



MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

State Department for Housing and Urban Development
Second Kenya Informal Settlements Improvement Project (KISIP2)

**UPDATED ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT
REPORT FOR THE PROPOSED INFRASTRUCTURES IMPROVEMENT
WORKS IN SELECTED INFORMAL SETTLEMENTS IN KISUMU
COUNTY (6 No. SETTLEMENTS – NYAWITA/MIGOSI, BANDANI,
MANYATTA A, MANYATTA B, KIBUYE, MUHORONI)**



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Batch Associates Ltd.

P. O. Box 24103-00100 Nairobi

Tel. (+254) 20-2621168

**RHINES
ENGINEERING
SERVICES LIMITED**

P.O. Box 9947-00200

Nairobi, Kenya

PROJECT SUMMARY SHEET



Client	Ministry Of Lands, Public Works, Housing And Urban Development
Project Name:	Consultancy Services for Engineering design review, repackaging of detailed engineering designs & preparation of procurement documents; updating of RAP and ESIA Reports; and supervision of the proposed infrastructure improvement works in selected informal settlement in the counties of Kisumu & Kakamega (11No. settlements)
Report Title:	Updated Environment And Social Impact Assessment Report For The Proposed Infrastructures Improvement Works In Selected Informal Settlements In Kisumu County (6 No. Settlements – Manyatta A, Manyatta B, Nyawita/Migosi, Kibuye, Bandani, Muhoroni)
Version	Updated Full ESIA Study Report.
Project Cost (Per BOQ)	KES 1,320,960,525.82
Reviewed and Updated Report Prepared by:	<p>Cynthia Achieng Ochieng Lead EIA/EA Expert (No. 2469) Batch Associates Limited JV with Rhines Engineering Services Limited Tel: +254 723537340 Email: caochieng10@gmail.com</p> <p>Sign:  Date: 01/11/2023</p>
Client:	<p>Ministry of Lands, Public Works, Housing and Urban development State department of housing and urban development Kenya informal settlement improvement project.</p> <p>KISIP 2 National Coordinator:</p> <p>Sign:  Date: 15/12/2023</p>

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Disclosure Copy

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LIST OF ACRONYMS AND ABBREVIATIONS

AfD	Agence Francaise de Development
AASHTO	American Association of State Highway and Transportation Officials
BoQ	Bill of Quantities
CBO	Community Based Organization
CBR	California Bearing Ratio
CCG	Council of County Governors
CIDPs	County Integrated Development Plans
CLO	Community Liaison Officer
CPCT	County Project Coordination Team
CRIC	County Resettlement Implementation Committee
CSOs	Civil Society Organizations
EIA	Environment Impact Assessment
EMCA	Environmental Management and Coordination Act
ESIA	Environmental and Social Impact Assessment
ESMP	Environment and Social Management Plan
GCS	Graded Crushed Stones
GoK	Government of Kenya
GRC	Grievance Redress Committee
HH	Households
HIV/ AIDs	Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome
IDA	International Development Association
KALRO	Kenya Agricultural and Livestock Research Organization
KDHS	Kenya Demographic Health survey
KISIP	Kenya Informal Settlements Improvement Program
KIWASCO	Kisumu Water and Sanitation Company
LPG	Liquid Petroleum Gas
LVSWWDA	Lake Victoria South Water Works Development Agency
LVWATSAN	Lake Victoria Water and Sanitation Program
M&E	Monitoring and Evaluation

MDD	Maximum Dry Density
NEMA	National Environment Management Authority
NGOs	Non – Governmental Organizations
NLC	National Land Commission
NPCT	National Project Coordination Team
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SDGs	Sustainable Development Goals
SDHUD	State department of housing and urban development
SECs	Settlement Executive Committees
SERC	Standard Enforcement Review Committee
SGPs	Safeguard Policies
STIs	Sexually Transmitted Infections
VIP	Ventilated Improved Pit latrine
WB	World Bank
WRA	Water Resources Authority

EXECUTIVE SUMMARY

Introduction

According to the World Bank collection of development indicators, compiled from officially recognized sources approximately 56% of the global population living within urban center. As such the informal settlement structure can be found worldwide. In Kenya, with an urban annual population growth reported at 3.706 % in 2021, numerous challenges can be seen within the urban setting; congestion, inadequate resource, deterioration in sanitation and hygiene, increase in the rate of spread of communicable diseases among others. Most of the informal settlements are characterized by unplanned zones typically occupied by squatters without legal recognition, overcrowding due to high population density, impermanent poorly constructed housing units, and inadequate provision of basic social amenities and services. Continued burgeoning population within these settlements outstrips the capacity of available basic infrastructure posing significant pressures on environment state and integrity, public health, sustainable resource use and social welfare. Facilities of housing, sanitation, water provision, waste management systems, drainage and energy/ street lighting have failed to cope with the need of these settlements.

To improve the lifestyle of the population within informal settlements, the Government of Kenya received a credit from International Development Association (IDA) and French Development Agency (Afd) towards the cost of the second Kenya Informal Settlements Improvement Project (KISIP 2). The project aims to improve the condition of selected roads, improve accessibility of potable water, and improving security and visibility at night by introducing street lights and flood lights in selected settlements. To improve the lives and livelihoods of at least 2.5 million people within informal settlements in select counties through the enhancement of security of tenure and basic infrastructure improvement based on plans developed in consultation with the community in line with Kenya Vision 2030.

Targeted informal settlements in Kisumu County under the improving infrastructure component in this project are situated in the following sub-counties: Kisumu Central (Manyatta A, Nyawita and Kibuye); Kisumu East (Bandani, Manyatta B); and Muhoroni (Bondeni, Shauri Moyo, Shauri Yako).

The initial project design included roads improvement project, water supply component, sewerage component and electrical component. The roads improvement component was to be implemented in Manyatta A, Manyatta B, Nyawita, Kiboswa, Ahero, Katito, Sondu Mama Bay, Shauri Yako, Shauri Moyo, Bondeni, Sangoro and Chememil. Water supply component was to be implemented in Manyatta B, Kiboswa, Chemelil, Ahero, Katito, Sondu Mama Baby and Kibuye and the sewer improvement component was to be developed in Manyatta A, Manyatta B, Nyawita, Nyawita (Migosi). The project had also considered street lighting and flood lights in various settlements. However following the initial study and the available funds, there was the need to re-scope and identify priority projects within selected settlements; Manyatta A, Manyatta B, Nyawita, Bandani, Kibuye and Muhoroni (having Shauri Moyo, Shauri Yako, Swahili/Sangoro and Bondeni settlements).

According to the POM, KISIP considered the following when selecting the settlements within which the project will be implemented. The settlements needed to;

- Be located on public land or land that is regularized through a GoK program (including KISIP). Infrastructure activities to be on land where the regularization process is already complete until survey stage.
- Have no court case or other legal encumbrances on part or all of the land on which the settlement sits
- Have community readiness ensuring that the voice of women is clearly noted (e.g. a community meeting, signing of a community participation agreement)
- Population density no less than 30 people/ha
- Settlement sits on a maximum 30ha
- Settlement lies within a 10km radius of the nearest city, municipality or town
- Structures are: (i) temporary or semi-permanent; (ii) single-storey; (iii) distance between structures not more than 50m
- Settlement morphology allows for adoptive planning with minimal displacement. Physical upgrading of the settlement should not entail large-scale displacement (and, thereby, relocation) of residents

Additional criteria for infrastructure upgrading

- Evidence of regularization up to surveying stage through an approved Local Physical and Land Use Development Plan (LPLUDP) and approved survey plan
- Evidence of settlement readiness for infrastructure upgrading, such as availability of detailed designs, bidding documents, ESIs, and RAPs.
- Proximity to trunk infrastructure (cost of connecting to trunk is not more than 15% of total infrastructure cost; settlement should be no greater than 0.6km away from trunk)
- Infrastructure has been designed and will be built and operated in a way that anticipates, prepares for and adapts to changing climate conditions
- County has provided an O&M plan to maintain the infrastructure to be upgraded
- (where applicable) KISIP1 infrastructure is well maintained

Using the above criteria, submitted settlements are organized under 2 categories. Category 1 in readiness for tenure regularization and Category 2, settlements in readiness for infrastructure improvement. Category 2 is further divided into (a) settlements that have detailed designs, bidding documents, RAPs and ESIs ready; and (b) settlements that need detailed designs, bidding documents, RAPs and ESIs to be prepared.

The difference in scope is as outlined in the subsequent tables;

01 Settlement: Bandani

ORIGINAL WORKS	REVISED WORKS
Road – 1	
Road – 2	
Road – 3	Pamjos-Kanyamedha School (Part of Road 3)
Road – 4	Auji-Pundo Road
Road – 5	Pundo - Nita Road (Road 5)

02_Settlement: Kibuye

ORIGINAL WORKS	REVISED WORKS
Highway Secondary Road	Mama Ngina-Highway Sec School Road
Kibuye Market Road	SDA - Thep Road
Water Supply/Kiosk	Water Supply
Street Lighting	Modern Ablution Block
Flood Lighting - 1 No.	

03_Settlement: Nyawita/Migosi

ORIGINAL WORKS	REVISED WORKS
Nyawita	Nyawita
Roads and drainage	Koyoo- Koyuga Road
Sewerage	
Ablution block (1No.)	Migosi
Street lighting	1. Floodlights (3 No)
Flood lighting (5No.)	2. Sewerage (Last mile connectivity)
	3. Drainage
Migosi	
Roads and drainage	
Sewerage	
Ablution block (1No.)	
Street lighting	
Flood lighting (9No.)	

04_Settlement: Manyata A

ORIGINAL WORKS	REVISED WORKS
Roads and drainage	Konambuta- Mosque Road
Sewerage	Mezani- Lovebar
Ablution blocks (2No.)	Kajanta- Konambaya Road
Street lighting	Kona mbuta -Kaego Road
Flood lighting (12No.)	Floodlights (6 No)

05_Settlement: Manyata B

ORIGINAL WORKS	REVISED WORKS
Roads and drainage	Kaego – Nerea Bridge
Sewerage	Kaombe – Kasawino
Water supply systems	Wells – Walgudha
Ablution blocks (2No.)	Transformer – Daraja Mbili
Street lighting	Daraja Mbili – Koyango
Flood lighting (13No.)	
	Sewer and last mile connectivity
	Water Supply

06_Settlement: Muhoroni

ORIGINAL WORKS	REVISED WORKS
Bondeni	Bondeni
Roads and drainage	Floodlight (1 No)
Ablution block (1No.)	Independent drainage
Street lighting	
Flood lights (3No.)	Shauri Yako
	Caleb – Wings of Change
	Nairobi Road- Chief- Wingroad (Part of chief caleb Catholic Road and Major Wings of change Road)
Roads and drainage	
Street lighting	Sangoro/Swahili
Flood lights (1No.)	Water reticulation

Project implementation costed at **KES 1,320,960,525.82** as per the Bill of Quantities.

The initial design was reviewed as part of the Consultant's scope hence there was the need to equally review and update the initial Environment and Social Impact Assessment (ESIA) study. The initial ESIA study was conducted in the years 2017/2018 with the license being issued in April of 2019. It was valid for 24 months and this validity expired in the April 2021. This further necessitated the need to review and update the ESIA report and subsequently apply for a variation of the existing license.

To further justify the need to review and update the initial ESIA report, the Consultant considered changes in the initial design including re-scoping of the project, changes in national and county legislature, changes in socio-economic structure over the years, changes in the community perceived risks or opportunities, new developments within the proposed project areas and new risks with the re-assessment of initially proposed mitigation measures..

The objectives of the review and update of the study report;

- Communicate the results of the ESIA process for the proposed Project and alternatives considered;
- Ensure that the impacts identified during the ESIA process are assessed;
- Present the mitigation and enhancement measures which will be implemented by the Contracting Authority and the Contractor (consortium) to manage the impacts identified;
- Provide a record of comments and responses received from Stakeholders during the ESIA process; and
- Facilitate an informed decision-making process by the relevant authorities

The impacts and mitigation measures as presented required to be expanded, to include impacts that have been introduced due to the re-packaging of the project, new statutes that the project need to adhere to and socio-economic changes within the settlements.

With the mainstreaming of Climate Change within the country, climate change impacts and adaptation were also evaluated and included in the design of the projects, selection of construction material and also technology choice for street lighting, flood lighting, design of the roads, water supply and sewer upgrade components. The option to use solar powered streetlights and grid powered high tower masts

was based on their efficiency, availability of the source of energy, and cost implication to run the projects. Choice of lined drainages along the project roads was considered to reduce the risk of soil erosion due to the slope, and also increase the life of the drains and make the drains easier to clean.

ESIA Review and Update Methodology

Updating of this ESIA report is guided by the Environmental Management and Coordination Act (EMCA), 1999 (2015 Amendment), EMCA 1999 (Amendment 2019) and the Environmental Impact Assessment/Environmental Audit Regulations (2003) (Amendment 2019). The steps followed in the review and updated of the ESIA study included;

Task 1: Review the Initial ESIA study

Task 2: Field Reconnaissance Survey and Review of Earlier Studies

Task 3: Review and Assessment of Applicable Environmental and Social Regulations and Institutions

Task 4: Delineation of Study Area for Assessment

Task 5: Re-Assessment of Baseline Environmental and Social Conditions

Task 6: Public Consultations/ Focus Group Discussions for identification of new or changed risks and opportunities

Task 7: Prediction of Environmental and Social Impacts and identification of possible mitigation measures.

