyeri town and County economies.

2.6 Construction process

The project construction activities will involve site ground clearing including removal or compacting of the dumped solid waste, excavation, construction work, installation of electricity and connection to the sewer treatment facility. Landscaping will be undertaken to restore the disturbed landscape after construction.

2.7 Operational and maintenance phase

The operation phase will involve picking and dropping of passenger by public transport vehicles, operating businesses in the stalls, facilities and building maintenance. This phase will generate solid and liquid waste, air pollution and noise from the said activities. Therefore, adequate communal solid waste storage facilities must be installed for solid waste storage. The town sewage needs to be connected to the bus terminii to carry waste water and human waste. Noise and air pollution should be contained by observing EMCA Noise and air pollution standards respectively.

2.8 Project Justification

The decommissioning of the current dumpsite and relocating of the bus park to the new site is justified from two perspectives:

- d) The closure of the dumpsite located in a residential estate and near the CBD will improve the environment and health status of the neighbourhood ;
- e) Relocation of the bus parks from the CBD to the new site will help in decongesting the CBD and traffic organization within Nyeri town.

Table 2.2 shows the SDGs whose realization in Kenya can be supported by the CGN Transport Termini Project in Nyeri town.

Table 2- 1: CGN transport termini project and SDGs in Kenya

SDG	Goal	Linkage with the CGN transport termini project	Indicator
SDG 1: No poverty	Eliminate all forms of poverty	Reducing the number of people living on less than \$1.25 a day through employment creation in the termini establishments – PSV parking, market, lorry parking bay, taxi bay, business park etc	Number of employees
SDG 8: Productive employment and economic growth	Achieving full and productive employment and decent work for all and equal pay Empowering young people to work	Reducing unemployment by providing more decent work opportunities for men and women	Number of employees
		Improving resource efficiency in consumption and production and reduce environmental degradation by:- a) reducing fuel wastage in traffic jams, and b) reducing the level of GHG emissions in traffic jams	Urban traffic density
		Promoting sustainable tourism by ensuring smooth flow as an incentive for more visitors to Nyeri town	No. of visitors
SDG 9: Industries,		Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder	No. of vehicles services/day

innovation and infrastructure	Improving investments in infrastructure	infrastructure, to support economic development and human well-being	
		Increase the number of small-scale enterprises such as small-scale termini businesses	No. of beneficiaries
SDG 11: Sustainable cities and communities	Making urban areas more inclusive, safe, resilient and sustainable	Ensuring access for all to adequate, safe and affordable basic services e.g. termini sanitation facilities, police posts, security lighting	No. of beneficiaries
		Providing access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	No. of beneficiaries
		Reducing the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management through:- a) Improved air quality by easing traffic congestion, and b) relocation of the municipal dumpsite to a less distressing site	a) Improved air quality status b) Improved property value c) Reduced respiratory disease incidents
		Providing access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities at the transport termini	No. of beneficiaries
		Supporting positive economic, social and environmental links between urban, peri-urban and rural areas	Connectivity status
SDG 13: Climate action	Taking action to combat climate change and its impacts	Reducing the level of GHG emission in Nyeri town	Level of carbon emission
SDG 14: Life Below Water	Conserving the aquatic life	Alleviating water pollution in Githwariga River through decommissioning and restoration of the dumpsite at Asian Quarters	Improved river water quality status

2.9: Analysis of alternative options

The main purpose of comparing environmental impacts of the project alternatives is to provide the decision makers with the complete environmental and socio-economic background information to be able to make an informed decision on what project alternative to proceed with. Table 2-3 shows the alternative project options which were considered in the EIA.

Table 2- 3: Summary of project alternative options

Alternatives	Characteristics
A ₀ – No project option or base alternative	Not establishing the new and modern transport termini in Nyeri town and proceeding with Business-as-Usual (BAU)
A ₁ – Preferred option	Establishing a new and modern transport termini at the dumpsite next to the Asian Quarters in Nyeri Town
A ₂ – Other option	Expanding one of the existing transport termini within the CBD

Table 2-4 provides a summary of the environmental and social analysis for the three alternatives in the project.

Table 2- 4: Description of project alternative options

Project alternative	Positive impacts	Negative impacts	Preference ranking (based on negative impacts)
A ₀ – No project option or base alternative - Not establishing the proposed project and proceeding with Business-as-Usual (BAU)	<ul style="list-style-type: none">) Waste recycling at Asian Quarters dumpsite) Convenient dropping areas for CBD commuters 	<ul style="list-style-type: none">) Inadequate public transport provisions) Congestion on and off the carriageway) Uncontrolled on-street parking) No facilities for Non-Motorised Transport (NMT) users) Slow non-motorized modes such as bicycles, hand-pulled carts, and pedestrians) Overcrowding of pedestrians, cyclists, and street vendors on the shoulders of roads) Limited or no space for walking and cycling) Increased insecurity) Poor state of roads and limited alternative roads) Heavy traffic congestion in the CBD) Traffic accidents) Unpleasant CBD due to solid waste dumping by the bus stage traders) Noise pollution by PSV in the CBD 	3
A ₁ - Preferred option - Establishing a new and modern transport termini at the dumpsite next to the Asian Quarters in Nyeri Town	<ul style="list-style-type: none">) Expanding the CBD towards the Asian Quarters as recommended in the ISUDP (2014-2034)) Improve easy access to Nyeri Town public transport facilities) Improved permeability within the CBD) Alleviate pressure on the existing CBD) Alleviate congestion in the CBD) Providing new market, transport and public space opportunities as recommended in the ISUDP) Encouraging walkability towards the newly proposed Matatu Terminus serving the Asian Quarter) Extension of urban green spaces into town 	<ul style="list-style-type: none">) Relocation of the resident waste recycling squatters at the Asian Quarters dumpsite) Financial costs in the establishment of an alternative urban solid waste landfill 	1

	<ul style="list-style-type: none">) Improved links to key Tourist Sites in Nyeri Town) Employment creation) Reduced traffic congestion in Nyeri town) Reduction of GHG emission through easing of traffic congestion) Creating a 24-hour environment with adequate natural surveillance and lighting) Introducing formal retail business park in the termini) Improved security, safety, environmental and public health the transport termini) More efficient and reliable revenue collection method for the transport termini) Clean environment, good air quality and reduced crime for the Asian Quarters area) Improved state of Githwariga River 		
A ₂ – Other option - Expanding one of the existing transport termini within the CBD	<ul style="list-style-type: none">) Waste recycling at Asian Quarters dumpsite) Convenient dropping areas for CBD commuters 	<ul style="list-style-type: none">) Loss of some existing commercial businesses to create room for expanded terimini) Inadequate public transport provisions) Congestion on and off the carriageway) Uncontrolled on-street parking) No facilities for Non-Motorised Transport (NMT) users) Slow non-motorized modes such as bicycles, hand-pulled carts, and pedestrians) Overcrowding of pedestrians, cyclists, and street vendors on the shoulders of roads) Limited or no space for walking and cycling) Increased insecurity) Poor state of roads and limited alternative roads) Heavy traffic congestion in the CBD) Continued occurrence of traffic accidents 	2

3. EIA APPROACH AND METHODOLOGY

3.1: Baseline environmental assessment

A baseline field mission was carried out from 6th- to 8th February 2019 for detailed physical inspection of the proposed site and on-site analysis of a wide range of environmental attributes with regard to the biophysical environment and social environment. The key biophysical considerations included physiography and landscape analysis, soil characteristics, hydrology, drainage and water resources, air quality, noise and vibration, vegetation, wildlife, and climate change scenario analysis.

The social considerations included site demographic characteristics, land ownership and livelihood systems, traditional resources and cultural heritage. The field visits and physical site inspections of the environmental status of site was undertaken in order to determine the anticipated impacts during road construction works and road operations. The baseline environmental assessment was undertaken by the consultant jointly with the project proponent's team. The approach and methodologies adopted for the various thematic assessments of the proposed road ESIA are highlighted below

3.1.1: Biophysical environment

3.1.1.1- Landscape analysis

A rapid assessment of the topography was undertaken during site inspection using visual observation and topographic analysis using a Garmin GPS handset.

3.1.1.2 – Noise & vibration

A baseline environmental noise survey was undertaken in the proposed termini site entailing noise measurements at ten (10) Noise Sensitive Locations (NSLs) for a duration of 10 minutes in each instance. The equipment used in the noise measurements was a portable Benetech Digital Sound Level Meter Model No. GM 1357 with capability of recording A-weighted equivalent sound level (LAeq,T), statistical indicators (e.g. LAF90,T, LAF10,T), maxima/minima (i.e. LAFmin,T, LAFmax,T) and 1/3-octave band data (Plate 3.1). Table 3.2 shows the locations where the baseline noise level tests were undertaken.

Plate 3.1: Noise level testing at the proposed site



3.1.1.3 - Air quality

Baseline air quality measurements were undertaken at ten (10) locations in the proposed termini site (Plate 3.2) entailing the parameters and using the portable equipment highlighted in Table 3.1 in accordance with Air Quality, Regulations, 2014. The locations where the air quality tests were undertaken were the same as those for the noise level measurements (Table 3.2).

Table 3.1-Air quality parameters and testing equipment

Air quality parameter	Equipment
1. Ambient particulate matter (dust)	Langder high sensitivity PM2.5 dust analyzer
2. Ambient Volatile Organic Compounds (VOCs)	Langder VOC analyzer
3. Ambient Carbon dioxide (CO ₂)	CO ₂ Meter Model 7Z-RWZ2-K2NX
4. Ambient Carbon Monoxide (CO)	Bosean BH-4S Emission Detector
5. Ambient Nitrogen Oxide (NO _x)	Bosean BH-NO _x Emission Detector
6. Ambient Sulphur Oxide (SO ₂)	Bosean BH-SO _x Emission Detector

Plate 3.2: Air quality testing at the proposed site



Table 3.2: Air quality testing locations at Asian Quarters dumpsite

Location	GPS
1. KAG Church Gate	S00 ⁰ , 25' 53 E036. 57 ⁰ 43.8
2. Pavilion Flats	S00 ⁰ , 25' 57 E036. 57 ⁰ 41.7
3. South East Exit	S00 ⁰ , 25' 53 E036. 57 ⁰ 42.0
4. Southern Zone	S00 ⁰ , 25' 52 E036. 57 ⁰ 41.7
5. Termini Entry	S00 ⁰ , 25' 47 E036. 57 ⁰ 43.3
6. North West Zone (Proposed market)	S00 ⁰ , 25' 46 E036. 57 ⁰ 44.9
7. Northern Zone -1 (Proposed Lorry Bay)	S00 ⁰ , 25' 47 E036. 57 ⁰ 44.2
8. Northern Zone -2 (Proposed Lorry Bay)	S00 ⁰ , 25' 48 E036 ⁰ , 57' 44
9. North East Zone (Proposed fire station)	S00 ⁰ , 25' 49 E036. 57 ⁰ 46.1
10. Eastern Zone (Gathwariga Stream Viewpoint)	S00 ⁰ , 25' 51 E036. 57 ⁰ 46.9

3.1.1.4 – Soil quality

The aim of the soil analysis was to determine the quality of soil evolving from the Asian Quarter dumpsite especially along the Githwariga riparian zone to the east of the dumpsite where non-point pollution to the river ecosystem was considered as possible due to the nature of the surface gradient. The sampling strategy was adopted in order to assess whether the dumpsite leachate had any negative impacts on the soil characteristics mainly pH and presence of heavy metals. Soil samples were collected in a diagonal manner using a soil augur at a depth of 30cm from the surface. Samples for each site were then mixed thoroughly into a single composite sample from which samples for analysis were taken. The composite sample was analyzed for presence of heavy metals primarily; zinc, mercury, cadmium, chromium, lead, copper and manganese at the analytical chemistry laboratory at Kenya Plant Health Inspectorate Service (KEPHIS) in Nairobi, Karen which is one of the accredited labs in the country.

3.1.1.5 - Water quality

The water quality baselines were only generated from Gathwariga Stream which flows along the eastern edge of the Asian Quarter dumpsite. The stream is separated from the dumpsite by a 20-30 m riparian buffer zone which is characterized by natural vegetation (herbaceous vegetation and shrubs) as well as napiear grass cover. Two water samples was collected above the dumpsite below the KAG compound and below the dumpsite. The samples were analyzed at the Water Quality Laboratory in the School of Engineering at University of Nairobi which is NEMA accredited. The results were evaluated against the National Environment Management Authority (NEMA) and WHO standards for domestic water use as prescribed in the First Schedule of the Environmental Management and Co-ordination (Water quality) Regulations, 2006 (LN 36) and WHO Guidelines for Drinking Water Quality 46h Edition of 2017, respectively. Full chemical analysis was undertaken with an exception of the biological assessment which was not considered relevant for the EIA. The methods used are highlighted in Table 3-2. The benchmark thresholds used in the water quality assessment were aligned with the NEMA and WHO limits for domestic water quality as highlighted in Table 3-3.

Table 3.2: Water quality analytical methods

Parameter	Analytical method
1. pH	Desktop pH analyzer
2. Apparent colour	Colour comparator method using standard colour disks
3. True colour	Colour comparator method using standard colour disks
4. Conductivity	Desktop EC analyzer
5. Turbidity	Desktop turbidimeter
6. Calcium hardness	EDTA titrimetric method
7. Total hardness	EDTA titrimetric method
8. Carbonate hardness	EDTA titrimetric method
9. Alkalinity	Titrimetric method using AV/50 H ₂ SO ₄
10. Iron	Calorimetrically using the thiocyanate extraction method
11. Fluoride	Desktop Fluoride analyzer with Spach's solution
12. Sulphates	Gravimetric method using dried residual
13. Dissolved oxygen	Winkler–Azidemodification method
14. Nitrates	Calorimetrically using sulphuric acid/Brucin method
15. Nitrites	Calorimetrically using sulphuric acid/Brucin method
16. Chlorides	Titrimetrically using silver nitrate
17. Dissolved solids	Evaporation method using weight in residual
18. Suspended solids	Filtration method using weight of filtrate
19. Total solids	Evaporation method using weight in residual

Table 3.2: Water quality limits and impacts

Parameter	Standard baseline characteristics
1. pH	pH usually has no direct impact on consumers, but it is one of the most important operational water quality parameters, the optimum pH required often being in the range 6.5–9.5. The most significant environmental impact of pH involves synergistic effects
2. Apparent colour	Apparent color is the color of the whole water sample, and consists of color from both dissolved and suspended components
3. True colour	True color is measured after filtering the water sample to remove all suspended material
4. Conductivity	The electrical conductivity of water is measured in micro Siemens/cm and is the traditional indicator for mineral deposits. Freshwater values range from zero to approximately 700µs/cm
5. Turbidity	Turbidity is the measure of clarity or cloudiness of water. Highly turbid waters contain large amounts of suspended particles and are generally associated with re-suspension of bottom sediments crystal clear water has turbidity values less than 0.5 NTUs
6. Calcium hardness	A number of ecological and analytical epidemiological studies have shown a statistically significant inverse relationship between hardness of drinking-water and cardiovascular disease
7. Total hardness	Hardness, in aquatic systems, is a measure of divalent ions (salts with double positive charges) including, most commonly, calcium (Ca ²⁺) and magnesium (Mg ²⁺) in association with carbonates. Hard water rivers are generally more productive than those with soft water and can accept more input of salts, nutrients, and acids to their system without harm. Hard water is not a human health hazard.
8. Carbonate hardness	Carbonate hardness is not a human hazard
9. Alkalinity	Alkalinity is a measure of the buffering capacity of water. Alkalinity is what maintains the appropriate pH range (6.5 to 9.0) favorable to aquatic inhabitants. Waters with an alkalinity below 50 mg/L are considered to have very low alkalinity. Alkalinity values above 150 mg/L are not a health concern

Parameter	Standard baseline characteristics
10. Iron	Iron is an essential element in human nutrition. Estimates of the minimum daily requirement for iron depend on age, sex, physiological status and iron bioavailability and range from about 10 to 50mg/day
11. Fluoride	Fluoride is a serious toxin and a corrosive poison. It is known to cause both dental and skeletal fluorosis leading to mottled teeth and improper bone formation. The other medical problems associated to high fluoride in the bone include general immuno-suppression, arthritis, gastrointestinal ailments and cancer. Fluoride has an adverse effect on tooth enamel and may give rise to mild dental fluorosis at drinking-water concentrations between 0.9 and 1.2 mg/litre, depending on intake
12. Sulphates	Sulphates are an abundant water-soluble sulphur-containing compound produced by the oxidation of elemental sulfur, sulfide minerals, or organic sulphur. Sulphate is commonly found in groundwater from soils containing gypsum and/or iron sulphide. Man-made sources include detergents, industrial effluent from tanneries, steel mills, textile plants and the burning of sulfur-containing fossil fuels. Gastrointestinal effects can result from ingestion of drinking-water containing high sulfate levels. High levels may also cause noticeable taste and may contribute to the corrosion of distribution systems
13. Dissolved oxygen	Dissolved oxygen (DO) is the amount of oxygen available to aquatic organisms. As dissolved oxygen levels in water drop below 5.0 mg/l, aquatic life is put under stress
14. Nitrates	Nitrates can produce a serious condition in fish called "brown blood disease." Nitrates also react directly with hemoglobin in human blood and other warm-blooded animals to produce methemoglobin. Methemoglobin destroys the ability of red blood cells to transport oxygen. This condition is especially serious in babies under three months of age. It causes a condition known as methemoglobinemia or "blue baby" disease. Water with nitrite levels exceeding 1.0 mg/l should not be used for feeding babies.
15. Nitrites	As above
16. Chlorides	Chloride is one of the major inorganic anions in water and wastewater. Chloride concentrations can be increased by industrial processes and can affect metallic objects and growing plants. Excessive chloride concentrations increase rates of corrosion of metals in the distribution system, depending on the alkalinity of the water. This can lead to increased concentrations of metals in the supply
17. Dissolved solids	TDS comprise inorganic salts (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides and sulfates) and small amounts of organic matter that are dissolved in water. the presence of high levels of TDS in drinking-water may be objectionable to consumers
18. Suspended solids	Total suspended solids (TSS) include all particles suspended in water which will not pass through a filter. TSS originates from multiple point and non-point sources but most commonly results from erosion of soils substrates. The deposition of sediment as a result of erosion can bury and/or destroy benthic habitat for most species of aquatic insects, snails and crustaceans. There is no legal standard for TSS, but values below 30.0 mg/l are generally considered low, and values above 100 mg/l are considered high
19. Total solids	Total solids represent a combination of both suspended and dissolved solids

3.1.1.6 - Hydrology, drainage & water resources

The hydrology and drainage of the project area was initially evaluated using topographic maps for the area. The focus was mainly based on the distribution of streams, rivers, wetlands within the road corridor which were quite few. This was coupled with an intensive analysis of existing literature. Thereafter, ground-truthing was undertaken through a drive along a reasonable number of inspection transects.

3.1.1.7 – Vegetation

The proposed site is dominated by herbaceous vegetation. Herbaceous vegetation was sampled randomly by collecting the dominant species within the locations where noise and air quality testing was done. The unknown woody species were clipped and preserved in a plant press for identification and preserving them using a plant press (Plate 3.1). Species that were not easily identifiable in the field were later identified at the University of Nairobi Herbarium in the School of Biological Sciences, Chiromo Campus. Thereafter, the

entire collection of site plants was counter-checked against the IUCN Red list of threatened species in Kenya.



Plate 3.1: Plant press used for specimen collection

3.1.1.8 – Wildlife

The only large wildlife in the site were scavenger dumpsite birds. The avifauna survey was undertaken by recording the birds seen or heard at the points where the noise and air quality testing was done. An estimate of the number of birds was also considered.

3.1.1.9 – Climate change scenario analysis

The analysis was undertaken according to the National Climate Change Response Strategy (NCCRS). The NCCRS shows clear evidence that temperature rise is common throughout the country and rainfall has become more irregular, unpredictable and torrential. The NCCRS (2009) predicts that the more torrential rainfalls accompanied by floods which could affect a wide range of infrastructure including termini.

3.1.2: Social environment

3.1.2.1- Analysis of demographic characteristics

Desktop reviews of published work on the socioeconomic baselines of the project area were carried out to extract relevant information. These were complemented with household socio-economic surveys during the field visits to obtain site-specific data on the project area.

3.1.2.2- Land ownership and landuse mapping

Land ownership details were confirmed through consultations with officers in the Department of Lands, Physical Planning, Housing and Urbanization at Nyeri County Government. Landuse mapping was undertaken through physical observations along purposive inspection transects around the proposed site.

3.2: Stakeholder Engagement

The need for public involvement in project development is enshrined in the Constitution of Kenya, 2010. This requirement is also provided for in the EMCA, 1999, the Environmental (Impact and Audit) Regulations, 2003, and is one of the guiding principles of the National Environment Policy, 2013. Sections 87 and 115 of the County Governments Act, 2012 also provides for public participation in county planning premised on timely access to clear and unambiguous information on any matter under consideration in the planning process. Chapter Four of the Kenyan Constitution on the Bill of Rights makes international law a key component of the laws of Kenya and guarantees protection of minorities and marginalized groups. Under Articles 33, 34, 35 and 36, freedom of expression, the media, and access to information and association are also guaranteed.

The methodology and approach used in the stakeholder engagement is highlighted below.

3.2.1-Stakeholder mapping and analysis

Stakeholder analysis was undertaken to determine a key list of stakeholders associated with the proposed termini project. The objectives of the stakeholder's analysis were to:-

- Identify groups, organizations and people having interests in the proposed project including the transfer of activities to the new termini;
- Understand the stakes, interests and levels of involvement for stakeholders and how they will be affected by proposed project including the transfer of activities to the new termini;
- Identify potential synergies and obstacles of the various stakeholders in the proposed project.

Stakeholder mapping was undertaken using the principal clusters shown in Table 3-3. The stakeholder clusters were evaluated using a number of criteria including their: stake and rights, roles and responsibilities, information type, and risk of non-involvement (Table 3-3). Table 3.4 shows the list identified on the basis of the stakeholder analysis in Table 3.

Table 3- 3: Nyeri termini EIA stakeholder clusters

Stakeholder Cluster	Stake in the project	Stakeholder rights	Duties they bear	What do we need from them?	Risk if they are not engaged
National Government Ministries	Strategic leadership, coordination including policy formulation and enactment of legal and regulatory frameworks	Constitutional rights, powers and duties	Protecting the environment and rights of people	Official direction policy	Legitimacy of the EIA is compromised
Statutory bodies	Specific functions	Specified by Acts of Parliament that create them	Specified by relevant Acts	Supporting the proposed project and aligning with it	Inadequate intuitional framework/support
County government	Decongesting Nyeri Town	Constitutional rights, powers and duties	Specified in the County urban strategies	Project documents	Failure to implement the project due to lack of EIA licence
Asian Quarter residents	Beneficiaries, victims or affected persons by living next to the dumpsite as a source of poor air quality and potential victims of noise and congestion that will be created by the proposed PSV terminii	Bill of rights in the constitution Articles 19 (1), (2), (3a, b, c) and 22	Beneficiaries, victims or affected persons by living next to a dumpsite and or the noise and congestion that will be created by the PSV terminii	Bill of rights in the constitution Articles 19 (1), (2), (3a, b, c) and 22	Beneficiaries, victims or affected persons by living next to a dumpsite and or the noise and congestion that will be created by the bus terminus
Matatu operators	<ul style="list-style-type: none">) Facilitating transport and business flow) Operating in an structured and organized manner) Paying taxes to County government) Handling passengers according to their Traffic Act and consumer rights charter 	<ul style="list-style-type: none"> Right to do genuine business Right to get services for taxes paid Right to pick and drop passengers in designated areas according to existing county and transport laws 	<ul style="list-style-type: none">) Follow the relevant laws and regulation to their trade) Respect the consumer rights of their passengers) Cooperate with the County government in planning and service delivery 	<ul style="list-style-type: none">) Compliance to the county and national transport and traffic regulations,) Consumer protection from road risks such as accidents and harassment) Self-regulating code of conduct 	<ul style="list-style-type: none">) Could frustrate the relocation of the bus terminus) Could make the passage and commuter services difficult to coordinate) Could increase congestion in the municipality) Could increase inefficiency and the cost of doing

Stakeholder Cluster	Stake in the project	Stakeholder rights	Duties they bear	What do we need from them?	Risk if they are not engaged
					business in Nyeri County) Could increase tax default rate to the county government
PSV terminii business operators	) Uses the bus terminus to access customers for their merchandise) Uses the bus terminus space to display their goods and services and most do not have their own spaces) Are nomadic and occupies the well-lit areas of the bus park at night) Some pay cess to the county government but most start displaying their wares after official working hours to avoid cess collectors	) Have a right to conduct legal business as a source of livelihood) Have a right to follow their customers) Have a right to access clean toilets	) Have an obligation to operate in an orderly manner as guided by County government agents) Have an obligation to properly dispose their solid waste in designated areas) Have an obligation to respect and obey all county by-laws for urban and municipal governance	Corporation and compliance to by laws) To be organized and self-regulating entity) To have designated areas for merchdising) To pay daily cess) To clean their working space) To keep clear from roads and not block traffic flow	) Chaotic bus terminus with hawkers and merchandise spread all over that would create difficulties for movement of commuters and vehicles) Congested bus terminus) Poor waste collection and disposal) Filthy toilets and poor hygiene) High incidences of petty crimes) High costs of maintaining law and order
Dumpsite waste recyclers	) The dumpsite is their source of raw materials for their trade) The dump site provide direct and indirect forms of employment) There are dump site dependent investments already in place) There is political capital and patronage through waste recycling	Right to employment	) Safety for their workers) Health and safety of products made from waste raw materials) Compliance with landfill procedures and solid waste by laws) Full disclosure of their operations and safety of their products	) Information and recommendations on sustainable and solid waste management especially the 3 Rs concept of Reduce, Reuse and Recycle in line with new scientific approaches od waste management) Guidance on waste segregation at point source to facilitate collection of recyclable material before they reach the	) Conflicts on waste disposal sites and in collection and transportation) Inefficiency in waste management) Unsustainable practices) Loss of innovation opportunities

Stakeholder Cluster	Stake in the project	Stakeholder rights	Duties they bear	What do we need from them?	Risk if they are not engaged
				municipal waste site	
Dumpsite waste scavengers	<ul style="list-style-type: none"> Informal waste based livelihoods and dumpsite families Dump site as a source of pork raised from waste food collected from the dump sites The uncontrolled dumpsite value chain that could far reaching impacts on public health 	<ul style="list-style-type: none"> Right to life Right to shelter Right to clean environment Right to food Right to good health Right to safe water and proper sanitation 	<ul style="list-style-type: none"> Their own safety Not being a risk to other people 	<ul style="list-style-type: none"> Information Recommendations Cooperation 	<ul style="list-style-type: none"> Demonstrations against the relocation of the bus park Insecurity during construction of the bus park Increased incidences of crime
Opinion leaders	Opinions of the people	To speak on behalf the people and the environment	To support others where they can	Opinions & views on the proposed project	Lack of people's views in the EIA

Table 3.4: List identified on the basis of the stakeholder analysis

Cluster	List of stakeholders	Specific targets
	Ministry Interior and Coordination of National Government	DCC
		ACC-1
		Area Chief – Asian Quarters
	Ministry of Environment & Forestry	NEMA-CDE
	Ministry of Transport, Infrastructure, Housing and Urban Development	KURA
Statutory bodies	NEMA	CDE
	WRA	Regional Officer
	NTSA	PSV Licensing Office
	TANATHI	Regional Office
County government	Department of Lands, Physical Planning, Housing and Urbanization	Chief Officer-CECM
		Director of Planning
		Physical Planner
		Planning Assistant
	Department of Transport, Public Works and Infrastructure	Public Works and Roads Roads
	Department of Water, Environment, Natural Resources and Sanitation	Director of Environment
	Department of Health Services	PHO
	County Administration	Sub-County Administrator (SCA)
		Water
		Sanitation
		Trade
		Revenue
		Enforcement
Nyeri town business stakeholders	Chamber of Commerce	Chairman
	CBD Business Association	Chairman

Cluster	List of stakeholders	Specific targets
Asian Quarter residents	Area residents	Representatives
Matatu operators	PSV operators	Chairman
Bus stage business operators	Business traders association	Chairman, Miariro Traders Association
Dumpsite waste recyclers	Waste recyclers	Universal Revolution Empire limited
		Kikkibul Empire limited
		Nyeri County Youth and Women empowerment Group
		Chairman, AGREC
Dumpsite waste scavengers	Homeless community (Chokoras)	Dumpsite homeless people
Opinion leaders	Politicians	Local MCA

3.2.2-Stakeholder engagement objectives and principles

The main objectives of the public consultation process were:

- To inform stakeholders about the proposed project;
- To share with stakeholders, the impacts (positive and/or negative) that they should expect from the proposed project during construction and operation;
- To collect stakeholders' views, comments, concerns and local knowledge regarding the proposed project; and
- To seek consensus and community consent on the project

3.2.3-Information Disclosure

Disclosure on the proposed project entailed an elaboration of the proposed project features. Appropriately sized project maps (A₀) were also used to display the proposed project design and key installations. In addition to an explanation of the project features, potential environmental and social impacts of the road project were discussed, and the community given opportunity to react, giving their views, reservations, and proposals, and finally whether the termini project is accepted.

3.2.4-Stakeholder engagement strategy

The overall approach for the stakeholder engagement was interactive, consultative, participatory, inclusive, and transparent. It was also adhered according to international stakeholder engagement best practices. The four methods used in engaging stakeholders included key informant consultations, focus group discussions Public consultation meetings (barazas) as highlighted below:-

- Key informant interviews (KIs):** Key informant consultations targeted officials of national government and county governments. Consultations were held in the official's places of work and by virtue of their designations, their views represented the official positions of their organizations. Consultations were conducted in form of emails and telephones with stakeholders who could physically not be available. This involved face-to face interviews with individuals representing particular interests in the mining sector. These interviews were conducted using an open but guided framework which allowed for focused, conversational and two-way communication. Structured questions were also used during the interviews. The questions were designed and phrased prior to the engagement based on the key goals for the EIA as outlined in the ToR.
- Focus group discussions (FGDs):** The FGDs involved planned or purposeful discussions with each target of stakeholder category comprising of a small group of people (4 to 12 members). The FGDs were designed to obtain relevant information about preferences and opinions in a relaxed, transparent, participatory and non-intimidating environment. This approach was used in the EIA consultations involving special interest groups such as the PSV operators, Nyeri business traders and related associations, waste recyclers and scavengers.

- c) Public consultation meetings (barazas): The PCMs targeted communities living in the dumpsite area where the terminii and related activities will be introduced. The key issues of focus in the PCMs was similar to the FDGs. The PCMs were coordinated by the ACC or Area Chief in accordance with the usual practice.

3.2.4- EIA Questionnaire

To ensure a formal record of community views, concerns and/or recommendations regarding the proposed project, a structured standard EIA questionnaire was administered to all the various clusters of stakeholders in order to capture their individual views with regard to the following attributes regarding the Nyeri County Government termini project: -

- a) Expectations from the proposed project;
- b) The benefits expected from the proposed project;
- c) Environmental concerns for the proposed project;
- d) Recommendations for addressing environmental concerns;
- e) Overall recommendation on whether the project should be implemented or not.

4. ENVIRONMENTAL BASELINE SITUATION

4.1: Nyeri County profile

Nyeri County (3,337.2 km²) is one of the 47 counties in Kenya and is located in the central region of the country. It borders Laikipia County to the north, Kirinyaga County to the east, Murang'a County to the south, Nyandarua County to the west and Meru County to the northeast. The county is divided into eight administrative sub counties that includes; Kieni East, Kieni West, Mathira East, Mathira West, Nyeri Central, Mukurweini, Tetu and Nyeri South. The county is further subdivided into 21 divisions, 69 locations and 253 sub-locations. The county has 3,092.73 km of classified roads with 450 km of bitumen, 1390.59km gravel and 1252.14 km earth surface.

4.1.1 – Nyeri town PSV network

Nyeri town fully became a municipality in May 1971, (vide Gazette Notice No. 61, 1971) covering an area of about 73.04 km² (Mahinda 2016). The elevation was accompanied by a ten-fold increase in the Town area, from the area defined by 1913 survey and distribution of plots. Today, Nyeri Municipality covers an area of 200 km². Nyeri is now the largest town in the newly created Nyeri County, with a population of about 119,273 (KNBS, 2009). The population increase from 98,908 in 1999 to 119,273 in 2009 (Lekariap 2017). The town is linked to Nyandarua, Laikipia, Meru, Murang'a and Kirinyaga Counties through bitumen road surfaces and is only approximately a two hours drive from Nairobi. The town is proximity to Kenya's capital city of Nairobi and towns like Nanyuki, Meru and Nakuru, and tourist sites and parks like Mt. Kenya and Aberdare's has also been another major factor in the increase in the city's economic activity (Lekariap 2017). Figure 4.1 shows the PSV network that connects the town to other urban centres in the neighbourhood.

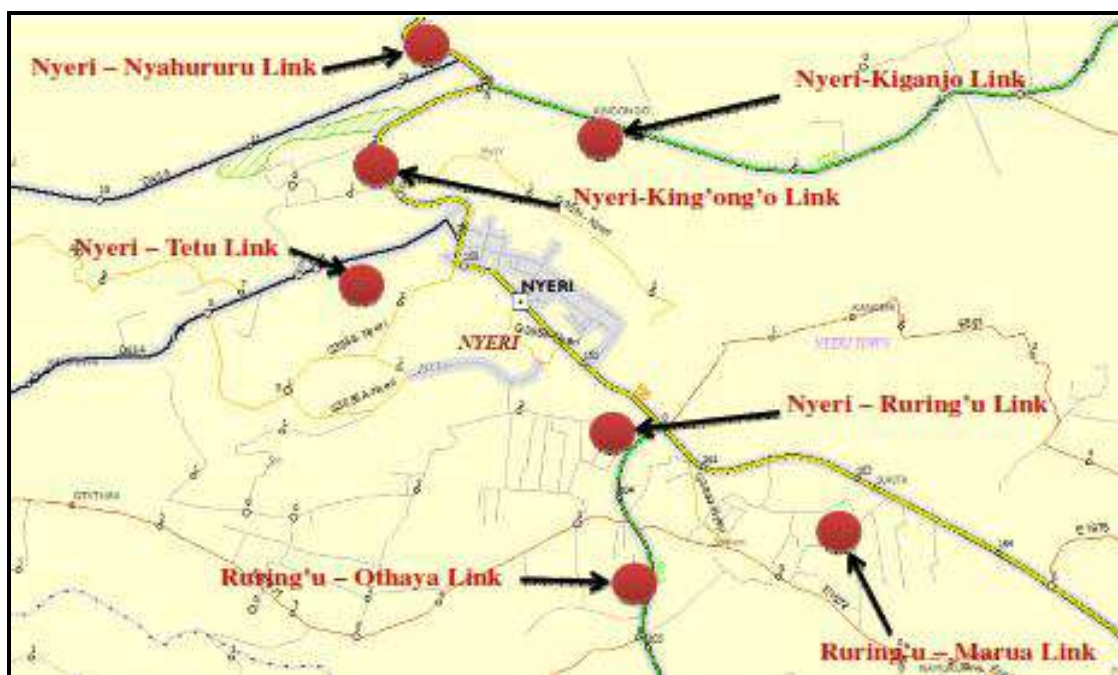


Figure 4.1: Map of PSV network in Nyeri town (Lekariap 2017)

Nyeri town has experienced recurrent traffic congestion which is affecting business activities. According to Lekariap (2017), traffic jams occur frequently in Nyeri town urban areas. This is because people need to use the common infrastructures with limited capacity at the same time, especially during rush hours. Traffic congestion might give rise to traffic delays, traffic costs, economic losses, traffic pollution, and even lower degree of safety. It has a direct effect on our quality of life. It includes considerable costs for the community and a great deal of effort to be devoted in every large town to reduce the negative impact of this phenomenon.

The public vehicles in Nyeri town in Kenya aid in movement for those that lack means of private transportation in Nyeri and those that opt to use public means. The municipal council of Nyeri town in Kenya has the provision for bus stops and matatu stages within the Nyeri town in Kenya. There are at least three major bus stages in Nyeri town in Kenya. The different bus stops have public vehicles travelling to various destinations in Kenya from Nyeri town.

The Lower stage in Nyeri town in Kenya is a matatu terminal in Nyeri that is located on the lower part of Nyeri town. Lower stage matatu terminal in Nyeri town is located close to the Mudavadi market in Nyeri town along Gakere Road. The lower stage matatu terminus in Nyeri is the most busy bus terminus in Nyeri town. The lower stage matatu terminus in Nyeri has matatus that ply to Nairobi, Mukurweni, Karatina, Othaya and Thika parts of Kenya. Basically, all matatus that leave Nyeri town via the lower route near the Dedan Kimathi stadium in Nyeri are found in this lower stage bus terminus in Nyeri. The lower stage matatu terminus in Nyeri is surrounded by vendors in Nyeri dealing in small household appliances, shoe stores as well as hotels and other eateries in Nyeri. There is also a large market in Nyeri town found close to the lower bus terminus in Nyeri not to forget the famous Homage store in Nyeri that deals in school uniforms and other knitwear in Kenya.

The Middle bus stage in Nyeri is found on the upper side of Nyeri Town in Kenya. This middle stage terminus in Nyeri has public service vehicles in Kenya plying the Mweiga, Ihururu, Endarasha routes in Kenya. You can also find matatus to Kingo'ong'o, Outspan and Watuka parts of Kenya in this middle bus stage in Nyeri. The Nyeri middle bus stage in Kenya is also surrounded by small scale vendors in Nyeri selling fruits. There is also a Nyeri public toilet in this middle stage in Nyeri accessible to all and sundry at a small fee. The most prominent outlets close to this middle stage in Nyeri is the Slopes supermarket in Nyeri town and the Sullivan Hotels in Nyeri town in Kenya.

The Nyeri Upper bus terminus is located very close to the middle bus terminus in Nyeri town in Kenya. The names of the two bus stages in Nyeri town are often confused and used interchangeably. The two bus terminals in Nyeri are only separated by a road and a line of buildings. The matatus found in this Upper stage terminus in Nyeri town are those that ply to Nanyuki, Nyahururu, and Nakuru routes in Kenya. However, you can also find matatus in Nyeri that ply the Ihururu route in Kenya in this Upper bus terminus in Nyeri. In recent years, Nyeri town has experienced heavy traffic congestion as a result of the general location of the PSV termini within the CBD. The roads are chocking with traffic and major streets have been converted into garages and car washes that block the flow of traffic. The traffic problem has been compounded by lack of designated parking for large lorries, which have taken up space in the central business district. Some streets on the fringes of the town have been entirely taken over by mechanics, who repair vehicles along them, leaving pedestrians and motorists to look for alternative routes. Figure 4.1 shows the average traffic density in Nyeri town.

The County Government of Nyeri (CGN) is planning to reduce the traffic congestion in Nyeri town by diverting some of the PSVs from the CBD by establishing an additional multipurpose terminus in the Asian Quarters area through a change of land use for the current municipal solid waste dumpsite which is set for decommissioning. This is also necessary because the dumping of garbage at the field has itself been an illegality as the area was never commissioned as a dumpsite thereby making the site a menace, eye sore and a health hazard for Nyeri town. In addition, the dumpsite has created a serious environmental risk of heavy metal water pollution in Githwariga River through leachate leakage from the solid waste (Plate 4.1). The stream is a tributary of the Chania River whose water resources is relied on by large populations of both rural and urban societies.

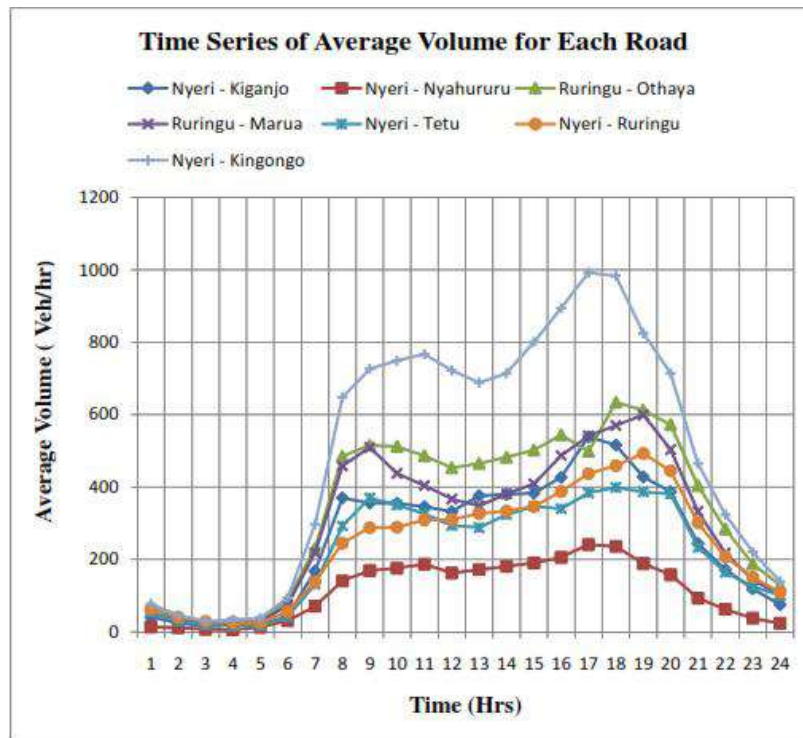


Figure 4.1: Average vehicle density in Nyeri town (Lekariap 2017)

Plate 4.1 – Risk of water pollution from the Asian Quarters dumpsite



(Daily Nation, 22/11/2013)

4.2: Description of project site - Asian Quarters Dumpsite

The Asian Quarters dumpsite comprises of about 9.6 acres which will be converted to a bus park so as to de-congest the already heavily congested Nyeri town, a police post to enhance and boost security, modern business stalls to provide opportunities for people to earn a living and a leisure park on the lower part of the Asian Quarters Field where the solid waste management is currently taking place. Both NEMA and Nyeri County Government have entered in to an agreement that will see Asian Quarters dumpsite moved to a scarcely populated area (Plate 4.2).

Plate 4.2: NEMA officials in a previous inspection of the Asian Quarters dumpsite



4.3: Site baseline environmental status

Figure 4.2 shows Nyeri town including the location of the project site. Figure 4.3 shows the congested PSV parking situation in the town.

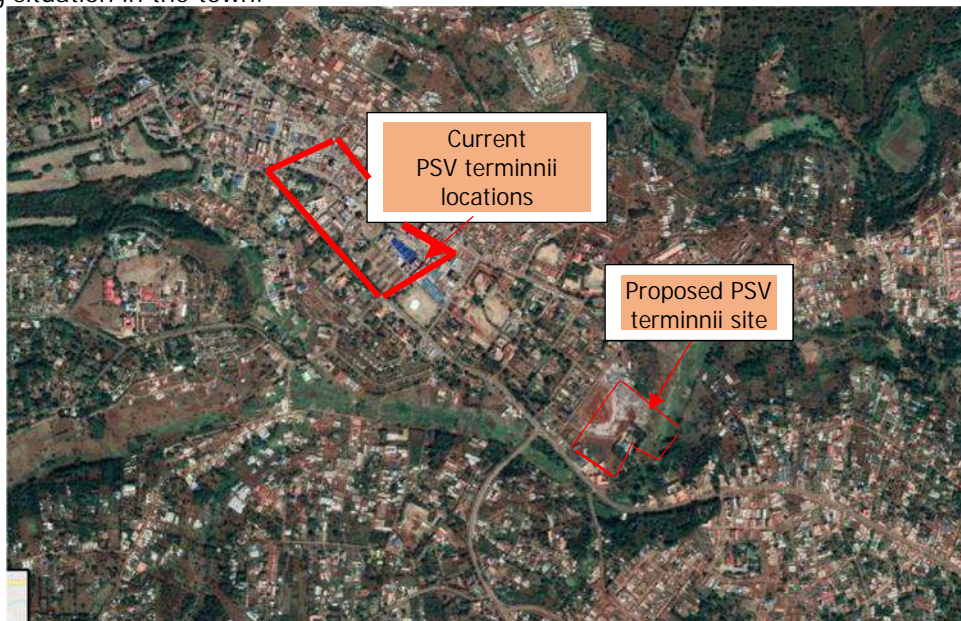


Figure 4.2: Nyeri town with location of the project site



Figure 4.3: Nyeri CBD with heavy congestion by PSVs

4.3.1 – Site description

Figure 4.4 shows the proposed project site. It is bordered by the Asian Quarters residential area to the west, the KAG east Gate Church and Githwariga stream to the east, Kenyatta Road (Nairobi rd) to the south and Kimathi Way to the North. Some of the landmark installations within the site include the Nyeri Referral Hospital off the Waiyaki Way, the Nyeri-Othaya-Ruringu interchange along Kenyatta Road and the Ruringu Stadium to the south.



Figure 4.4: The project site

4.3.1- Landscape

Nyeri lies at an elevation of about 1,600-1,750m with a consistent downslope in the western to eastern direction. The surface gradient in the project site is sloping eastwards towards the Githwariga Stream and also southwards along the Hospital Rd towards the Kenyatta Rd.

4.3.2- Geology & soils

The geology of the area is dominated by the Nyeri Tuff originating from the volcanic eruptions in Mt. Kenya. The Nyeri Tuff lies above the underlying Simbara Series and the overlying Lakipian Basalts, but oversteps the; Suribara Series and rests directly on the Basement System in the Kiganjo-Chieni-Ngondi area (Shackleton 2007). The Nyeri Tuff is source of buididing stone which is evident in the presence of several stone quarries in the area. The Nyeri Tuff is approximately 30m thick. The tuff is pale grey with numerous sub-angular pumice fragments up to one inch long, and scattered fresh felspar fragments up to one millimeter long in a fine-grained matrix of clay grade with minute claystone lenticles. All the lenticles and pumice fragments show a strong parallel alignment which is sub-horizontal in attitude in the exposures.

The soils within Nyeri town are similar to those in many other parts of the county. The soils are well drained, deep volcanic loam dominated by the red clays. They are often three or six metre thick and are largely unstratified and homogeneous in nature.

4.3.3– Hydrology & drainage

The proposed project site lies within the Sagana catchment area (4A, 2,738km²) with an estimated population of around a million people. Chania River, one of the rivers running through Nyeri town is a key tributary of Sagana River while the Gathwariga stream which flows next to the Asian Quarters dumpsite is one of the upper tributaries of the Chania River (Figure 4.5).

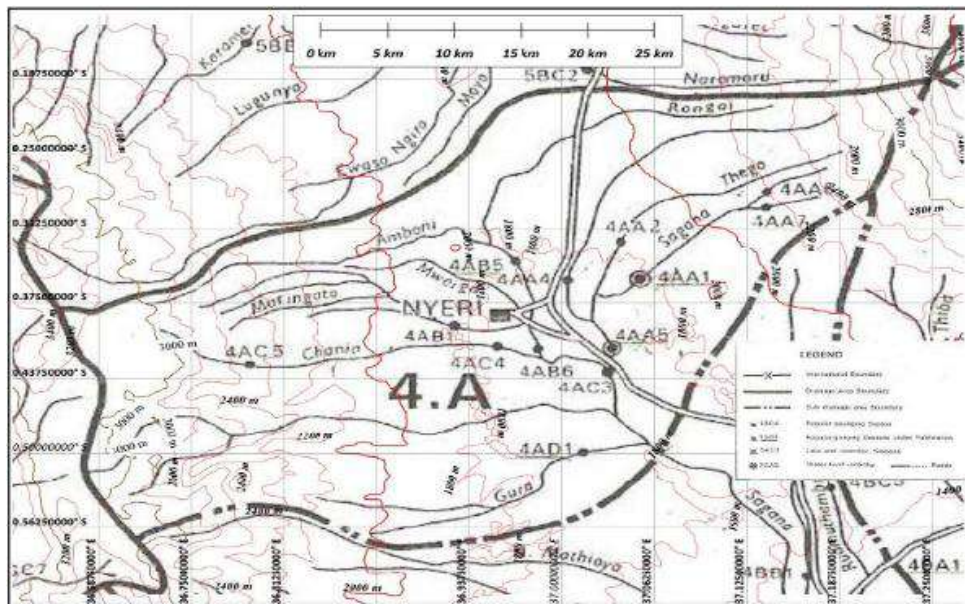


Figure 4.5: Drainage characteristics in Nyeri town

4.3.4 - Air quality

The findings showed that the air quality at the dumpsite was not good. The level of particulate matter was beyond the NEMA limits (75 PM_{2.5} µg/m³, Figure 4.6). This was caused by the daily burning of garbage by the waste scavengers (Plate 4.1). The highest level of PM_{2.5} at 642 µg/m³ was recorded at the proposed termini entry (S5) next to Asian Quarters residential area. Small particles (known as PM_{2.5} or fine particulate matter) pose the greatest problems because they bypass the body's natural defenses and can get deep into your lungs and potentially the bloodstream. Regular exposure to PM_{2.5} over long periods (years) can cause adverse health effects including the development of cardiovascular and respiratory

diseases. The air quality tests also indicated traces of VOCs and SO₂ in the site which was attributed to the vehicular traffic especially along the busy Nyeri-Nairobi highway (Kenyatta Rd).

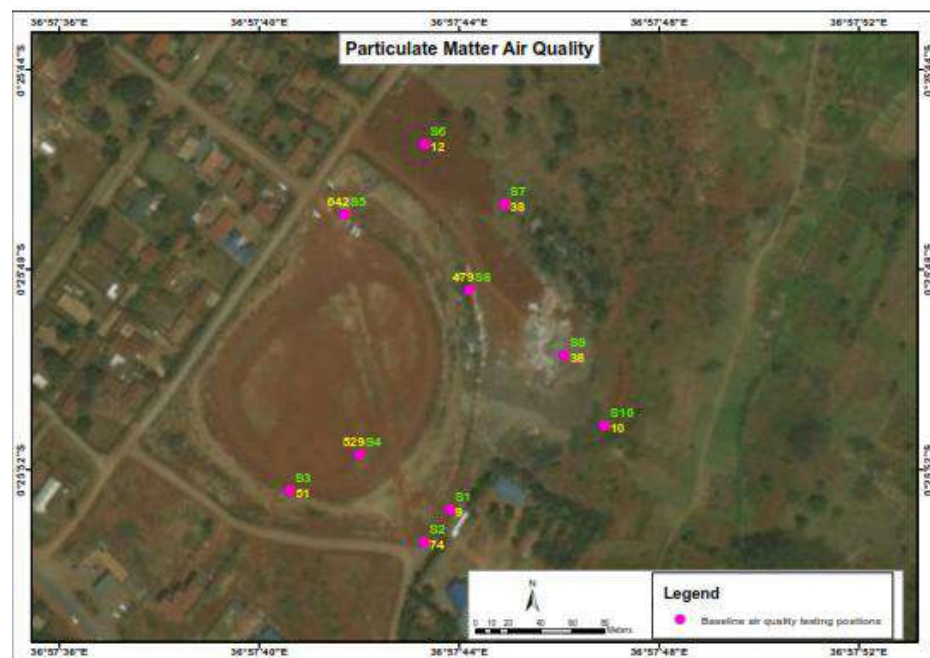
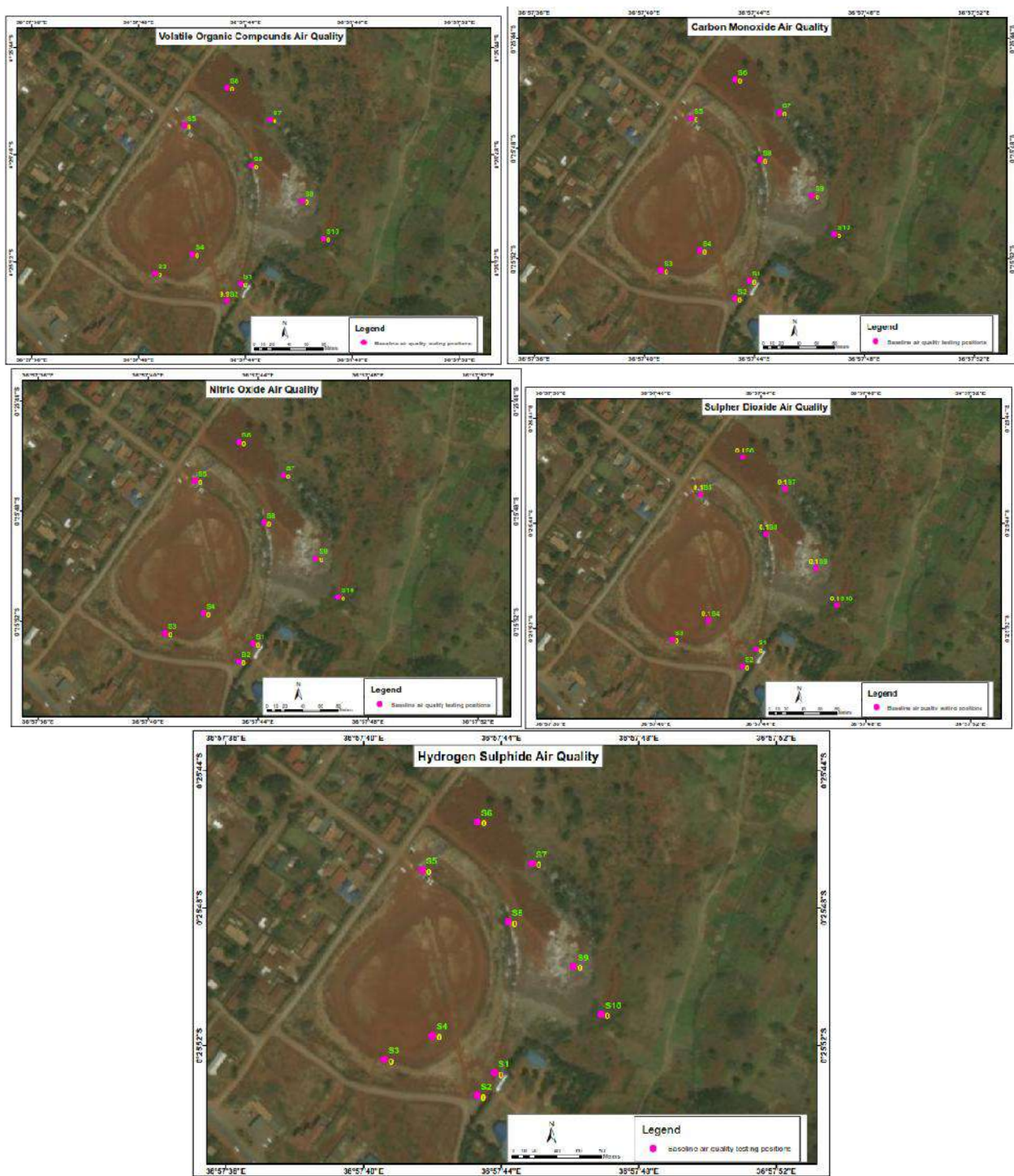


Figure 4.6: Particulate matter (PM_{2.5} µg/m³) at the Asian Quarters dumpsite
Plate 4.1: Smoke emission from the Asian Quarters dumpsite



Figure 4.7: Other air quality parameters at the Asian Quarters dumpsite



4.3.5 - Noise & vibration

Table 4.1 shows the baseline noise levels at various locations in the proposed project site as recorded on 7th February 2019 in the morning session. Figure 4.8 shows the average baseline noise levels. The average day-time pre-project noise levels in the proposed project site was estimated at 45.6dBA which was slightly above the Maximum Permissible Daytime Noise Level of 45dBA. Most of the sound and noise emission was associated with natural and man-made sources including blowing wind, birdlife and boda bodas, passing vehicles, air craft and talking dumpsite scavengers in the area. The average baseline noise levels in all Locations except Locations 9 & 10 were slightly above the recommended daytime threshold of 45dBA (Figure 4.8).

Table 4.1: Baseline noise levels in the proposed project site

Location	GPS	Baseline Noise (dBA)										Min	Max	Ave
		Readings												
		1	2	3	4	5	6	7	8	9	10			
1. KAG Church Gate	S00 ⁰ , 25' 53 E036. 57 ⁰ 43.8	57.9	47.5	43.9	40.1	42.0	48.3	50.3	56.0	40.3	41.8	40.1	57.9	46.8
2. Pavilion Flats	S00 ⁰ , 25' 57 E036. 57 ⁰ 41.7	59.0	51.5	55.8	64.4	52.8	53.6	53.2	51.8	51.7	73.8	51.5	73.8	56.8
3. South East Exit	S00 ⁰ , 25' 53 E036. 57 ⁰ 42.0	45.3	46.2	54.2	41.8	46.5	46.1	44.6	43.1	51.4	44.5	41.8	54.2	46.4
4. Southern Zone	S00 ⁰ , 25' 52 E036. 57 ⁰ 41.7	59.2	52.4	47.5	45.2	45.6	44.4	51.2	47.9	48.6	54.2	44.4	59.2	49.6
5. Termini Entry	S00 ⁰ , 25' 47 E036. 57 ⁰ 43.3	46.7	48.5	54.0	46.8	47.7	53.7	43.7	41.6	45.8	44.2	41.6	54.0	47.3
6. North West Zone (Proposed market)	S00 ⁰ , 25' 46 E036. 57 ⁰ 44.9	51.7	45.5	41.9	44.7	43.8	48.9	44.6	45.2	46.0	53.4	41.9	53.4	46.6
7. Northern Zone - 1 (Proposed Lorry Bay)	S00 ⁰ , 25' 47 E036. 57 ⁰ 44.2	44.3	53.0	44.2	42.0	55.3	48.0	46.8	44.0	41.3	42.5	41.3	55.3	46.1
8. Northern Zone - 2 (Proposed Lorry Bay)	S00 ⁰ , 25' 48 E036 ⁰ , 57' 44	50.7	46.4	45.4	47.3	47.9	47.5	47.4	44.6	44.4	48.2	44.4	50.7	47.0
9. North East Zone (Proposed fire station)	S00 ⁰ , 25' 49 E036. 57 ⁰ 46.1	50.0	39.0	40.7	41.3	47.0	45.3	44.2	36.9	38.4	38.9	38.4	50.0	42.2
10. Eastern Zone (Gathwariga Stream Viewpoint)	S00 ⁰ , 25' 51 E036. 57 ⁰ 46.9	41.6	41.4	42.7	41.8	41.9	40.7	40.3	39.6	38.4	39.0	38.4	42.7	40.7

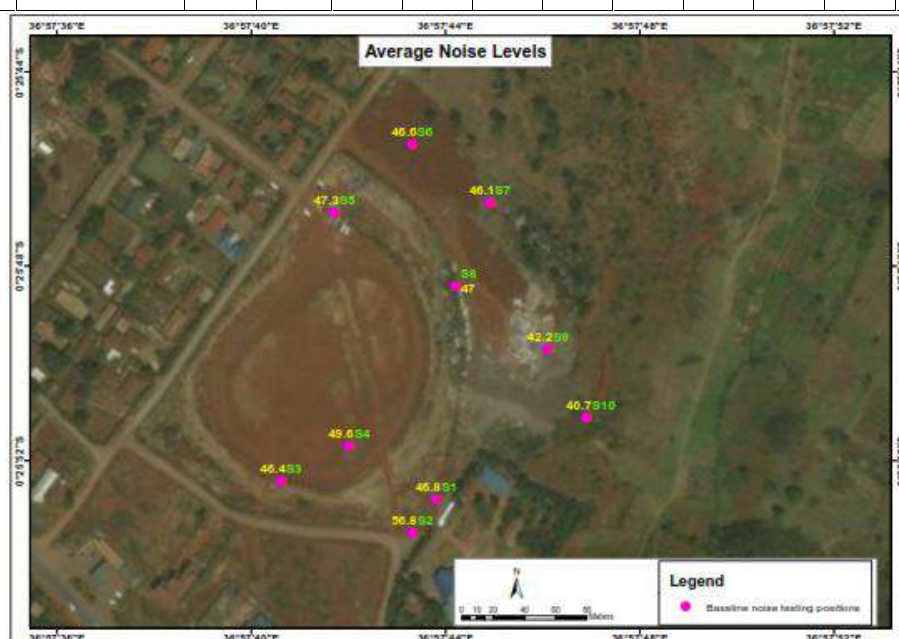


Figure 4.8: Average baseline noise levels in the proposed project site

4.3.6 – Water quality

Table 4.2 below shows the baseline water quality in Githwariga Stream above the dumpsite (behind the KAG Church) and below the dumpsite (near the drainage manhole). The results indicated a significant change in water quality with an increase in the concentrations of most ions except CaCO₃, turbidity, DO and nitrates which recorded a marginal drop. There was no change in the levels of carbohydrates, and nitrites. The baseline water quality thresholds for colour, turbidity, TSS and chlorides was above the NEMA/KeBs threshold for domestic and livestock consumption. The water was generally unfit for human consumption. However, there was no indication on the ground that the local people are consuming it except the dumpsite homeless people living along the riverway.

Table 1.2: General water quality baselines for the Gathwariga River in February 2019

Parameter	WHO Standards (International)	KEBS & NEMA Standards	Behind KAG Church	Below dumpsite
pH	6.5-9.5	6.5-8.5	7.57	7.64
True Colour (oH)	Nil	Nil	10*	10*
Conductivity (µS/cm)	800	1000	650	660
Turbidity (F.T.U.)	5	5	9.94*	6.51*
Calcium Hardness (CaCO ₃ mg/l)	500	500	200	212
Total Hardness (CaCO ₃ mg/l)	500	500	308	360
Total Alkalinity (CaCO ₃ mg/l)	500	-	235	260
Carbonate Alkalinity (mg/l)			0	0
Iron (mg/l)	0.3	0.3	0.2	0.3
Fluorides (mg/l)	1.5	1.5	0.55	0.71
Sulphates (mg/l)	250	400	20	10
Dissolved Oxygen (ppm)	8	8	6.8	6.2
Nitrates (mg/l)	10	10	2	3
Nitrites (mg/l)	1.0	1.0	0	0
Chlorides (mg/l)	250	250	310*	315*
Dissolved Solids (mg/l)	1200	1200	450	470
Suspended Solids (mg/l)	Nil	30	20*	30*
Total Solids (mg/l)	1200	1200	470	500
Lead (mg/l)	0.01	0.05	0.0037	0.0038
Mercury (mg/l)	0.006		0.0133*	0.0124*
Cadmium (mg/l)	0.003	0.01	0.0039	0.0040*
Copper (mg/l)	2	0.05	ND	0.0018
Arsenic (mg/l)	0.01	0.01	0.0050	0.0053*
Zinc (mg/l)	0.01	1.5	ND	ND

* Above minimum threshold

4.3.7- Soil quality

Table 4.3 below shows the baseline soil quality in the dumpsite area bordering Githwariga River. The results indicated near-above average levels of lead, mercury, cadmium, copper and arsenic. This could explain the above limit (NEMA standards) of the same parameters in the river water (Table 4.2).

Table 4.3: Baseline soil quality in the dumpsite in February 2019

Parameter	Average natural levels	Dumpsite sample
Lead (mg/kg)	15-40	35.88
Mercury (mg/kg)	0.01-5	1.27
Cadmium (mg/kg)	0.01-2	0.75
Copper (mg/kg)	15-40	29.65
Arsenic (mg/kg)	1-15	4.72
Zinc (mg/kg)	50-100	164.90*

Sipos & Poka (2002)

4.3.8 - Vegetation

Table 4.4 shows the list of the common plant species in the proposed site. The project site has limited natural cover and dominated by dumpsite related secondary succession vegetation. All the species sighted on site are classified as 'least concern' according to the IUCN red list species for Kenya.

Table 4- 4: Common plant species in the proposed project site

Species	Type	IUCN conservation status in Kenya
1. Eucalyptus globulus	Tree	Least concern
2. Eucalyptus saligna	Tree	Least concern
3. Hibiscus calyphyllus	Shrub	Least concern
4. Hibiscus fuscus	Shrub	Least concern
5. Leonotis nepetifolia	Shrub	Least concern
6. Ricinus communis	Shrub (Castor)	Least concern
7. Conyza sumatrensis	Herb	NC
8. Bidens pilosa	Herb	Least concern
9. Tagetes minuta	Herb (Weed)	Least concern
10. Chrolis gayana	Grass	Least concern
11. Cymbopogon citratus	Grass	NC
12. Cynodon dactylon	Grass	Least concern
13. Melinis repens	Grass	Least concern

NC – Not classified

4.3.9 - Wildlife characteristics

The only dominant wildlife in the area are scavenger birds especially the dumpsite crow, marabou stork and grey heron.

4.3.10 - Demographic characteristics

The project site is located in Nyeri town which consists of 5 administrative units, namely Kamakwa/Mukaro, Kiganjo/Mathari, Rware, Ruringu, and Gatitu/Muruguru. Table 4.4. shows the population characteristics in Nyeri town (Nyeri CIDP 2018-2022).

Table 4.4. characteristics in Nyeri town

Urban Centre	2009			2018			2020			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Nyeri Town	31,885	31,741	63,626	38,887	38,711	77,598	40,641	40,457	81,098	42,471	42,279	84,750

4.3.11- Urban landuse

Nyeri town is the administrative and commercial hub of the county. Both agriculture and tourism are the backbone of the town's economy as it neighbours rich agricultural fields and popular tourist attractions such as the Aberdare National Park and Mount Kenya. It is also an important tourism hub within the Mt. Kenya Circuit. Heritage sites in the County include: Paxtu cottage at the Outspan Hotel which also a scout Museum, Baden Powell graves and Historical Gardens, Kimathi Trench at Kahigaini, MauMau caves in Naromoru, Italian War Memorial Church, Dedan Kimathi Tree Post Office among other attractions in addition to the rich kikuyu culture. In 2013, the county received a total of 79,118 tourists; 20,767 foreigners and 58,351 domestic. The town has three 4-star, four 3-star and one 2-star tourist class hotels. There are several supermarkets in Nyeri town, Karatina and Othaya. These include Uchumi Supermarket, Maathai, Kanini Keega and Samrat supermarkets. There are several curio shops along the Nairobi-Nyeri highway, and other roads leading to major tourist attraction sites. These shops mainly sell handicrafts such kiondo (handmade bags), kikoi (shawls), mats and wood/soap stone carvings.