Task 8: Review and updating of Environment and Social Management Plan (ESMP)

Analysis of Project Alternatives

Alternative designs and technologies were analyzed to verify their suitability and effectiveness to sustainably meet the objectives of the project. Adapting solar technology and connecting the street lights and the flood lights to the national grid were both analyzed. The all-in-one integrated solar powered street light was selected over the grid powered light since it is ultra-thin and fully assembled for easy maintenance and installation. It removes the need of trenching and earthworks with zero energy costs and high lighting efficiency, it is economical in construction with longer life span.

Asphalt road surface was also selected over cabro road surface since it has a longer life span. While the cabro was selected for the walkways for their ease in implementation, maintenance and little interruption to the resident's ways of life.

The choice of high density polyethylene pipes was done for their longevity and durability and are considered eco-friendly since they do not introduce minerals into the water. While some sections had individual water connections proposed to leverage on the Last Mile Connectivity program while communal water points such as kiosks were considered in the absence existing water supply connections.

On the location, the identified project locations was done with the collaboration and input of the Settlement Executive Committees of the various settlements. The basis of the selection of these locations were;

- Most significant positive impact to the residents (improved roads, more spread of the light for high masts and street lights, last mile connections for water supply and improved sanitation for sewer component.
- Accessibility of institutions such as schools
- Available budget
- Projects prioritized by the SEC

Review of Policy and Legislative Framework

The principles of Environmental and Social Management were considered and assessed in relation to the project environmental and social risks. Principles of sustainability, public participation, intergenerational equity, prevention, precautionary and polluter pay principles were assessed in order to guide the development of the ESMP. In addition, the national environmental and social policies and national environmental and social legislatures were also assessed and their applicability to the proposed project analyzed. Some of the policies included;

- The National Wetlands Conservation and Management Policy (Draft) 2013
- National Environmental Sanitation and Hygiene Policy (2007) (GOK, 2007a)
- National Policy on Water Resources Management and Development (1999)
- Gender Policy, 2011
- Kenya National Social Protection Policy 2011
- HIV/AIDS policy 2009

In regards to the national environmental and social legal framework, several Acts were analyzed and their application to the proposed project highlights. These Acts included but were not limited to;

- The Kenya Roads Act, 2007 (revised in 2012)
- Climate Change Act, 2016
- Environmental Management and Coordination Act (EMCA), 1999 (Amended 2015)
- Environmental Management and Coordination Act (EMCA), 1999 (Amended 2019)
- EMCA (Environmental Impact Assessment and Audit) regulations 2003 (Amended 2019)
- Sustainable Waste Management Act, 2022
- Air quality regulations 2014
- Water Resources Regulations, 2021
- The Occupational Health and Safety Act, 2007
- The National Gender and Equality Act, 2011
- The Sexual Offences Act, 2006

In addition to the conventions and protocols that Kenya has ratified over the years, the World Bank's Operational Policies and the general Environmental and Social Framework were assessed in order to ascertain applicability and identify environment and social risk controls that were applied in the environment and social management plan. The following table outlined the applicability of the Ops.

Safeguard Policies	Applicable?	Applicability
Environmental Assessment OP4.01	Yes	Environmental and Social assessment conducted guides the project developers and implementers to ensure that environmental and social risks have been identified at an early stage and have been addressed promptly and effectively. This minimizes these risk to as low as reasonably possible and promotes sustainability and acceptability of the project by the host community.
Physical and Cultural Resources (OP4.11)	Yes	Sustainable material sourcing and general entry into the host community for the development of the project are guided by OP 4.11. Guidance by the policy reduces the risk of conflicts due to uncontrolled and unsustainable impact on the physical and cultural resources. The policy guided the consultant in developing comprehensive ESMP that will guide the contractor in managing the host community's physical and cultural resources.
Involuntary Resettlement OP 4.12	Yes	OP 4.12 was applicable in the review and update of the project Resettlement Action Plan. Further, the policy will coupled with the Land Valuation (amendment) Act, 2019, will ensure that all PAPs are duly compensated and relocated prior to the start of project implementation.

Gap analysis between the Bank's and the National requirements was also done with the assessment result shown in the table below.

World Bank OP 4.01	EMCA	Comparison	Recommendation
O.P 4.01 requires screening of sub project investments in order to determine if further environmental and social assessments (ESIAs) are required After screening and determination of required ESIA category, an ESIA is prepared before project design and implementation (which includes an assessment of social impacts).	EMCA requires screening of project investments in order to determine if further environmental and social assessments (ESIAs) are required	Both the Kenyan and World Bank safeguards require screening to establish the level of ESIA prepared.	Preparation of the ESIA to meet both NEMA and World Bank Standards.
Also gives guidelines on air, noise, water, waste management, emissions and wetlands management.	An ESIA of a project will be prepared in accordance to EMCA guidelines and the report submitted to NEMA for licensing. EMCA is also equipped with regulations on air, noise, water, waste management, emissions and wetlands management.	The ESIA will be prepared with mitigation measures for any negative environmental and social impacts. The various limits set out in the regulations are close to World Bank and IFC policies with minimal differences in the actual figures.	Use of Kenyan regulations in accordance to EMCA.

World Bank OP 4.01	EMCA	Comparison	Recommendation
The prepared ESIA Study should take into account natural resources and the principle approach to natural resource management to ensure environmental sustainability.	The EMCA (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 provides that no person shall engage in any activity that may have an adverse impact on the ecosystem, lead to the introduction of any exotic species or to unsustainable use of natural resources.	Both require an ESIA to establish the potential impact of a development on biodiversity and ensuring environmental sustainability.	Preparation of the ESIA to meet both NEMA and World Bank Standards.
This policy guides in preserving physical cultural resources and helps reduce chances of their destruction or damage.	The Wildlife Management and Conservation Act also ensures consideration of wildlife and their conservation in project implementation. The National Museums and Heritage Act identifies the need for the protection, conservation and transmission of the cultural and natural heritage of Kenya.	The World Bank policy offers more detail on the physical and cultural resources other than archaeological finds identified in the Kenyan Policy.	Use of the World Bank policy in handling any physical and cultural site, while making use of the Kenyan institutional framework.
Involuntary resettlement should be avoided wherever possible, or minimized, exploring all alternatives.	Involuntary resettlement may occur as a result of projects implemented in public interest.	The Kenyan Policy does not stipulate that resettlement should be avoided wherever possible; on the contrary, as long as a project is for public interest, involuntary resettlement is considered to be inevitable.	Resettlement issues are to be considered at the design stage of the project in order to avoid/minimize resettlement.
Inclusion of persons considered indigenous, who without proper consultation may suffer as a result of the project leading to further marginalization. Similarly, the bank has a directive on vulnerable groups, who may be left out of the benefits of the project or suffer more as a result of the negative impacts of the project. These safeguards are in place to ensure the vulnerable and often marginalized are adequately consulted and their issues addressed in the ESIA.	Article 56 of the constitution highlights the rights of marginalized communities, in the decision-making process with regards to development and their input. The National Gender and Equality Act, Children Act and Persons with Disabilities Act promote the inclusion of these persons, who in society are often looked over, in the implementation of projects.	Both the Kenyan and World Bank Safeguards requires the inclusion of communities that are marginalized and inclusion of the vulnerable in project planning, implementation and operation phases of the project. In order to ensure these communities, reap the benefits of the project without suffering disproportionately in comparison to the rest of the communities.	Preparation of an ESIA in accordance to Kenyan and World Bank Standards to protect indigenous persons.

World Bank OP 4.01	EMCA	Comparison	Recommendation
Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs	EMCA requirements for project proponent to seek the views of persons/communities that may be affected by the project to be consulted, at least explain project potential impacts and obtain oral/written comments	Both Policies are similar	Consultation of stakeholders in the ESIA in accordance to both Kenyan legislation and World Bank Safeguards.
In addition to the operational policies, the World Bank has guidelines to ensure, environmental, occupational and community health, and decommissioning guidelines. These guidelines will provide the Contractor with best working procedures.	The Occupational Health and Safety Act is the main act ensuring the health and safety of the Contractor's employees and the surrounding community	Both provide guidelines which should be adhered to, during all phases of the project, with the Kenyan legislation providing an institutional framework for the implementation of the Act. The World Bank guidelines provides best international practices for construction works.	Incorporation of the World Bank Guidelines while ensuring conformance to the Kenyan Legislation and institutional framework.

A comprehensive institutional Analysis was also done to give the decision makers a guide on the responsibilities of various institutions to the success of the project. These institutions included;

Institution	Responsibilities
Ministry Of Lands, Public Works, Housing And Urban Development	Provision of the necessary financial and technical requirements to ensure effective Implementation of Social Management Plans, Resettlement Action Plans, and ESIA where applicable
The State Department for Housing and Urban Development	Overall Project implementation responsibility. The agency will however work closely with the participating Counties, Ministry of Lands and Physical Planning, Council of Governors (CoG), and the National Land Commission (NLC) where Project activities are directly linked to their respective mandates.
The National Environmental Council	Responsible for Policy formulation and issuance of directives as guided by the EMCA. It sets national goals and objectives and determines policies and priorities for environmental protection
The Kisumu County Government (County Project Coordination Team (CPCT))	<p>The CPCT will comprise of a County Project Coordinator, a Financial Management Specialist, a Procurement Specialist, a Monitoring and Evaluation Specialist, technical specialists in planning, surveying, engineering, Social Safeguards/Community Development Specialists, and Environmental Safeguards Specialists and City/Municipal Manager or their representatives where applicable (whose areas of jurisdiction have settlements benefiting from KISIP2 interventions). The CPCT should consist of full-time focal persons from the relevant departments.</p> <ul style="list-style-type: none"> • The CPCT will report to the CEC in charge of Land, urban and housing or the equivalent and will be responsible for: • The day-to-day coordination of the county-level project activities. • Working closely with relevant offices of the county to implement county-level activities supported by the project. • Preparation of procurement plans, procurement and implementation of infrastructure works with technical assistance and quality assurance provided by the NPCT.

Institution	Responsibilities
	<ul style="list-style-type: none"> • Implementation of the environmental and social safeguards instruments including Social Management Plans (SMP) and RAP where applicable). • Monitoring & Evaluation, reporting and disseminating information about the project (including preparation of annual work plans, contract awards, physical and financial progress of works contracts, and so on) at the county level. • Mainstreaming all KISIP2 activities into the county programming and budgeting systems and for the briefing of the County Executive. • Regularly consulting and coordinating with the NPCT in project implementation.
Project Steering Committee (PSC)	<ul style="list-style-type: none"> • The PSC will comprise of PS SDHUD, PS Treasury, PS Lands and Physical Planning, CoG Chair of the Sub-committee on Lands, Urban Development, Planning, Infrastructure & Energy, with the KISIP2 Project Coordinator acting as the Secretary to the committee. • The PSC shall, in consultation with the Bank, <ul style="list-style-type: none"> ○ provide its written confirmation to the National Treasury and the Bank of the overall Annual Work plans and Budgets (further discussed below); ○ Provide written confirmation that the selected informal urban settlements and proposed Participating Counties meet the Eligibility Criteria and/or County Readiness Criteria.
The National Environmental Management Authority (NEMA)	<p>NEMA provides oversight, coordination and general supervision over all matters that are relating to the environment or that can impact the environment. NEMA is the principle instrument of the Government in the implementation of all policies relating to the environment</p> <p>Assess and approve the amended ESIA report in order to provide the required variation to the ESIA license that had been earlier provided for the implementation of the project.</p>
National Project Coordination Team (NPCT)	<p>Will be in charge of Project design, overall Project coordination (including liaising with senior Government officials and the Development Partners' team), financial management, procurement, monitoring and evaluation (M&E), reporting, capacity building and communications activities.</p> <p>The NPCT will also be responsible for the following:</p> <ol style="list-style-type: none"> Coordinating the implementation of KISIP2 and ensuring that project implementation activities and reports are on schedule and in compliance with the financing agreement. Providing technical assistance to counties to perform in accordance with the Bank policies and guidelines as well as leading the coordination, capacity building and backstopping of all county project interventions. Consolidating the planning and budgeting of funds by counties and triggering disbursement of funds to the eligible county governments once conditions have been met. Coordinating and consolidating the interim financial reports and quarterly progress reports, based on inputs from the counties. Liaising closely with the Council of Governors (CoG) in order to ensure effective coordination and communications with county governments. Review work plans from Counties

Institution		Responsibilities
		g)Review whether settlements and counties have met the required criteria to become eligible for KISIP2 financing
Standard Review (SERC)	Enforcement Committee	EMCA provides for the establishment and enforcement of environmental quality standards by a technical committee of NEMA known as the Standards and Enforcement Review Committee (SERC)
National Committee	Complaints	EMCA has also established a Public Complaints Committee, which provides the administrative mechanism for addressing environmental harm. The Committee has the mandate to investigate complaints relating to environmental damage and degradation. The members of the Public Complaints Committee include representatives from the Law Society of Kenya, non-governmental organizations (NGOs) and the business community
Water Resources Authority		<p>The WRA is responsible for the regulation of water resources such as water allocation, source protection and conservation, water quality management and pollution control and international waters. Its roles and responsibilities are as follows:</p> <ul style="list-style-type: none"> • Planning, management, protection and conservation of water resources; • Planning, allocation, apportionment, assessment and monitoring of water resources; • Issuance of water permits; • Water rights and enforcement of permit conditions; • Regulation of conservation and abstraction structures; • Catchment and water quality management; • Regulation and control of water use; and • Co-ordination of the Integrated Water Resource Management (IWRM) Plan.
Directorate of Occupational Safety and Health Services (DOSHS)		<p>The Directorate of Occupational Safety and Health Services (DOSHS) is one of the departments within the Ministry of Labour and East African Community Affairs, whose primary objective is to ensure the safety, health, and welfare of all workers in all workplaces.</p> <p>An unsafe and unhealthy work environment causes accidents, diseases, disasters, and environmental pollution that occasion huge economic and social burdens to individuals and enterprises thereby stifling economic and social growth.</p> <p>DOSHS will be responsible for the issuance the Workplace Registration Certificate for the relevant areas during project implementation and monitoring if necessary (Project offices, Quarry etc)</p>
The National Museums of Kenya		Is a state corporation established by an Act of Parliament, the National Museums and Heritage Act, 2006 no. 6 of 2006. It is a multi-disciplinary institution whose role is to collect, preserve, study, document and presents Kenya's past and present cultural and natural heritage. This is to enhance knowledge, appreciation, respect, and sustainable utilization of these resources for the benefit of Kenya and the world, for now, and for posterity. The National Museums of Kenya will provide guidelines in case any discoveries or existing cultural and natural heritage resources within the project area.