The town has a large urban population of self-employed and unpaid family workers which includes small-scale workers in the 'informal sector' including hawkers who operate in the streets, open air markets and plots, and temporary structures along the streets. The open-air petty production sector has been expanding

considerably in Nyeri, and that the most dominant occupations are in the commercial sub-sector to which second-hand clothes traders belong. Most of the small-scale traders and business people in the town are concentrated near the PSV stations. The County Government of Nyeri controls street traders under the Municipal Council of Nyeri (Hawkers) By-laws, 1978 (Nyeri Municipal Council 1978).

4.3.12. Urban landuse

4.3.12.1 Urban residential zones

The residential area covers 29 km² (11%) of land. It is concentrated on the periphery of the CBD and diminishes towards the agricultural area. Areas covered by residential use include Rware Ward, Garden estate, Pembe Tatu, Asian Quarters, Majengo, Kiawara among others. The informal housing within the town include kiawara, Waitemere, Chania and Kwa Rwamba.

House ownership in Nyeri is mainly rental with 53.8% of the residents paying rent. However, 43.8% own houses, 2% are on leasehold ownership whereas only 0.3% resides in houses with communal ownership. The average number of building structures per household is two with the common type of house unit size is 3 bedroom and 2 bedroom houses making up to 28.5%, and 27.5% respectively. The table below is a summary of the dwelling house units (Table 4.5).

Table 4.5: Size of dwelling houses

Size	%
Single room	13
Bed sitter	5
1 Bedroom	17
2 Bedroom	28
3 Bedroom	29
3 Bedroom and above	8
Total	100.0

Source: Nyeri town ISUDP (2014-2035)

Table 4.6 shows the percentage dwelling physical characteristic by the type of floor, wall and roof of the dwellings.

Table 4.6: Dwelling physical characteristic by the type of floor

Roof Type	%	Wall Type	%	Floor Finish	%
Ordinary Mabati	71.0	Bricks	3.8	Tiles	14.1
Improved Mabati	21.7	Mud	.7	Earth	16.5
Tiles	5.5	Stones	63.5	Cement	67.0
Asbestos	1.7	Timber	30.2	Wooden	2.4
		Mabati	1.7		

Source: Nyeri town ISUDP (2014-2035)

According to the Nyeri town ISUDP (2014-2034) a total area of 5180 Ha of land has been reserved for housing. This represents 19.4% of the total town area but increases to 77% of the urban land. It is the largest portion of land within the urbanized area dedicated to a single use. This emphasis on residential development is largely driven by the need to sustainably house the ever growing population of the town. Housing has been further categorised into high, medium and low density housing (Figure 4.9 & Table 4.7).

[illegible]

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Table 4.7: Broad land use summary

Land Use	Zone Numbers	No. of Zones	Area (Ha)	%
Agriculture	9 (1,2,3,8)	4	13,648	51.1
Intensive Agriculture	9 (4,5,6)	3	6,975	26.1
Recreational	3 (1-11)	8	1657	6.2
Low Density Residential	0 (3, 4, 7, 9, 11, 12, 21, 23, 26, 27, 29,31, 32, 37, 39, 41)	15	1397	5.2
Medium Density Residential	1,2,6,14,15,24,25,,28,30,33,34,35,36,40,42,43	18	949	3.6
High Density Residential	5,8,10,13,16,17,18,19,20,22,38	12	471	1.8
Commercial	5 (1-42)	42	259	1.0
Education	2(1-80)		455	1.7
Public Purpose	4(1-47)	47	398	1.5
Industrial	1 (1-10)	10	167	0.6
Transportation	7(1-5)	3	215	0.8
Public utility	6 (1-6)	6	60	0.2
Total	9	248	26,700	100

Source: Nyeri town ISUDP (2014-2035)

4.3.13: Termini small businesses

Bus parks usually attract many small scale businesses in the stalls and the precincts. These include small grocery shops, eateries and other small businesses. Merchandise hawking within the bus park is usually a very prevalent business.

4.3.14: Landuse and infrastructure and in the project site

The Asian Quarters area is an urban residential area located 2km east of the CBD near the Nyeri Referral Hospital. The area bordering the dumpsite to the south is characterized by an upcoming high-rise residential zone while the eastern zone consists of a semi-urban peri-urban area which is characterized by some agricultural activities. This dumpsite is not licensed and unsuitable due to its incompatibility with residential land uses in the area. The site is located close to the Ruringu satellite urban hub along the Nyeri-Nairobi Rd. The dumpsite is occupied by over 200 homeless people who draw a livelihood by foraging for valuables and keeping pigs. The project is served by the Hospital Rd which connects the Kimathi Way to Kenyatta Rd. The area is within reach to the electricity network.

5. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Kenya can face various environmental challenges as a result of past, present and proposed development interventions. Amongst these challenges are land degradation, loss of biodiversity and pollution of the environment (air, soil and water). All the negative environmental changes eventually affect the social environment in various ways such as health hazards, accidents, diminishing or contaminated resources, and conflicts which can affect the standards of living. The Government of Kenya has put in place a wide range of policy and legal frameworks to deal with these challenges. The policies and legal frameworks governing environmental protection and conservation in Kenya are derived from the constitutional statutes and the relevant international conventions which have been ratified. Other instruments include regulations, guidelines and standards all of which are implemented and enforced by different institutions and lead agencies. The aim of all this effort is to alleviate, prevent or minimize the risk of environmental degradation in the country. The proposed Nyeri County Transport Termini project is expected to support this effort.

EIA is a legal requirement in Kenya for all development projects. The Environmental Management and Co-ordination Act 1999 (Amendment 2015), is the legislation that governs EIA studies. The Nyeri County Transport Termini project falls under the Second Schedule that lists the type of projects that are required to undergo EIA studies in accordance with section 58 (1-4) of the Act. Projects under the Second Schedule comprise those considered to pose potential negative environmental impacts. EIA has been prepared to fully comply with environmental legislations for projects with impacts and as per various NEMA Regulations. This EIA report has been prepared to fully comply with environmental legislations for projects with a potential for negative impacts and as per various NEMA regulations. One of the objectives of the EIA is to ensure that all the proposed projects do not violate national, regional and global obligations for environmental sustainability as prescribed in policies, legal frameworks, strategies, action plans and multilateral environmental agreements (MEAs). The key environmental benchmark instruments used in the policy, legal and institutional framework for the Nyeri County Transport Termini project EIA are highlighted below.

5.1: National, county and international requirements

The EIA for the proposed Nyeri County Transport Termini at Asian Quarters dumpsite in Nyeri town was undertaken in accordance with the environmental regulatory frameworks highlighted below.

5.1.1: National environmental policies

Box 5- 1: List of policies

1. The Constitution of Kenya
2. Sessional Paper No. 10 of 2014 on the National Environment Policy
3. Sessional Paper No. 3 of 2009 on National Land Policy
4. Sessional Paper No. 1 of 2017 on National Land Use Policy
5. Sessional Paper No. 1 of 1999 - National Policy on Water Resources Management and Development
6. Draft National Wildlife Conservation and Management Policy, 2017
7. National Policy for Disaster Management, 2009
8. National Policy on Occupational Safety and Health, 2012
9. National HIV and AIDS Policy, 2009
10. National Gender and Development Policy, 2000 (GoK, 2000)
11. National Urban Development Policy
12. Integrated National Transport Policy - Moving a Working Nation (2009)
13. Sessional Paper No. 3 of 2016 on National Climate Change Framework Policy
14. National Environmental Sanitation and Hygiene Policy (2007) (GoK, 2007)
15. National Environmental Sanitation and Hygiene Policy (2007) (GoK, 2007)

5.1.2: National Legal frameworks

Box 5- 2: List of environmental legal frameworks

1. Environmental Management and Coordination Act EMCA 2015 (legal Notice No 5 of 2015), Legal Notice No 150 of 2016
 - ✓ Relevant EMCA Regulations
 -) Environmental Management and Coordination (Impact assessment and audit) Regulations, 2003 (Revision 2018)
 -) Environment Management and Co-ordination (Noise and Excessive Vibration Pollution Control) Regulations, 2009
 -) Environmental Management and Coordination (Water quality) Regulations, 2006 (Legal Notice 121)
 -) Environmental Management and Coordination (Controlled substances) Regulations, 2007
 -) Environmental Management and Coordination (Conservation of biological diversity and resources, and access to genetic resources and benefits sharing) Regulations, 2006
 -) Environmental Management and Coordination (Air quality) Regulations, 2014
 -) Environmental Management and Coordination (Waste management) Regulations, 2006
2. Water Act, No. 43 of 2016
3. Water Resource Management Rules 2007
4. Physical Planning Act
5. Energy Act 2006
 - ✓ The Energy (Energy Management) Regulations 2012
 - ✓ The Energy (Solar Water Heating) Regulations, 2012
6. Public Health Act, Cap 242, 1986
7. Kenya Roads Act of 2007
8. Employment Act, No. 11 of 2007
9. Occupational Safety and Health Act 2007
10. Safety and Health Committee Rules (LN 31)
11. Work Injuries Benefits Act (WIBA), No. 13 of 2007
12. HIV and AIDS Prevention and Control Act No. 14 of 2016
13. Climate Change Act 2016
14. The Standards Act Cap 496
15. Building Code, 1997
16. National Construction Authority Act, 2012, Cap 49A
17. Penal Code Cap 63
18. County Government By laws

5.1.3: National Strategic Plans

Box 5- 3: List of national strategies and action plans

1. Kenya Vision 2030
2. National Climate Change Response Strategy (NCCRS) 2010
3. The National Climate Change Action Plan (NCCAP) 2018 -2022
4. National Environment Action Plan (NEAP) 2009-2013
5. National Solid Waste Management Strategy, 2014
6. National Biodiversity Strategy and Action Plan (NBSAP) 2000
7. National Spatial Plan 2015-2045
8. Nyeri Town Integrated Strategic urban Development Plan (ISUDP) 2014-2034
9. Nyeri County Integrated Development Plan (2018-2022)

5.1.4: Regional and international multinational environmental agreements

Box 5- 4: List of MEAs

1. East African Community (EAC) Protocol on Environment and Natural Resources
2. EAC Climate Change Policy (EACCCP)
3. Convention on Biological Diversity (CBD)
4. United Nations Framework Convention on Climate Change, UNFCCC
5. The Paris Agreement
6. United Nations Convention to Combat Desertification, UNCCD

5.1.5: International safeguards and standards

a) World Bank/IFC Performance Standards

The role of the above instruments in the proposed project are highlighted below as follow:

- a) Table 5-1: National environmental policies
- b) Table 5-2: Legal frameworks, relevant regulations
- c) Table 5-3: Relevant permits and licenses
- d) Table 5-4: National strategic plans
- e) Table 5-5: Regional and international environmental frameworks
- f) Table 5-6: WBG/IFC Performance Standards

Table 5- 1: National policies

Policy	Relevant environmental obligations	Linkages with the Nyeri County Transport Termini project in Nyeri Town
1. The Constitution of Kenya (GoK 2010c)	<p>Article 42 – Supporting public involvement in ensuring the rights to a clean and healthy environment.</p> <p>Article 43 – Supporting public involvement in ensuring the need for every person to have access to clean and safe water in adequate quantities,</p> <p>Article 66 – Regulating use of any land or any interest or right over any land, in the interest of public health or public planning</p> <p>Article 69 - Environment and natural resources</p> <p>(1) (d) Encouraging public participation in the management, protection and conservation of the environment</p> <p>(f) Supporting environmental impact assessment, environmental audit and monitoring of the environment</p> <p>(g) Eliminating processes and activities that are likely to endanger the environment;</p> <p>) Working towards the achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya</p> <p>Article 185:</p> <p>22 - Protection of the environment and natural resources with a view to establishing a durable and sustainable system of development</p>	<p>) Stakeholder engagement was undertaken during the pre-project implementation stage of the Nyeri County Transport Termini project</p> <p>) The Nyeri County Transport Termini project will contribute to social and economic development at national level and also in Nakuru and other neighbouring counties</p> <p>) The Nyeri County Transport Termini project will ensure the sustainable use of natural resources during construction and operational stages including the protection of valued conservation areas</p>
2. Sessional Paper No. 3 of 2009 on National Land Policy	<p>s137- Protection of watersheds, drainage basins and wetlands</p> <p>s138- Ensuring that all land uses and practices conform to land use plans and the principles of biodiversity protection, conservation and sustainable development</p>	The proponent (CGN) will ensure that the Nyeri County Transport Termini project is compliant with the Nyeri ISUDP (2014-2034) and will not pollute or affect the Gathwariga River in a negative way
3. Sessional Paper No. 1 of 2017 on National Land Use Policy	<p>s3.13(iv) - Prohibiting settlement and other activities within sensitive ecological zones</p> <p>s3.14(iii)- Conserving all areas of those habitats where only less than 20% of original cover is remaining</p>	<p>) The proponent will ensure that the Nyeri County Transport Termini project will not pollute or affect the Gathwariga River in a negative way</p> <p>) The project shall include green zones in order to support the 10% national forest cover target</p>
4. Sessional Paper No. 6 of 1999 on Environment and Development (GoK, 1999d)	<p>Human settlements</p> <p>) Regulating urban development to only those areas which are suitable, avoiding ecologically fragile areas</p> <p>Other policy goals</p> <p>) Encouraging sustainable use of resources and ecosystems</p> <p>) Undertaking EIA for all private and public projects</p> <p>) Increase public awareness on environment</p>	<p>) Stakeholder engagement was undertaken during the pre-project implementation stage of the Nyeri County Transport Termini project</p> <p>) Environmental awareness was undertaken during the stakeholder engagement process</p>

5. Draft Environment Policy (2012) (GoK, 2012c)	<ul style="list-style-type: none">] Adopting measures, incentives and disincentives to promote the re-use, recycling and reclamation of re-usable packaging material and combat pollution of the environment] Promoting application of sound environmental management tools, strategic environmental assessment, EIA, environmental audits, environmental management systems, risk assessment/management and environmental reporting] Working with private sector, NGOs and CBOs to enhance corporate social responsibility and accountability 	<ul style="list-style-type: none">] Efforts will be made to minimize the solid waste generation by the Nyeri County Transport Termini project] Stakeholder engagement was undertaken during project planning and implementation
6. Draft National Forest Policy (2015) (GoK, 2009d)	<p>3.2: Policy Objectives</p> <p>(a) Maintaining 10% tree and forest cover in Kenya.</p> <p>(b) Investment in commercial tree growing</p> <p>Policy Statements</p> <p>a) Conservation of forest reserves</p> <p>b) Participatory management of indigenous forests</p> <p>c) Sustainable management of indigenous and riverine forests</p> <p>(h) Rehabilitation and restoration of degraded forests</p> <p>Others</p> <ul style="list-style-type: none">] Non-state actors and local communities' involvement in forest-related development activities and investments] Stakeholders participation at all levels in forest sector planning and decision making 	<ul style="list-style-type: none">] Maintenance of green belt zones within the Nyeri County Transport Termini project] Stakeholder engagement was undertaken during project planning and implementation
7. Sessional Paper No. 1 of 1999 - National Policy on Water Resources Management and Development	<p>2.7: Water resources assessment and monitoring</p> <ul style="list-style-type: none">] Hydrologic and hydro-geological monitoring] Water quality monitoring] Water abstraction monitoring] Enhancing storm water management and rainwater harvesting 	<ul style="list-style-type: none">] The implementation of the Nyeri County Transport Termini project will ensure adequate rainwater harvesting where possible] The implementation of the Nyeri County Transport Termini project will ensure that water pollution will not occur at any site during construction and operational phases] The factory will undertake regular water abstraction monitoring in line with the Water Act 2002
8. National Policy for Disaster Management, 2009 (GoK, 2009e)	<p>2.1: Promoting the mainstreaming of disaster management and climate change into development planning and management for sustainability</p> <p>3.1: Providing for well-structured participation of society in disaster management by integrating traditional coping strategies into the DM systems</p> <p>Other policy goals:</p> <p>Supporting climate change disaster risk reduction initiatives</p>	<p>The proponent will ensure that the Nyeri County Transport Termini project will not install factory infrastructure which can lead to environmental disasters such as floods due to the future impacts of climate change</p>

9. National Gender and Development Policy, 2000 (GoK, 2000)	<ul style="list-style-type: none">) Considering the needs and aspirations of all Kenyan men, women, boys and girls across economic, social and cultural lines) Ensuring the empowerment of women 	The project will create employment and business opportunities for all people including women within the project area
10. National HIV Policy (GoK, 1997)	Ensuring that new development projects especially in the rural areas encourage preventive and responsible behaviour both for the workers involved in such projects and also the local people within which projects are taking place as a goal towards curtailing the spread of the disease	Efforts will be made to ensure that the project especially during the construction stage will not escalate the risk of HIV transmission due to the involvement of workers from other areas
10. National Urban Development Policy	The goal of this Policy is to ensure orderly, competitive, and sustainable urban development that enhances physical, social, and local economic development of the urban areas. The policy is based on the understanding that secondary towns in Kenya, continue to absorb large numbers of people who migrate from the areas	The Nyeri County Transport Termini project will cater for a population greater than what is expected from natural growth
11. Integrated National Transport Policy - Moving a Working Nation (2009)	The vision of the policy is to ensure a "world-class integrated transport system responsive to the needs of people and industry". The policy mission is "to provide efficient, reliable, safe and secure transport network that are integrated with national and regional railway, road, water, pipeline and air transport services for the transportation of goods and passengers on a sustainable and competitive basis"	The project shall seek to incorporate the national policy and the county's transport vision
12. Sessional Paper No. 3 of 2016 on National Climate Change Framework Policy	s.4.2.7(2)- Mainstreaming low carbon growth options	The Nyeri County Transport Termini project will aim at the application of low carbon growth options in all its installations
13. National Environmental Sanitation and Hygiene Policy (2007) (GoK, 2007)	4.3: Sanitation and the environment <ul style="list-style-type: none">) Protection of the environment from pollution and its negative effect on human health) Ensuring use of technologies that uphold the right of present and future generations to a healthy and pollution-free environment.) Ensuring the use of sanitation systems that are environmentally sound) Preventing environmental pollution from liquid and solid waste Other policy goals <ul style="list-style-type: none">) Setting of clear standards and guidelines for environmental sanitation) Increasing environmental sanitation awareness across the country 	The proponent will ensure that the Nyeri County Transport Termini project in Nyeri Town especially during the operational phase will maintain high standards of sanitation and environmental hygiene especially in the labour intensive sections of the Nyeri County Transport Termini project
14. National Policy on Occupational Safety and Health, 2012	<ul style="list-style-type: none">) Develop and implement workplace code of practice on HIV and AIDS at work) Develop guidelines for provision of facilities for persons with disabilities and other special needs in workplaces) Prevention of environmental pollution 	The proponent will ensure that the Nyeri County Transport Termini project will comply with OSHA (2007)

Table 5- 2: Legal frameworks and relevant regulations

Legal Framework	Relevant environmental obligations	Linkages with the Nyeri County Transport Termini project in Nyeri Town
1. Environmental Management and Coordination Act (EMCA) No. 8 of 1999 (GoK, 1999b), Revision 2015 (CaP 387)	<p>Some relevant obligations</p> <ul style="list-style-type: none">) Controlling and prevention of environmental pollution) Carrying out EIA for all proposed projects with a potential for adverse impacts) Carrying out environmental audit and monitoring of all activities that are likely to have significant effect on the environment) Ensuring compliance with all other relevant EMCA (1999) Regulations including the following:- <ul style="list-style-type: none"> a) Environmental Impact Assessment Guidelines and administrative procedures, 2002 b) Environmental (Impact Assessment and Audit) Regulations 2003 (Legal Notice No. 101 of 2003) c) Environmental Management and Coordination (Water Quality) Regulations, 2006 (Legal Notice No. 120 of 2006) d) Environmental Management and Coordination (Waste Management) Regulations, 2006 (Legal Notice No. 121 of 2006) e) Environmental Management and Coordination (Noise and Excessive vibration pollution) (Control) Regulations, 2009 (Legal Notice No. 61 of 2009) f) Environmental Management and Coordination (Controlled Substances) Regulations 2007 (Legal Notice No 73 of 2007) g) Environmental Management and Coordination (Fossil Fuel Emission Control) Regulations, 2006 h) Environmental Management and Coordination (Air Quality) Regulations, 2014 	<p>ñ The proponent will ensure that the Nyeri County Transport Termini project does affect valued environments along the way leave including wetlands and forests thereby disturbing valued biodiversity including wildlife and birdlife</p> <p>ñ The project should not increase the risk of invasive species in valued environments in the project site</p> <p>ñ The implementation of the Nyeri County Transport Termini project will ensure that water pollution will not occur at any site during construction and operational phases</p> <p>ñ The proponent will use proper technology and strategies to ensure minimum noise and vibration as well as low carbon emission levels both during construction and operational stages</p> <p>ñ The Nyeri County Transport Termini project will avoid the use of chemical materials or substances that deplete or have the potential to deplete the ozone layer.</p> <p>ñ The proponent will undertake the obligatory environmental monitoring audits throughout the life cycle of the project</p> <p>ñ The proponent will observe and comply with all the relevant EMCA regulations as listed in Column 2</p>

		ñ The Project proponent will meet all the costs pays for the entire EIA process including payments for Public Notices in the Kenya Gazette and Daily Newspapers										
a)	Environmental Impact Assessment Guidelines and administrative procedures, 2002 <ul style="list-style-type: none">• The guidelines provide the steps in implementation of an EIA, Monitoring and Environmental Audit• Provides for screening of the proposed development activity and preparation of a Project Report• Provides for carrying out of an EIA Study where a Project will have significant environmental impacts and the Project Report does not disclose adequate mitigation measures• Provides for scoping studies and preparation of ToR where an EIA study is to be carried out Provides for the contents/format of an EIA Study Report											
b)	Environmental (Impact Assessment and Audit) Regulations 2003 (Legal Notice No. 101 of 2003) <ul style="list-style-type: none">• Provides that a project for which an EIA is required shall not be implemented unless the EIA has been concluded and approved• Provides that the EIA shall be conducted in accordance with the general EIA guidelines developed• Provides that an EIA study shall:<ul style="list-style-type: none">○ Identify anticipated impacts of the project and scale of impacts○ Identify and analyse alternatives to the project○ Propose mitigation measures to be taken during and after implementation of the project○ Develop an environmental management plan with mechanisms for monitoring and evaluating the compliance and environmental performance. It shall include the cost of mitigation measures and timeframe of implementation• Provides for public participation through:<ul style="list-style-type: none">○ Publicizing the project and its anticipated effects and benefits through: posters at various places in the vicinity of the site; notice in newspapers with nationwide circulation; and announcement on a radio with nationwide coverage Holding at least 3No. public meetings with affected parties and communities to explain the project and its effects and to receive their oral or written comments											
c)	Environmental Management and Coordination (Water Quality) Regulations, 2006 (Legal Notice No. 120 of 2006) <ul style="list-style-type: none">• Provides for protection of sources of water through prevention of water pollution• Provides that an EIA shall be carried out and license obtained to abstract water or carry out activities that may have adverse impacts on the quantity or quality of water in lakes, rivers, streams, springs and wells• Provides the water quality standards for sources of domestic water											
		<table><tr><th>Parameter</th><th>Guide Value (Max. allowable)</th></tr><tr><td>pH</td><td>6.5 – 8.5</td></tr><tr><td>Suspended solids</td><td>30 (mg/l)</td></tr><tr><td>Nitrate – NO₃</td><td>10 (mg/l)</td></tr><tr><td>Ammonia – NH₃</td><td>0.5 (mg/l)</td></tr></table>	Parameter	Guide Value (Max. allowable)	pH	6.5 – 8.5	Suspended solids	30 (mg/l)	Nitrate – NO ₃	10 (mg/l)	Ammonia – NH ₃	0.5 (mg/l)
Parameter	Guide Value (Max. allowable)											
pH	6.5 – 8.5											
Suspended solids	30 (mg/l)											
Nitrate – NO ₃	10 (mg/l)											
Ammonia – NH ₃	0.5 (mg/l)											

Nitrite – NO ₂	3 (mg/l)
Total dissolved solids	1200 (mg/l)
Ecoli	Nil/100ml
Fluoride	1.5 (mg/l)
Phenols	Nil (mg/l)
Arsenic	0.01 (mg/l)
Cadmium	0.01 (mg/l)
Lead	0.05 (mg/l)
Selenium	0.01 (mg/l)
Copper	0.05 (mg/l)
Zinc	1.5 (mg/l)
Alkyl benzyl sulphonates	0.5 (mg/l)
Permanganate Value (PV)	1.0 (mg/l)

- Provides the water quality standards for effluent discharged into the aquatic environment

Parameter	Maximum Allowable (Limits)
1,1,1-trichloroethane (mg/l)	3
1,1,2-trichloroethane (mg/l)	0.06
1,1-dichloroethylene	0.2
1,2-dichloroethane	0.04
1,3-dichloropropene (mg/l)	0.02
Alkyl Mercury compounds	Nd
Ammonia, ammonium compounds, NO ₃ compounds and NO ₂ compounds (Sum total of ammonia-N times 4 plus nitrate-N and Nitrite-N) (mg/l)	100
Arsenic (mg/l)	0.02
Arsenic and its compounds (mg/l)	0.1
Benzene (mg/l)	0.1
Biochemical Oxygen Demand (BOD 5days at 20 °C) (mg/l)	30
Boron (mg/l)	1.0
Boron and its compounds – non marine (mg/l)	10
Boron and its compounds –marine (mg/l)	30
Cadmium (mg/l)	0.01
Cadmium and its compounds (mg/l)	0.1
Carbon tetrachloride	0.02
Chemical Oxygen Demand (COD (mg/l)	50
Chromium VI (mg/l)	0.05
Chloride (mg/l)	250
Chlorine free residue	0.10
Chromium total	2
cis –1,2- dichloro ethylene	0.4
Copper (mg/l)	1.0
Dichloromethane (mg/l)	0.2
Dissolved iron (mg/l)	10
Dissolved Manganese(mg/l)	10
E.coli (Counts / 100 ml)	Nil

Fluoride (mg/l)	1.5
Fluoride and its compounds (marine and non-marine) (mg/l)	8
Lead (mg/l)	0.01
Lead and its compounds (mg/l)	0.1
n-Hexane extracts (animal and vegetable fats) (mg/l)	30
n-Hexane extracts (mineral oil) (mg/l)	5
Oil and grease	Nil
Organo-Phosphorus compounds (parathion,methyl parathion,methyl demeton and Ethyl parantrophenyl phenylphosphorothroate, EPN only) (mg/l)	1.0
Polychlorinated biphenyls, PCBs (mg/l)	0.003
pH (Hydrogen ion activity----marine)	5.0-9.0
pH (Hydrogen ion activity--non marine)	6.5-8.5
Phenols (mg/l)	0.001
Selenium (mg/l)	0.01
Selenium and its compounds (mg/l)	0.1
Hexavalent Chromium VI compounds (mg/l)	0.5
Sulphide (mg/l)	0.1
Simazine (mg/l)	0.03
Total Suspended Solids, (mg/l)	30
Tetrachloroethylene (mg/l)	0.1
Thiobencarb (mg/l)	0.1
Temperature (in degrees celious) based on ambient temperature	+ 3
Thiram (mg/l)	0.06
Total coliforms (counts /100 ml)	30
Total Cyanogen (mg/l)	Nd
Total Nickel (mg/l)	0.3
Total Dissolved solids (mg/l)	1200
Colour in Hazen Units (H.U)	15
Detergents (mg/l)	Nil
Total mercury (mg/l)	0.005
Trichloroethylene (mg/l)	0.3
Zinc (mg/l)	0.5
Whole effluent toxicity	
Total Phosphorus (mg/l)	2 Guideline value
Total Nitrogen	2 Guideline value

- d) Environmental Management and Coordination (Waste Management) Regulations, 2006 (Legal Notice No. 121 of 2006)
- Provides for the proper handling, transportation and disposal of various types of wastes including hazardous wastes
 - Provides that waste generators shall collect, segregate and dispose waste in an appropriate manner and implement measures to minimise waste generated
 - Provides for application of a license to operate a waste disposal facility/site
 - Application requires inclusion of County Planning Authority for the disposal site
- e) Environmental Management and Coordination (Noise and Excessive vibration pollution) (Control) Regulations, 2009 (Legal Notice No. 61 of 2009)
- Prohibits the generation of unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment
 - Provides for noise and excessive vibrations control for machinery, motor vehicle, construction equipment or other commercial/industrial activity

- Provides for noise and vibrations control during construction at night, and from demolition, mining or quarrying sites
- Provides for application of a permit where a sound source is planned/installed in a manner to emit noise or vibrations at levels contravening the regulations
- Provides for the maximum noise levels permissible in various environmental set ups such as residential areas, places of worship, commercial areas and mixed residential

Zone		Sound Level Limits dB(A)		Noise Rating Levels (NR)	
		(Leq, 14h)		(Leq, 14h)	
		Day	Night	Day	Night
A	Silent Zone	40	35	30	25
B	Places of worship	40	35	30	25
C	Residential: Indoor	45	35	35	25
	Outdoor	50	35	40	25
D	Mixed residential (with some commercial & places of entertainment)	55	35	50	25
E	Commercial	60	35	55	25

f) Environmental Management and Coordination (Controlled Substances) Regulations 2007 (Legal Notice No 73 of 2007)

- Provides for measures for storage, handling packaging and disposal of products with ozone-depleting substances including air conditioning and refrigeration equipment

g) Environmental Management and Coordination (Fossil Fuel Emission Control) Regulations, 2006

- Provides for emission standards for internal combustion engines including petrol-powered and diesel-powered motor vehicles

h) Environmental Management and Coordination (Air Quality) Regulations, 2014

- Provides for ambient air quality tolerance limits
- Prohibits air pollution in a manner that exceeds specified levels
- Prohibits air pollution in controlled areas including residential areas, hospitals, National Parks, reserves and sanctuaries, conservation areas and central business districts
- Provides for air pollution monitoring of Asphalt batching plants and quarries
- Provides for application of an emission license for a controlled facility such as a Hot mix asphalt batching plant
- Provides for measures to prevent air pollution from stockpiles or handling of construction materials
- Provides for installation of air pollution control systems where pollutants emitted exceed specified limits
- Provides for the control of fugitive emissions within property boundary
- Provides for the control of vehicular emissions
- Provides for prevention of dispersion of visible particulate matter or dust from any material being transported

2. Water Act, No. 43 of 2016 (GoK, 2016)

Article 20. (1) Ensuring that state schemes shall take precedence over all other schemes for the use of water or the drainage of land

Part IV: Addresses the issues of water supply and sewerage

Other legal obligations

) Promoting the conservation and proper use of water resources

Protection of any water resource, its source or catchment

) The project will not consume and utilize huge quantities of water during the construction stage to avoid unnecessary wastage

) The project will ensure maximum rainwater harvesting in the Nyeri County Transport Termini project

3. Water Resource Management Rules 2007

-) Provides for application and approval by WRM to abstract water from a river.
-) Provides that an application to abstract water shall be accompanied by a hydrological assessment report.
-) Provides for payment of Water Use charges on the basis of water abstracted
-) Provides that no person shall discharge or apply any poisonous, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit any person to dump or discharge such matter into any water resource unless the discharge of such poisonous, toxic, noxious or obstructing matter, radioactive waste or pollutant is treated to permissible standards as authorized by the Authority
-) Provides that No person shall:
 - o Discharge effluent into a water resource without a valid discharge permit issued by the Authority.
 - o Discharge wastewater or effluent, which does not meet the water quality requirements stipulated in the effluent discharge permit.
 - o Generate and discharge effluent onto land or into any water resource without compliance with an approved Effluent Discharge Control Plan.
-) Provides for an application for water resource use with respect to an effluent discharge point
-) Provides for maintenance of records of all water discharged giving the date, time quality, quantity and methods of discharge
-) Provides Guidelines for Effluent Discharge into surface water resources as highlighted below:-

Parameter	Max Allowable (Limits)
Arsenic as As (mg/1)	0.1
Biochemical Oxygen Demand (BOD 5days at 20 °C) (mg/1)	30
Cadmium as Cd (mg/1)	1.0
Chemical Oxygen Demand (COD (mg/1)	100
Chromium as Cr (mg/1)	Less than 0.01
Lead as Pb (mg/1)	Less than 0.01
Oil and grease	Absent
pH (Hydrogen ion activity)	5.0-9.0
Phenols total (mg/1)	0.05
Sulphide as S (mg/1)	2.0
Total Suspended Solids (mg/1)	30
Temperature (In degrees Celsius) based on ambient temperature	± 5
Cyanides as CN (mg/1)	Less than 0.2
Nickel as Ni (mg/1)	Less than 2.0
Detergents (ABS) (mg/1)	Less than 5.0
Mercury as Hg (mg/1)	Less than 0.01
Total Phosphorus as P (mg/1)	
Total Nitrogen as N (mg/l)	10
Total pesticide residues	Absent

) The proponent will ensure that the Nyeri County Transport Termini project will not pollute or affect the Gathwariga River in a negative way

4. Physical Planning Act, Cap 286, of 1998 (GoK, 1998)	<p>Section 29: Ensuring that developers to ensure proper execution and implementation of approved physical development plans</p> <p>Other legal obligations:</p> <ul style="list-style-type: none">) Ensuring that subsidiary area plans are recognized and integrated in the Regional Physical Development Plans) The local authority concerned shall require the developer to restore the land on which such development has taken place to its original condition within a period of not more than ninety days <p>Section 36: The Local Authority Act may if deem necessary require a submission of Environment Impact Assessment report together with development application if they feel the project has some injurious effects on the environment</p>	<ul style="list-style-type: none">) The construction of the Nyeri County Transport Termini project should not contradict the overall goals of physical planning in the implementation areas) The proponent will ensure quick restoration of all the disturbed environments after the construction phase
5. Energy Act, 2006	<p>The Energy (Energy Management) Regulations, 2012 (L.N. No. 102 of 2012 deal with energy management and saving issues, such as energy audits. It also deals with electricity production by private entities</p>	The Proponent will comply with the Act
	<p>a) Energy (Energy Management) Regulations 2012</p> <p>Provides for the development of an energy management policy and maintenance of records on monthly and annual electricity and fuel consumption</p>	The Proponent will comply with the Act
	<p>b) Energy (Solar Water Heating) Regulations, 2012</p> <p>Requires all premises within the jurisdiction of a local authority with hot water requirements of a capacity exceeding one hundred litres per day shall install and use solar heating systems</p>	The Proponent will comply with the Act and also consider using outdoor solar lighting (Security Lighting) in the transport termini
6. Public Health Act, Cap 242 (GoK, 1986)	<p>Article 129: Supporting the protection of public water supplies</p> <p>Article 117: Supporting the prevention or remedy danger to health from unsuitable activities including dust and noise</p> <p>The Act also prohibits bathing, washing clothes, watering animals, erecting dwellings, sanitary conveniences, stables and cattle kraals, dipping tanks, factories and other works that may pollute water supply. The haphazard disposal of manure, and filth or noxious offensive matter is also covered by the Act</p>	<ul style="list-style-type: none">) The proponent will observe and comply with all the relevant regulations as listed in Column 2) The Nyeri County Transport Termini project should not interfere with public water supply systems both during construction and operational phase
7. Kenya Roads Act of 2007	<ul style="list-style-type: none">) Gives powers to a Roads Authority to maintain, operate, improve and manage the roads under its jurisdiction;) Provides for the acquisition of private land by an Authority through negotiation and agreement, or by compulsory acquisition) Provides for the removal of trees or other obstruction (apart from buildings) which obscures the view of any traffic sign which is likely to cause obstruction or danger to the safety of traffic and compensation (only where the tree/obstruction the traffic signage)) Gives powers to an Authority to take any water from any natural watercourse, for its purposes, subject to the provisions of the Water Act 	This will apply in the construction of service roads for the Nyeri County Transport Termini project

8. Employment Act, 2007	The Employment Act declare and define the fundamental rights of employees, to provide basic conditions of employment of employees, to regulate employment of children and to provide for matters connected with the foregoing. The Act declares that: - Priority will be given to the local community in terms of employment opportunities.	The provisions of the Act shall apply especially with regard to the employment of local people in the project area
9. Occupational Safety and Health Act, 2007	<p>This Act applies to all workplaces where any person is at work, whether temporarily or permanently. The provisions of the Act are to ensure that workplaces maintain a safe working environment. Among the requirements are the adequate and sufficient ventilation, lighting and good housekeeping. Other requirements include:</p> <ul style="list-style-type: none">] Provision of wholesome drinking water.] Provision of suitable personal protective equipment and clothing.] The requirement that workstations suit and fit the worker.] Provision of adequate fire-fighting equipment and precautions against fire.] Workplaces should ensure machinery safety, chemical safety and electrical safety. <p>a) Safety and Health Committee Rules (LN 31)</p> <p>The Rules require the creation and management of OHS Committees. The Rules require that the project proponent must have in place an OHS Committee if there are a minimum of 20 persons employed in a work place. The Rules also require that the proponent complies with the following measures:</p> <ul style="list-style-type: none">] Provide adequately stocked First Aid Kits in various sections of the service Station] Ensure that there is an appropriate number of certified first aid staff trained by recognized institution such as the St. John's Ambulance or Kenya Red Cross Society] Provide a general register for recording all incidents and accidents] Formation of an S&H Committee of five members from management and five from the workers. All members of the S&H Committee to undergo a DOHSS approved 40-hour induction course] Nominate and formalize an S&H management representative.] The S & H Committee must meet at least quarterly, take minutes, circulate key action items on bulletin boards and send a copy of minutes to the DOHSS head office in Nairobi] Appropriate record-keeping including maintenance of all current certificates related to inspection of critical equipment such as air compressors, lifts and pulleys. Such inspections need to be undertaken by a competent person certified by the Director of the DOHSS 	<p>Failure to comply with the OSHA, 2007 attracts penalties of up to KES 300,000 or 3 months jail term or both or penalties of KES 1,000,000 or 12 months jail term or both for cases where death occurs and is in consequence of the employer</p> <p>The provisions of the Rules shall apply</p>

10. Work Injuries Benefits Act (WIBA), No. 13 of 2007	s28. Compensation for temporary total or partial disablement s30. Compensation for permanent disablement s38. Compensation in respect of scheduled and unscheduled diseases s45. First Aid (1) The employer shall provide and maintain such appliances and services for the rendering of first aid to his employees in case of any accident 46. Transportation of injured worker to a hospital	The provisions of the Act shall apply for the Nyeri County Transport Termini project
11. HIV and AIDS Prevention and Control Act No. 14 of 2016	3.(a): Public awareness about the causes, modes of transmission, consequences, means of prevention and control of HIV and AIDS (iii) Outlawing discrimination in all its forms and subtleties against persons with or persons perceived or suspected of having HIV and AIDS 13. Prohibition against compulsory HIV/AIDS testing	The provisions of the Act shall apply for the Nyeri County Transport Termini project
12. Climate Change Act 2016	<ul style="list-style-type: none"> Provides for mechanisms and measures to achieve low carbon development for the sustainable development of Kenya Provides for mainstreaming of climate change responses into development planning, decision making and implementation Provides that a National Climate Change Action Plan shall be developed to guide private and public actors in achievement of these and other related purposes Provides that state departments and national government public entities shall integrate the climate change action plan into sectoral strategies, action plans and other implementation projections for the assigned legislative and policy functions The Act mandates NEMA to integrate climate risk and vulnerability assessment into all forms of assessment 	The provisions of the Act shall apply for the Nyeri County Transport Termini project
13. The Standards Act Cap 496	The Act is meant to promote the standardization of the specification of commodities, and to provide for the standardization of commodities and codes of practice; to establish a Kenya Bureau of Standards, to define its functions and provide for its management and control.	The Proponent shall ensure that commodities and codes of practice utilized in the project adhere to the provisions of this Act
14. Building Code 1997	The Act Mandates County Governments the powers to approve building plans	The provisions of the Act shall apply for the Nyeri County Transport Termini project
15. National Construction Authority Act, 2012, CAP 49A	Registration of civil recommissioning works as specified in Section 5 and the 3rd Schedule of the Act	The provisions of the Act shall apply for the construction of any new structures at the Nyeri County Transport Termini project

16. Penal Code Cap 63	<p>Section 191 - States that if any person or institution that voluntarily corrupts or foils water from public springs or reservoirs, rendering it less fit for its ordinary use is guilty of an offence</p> <p>Section 192 – States that a person who makes or vitiates the atmosphere in any place to make it noxious to health of persons /institution, dwelling or business premises in the neighbourhood or those passing along public way, commit an offence.</p>	The Proponent shall observe the guidelines set out in the environmental management and monitoring plan stipulated in the report as well as the recommendation provided for mitigation/ minimization/ avoidance of adverse impacts arising from the project activities
17. County Government Act No 17 of 2012	Requires county development to spur growth and development	The proponent will support the realization of the goals of the Act
18. County By-Laws	Every County has its own Environmental By-Laws	The Proponent shall observe all the relevant County By-Laws

5.2: Licenses and Permits

Several of the legislations above require issuance of licenses or permits whenever the conditions of the legislation are met as highlighted in the table below.

Table 5- 3: Permits and licenses

Legislation	Required licenses and permits
Environmental Management and Coordination Act (EMCA, 1999), Revision 2015 (Cap 387)	<ul style="list-style-type: none">) EIA licenses) Emission licenses) Effluent discharge) Operation of waste disposal) License to generate hazardous waste
National Construction Authority Act, 2012, CaP 449A	) NCA construction registration certificate
Water Act, No. 43 of 2016	) WRA licenses water abstraction of ground water through borehole sinking
Standard Act, Cap 496	) Standardization permit
Public Health Act, Cap 242	) Licenses eating places such as restaurants and kiosks
Occupational Health and Safety Act of 2007	<ul style="list-style-type: none">) Workplace health and safety standards) Inspects and registers workplace
Physical Planning Act, Cap 286	) Relevant approvals for structural drawings by relevant national and county offices for any new construction works
Traffic Act, Cap 403	) Licensing for public service and other vehicles
Transport Licensing Board Act, Cap 404	) Licensing for public service vehicles (PSVs)

Table 5- 4: National strategic plans

Policy, Plan or Strategy	Relevant environmental obligations	Compliance requirements for the Nyeri County Transport Termini Project in Nyeri Town
1. Vision 2030 (GoK, 2008b)	All development projects in the country are expected to support the following national environmental flagship activities:- <ul style="list-style-type: none">) Supporting the control of the spread of invasive species) Supporting water harvesting and storage) Increasing national forest cover to 10% by the year 2030 	<ul style="list-style-type: none">) The proponent will ensure that the Nyeri County Transport Termini project implementation will not escalate the spread of invasive species) The Nyeri County Transport Termini project implementation will ensure adequate rainwater harvesting in the transport termini and all other infrastructure where possible
2. National Climate Change Response Strategy (2009)	The Nyeri County Transport Termini project is expected to support the following national strategic actions <ul style="list-style-type: none"> a) Water resources <ul style="list-style-type: none">) Supporting national water recycling efforts b) Physical Infrastructure <ul style="list-style-type: none">) Ensuring that all new infrastructure is climate-proof over its lifespan 	The infrastructure in the Nyeri County Transport Termini project such as storm water drainage channels should be properly designed to withstand the impacts of climate change
3. The National Climate Change Action Plan (NCCAP) 2018 -2022	<ul style="list-style-type: none"> • The plan aims to further Kenya's development goals by providing mechanisms and measures to achieve low carbon climate resilient development in a manner that prioritizes adaptation • The NCCAP seeks to provide a framework for mainstreaming climate change into sector functions at the national and county level; align climate change actions with the Government's development agenda, including the Big Four; Encourage participation of the private sector, civil society, and vulnerable groups within society, including women, older members of society, persons with disabilities, children, youth, and members of minority or marginalized communities; and provide the framework to deliver Kenya's Nationally Determined Contribution (NDC) for the five-year period 2018-2022 • The plan proposes Climate proofing of transportation infrastructure through use of climate information in infrastructure planning and construction of roads with ability to harvest storm water and mitigate floods 	The proponent will ensure that the Nyeri County Transport Termini project will be aligned with the NCCAP 2018 -2022
4. National Environment Action Plan (2009-2013) (GoK, 2009b)	The Nyeri County Transport Termini project is expected to support the following national environmental activities:- <ul style="list-style-type: none"> a) Enhancing the protection of wildlife resources b) Protection of flora & fauna c) Supporting soil erosion and siltation control d) Management of invasive alien species 	<ul style="list-style-type: none">) Project activities during construction, and operational and maintenance should not escalate the spread of invasive species the spread of invasive species within the project area and adjacent environments) The Nyeri County Transport Termini project should not increase the risk of soil erosion and siltation in rivers and water bodies

5. National Solid Waste Management Strategy, 2014	The Strategy establishes a common platform for action between stakeholders to systematically improve waste management. It introduces a new approach for improved waste management in Kenya to create wealth, employment and reduce pollution of the environment	The proponent will ensure that the Nyeri County Transport Termini project will be aligned with the Strategy especially with regard to the market, business kiosks and parking bays
6. National Biodiversity Strategy and Action Plan (2000) (GoK, 2000b)	The NBSAP requires all development project to support the following national strategic actions:- 4.3.2: Protection of sites of high biological diversity. Other activities J Adopting best practices in conservation and management of natural resources	The project should not disturb the long-term security of valued biodiversity in Kenya including the aquatic life in nearby ecosystems such as Githwariga River
7. National Spatial Plan 2015-2045	Conservation of water towers and resources in Spatial Zone 3 - Highlands (Western, Central and Rift Valley) and other environmentally sensitive areas (ESAs)	The proponent will ensure that the following during the construction and operation of Nyeri County Transport Termini project is aligned with the conservation goals of the NSP
8. Nyeri Town Integrated Strategic urban Development Plan (ISUDP) 2014-2034	s7.1 provides the Parking Policy for Nyeri Town. The ISUDP recognizes the following challenges:- a) Inadequate parking spaces within town b) Uncontrolled parking on road sides such as Gakere road obstructing entrances to commercial premises and traffic flow on the same road. c) Road side parking by transit trucks d) Inadequate bus parks s7.1.1 recommends: a) the need for the CGN to acquire more land for Public Parking Bays like the one in the Transport Termini project, and b) need to establish peri-urban parking outside the CBD in order to ease urban traffic jam s9.1(f) recommends the relocation of the Lower bus station to southern parts of Asian Quarters; and provide for public conveniences such as passenger waiting sheds, storage facilities, fast-food kiosks and toilets	The Nyeri County Transport Termini project should be undertaken in accordance with the specifications of the ISUDP which requires the parking to be properly designed and paved to improve drainage, preferably with concrete blocks
9. Nyeri County Integrated Development Plan (2018-2022)	4.3.12 Transport, Public Works, Infrastructure and Communication • The mission of the CGN is to provide efficient, affordable and reliable infrastructure through design, construction, maintenance and effective management of roads and public works for sustainable economic growth and development of Nyeri • The key strategic objective for the sector is to ensure order and safety in transport industry in order to ensure smooth flow of traffic • One of the performance indicators for CIDP 2018-2022 is No. of bus parks constructed	The Nyeri County Transport Termini project will contribute towards one of the performance indicators for the CIDP goals and targets

Table 5- 5: Regional and international environmental frameworks

a) Summary of the relevant environmental obligations in the regional frameworks

MEA	Relevant environmental obligations	Compliance requirements for the Nyeri County Transport Termini Project in Nyeri Town
1. EAC Protocol on Environment and Natural Resources (EAC, 1999)	Article 5: (a) promote sustainable growth and development of the Partner States through sustainable use and management of the environment and natural resources through prevention of activities that are detrimental to the environment and natural resource (c) promote capacity building and environmental awareness in environment and natural resources management	The proponent shall endeavor to support the goals of the Protocol
2. EAC Climate Change Policy (EACCCP) (EAC, 2011)	Section 3.1.3 Climate change adaptation Relevant sectorial obligations: c) Infrastructure (i) Promoting climate change integration in all planning and design of infrastructure	The infrastructure in the Nyeri County Transport Termini project such as drainage channels and bridges should be properly designed to withstand the impacts of climate change

b) Summary of the relevant environmental obligations in the international frameworks

MEA	Relevant environmental obligations	Compliance requirements for the Nyeri County Transport Termini Project in Nyeri Town
1. Convention on Biological Diversity (CBD Secretariat, 1992)	Article 8 - In-situ conservation (d) Promoting protection of ecosystems, natural habitats and maintenance of viable populations of species in natural surroundings (j) Respecting, preserving and maintaining knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application Article 13 - Public education and awareness Promoting and encouraging understanding on the importance of and the measures required for, the conservation of biological diversity, as well as its propagation and Cooperating, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity	<p>) The Nyeri County Transport Termini project should have minimal negative impacts on valued ecosystems and natural habitats during the construction and operation stages</p> <p>) The implementation of the project should ensure the preservation of valued cultural heritage including local cultural practices</p> <p>) Environmental awareness will be undertaken during the stakeholder engagement process in EIA</p>

2. United Nations Convention to Combat Desertification, UNCCD (UN, 1992)	Article 10: National action programme 2(d) Enhancing national climatological and meteorological capabilities and the means to provide for drought early warning	The proponent will support regular monitoring of temperature and rainfall through the installation of weather monitoring equipment such as a rain gauge in the transport termini
3. United Nations Framework on Combating Climate Change (UN, 1992)	Article 6: Education, training and public awareness A(i) Development and implementation of educational and public awareness programmes on climate change and its effects	The infrastructure in the Nyeri County Transport Termini project such as storm water drainage channels should be properly designed to withstand the impacts of climate change
4. The Paris Agreement, 2016	<ul style="list-style-type: none"> The Agreement provides the framework to address climate change for a safer and sustainable future. Prevention of a global temperature increase above 1.5 degrees Celsius relative to pre-industrial levels by reduction of Greenhouse gas emissions 	The Nyeri County Transport Termini project will support the efforts of the Government of Kenya towards the global goal of a 1.5°C by minimizing GHG emissions and establishing green zones at the termini

Table 5- 6: WBG/IFC Performance Standards

Performance Standard	Requirements
# 1: Assessment and Management of Environmental and Social Risks and Impacts	<p>The PS establishes the importance of:</p> <ul style="list-style-type: none"> Integrated assessment to identify the environmental and social impacts, risks, and opportunities of projects; Effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and The client's management of environmental and social performance throughout the life of the project. <p>The client must conduct a process of environmental and social assessment and establish and maintain an ESMS appropriate to the nature and scale of the project and commensurate with the level of its environmental and social risks and impacts. The ESMS must incorporate the following elements:</p> <ul style="list-style-type: none"> (i) Policy; (ii) Identification of risks and impacts; (iii) Management programmes; (iv) Organizational capacity and competency; (v) Emergency preparedness and response; (vi) Stakeholder engagement; and (vii) Monitoring and review.
# 2: Labour and Working Conditions	<p>The purpose of the performance standard is to:</p> <ul style="list-style-type: none"> Promote the fair treatment, non-discrimination, and equal opportunity of workers; Establish, maintain, and improve the worker-management relationship; Promote compliance with national employment and labour laws;

Performance Standard	Requirements
	<ul style="list-style-type: none"> ✓ Protect workers, including vulnerable categories of workers such as children migrant workers, workers engaged by third parties, and workers in the client's supply chain; ✓ Promote safe and healthy working conditions, and the health of workers; and, ✓ Avoid the use of forced labour.
# 3: Resource Efficiency and Pollution Prevention	<p>The purpose of the performance standard is to:</p> <ul style="list-style-type: none"> ✓ Avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. ✓ Promote more sustainable use of resources, including energy and water. ✓ Reduce project-related GHG emissions. <p>Technically and financially feasible resource efficiency and pollution prevention principles and techniques applied by the project are to be consistent with good international industry practice (GIIP) as reflected in various internationally recognized sources, including the WB EHS Guidelines (see below).</p>
# 4: Community Health, Safety and Security	<p>The purpose of the performance standard is to:</p> <ul style="list-style-type: none"> ✓ Anticipate and avoid adverse impacts on the health and safety of the Affected Community during the project life from both routine and non-routine circumstances. ✓ Ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities.
# 5: Land Acquisition and Involuntary Resettlement	<p>The purpose of the performance standard is to:</p> <ul style="list-style-type: none"> ✓ Avoid, and when avoidance is not possible, minimize displacement by exploring alternative project designs. ✓ Avoid forced eviction. ✓ Anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by: <ul style="list-style-type: none"> ○ providing compensation for loss of assets at replacement cost, and ○ ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected. ✓ Improve, or restore, the livelihoods and standards of living of displaced persons. ✓ Improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.
# 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	<p>This Performance Standard addresses how clients can sustainably manage and mitigate impacts on biodiversity and ecosystem services throughout the project's lifecycle in order to:</p> <ul style="list-style-type: none"> ✓ Protect and conserve biodiversity. ✓ Maintain the benefits from ecosystem services. ✓ Promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.
# 7: Indigenous Peoples	<p>The purpose of the performance standard is to:</p> <ul style="list-style-type: none"> ✓ Ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples. ✓ Anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimize and/or compensate for such impacts. ✓ Promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner.

Performance Standard	Requirements
	<ul style="list-style-type: none"> ✓ Establish and maintain an ongoing relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project throughout the project's life-cycle. ✓ Ensure the Free, Prior, and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples. ✓ Respect and preserve the culture, knowledge, and practices of Indigenous Peoples
# 8: Cultural Heritage	<p>The purpose of the performance standard is to:</p> <ul style="list-style-type: none"> ✓ Protect cultural heritage from the adverse impacts of project activities and support its preservation. ✓ Promote the equitable sharing of benefits from the use of cultural heritage.

5.3: Institutional Framework

The relevant institutions associated with the construction and operation of Nyeri County Transport Termini project in Nyeri Town both within Nyeri County and environment sectors are highlighted below.

5.3.1: Urban transport Sector

The transport sector in Kenya is administered by a wide spectrum of stakeholders each has a different role to play. The following represents the major institutions and their administrative roles.

5.3.1.1: Ministry of Transport, Infrastructure, Housing and Urban Development

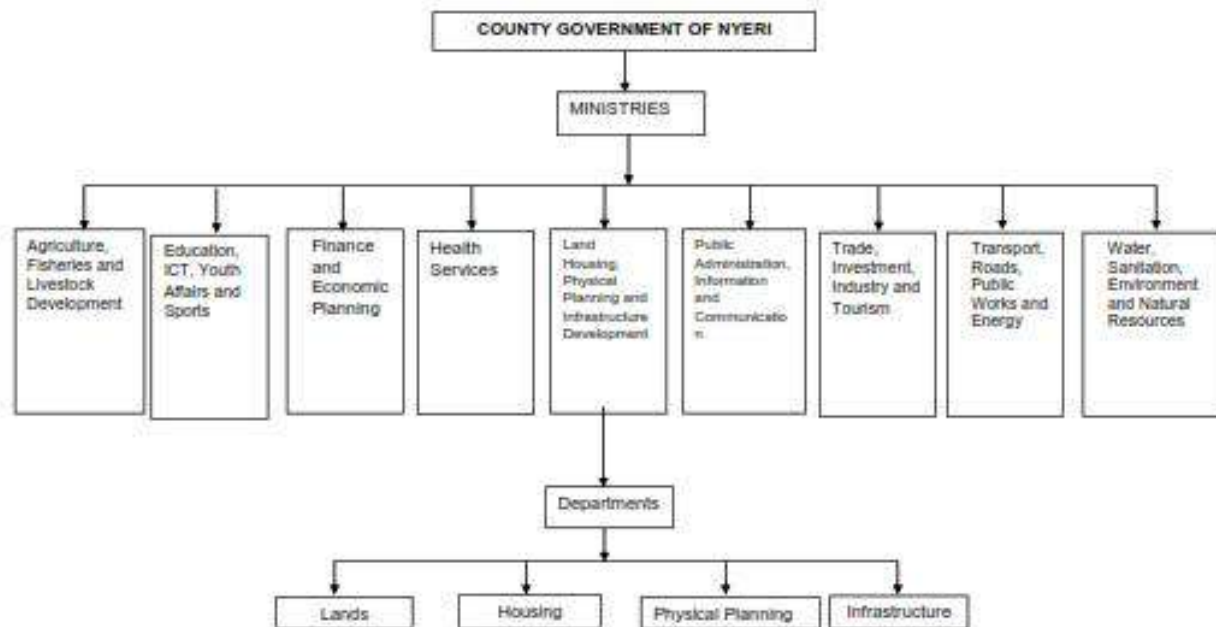
The mission of the ministry is to develop and sustain world class transport infrastructure, maritime economy, public works and housing for sustainable socio-economic development. The State Department for Transport is responsible for matters associated with national transport. The State Department for Housing and Urban Development is responsible for matters concerning urban planning and development.

5.3.1.2: Kenya Urban Road Authority

The mandate of KURA includes the management, development, rehabilitation and maintenance of national urban trunk roads. The Nyeri County Transport Termini project in Nyeri Town will link with key Nyeri County Transport Termini project in Nyeri Town.

5.3.2: County Government of Nyeri

The CGN has the local jurisdiction over Nyeri town and is the overall decision-making authority concerning the Nyeri County Transport Termini Project in Nyeri Town including the EIA. Figure 5.1 shows the project institutional framework in the CGN. The County Government provided technical support to the EIA Consultant through a number of relevant county offices as highlighted below.



5.3.2.1: Department of Lands, Physical Planning, Housing and Infrastructure

The department is responsible for urban planning and design, land use planning, zoning, land survey and mapping including providing topographical data for site planning and development purposes.

5.3.2.2: Department of Transport, Public Works and Infrastructure

The mandate of the department is a) ensuring connectivity and smooth flow of motorized and non-motorized traffic, b) maintenance of existing road network county wide, c) upgrading of existing roads to bitumen or gravel standards to make them all weather and d) undertaking all Public Works in the county.

5.3.2.3: Department of Water, Environment, Natural Resources and Sanitation

The vision of the department is to ensure a prosperous people in a secure, healthy environment, with a high quality of life. The mandate of the department includes environmental management including urban solid waste management and sanitation.

5.3.3: Environment Sector

There are about 21 institutions, which deal with environmental issues in Kenya. Some of the key institutions include National Environmental Management Authority (NEMA), the Department of Resource Surveys and Remote sensing (DRSRS), the Water Resources Management Authority (WRMA), The Kenya Forest Service (KFS), the Kenya Wildlife Service (KWS) the Kenya Forestry Research Institute (KEFRI), the National Museums of Kenya (NMK), the Kenya Marine and Fisheries Research Institute (KEMFRI), the Kenya Agricultural and Livestock Research Organization (KALRO) among others. There are also local and international NGOs involved in environmental issues in the country. Figure 5-2 shows the institutional framework for the Environmental Management and Coordination Act (EMCA, 1999 and Review 2015 Cap 387) which is the umbrella framework within which all the environmental issues concerning the Nyeri County Transport Termini EIA will be implemented.

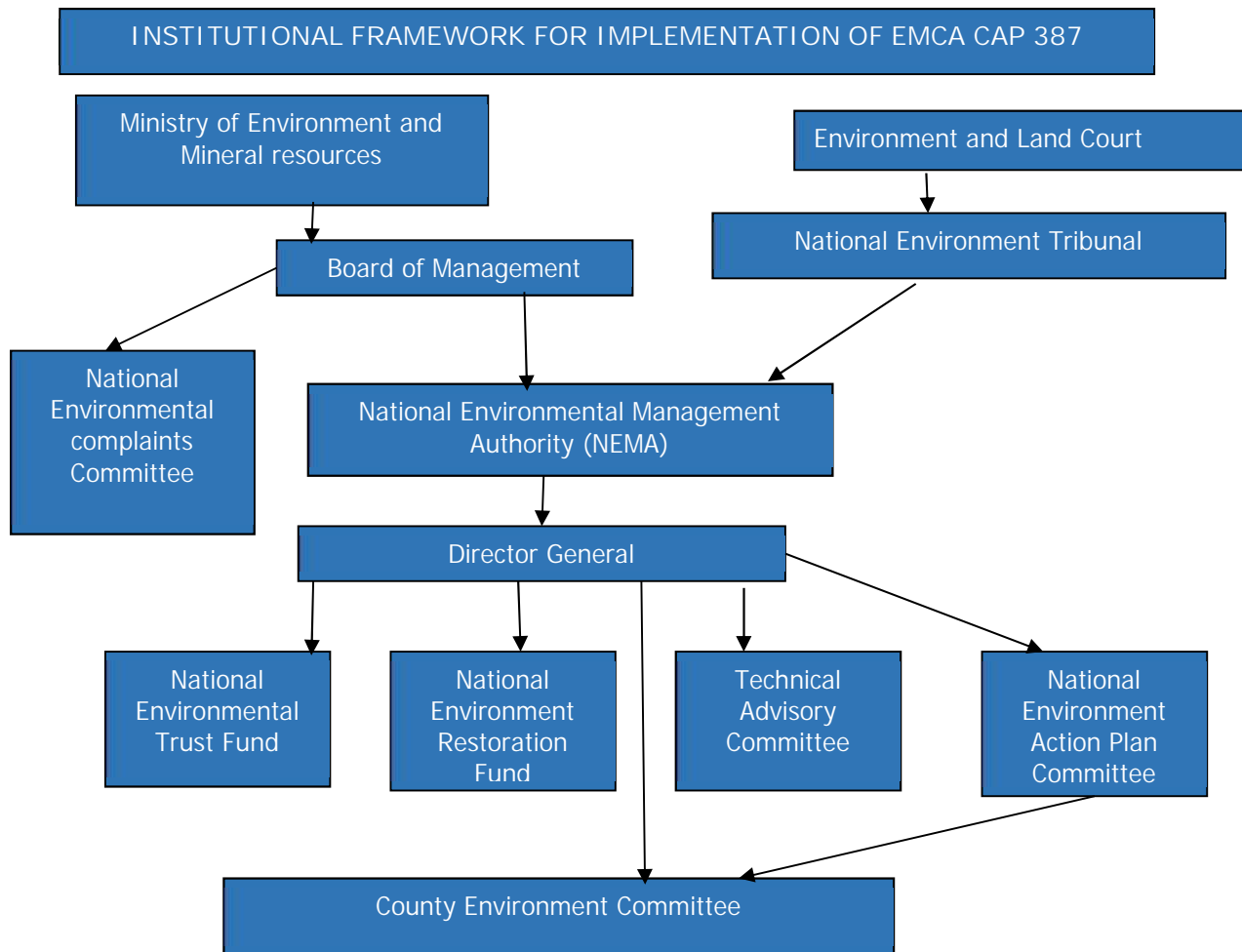


Figure 5-2: Institutional Framework for EMCA Cap 387

a. National Environmental Management Authority (NEMA)

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

-) Co-ordinate the various environmental management activities being undertaken by the lead agencies and promote the integration of environmental considerations into development policies, plan, programmes and projects with a view of ensuring the proper management and rational utilization of the environmental resources on a sustainable yield basis for the improvement of the quality of human life in Kenya.
-) Take stock of the natural resources in Kenya and their utilization's and consultation, with the relevant lead agencies, land use guidelines.
-) Examine land use patterns to determine their impact on the quality and quantity of the natural resources.
-) Carry out surveys, which will assist proper management and conservation of the environment.
-) Advise the government on legislative and other measures for the management of the environment or implementation of relevant international conservation treaties and agreements in the field of environment as the case may be.
-) Advise the government on regional and international environmental convention treaties and agreements to which Kenya should be a party and follow up the implementation of such agreements where Kenya is a party member.
-) Undertake and co-ordinate research, investigation and surveys in the field of environment and collect and disseminate information about the findings of such research, investigation or survey.
-) Mobilize and monitor the use of financial and human resources for environmental management.
-) Identify projects and programmes or types of projects and programmes, plans and policies for which environmental audit or environmental monitoring must be conducted under EMCA.
-) Initiate and evolve procedures and safeguards for the prevention of accidents, which may cause environmental degradation and evolve remedial measures where accidents occur.
-) Monitor and assess activities, including activities being carried out by relevant lead agencies in order to ensure that the environment is not degraded by such activities, environmental management objectives are adhered to and adequate early warning on impending environmental emergencies is given.
-) Undertake, in co-operation with relevant lead agencies programmes intended to enhance environmental education and public awareness about the need for sound environmental management as well as for enlisting public support and encouraging the effort made by other entities in that regard.
-) Publish and disseminate manuals, codes or guidelines relating to environmental management and prevention or abatement of environmental degradation.
-) Render advice and technical support, where possible to entities engaged in natural resources management and environmental protection so as to enable them to carry out their responsibilities satisfactorily.
-) Prepare and issue an annual report on the state of the environment in Kenya and in this regard, may direct any lead agency to prepare and submit to it a report on the state of the sector of the environment under the administration of that lead agency and,
-) Perform such other functions as government may assign to the Authority or as are incidental or conducive to the exercise by the authority of any or all of the functions provided under EMCA.