Institution	Responsibilities
National Gender and Equality Commission	The National Gender Equality Commission is a constitutional Commission established by an Act of Parliament in August 2011 with the objectives of promoting gender equality and freedom from discrimination. This commission will be charged with ensuring gender equality and equity throughout the implementation of the project. Representatives will monitor and evaluate gender quality and equity regarding job provision and harassment cases on-site to ensure compliance with the law.
The World Bank	<ul style="list-style-type: none"> Monitoring the effective implementation of Social Management Plans, Resettlement Action Plans, and ESIA where applicable Reviewing the project documents, providing guidance to improve them, and issuance of the Letter of No Objection in order for the project implementation to commence.
Host Community	<ul style="list-style-type: none"> Holding the project developers accountable over the Implementation of Social Management Plans, Resettlement Action Plans, and ESIA where applicable Through public participation, the host community can guide vulnerable persons to social safety nets to ensure economic inclusion. Participate in crime and violence prevention (including prevention of Gender Based Violence) through keeping law and order and retaining high moral values.
Settlement Executive Committee (SEC)	<ul style="list-style-type: none"> Initiation: Documenting and reporting community's view, disseminating information to the community, and coordinating stakeholders. Implementation: Identifying existing resources within the community, updating the community of the project progress, and accompanying technical staffs. Monitoring and evaluation: identifying issues and problems and communicating them with the relevant stakeholders. SECs also contribute to sharing knowledge and lessons learned for future implementation.
Grievance Redress Committee (GRC)	<ul style="list-style-type: none"> Grievance receipt and registration/logging Development and implementation of response Verifying the implementation of redress action

To ensure legal compliance, the Consultant also assessed the legal guidelines and identified the various permits and licenses that will be required for the implementation of the project. These include;

Relevant activity	Statute	Requirement	Competent Authority	Date of Acquisition
Implementation of the Project	Environmental Management and Coordination Act (EMCA) Cap 387, Rev 2015	ESIA Study report to be submitted to the County NEMA offices for the variation of the existing EIA License.	NEMA	Before commencement of project
Implementation of the Project	The Kisumu County Trade Licensing Act, 2015	Acquiring and renewal of the Single Business Permit for the contractor	County Government of Kisumu	Before the commencement of the project.

Relevant activity	Statute	Requirement	Competent Authority	Date of Acquisition
Water abstraction for the purpose of construction	Water Resources Regulation	For Ground water: Physical Chemical Analysis Report A technical report for category B application Location map for the water source.	WRA	Before commencement of the project
Cutting of trees	Forest Management and Conservation Act, 2016	Need to obtain permission to cut down trees	Kenya Forest Service KFS	Before cutting down trees to allow for construction
Setting up of the Construction Camp	Environmental (Impact Assessment and Audit) Regulations, 2003	An Environmental Impact Assessment Report for the Construction Camp	National Environment Management Authority (NEMA)	Before commencement of the project
Material Extraction	Environmental (Impact Assessment and Audit) Regulations, 2003	An Environmental Impact Assessment Report for the Construction Camp	National Environment Management Authority (NEMA)	Before commencement of the project
Registration of Workplaces	Occupational Safety and Health act, 2007	Filled Application Form and Initial Health and Safety Audit. Application fee	Directorate of Occupational Safety and health Services	Less than 3 months after the development of the construction camp, and before construction begins
Initial and Annual Environmental audit of the Project	Environmental (Impact Assessment and Audit) Regulations, 2003	Environmental Audit report developed by authorized expert	NEMA	Within the first 12 months of commencement of the project.
Engagement of Workers	Work Injury Benefit Act (WIBA) 2007	Acquire WIBA insurance cover to cover all employees that will be engaged in the project.	Directorate for Occupational Safety and Health Services	Before the commencement of the project.

Environment and Social Baseline Information

Environmental and social baseline information were updated given that the previous data was collected in 2017. The baseline information was updated to suit the current environmental and social situation within the project area. From the updated data, the consultant did not identify significant changes in the bio-physical environment. However changes in the socio-economic data was identified given the increase in population. These included increase in the number of businesses, vehicles, structures. This was updated in order to give policy makers more information into the environmental conditions of the area to help in the identification and prioritization of project components.

Stakeholder Engagement and Consultation

The Government of Kenya has an objective of involving communities in policy formulation and implementation at the local level. Further, EMCA requires project proponent to seek the views of persons/communities that may be affected by the project to be consulted, at least explain project potential impacts and obtain oral/written comments, which will be included in the ESIA for implementation by the proponent. In keeping with the Environmental (Impact Assessment and Audit) Regulations (2003) and the Environmental Management and Co-ordination Act (1999), the views of all stakeholders including the local community of the proposed project site were considered and included as part of the ESIA report.

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

- Re-scoping of the project-Disseminate information to the public and stakeholders about the project with Special reference to its key components, description, original scope of work, appraised cost, and allocated project cost. Allow community members choose their priority projects with reference to the allocated costs.
- Create awareness to the Settlement Executive committees (SEC) and Grievance Redress Committees (GRC) on the proposed project.
- Gather comments, suggestions, and concerns of the interested and affected parties.
- Build Community Consensus and acceptance of the proposed project.

The ESIA team held a public Consultation meeting both in Kisumu targeting Kisumu settlements and Muhoroni at the Chief's camp targeting residents of Muhoroni Settlements. The main aim of these meetings was to public disclosure of the approved alignment, designs, construction methodologies, Impact Identification and Mitigation measures recommended. Through these meetings the settlement residents were able to air their views/fears and concerns to be considered in the ESIA and RAP processes.

Settlement	Date	Location	Total No. attendants	Male representation	Female representation	Disabled	Widows	Elderly	Female head of household
Kisumu	21 st June 2023	Ezra Gumbo Social Hall	158	102	56	6	8	6	10
Muhoroni	21 st June 2023	Chief's Camp	116	65	51	4	5	7	6

During the ESIA public disclosure meetings, the following were identified as the key concerns and the responses that were given.

Settlement Issues/Concerns Raised	Response
GRC and SEC should be included in the payroll	KISIP County GRC Chairperson stated that GRC and SEC positions are considered as volunteers.
Community members to be provided with hard copies of the agreed scope of work per settlement	KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected

Settlement Issues/Concerns Raised	Response
A follow up to be done on the few PAPS who have not yet been facilitated from the last ARAP implementation due to bank detail issues	KISIP County GRC Chairperson assured the few PAPS who were yet to be facilitated that the issue will be addressed, and matters closed
The engineers to consider community members opinions when designing drainages	Consultant's engineer assured the community members that they will be involved during decision making and implementation process of the project.
A road should be constructed in Shauri Moyo in future project to improve access in the area	KISIP County GRC Chairperson stated that road project could not be undertaken in the settlement under KISIP2 project due to limited funds but when funds are available in future the project will be implemented
Corruption may interfere with how grievances will be handled	The Sociologist stated that handling of grievances will be done in a transparent and fair manner jointly with the Grievance Redress Committees.
Allocate a budget to build waste disposal facilities to avoid dumping waste in the drainages to be constructed	KISIP County CGRC Chairperson said that due to limited funds KISIP2 will not be able to go beyond the selected scope of work however the county government will include in its budget construction of waste disposal facilities to avoid clogging of the drainages.
Community members to be provided with hard copies of the agreed scope of work per settlement	KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected
The engineers to consider community members opinions when designing drainages and culverts	Consultant's engineer assured the community members that they will be involved during decision making
Relocation of PAPS should be done in an orderly manner	The sociologist stated that relocation of PAPs will not be forceful and the SEC, GRC, sociologist, valuer and Surveyor will be involved in the RAP process
Relocation of PAPS should be done in an orderly manner	The sociologist stated that relocation of PAPs will not be forceful and the SEC, GRC, sociologist, valuer and Surveyor will be involved in the RAP process
Corruption may interfere with how grievances will be handled	The Sociologist stated that handling of grievances will be done in a transparent and fair manner jointly with the Grievance Redress Committees.
Allocate a budget to build waste disposal facilities to avoid dumping waste in the drainages to be constructed	KISIP County CGRC Chairperson said that due to limited funds KISIP2 will not be able to go beyond the selected scope of work however the county government will include in its budget construction of waste disposal facilities to avoid clogging of the drainages.

A comprehensive Grievance Redress Mechanism (GRM) was also developed guided by the KISIP GRM. In the four-tier grievance mechanism, the first level will have grievances addressed at the settlement level where the grievances will be discussed and settled between the contractor and the Grievance Redress Committee (GRC). At the second level, the GRC, after analyzing the grievances, will submit second level grievances to the County. The third level of the GRM will involve the National KISIP Implementation Committee and will include the National Project Coordinator. At the fourth

level, grievances will be submitted to the Courts of Law with will include the Land and Environment Court. Legal options will however be considered as a last resort to address and settle grievances.

Impacts Identification and Mitigation

Positive Impacts

The project presents several positive direct and indirect impacts to the community. Improved security and visibility and night, improved drainages and sewer lines, and increasing accessibility to water are the main direct long term benefits for the project. Direct short term benefits include providing employment opportunities to the community youth, increasing community capacity through training and sensitization efforts, reduced incidents of water borne diseases due to improved sanitation within the settlements are some of the benefits of the project to the community.

Specific Negative Impacts

Negative impacts associated with the project have been identified and mitigation measures established to ensure the project sustainability, not only for the short term but also on the long term. The impacts have been clustered into construction, operation and decommissioning covering environmental (environmental pollution, water resources degradation, air quality, ground cover, land destruction, drainage management, waste management, etc.), social (health and safety, displacements, access to services and amenities, noise and vibrations, air quality, transportation efficiency, etc.), economic (access to markets, transport costs, appreciation of assets, land use developments, etc.) and cultural issues.

Environmental and Social Management Plan (ESMP)

This management plan presents the key management principles that then defines a scope of the plan implementation. Broad indications of the responsibilities have also been discussed along with detailed actions tabulated in a matrix for ease of reference and review. It should also be noted that the matrix is not complete in itself and continuous reviews would be necessary throughout the project implementation period. The plan would provide the key environmental and social concerns, appropriate preventive actions and responsibilities, targets to be achieved and where possible estimate of the respective costs. The plan will also provide basic success indicators for monitoring purposes.

The guiding principles behind the project are based on the national objective of enhancing environmental, social and economic benefits to the affected persons as well as sustainable national development and in compliance with the environmental laws (EMCA, 1999 and associated regulations as well as relevant sectoral statutes) and industry best practices. To achieve these objectives, the project should be acceptable to the majority and ensure minimal effects to the physical environment through integrated stakeholder consultations through the life of the project, evaluations and review of the design aspects and a sustained monitoring of the road upon commissioning.

The scope of this environmental and social management plan (ESMP) is to give guidelines to all parties involved during construction, maintenance and utilization of the project and its components in the fulfillment of environmental and social requirements. Precautions to ensure that damages to the environment are minimized calls for a concerted effort from the project management, the Contractor(s) and all stakeholders. The contractor is expected to, guided by the ESMP, develop stand-alone Construction Environment and Social management Plans (CESMP) for each component of the project. For this reason, the Consultant has clearly highlighted management plans for roads projects, water

supply projects and electrical facilities, all of which re-present the sub-components of the project. The contractor should however verify updated legal and other requirements in order to develop a comprehensive CESMP. ESMP for Construction phase under the roads and drainage component is outlined below. Other ESMP matrices are included under **Section 8** of this report.

Disclosure Copy

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
CONSTRUCTION PHASE								
Excavation and trenching	Dust emission	<ul style="list-style-type: none">Establish a water sprinkling program in the dry season;Provide to workers dust masks always and ensure they use them;	<ul style="list-style-type: none">Water sprinkling undertaken/reduction in amount of dust;On site plan for dusty sectionsWorkers wearing dust masks always.No of reports by Community about high dust levels	<ul style="list-style-type: none">Observations;Complaints from residents/SEC	Contractor	Daily	Cost included in the works contract	
Excavation and trenching	<ul style="list-style-type: none">Health and safety risks (ergonomic risks, injury through equipment etc)Increase in Soil ErosionBlockage of drainagesIncrease in demand for laborPartial obstruction of traffic	<ul style="list-style-type: none">Develop a site specific EHSS Management PlanDevelop a comprehensive labour management plan in line with the Employment Act, 2012Increase awareness among the workers and the host communities about the possible hazards and risksAlign the project to ensure other facilities such as drainages and roads are not significantly impacted.	<ul style="list-style-type: none">Grievance reportsWell documented EHSS management plan and a labour management Plan.					