The NEMA mandate is designated to the following committees and other entities:

i. County Environment Committee

County Environment Committee is responsible for the proper management of the environment within the County for which it is appointed. They should also perform such additional functions as prescribed by the Act or as may, from time to time be assigned by the Governor by notice in the gazette. The decisions of these committees are legal and it is an offence not to implement them. For this project, the comments of the County Environment Committees for Nakuru will be very crucial in the decision-making process. The comments of relevant NEMA County Director of Environment (CDE) for Nakuru County will also be involved in decision making process of the project.

ii. National Environmental Complaints Committee

The National Environmental Complaints Committee performs the following functions:

-) Investigate any allegations or complaints against any person or against the authority in relation to the condition of the environment in Kenya and on its own motion, any suspected case of environmental degradation and to make a report of its findings together with its recommendations thereon to the Council.
-) Prepare and submit to the Council periodic reports of its activities which shall form part of the annual report on the state of the environment under section 9 (3) and
-) Undertake public interest litigation on behalf of the citizens in environmental matters.

iii. National Environment Action Plan Committee

The Authority is responsible for the development of a 6-year National Environment Action plan and shall ensure that it has undertaken public participation before the adoption of the plan. The National Environment Action Plan shall:

-) Contain analysis of the Natural Resources of Kenya with an indication as to any pattern of change in their distribution and quantity over time.
-) Contain analytical profile of the various uses and value of the natural resources incorporating considerations of intergenerational and intra-generational equity.
-) Recommend appropriate legal and fiscal incentives that may be used to encourage the business community to incorporate environmental requirements into their planning and operational processes.
-) Recommend methods for building national awareness through environmental education on the importance of sustainable use of the environment and natural resources for national development.
-) Set out operational guidelines for the planning and management of the environment and natural resources.
-) Identify actual or likely problems that may affect the natural resources and the broader environment context in which they exist.
-) Identify and appraise trends in the development of urban and rural settlements, their impact on the environment, and strategies for the amelioration of their negative impacts.
-) Propose guidelines for the integration of standards of environmental protection into development planning and management.
-) Identify and recommend policy and legislative approaches for preventing, controlling or mitigating specific as well as general diverse impacts on the environment.
-) Prioritize areas of environmental research and outline methods of using such research findings.
-) Without prejudice to the foregoing, be reviewed and modified from time to time to incorporate emerging knowledge and realities and;
-) Be binding on all persons and all government departments, agencies, States Corporation or other organ of government upon adoption by the national assembly.

iv. National Environmental Tribunal

This tribunal guides the handling of cases related to environmental offences in the Republic of Kenya. If disputes related to environmental matters arise during the implementation of the project, the matter should be presented for hearing and legal direction to the tribunal.

5.3.3.1: Offences and Penalties for Non-Compliance with Provisions under Environmental Legislation

Table 5.6 highlights the offences and penalties for non-compliance with provisions under environmental legislation in Kenya.

Table 5- 6: Offences and penalties for non-compliance with provisions under environmental legislation in Kenya

Item	Offences	Penalties for an offence
General offence	Offence against a provision of the Act, where no penalty is specifically provided for.	Fine of not more than Ksh 350,000. Imprisonment for not more than 18 months. Or both such fine and imprisonment.
Inspection	Offences in respect of inspection, including: Hindering or obstructing an environmental inspector in his duties;	Fine of not more than Ksh 500,000. Imprisonment for not more than 2 years. Or both such fine and imprisonment.
Environmental Impact Assessment	Failure to submit project report contrary to the requirements of Section 58 of the Act. Failure to prepare an EIA in accordance with the requirements of the Act. Knowingly give false information in an EIA report.	Fine of not more than Ksh 2,000,000. Imprisonment for not more than 2 years. Or both such fine and imprisonment.
Records	Failure to keep records required under the Act. Fraudulently or knowingly altering records. Fraudulently or knowingly making false statements in any records required under the Act.	Fine of not more than Ksh 500,000. Imprisonment for not more than 18 months. Or both such fine and imprisonment.
Standards	Violation of any environmental standard established under the Act; Contravenes any measure prescribed under the Act; Uses the environment or natural resources in a wasteful and destructive manner contrary to measures prescribed under the Act.	Fine of not more than Kshs 500,000. Imprisonment for not more than 2 years. Or both such fine and imprisonment.

6. STAKEHOLDER CONSULTATIONS

6.1: Summary of stakeholder clusters

The Consultant conducted intensive stakeholder consultations on the CGN transport terminii in April 2019. Table 6.1 provides the list of specific consultees and consultation timeframes.

Table 6.1: List of specific consultees and consultation timeframes

Date	Category	Stakeholder/s
Monday 8/04/2019	Proponent - CGN	Department of Lands, Housing and Physical Planning Technical Committee; Mr. Oduor Mak'Onyare – Department of Lands, Housing and Urban Development- chairing Mrs. Esther Mbugua – County Department of Water, Environment, Natural Resources and Sanitation Mr. Omondi.D. Omondi – National Environment Management Authority Mr. J.M Githae – Department of Infrastructure
Tuesday 9/04/2019	Faith based Organization	East Gate K.A.G Church 1) Michael Mutuku 0723039430 – Church Administrator 2) Peter Njuguna 0720715197 – Church Elder 3) Johnson Mbatia 0780443353 – Church Elder
	National Government	Assistant Chief Majengo Sub Location
	Business opinion leaders	Nyeri Business Association 1) Daniel Macharia – Member 2) Charles Njori – Chairperson 3) Fredrick Maina – Member 4) Michael Kimani – Member 5) Kamau Ark – Member 6) Stephen Ndung'u - Member
	Bus terminus business operators	Miariri Traders 1) Esther Githaiga- Sub County Administrator- Chairing 2) Samuel Kamami- Chairperson, Miariri Traders 3) Francis Muruthi – Representative for People with Disability 4) Simon Githinji- Chairperson, Gakere Area 5) Josphat Maina- Chairperson, Muthurwa Area 6) Susan Wanjiku- Chairperson, Food Vendors 7) Elizabeth Wangari- Chairperson, Police Line Area
Wednesday 10/04/2019	Service provider	Kenya Power and Lightning Company
	Service provider	Nyeri Water and Sewerage Company
	Transport Statutory Body	National Transport and Safety Authority
	Dumpsite waste recyclers And	Dumpsite Community Groups Nyeri County Youth and Women Empowerment Group, Universal Group Revolution Empire Limited,

	Dumpsite waste scavengers	<p>Kikkibul Empire Limited</p> <p>Others</p> <ol style="list-style-type: none"> 1) Charles Mutinda – Waste Scavenger 2) James Wacira – Waste Scavenger 3) Jacinta Freny – Waste Scavenger 4) John Mathenga – Waste Scavenger 5) Wambui Waithera– Waste Scavenger 6) Mary Njeri – Waste Scavenger 7) Bernard Muriithi – Community Paralegal 8) Samuel Gitonga – Member, First Born Church 9) Omari Ghazal – Waste Scavenger 10) Mrs. Joyce Wanjiru – Waste Scavenger. 11) Mr. James Ruiru – Asian Quarter Resident 12) Mr. Robert Kariuki – Waste Scavenger 13) Mr. Victor Mwangi – Waste Scavenger 14) Boniface Ndegwa – Waste Recycler, Universal Revolution Empire Limited 15) John Taiti – Asian Quarter Resident 16) Magdalene Aule – Waste Scavenger 17) Timothy Ngatia – Waste Scavenger 18) Arori Kina – Waste Scavenger 19) Peter Maina – Waste Scavenger 20) Charles Ndirangu – Dumpsite Area Resident 21) James Ndegwa – Chairman, Dumpsite Area Residents
Thursday 11 /04/2019	National government statutory bodies	National Environment Management Authority
	National government statutory body	Kenya Urban Roads Authority
	National Government	Public Health Department
	National Government	Water Resources Authority Mt Kenya Region
	Non-Governmental Organization	Africa Green Revolution
Friday 12/04/2019	Nyeri Matatu Owners Association	<p>Matatu SACCOS</p> <ol style="list-style-type: none"> 1) Ichera John – Member, Nyeri Matatu Owners Association (KAKIKA SACCO) 2) Isaac Minjire – Member, Nyeri Matatu Owners Association (MAHIGA SACCO) 3) Daniel Kimala – Member, Nyeri Matatu Owners Association (NAKONNS SACCO) 4) Moses Mwai – Member, Nyeri Matatu Owners Association (NYEMUNA SACCO) 5) Julius Mwangi – Member, Nyeri Matatu Owners Association 6) Damiri Kiragu – Member, Nyeri Matatu Owners Association 7) John Mwau – Member, Nyeri Matatu Owners Association (NYERI SHUTTLE)

			8) Maina Njogu – Member, Nyeri Matatu Owners Association (KAROMBU SACCO) 9) Nguitui Kagotho – Member, Nyeri Matatu Owners Association (NOKK SACCO) 10) Peter Thiong'o – Member, Nyeri Matatu Owners Association (NYEKICHA SACCO) 11) James Weru – Member, Nyeri Matatu Owners Association (2MGIN SACCO) 12) Peter Theuri – Member, Nyeri Matatu Owners Association (NYENA SACCO) 13) Michael Kibicho – Member, Nyeri Matatu Owners Association (NAMUGA SACCO) 14) J.N Muturi – Member, Nyeri Matatu Owners Association 15) Peter Ndirangu – Member, Nyeri Matatu Owners Association (NOKK & NYEGAMO SACCO) 16) John Gitahi – Member, Nyeri Matatu Owners Association (NYEGAMO SACCO) 17) Symon Mukiri – Member, Nyeri Matatu Owners Association (NYAKATI SACCO) 18) Grace Wangechi – Member, Nyeri Matatu Owners Association (GATHUTHI SACCO) 19) Joseph Macharia – Member, Nyeri Matatu Owners Association 20) Esther Githaiga – Sub-County Administrator 21) Gerald Mwangi – Member, Nyeri Matatu Owners Association 22) Francis Wairegi – Member, Nyeri Matatu Owners Association (2KGT SACCO) 23) Gladys Murage – Member, Nyeri Matatu Owners Association (NYEKICHA SACCO) 24) Humphrey Gitonga – Member, Nyeri Matatu Owners Association (NYESUMA SACCO) 25) Daniel.K. - Member, Nyeri Matatu Owners Association (TRIPPLE M.T. SACCO) 26) John Maina - Member, Nyeri Matatu Owners Association (NYERI SHUTTLE) 27) James Githae - Member, Nyeri Matatu Owners Association (4N.T.E SACCO)
Friday 12/04/2019	Asian Residents	Quarters	1) Irene Wairimu 0728780725 2) Terry Mathenge 0720737007 3) Philip Ndegwa 0723275803 4) Miriam Muchora 0723438218 5) Josphat Kariuki 0795115549 6) Meshillam Muthami 0733570204

The views of all stakeholders were recorded and as summarized while the stakeholders themselves filled and signed the questionnaire forms provided.

6.2: Summary of stakeholder inputs

Table 6.2 summarizes the views, inputs and concerns as well as recommendations of the stakeholders who were consulted during the EIA public participation of the proposed development.

Table 6.2: Summary of stakeholder views, inputs and concerns

Identity and contacts	Stakeholder cluster	Views, concerns and inputs	Recommendations for the proponent
Technical Committee	County and National Government	<ul style="list-style-type: none">) The estimated project cost and duration ought to be captured.) point out the offsite environmental impacts of the proposed project) The report should adequately capture the process of decommissioning the existing dumpsite and resettlement of the dumpsite informal residents, and compulsory land acquisition where necessary.) Storm water drainage systems and channels impacts need to be assessed and provided for in the designs for proper storm water management) Alternative means of livelihoods for the dumpsite scavengers should be recommended) The mapping of the stakeholders needs to be extended to Faith Based Organizations, KPLC, NYEWASCO and public health office) The proposed site experiences conflicts of use between open space (cemetery) and public purpose (dumpsite)) The decommissioning of the dumpsite should be adjoined with the decommissioning of the cemetery) The consultant needs to acquire the revised design drawings from the relevant offices so as to have a clear understanding of what has been suggested and assess the potential impacts appropriately 	<ul style="list-style-type: none">) The public needs to be told what will happen to the space currently occupied by the bus terminus for them to buy-in the project) The project designs should incorporate public concerns.) The proponent should consider employing some of the scavengers for as cleaners for the bus terminus when operational) The existing cemetery at the dumpsite should be de-gazetted before allocating the land to other developments) The decommissioning of the dumpsite should go concurrently with EIA of the proposed bus terminus

Assistant Chief Majengo Sub Location	Ministry of Interior/ National Government	<ul style="list-style-type: none">) Increase in air pollution from vehicle emissions and solid waste in the town centre) The congestion in Nyeri town is as a result of mushrooming colleges such as Kimathi University, devolved government and the upgrading of the provincial general hospital to a referral hospital) The town has expanded rapidly due to the additional functions and improved communication with other centers) The town will be manageable after relocation) Business customers are likely to move with the bus park) Matatu Owners are opposed to the relocation of the bus park because they fear losing passengers 	<ul style="list-style-type: none">) Waste collection and management should be privatized) The proposed bus termini should have a sub chief's office for efficient administration) Adequate sanitation facilities should be provided at the proposed bus terminus
Nyeri Business Association	Business opinion leaders	<ul style="list-style-type: none">) The entry and exit points for vehicles should be analyzed for easy traffic monitoring) Mixed use kind of development should be adopted) There should be proper designation and relocation of bus termini) The design of the proposed bus terminus should indicate the connectivity between the proposal and the existing central business district) Proper waste management should be addressed) The proposed project will be one of the ways to decongest the central business district and improve security. However, more consideration should be emphasized.) Noise levels should be monitored and mitigation plan provided 	<ul style="list-style-type: none">) A public private partnership (PPP) ought to be involved in the development of projects that are undertaken in Nyeri County) The political will of the next government to provide continued support to the ongoing projects is of a major concern) Recommends opening of Kangemi road in order to decongest other roads) Change the user of Asian Quarters from residential to commercial/business area) Consider waste recycling as a measure for waste management) Control housing architecture to reduce space wastage in blue valley) Create a road between temple road and Nairobi road to ease congestion
Miariro Traders	Bus terminus business operators	<ul style="list-style-type: none">) Alleged that the open-air market areas in the town center have been grabbed by investors for personal gain hence leaving them no place to conduct their businesses) Procedure of acquiring the stalls at the proposed bus terminus should be as transparent as possible for equality in allocation of the stalls 	<ul style="list-style-type: none">) Proper awareness of the proposed bus terminus should be done for public knowledge

		<ul style="list-style-type: none"> Designated pick up and dropping off points for people with disabilities need to be addressed in the proposal Pollution effects of the proposal should be reconsidered and mitigation measures be provided 	
Kenya Power and Lightning Company	Service provider	<ul style="list-style-type: none"> Relocation of the bus terminus translates to increased infrastructure at the proposed site and number of pedestrian's and those affect power transmission lines 	<ul style="list-style-type: none"> KLPC should be informed during the excavation/grading process so that the transmission lines cannot be interfered with
Nyeri Water and Sewerage Company	Service providers	<ul style="list-style-type: none"> Interferences with the existing water and sewerage layout Increase in solid wastes 	<ul style="list-style-type: none"> Provision of adequate of sanitation facilities
National Transport and Safety Authority	Transport statutory Body	<ul style="list-style-type: none"> Air pollution caused by smoke emissions from the vehicles. Increased noise pollution from the hooting of the vehicles and touting 	<ul style="list-style-type: none"> A regulatory and liaison office to be provided at the bus terminus for monitoring
Dumpsite community	Dumpsite waste recyclers and waste scavengers	<ul style="list-style-type: none"> The dumpsite community will lose employment Resettlement program for the dumpsite residents should be arranged prior to the relocation of the bus termini The Jan Muhammed ground should be reserved for recreational use and not as part of the proposed bus termini Noise pollution effects to the abutting hospital area and residential area should be monitored and mitigation measures provided 	<ul style="list-style-type: none"> The Nyeri County Government should seek alternative means of livelihoods for the dumpsite scavengers as the relocation of the dumpsite will render them jobless. During the implementation phase, the persons to be prioritized for casual employment should be the dumpsite area residents and waste scavengers
National Environment Management Authority	National government statutory body	<ul style="list-style-type: none"> There is need for a Strategic Environmental Assessment (SEA)for Nyeri Municipality area No harmony by the ministries if planning, land and environment planning ministries on land uses in the proposed site Asian Quarters is a residential area Proper public awareness concerning the proposed bus termini should be conducted Personal interests and subjective planning by the county government contributes to poor spatial planning and growth of the county The proximity of the proposed bus termini to the hospital and the residential area is 	<ul style="list-style-type: none"> A designated dumpsite area to be identified before the decommissioning of the existing dumpsite The S.E.A of Nyeri County Master Plan should be done to provide anchorage for the E.I.A of proposed bus termini at Asian Quarters Consider alternative sites for the bus park

		<p>of great concern in relation to air and noise pollution</p> <p>) There is a disconnect between the County government and the national government on the Nyeri Town Master plan</p>	
Kenya Urban Roads Authority	National government statutory body	<p>) Air pollution due to increased emission from the vehicles.</p> <p>) Increased noise pollution to the adjacent residential areas and the hospital area</p> <p>) Poor storm water drainage.</p> <p>) Traffic congestion at the junctions.</p> <p>) Increased solid wastes</p>	<p>) Road expansion (Kaburini to Kiawara road) to ease access to the proposed bus terminus and allow proper traffic channelization.</p> <p>) Recommends a roundabout at the Othaya Nairobi road junction</p> <p>) Need to develop a car park for private cars that will be dropping and picking passengers at the Bus termini</p> <p>) Provision of adequate sanitation points</p> <p>) The project should employ Performance Based Contract type of operation especially in waste management.</p> <p>) The user experience should be monitored and analyzed</p> <p>) The existing matatu Saccos should be merged for easier management</p>
Public Health Department	National Government	<p>) The bus terminus cannot be relocated until the dumpsite is decommissioned and relocated</p> <p>) Political will of the existing government to implement the proposal is in doubt</p> <p>) The multiple effects of the proposal such as the emergence of an illegal market area adjoining the proposed bus termini should be considered</p> <p>) The inefficiency of the dumpsite cannot cohost the proposed bus termini</p> <p>) Aeronautical distances should be analyzed when selecting the new dumpsite</p> <p>) Roadside hawkers have encroached the road reserves in the town center thereby creating congestion and insecurity</p> <p>) The laws and policies governing the management of the current dumpsite are so restrictive</p> <p>) The relocation of the bus termini to Asian Quarters will subsequently reduce the property values of the abutting land parcels</p>	<p>) Rehabilitate of the dumpsite at Kangemi and relocate the dumpsite there</p> <p>) The disused quarries beside the airstrip can be used as landfills if proper assessment by the Kenya Civil Aviation Authority and acquisition can be done</p> <p>) Relocation of the airstrip provides alternative for open options for relocation of the dumpsite</p> <p>) Competitive charges for waste collection and dumping to be gazette for effective waste management and to attract the private sector in waste management</p> <p>) Re-plan the Asian Quarters area</p>

Water Resources Authority	National Government	<ul style="list-style-type: none"> The proposed bus termini should have zero effects to the nearby Githwariga stream 	<ul style="list-style-type: none"> Sustainable storm water management should be provided Proper solid waste management should be addressed
East Gate KAG Church	Faith Based organization	<ul style="list-style-type: none"> The church next to the dumpsite was established in 1994 and the dumpsite became operational in 1999 in disregard of the existing developments The dumpsite was a playground for the youth before it become a dumpsite Supports the relocation of the bus park to replace the dumpsite which has been smelling awfully to the faithfuls Had gone to court to petition the closure and relocation of the dumpsite 	<ul style="list-style-type: none"> The dumpsite should be decommissioned and relocated to a site where it does not affect other developments
Africa Green Revolution	NGO	<ul style="list-style-type: none"> The proposed bus terminus will be part of the bigger plan to decongest the town center and employment creation 	<ul style="list-style-type: none"> The county government should adopt this proposal for effective spatial planning and management
Matatu SACCOS	Nyeri Matatu Owners Association	<ul style="list-style-type: none"> The Nyeri Matatu Owner's Association feel that the county government does not give them an opportunity to express their views in relation to the relocation of the bus terminus The lower stage operators feel most negatively targeted during the relocation. They propose that all bus stages and public service vehicles including the sientas and probox operators, all to be relocated to the proposed bus termini Adequate infrastructure should be put in place before the relocation It is alleged that the county government is led by self-interest hence no adequate service delivery The site in question does not have enough acreage to accommodate all the facilities and utilities necessary for smooth operation of a bus termini Some SACCOS are opposed to the relocation The sporting area adjacent to the dumpsite needs to be retained as a playground space for the neighboring public schools 	<ul style="list-style-type: none"> The relocation should be for all the existing bust stages in the town- to the Asian Quarters The market should also be relocated to the Asian Quarters The Matatus should not be relocated to the new bus termini instead the backstreet lanes should be put to optimal use for hawkers and street traders to ease congestion in the town The county government should have a decommissioning plan of the dumpsite first before anything else is conducted Some Matatus should be moved to Kamukunji The inspection yard should be relocated to the ministry of works compound and the space used as a bus terminus Long distance vehicles to be relocated to Asian Quarters, short distance vehicles to be left in town Instead, the Asian Quarters should be set aside for traders who do not have space in town

		<ul style="list-style-type: none">) A major concern was raised on what will come into being of the existing bus termini after the relocation) The Matatus plying short distances and long distances have a symbiotic type of relationship hence they cannot operate independently 	
Asian Quarters Residents	Resident Association	<ul style="list-style-type: none">) The odor from the dumpsite is of great health concern to the residents) The dumpsite provides a form of insecurity) Increased noise pollution from the hooting vehicles and touting) Proper storm water management	) Noise levels from the proposed bus termini should be monitored by NEMA

6.3: Summary of environmental impacts

Environmental Impacts	Description
Storm water drainage	Management of all the storm water from the constructed bus termini
Air pollution	Mainly from vehicle exhausts at the termini
Poor solid and sewerage waste disposal	From the huge population of passages, vehicle operators and traders using the bus termini daily
Noise pollution	From revving of vehicle engines, hooting and mobile outdoor advertisement that usually target bus termini
Conflicting land use impacts	Dump site, cemetery, bus termini, residential area, hospital and churches all in one place
Land and water contamination	Continued soil and water contamination at the site even after the decommissioning of the dump site
Ground depth use limitations	Limited excavation to minimize exhumation of bodies at the cemetery
Water pollution	Storm drain into Githwariga river
Loss of green spaces	Conversion of Jan Mohamed grounds into concreted parking space

6.4: Summary of social impacts

Social Impacts	Description
Resettlement	Resettlement of Dumpsite slum dwellers
Disrupted livelihoods and loss of employment	Loss of livelihoods for dumpsite scavengers and traders
Loss of cemetery land	Decommissioning of cemetery land to give way for the dumpsite infrastructure- will lead to loss of graves and land to bury the dead
Rise in criminal cases and demand for administrative services	Need for an assistant chief's office and a police station to handle the social ills and administrative services demand that will be created by the bus park
Unsanitary conditions	Pressure on sanitary facilities at the bus termini
Loss of sports ground	The current dump site area is also known as Jan Mohammed grounds and was set aside for use as a playground for the

	surrounding schools that do not have sports facilities before it was converted into a dump site
Traffic congestion	Directing all the passage vehicles into one terminus
Reduced smells from the dump site	Due to decommission of the dumpsite from receiving solid waste
Employment creation	For construction, service providers and traders at the new bus termini
Insecurity	level of crime going up as a result of increased population at the termini
Improved traffic flow	Decongested streets

7. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The project impact analysis has been segregated in four main phases: Pre-Construction Phase, Construction Phase, Operation Phase and Decommissioning Phase. Further, the activities of the pre-construction construction and operation phase have also been distributed in main groups to aggregate activities of similar type and nature in single group for easy appraisal of probable impacts. It is expected that the proponent (CGN) will comply and avoid breach of relevant policy, legal and administrative provisions including national legislation, standards and guidelines as highlighted in Section 5. The summary of impact significance levels is tabulated for each phase in Tables 7.1, 7.2 and 7.3.

7.1: Pre-construction phase

7.1.1: Positive impacts

- County Government of Nyeri (CGN) the proponent will change the face of Nyeri Town by decommissioning the municipal dumpsite at Asian Quarters which has been an environmental eye sore and source of conflict between them and NEMA.
- Improved landscape at Asian Quarters with decommissioning and restoration of the dumpsite.
- Relocation of the waste scavenger squatter community at the dumpsite in Asian Quarters who have been a source of insecurity and crime in the area.
- Improved property value in the Asian Quarters region.
- CGN will provide work opportunities for a wide range of professionals such as engineers, landscaping professionals and manual labourers during the decommissioning of the dumpsite.
- CGN will provide work opportunities for a wide range of professionals such as hydrogeologists, soil analysts, civil engineers, structural engineers, architects and quantity surveyors, for the site survey and design of the proposed transport termini at Asian Quarters in Nyeri Town.
- Elimination of nuisance scavenger bird species such as the dumpsite crow.

7.1.2: Negative impacts

- Noise and vibration during the dumpsite decommissioning activities.
- Disturbance and contamination of Githwariga River during the dumpsite decommissioning activities. The ecosystem is likely to suffer from the long-term leakage of dumpsite leachate if the solid waste is buried in the area. The analysis of water quality in the river during the EIA baseline assessment showed that the dumpsite was having a negative impact on the ecosystem.

Table 7.1: Summary of impact significance levels in pre-construction phase

Impact	+	-	Impact Magnitude	Receptor Sensitivity	Impact significance
Dumpsite decommissioning will improve the state of environment at Asian Quarters			High	Medium	High
Improved landscape with decommissioning and restoration of the dumpsite			High	High	High
Relocation of waste scavenger squatter community			High	High	Medium
Elimination of nuisance scavenger bird species			Low	Low	Low
Improved property value in the Asian Quarters			High	High	High
Employment creation in decommissioning works			High	High	High
Noise and vibration during the dumpsite decommissioning activities			Medium	Low	low
Disturbance and contamination of Githwariga River during the dumpsite decommissioning activities			High	High	High

7.2: Construction phase

7.2.1: Positive impacts

a) Employment opportunities

The construction of the CGN transport termini in Asian Quarters, Nyeri Town will have an economic benefit for the local population. The CGN is committed to the employment of local persons and thus the community will benefit a great deal especially during the construction phase when more personnel at lower skill levels are required. The construction workforce is estimated at close to 100 people. Assuming that each construction employee normally supports upto 5 other family members, the employment created during factory construction will most likely benefit upto 500 people both within and outside the project site. It is envisaged that the employment will have an indirect injection of money into the local economy, with persons working on the project spending some of their wages in the local area. This in turn will encourage business activities for local entrepreneurs supplying goods to such persons. This is in line with the Nyeri CIDP (2018-2022).

Employment opportunities will also be of benefit in economic and social sense because abundant unskilled labor will be used while social sense signify that the poor community will be engaged in productive employment other than remaining idle and helpless which in most cases may translate to engagement in unproductive activities and crime. Apart from casual labour, semi-skilled and skilled employees are also expected to obtain employment during the construction period. It should also be noted that the engagement and presence of casual labourers in the area is not expected to raise any problems in the area because they will be under the control of the official contractor. The CGN will ensure that high priority for employment will be given to the local people.

b) Establishment of small-scale businesses

The termini construction works are likely to trigger the establishment of a wide range of small scale businesses in the Asian Quarters area which will boost the local economy. These will include food kiosks and boda bodas among others. It will also boost existing ones such as MPESA, local supermarket, posho mill and so on.

c) Gains in the local and national economy

The construction stage will introduce a strong need to for goods and services and local entrepreneurs should position themselves to provide such goods and services. There will also be gains as a result of the CGN transport termini construction through the utilization of locally available construction materials including sand, ballast, rocks, cement, metal, fuel and among others. Private owners of material sites will gain in terms of additional income through site lease and other benefits as agreed between them and the contractor. The consumption of these materials will attract taxes which will be payable to the government. For material sites, the CGN shall 'collect levies and other charges applicable and due to the County Government in accordance with the applicable county legislation'.

The CGN will adopt a strategy to foster growth in local businesses by use of training and other strategies that support the economy. The CGN is committed to give preference to local persons and service providers, where practicable. Local persons shall be identified for training and skills developed within the local community to promote long-term employment and opportunities for career progression. As a result of wages from the construction works in Nyeri Town will have a steady source of income which means more money in circulation which if well utilized is bound to raise the economic standards of the area residents.

d) Revenue generation

The county government will generate revenues from companies utilizing natural resources within the county boundaries as envisaged in the Nyeri CIDP (2018-2022).

e) Improved security

The Asian Quarters area has for a long time been insecure especially at night because of the waste scavenger squatter community residing in the area. The termini construction works are likely to lead to enhanced security due to construction work lighting and security arrangements by the contractor and CGN.

7.2.2: Negative impacts

a) Landscape transformation

Vegetation removal and soil disturbance is expected during the construction of the CGN transport termini in Asian Quarters, Nyeri Town just like any other projects. Land clearing, excavation and levelling will be required in order to put up a base camp. However, the proposed construction works will be undertaken in an area whose previous environmental status was an eye sore in comparison with the termini outlook.

b) Disturbance and contamination of Githwariga River

The proposed transport termini site is located approximately 300 m from Githwariga River which is an environmentally sensitive ecosystems. The ecosystem could suffer from increased erosion and siltation during the construction phase especially if that will be undertaken in the rain season.

c) Construction dust

Some airborne emissions may occur during construction phase. Construction activities such as site clearance and grading, excavations/earthworks, stockpiling of materials and spoils, and vehicular movements in the project area will generate dust and affect the local air quality. Once airborne, dust will generally travel downwind before resettling. The downwind zone in the proposed site will fall within the Asian Quarters residential area. The distance travelled depends primarily on wind speed and particle size. For example, smaller particles and strong winds result in greater dilution effects but mean that the dust is deposited over a larger area. This is likely to be a significant problem especially if peak construction works will be undertaken in the dry season. Increased movement of construction vehicles is likely to increase dust levels along the Hospital Road and other links based on the baseline assessment. This is likely to affect pedestrians especially school children as well as the households located next to the affected road. The potential impacts are nuisance and adverse health effects on workers and people in the surrounding area.

d) Construction waste

The construction phase activities could generate solid wastes whose disposal can lead to environmental pollution. However, this is unlikely to become a serious problem in the area due to its previous status as a municipal dumpsite.

e) Influx of people from other areas

It is anticipated that the construction phase will result in the migration of persons to the area in search of paid labour. This may cause friction between the residents and outsiders which need to be well managed.

f) HIV/AIDS transmission and other social ills

The population influx and enhanced social interaction with the construction employees, some of whom are likely to come from other parts of the country, with the residents especially considering the influence of money is a potential avenue for transmission of HIV/AIDS and other social infections. This might affect the social and cultural status of the area. However, the impact of this is unlikely to become a serious problem because people in Nyeri Town are well-sensitized regarding the vice.

Table 7.2: Summary of impact significance levels in construction phase

Impact	+	-	Impact Magnitude	Receptor Sensitivity	Impact significance
Employment opportunities during construction of the termini			High	High	High
Supply of construction materials including sand, ballast, rocks, cement, metal, fuel, timber, roofing materials among others			High	High	High
Additional source of income for the local community			High	High	Medium
Tax revenue for CGN and Central Government			Medium	Low	Low
Termini construction related small-scale businesses			High	High	High
Improved security			Medium	High	Medium
Disturbance and contamination of Githwariga River by termini construction works especially soil erosion and siltation			Medium	High	High
Construction dust			High	High	High
Construction waste			Low	Low	Low
Influx of people from other areas			Medium	Medium	Low
HIV/AIDS transmission and other social ills			Low	Low	Low

7.3: Operational phase

7.3.1: Positive impacts

The potential positive impacts associated with the proposed project during construction phase are highlighted below.

a) Employment opportunities

The CGN transport termini in Asian Quarters, Nyeri Town will have an economic benefit for the local population through the provision of employment opportunities through the proposed installations highlighted in Box 7.1. At an approximate estimate of 2000 people, the project will support upto 10,000 at a family size level of 5 persons per household.

Box 7.1 – Termini installations

Termini installation	Approximate No. of employees/day
Matatu Bay	1,000 (owner, driver, conductor)
Lorry holding bay	240 (owner, driver, conductor)
Taxi Bay	100 (owner & driver)
Tuk Tuk Bay	100 (owner & driver)
Boda boda bay	150 (owner & driver)
Garage	50
Market	200
Kiosks	50
Shops	50
Offices	30
Fire station	10
Police post	10
Public toilets	10
Total	2,000

It is envisaged that employment at transport termini will have an indirect injection of money into the local economy, with persons working on the project spending some of their wages in the local area. This in turn will encourage business activities for local entrepreneurs supplying goods to such persons.