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Trenching, Clear felling, Borrowing Construction materials	Soil Erosion Rising of dust Increased acute respiratory illnesses Poor visibility for road users Blocking of available drainages	<ul style="list-style-type: none"> Stabilize disturbed soils with grass and other vegetative matter; Avoid activities that can lead to soils erosion during the rainy season; Install adequate drainage structures; Backfill trenched areas; Stabilize drainage channels with concreted or grass. Implement dust control measures Sensitize workers and community on respiratory illness management including wearing of masks near construction areas. 		<ul style="list-style-type: none"> % area of Land disturbed during Construction stabilized with grass or vegetative cover; Adequate drainage in place as provided for in design and stabilized accordingly; % areas of land Landscaped upon Completion of construction works 	<ul style="list-style-type: none"> Site inspection, Project records of stabilized area 	Contractor SEC, Host community CPCT	Routine	Under the works contract
Improper disposal of Construction debris and lack of/poor sanitation from Construction workers.	<ul style="list-style-type: none"> Soil, ground and water contamination General poor housekeeping that will increase health and safety risks Introduction of breeding grounds for vermin 	<ul style="list-style-type: none"> Stockpile all construction debris/wastes and dispose in according with EMCA solid waste management guidelines Procure qualified and approved NEMA waste handling firms; Ensure Wastes are not deposited or stored within a riparian zone/wetland and or near storm drainage channels; Provide sanitation facilities for construction workers; 		<ul style="list-style-type: none"> EMCA guidelines being used i.e. storage and transportation by a licensed transporter; Good housekeeping Designated and well-marked temporary waste holding facility No wastes deposited any other place other than the designated area 	<ul style="list-style-type: none"> Field/site inspections; Solid waste operator license; Records of where waste was delivered to; Visual inspection of riparian and other public areas for 	Contractor CPCT Host Community	Weekly	400,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Fueling and servicing of vehicles and other equipment. Management of vehicles	Ground and underground contamination of soils and water	<ul style="list-style-type: none">Careful fueling of vehicles, plant and equipment used during construction;Construct an impervious platform that is bundled Where fueling and servicing of vehicles in done;	<ul style="list-style-type: none">Impervious platform that is bundled in place;Oils and fuel stains on the on the exposed groundNEMA Licensed Transporter to transport hazardous/contaminated wastes;	<ul style="list-style-type: none">Presence of bundled area for fueling and servicing of vehiclesLicensed hazardous waste handle to transport offsite	Contractor	Routine	Considered in works contract	
Running equipment/ machines/ tools	<ul style="list-style-type: none">Noise and Vibrations nuisancesGrievances from the host communityImpact on nearby structures	<ul style="list-style-type: none">A regular proper maintenance of machinery including generators;Sensitization of machine operators to shut off plants not in use and ensuring no unnecessary idling;Provision of ear mufflers to those most exposed, especially that operating heavy machinery/ equipment;Adhering to the Noise and Vibrations regulations	<ul style="list-style-type: none">Noise and vibrations within allowable limits under EMCA especially near residential areas and other sources of noise;Maintenance and servicing records for the machinery;Noise and vibrations analysis records;Qualified plant/ machinery operators;	<ul style="list-style-type: none">Sample visits;Vehicle and equipment monitoring schedule and reports	Contractor	Routine	Considered in works contract	
General construction activities	Loss of Aesthetic Value Health and safety concerns or incidents Public health incidents	<ul style="list-style-type: none">Ensure timely collection and disposal of all types of wastes, solid & liquid wastes generated by the project;Landscaping works upon completion of construction activities;	<ul style="list-style-type: none">No solid construction waste accumulation;Restoration and landscaping of areas affected by construction activities undertaken;	<ul style="list-style-type: none">Solid waste management practicesLandscaping	Contractor; KISIP	Routine	In the works contract	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Damaged water pipelines and sewer lines/ systems	<ul style="list-style-type: none"> Waste water generation Grievances due to loss of water Eyesore Can lead to stagnation Contamination of surface and underground water sources 	<ul style="list-style-type: none"> Identify and mark the location of existing underground services Improvement of existing waste water and sewerage management systems/ structures; Putting in place appropriate measures to curb leaks and spillages; 		<ul style="list-style-type: none"> Reduction in number of point source discharges from damaged infrastructure; Repair of existing waste water and effluent managing structures e.g. sewerage lines; 	<ul style="list-style-type: none"> Physical inspections; Grievance reports 	Contractor; CPCT, SEC	Routine	600,000
Management of solid and liquid wastes	<ul style="list-style-type: none"> Eruption and spread of communicable diseases Eye sore Increased in grievances from Host community and SEC Legal disputes 	<ul style="list-style-type: none"> Sustainable management of waste (solid and effluent); Treating effluent wastes at source No disposal of solid or liquid wastes near water sources Ensure sanitary facilities are not near water sources and are well constructed and managed Avail toilets at the work fronts easily accessible to the workers. Sensitization of residents on observing proper hygiene practices e.g. proper hand washing; Monitoring and unclogging blocked drains including draining stagnant waters; 		<ul style="list-style-type: none"> Training matrix to include community and workers training on solid and liquid wastes management Designated and well managed solid and liquid waste facilities Waste management plan 	<ul style="list-style-type: none"> Waste management plan Waste tracking sheets Effluent treatment waste quarterly analysis Location of the toilets and their general structure 	Contractor CPCT; Public Health Officer;	Weekly for solid waste and effluent;	400,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Temporary Traffic and business disruption	Livelihood Disruptions Traffic congestion	<ul style="list-style-type: none"> • Installation of appropriate signage to direct and control human and vehicular traffic; • Traffic Safety awareness through training workers and host community members, displaying traffic safety campaign posters • Training traffic marshals who aid in guiding traffic 		<ul style="list-style-type: none"> • Register of Residents whose businesses are affected temporarily provided with alternative sites; • Road signage to control traffic in place; • Alternative routes provided; • Contractor adhering to site specific settlement physical development plans/ ESMP 	<ul style="list-style-type: none"> • Visual inspection of site to check that measures are in place; • Review of plans vis a vis what the contractor was doing; • Grievance records on traffic management 	Contractor CPCT	Daily for Traffic Management; Monthly for Training and awareness campaigns	400,000
Driving and operation of other equipment	<ul style="list-style-type: none"> • Road traffic accidents • Worker health and safety hazards such as crushed by equipment, entrapment etc • Increased dust emission. • Damage to community assets 	<ul style="list-style-type: none"> • Ensure only qualified and experienced plant operators handle machinery/ equipment; • Maintain vehicles and equipment in proper working condition; • Control access around construction sites; • Install all relevant traffic signs and traffic safety awareness posters • Enforce and monitor a speed limit of 20km/hr within the construction area, at the campsite etc; • Training and awareness to workers and community 		<ul style="list-style-type: none"> • Record of licensed and approved drivers and equipment operator; • Access control barriers, management system, signs (danger signs, hazard signs etc) • Security provided around construction sites and excavations sites; • Training records 	<ul style="list-style-type: none"> • Qualification record of drivers and heavy equipment operators • Display of warning and danger signs on traffic safety 	Contractor SEC CPCT	<p>Monthly for training and competence records.</p> <p>Daily for adherence to traffic management protocol in place.</p>	<p>Internal Cost</p> <p>Training and awareness cost considered</p>

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
General work practices (Occupational Safety and Health)	Occupational Safety and Hazards	<ul style="list-style-type: none"> • Conduct a comprehensive OHS risk assessment and outline all possible risks that arise from the various tasks; • Implement the mitigation measures outlined in the OHS risks assessment; • Develop the EHSS Management Plan; • Train all workers on General OHS as guided by OSHA 2007 • Verify competence of all workers undertaking specialized tasks such as the heavy equipment operators; • Provide all other necessary training to the workers (Traffic safety, work at height, risk assessment, First Aid, Fire safety, Manual Handling) as guided by the relevant statutes and Industry Best Practices; • Provide and ensure that all workers on site wear PPEs (reflectors, safety boots, gloves, goggles, ear mufflers and breathing protection) relevant to the tasks assigned to them; • Increase OHS awareness through conspicuously display safety caution 		<ul style="list-style-type: none"> • OHS Risk Assessment document • Site Specific Environment, Social, health and Safety Management Plan • PPE provision and monitoring plan • Training and Competence matrix outlining all training that will be done and all that have been done on a monthly basis (including toolbox talks) • Availability and easy access to first aid kits/tools; • Records of OSHA kept; 	<ul style="list-style-type: none"> • Monthly OHS inspection (housekeeping, PPE, training etc) • Quarterly OHS Audits • Availability of the OHS risks assessment document • Available EHSS Management Plan 	Contractor CPCT	Daily for activities pertaining to works; Monthly scope specific monitoring OHS inspections Quarterly OHS Audits	1,200,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		signage at strategic places within all work places; <ul style="list-style-type: none">• Put in place necessary hazards and risk mitigation measures;• Keep records of OSHA including reported incidents;• Ensure only qualified and experienced personnel handle machinery and equipment;• Provide appropriate tools that should be in good working conditions;• Adherence to the Occupation Safety and Health Act (OSHA 2007) and subsequent regulations						
Sourcing construction water	<ul style="list-style-type: none">• Resource use conflicts• Water source contamination• Increased water borne diseases	<ul style="list-style-type: none">• Hold consultations with the SEC and CPCT with a view to discussing any potential resource use Conflicts that may arise and come up with a strategy of how to avoid them;• Identify water sources for construction during the planning and design phase and as much as possible, avoid community water sources	<ul style="list-style-type: none">• Minutes of Consultative meetings held to identify water sources;• Grievance records• Map showing the approved sources of water and water abstraction point• Water abstraction permit	Grievance records	Contractor SEC CPCT	Water abstraction permit before abstraction begins Other measures monitored monthly	100,000 (to facilitate consultative meeting)	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Acquiring the Water Abstraction Permit from the Water Resources Authority 						
Labor influx	<ul style="list-style-type: none"> Employment of locals 	<ul style="list-style-type: none"> Hiring unskilled construction and skilled (if available) labour from the local population as far as possible. Use of manual labour during excavation and construction works where possible. Prepare a labour influx plan to manage labour influx. Prepare an employment plan. Sensitizing workers and the surrounding community on awareness, prevention, and management of HIV / AIDS. 		<ul style="list-style-type: none"> No of locals hired in the project per settlement. No of Skilled locals involved in project activities. Evidence based HIV awareness programs. A Documented Labor management plan 	<ul style="list-style-type: none"> Policy document; Interviews records; Record of incidents of GBV reported; Labour management records 	Contractor SEC CPCT	Continuously	No additional cost
Stakeholder Engagement	<ul style="list-style-type: none"> Exclusion of Disadvantaged and Vulnerable groups. Inadequate stakeholder Engagement. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of VMGs 		<ul style="list-style-type: none"> No of Vulnerable and Disadvantaged groups mapped in each of the settlements. Meetings and agenda of all meetings held with all stakeholders. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none">• Development and implementation of a stakeholder engagement plan• Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan•						
Labour Management	<ul style="list-style-type: none">• Ineffective GRM	<ul style="list-style-type: none">• Timely closure of all grievances logged.• Proper facilitation and capacity building to make the GRM an effective conduit for grievances redress.• Project to ensure sensitization of the GRM, its procedures, the levels or officers to whom different types of grievances should be addressed and other relevant information.	<ul style="list-style-type: none">• No of cases Logged.• Nature of cases received.• Number of Grievances resolved and not resolved.• Number of GRC meetings conducted and grievances resolved in the GRC meetings.• Number of facilitations done for the SEC to solve community Grievances.• Number of GRC meetings conducted and issues discussed.	<ul style="list-style-type: none">• Grievance Register.• Hard copy of all Grievance forms• Hard copy of all Grievance Resolution forms.• Minutes of meetings held with community towards Grievance register.•	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.	
Labour Management	<ul style="list-style-type: none">• Child Exploitation/Labour	<ul style="list-style-type: none">• Ensuring that each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws.• Ensuring that any child sexual relations offenses among	<ul style="list-style-type: none">• Records of Child protection cases reported in the project.• Develop a child protection Code of Conduct.• Number of Inductions sessions on Child	<ul style="list-style-type: none">• Approved Code of Conduct document.• Records of Employees engaged in the project.	Contractor Resident Engineer	Continuously	No additional cost.	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		contractors' workers are promptly reported to the police.		protection Code of Conduct. • Number of refresher awareness training on Child protection Code of Conduct. • Number of staff who have signed Code of Conduct.	• Contract documents of all employees engaged in the project.			
Labour Management	• GBV/SEA/SH	• Contractor to develop and Implement policy on sexual exploitation/harassment and Gender based violence. • The contractor to develop and implement grievance redress mechanism including non-retaliation of whistle-blower, the GRM strategy will be specific in handling of GBV, SEA and SH (sexual harassment cases) that will ensure survivor centered approach and confidentiality. • The contractor will develop a whistle blower strategy ; • Implement the signing of Code of Conduct before deployment to site after recruitment. • Undertake gender mainstreaming during the construction phase • Disseminate the policy among all the staff and SEC; • Put in place measures for monitoring GBV/sexual harassment.		• Number of Inductions sessions on GBV/SEA/SH and signing of Code of Conduct. • An approved Code of Conduct. • Number of GBV, SEA and SH cases reported and resolved. • Number of Community sensitization sessions on GBV/SEA and SH. • Number of Continuous training and awareness training done through toolbox talks. • Number of IEC materials done to create awareness. • Number of stakeholder engagements conducted on GBV/SEA/SH.	• Minutes of meetings conducted. • List of attendance and pictures of the stakeholder engagements. • List of attendance of Toolbox talks trainings. • Evidence of IEC materials used. • Signed Codes of Conducts	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> • Create awareness among women and men on GBV and SEA risks including reporting and referral pathways. • Have deterrent/punitive measures for any offenders reported> 		<ul style="list-style-type: none"> • Establishment of a grievance responsive GRM. 				
Total Cost for Construction Phase								2,300,000

Disclosure

Conclusions and Recommendations

The ESIA review revealed several gaps that were identified and documented. First the Baseline environmental and social data for Kisumu County were not only inadequate but also outdated based on the period lapse between the initial ESIA study (2017) and the current ESIA review exercise (2023). New and revised legal requirements in addition to the Bank's Environmental and Social Framework (ESF) and other international requirements and guidelines were reviewed as well and considered in the updates of the ESIA study report. Additional public consultation was also done in order to revise the scope, guided by KISIP. The re-scoping exercise was done consultatively involving both the GRC and the SEC. Only the settlements and the projects that were agreed upon were reviewed and included in the updated ESIA study.

No significant additional impact was identified during the course of the study based on the initial study report.

The following are the consultant's recommendations;

- That the Contractors, guided by the ESMP, develop component specific Construction Environmental and Social Management Plan (CESMP) that should be reviewed and approved by the Project Engineers prior to implementation
- That a robust Labour Management Plan for the project is developed for application in all projects specifying code of ethics for employment guided by the Employment Act.
- That a robust Waste Management Plan be developed that aligns to the Sustainable Waste Management Act, 2022 and the County legislation
- That a comprehensive Grievance redress procedure be developed by the contractor for review and approval by the Engineer to handle grievances raised by the community members
- That the contractor confirms that all the required permits and approvals have been acquired and available for inspections and audits by the Project Engineer of the Employer.
- That, prior to the start of the project, entry meetings should be held in each settlement to inform the public of the intention to commence the works and clarify to the community measures taken to manage labour related and other grievances that arise from the project.
- Requirement for the contractor to develop and implement a Local recruitment plan. Youth employment is critical for the settlements, and a plan to ensure the contractor complies with prioritizing locals for unskilled labor is important.
- Requirement for the contractor to have a Community Liaison Officer (CLO) on board. The CLO will be the link between the contractor and SEC/GRC/wider community.
- To keep the GRC and SEC motivated to deliver their mandates, consider (if not already being done under projects) providing sitting allowances to the SEC/GRC members. Further, ensure an engagement structure, e.g., monthly meetings involving the SEC GRCs, community members and local leadership, etc.

1. INTRODUCTION

1.1 Background

56% of the world's population, 4.4 billion people, live within urban centers according to the World Bank (<https://www.worldbank.org/en/topic/urbandevelopment/overview>). This trend is expected to continue, with the urban population more than doubling its current size by 2050, at which point nearly 7 of 10 people will live in cities. This rate of growth presents numerous challenges within the urban setting; congestion, inadequate resource, deterioration in sanitation and hygiene, increase in the rate of spread of communicable diseases among others.

In Kenya, the urban annual population growth reported at 3.706 % in 2021, according to the World Bank collection of development indicators, compiled from officially recognized sources (www.macrotrends.net). Approximately 29% of Kenya's population currently live within the urban centers (www.tradingeconomics.com). This high population growth rate has resulted in mushrooming of informal settlements that have not been well planned risking the health, safety, security and general well-being of its inhabitants.

In order to improve the living standards of the people living within these informal settlements, the Government developed the Kenya Informal Settlement Improvement Project (KISIP). Supported by the World Bank, the similar sub-projects have since been implemented in several counties within the country, and more similar sub-projects are currently under development. The main goal of the project is to improve living conditions in informal settlements in selected towns within 14 Counties in Kenya namely: Nairobi, Machakos, Kitui, Embu, Thika (Kiambu), Nyeri, Mombasa, Kilifi, Nakuru and Naivasha (Nakuru), Kericho, Eldoret (Uasin Gishu), Kakamega, Kisumu and Garissa). This will be achieved by enhancing security of tenure and improving infrastructure based on plans developed in consultation with the community.

For Kisumu County, KISIP focuses on six of its informal settlements; Manyatta A, Manyatta B, Kibuye, Nyawita/Migosi, Bandani and Muhoroni (Shauri Moyo, Shauri Yako, Swahili, Bondeni) infrastructure improvement components and street lighting components will be implemented within the various settlements as is detailed in the subsequent sub-chapters.

The project is considered low-risk as it includes the rehabilitation of local access roads with the inclusion of security lights and small scale water supply and sewerage rehabilitation components.

1.2 Overview of the Kenya Informal Settlement Improvement Program (KISIP)

The Government of Kenya has received a credit from International Development Association (IDA) and French Development Agency (Afd) towards the cost of the Second Kenya Informal Settlements Improvement Project (KISIP 2) and applied part of the proceeds of this credit to procure **Consultancy Services for Engineering design review, repackaging of detailed engineering designs & preparation of procurement documents; updating of RAP and ESIA Reports; and supervision of the proposed infrastructure improvement works in selected informal settlement in the counties of Kisumu & Kakamega (11No. settlements)**

KISIP 2 builds on the successes and lessons learnt of KISIP 1 and continues to support the interventions that have been successful.

The overall project development objective of the KISIP 2 program is to improve access to basic services and tenure security of residents in participating urban informal settlement and strengthen institutional capacity for slum upgrading in Kenya in consultation with the community.

This Project, while concentrating on informal settlements, complements existing and past urban operations in Kenya to address the urban infrastructure deficit and urban institutional challenges. It supports the Governments' affordable housing agenda as it seeks to complement the demand-side and supply-side operations to improve housing affordability

KISIP comprise following four components, namely;

Component 1: Integrated Settlement Upgrading. This component supports settlement upgrading through two main interventions classified under two sub-components:

Sub-component 1.1: Tenure regularization

Coordinates regularization of tenure for people living on uncontested public lands whose process includes;

- a) Development of a local physical plan for the settlement which lays out land parcels and infrastructure (roads, drainage, walkways, etc.);
- b) Surveying with physical placement of beacons to demarcate the parcels as per the plan;
- c) Preparation and issuance of letters of allotment based on the survey plan; and finally
- d) Issuance of titles.

Sub-component 1.2: Infrastructure Upgrading

Coordinates infrastructure investment portfolio whose menu includes: roads, bicycle paths, pedestrian walkways, street and security lighting, vending platforms, solid waste collection and settlement sorting, storm water drainage, water and sanitation systems, public parks, and green spaces. It further includes investments related to prevention of crime and violence, including but not limited to community centers. The ESIA review and update was prepared as a deliverable under this sub-component.

Component 2: Socioeconomic Inclusion Planning This component supports community development plans to enhance social and economic inclusion, identifies beneficiaries who fit the eligibility criteria of government programs but are excluded and connects them appropriately, supports participatory crime and violence mapping, monitors the employment of local labour, carries out community capacity building and awareness raising for various project interventions including community-based solid waste management.

Component 3: Institutional Capacity Development for Slum Upgrading

This component supports institutional and policy development at national and county levels; develops a capacity building plan for national and county levels to implement the Strategy and to develop understanding of slum upgrading processes; also supports technical assistance, training, workshops and learning events, experience sharing and peer-learning activities with other counties, and other capacity building activities.

Component 4: Program Management and Coordination

This component supports activities of the NPCT and the CPCT related to national and county level project management and coordination, including planning, surveying, engineering, fiduciary (financial

management and procurement), safeguards compliance and monitoring, monitoring and evaluation (M&E), communication and community development.

1.3 Project Objectives

As mentioned in the KISIP Project Operational Manual (POM) (GoK, 2020), the project development objective is “*to improve access to basic services and land tenure security of residents in participating urban informal settlements and strengthen institutional capacity for slum upgrading in Kenya*”. Specifically the project aims to improve the condition of selected roads, improve accessibility of potable water, and improving security and visibility at night by introducing street lights and flood lights in selected settlements. To improve the lives and livelihoods of at least 2.5 million people within informal settlements in select counties through the enhancement of security of tenure and basic infrastructure improvement based on plans developed in consultation with the community in line with Kenya Vision 2030.

The achievements of the PO will be measured principally by the following indicators:

- Population in informal settlements with enhanced land tenure security (broken down by gender - percentage of women/men, youth and persons with disabilities)
- Population in informal settlements with access to enhanced infrastructure and services (roads, drainage, pedestrian walkways, water connection etc.)
- Number of beneficiaries linked to socio-economic opportunities (broken down by gender - percentage of women/men, youth, people with disabilities).
- Number of National and County slum upgrading and prevention policies and strategies reviewed or formulated and adopted for implementation.

1.4 Project Relevance and Justification

All Kenyans deserve decent living standards as stipulated by the Constitution. Decent living conditions include access to safe quality water and sanitation, decent housing, security and safety among others. As per the Bill of Rights in the Constitution of Kenya, housing and water are some of the rights. According to Vision 2030 efforts towards realization of a better urban lifestyles will involve the restructuring and enhancement of urban planning. Focus will be directed towards reduction of deficits in key sectors that affect livelihoods including housing, water and sanitation, health, transport, communication, energy and land reforms among others

Vision 2030 development blueprint recognized that most of the urban areas were poorly planned and in need of better planning. The government plans to enhance the planning of the urban areas with special priority directed towards the upgrading and improvement of informal settlement and slums. Such efforts were in line with the MDGs (2000 – 2015) and currently resonate well with the SDGs (2016 – 2030) especially SDGs: 3 (good health and well-being); 6 (clean water and sanitation); 7 (affordable and clean energy); 9 (Industry, Innovation and Infrastructure); 10 (reduced inequalities); 11 (sustainable cities and communities); and 12 (responsible consumption and production).

According to the POM, KISIP considered the following when selecting the settlements within which the project will be implemented. The settlements needed to;

- Be located on public land or land that is regularized through a GoK program (including KISIP). Infrastructure activities to be on land where the regularization process is already complete until survey stage.
- Have no court case or other legal encumbrances on part or all of the land on which the settlement sits
- Have community readiness ensuring that the voice of women is clearly noted (e.g. a community meeting, signing of a community participation agreement)
- Population density no less than 30 people/ha
- Settlement sits on a maximum 30ha
- Settlement lies within a 10km radius of the nearest city, municipality or town
- Structures are: (i) temporary or semi-permanent; (ii) single-storey; (iii) distance between structures not more than 50m
- Settlement morphology allows for adoptive planning with minimal displacement. Physical upgrading of the settlement should not entail large-scale displacement (and, thereby, relocation) of residents

Additional criteria for infrastructure upgrading

- Evidence of regularization up to surveying stage through an approved Local Physical and Land Use Development Plan (LPLUDP) and approved survey plan
- Evidence of settlement readiness for infrastructure upgrading, such as availability of detailed designs, bidding documents, ESIA's, and RAPs.
- Proximity to trunk infrastructure (cost of connecting to trunk is not more than 15% of total infrastructure cost; settlement should be no greater than 0.6km away from trunk)
- Infrastructure has been designed and will be built and operated in a way that anticipates, prepares for and adapts to changing climate conditions
- County has provided an O&M plan to maintain the infrastructure to be upgraded
- (where applicable) KISIP1 infrastructure is well maintained

Using the above criteria, submitted settlements are organized under 2 categories. Category 1 in readiness for tenure regularization and Category 2, settlements in readiness for infrastructure improvement. Category 2 is further divided into (a) settlements that have detailed designs, bidding documents, RAPs and ESIA's ready; and (b) settlements that need detailed designs, bidding documents, RAPs and ESIA's to be prepared.

1.5 Justification of the ESIA review and update

The Initial ESIA study was conducted in the year 2017/2018, and ESIA license was issued on 8th April, 2019 (see Annex II), and was valid for 24 months. The validity of the ESIA license ended in April of 2021, without having the project implemented. The Employer intends to undertake the project after the time lapse. The conditions for the License included among others;

- That the license will only be valid for 24 months and covers road works, water supply network, sewerage extension network, solid waste management and associated amenities;
- That the proponent will need to conduct Environmental Audits for each year during;

- That the Director General shall be notified for any transfer, variation or surrender of the license;
- The proponent shall implement and maintain an environmental management system, organizational structure, and allocate resources that are sufficient to achieve compliance with the requirements and conditions of this license;
- That the proponent shall comply with NEMA's improvement orders throughout the project cycle.

Over the years, several changes have occurred that necessitates the review and updated of the ESIA report, in order to identify any new or changed aspects, which exposes the bio-physical and socio-economic environment to unprecedented risks.

This ESIA report has included both the details of the previous project design components and the proposed updates given the funding available as guided by the proponent. This is to give the reader an appreciation of the initial design and its environmental and social impacts, and the current proposed design and its environmental and social impacts. Further, as opposed to having separate ESIA project reports for the different settlements as is best practice, the report consolidates a comprehensive ESIA study report for the settlements in one platform as was also done in the initial review. Finally, the separation of the Environment and Social Management Plan matrices for each component (Roads and Drainage, Electrical and Water and Sanitation) introduces similar impacts that have been captured in each sub-section. This allows for ease of reference by the different contractors handling the different sub-components.

A highlight of changes which necessitates the review and update included;

a) *Re-scoping of the project activities/interventions to align with the available budgets*

The scope of the project reduced significantly to suite the budget allocated to the implementation of the project. Each project component, roads component, electrical component, and water and sanitation component for the various settlement reduced in scope. All the earlier proposed components of the project were evaluated for effectiveness and cost as guided by the Employer. Through collaborative meetings, the Consultant, SEC members, the County Government officials and other stakeholder identified alternative projects that will be most beneficial to the communities (Minutes of meetings on annex VI).