- b) Expanded product markets
The establishment of a modern market and business kiosks at the transport termini will open new market doors for various products in Nyeri County especially agriproducts.
- c) Expanded entrepreneur and self-employment space
The establishment of offices and business kiosks at the termini will create room for self-employment especially for the youth through SMEs such as ICT bureaus, MPESA outlets, beauty parlors, shoe cleaning, eateries among others.
- d) Increase in disposable income
It is anticipated that as a result of the operation of the CGN transport termini in Asian Quarters will lead to an increase in disposable income. It will become a steady reliable source of substantial income during the project life and beyond.
- e) Gains in the local and national economy
The long-term operational phase of the transport termini will attract revenue to the CGN and Central Government (e.g. NTSA, KRA and others) through the issuance of licences and permits and regular payment of taxes.
- f) Revenue generation
The operations and goods involved in the CGN transport termini in Asian Quarters, Nyeri Town will be subject to statutory any taxation including Corporate Tax, VAT, PAYE as well as payments for permits and licenses which will provide valuable economic benefit to the CGN as well as the Government of Kenya.
- g) Reduced congestion and traffic stagnation in the CBD
The off-street transport termini at Asian Quarters will ease pressure on other PSV termini and improve traffic flow in Nyeri town.
- h) Improved trip frequency for PSVs
The improved traffic flow in Nyeri town will improve business in the transport sector through higher trip frequency.
- i) Higher productivity due to reduced time wastage
The off-street transport termini at Asian Quarters will ease pressure on other PSV termini and improve traffic flow in Nyeri town.
- j) Improved safety and security
The establishment of a termini police post will significantly improve security and emergency response in the area.
- k) Improved commuter comfort and convenience
The operation of the CGN transport termini will improve commuter comfort and convenience in the following ways: -
 - o Provision of public toilets and related sanitary services
 - o Improved public health in Nyeri town
 - o Provision of recreational space in the green zone
 - o Proximity to the Nyeri Referral Hospital
 - o Modern facilities for the elderly and physically challenged commuters
- l) Improved urban beauty and attraction
The establishment of the termini will improve the general outlook of Nyeri Town.

m) Improved urban fire disaster management

The establishment of a fire station at the transport termini will improve the capacity to deal with fire hazards in Nyeri Town.

7.3.2: Negative impacts

a) Termini noise pollution

b) Congestion of termini entry routes

The heavy use of Hospital Road without proper maintenance could to a poor state of the road for the local people. This could affect the traditional movement of people in Asian Quarters.

c) Traffic gridlocks in nearby transport links and interchanges

The operation of the termini could create traffic gridlocks along Kenyatta Rd especially at the Othaya interchange.

d) Increased vehicular noise

The operation of the termini could introduce a noise pollution problem for nearby residential areas especially the Asian Quarters.

e) Air pollution

Air pollution might occur within the transport termini area mostly from increased vehicular emissions, especially CO₂ and NO_x.

Table 7.3: Summary of impact significance levels in Operational phase

Impact	+	-	Impact Magnitude	Receptor Sensitivity	Impact significance
The off-street transport termini at Asian Quarters will ease pressure on other PSV termini in Nyeri town			High	High	High
Improved trip frequency for PSV operators			High	High	High
Higher productivity due to reduced time wastage			High	High	High
Employment opportunities during the operational lifecycle of the termini			High	High	High
Expanded product markets			High	High	High
Expanded entrepreneur and self-employment space			High	High	High
Increase in disposable income			High	High	High
Gains in the local and national economy			Medium	Medium	Medium
The establishment of a termini police post will significantly improve security in the area			High	High	High
Improved commuter comfort and convenience – public toilets, recreational green zone, proximity to the Nyeri Referral Hospital			High	High	High
Improved urban fire disaster management			Medium	Medium	Medium
Increased noise from termini operations			High	High	High
Congestion in termini entry routes especially Hospital Road			Medium	Medium	Medium
Traffic gridlocks in nearby transport links and interchanges			Medium	Medium	Medium
Increased vehicular noise for Asian Quarters			High	High	High
Air pollution due to increased vehicular emissions especially CO ₂ and NO _x			Medium	Medium	Medium
Heavy energy consumption in the termini installations			High	High	High
Disturbance and contamination of Githwariga River by termini operation through the discharge of wastewater and contaminated stormwater			Medium	Medium	Medium

7.4: Decommissioning phase

7.4.1: Positive impacts

- a) Employment opportunities during decommissioning of termini construction base camp
Temporary employment opportunities will be created for the demolition of termini construction base camp.
- b) Rehabilitation of the environment
It is envisaged that the CGN transport termini in Asian Quarters, Nyeri Town will operate for many years but if decommissioning becomes necessary in future, rehabilitation of the project site will be carried out to restore the site to its original status or to a better state than it was after the decommissioning of dumpsite.

7.4.2: Negative impacts

- a) Noise
The demolition works for the termini construction base camp may create some noise in the neighborhood but this will only be for a few days.
- b) Solid waste generation
Demolition of the base camp could result in the generation of solid waste such as waste concrete, metal, drywall, wood, glass, paints, adhesives, sealants and fasteners.
- c) Base camp demolition dust
Large quantities of dust will be generated during demolition works. This will affect demolition workers as well as the neighboring residents.

8. MITIGATION MEASURES AND MONITORING PROGRAMMES

The project impact mitigation has been segregated in four main phases: Pre-Construction Phase, Construction Phase, Operation Phase and Decommissioning Phase. Further, the activities of the pre-construction construction and operation phase have also been distributed in main groups to aggregate activities of similar type and nature in single group for easy appraisal of probable impacts.

The proponent acknowledges the fact that the proposed project activities will have many positive and some negative environmental and social. Thus, the main focus will be on reducing the negative impacts and maximizing the positive impacts associated with the project activities through a programme of continuous improvement.

This section focuses on measures that can be incorporated into the design, and taken during the improvement works and operation stages of the project in order to mitigate the negative environmental impacts (red colour) and enhance the positive ones (green colour) described in Section 7. The potential key negative impacts and the possible mitigation measures have herein been analysed under three categories, namely pre-construction construction, and operational stages as necessary.

8.1: Pre-construction stage

Potential impact	+	-	Proposed mitigation
Noise and vibration during the dumpsite decommissioning activities			Prepare a dumpsite decommissioning and restoration plan which should identify strategies for ensuring minimal negative impacts including excessive noise and vibration
Disturbance and contamination of Githwariga River during the dumpsite decommissioning activities			The dumpsite decommissioning and restoration plan should identify suitable engineering options for buffering the riparian environment from contamination by hazardous waste materials in the dumpsite
Dumpsite decommissioning and landscape and restoration			The dumpsite decommissioning and restoration plan should include the introduction of green zones especially in the area bordering the riparian environment

8.2: Construction phase

Potential impact	+	-	Proposed mitigation
a) Site preparation			All excavations and earthworks should be undertaken carefully in order to minimize environmental degradation and landscape integrity. Some key measures for this will include: <ul style="list-style-type: none">) Avoiding the disturbance of areas not within the site for the CGN transport termini) Designing and implementing an appropriate landscaping programme to help in vegetating a good part of the area in CGN transport termini) Using of appropriate methods for intercepting and slowing contaminated runoff into Githwariga River
b) Construction dust			The proponent (CGN) will ensure that the Contractor will use appropriate dust control measures especially wetting down, water spraying will be undertaken in such areas in order to reduce the discomfort caused by dust emissions for the construction workers and the local people especially the vulnerable groups such as children and the aged in the Asian Quarters residential area. Other dust minimization strategies include:- <ul style="list-style-type: none">) Exposed soils and other erodible materials should be re-vegetated or covered promptly in order to minimize dust emissions. New areas should be cleared and opened-up only when absolutely necessary. Any bare surfaces should be re-vegetated otherwise rendered non-dust forming when inactive

		<ul style="list-style-type: none">) Loading, transfer and discharge of construction materials should take place with minimum height of fall and be shielded against the wind and consider the use of dust suppression spray systems) There will be no open burning of construction and/or waste materials at the site) There will be no excessive idling of construction vehicles in the sites) Construction vehicles and other equipment shall be properly serviced
c) Noise and vibration		<ul style="list-style-type: none">) Housing of all utilities especially the termini parking bays and garage will be done on sturdy non-vibrating foundations) For prevention of noise propagation adequate barrier will be created in form of properly designed noise minimization wall and green belt especially next to the Asian Quarter residential area and the KAG Church) All the construction works will meet the CPCB guidelines for emission & noise generation with acoustic enclosures) Occupational noise exposure will be addressed by providing workers with appropriate PPEs like earmuff and earplugs) Good practice in the prevention and control of noise sources should be established based on the prevailing land use and the proximity of noise receptors such as the communities in the Asian Quarters. Some of the recommended management strategies include: <ul style="list-style-type: none"> ✓ Ensuring that noise levels at the nearest sensitive receptor should meet the EMCA (Noise and vibration Control Regulations, 2009) ✓ There will be no unnecessary hooting by construction vehicles at the construction site ✓ Where it is necessary noise emissions should be controlled and minimized through the application of appropriate measures which may include: <ul style="list-style-type: none"> - Implementation of enclosure and cladding of extremely noisy sections, - Installation of proper sound barriers and/or noise containments, with enclosures or curtains at the equipment e.g. crushers, grinders and screens
d) Construction waste		<p>County Government of Nyeri will ensure that the Contractor complies fully with the EMCA (Waste Management Regulations, 2006) as well as the following additional measures among others:-</p> <ul style="list-style-type: none">) Using integrated solid waste management system through a hierarchy of the following options: a) source reduction, b) material recycling, c) composting and reuse, d) combustion and e) sanitary land filling.) Disposing waste more responsibly by dumping at designated dumping sites or landfills only.) Using building materials that have minimal or no packaging to avoid the generation of excessive packaging waste.) Ensuring that solid waste materials left over at the end of construction will be used in other projects rather than being disposed of.) Providing waste collection bins at designated points within the processing plant.) Engaging NEMA registered waste disposal company for transportation and disposal of risky solid waste from site.) Conducting relevant educational and awareness campaigns amongst workers on sustainable solid waste management for environmental protection through use of posters, to encourage reuse or recycling of the solid waste.
e) Heavy water use		<ul style="list-style-type: none">) Rooftops in the CGN transport termini plant shall be designed for maximum rainwater collection and with necessary facilities like gutter and drain pipes.

		<p>A well-designed pipeline network or properly lined impervious storm water drainage shall be provided near all building.</p> <p>) All storm water shall be connected to the urban stormwater drainage. Proper slope shall be provided to all storm water drainage and pipelines to ensure smooth and efficient evacuation of stormwater</p> <p>) Contaminated stormwater in the construction site will be treated prior to the transfer into the urban drainage network or utilization for groundwater recharging</p>
f) Influx of construction workers		<p>) The County Government of Nyeri in partnership with the local administration (especially the Area Chief and MCA) and religious institutions will undertake a skills audit could be undertaken and a register compiled of persons who have skills that could be used by the project. The County Government of Nyeri recruitment policy should be well communicated to the general public in advance</p> <p>) Employment for/after proposed project shall be done with priority to the local people and at least 70-80% employment shall be done from local areas</p>
g) Health and safety		<p>The construction of the CGN transport termini in Asian Quarters should ensure that all building and civil works are completed in conformity and strict compliance with the official Building Code (2009) of Kenya in order to conform with the national standards for sufficient stability. All infrastructures must be approved by the relevant Local Authorities as required by the Laws of Kenya. The safety of all the workers should be maintained by providing them with appropriate personal protective equipment (PPEs) including boots, helmets, overalls, gloves and dust masks in accordance with the Occupational Safety and Health Act (2007). As a general approach, health and safety management planning should include the adoption of a systematic and structured approach for prevention and control of physical, chemical, biological and radiological health and safety hazards described in General IFC EHS Guidelines. Recommended strategies to manage General Workplace Health and Safety include the following:-</p> <p>) All personnel should be trained on health and safety procedures and how to respond in case of accidents. All construction workers in the CGN transport termini should be trained on how to handle unexpected events such as accidents, fires or explosions, chemical spills, floods, power failures and earthquakes. To adequately prepare for an emergency, all personnel should plan, train, and practice emergency responses. Staff should also be encouraged to prepare for emergencies inside their workplace. As a standard procedure on health and safety, appropriate guidelines and signage shall be put up in prominent places for the attention of all workers.</p> <p>) All personnel should be trained to use of fire extinguishers. The types of fire extinguishers should be supplied based on the types of combustible and flammable materials in the processing plant.</p> <p>) Preparation of emergency response plans specifically applicable to exploration and production activities (considering the geographically isolated nature of mining sites) and including the provision and maintenance of necessary emergency response and rescue equipment.</p> <p>) Sufficient number of first aid trained employees to respond to emergencies.</p> <p>) Implementation of specific personnel training on work-site health and safety management including a communication program with a clear message about the commitment to health and safety</p> <p>) In addition, the CGN should ensure comprehensive consideration of the following key categories of occupation and safety according to the Occupational Safety and Health Act (OSHA) and General IFC EHS Guidelines:</p> <ul style="list-style-type: none"> o General workplace health and safety

		<ul style="list-style-type: none"> ○ Hazardous substances ○ Electrical safety ○ Physical hazards <ul style="list-style-type: none"> - Fitness for work - Thermal stress - Noise and vibration
h) HIV/AIDS transmission and other social ills		<p>The County Government of Nyeri will ensure the following among others:-</p> <ul style="list-style-type: none"> ✓ Encourage the use of preventive measures like condoms; ✓ Avail condom dispensers to the staff and workers; ✓ Strengthen advocacy through awareness training in HIV/AIDS and other STDs; ✓ Provide counseling and testing for HIV/AIDS to all the employees.
i) Invasive species		<p>The County Government of Nyeri will ensure that appropriate washing and screening of all incoming construction machineries originating from other locations in order to avoid the transfer of dangerous invasive species through soil and biological material attachments on construction equipment</p>
j) Area security		<p>The contractor will engage a security firm during the entire period of termini construction works which will alleviate the current insecurity in Asian Quarters especially along the Githwariga River</p>
k) Visual impact		<p>The replacement of the dumpsite at Asian Quarters with a modern transport termini will generally improve the status of the area from a visual eye sore to a useful public facility. The visual impact in the area should be enhanced further incorporating appropriate landscaping and beautification which can include the following strategies where possible:</p> <ul style="list-style-type: none"> ✓ Painting of the CGN transport termini installations with suitable colours and patterns to facilitate visual absorption into the landscape and enable them to be blended into the local environment as much as possible ✓ Lighting impacts can be significantly reduced by minimizing the use of high lighting masts ✓ Lighting should be focused in the direction of areas of work in order to reduce light spillage ✓ Sodium vapour lights & LED should be considered as the light spill for such lights is less disturbing as it produces a yellow glow rather than bright white light ✓ Yellow lighting also has the added advantage of having a lower potential to attract insects and thus also animals preying on insects (e.g. bats, nightjars, owls) into the processing plant
l) River ecosystem		<p>The termini construction works will include the installation of an appropriate leachate leakage structures such as sub-surface liner and secondary containment pond to avoid the contamination of Githwariga River by any remnant hazardous waste buried below the surface. The secondary containment point will be emptied and cleaned on regular basis</p>

8.3: Operational phase

Potential impact	Proposed mitigation
a) Increased noise and vibration	<p>The PSV operators and traders through their associations will establish an appropriate self-regulating Code of Practice and appropriate penalties to ensure the minimization of vehicular and workers noise in the termini which will co-exist with a residential area (Asian Quarters) and County Referral Hospital. Some of the strategies towards that objective could include:-</p> <ul style="list-style-type: none"> ○ Outlawing unnecessary hooting and running of engines in parking bays ○ Outlawing unnecessary calling for passengers by touts ○ Outlawing unnecessary product advertising by traders

		<ul style="list-style-type: none"> o Complying with the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009
b) Traffic flow		The CGN in partnership with Kenya Police Traffic Unit, PSV operators and traders through their associations will develop and apply an appropriate Code-of-Practice and appropriate penalties to ensure smooth traffic flow in termini entry routes especially Hospital Road and avoid gridlocks in nearby links and interchanges especially along Kenyatta Road
c) Energy use		The CGN should consider the use of solar energy for outdoor lighting purposes – security lights
d) Waste water		<p>The waste water management protocol in the termini shall be compliant with the EMCA (Water quality) 2006. As well as the standards for waste water management. The following measures are proposed to ensure the protection of surface water in the project area and surrounding environments:</p> <ul style="list-style-type: none"> J Wherever possible, containment of water collected from areas with potential contaminants will be ensured. Such waste water should be re-used. J Oil interceptors and sediment traps in the parking bays and garage should be installed and maintained to ensure any discharge to the environment carries a low sediment load. J Storm water management canals and dams should be maintained and kept clean in order to ensure that the capacity of such systems is not compromised during the life of the operations
e) Solid wastes		<ul style="list-style-type: none"> J The PSV operators and traders through their associations will establish an appropriate self-regulating Code of Practice and appropriate penalties to ensure the minimization inappropriate waste dumping J Provision of litter bins at strategic places in the termini J Segregation of wastes before disposal whereby non-biodegradable waste was mixed with the biodegradable waste J Non-Hazardous solid waste should be managed according to the EMCA (Waste management) Regulations (2006) and EMCA (Landfill) Regulations (2006) as well as the IFC EHS Guidelines. The waste will be collected for recycling and disposal at an approved sanitary landfill. The solid waste management protocol shall be compliant with the NEMA regulations for solid waste management
f) Hazardous waste		The Proponent will provide appropriate storage and evacuation of hazardous waste especially from the termini garage
g) Gaseous emissions		<p>The following measures will be undertaken in order to prevent and/or minimize all forms of dust emissions including airborne, respirable and inhalable dust during the operation of the processing plant:-</p> <ul style="list-style-type: none"> J Preparation and enforcement of a traffic operation protocol by County Government of Nyeri for PSV vehicles in order to minimize unnecessary vehicular emission due to unnecessary idling of engines
h) Health and safety		<p>The CGN in partnership with the PSV operators and traders through their associations will implement an appropriate Health & Safety Strategy which will consider the following among other interventions:-</p> <ul style="list-style-type: none"> o Emergency action plan o Identification, training and mobilization of Safety Marshals including First Aid Personnel and Fire Marshals o Emergency education and awareness including publicity posters
i) Emergency preparedness		Training programs and safety drills and audits (<u>including terrorism threat monitoring and response</u>) shall be done on regular basis to prevent impacts of the operational activities on occupational health as well as to improve workplace condition & safe work system

j) NMT		<ul style="list-style-type: none"> ○ The CGN project should include the installation of appropriate and safe pedestrian walkways and cycleways connecting the termini and CBD to encourage healthier lifestyles ○ The termini design and infrastructure should include facilities for physically challenged commuters
k) Fire station		The termini fire station should include a rapid response route for emergency movement of equipment to support fire disasters in the neighboring area
l) Security		The security personnel at the termini will also undertake regular patrol in the neighbourhood areas
m) Employment		The transport termini should include a PSV car-wash area which will provide additional employment for the youth

8.4: Decommissioning phase

The decommissioning phase refers to the time when the transport termini operations will come to an end and the termini operations will no longer be required or will be unsuitable for the Asian Quarters area. Consequently, the CGN transport termini will have to be decommissioned. The decommissioning could involve demolition of the plant structures and facilities as well as site restoration. The aim of the decommissioning activities is to ensure the restoration, rehabilitation or remediation of the physical, biological and chemical environment on which the processing plant is situated back to an appropriate state for other uses. This process should be undertaken in a manner that is not injurious to the environment.

8.4.1: Decommissioning activities

Following decommissioning of the processing plant, the entire area controlled by the CGN transport termini in Asian Quarters, Nyeri Town would be cleaned up and the sections to be rehabilitated made safe for other uses through the following activities:-

- ✓ Demobilization of equipment and the operational infrastructure.
- ✓ Removal of infrastructure and unused or unwanted equipment.
- ✓ Removal of all salvageable items (whether economical or not) from the former plant area to minimize the risk of subsequent vandalism.
- ✓ Removal of all services except those specifically required for post-mining land-use, or have been requested by the post-processing property owner(s).
- ✓ Removal of any wastes for disposal at approved sites.

Table 8-1 shows the expected decommissioning activity flow chart for the CGN transport termini in Asian Quarters, Nyeri Town when such events become necessary.

Table 8- 1: Flow Chart for decommissioning

Decommissioning process	Responsibility
Step 1	
✓ Development of an objective decommissioning worksheet and checklist incorporating references, legal and policies	CGN Environment Office
Step 2	
✓ Prepare decommissioning design	CGN Environment Office
✓ Conduct design review to validate elements of the design and ensure design features are incorporated in the decommissioning design	
Step 3	
<ul style="list-style-type: none"> ▪ Prepare and award contract ▪ Prepare a contract that incorporates validated project information and award to a contractor as per the procurement rules 	County Government of Nyeri
Decommissioning step	Responsibility
Step 4	

<ul style="list-style-type: none"> ▪ Implementation and inspection ▪ Implement design elements and criteria on the project in accordance with specifications and drawings, inspect during decommissioning and at project completion to ensure that all design elements are implemented according to design specifications. 	County Government of Nyeri
Step 5	
<ul style="list-style-type: none"> ▪ Non-conformance, corrective/préventive action ▪ Propose corrective measures for non-conformance ▪ Propose feature preventive measures 	All
Step 6	
<ul style="list-style-type: none"> ▪ Project review and close out ▪ Contractor demobilizes, hands over and closes out 	All

9. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

9.1 Overview

The aim of the ESMP is to detail the actions required to effectively implement the mitigation measures identified and recommended in the EIA. These actions are required to minimize negative impacts and enhance positive impacts associated with the CGN transport termini project. The ESMP actions present the commitments made by the proponent, County Government of Nyeri (CGN) for addressing the impacts of the project. It is important to note that an ESMP is a living document since it is to be updated and amended as new information (e.g. environmental data), policies, authority guidelines and technologies develop.

The ESMP identifies management actions that need to be implemented in various phases of the RAIMDF project life cycle as follows:

a) Planning and design phase

Refers to the stage when the feasibility studies are being undertaken, the project description is being developed and the CGN transport termini project is being designed. During this phase, the EIA is completed and license is applied for together with other relevant licenses and permits.

b) Construction phase

This will commence after the CGN transport termini project EIA license has been issued and proponent has taken the decision to implement the project.

c) Operational phase

This is the entire phase during which the CGN transport termini project will be operated.

d) Decommissioning phase

This refers to the time in the plant life when termini operations will come to an end for one reason or another.

The following ESMP has been structured in such a manner to provide a basis for Environmental Management System (EMS) ISO 14001 Principles for the life of the proposed development. It should be further noted that the proposed EMP is not static, as allowance has been made for it to evolve through the life of the project. Such a characteristic is seen to be important to key factors and processes may change through the life of the project. It is therefore necessary to alter proposed mitigation and monitoring methodologies in order to determine best approach to deal with such changes. This ESMP includes the necessary specialist input to determine, mitigate and manage any environmental impacts that the proposed development may have, relating to bio-physical and socio-economic aspects. During the planning, construction and operation stages, an expert with an environmental training background is expected to provide a continuous technical support throughout the project cycle to ensure full compliance to environmental laws and best practices for similar projects.

The objectives of the ESMP are as follows:

-) To ensure that the project will operate in compliance with applicable national environmental legal requirements throughout the full cycle;
-) To outline the institutional measures required to prevent, minimize, mitigate and compensate for adverse environmental and social impacts, or to enhance the project beneficial impacts.
-) To indicate the key players to be engaged in the various environmental issues associated with the project.

9.2: Management action

The ESMP provides clear environmental management actions to be undertaken throughout the project cycle. Specific objectives are given for each of the actions described in the ESMP. These objectives relate

directly to addressing the impacts identified in the EIA. The various actions that need to be implemented to ensure that environmental objectives are met are described in the ESMP. Each action is given a reference number. The actions are measurable and are therefore easy to monitor in order to assess compliance with the EMP.

9.3: Roles and Responsibilities

The successful implementation of the ESMP is however dependent on clearly defined roles and responsibilities for each of the management actions given. Roles have to be ascribed to the relevant parties such as the following:

-) Project proponent & operator – County Government of Nyeri
-) Other players – NEMA, NTSA, Kenya Police Service etc.

9.4: Environmental and Social Management Plan

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 for the CGN transport termini project EIA is provided below for the; a) project planning and design b) construction stage, c) operational stage, and d) decommissioning stage.

9.4.1: Planning & design

REF NO.	OBJECTIVE	MANAGEMENT ACTION	RESPONSIBILITY	TIMEFRAME	MONITORING INDICATORS	APPROXIMATE COST (KES)
1.1 DUMPSITE DECOMMISSIONING						
1.1.1	To minimize noise and vibration during the dumpsite decommissioning activities	Prepare a dumpsite decommissioning and restoration plan which should identify strategies for ensuring minimal negative impacts including excessive noise and vibration	Proponent	Before project commencement	Daytime & Nighttime Noise Levels against the limits given in Section 5	Decommissioning budget
1.1.2	To avoid disturbance and contamination of Githwariga River during the dumpsite decommissioning activities	The dumpsite decommissioning and restoration plan should identify suitable engineering options for buffering the riparian environment from contamination by hazardous waste materials in the dumpsite	Proponent	Before project commencement	Water quality in Githwariga River against the limits given in Section 5	Decommissioning budget
1.2: PERMITS AND LICENCES FOR TERMINI CONSTRUCTION WORKS						
1.2.1	To ensure compliance with Kenyan environmental legislative requirements	Apply and obtain all environmental permits and licenses required for the for the CGN transport termini project including the following where applicable:) Dumpsite decommissioning clearance) NEMA EIA licenses) Any other NEMA e.g. waste licenses, stack emission license, effluent discharge license Any other relevant permits and licenses	Proponent	Before project commencement	Terms & Conditions in Permit & Licences	TBD (To be determined)

1.2.2	To ensure compliance with other Kenyan statutory requirements	<ul style="list-style-type: none"> • Approval of all structural drawings by the Directorate of Planning • WRA licenses for any water abstraction from the ground water • WRA borehole drilling permits • Public Health licenses for workplace eating places such as restaurants and kiosks • Workplace health and safety certification • Application for other relevant approvals including NCA project registration and certification • Any other relevant permits 	proponent	Before project commencement	Terms & Conditions in Permit & Licences	TBD
1.3: RECRUITMENT OF WORKERS						
1.3.1	To ensure employment of local persons	Develop an appropriate employment policy in partnership with the local community liaison committee whose composition will include the Area Chief, MCAs and representation from local areas	Proponent & Area Chief	Before project commencement	Number of local employees at upto 70%	Local input
		Communicate the recruitment policy to the general public through local administration and religious institutions	Proponent & Area Chief	Before project commencement	As above	Local input
		Undertake a skills audit and develop a database of available skills in the area	Proponent & Area Chief	Before project commencement	No. of skilled workers in the area	Local input
1.3.2	To promote the use of local service providers	Develop a database of local service providers	Proponent & Area Chief	Before project commencement	No. of skilled workers in the area	Negligible
1.3.3	To manage and control the immigration of work seekers	Develop a recruitment policy and communicate this to the general public	Proponent & Area Chief	Before project commencement	Recruitment Policy Communication & Strategy	Negligible

1.4: PRE-CONSTRUCTION PUBLIC HEALTH CONSIDERATIONS						
1.4.1	To promote awareness on issues related to STIs and HIV/AIDS	Initiate awareness programme on risks associated with STIs and HIV/AIDS both for the CGN termini construction workers	Proponent/Area PHO	Before project commencement	No. of awareness pamphlets and education meetings	10,000
		Development and implementation of an awareness programme on risks associated with STIs and HIV/AIDS for the termini construction workforce	Proponent/Area PHO	Before project commencement	No. of awareness pamphlets and education meetings	As above
		Use of preventive measures like condoms by availing condom dispensers to the CGN termini construction workers will be undertaken	Proponent/Area PHO	Before project commencement	No. of condom dispensers and condom packets	GoK
1.5: GRIEVANCE RESOLUTION						
1.5.1	To ensure harmony between local people CGN/Contractors	Establish a Grievance Resolution Framework to deal with local complaints	Proponent/Liaison Committee	Before project commencement	No. of resolved complaints	TBD
		Establish a Grievance Resolution Committee with local community representation	Proponent/Liaison Committee	Before project commencement	No. of resolved complaints	TBD
		Designate a GR Officer	Proponent	Before project commencement	No. of resolved complaints	TBD

9.4.2: Construction phase

REF NO.	OBJECTIVE	MANAGEMENT ACTION	RESPONSIBILITY	TIMEFRAME	MONITORING INDICATORS	APPROXIMATE COST (KES)
2.1: EMPLOYMENT OF WORKERS						
2.1.1	To promote the employment of local persons	Recruitment of local workers will be undertaken without discrimination and in accordance with the Proponent's recruitment policy	Proponent & Area Chief	Construction	Number of local employees at upto 70%	Local input
2.1.2	To promote the use of local service providers	Local procurement of goods and services will be undertaken wherever possible and cost effective and where practicable to the project	Proponent & Area Chief	Construction	No. of local business operators in project supply chain	Local input
2.2: SITE MANAGEMENT						
2.2.1	To apply best management practices in site management during construction	<ul style="list-style-type: none">) Provide training to workers to ensure that they understand the requirements of the environmental management plan as applicable to their responsibilities;) Conduct drills to check on preparedness and response time to emergencies;) Implement practices and procedures that promote proper handling and storage of construction materials and other stockpiles to prevent or reduce storm water pollution, injury to workers or visitors, ground water pollution, and soil contamination;) Minimize or eliminate the discharge of pollutants into storm water drainage systems by reducing hazardous material use on site, using alternative products, and training employees in proper handling and use of construction materials 	Contractor/Proponent	Construction	State of site and neighbourhood environment	TBD

		<ul style="list-style-type: none">) Ensure protection of stockpiles to reduce the potential for air and storm water pollution originating from stockpiles of construction materials, topsoil and subsoil;) Ensure measures to prevent the discharge of wastes (solid waste, sanitary/effluent waste, hazardous waste, concrete waste) into the ground or the area's surface water courses /water bodies;) Institute practices and procedures to reduce or prevent leaks or spills which may be discharged into the environment; and) Develop a plan that addresses the sequence of construction activities as it relates to local climate to minimise soil erosion from exposure to wind, rain, runoff and vehicle tracking. 				
2.3: OCCUPATIONAL HEALTH AND SAFETY						
2.3.1	To ensure adequate protection of the plant rehabilitation workers	Termini construction workers should be provided with appropriate personnel protective equipment (PPE)	Proponent	Throughout construction phase	No. of workers with PPEs	50,000
2.3.2	To ensure healthy and secure environment in all the CGN transport termini project sites for all the	The CGN management must ensure that First Aid Kits are provided in strategic locations in strategic places within the construction site	Proponent	Throughout construction phase	No. of First Aid Kits	20,000
		All vehicles and construction equipment will be under control of competent personnel	Proponent	Throughout construction phase	Occupational health and safety policy	TBD

	plant rehabilitation workers	Adequate equipment for emergency response will be provided at the CGN termini construction sites	Proponent	Throughout construction phase	Occupational health and safety policy	TBD
		Employees need will be informed on the necessary safety procedures and be competent in the work they are employed to do	Proponent	Throughout construction phase	No. of safety billboards	Negligible
		All necessary safety regulations must be abided by including building codes and fire practice requirements	Proponent	Throughout construction phase	Occupational health and safety policy	TBD
		Adequate security for workers will be provided during termini construction	Proponent	Throughout construction phase	No. of termini guards	TBD
		Sensitize workers to operate in teams	Proponent	Throughout construction phase	Occupational health and safety policy	TBD
2.3.3	To establish a proper accident and emergency response strategy	The contractor shall establish an emergency leading group, accident scene command group, an accident treatment group, a guard and defend group, a medical aid group, an environmental monitoring group, a logistics group, an accident investigation team	Proponent	Throughout construction phase	Occupational health and safety policy	TBD
2.3.4	To ensure maximum safety during termini construction works	Testing of risky machines and use of hazardous materials shall be strictly controlled by competent experts to ensure safety	Proponent	Throughout construction phase	Occupational health and safety policy	TBD
2.4: PUBLIC HEALTH						
2.4.1	To promote awareness on issues related to STIs and HIV/AIDS	Continuation of awareness programme on risks associated with STIs and HIV/AIDS both for the construction workers, people in the project site neighbourhood such as Ruringu	Proponent/Area PHO	Continuation from planning phase HIV/AIDS	No. of awareness pamphlets and education meetings	10,000