01_Settlement: Bandani

ORIGINAL WORKS	REVISED WORKS
Road – 1	
Road – 2	
Road – 3	Pamjos-Kanyamedha School (Part of Road 3)
Road – 4	Auji-Pundo Road
Road – 5	Pundo - Nita Road (Road 5)

02_Settlement: Kibuye

ORIGINAL WORKS	REVISED WORKS
Highway Secondary Road	Mama Ngina-Highway Sec School Road
Kibuye Market Road	SDA - Thep Thep Road
Water Supply/Kiosk	Water Supply

ORIGINAL WORKS	REVISED WORKS
Street Lighting	Modern Ablution Block
Flood Lighting - 1 No.	

03_Settlement: Nyawita/Migosi

ORIGINAL WORKS	REVISED WORKS
Nyawita	Nyawita
Roads and drainage	Koyoo- Koyuga Road
Sewerage	
Ablution block (1No.)	Migosi
Street lighting	1. Floodlights (3 No)
Flood lighting (5No.)	2. Sewerage (Last mile connectivity)
	3. Drainage
Migosi	
Roads and drainage	
Sewerage	
Ablution block (1No.)	
Street lighting	
Flood lighting (9No.)	

04_Settlement: Manyata A

ORIGINAL WORKS	REVISED WORKS
Roads and drainage	Konambuta- Mosque Road
Sewerage	Mezani- Lovebar
Ablution blocks (2No.)	Kajanta- Konambaya Road
Street lighting	Kona mbuta -Kaego Road
Flood lighting (12No.)	Floodlights (6 No)

05_Settlement: Manyata B

ORIGINAL WORKS	REVISED WORKS
Roads and drainage	Kaego – Nerea Bridge
Sewerage	Kaombe – Kasawino
Water supply systems	Wells – Walgudha
Ablution blocks (2No.)	Transformer – Daraja Mbili
Street lighting	Daraja Mbili – Koyango
Flood lighting (13No.)	
	Sewer and last mile connectivity
	Water Supply

06_Settlement: Muhoroni

ORIGINAL WORKS	REVISED WORKS
Bondeni	Bondeni
Roads and drainage	Floodlight (1 No)
Ablution block (1No.)	Independent drainage
Street lighting	

ORIGINAL WORKS	REVISED WORKS
Flood lights (3No.)	Shauri Yako
	Caleb – Wings of Change
	Nairobi Road- Chief- Wing road (Part of chief Caleb Catholic Road and Major Wings of change Road)
Roads and drainage	
Street lighting	Sangoro/Swahili
Flood lights (1No.)	Water reticulation

The reduction of the scope was not seen to introduce new impacts to the project. Impacts were seen to reduce based on the re-scoping.

b) RAP Updates

With the re-scoping of the project to exclude some components of the project, there was an update in the Survey of the settlements within which the project was to be implemented. A re-surveying was meant to identify any new PAPs following the re-scoping and an update of the RAP was important to confirm that the previous RAP was effectively implemented. , the review and update of the ESIA report was important to identify any changes in impacts on the settlement. Completion of planning and surveying in some settlements which established and

c) Update of Project Safeguard Framework documents for KISIP2: ESMF, RPF, VMGF, SMP, and SEF

After the initial ESIA was done and the EIA license for the project was issued, there was identified a need to develop Project Safeguard Framework for KISIP. The review and update of the ESIA was important to align the new requirements and structure of the KISIP Project Safeguard Framework. The new documents included the KISIP Environment and Social Management Framework (ESMF), the Resettlement Policy Framework (RPF), the Vulnerable and Marginalized Group Framework (VMGF), the Stakeholder Engagement Framework (SEF) and the KISIP Social Management Plan (SMP).

d) Changes in the Institutional Arrangements

Changes in the institutional arrangements for the project implementation. In the new arrangements, the County Governments are the project Employers for infrastructure works with responsibilities for procuring and implementing the interventions. Over the years KISIP developed various frameworks for ensuring environmental and social management for all their projects, and these need to be considered in order to update the ESIA report. The ESMP and the proposed grievance redress mechanism ought to be updated to include the new framework and institutional structure adopted by the Employer.

e) Changes in Policy and Legal Framework at National and County Levels

From 2018 to 2023, several new policies and legislature have been developed at National and County levels. The Sustainable Waste Management Act (2022), the Energy Act (2019), Physical and Land use planning Act (2019), the Children Act (2022), at national level and the Kisumu County Climate Change Act, 2020; Kisumu County Administration (Village Units) Act, 2019 and the Kisumu County Transport Act, 2019 among others at county level have all been introduced after the initial ESIA

report had been submitted and license issued. In order to update this report, these and other amended legislature needed to be reviewed for applicability in the project development, implementation and decommissioning phases.

f) Changes in Socio-economic Baseline Conditions

As much as there may be limited changes in environmental conditions over the years, key environmental aspects were not initially considered which include environmental baseline conditions within the settlements and climate change risk adaptation measures within the county. Further to this, significant socio-economic changes were expected due to high influx of migrants into the informal settlement from the low income rural areas.

The information contained in this ESIA Study Report, along with comments and inputs received from stakeholders and commenting authorities will assist the competent authority, the National Environment Management Authority (NEMA), in deciding whether or not to grant environmental authorization for the proposed Project, and to inform the conditions associated with such authorization. Updating of the contents of the document will ensure that legal and other information are valid and correct to guide the decision makers objectively.

g) Likely new developments in the vicinity of the project which could have an impact on the projects

Over the years, changes within the informal settlements are inevitable. Increase in the number of people often bring about development projects within these settlements. Introduction of significant institutions, competing county government projects and other developments could impact the settlement in ways that can be significant to the project. The review and update of the ESIA included the identification and inclusion of key developments within the project area.

h) Likely changes in community priorities and concerns.

Changes in community priorities over the years were also evaluated during project re-scoping and their concerns were also re-assessed to identify key concerns that may not have been identified during the initial ESIA study. The prioritized projects excluded ablution blocks and the waste management component.

1.6 General Study Objective

The overall objective of ESIA study is to ensure that potential Environmental and Social impacts associated with the development of the project are identified, assessed and managed appropriately to meet the compliance requirement of the Government of Kenya (GOK) and the World Bank. Mitigation measures are then developed and incorporated into the project to eliminate, minimize and reduce adverse impacts and where practicable enhance benefits

Specific objectives of this study are to:

- Update the previous ESIA study report to consider any changes in scope, legal and institutional structure, socio-economic baseline among others.
- Document all relevant stakeholder feedback for ease of reference and provide validation of the project

- Communicate the updated findings of the ESIA process for the proposed Project and alternatives considered;
- Ensure that the impacts identified during the ESIA process are updated, evaluated and proportionate and realistic mitigation measures identified;
- Facilitate an informed decision-making process by the relevant authorities in the ESIA process

Table 1.1: ESIA Team members

Name	Role in the Study
Ms. Cynthia Achieng Ochieng Lead EIA/EA Expert Reg No. 2469	Lead Environmentalist for the Study Collecting all relevant information and the developing the final ESIA report Identifying gaps in information shared and finding ways to fill these gaps Working with the team to collect relevant information from the various departments that can inform the study.
Ms. Florence Ogalo Oloo	Collecting relevant socio-economic information and conducting stakeholder engagement to inform the study.
Mr. George Adhoch Lead EIA/EA Expert Reg No. 2356	Verification of Environmental and Social baseline conditions and key environmental concerns that need to be highlighted and supporting in stakeholder engagement
Ms. Immaculate	Assisting in data collection, enumerator training and public participation
Eng. Michael Ogola	Translating engineering information and developing design details to inform the ESIA study report
Eng. Lenny Kirimi	Translating water and sewerage layout plans in order to inform the ESIA report
Eng. David Mutonga	Translating electrical engineering designs in order to inform the ESIA report.
Eng. Paul Agwaro	Translating engineering information and developing design details to inform the ESIA study report
Mr. Peter Odwe	Mapping of all the affected settlement and the proposed components to be implemented

1.7 Approach followed for conducting ESIA Study

The main objective of this assignment was to study the initial ESIA report prepared at design stage with the aim of identifying gaps and areas of intervention. The study was to establish required additional data and information as well as missing links to the environment and social settings in the respective areas. The focus on ESIA report was mainly on updating the environmental, social and economic baseline conditions as important parameters for the review of the respective environment and social management plans (ESMPs), the latter being the ultimate tool in the project implementation. In addition to the documentary review, project areas were also re-appraised with respect to the existing physical conditions as well as environmental and social quality.

At national level, the Report has been guided by EMCA 1999 and EIA/Environmental Audit Regulations 2003 (amendment 2016). Update to include EMCA Amendment of the Second Schedule (2019) [Legal Notice No. 31] and EIA/EA Regulations Amendment (2019) [Legal Notice No. 32]. Legal Notice No. 31 of 2019 provides the specific nature of project and the Risk category (Low, Medium and High) the ESIA Project falls under; while Legal Notice No. 32 of 2019 guides on which reporting (that is SPR, CPR or ESIA Full Study) to be adopted for each risk category. This project is classified as **medium risk** as it entails the rehabilitation of already existing roads and their facilities and water supply and as guided by Legal Notice No. 32 a Summary Project Report should be

developed. However, given that the initial ESIA was conducted prior to the Legal Notice No. 32 coming into force, a full ESIA study was done and submitted to the Authority and a license issued. The consultant therefore reviewed and updated the full ESIA study report in order to apply for a variation of the ESIA license that was issued in April, 2019 (Annex II).

Various methods of data collection were employed including public consultation as provided for in EMCA 1999 and the World Bank's ESS10: Stakeholder Engagement and Information Disclosure. Consultative and participatory methodologies were employed throughout the field work coupled with visual observations and interviewing the residents about various issues identified and possible solutions they would appreciate. Through consultation, the project components were prioritized to guide the borrower on project implementation.

Both qualitative and quantitative data collection techniques were used in the data gathering exercise, mostly focusing at sampling of residents' households and relevant institutions. GIS was used to map key environmental and social elements that will guide the reader of the report to appreciate the project and project locations.

The following are the methods that were used during this assessment.

Task 1: Review the Initial ESIA study

The Initial ESIA studying was reviewed to identify key gaps that need to be addressed and updated. This review was done with the premise of the new legislation that had been introduced between the times the initial ESIA study was done, to the time of the review of the ESIA study. Other changes that impacted the study area included;

- Administrative changes over the years as a result of changes within the County's political and administrative structure.
- Socio-economic changes over the years with the influx of population and urbanization with an increase in the number of traders, and the general population.
- Project components were amended to suit the allocated budget and community priority projects guiding the Consultant to re-assess the re-alignment of project components to the Employer's budgetary guidelines.
- Design of the roads were amended to fit within the wayleaves to reduce the risk of involuntary re-settlement of the people, hence previously affected PAPs may not be impacted in some sections while impacted in others.

The developments mentioned above guided the consultant to take a more wholesome approach to review each section of the initial ESIA and update it accordingly. Previous of ESIA, ESMP and RAP studies, as well as the implementation of ESMP in similar projects was also taken into account.

Task 2: Field Reconnaissance Survey and Review of Earlier Studies

The field reconnaissance survey has been carried out within the various settlements to understand salient environmental and social attributes that are likely to be most adversely affected by the project components. These feature included

- The general topography of the informal settlements
- Roads geometry

- Social amenities such as solid and waste water management systems (grey and black waters)
- Socio-economic structures such as temporary kiosks set up at the sides of the roads
- Bio-physical features such as trees and animals
- A social and physical feature like settlement pattern, its density, typology of buildings, especially the presence of religious buildings, land use, etc.

Task 3: Review and Assessment of Applicable Environmental and Social Regulations and Institutions

Various rules/regulations and guidelines applicable to the project roads and World Bank Environment and Social Standards, were reviewed and mapped against the project components to identify the relevant local and international regulations and guidelines that guide the development and implementation of the project in an environmentally and socially sustainable way. This review also guided the identification and mapping of key institutions that form part of the stakeholders for the project. The Stakeholder map will identify and rank the stakeholders from those that are most influential and most affected to those that are least influential and least affected by the project.

Task 4: Delineation of Study Area for Assessment

While the project areas are guided by the TOR as the, the consultant set out to understand the project footprint during its development, implementation and operation in order to understand key impacts, cumulative impacts and their possible mitigation measures to reduce their risks to as low as reasonably possible. Beneficiaries of the project and its components were identified and mapped using GIS technology to understand direct and indirect beneficiaries of the project.

Task 5: Re-Assessment of Baseline Environmental and Social Conditions

A review of the previous baseline conditions was assessed and mapped against the current situation on order to understand future projections of both benefits and negative impacts of the project. However, the previous ESIA lacked to a large extent, quantitative data to inform the ESIA study. The consultant, in this case, used various data collection and presentation methods to map current situation as the baseline conditions of the project area. Given the project duration, the consultant reviewed secondary data relevant to the various components of the project.

Task 6: Public Consultations/ Focus Group Discussions

To cover a wide range of stakeholders in the study area, focus group discussions and public *barazas* were conducted at selected places with Settlements Executive Committee (SECs) and other stakeholders to understand their perception on the project as well as their issues and concerns. Overall project features, social safeguards, issues related to women's safety and security, youth and gender concerns, environmental safeguards, and enhancement measures that would be implemented in the project was also discussed with the public.