		Development and implementation of an awareness programme on risks associated with STIs and HIV/AIDS for the termini construction workforce	Proponent/Area PHO	Throughout construction phase	As above	As above
		Use of preventive measures like condoms by availing condom dispensers to the termini construction workers will be undertaken	Proponent/Area PHO	Throughout construction phase	No. of condom dispensers and condom packets	GoK
2.5: CONSTRUCTION DUST MANAGEMENT						
2.5.1	To avoid the problem of abnormal construction dust in the neighbouring residential area (Asian Quarters) and churches (KAG)	Contractor will use appropriate dust control measures especially wetting down, water spraying will be undertaken in such areas in order to reduce the discomfort caused by dust emissions for the construction workers and the local people	Contractor	On commencement of construction works	No. of complains received by the GR officer	TBD
		There will be no open burning of construction and/or waste materials at the site	Contractor	On commencement of construction works	No. of complains received by the GR officer	Nil
2.6: CONSTRUCTION WASTE MANAGEMENT						
2.6.1	To prevent the contamination of soils and water resources due to inappropriate management and disposal of waste	Potential contaminated effluent (by oils and lubricants), will be disposed captured using oil and water and sand filter separators	Proponent	Throughout the construction phase	Hazardous waste containment facility	TBD
		Hazardous and general waste will be separated and removed from site for disposal at recognized waste management facilities as approved by the Proponent	Proponent	Throughout the construction phase	Well labelled storage site	TBD
		The management of construction solid waste shall adopt the integrated solid waste	Proponent	Throughout the construction phase	State of the construction site	Negligible

		management system through a hierarchy of options:) Source reduction) Recycling) Composting and reuse) Combustion) Sanitary land filling				
		Application of a good strategy to collect, remove and safely dispose of waste on daily basis to ensure a clean environment	Proponent	Throughout the construction phase	Clear instructions and use of proper awareness methods	Negligible
		Provision of waste collection bins at designated points within the processing plant.	Proponent	Throughout the construction phase	No. of waste bins	40,000
		Conduct educational and awareness campaigns among the plant rehabilitation workers on proper SWM	Proponent	Throughout the construction phase	Signage	2,000
2.7: INVASIVE SPECIES						
2.7.1	To ensure that the CGN termini project does not introduce dangerous invasive species in the area	The Contractor will ensure that appropriate screening of all incoming construction machineries originating from other locations in order to avoid the transfer of dangerous invasive species (especially into Githwariga River) through soil and biological material attachments on construction equipment	Contractor	Throughout the construction phase	Clear instructions and company procedures	Nil
2.8: PROTECTION OF GITHWARIGA RIVER FROM CONSTRUCTION DISTURBANCE AND CONTAMINATION						
2.8.1	To avoid the disturbance of the riparian zone and contamination of	Installation of an appropriate leachate leakage structures such as sub-surface liner and secondary containment pond to avoid the	Proponent	Throughout the construction phase	Leachate containment facility	TBD

	Githwariga River by termini construction works especially soil erosion and siltation	contamination of Githwariga River by any remnant hazardous waste buried below the surface				
		Emptying of the secondary containment point on regular basis	Proponent	Throughout the construction phase	Leachate containment facility	TBD
2.9: CONSTRUCTION NOISE MANAGEMENT						
2.9.1	To avoid excessive noise above the NEMA and WHO limit for controlled areas	Suitable noise barrier will be created in form of properly designed noise minimization wall and green belt especially next to the Asian Quarter residential area and the KAG Church	Proponent	Throughout the construction phase	Leachate containment facility	TBD
2.10: EMERGENCY PREPAREDNESS						
2.10.1	To ensure adequate measures for fire hazard prevention and response	Install firefighting equipment	Proponent	Throughout the construction phase	No. of firefighting equipment	60,000
		Post a fire evacuation plan in various points of the termini construction site	Proponent	Throughout the construction phase	No. of fire evacuation posters	3,000
		Training of construction workers on fire emergency response including at least one drill during the construction phase	Proponent	Throughout the construction phase	No. of trained workers	TBD

9.4.3: Operational phase

REF NO.	OBJECTIVE	MANAGEMENT ACTION	RESPONSIBILITY	TIMEFRAME	MONITORING INDICATORS	APPROXIMATE COST (KES)
3.1: INCREASED NOISE FROM THE TERMINI OPERATIONS						
3.1.1	To ensure that the termini operations by PSVs and hawkers do not create a recurrent noise problem in the area	The PSV operators and traders through their associations will establish an appropriate self-regulating Code of Practice and appropriate penalties to ensure the minimization of vehicular and workers noise in the termini which will co-exist with a residential area (Asian Quarters) and County Referral Hospital. Some of the strategies towards that objective could include:- <ul style="list-style-type: none">) Outlawing unnecessary hooting and running of engines in parking bays) Outlawing unnecessary calling for passengers by touts) Outlawing noisy product advertising by traders) Complying with the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 	Proponent	Throughout the termini operational phase	Noise level limits provided in Section 5 (Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009)	Negligible
3.2: OCCUPATIONAL HEALTH AND SAFETY						
3.2.1	To ensure adequate protection of the garage and public toilet workers	The termini workers should be provided with appropriate personnel protective equipment (PPE)	Proponent	Throughout the termini operational phase	No. of workers with PPEs	50,000/yr
3.2.2	To ensure healthy and secure	The CGN will ensure that First Aid Kits are provided in strategic locations in strategic places within the MDF termini	Proponent	Throughout the termini	No. of First Aid Kits	20,000/yr

	environment within the entire termini			operational phase		
		Adequate equipment for emergency response will be provided at all the CGN termini operational sites	Proponent	Throughout the termini operational phase	Occupational health and safety policy	TBD
		Employees need will be informed on the necessary safety procedures and be competent in the work they are employed to do	Proponent	Throughout the termini operational phase	No. of safety billboards	Negligible
		All necessary safety regulations must be abided by including building codes and fire practice requirements	Proponent	Throughout the termini operational phase	Occupational health and safety policy	TBD
		Adequate security for workers will be provided during termini operations	Proponent	Throughout the termini operational phase	No. of termini guards	TBD
3.2.3	To establish a proper accident and emergency response strategy	The CGN shall establish an emergency leading group, accident scene command group, an accident treatment group, a guard and defend group, a medical aid group, an environmental monitoring group, a logistics group, an accident investigation team	Proponent	Throughout the termini operational phase	Occupational health and safety policy	TBD
3.3: PUBLIC HEALTH						
3.3.1	To promote awareness on issues related to STIs and HIV/AIDS	Continuation of awareness programme on risks associated with STIs and HIV/AIDS both for the termini workers, traders and commuters	Proponent/Area PHO	Continuation from construction phase HIV/AIDS	No. of awareness pamphlets and education meetings	TBD
		Development and implementation of an awareness programme on risks	Proponent/Area PHO	Throughout the termini	As above	As above

		associated with STIs and HIV/AIDS for the termini workers		operational phase		
		Use of preventive measures like condoms by availing condom dispensers to the termini construction workers will be undertaken	Proponent/Area PHO	Throughout the termini operational phase	No. of condom dispensers and condom packets	GoK
3.4: ROAD SAFETY						
3.4.1	To avoid increased road accidents along the Hospital Road	Instal a separate pedestrian sidewalk on the right-hand side of the road for local people and school children	Proponent/County Government	Throughout the termini operational phase	No. of sidewalk maintenance works	TBD
3.5: SECURITY						
3.5.1	To ensure adequate security for termini workers and commuters	CGN to install and maintain solar powered security floodlights at termini and the termini access roads	Proponent	Throughout the termini operational phase	No. of solar floodlights	1.000,000
3.6: WASTE MANAGEMENT						
3.6.1	To prevent the contamination of the environment due to inappropriate management and disposal of waste	Potential contaminated effluent (by oils and lubricants), will be disposed captured using oil and water and sand filter separators	Proponent	Throughout the termini operational phase	Hazardous waste containment facility	TBD
		Hazardous and general waste will be separated and removed from site for disposal at recognized waste management facilities as approved by the Proponent	Proponent	Throughout the termini operational phase	Well labelled storage site	TBD
		The management of construction solid waste shall adopt the integrated solid waste management system through a hierarchy of options:) Source reduction) Recycling	Proponent	Throughout the termini operational phase	State of the termini environment	Negligible

		) Composting and reuse) Combustion) Sanitary land filling				
		Application of a good strategy to collect, remove and safely dispose of waste on daily basis to ensure a clean environment	Proponent	Throughout the termini operational phase	Clear instructions and use of proper awareness methods	Negligible
		Provision of waste collection bins at designated points within the processing plant.	Proponent	Throughout the termini operational phase	No. of waste bins	40,000/yr
		Conduct educational and awareness campaigns among the plant rehabilitation workers on proper SWM	Proponent	Throughout the termini operational phase	Signage	2,000/yr
3.7: HAZARDOUS WASTE						
3.7.1	To ensure proper management and disposal of hazardous waste	The Proponent will provide appropriate storage and evacuation of hazardous waste especially from the termini garage	Proponent	Throughout the termini operational phase	Clear instructions	Negligible
3.8: HEAVY ENERGY USE						
3.8.1	To avoid heavy energy use especially in outdoor security lighting	The CGN should consider the use of solar energy for outdoor lighting purposes – security lights	Proponent	Throughout the termini operational phase	No. of solar security lights	TBD
3.9: AIR POLLUTION						
3.9.1	To ensure that the termini operations do not generate gaseous emissions	Preparation and enforcement of a traffic operation protocol by County Government of Nyeri for PSV vehicles in order to minimize unnecessary vehicular emission due to unnecessary idling of engines	Proponent	Throughout the termini operational phase	Clear instructions	Negligible

3.10: EMERGENCY PREPAREDNESS						
3.10.1	To ensure adequate measures for fire hazard prevention and response	Regular servicing of in-house firefighting equipment	Proponent	Throughout the termini operational phase	No. of firefighting equipment	TBD
		Post a fire evacuation plan in various points of the termini	Proponent	Throughout the termini operational phase	No. of fire evacuation posters	3,000
		Training of construction workers on fire emergency response including at least one drill during the construction phase	Proponent	Throughout the termini operational phase	No. of trained workers	TBD
		Acquisition and maintenance of a fire engine	Proponent	Throughout the termini operational phase	No. of trained workers	TBD

3.11: ENVIRONMENTAL MONITORING						
3.11.1	To ensure compliance and enforcement of the ESMP	Undertake annual environmental audit (EA)	Proponent/Third party consultants in collaboration with Proponent	Annually	NEMA approved EIA report	1,000, 000

9.4.4: Decommissioning phase

REF. NO.	OBJECTIVE	ACTION	ROLE	TIMEFRAME	REQUIREMENTS FOR IMPLEMENTATION	STANDARD/ GUIDELINES
4.1 PLANNING						
4.1.1	To promote the success of environmental restoration of construction infrastructure including camps, material borrow sites and other installations without negative environmental impact	A detailed closure and rehabilitation plan is to be completed for each site to be decommissioned aimed at minimizing identified environmental risks	Proponent	Prior to the start of rehabilitation	Closure and Rehabilitation	EIA
4.2 WASTE MANAGEMENT						
4.2.1	To ensure the safe and appropriate disposal of waste generated during decommissioning	All waste is to be checked for contamination with hazardous material	Proponent/ County Director of Environment	Prior to the start of rehabilitation	Closure and Rehabilitation	EIA/EMCA
		Waste materials are to be separated into salvageable (scrap metal) and non-salvageable materials	Proponent/ County Director of Environment	Prior to the start of rehabilitation	Closure and Rehabilitation	EIA/EMCA
		Salvageable waste is to be removed from site for recycling	Proponent/ County Director of Environment	Prior to the start of rehabilitation	Closure and Rehabilitation	EIA/EMCA
		General waste (not contaminated with hazardous substances) is to be disposed at a general waste disposal facility	Proponent/ County Director of Environment	Prior to the start of rehabilitation	Closure and Rehabilitation	EIA/EMCA
		Hazardous waste is to be disposed of at a hazardous waste facility	Proponent/	Prior to the start of rehabilitation	Closure and Rehabilitation	EIA/EMCA

			County Director of Environment			
4.3 REHABILITATION						
4.3.1	To facilitate successful restoration of land capability of infrastructure areas	All infrastructures are to be demolished and removed	Proponent/ County Director of Environment	During rehabilitation	Closure and Rehabilitation	EIA/EMCA
		All demolished material and a footprint area is to be checked for contamination with hazardous substances and hazardous material to be removed and disposed of as hazardous waste	Proponent/ County Director of Environment	During rehabilitation	Closure and Rehabilitation	EIA/EMCA

10. CONCLUSION & RECOMMENDATION

The findings of the EIA based on the disclosed project details and the baseline site assessment indicated that the proposal to establish a new and modern transport termini at the dumpsite next to the Asian Quarters in Nyeri Town (A₁ option) is preferable compared to the A₀ option (No project option of not establishing the new and modern transport termini in Nyeri town and proceeding with Business-as-Usual) and A₂ option (Other option of expanding one of the existing transport termini within the CBD). The project is in line with the vision of the Integrated National Transport Policy - Moving a Working Nation (2009) to ensure a "world-class integrated transport system responsive to the needs of people and industry" and "to provide efficient, reliable, safe and secure transport network".

The project is desirable and will support the realization of national and county development goals as outlined in a number of national strategies. It is in line with the Nyeri Town Integrated Strategic Urban Development Plan (ISUDP) 2014-2034 which recommended the relocation of the Lower Bus Station to southern parts of Asian Quarters; and provide for public conveniences such as passenger waiting sheds, storage facilities, fast-food kiosks and toilets. The ISUDP recognized the need to establish peri-urban parking outside the CBD in order to ease the perpetual urban traffic jam in the town.

The proposed project will support the sectoral agenda for Transport, Public Works, Infrastructure and Communication in the Nyeri County Integrated Development Plan (2018-2022) of providing efficient, affordable and reliable transport infrastructure through design, construction, maintenance and effective management of roads and public works for sustainable economic growth and development of Nyeri. One of the performance indicators for CIDP 2018-2022 is the construction of bus parks in the county.

The project will help significantly in the realization of a number of Sustainable Development Goals including SDG 1 (No poverty) and SDG 8 (Productive employment and economic growth) by opening new employment opportunities in the termini, SDG 9 (Industries, innovation and infrastructure) and SDG 11 (Sustainable cities and communities) by improving the urban transport infrastructure in Nyeri Town. The project will also support SDG 13 (Climate action) by reducing urban traffic GHG emission and SDG 14 (Life Below Water) by improving the state of Githwariga River through the relocation of the municipal dumpsite at Asian Quarters. The project will also support the realization of the goals for the Kenya Vision 2030 by contributing in the economic pillar as well as the social pillar.

The EIA findings showed that the project design is the most suitable based on the current state of environment and the available technology. The project is feasible and desirable within the perspective of environmental and social economic evaluation undertaken in this study. Therefore, the project is necessary, and should be implemented as soon as possible. The overall benefits of the proposed development are far higher than the potential cost of the marginal negative environmental changes which are likely to occur. All other impacts of the project will remain far below acceptable limits after necessary mitigation as described and suggested in EIA report. The potential impacts for the MDF plant will be brought under acceptable limits by implementing the required hazard prevention and control measures. Thus, it has been concluded that there would not be any major impacts on environment due to the proposed project. The proposed project is desirable because it will improve the socio-economic status for the people in the Nyeri town. It will create employment and deliver a wide range of other socio-economic benefits.

The baseline environmental assessment of the proposed factory site indicated that the environment is already been under forestry use and does not contain any sensitive environment or endangered species

according to the IUCN red list for Kenya, except the Githwariga River, Asian Quarters residential area and Nyeri Referral Hospital. The stakeholder engagement and consultation process also established that the local people were unanimously in support of the proposed project.

In view of the findings of the EIA, the proposed project is considered as environmentally sound. Further, the project proponent is willing to guarantee that the potential adverse impacts whose means of mitigation have been disclosed in this report and most of them have already been incorporated in the project design will be effectively implemented. On the basis of these findings, it is recommended that the proposed proposal to establish a modern transport termini (of Asian Quarter (Bus station, Modern Stalls, Business Park & Social Amenities) at the dumpsite next to the Asian Quarters in Nyeri Town be approved based on the willingness by the proponent to implement the proposed project in strict adherence to the Environmental and Social Management Plan (EMP) and Environmental Monitoring Plan. Further, NEMA should issue the proponent with an EIA license as required by Kenya's environmental laws.

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ANNEXES

I – LABORATORY TEST RESULTS




KEPHIS ANALYTICAL CHEMISTRY LABORATORY
Charles Mwangi, Karen A.P.O. Box 45017 Nairobi, Kenya Tel: 002 8813800-813801811 812
 Email: director@kephis.org • Kephis: www.kephis.org

Date: 09 May 2019

Client name: Prof. Mwangi
 Address: U. G. H
 Telephone: 0722609480
 Email: -

REPORT OF ANALYSIS

The following is the report of the water sample submitted to KEPHIS AGL laboratory on 22nd April 2019 for analysis.

Notes:

- Tests marked "Not SANAS Accredited" in this report are not included in the SANAS Schedule of Accreditation for this laboratory.
- Conditions and Interpretations expressed herein are outside the scope of SANAS accreditation.
- This report should not be reproduced or plagiarised except with written approval of the Head of Laboratory.
- Correspondence regarding these results shall be channelled through KEPHIS Managing Director's office using the address provided above.
- This result refers only to the submitted sample.
- ICPMS-Inductively Coupled Plasma Mass Spectrometer
- Mg/Kg- Milligrams per kilogram
- ND-Not detected

Ref: AGL/CONTAMINANT/VOL/4714
 Page 1 of 2


0034509

Laboratory number	CA190336		
Client sample identification code	Prof Mwangi Water 1		
Sample type	Water		
Sample size	2.5 Litres		
Sample description/condition	Clear Liquid		
Parameter analysed	Results (units as per the first column)	Method/Technique Used	Date analysed
Lead (Pb) mg/Kg	0.0037	ICPMS	03/05/2019
Mercury (Hg) mg/Kg	0.0133	ICPMS	03/05/2019
Cadmium (Cd) mg/Kg	0.0139	ICPMS	03/05/2019
Copper (Cu) mg/Kg	ND	ICPMS	03/05/2019
Arsenic (As) mg/Kg	0.0155	ICPMS	03/05/2019
Chromium (Cr) mg/Kg	ND	ICPMS	03/05/2019

Analyst:

Paul Njuguna
Laboratory Technologist

Authorised Signatory:


Robert Kogi
Head Inorganic Laboratory

FOR: MANAGING DIRECTOR

0034910



KEPHIS ANALYTICAL CHEMISTRY LABORATORY

Donbas Road, Kaveri + P.O. Box 4940 Mysuru, Kanya - 576 001 (India) 9740 801 000
Email: director@kephis.org + Mysuru, www.kephis.org

Date: 9th May, 2019

Client name: Prof. M.G. Sankar

Address: G. O. R.

Telephone: 0722606460

Email:-

REPORT OF ANALYSIS

The following is the report of the water sample submitted to KEPHIS ACL laboratory on 23rd April, 2019 for analysis.

Note:

- Tests marked * Not SANAS Accredited
- Tests marked "Not SANAS Accredited" in this report are not included in the SANAS Schedule of Accreditation for this laboratory
- Opinions and interpretations expressed herein are outside the scope of SANAS accreditation.
- This report should not be reproduced/copied/forwarded except with written approval of the Head of Laboratory.
- Correspondence regarding these results shall be channelled through KEPHIS Managing Director's office using the address provided above.
- This result refers only to the submitted sample.
- ICPMS-Inductively Coupled Plasma Mass Spectrometer
- Mg/Kg- Milligrams per Kilograms
- ND-Not detected

Ref: ACL/CONTAMINANT/VOL. 4/115

Page 1 of 2

Laboratory number	CA190337		
Client sample identification code	Prof. M.G. Sankar Water 2		
Sample type	Water		
Sample size	0.5 Litres		
Sample description/condition	Clear liquid		
Parameter analysed	Results (units as per the first column)	Method/Technique Used	Date analysed
Lead (Pb) mg/Kg	0.0038	ICPMS	01/05/2019
Mercury (Hg) mg/Kg	0.0124	ICPMS	01/05/2019
Cadmium (Cd) mg/Kg	0.0040	ICPMS	01/05/2019
Copper (Cu) mg/Kg	0.0018	ICPMS	01/05/2019
Arsenic (As) mg/Kg	0.0053	ICPMS	01/05/2019
Zinc (Zn) mg/Kg	ND	ICPMS	01/05/2019

Analyst:

P. N. Sankar
Laboratory Technologist

Authorized Signatory:

Robert Kogi
Head Inorganic Laboratory

FOR: MANAGING DIRECTOR

0034906



KEPHIS ANALYTICAL CHEMISTRY LABORATORY

Doodla's Ridge, Karye - P.O. Dodda's Ridge, Karye - Dist. KUDLURU - 575 007-000
Email: info@kephis.org • Website: www.kephis.org

Date: 07 May 2019

Client name: Prof. M. Nagar

Address: U. O. N

Telephone: 072905460

Email:

REPORT OF ANALYSIS

The following is the report of the soil submitted to KEPHIS AGL laboratory on 23rd April 2019 for analysis.

Note:

- Test marked "Not SANAS Accredited"
- Tests marked "Not SANAS Accredited" in this report are not included in the SANAS Schedule of Accreditation for this laboratory.
- Opinions and interpretations expressed herein are outside the scope of SANAS accreditation.
- This report should not be reproduced/quoted/forwarded except with written approval of the Head of Laboratory.
- Correspondence regarding these results shall be directed through KEPHIS Managing Director's office using the address provided above.
- This result refers only to the submitted sample.
- ICP-Inductively Coupled Plasma
- Mg/Kg - Milligrams per kilograms
- ND-Not detected

Ref: AGL/CONTAMINANT/VOL 4/18
Page 1 of 1

Laboratory number	CA190335		
Client sample identification code	Prof Measure Soil SP1		
Sample type	SOIL		
Sample size	1Kg		
Sample description/ condition	DRY		
Parameter analysed	Results (units as per the first column)	Method/Technique Used	Date analysed
Lead (Pb) mg/kg	35.88	ICPMS	00/05/2019
Mercury (Hg) mg/kg	1.27	ICPMS	00/05/2019
Cadmium (Cd) mg/kg	0.75	ICPMS	00/05/2019
Copper (Cu) mg/kg	29.57	ICPMS	00/05/2019
Asbestos (As) mg/kg	4.72	ICPMS	00/05/2019
Zinc (Zn) mg/kg	154.90	ICPMS	00/05/2019

Analyst:

Paul Nagar
Laboratory Technologist

Authorized Signatory:

Robert Kolgi
Head Inorganic Laboratory

FOR: MANAGING DIRECTOR

II - MINUTES FOR THE MIARIRO TRADERS HELD AT NYERI'S SUB-COUNTY ADMINISTRATOR'S OFFICE ON APRIL 9, 2019

Present

Mrs. Esther Githaiga- Sub County Administrator- Chairing
Mr. Samuel Kamami- Chairperson, Miaro Traders
Mr. Francis Muruthi – Representative for People with Disability
Mr. Simon Githinji- Chairperson, Gakere Area
Mr. Josphat Maina- Chairperson, Muthurwa Area
Mrs. Susan Wanjiku- Chairperson, Food Vendors
Mrs. Elizabeth Wangari- Chairperson, Police Line Area
Mr. James Ndung'u- Habitat Planners
Ms. Mavice Kaunda- Habitat Planners

Agenda

- i. Introduction
- ii. Discussion of views and opinions
- iii. AOB

Min 1/09/04/2019 Introduction

The meeting commenced at 2.15 pm with an opening prayer from the sub county administrator. This was followed by brief introductions from the attendants. The consulting team then gave a detailed explanation on the E.I.A of the proposed bus terminus at Asian quarters.

Min 2/09/04/2019 Discussion of views and opinions

The consulting team welcomed the traders to express their views as key stakeholders in the proposal and the following were stated;

-) It was alleged that the open-air market areas in the town center have been grabbed by investors for personal gain hence leaving them no place to conduct their businesses
-) Proper awareness of the proposed bus terminus should be done for public knowledge
-) Procedure of acquiring the stalls at the proposed bus terminus should be as transparent as possible for equality in allocation of the stalls
-) Designated pick up and dropping off points for people with disabilities need to be addressed in the proposal
-) Pollution effects of the proposal should be reconsidered and mitigation measures be provided.

Min 3/09/04/2019 A.O.B

There being no other business, the meeting ended at 4.00pm with a closing prayer from Elizabeth Wangari.

Signed Name----- Date-----

I. MINUTES FOR THE NYERI BUSINESS ASSOCIATION MEETING HELD ON 9TH APRIL 2019
AT WHITE RHINO COFFEE SHOP

Present

Mr. Daniel Macharia – Member, Nyeri Business Association
Mr. Charles Njori – Chairperson, Nyeri Business Association - Chairing
Mr. Fredrick Maina – Member, Nyeri Business Association
Mr. Michael Kimani – Member, Nyeri Business Association
Mr. Kamau Ark - Member, Nyeri Business Association
Mr. Stephen Ndung'u - Member, Nyeri Business Association
Ms. Mavice Kaunda – Habitat Planners
Mr. James Ndung'u - Habitat Planners
Mr. Karingi Kivuti - Habitat Planners

Agenda

- i. Introduction
- ii. discussion of views and opinions
- iii. A.O.B

Min 1/09/04/2019 Introduction

The chair welcomed all the members and invited them to carry out self-introductions. He then requested the consultants to brief the members on the subject of the meeting so that they could familiarize themselves with the main agenda.

Min 2/09/04/2019 Discussion of matters arising

The following were issues raised during the discussion;

-) The entry and exit points for vehicles should be analyzed for easy traffic monitoring
-) Mixed use kind of development should be adopted
-) There should be proper designation and relocation of bus termini
-) The design of the proposed bus terminus should indicate the connectivity between the proposal and the existing central business district
-) A public private partnership (PPP) ought to be involved in the developmental projects that are undertaken in Nyeri County
-) The political will of the next government to provide continued support to the ongoing projects is of a major concern
-) Proper waste management should be addressed
-) The proposed project will be one of the ways to decongest the central business district and improve security. However, more consideration should be emphasized.
-) Noise levels should be monitored and mitigation plan provided

Min 3/09/04/2019 A.O.B

With no further business, the meeting ended at 1.30pm

Signed/Name----- Date-----

II. MINUTES FOR THE MEETING HELD AT FIRSTBORN CHURCH ON 10TH APRIL, 2019

Present

Mr. Charles Mutinda – Waste Scavenger
Mr. James Wacira – Waste Scavenger
Mrs. Jacinta Freny – Waste Scavenger
Mr. John Mathenga – Waste Scavenger
Mrs. Wambui Waithera – Waste Scavenger
Mrs. Mary Njeri – Waste Scavenger
Mr. Bernard Muriithi – Community Paralegal
Mr. Samuel Gitonga – Member, First Born Church
Mr. Omari Ghazal – Waste Scavenger
Mrs. Joyce Wanjiru – Waste Scavenger.
Mr. James Ruiru – Asian Quarter Resident
Mr. Robert Kariuki – Waste Scavenger
Mr. Victor Mwangi – Waste Scavenger
Mr. Boniface Ndegwa – Waste Recycler, Universal Revolution Empire Limited
Mr. John Taiti – Asian Quarter Resident
Mrs. Magdalene Aule – Waste Scavenger
Mr. Timothy Ngatia – Waste Scavenger
Mr. Arori Kina – Waste Scavenger
Mr. Peter Maina – Waste Scavenger
Mr. Charles Ndirangu – Dumpsite Area Resident
Mr. James Ndegwa – Chairman, Dumpsite Area Residents
Ms. Mavice Kaunda – Habitat Planners
Mr. James Ndung'u - Habitat Planners-Chairing
Mr. Karingi Kivuti - Habitat Planners

Agenda

- i. Introduction
- ii. Discussion of the subject matter
- iii. A.O.B

Min 1/10/04/2019 Introduction

The chair called the meeting to order at 2.30pm with an opening prayer from Samuel Gitonga. Self-introductions were made by the attendants and thereafter the consultant gave a review on the E.I.A of the proposed bus termini.

Min 2/10/04/2019 Discussion of the subject matter

The following matters were raised during the discussion;

-) The Nyeri County Government should seek alternative means of livelihoods for the dumpsite scavengers as the relocation of the dumpsite will render them jobless.
-) Resettlement program for the dumpsite residents should be arranged prior to the relocation of the bus termini
-) The Jan Muhammed ground should be reserved for recreational use and not as part of the proposed bus termini
-) Noise pollution effects to the abutting hospital area and residential area should be monitored and mitigation measures provided
-) During the implementation phase, the persons to be prioritized for casual employment should be the dumpsite area residents and waste scavengers

Min 3/10/04/2019 A.O.B.

With no further business, the meeting was dissolved at 4.30pm.

Signed/Name----- Date-----

III. MINUTES FOR MATATU OWNERS ASSOCIATION MEETING HELD AT THE BATIAN GRAND HOTEL ON 12TH APRIL, 2019

Present

Mr. James Githae – Member, Nyeri Matatu Owners Association
Mr. Ichera John – Member, Nyeri Matatu Owners Association
Mr. Isaac Minjire – Member, Nyeri Matatu Owners Association
Mr. Daniel Kimala – Member, Nyeri Matatu Owners Association
Mr. Moses Mwai – Member, Nyeri Matatu Owners Association
Mr. Julius Mwangi – Member, Nyeri Matatu Owners Association
Mr. Damiri Kiragu – Member, Nyeri Matatu Owners Association
Mr. John Mwau – Member, Nyeri Matatu Owners Association
Mr. Maina Njogu – Member, Nyeri Matatu Owners Association
Mr. Nguitui Kagotho – Member, Nyeri Matatu Owners Association
Mr. Peter Thiong'o – Member, Nyeri Matatu Owners Association
Mr. James Weru – Member, Nyeri Matatu Owners Association
Mr. Peter Theuri – Member, Nyeri Matatu Owners Association
Mr. Michael Kibicho – Member, Nyeri Matatu Owners Association
Mr. J.N Muturi – Member, Nyeri Matatu Owners Association
Mr. Peter Ndirangu – Member, Nyeri Matatu Owners Association
Mr. John Gitahi – Member, Nyeri Matatu Owners Association
Mr. Symon Mukiri – Member, Nyeri Matatu Owners Association
Mrs. Grace Wangechi – Member, Nyeri Matatu Owners Association
Mr. Joseph Macharia – Member, Nyeri Matatu Owners Association
Mrs. Esther Githaiga – Sub-County Administrator
Mr. Gerald Mwangi – Member, Nyeri Matatu Owners Association
Mr. Francis Wairegi – Member, Nyeri Matatu Owners Association
Mr. Gladys Murage – Member, Nyeri Matatu Owners Association
Mr. Humphrey Gitonga – Member, Nyeri Matatu Owners Association
Ms. Mavice Kaunda – Habitat Planners
Mr. James Ndung'u – Habitat Planners- Chairing

Agenda

- i. Introduction
- ii. Discussion
- iii. A.O.B

Min 1/12/04/2019 Introduction

The chair called the meeting to order at 10.00am and invited everyone to introduce themselves. The chair further clarified on the subject matter which is the E.I.A for the proposed bus termini project at Asian Quarters

Min 2/12/04/2019 Discussion

Following the brief introduction, the below matters were raised;

-) The Nyeri Matatu Owner's Association feel that the county government does not give them an opportunity to express their views in relation to the relocation of the bus terminus
-) The lower stage occupants feel most targeted during the relocation. They propose that all bus stages and public service vehicles including the sientas and probox to be relocated to the proposed bus termini
-) Adequate infrastructure should be put in place before the relocation
-) It is alleged that the county government is led by self-interest hence no adequate service delivery

-) The site in thought does not have enough acreage to accommodate all the facilities and utilities necessary for smooth operation of a bus termini
-) The sporting area adjacent to the dumpsite needs to be retained as a play space for the neighboring public schools
-) A major concern was raised concerning what will come into being to the existing bus termini after the relocation
-) The matatus plying short distances and long distances have a symbiotic type of relationship hence they cannot operate independently
-) The matatus should not be relocated to the new bus termini instead the backstreet lanes should be put to optimal use to ease congestion
-) The county government should have a decommissioning plan of the dumpsite first before anything else is conducted

Min 3/12/04/2019 A.O.B

The public health officer present urged the matatu operators to observe proper waste disposal in their matatus and at the bus termini.

The meeting ended at 12.30pm with a closing prayer from Mrs. Gladys murage.

Signed Name----- Date-----



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Menashaile Street, Box 274, Arusha City, P.O. Box 10000, Nairobi, Tel: 011-2210065, 0722-890133
Website: www.habitatplanners.org Email: info@habitatplanners.org

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN
COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES**

The County Government of Nyeri is proposing to construct and a modern transport termini at Asian Quarters in Nyeri town comprising a bus station, modern stalls, business park and social amenities. The termini will be constructed in the county dumpsite next to Asian Quarters which is public land. According to the Environmental Management and Coordination Act Cap 387, this kind of a project has to undergo an Environmental and Social Impact Assessment (EIA). The same law as well as the National Constitution requires that stakeholders' views, comments and suggestions MUST be sought and incorporated in the EIA report to be submitted to the National Environmental Management Authority (NEMA) who will issue a license to start construction of a MODERN TRANSPORT TERMINI at Nyeri town. Habitat Planners (NEMA License 0465) has been contracted to undertake the EIA.

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As a stakeholder who is interested in, or involved in, or affected by this proposed project, we are requesting you to answer the following questions regarding the project as honestly as possible:

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2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

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.....
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3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

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.....
.....

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

.....

.....

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

.....

.....

.....

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	
	No	
	Don't Know	

Name (Jina):.....

Mahali pa kazi:.....

ID (Namba ya Kitambulisho):.....

Numba ya simu:.....

Signature:..... Tarehe ya leo:.....

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)

Annexe 3: Matatu owners Memorandum to the County Government of Nyeri

Date: 11/04/2019

ASIAN QUARTERS MATATU TERMINI

To habitat planners

Your ref: CGN/LHPPU/RFP/2018-2019

A MEMORANDUM ON COUNTY GOVERNMENT OF NYERI STAGE RELOCATEMENT

We the undersigned chairmen of Matatu Sacco that operate at Nyeri lower stage have consulted various stake holder, our Sacco members, our staffs as well as the passengers that we ferry every day and have come with the following observations and opinions that should be put into consideration when the county government of Nyeri is relocating the termini from town centre to Asian quarters to reduce the congestions built up over the time.

It would be very prudent to mention that such activity to be undertaken will have a great impact and consequences mostly on social activities that the majority are used to at lower stage which we are representing in this document on behalf of matatu that operate legal (NTSA requirement) business for both long and short distance to carry our passengers and their luggages in both formal and informal visit/sector.

Therefore we should first state categorically that we have competitors that we are doing the same business though not an equal competitor, in terms of capacity and on complying with government requirements; the (Probox, Sienta, Boda Boda etc) whom might take advantage of this drastic situation.

Matatu at lower stage charge their passengers from ksh 20 to 350 depending on sacco and the distance to travel. Our passengers are both those who do business in this town, employed or not as well as those that make frequent visit on regular/daily basis and not necessary for a whole day engagement.

On the Sacco who charges a fare of between ksh. 20 to ksh 100 they are locals/town dwellers and goes for less than 20km distance to their destinations and residents. This tier of passengers that we the undersigned Sacco are represented in this memorandum do business or otherwise visit officials here in towns for either employment reasons or formal and informal engagements that can take hours or a full day to accomplish.

They also do their shopping and thus carry luggages in or out of town. Some of the Sacco that ferry passengers to these area and estates that are adjacent to town will be greatly affected negatively by this noble idea if not well assessed by the authority.

People in estates adjacent to the Asian quarters stages which includes; Ruringu, Micha, Classic, Meeting Point among others will either trek home or use other means to travel, thus killing the affected Saccos. Boda boda, chorio taxi (probox senators) and new matatu in town (fikisha/uber) will definitely have their day since in essence no one would walk from town to Asian quarter to board a vehicle that is destined to the above estate which are adjacent to the

stage (5-20 minutes' walk). It is basically not economical. But instead, the prospective passengers will be grouping in (2-6) and hire these competitors e.g. cars, motorbikes thus killing the matatu business that generate a lot of revenue to both National and County Government in comparison to the competitors who are not NTSA compliance. We should also state boldly that our passengers with luggages from green/fresh market, supermarket etc, will reluctantly walk or get a boda boda for to Asian quarter dropping but will instead use the above means of transport all together. These two groups of prospective passengers mentioned above who normally pay ksh. 30-50 on matatu will therefore use our competitors and pays a small higher fare for less than ksh. 100 which seem convenience in terms of time and not tiresome thus having a negative impact on our matatu sector. Thus our members may be unable to meet their financial obligations e.g. loans

We therefore recommend that the only vehicle to be relocated to new termini are long distance vehicles that charges over ksh. 100 since they are free from unhealthy competitions and unlikely for their client to trek to their destination without using the vehicles.

The lower stage should also continue serving the short distance vehicles for the reason outlined above. Lower stage should also continue serving as a dropping zone for all vehicles both long and short distance and thereafter the vehicle proceeds to its designated stage bays.

However as a short term solution for this stage menace in order to reduce traffic jam and congestion that has a great loss to business people in the lower stage. We request the that back streets roads can be used from 4pm. This is when the congestions start building up in the stage. The vehicles that charges ksh. 30 and below and just take less than 30 minutes to travel to and back to stage should be allocated these roads and we believe this will have a great impact on social and environment impact as this back roads are sometimes a health hazard. It shall also hasten quick vehicle movement, for example back street behind Naivas Supermarket that start from kuku lane to Kenobil Station which can be occupied by two Saccos. The route behind Grand Batian and Soko can also be served by another sacco member as well as a road adjacent to hotel Ibiza, Nyeri Teachers plaza towards Biashara Sacco area.

We therefore request you to consider these opinions we have collected and collated to avoid unnecessary contest between different competitors and also County Government as well obviously some matatu businesses closing down due to negative social impact related to this disturbance that is being embraced by the county government without inputs from majority Matatu Saccos that the undersigned represent.

Finally we also recommend that the Matatus that are not serving at the bays on these short distance route should be packed at the new terminal and only comes to stage bays once it's time to carry the passengers.



Habitat Planners

Physical Planners, Environment, Design and Development Consultants
Nairobi Office, P.O. Box 10000, Nairobi, Kenya. Tel: 011-2542001 870-8811
Email: info@habitatplanners.com

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*- Am a Business person in Town
and affected by parking, cleanliness
and congestion etc.*

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

*- Create areas of business
- Decloger the Town.*

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

Decogestion of town.

Turn over the page



Habitat Planners

Physical Planners, Environment, Social and Transport Consultants
Nairobi Office, 2nd Floor, Wing C, P.O. Box 4942 - 00100, Nairobi, Tel: 020 2200400, 0722 998 011
Website: www.habitatplanners.co.ke Email: info@habitatplanners.co.ke

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Nyeri resident and business man in Nyeri town

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

I expect the town to expand towards the area of the proposed terminus.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

I expect the project to open up more business opportunities.

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

Noise pollution and proper waste management should be looked at.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Open up a direct road from town to the proposed terminus.

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina): MICHAEL LIMANI

Mahali pa kazi: OLD BATHANI MKERI TOWN.

ID (Namba ya Kitambulisho): 25995101

Numba ya simu: 0720743033

Signature:



Tarehe ya leo:

09/04/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira, Eleza?

Yes on ~~concerning~~ the ~~foundations~~ ~~enhancement~~

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

The road connecting the area should be increased and expanded.

6. Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): CHARLES M. NJORU

Mahali pa kazi: OPTICAL CENTRE NJORU

ID (Namba ya Kitambulisho): 23650262

Numba ya simu: 0729981464

Signature:  Tarehe ya leo: 9th APR 2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



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2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

unazotarajia kutoka kwa mradiifu."

we shall do business with
the bank, the Cogeneration in
the town will reduce. - The
environment ^{Turn over the page} the church will improve

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

The bus terminal is a friendly project. Young people will get jobs from it.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Build open areas with good roads. The negative dumpsite impact will be removed.

- 6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina): JOHN W. MBATI

Mahali pa kazi: ELDER KAS KENYA ASSEMBLY OF GOD - EAST GATE

ID (Namba ya Kitambulisho): 2207878

Numba ya simu: 0750443353

Signature: Mbati

Tarehe ya leo: 09/04/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Habitat Planners, Environmental, Transport and Development Consultants
Kamukoko Rd, 4th Fl, Nairobi, Kenya. P.O. Box 1000, Nairobi, Kenya. Tel: 011-254-20400000, 011-254-20400001
Email: info@habitatplanners.com

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• Resident Elder
- Church of God in Christ K.A.G

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

• Better development both for the church and the public

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

• The shops/stalls will generate revenue and livelihood to the participants
• Increased security

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiria mazingira. Eleza?

Positive environmental impact as people will take less time to get to the church

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Expand the project. Provide enough satisfactory services

- 6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:



No

Don't
Know

Name (Jina):

PETER NJUSUNA KABARA

Mahali pa kazi:

Church Elder KHA Eastgate Ngara

ID (Namba ya Kitambulisho):

1424073

Numba ya simu:

0720715197

Signature:

Tarehe ya leo:

9/4/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planners, Environment, Social and Development Consultants
Versatile Inc. Box 214, Nairobi 00100 KENYA. Tel: 020-2200481, 0722-000115
Website: www.habitatplanners.com Email: info@habitatplanners.com

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Dumpsite area resident, belongs to the Church (KAC) of Eastgate Area, neighbouring the dumpsite.

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

Will improve security, hasten development and opening up the area I support.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

It will create new jobs for the youth. It's also help of developing nyeri town.

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuathiri mazingira Eleza?

- Noise from the Market & people
- Market Smoke

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

- Make the Market, terminals from the church side
- It will increase church member at church
- It will also bring with it security

6. Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't	<input type="checkbox"/>
	Know	<input type="checkbox"/>

Name (Jina): Michael Muthika

Mahali pa kazi: KAG Church Administrator

ID (Namba ya Kitambulisho): 14425827

Numba ya simu: 0723039430

Signature: 

Tarehe ya leo: 9/4/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Urban Design, Transport and Environmental Consultants
Nairobi Office, Box 204, Kilimaniro, Nairobi, Kenya. Tel: 011-254-254-8123456789
Email: info@habitatplanners.com

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Nyeri Town resident

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

The town will be clean & decongested.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

Town will be orderly
Business will be better

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

Not at all
The houses at Asam quarters will be marketable

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

The terms to be enclosed

6. Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't	<input type="checkbox"/>
	Know	<input type="checkbox"/>

Name (Jina): Emmanuel Chama

Mahali pa kazi: Kanvusi

ID (Namba ya Kitambulisho): 21622338

Numba ya simu: 023 043 923

Signature: [Signature] Tarehe ya leo: 9/4/19

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environmental Assessment and Transport Consultants
Nairobi Office, 4th Floor, Nairobi City Centre, Nairobi, Kenya. Tel: 011-2542000, 011-2542001, 011-2542002
Email: info@habitatplanners.co.ke

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Mfany biashara Nyeri town, Chini ya watu
maridadi

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

To improve our business, to make our town not so congested and to make our area clean; I can get a husband and improve my job.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

- this will make our town clean,
- will get more job
- will be able to be save

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

- In Security, health and good

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

...Ni mradi mZuri juu itasaidia Wanyonge wenyewe watakuwa wanetunziwa na mabadiako ni mazuri kwa wote

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): Susan Wanyika

Mahali pa kazi: Mbarira (Mwanjengo)

ID (Namba ya Kitambulisho): 11515569

Numba ya simu: 0723942664

Signature:  Tarehe ya leo: 9/4/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Specialized Planning, Research and Development Consultants
Kenya: P.O. Box 774, Nairobi 10101. Tel: 011-254-20-2542020, 25420210
Email: info@habitatplanners.co.ke Web: www.habitatplanners.co.ke

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN
COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES**

The County Government of Nyeri is proposing to construct and a modern transport termini at Asian Quarters in Nyeri town comprising a bus station, modern stalls, business park and social amenities. The termini will be constructed in the county dumpsite next to Asian Quarters which is public land. According to the Environmental Management and Coordination Act Cap 387, this kind of a project has to undergo an Environmental and Social Impact Assessment (EIA). The same law as well as the National Constitution requires that stakeholders' views, comments and suggestions MUST be sought and incorporated in the EIA report to be submitted to the National Environmental Management Authority (NEMA) who will issue a license to start construction of a MODERN TRANSPORT TERMINI at Nyeri town. Habitat Planners (NEMA License 0465) has been contracted to undertake the EIA.

The proposed transport termini next to the Asian Quarters will consist of a Bus station, modern stalls, business parks and the supporting social amenities such as a police post and public toilets.

As a stakeholder who is interested in, or involved in, or affected by this proposed project, we are requesting you to answer the following questions regarding the project as honestly as possible:

1. How are you a stakeholder in the bus termini/ dumpsite? /Wewe ni mshikandao vipi? Tick/ a) Dumpsite area resident/ Mkaazi wa dumpsite area b) Matatu/Bus operator/Mwekezaji au mfanyikazi wa sekta ya Matatu. c) Bustop business operator/Mfanya biashara kwa stagi ya matatu. d) Waste recycler/scavenger/Mfanyi biashara ya takataka e) Nyeri town resident/Mkaazi wa mji wa Nyeri

*Mfanyi Biashara wa Mkarao Kwa Stagi
ya Nyeri*

2. What are your expectations from the proposed project? /Matarajio yako ni yapi kuhusu mradi huu?

*Hataka maendeleo kwa kauli na kauli
Nchi yote kwa wataalamu wanao hizi.
Katika maeneo ya Kati ya mji.*

3. What benefits do you expect from the proposed project? /Ni faida gani unazotarajia kutoka kwa mradi huu?

*Matarajio ni kutajua Kibanda hiki kama
mshikandao huo dumpsite huyengwa.*

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

nao kuna uwezekano wa mradi huu kuadhiri kama haustaweka lami (tarmac) kwa uchungu huo kote na tawakati wa kugaga naye kwa kote

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

napaswa kuanza (first priority) ipawe watu wote maridhiano

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): Elizabeth Wagoni Mndia

Mahali pa kazi: maridhiano pehachine Banda.

ID (Namba ya Kitambulisho): 8222667

Namba ya simu: 0724533459

Signature:

[Signature]

Tarehe ya leo:

9-4-2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Versatile Planners, Inc. 214, University of P.O. Box 10942 - Nairobi, Kenya. Tel: 020-2200001, 0722-049133
Website: www.habitatplanners.com Email: info@habitatplanners.com

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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st Mary's
Am a trader at stage (Miariro)

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

To have bus drop at CBD
for the P.W.D
P.W.D to have a modern kiosks.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

To be located to have space
and a good site.

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

No, the project is good.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Let everything be done with impact for everyone.

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina): FRANCIS N. MURUTHI

Mahali pa kazi: St. Marys Malindi

ID (Namba ya Kitambulisho): 21067930

Namba ya simu: 0724 721 944

Signature: 

Tarehe ya leo: 9/04/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environmental, Research and Development Consultants
Kisumu Rd, Box 214, Nairobi, Kenya. Tel: 011-254 254 254 254
Email: info@habitatplanners.com

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
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I work with KURA whose mandate is to manage, develop Urban Roads, Nyeri being one of the areas where we work.

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

*- Easy Traffic Management - Solid waste mgt
- Adequate drainage systems
- Provision of facilities for NMT, B.Pub, Elderly.*

3. What benefits do you expect from the proposed project?/Ni faida gani unazotazajia kutoka kwa mradi huu?

*- Safety in mgt of public vehicles using the terminus.
- A clean Bus terminus. - Adequate Storm water drains
- Channelised traffic. - Enough facilities for pedestrians including a ramp cross over.
- Boda Boda stands. - Designated parking. including for private cars.
- Rain*

Turn over the page

4. What are your environmental concerns for the proposed project? (Je kuna uwezekano wa mradi huu kurefha mazingira yote?)

- Increased emission from vehicles - Traffic congestion at junction
- Noise to local Quaker residents - Road damage
- Increase in solid waste - Dust

5. What are your other suggestions for the proposed project? (Una mengine madni gani kuhusu mradi huu?)

- To expand the roads to allow for channelization of traffic.
- Provide adequate water
- To give the Terminus under Refinery Road Community (PCC) especially on waste mgt. - Consider the livelihood of the people who are in the area.

6. Do you approve the project? (tick) (Unaunga mkono mradi huu (chagua))

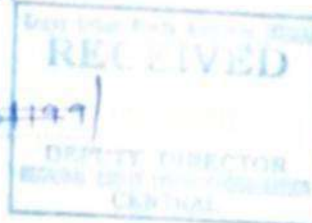
YES	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina): ENG. JAGGA MWANGI

Mahali pa kazi: KUCHA -

ID (Namba ya Kitambulisho): 0722761199

Namba ya simu: 0722761199



Signature: [Signature]

Tarehe ya leo: 11/4/2019.

Thank You for Your Input! Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planners, Environment, Transport and Engineering Consultants
Nairobi Reg. No. 214, Kenya A.C. No. 0742 NRB No. 14, 400-00000, 070-000000
Website: www.habitatplanners.co.ke Email: info@habitatplanners.co.ke

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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Resident, service provider, conserver
of environment and rely on
public transport

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

The project will create jobs, bring
order to matatus and buses, take care
of safety of passengers, provide services to PGH.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

The town will be attractive and clean.
Decongestion of traffic affects us all.
Will upgrade informal businesses.

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiiri mazingira Eleza?

The current dumpsite is a menace to residents, staff, patients and passers-by. A well planned terminus will positively impact on general environment.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

The project is necessary and should happened earlier. A clean terminus has potential to influence its surrounding cemetery and upcoming informal settlements along the stream.

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:

No

Don't Know

Name (Jina):

ERNEST G. WANG'OMBE

Mahali pa kazi:

Afrika Green Revolution (AGRE)

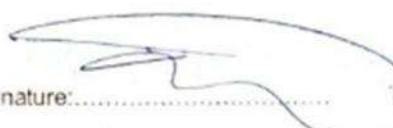
ID (Namba ya Kitambulisho):

6886802

Namba ya simu:

0724321811

Signature:



Tarehe ya leo:

11/April/2019

Thank You for Your input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Urban Design and Environmental Consultants
Kariakoo, Box 214 Nairobi & P.O. Box 9942 - NAIROBI, KENYA. TEL: 011-25520001, 011-25520011
Mobile: 0722409690/0722409691 Email: info@habitatplanners.com

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
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I am incharge of Public Health in the County. Bus termini/dumpsite affect Public Health.

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

If the Bus termini is relocated without moving the Dumpsite, we expect Public Health nuisance which may cause disease.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kujoka kwa mradi huu?

There will be creation of jobs, decongestion of CBD etc.

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira, Eleza?

The dumpsite should be relocated before relocating the bus terminus.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

The bus terminus can be relocated to another site e.g. Ruvu.

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:

No

Don't
Know



Name (Jina):

John G. Muganyizi

Mahali pa kazi:

County P.H.O.

ID (Namba ya Kitambulisho):

2978328

Numba ya simu:

0722322862

Signature:

Tarehe ya leo:

11/4/19

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planners, Environment, Research and Development Consultants
Versatile House, 2nd Floor, 1st Floor, 1st Floor, 1st Floor, 1st Floor, 1st Floor, 1st Floor, 1st Floor
Mobile: 0700 000 000, 0700 000 000, 0700 000 000, 0700 000 000, 0700 000 000, 0700 000 000, 0700 000 000, 0700 000 000
Email: info@habitatplanners.com, info@habitatplanners.com

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
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*Matatu/Bus operator/Mwekezaji
au Mfanyikazi wa sekta ya Matatu*

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

*The lower stage to remain
where it is and be expanded.*

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

*Create enough space for Matatu
operators to do their business*

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

Lower stage requires expansion to give cemetery enough space

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Any proposal to expand the site other than Mwangi's Area

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:

No

Don't Know



Name (Jina):

Am Intega

Mahali pa kazi:

Secretary Nyesuma SACCO

ID (Namba ya Kitambulisho):

182231

Numba ya simu:

0722631631

Signature:

Tarehe ya leo:

12/04/19

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planners, Environment, Transport and Consultant Consultants
Nairobi City, Box 218, Spring St, P.O. Box 10000, Nairobi, Kenya. Tel: 020-2720000, 0722-000000
Email: info@habitatplanners.com, info@habitatplanners.com

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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Mataraji Sales Official

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

*It would fair from day one and cause
no battle*

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

Competition With Competitors

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

Very dusty

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

To relocate Kamukoyi Stadium to that site
and maybe relocate to the Stadium

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:

No

Don't
Know



Name (Jina):

Reber Ndlovu

AVOKK SACCO AND

Mahali pa kazi:

Nyeri

NYEGAMU SACCO

ID (Namba ya Kitambulisho):

11678783

Numba ya simu:

0720710044

Signature:

Tarehe ya leo:

12/04/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planners, Engineers, Architects and Environment Consultants
Nairobi Office, Box 214, Ngara Road, P.O. Box 10742 - NAIROBI, KENYA. Tel: 020-2740000, 0720-849111
Website: www.habitatplanners.com Email: info@habitatplanners.com

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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.....
MATATU OPERATOR LOWER STAGE
.....

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

.....
IT WILL DEGEST OUR C.B.O. AGAIN. NYERI TOWN WILL DEVELOP.
.....

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

.....
BUSINESS WILL RISE AND I WILL BE ABLE TO MAKE MORE PROFIT.
.....

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiiri mazingira. Eleza?

THIS PROJECT ACCORDING TO ME IT WILL MINIMIZE!

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

I WOULD SUGGEST EVERY SACCO TO BE ALLOCATED THERE INSTEAD OF ALLOCATING ONLY LOWER STAGE SACCO'S

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina) Gladys N. Mwangi

Mahali pa kazi: Malabu operator Kuku Lane MUKICHA SACCO

ID (Namba ya Kitambulisho): 13728459

Numba ya simu: 0729637992

Signature: 

Tarehe ya leo: 07/04/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Kericho Way, Box 214, Nairobi, Kenya. Tel: 020-2225401, 0722-000101
Website: www.habitatplanners.com Email: info@habitatplanners.com

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN
COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES**

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Matatu Owner

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

NONE

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

NONE

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

YES

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

You should remove this Pellan
Kimathi Ground to that area for
our future Generation

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:

No

Don't
Know

Name (Jina): Grace Wangechi Ndumia

Mahali pa kazi: Stage (lower) Matatu owner

ID (Namba ya Kitambulisho): 3207193

Numba ya simu: 0722726984

Signature: Gndumia Tarehe ya leo: 12/4/2019

Githuthi SACCO

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Veranda Bay, Box 214, Nairobi 10101, Kenya. Tel: 020-2240845, 020-249113
Website: www.habitatplanners.co.ke Email: info@habitatplanners.co.ke

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Assistant Chief - Majengo sub location
Resident

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

Reduction of the traffic jam - Reduction on the roads with more smooth flow of human traffic

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

- Easy management of motor vehicles
- Easy waste management from the town center, drainage improvement

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri nazingira. Eleza?

Public Health officers to ensure proper hygiene practices
The public to be made aware of cleanliness/waste management
and be privatized.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

National Chief/ sub-chief office for proper
Administration at the bus terminus.

6.

Do you approve the project? (lick)/Unaunga nikono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): MARY GRONGA

Mahali pa kazi: ASS CHIEF MACHAKO SUB-LOCATION

ID (Namba ya Kitambulisho): 10810479

Namba ya simu: 0722505546

Signature: 

Tarehe ya leo: 9/4/19

Thank You for Your Input/Shukrani kwa kuhadhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Kileleshwa, Box 254, Nairobi, Kenya. Tel: 011-2542001, 175-80033
Mobile: 0722-200000, 0722-200001 Email: info@habitatplanners.co.ke

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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KPLC - There maybe new energy requirements, need to renovate/improve infrastructure, creation of new customers

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

Increased electricity sales by creation of new customers, ease of movement by people & goods, decongestion of bus center

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

As above plus increased business

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuathiri mazingira. Eleza?

Increase in human traffic will increase noise and waste. This needs to be mitigated. New constructions may affect KPLC Network. This mitigation needed.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Engage all stake holders including KPLC so that adverse effects to the network by say excavations are avoided.

6

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina):

S. David

Mahali pa kazi:

Diana House

ID (Namba ya Kitambulisho):

23430192

Numba ya simu:

0722 837316

Signature:



Tarehe ya leo:



Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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and equally a service provider
(water and sewerage services)

1. Decogasted and organised

2. ^{for the} increased revenue to the company

- Increased revenue for the company
- Fast in service delivery

192

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

- Interference with existing natural resources
- site from the site - How to be managed

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

- solid waste management should be highly considered in the designs

6. Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't	<input type="checkbox"/>
	Know	<input type="checkbox"/>

Name (Jina):

Dr. Kaluthu

Mahali pa kazi:

TA-NYEWASCO

ID (Namba ya Kitambulisho):

14688921

Namba ya simu:

4254722100395

Signature:



Tarehe ya leo:

18/04/19

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Versatile Bldg. 2nd Flr. George G. D. Ave 0042 - 0000, Nairobi, Tel: 011-2216141, 011-2216111
Mobile: 0712-0000000 Email: info@habitatplanners.com

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NISA Regulates and Formulates Policies in the Transport Subsector in the region

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

*- Bring more order and sanity in the PSV sector
- With facilitator proper compliance monitoring of PSVs operating within Nyeri*

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

*- Simplify the licensing and regulation of the PSV's
- Facilitate weeding out of the illegally operating PSV's eg. Senkas & pushers*

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwerekanano wa mradi huu kuadhiiri mazingira. Eleza?

- Pollution of Noise & Air due to exhaust fumes

5. What are your other suggestions for the proposed project?/Una mengine maoni pami kuhusu mradi huu?

- Provide a regulation monitoring and advisory liaison office/room for NIST to operate from at the terminals

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:

No

Don't Know



Name (Jina):

Titus Kooch

Mahali pa kazi:

NIST - Regional office Nyeri

ID (Namba ya Kitambulisho):

Namba ya simu:

0759-737300

Signature:



Tarehe ya leo:

10/04/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Urban Design and Development Consultants
Harambee Street, Box 274, Arusha P.O. Box 10000 - 10000, Tel: 020 274 0000, 0700 000000
Email: info@habitatplanners.com

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES

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Asian quarters resident

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

proper planning of the bus park i.e. parking, security, noise pollution, upgrading of air roads, upgrading of air drainage system.

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

- proper roads - Better business
- security
- safety of our children

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiiri mazingira. Eleza?

No Dump collection
drainage system

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

→ Erect a police post around
→ fence the bus park
→ Control human and vehicle traffic.

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): Terry Matherne

Mahali pa kazi: Nyeri town

ID (Namba ya Kitambulisho): 21527626

Numba ya simu: No 0120137007

Signature: [Signature]

Tarehe ya leo: 12/9/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Harambee Way, Box 214, Nairobi 00100, Kenya. Tel: 011-255-2548611, 255-2548612
Email: info@habitatplanners.com Website: www.habitatplanners.com

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.....Asian Quarters Resident.....

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

.....Creating jobs for the town
will be clear.....

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

.....Several reasons.....

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

.....no.....

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

.....~~toxic~~ na security vs
Police post, Markets etc.....

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina):.....Miriam Mureithi

Mahali pa kazi:.....P.O.H. Line

ID (Namba ya Kitambulisho):.....13652522

Numba ya simu:.....0723,438,218

Signature:.....kip..... Tarehe ya leo:.....12/4/2019.....

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planning, Environment, Research and Development Consultants
Kileleshwa Rd, Box 274, Nairobi 00100, Kenya. Tel: 011-255-2548111, 255-2548112
Email: info@habitatplanners.com

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2) Dumpsite area resident

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

It will decogest the Town Centre

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

The re-location of Dumpsite

Thank you for the response

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

Noise level will increase

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Asian Quarters should be out bound for Public vehicles

The usage of "modern stalls" should be specified

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:



No

Don't
Know

Name (Jina): MESHILLAH MUTHAMI

Mahali pa kazi: Residence at Asian Quarters

ID (Namba ya Kitambulisho): 5393104

Numba ya simu: 0733 570204

Signature:

Tarehe ya leo:

12 April 2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners
Physical Planners, Environment, Transport and Development Consultants
Nairobi Office, Box 214, Nairobi 00100, Kenya. Tel: 011-255-25481000, 0722-349111
Email: info@habitatplanners.com

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.....
Dumpsite area resident
.....

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

.....
Assistance of the residents of the
dumpsite with a place to live &
employment
.....

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

.....
The benefits we expect are provision
of employment of the residents of
the area
.....

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

Yes. Since there are public facilities such as hospital, school they are going to be affected. Noise pollution & air pollution.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

Since they have are up people who live around it in the township they may get relocated & may end up homeless. please provide a place to call home.

- 6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)

YES:	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Name (Jina): Joyce Wanjiru

Mahali pa kazi: Dumpsite Area

ID (Namba ya Kitambulisho): 28337080

Numba ya simu: 0780279796

Signature: 

Tarehe ya leo: 10/4/2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Habitat Planners, Environment, Social and Economic Consultants
Head Office: 16/24 George A. Ochieng Road, Nyeri, Kenya. Tel: 020-220001, 020-220011
Mobile: 0722-220000, 0722-220001 Email: info@habitatplanners.com

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED
CONSTRUCTION OF A MODERN TRANSPORT TERMINI AT ASIAN QUARTERS, NYERI TOWN
COMPRISING OF A BUS STATION, MODERN STALLS, BUSINESS PARK & SOCIAL AMENITIES**

The County Government of Nyeri is proposing to construct and a modern transport termini at Asian Quarters in Nyeri town comprising a bus station, modern stalls, business park and social amenities. The termini will be constructed in the county dumpsite next to Asian Quarters which is public land. According to the Environmental Management and Coordination Act Cap 387, this kind of a project has to undergo an Environmental and Social Impact Assessment (EIA). The same law as well as the National Constitution requires that stakeholders' views, comments and suggestions MUST be sought and incorporated in the EIA report to be submitted to the National Environmental Management Authority (NEMA) who will issue a license to start construction of a MODERN TRANSPORT TERMINI at Nyeri town. Habitat Planners (NEMA License 0465) has been contracted to undertake the EIA.

The proposed transport termini next to the Asian Quarters will consist of a Bus station, modern stalls, business parks and the supporting social amenities such as a police post and public toilets.

As a stakeholder who is interested in, or involved in, or affected by this proposed project, we are requesting you to answer the following questions regarding the project as honestly as possible:

1. How are you a stakeholder in the bus termini/ dumpsite? /Wewe ni mshikandao vipi? Tick/ a) Dumpsite area resident/ Mkaazi wa dumpsite area b) Matatu/Bus operator/Mwekezaji au mfanyikazi wa sekta ya Matatu, c) Bustop business operator/Mfanya biashara kwa staji ya matatu, d) Waste recycler/scavenger/Mfanyi biashara ya takataka e) Nyeri town resident/Mkaazi wa mji wa Nyeri

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

1. Usafi utapatikana (2) Maendeleo yatakuwepo na ajira

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

expansion of town and more employed to the residents

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhihi mazingira. Eleza?

Kutaka na hani ya Mwan na bakubaki
na kuna hospitali katika pia kuna familia
zina wakati hapa karibu

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

ni Mwan na mji wamake, pia hachana
zongezake

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): John M. M. WACHA

Mahali pa kazi: DEVEL & REGRATE TO DUMP SITE

ID (Namba ya Kitambulisho): 13537867

Numba ya simu: 072278050, 0736334266

Signature:  Tarehe ya leo: 10/04/19

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners
Physical Planning, Environment, Services and Engineering Consultants
Nairobi Office, Box 294, Nairobi 00100 - KENYA. Tel: 020-226080, 0722-849133
Website: www.habitatplanners.com Email: info@habitatplanners.com

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2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?
- We expect to relocate to the next disposal site.
- To be economically involved relocating the dumpsite and construction
- Get a business shop or stall in the terminals
3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?
Recycling place in the new dumpsite.
Bus terminal developing contract (sub) or Jobs.
Business shop to sell our products at.

Turn over the page

4. What are your environmental concerns for the proposed project?/Je kuna uwezekano wa mradi huu kuadhiri mazingira. Eleza?

Yes, the environmental concerns are climate pollution by motor vehicles emissions, noise pollution, past environmental effects.

5. What are your other suggestions for the proposed project?/Una mengine maoni gani kuhusu mradi huu?

The country should identify and make public where they are moving the garbage to so as not to alter our operations.

6.

Do you approve the project? (tick)/Unaunga mkono mradi huu (chagua)	YES:	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>
	Don't Know	<input type="checkbox"/>

Name (Jina): Boniface Ndegwa

Kixibull Empire Limited and Universal Revolution Empire Limited
Mahali pa kazi: at Asian Quarters Dumpsite.

ID (Namba ya Kitambulisho): 29308855

Numba ya simu: 0736334519 / 0712452435

Signature: 

Tarehe ya leo: 10th April, 2019

Thank You for Your Input/Shukrani kwa kuhudhuria
(Habitat Planners)



Habitat Planners

Physical Planners, Environmental, Research and Development Consultants
Nairobi Office, Box 214, Nairobi 00100, Kenya. Tel: 011-255-254-211000, 254-254-211001
Email: info@habitatplanners.co.ke info@habitatplanners.com

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*Community Promoted Community based Volunteer
and Mzee wa Mji wa Nyeri*

2. What are your expectations from the proposed project?/Matarajio yako ni yapi kuhusu mradi huu?

*It will be a help to go to reduce
congestion in Nyeri town*

3. What benefits do you expect from the proposed project?/Ni faida gani unazotarajia kutoka kwa mradi huu?

*that for future generation will enjoy
the better amenities and also it
will reduce insecurity*

Turn over the page