Task 7: Prediction of Environmental and Social Impacts

The task identified likely positive and negative impacts that would arise due to the implementation of the project, through changes in the physical, biological or socio-economic environment. The

assessment considered the different stages of implementation, i.e. design, pre-construction, construction and operation stages of the project roads.

Task 8: Review and updating of Environment and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP) was reviewed and updated following any newly identified risks and impacts which included mitigation measures for all the negative impacts of sub-projects and enhancement measures for positive impacts.

1.8 Limitations of the Study

This review was basically focused on interrogating the initial ESIA Study report and associated supporting documents with a review to identifying areas requiring strengthening or overhaul. While this is a straight forward activities, there are challenges encountered in the process including;

- (i) The initial documents were limited in comprehensive coverage of the environmental and social baseline data and information that would have formed the basis for impacts review and appropriate management plan.
- (ii) It was assumed that the initial ESIA process had fully engaged the public through the corridor. However, the minutes shared indicated that the consultations per settlement were less than adequate. This necessitated the Consultant to further engage the SEC more comprehensively to gather more information. In this regard, stakeholder's forums were undertaken at County level guided by the County Administration, and the SECs.
- (iii) Due to the unprecedented scope of gathering additional baseline data and information and the level of stakeholder consultation, more time and resources was required. However, the deliverable timeframes were not affected.

2. PROJECT DESCRIPTION AND DESIGN

2.1 Introduction

KISIP proposes to improve certain aspects be spread across 6 informal settlements in Kisumu and Muhoroni Towns of Kisumu County;

- Manyatta A
- Manyatta B
- Kibuye
- Bandani
- Nyawita/Migosi
- Muhoroni (Shauri Yako, Shauri Moyo, Swahili/Sangoro and Bondeni)

The interventions being implemented in each of the 6 respective sites were identified through a participatory process based on the initial design. This was guided by the Settlement Executive Committees (SECs) and KISIP County Staff with the participation of the design team. The ESIA team participated in these preliminary meetings to identify the project components. The KISIP list of projects that can potentially be funded were instrumental in finalizing on the list of projects to be implemented.

The project is designed to respond to the felt needs of the residents of these settlements which in general are:

- Improved water supply for several of the settlements: KISIP will not start new water supply projects but rather will tap into existing water supplies and expand the existing pipeline and possibly construct water Kiosks so as to reach more people.
- Improve access roads and the drainage system. While the drainage system will enhance the life of the improved roads, it will also help improve the existing situation where surface run off and waste water just run in any direction creating pools of stagnant water. This makes the living conditions very bad
- Street lighting/security lighting through high masts will help improve the security situation, a common problem in informal settlements;
- In these settlements with the exception of residents use pit latrines for fecal waste disposal which are then evacuated when they fill. A sewer line will be constructed from each of the respective settlements and connected to existing sewer lines that are not far. A modern public ablution block was also included as one of the project components in Kisumu town settlements.
- Solid waste disposal improvements. Mechanisms of collecting solid waste will also be put in place (waste collection centers).

In general, the project will redress the myriad of environmental and social issues found in these informal settlements. The following are the identified interventions as well as the scale of what will be done under each of the 3 key components; Roads and drainages, water and sanitation, and street lighting are the main projects that will be undertaken within the Kisumu KISIP Program.

2.2 Current Status

The County's average population density according to 2019 Kenya Population and Housing Census stands at 554 per km² against the national average of 82 per km² (Government of Kisumu, Annual



Figure 2.2: Map of Muhoroni sub-county map.

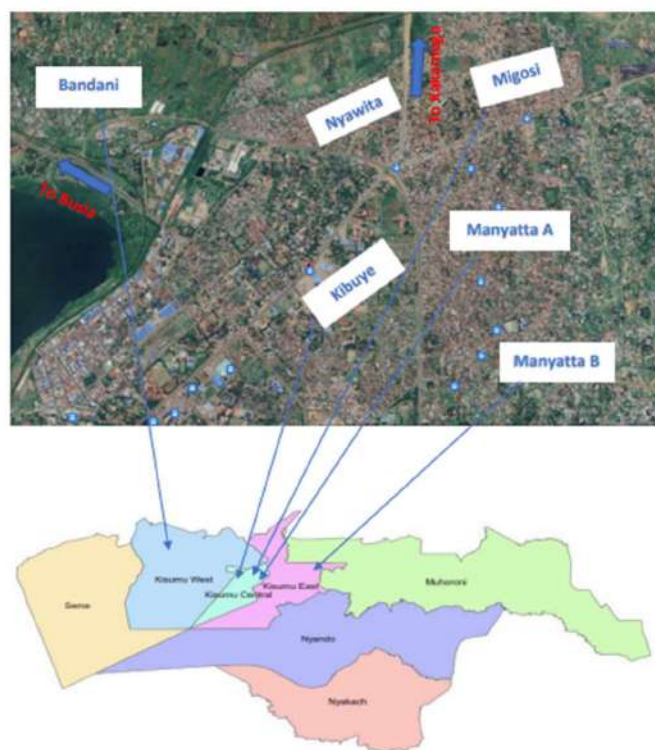


Figure 2.3: Map of Kisumu sub-county map.

The table 2.1 outlines the exact locations of the project site within the County.

Table 2.1: Description of the project sites

County	Settlement	Location	Description
Kisumu County	Bandani	Kisumu City	Located in Kisumu West sub-county, in along the Kisumu - Busia Road (opposite The Kisumu International Airport) in Central Kisumu Ward.
	Manyata A	Kisumu City	Located in Kondele Ward, Kisumu Central Sub-County in Kisumu County, it is within the periphery of Kisumu town. It covers an area of 1.748 km ²
	Manyata B	Kisumu City	Adjacent to Manyatta A Settlement but it's located in Kisumu East Sub-County in Kisumu County.
	Nyawita	Kisumu City	Located in Railways Ward, Kisumu Central Sub-County in Kisumu County.
	Kibuye	Kisumu City	Located in Kaloleni Ward in Kisumu West constituency.
	Muhoroni Shauri Yako Shauri Moyo Bondeni	Muhoroni Town	<u>Shauri Yako</u> settlement is located in Muhoroni Sub-county, Shauri Yako village, Koru ward in Kisumu County <u>Shauri Moyo</u> is located in Muhoroni sub county, Koru ward in Kisumu County. It is located next to a railway line and adjacent to Muhoroni Secondary School. <u>Bondeni</u> is located in Muhoroni Sub-County, Koru ward. It is overlooking Muhoroni Sugar Company fields. It covers an area of 0.249 km ² .

2.4 Initial Project Details

The initial design and ESIA was conducted by Bhundia Associates Consulting Engineers Limited. Initial project details included the upgrading of projects located within thirteen informal settlements in Kisumu County; Manyatta A, Manyatta B, Kibuye, Nyawita, Kiboswa, Ahero Karanda, Katito, Sondu, Sangoro, Bondeni, Shauri Moyo, Shauri Yako and Chemilil Settlements. The project was to improve basic services within the settlements such as streets, footpaths, drainage, clean water supply and sewage disposal.

2.4.1 Initial Roads and Drainage infrastructure component

Initially, the project design proposed that the roads improvement component be implemented in Manyatta A, Manyatta B, Nyawita, Kiboswa, Ahero, Katito, Sondu Mama Bay, Shauri Yako, Shauri Moyo, Bondeni, Sangoro and Chememil. The details of these proposed roads are as outlined in table 2.2;

Table 2.2: Initial roads marked for improvement per settlement

SETTLEMENT	NAME OF THE ROAD	LENGTH OF THE ROAD (m)
Manyatta A	Tunnel Kondele	689
	St. Luke – White Gate	691
	Gudka – Corner Maji	769
	Kona Mbuta Mosque	682
	Manyatta Primary	371

SETTLEMENT	NAME OF THE ROAD	LENGTH OF THE ROAD (m)
	Kona Mbaya Bypass	1900
	Skyward Road	537
	Mezani Love Bar	892
	Pinky Road	441
	Kanyamogo	359
	Siji Road	613
Manyatta B	Coptic Kaumbe	1907
	Wandiege Walghudha	2946
	Raila Estate-Mama Moraa	559
	Kaiego Junction-Kaiego	439
	Bridge	
	Baptist Pawremo	1369
	Othoth Judea-Daraja Mbili	653
Nyawita	Koyoo Koyuga	1005
	Kamidimo Mosque Pamba	570
	Koyoo Nyawita Market	438
	Chief Segal Segal-Pamba	515
Nyawita (Migosi)	Obala Junction-Sigalagala	751
	Avenue Road	268
	Obola Migosi Primary Road	384
	Kings & Queens Chakalika	339
	Risa Court-Kibera	379
	Feeder Road 1	122
	Feeder Road 2	162
	Market Ring Road	463
	Galaxy-Embassy Olympic Road	247
	Car Wash	628
	World Vision Road	1540
	Ezra Gumbe Road	136
	Parking Road A	219
	Parking Road B	166
	Parking Road C	107
	Parking Road D	61
	Parking Road E	169
	Parking Road F	73
	Parking Road G	45
	Parking Road J	267
	Parking Road K	213

SETTLEMENT	NAME OF THE ROAD	LENGTH OF THE ROAD (m)
	Feeder Road L	56
Kiboswa	Kibos Market Ring RD 1	149
	KibosMarket Ring RD 2	101
	John Osimbe-Dago Kokore-	966
	Safaricom Road	531
	Ongori Osimbo Road	341
Ahero	Nyadhiwa Pharmacy	155
	Nyando Waves	430
	Total Jeismic-Kobonyo	360
	Kwa Nyuki	640
	Ring Road	486
	Ahero Market Road	191
	Karanda School Road	101
	Bunde Road	360
	Kosida Road	486
Kibuye	Highway School Road	280
	Kibuye Rd	384
Katito	Amani St Aloise SDA Royal	283
	Amani St Aloise Advance	557
	Junction RD	
	Bogolina Kowiti Kafadha 1	448
	Bogolina Kowiti Kafadha 2	342
	Bogolina Kowiti Kafadha 3	392
	Kanyawir-Kajuia-Alara- Kogonge-Katieno-AmaniRd	1116
	Katieno-Advance Junction	561
	Opiyo Omollo Cattle Dip	730
	Kopiye Kabongo	
Sondu Mama Baby	Harambee Sondu Junction	302
	Market Ring Road	105
	Ogogo Agai	408
	Fidal Omoto Road	672
	Bou got-Agai School	226
	Kimilando	
	Agai Road	872
	Ejeda Road	383
Shauri Yako	Chief - Caleb - Catholic RD	1061
	Major - Wings of Change	826

SETTLEMENT	NAME OF THE ROAD	LENGTH OF THE ROAD (m)
	RD	
	Bridge School - Sister Ann	162
	Hospital Hill RD	172
Shauri Moyo	SM 1	843
	SM 2	404
	SM 3	582
	SM 4	107
	SM 5	106
	SM 6	304
	SM 7	240
	SM 8	251
	SM 9	114
Bondeni	Buhuma - Township - Slaughter RD	396
	KCB - Depot - Slaughter	814
	RD	
	Transformer - Suasana - FPFK - Lydia RD	324
	Stage to Town Road	981
Sangoro	SR 1 Kadoda Market	659
	SR 2 Thro Oindi Chief	200
	SR 3 Plan B Hotel Muhor	198
	SR 3 Oindi	610
	Oindi Road 2	258
	SR 5 Sangoro Estate Road	85
	KCB Road	261
Chemelil	Muhor 1 Main Street	384
	Chemelil 2	234
	Chemelil 3	134
	Chemelil 4	202
	Chemelil 5	192
	Chemelil 5	297

The proposed roads details define a typical road cross-section and they were designed to the following general principles:

- provide safe, short and fast thoroughfare and access to all road users, being motor vehicles, cyclists and pedestrians
- clearly convey the primary function to road users and encourage appropriate driver behavior
- deliver traffic volumes at speeds compatible with function
- provide convenient location for services
- provide an opportunity for landscaping

- allow for parking, where appropriate
- have due regard to topography, geology, climate, environment and heritage of the site;
- provide low cost of ownership;
- the designs have complied with Kenya road manuals and state road authorities' guidelines and/or standards

For drainage structures, the initial proposal was to have the pipe culverts, channels and IBD commonly used in Kenya are of the standard precast concrete materials. The choice of channel material to be adopted for any given case will take into account unit cost durability site conditions and overall maintenance requirements. In order to minimize scouring of storm water drainage channels and reduce deposition of debris in the channels the minimum and maximum flow velocities considered in the design were 0.3m/s to 6m/s.

2.4.2 Initial Water supply component details

The Consultant designed the water supply systems in the settlements as listed in table 4.1 after consultation with the Community.

Table 2.3: List of Water Supply Systems

SETTLEMENT	LINE	LENGTH (m)
Manyatta B	Geseko Line	49
	Magadi Line 1 A	22
	Mbeme Auji Line	43
	Raila Estate Line	20
	Wandiego Walghudha Line	19
Kiboswa	Dago Kokore Line	44
	Market Line 1	9
	Market Line 2	5
Chemelil	Mabatini Line	17
Ahero	Bunde Line 1	23
	Kosida Line 1	23
	Kwanyuki Line	24
Katito	Bypass Hotel Line	37
	Thurgem Line 1A	31
	Market Line	36
Sondu Mama Baby	Kariobangi Line	55
	Market Line	26
Kibuye	Avenue 1 A	19
	Mama Ngina Line	18

The pipes considered for Water Supply were those pipes that are manufactured in Kenya since there is no major difference between their performance and prices as compared to imported pipes. In this connection, attention was also paid to the fact that the attack can also be from outside the pipe (groundwater, swampy areas, or just humid acid soil, especially peat and those soil containing calcium sulphate).

The initial design designed water kiosks as well to present an alternative water source for those who are located far from the proposed water supply pipeline.

Balancing water tanks were proposed as well in order to reduce the peak flows in the transmission and distribution lines. Generally the tank for the balancing of the daily peak demands would have a capacity of 50% of the daily water demand of the area served by the tank.

Water service connections were proposed that would include the service saddle clamp, corporation stop, copper pipe, angle meter stop, tracer wire, locator tape, meter box and lid. Each customer water service connection was to be individually metered. The customer was to pay for the installation and maintenance of shutoff valves in their water service line (or private plumbing) between the water meter and the customer structure, and was to be financially responsible for their water service line.

There was to be an allowance of 30 No. household water connections and water meters for each settlement. There was also to be provisional zonal water meters to be incorporated for each water supply line to the settlements. These facilities were to be installed by the water service provider.

The location of the Customer Water Service Connections were strategically located;

- For automated meter reading and easy access by vehicles. Each water service connection was to be installed within the public right-of-way or an easement (client/water service provider) and adjacent to the property to be served.
- By water service providers after the project has been accepted.

Varying percentages of high density dwellers will draw water from communal water points during the study period. In the town it was proposed that the communal water points be designed to serve not more than 200 people within a radius of 200 meters.

2.4.3 Initial Sewer component design

The Consultant designed the sewers as listed in table 2.4 below after consultation with informal settlement communities.

Table 2.4: List of the Designed Sewers

SETTLEMENT	SEWER LINE	LENGTH (m)	DIAMETER (mm)
Manyatta A	Sewer A	1440	350
	Sewer A1	530	300
	Sewer A2	625	300
	Sewer B	860	350
	Sewer B1	260	250
	Sewer B2	600	250
	Sewer B3	110	250
	Sewer B4	115	250
	Sewer B5	270	250
	Sewer C	2070	350
	Sewer C1	210	250
	Sewer C2	240	250
	Sewer C3	160	250
	Sewer C4	150	250
	Sewer C5	710	250 -300

SETTLEMENT	SEWER LINE	LENGTH (m)	DIAMETER (mm)
	Sewer C6	430	300
	Sewer C6-1	170	250
	Sewer C7	470	300
	Sewer D	2430	350
	Sewer D1	150	250
	Sewer D2	2900	250
	Sewer D3	280	250
	Sewer D4	350	250
	Sewer D5	560	250
	Sewer D5-1	240	250
Manyatta B	Sewer A (Primary Sewer)	3970	350
	Sewer A1	700	150
	Sewer A2	420	150
	Sewer A3	620	150
	Sewer A4	870	150
	Sewer A5	1170	200
Nyawita	Sewer A (Primary Sewer)	1000	300
	Sewer A1	485	150
	Sewer A2	400	150
	Sewer A3	830	200
	Sewer A4	630	150
<i>Nyawita (Migosi)</i>	Sewer A (Primary Sewer)	480	350
	Sewer A1	160	250
	Sewer A2	280	300
	Sewer A3	180	250
	Sewer B	310	350
	Sewer B1	160	250
	Sewer B2	140	350
	Sewer C	500	300-350
	Sewer C1	380	250
	Sewer C2	710	250-300
	Sewer C2-1	470	250
	Sewer C3	320	250
	Sewer D	1040	300-350
	Sewer D1	380	300
	Sewer D2	750	250-300
	Sewer E	1310	300-350

The initial design report was however vague on the proposed design details as it focuses more on what the design should contain.

2.4.4 Initial Security Flood Lights and Street Lighting Component

The proposed street lights were to be placed on 6.0 - 7.5 meter pole and operated on solar system. The poles were to be installed 750mm deep in the ground with a distance of approximately 20meters between two poles. Each pole was to have light fitting is 50 watt LED. At a road junction three (3) light poles were proposed. Generally all the roads were to have illumination of 20 lux.

The flood lights were to be on 30 meter towers with 250watt LED light fitting. The 30 meter towers were to be adapted in all the settlements unless in special zones regulated by civil aviation authority or any other public authority. All the towers were to be connected with individual KPLC meter from the nearby existing line. The lights were to be operated on photocell installed through the contactor. There was to be a metal control pillar under each tower to feed the light individually.

2.5 Current Proposed Project Details

KISIP 2 project targets the following infrastructure that are key to improving living conditions within informal settlements.

- Roads and Drainages
- Street and security lighting
- Water supply
- Sanitation (liquid and solid waste management)

Table 2.5: Roads and Drainage Component

INFRASTRUCTURE	SETTLEMENT
Caleb – Wings of Change	Shauri Yako
Nairobi Road- Chief- Wing road (Part of chief Caleb	Shauri Yako
Catholic Road and Major Wings of change Road)	Shauri Yako
Independent drainage	Bondeni
Kaego – Nerea Bridge	Manyatta B
Kaombe – Kasawino	Manyatta B
Wells – Walgudha	Manyatta B
Transformer – Daraja Mbili	Manyatta B
Daraja Mbili – Koyango	Manyatta B
Mama Ngina-Highway Sec School Road	Kibuye
SDA - Thep Thep Road	Kibuye
Konambuta- Mosque Road	Manyatta A
Mezani- Lovebar	Manyatta A
Kajanta- Konambaya Road	Manyatta A
Kona mbuta -Kaego Road	Manyatta A

Table 2.6: Water and Sanitation Component

INFRASTRUCTURE	SETTLEMENT
Water Supply	Kibuye
Modern Ablution Block	Kibuye
Sewerage (Last mile connectivity)	Migosi
Sewer and last mile connectivity	Manyatta B
Water Supply	Manyatta B
Water reticulation	Sangoro/Swahili
Water reticulation to serve 207 plots	Shauri Moyo

Table 2.7: Electrical Works Component

Ref	INFRASTRUCTURE	SETTLEMENT
1	Floodlights (3 No)	Migosi
2	Floodlights (6 No)	Manyatta A
3	Floodlight (1 No)	Bondeni
4	Floodlight (1 No)	Shauri Moyo

2.6 Roads Construction Projects

2.6.1 Roads and Drainage Component

Kisumu road alignments are currently done to gravel standards and the conditions range from fair to poor. The road alignment in Nyawita, northern sections of Bandani, Kibuye and parts of Manyatta A/B traverse through gently sloping terrain and are characterized by stable subgrade. Alignment that traverse the flat sections such as west of Manyatta A/B, southern sections of Manyatta B and Bandani are characterized by poor subgrades and drainages conditions, with water ponding common along some road roads e.g. Kaombe – Kasawino Road (Manyatta B), Koyango – Daraja Mbili Road (Manyatta A), lower sections of the Auji – Pundo Road (Bandani) among others. Muhoroni alignments traversers through expansive soils and has very poor drainage setting due to the flat terrain.

The Kisumu alignment roads currently host of various human activities ranging from roadside trading in form of temporary kiosks to permanent shops; and transportation routes especially via walking and boda boda transport and commercial and private vehicles.

Due to the poor road surface conditions, there is huge dust generation arising from vehicular movements to the discomfort of the road users/residents. The road corridors are poorly kept and are generally unappealing.

Road alignments have been designed to follow the existing gravel standards roads. Whereas most of the alignments were designed to accommodate more than 50KpH speeds, standards were reduced to the minimum in some sections where sharp curves were introduced to allow maneuverability akin to that of an intersection, attributable to the nature of the road corridor.

Further, the road alignments have been designed to limit impact on the existing human activities along the road corridors i.e. have minimum PAPs and avoid any form of land acquisition.

To ensure proper use of the available road corridor, the design finish road level have been kept to the minimum to allow for ease of access to the abutting properties and facilities.

The design meets the overall objective of the KISIP program which is to provide basic paved access. However, key link roads have been designed to higher standards notwithstanding the statutory speed limit of 50 KPH in areas with significant human activities.

2.6.1.1 Roads and Drainage Scope of Works

LOT 1A: (Bandani, Nyawita And Migosi)

Roads and Drainage

- Auji – Pundo Road (1,360m)
- Pundo – NITA Road (294 m)
- Pamjos – Kanyamedha Road (930m)
- Koyuga – Koyoo Road (869m)
- Migosi Drainage (Network Length = 4,038m)

Location



Figure 2.4: Proposed Road Alignment in Bandani, Nyawita and Migosi

Carriageway works

- Construction of Wearing Course - 50mm (0/19mm) asphalt concrete (SUPERPAVE) as detailed in the drawings.
- Construction of Base Layer - 150mm thick Graded Crushed Stone (Stone Class B, Stone Size 0/40mm) as detailed in the drawings.
- Construction of Subbase - 150mm thick Natural Gravel, minimum (California Bearing Ration (CBR) of 30% as detailed in the drawings.
- Construction of improved Sub-grade – 350mm improved sub-grade (minimum CBR of 22.5%) compacted in two layers of 150mm compacted to 95% Maximum Dry Density (MDD) - (American Association of State Highway and Transportation Officials (AASHTO) T180) as detailed in the drawings.
- General Earthworks Construction – Up to 350mm below formation level, (minimum CBR of 10%) and compacted to 95% MDD (AASHTO T99) in layer not exceeding 150mm thick as detailed in the drawings.

Walkway works

- Construction of 200mm x 100mm x 50mm medium duty interlocking blocks for surfacing as detailed in the drawings.
- Construction of improved Sub-grade – 300mm improved sub-grade (minimum CBR of 30%) compacted in two layers of 150mm compacted to 95% MDD (AASHTO T180)
- General Earthworks Construction – Up to 300mm below formation level, (minimum CBR of 10%) and compacted to 95% MDD (AASHTO T99) in layer not exceeding 150mm thick

Drainage works

- Construction of 3.0m x 1.5m Box Culvert along Pundo – NITA Road
- Construction of cross pipe culverts and access culverts
- Construction of Rectangular covered drain and lined trapezoidal side drain.
- Construction of a combination of earth standard and lined drains within Migosi settlement

Other works

- Road furniture

LOT 1B: (Manyatta A, Manyatta B and Kibuye)**Roads and drainage**

- Mosque – Kona Mbuta Road (684m)
- Kona Mbuta – Kaego Road (443m)
- Whitehouse – Kona Mbaya (483m)
- Kajanta – Love Bar Road (888m)
- Kaego – Nerea Bridge Road (463m)
- Koyango – Daraja Mbili Road (654m)
- Transformer – Daraja Mbili Road (903m)
- Kaombe – Kasawino Road (1,310m)
- Wells – Walgudha Road (761m)
- Highway School - Mama Ngina Road (284m)
- SDA-Thepthe Road (397m)

Location



- Construction of Wearing Course - 50mm (0/19mm) asphalt concrete (SUPERPAVE) as detailed in the drawings.
- Construction of Base Layer - 150mm thick Graded Crushed Stone (Stone Class B, Stone Size 0/40mm) as detailed in the drawings.
- Construction of Subbase - 150mm thick Natural Gravel, minimum CBR of 30% as detailed in the drawings.
- Construction of improved Sub-grade – 350mm improved sub-grade (minimum CBR of 22.5%) compacted in two layers of 150mm compacted to 95% MDD (AASHTO T180) as detailed in the drawings.
- General Earthworks Construction – Up to 350mm below formation level, (minimum CBR of 10%) and compacted to 95% MDD (AASHTO T99) in layer not exceeding 150mm thick as detailed in the drawings.

- Construction of 200mm x 100mm x 50mm medium duty interlocking blocks for surfacing as detailed in the drawings.
- Construction of improved Sub-grade – 300mm improved sub-grade (minimum CBR of 30%) compacted in two layers of 150mm compacted to 95% MDD (AASHTO T180)
- General Earthworks Construction – Up to 300mm below formation level, (minimum CBR of 10%) and compacted to 95% MDD (AASHTO T99) in layer not exceeding 150mm thick

Drainage works

- Construction of 3.0m x 2.0m Box culvert across Auji Channel (along Kaego – Nerea Bridge Road)
- Construction of 4.0m x 2.0m Box culvert across Auji Channel (along Kaombe – Kasawino Road)
- Construction of cross pipe culverts and access culverts
- Construction of lined trapezoidal side drains.

Other works

- Road furniture

LOT 1C: (Shauri Yako And Bondeni)

Roads and Drainage

- Nairobi Rd-Kwa Chief-Nairobi Rd Road (800m)
- Nairobi Rd-Wings of Change Rd (269m)
- Bondeni Drainage (Network length = 1,449m)

Location



Figure 2.6: Proposed Road layout in Shauri Yako and Bondeni

Carriageway works

- Construction of Wearing Course - 50mm (0/19mm) asphalt concrete (SUPERPAVE) as detailed in the drawings.
- Construction of Base Layer - 150mm thick Graded Crushed Stone (Stone Class B, Stone Size 0/40mm) as detailed in the drawings.
- Construction of Subbase - 150mm thick Natural Gravel, minimum CBR of 30% as detailed in the drawings.

- Construction of improved Sub-grade – 350mm improved sub-grade (minimum CBR of 22.5%) compacted in two layers of 150mm compacted to 95% MDD (AASHTO T180) as detailed in the drawings.
- General Earthworks Construction – Cut to spoil up to 1.2m from formation level and filling to 350mm below formation level, (minimum CBR of 10%) and compacted to 95% MDD (AASHTO T99) in layer not exceeding 150mm thick as detailed in the drawings.

Walkway works

- Construction of 200mm x 100mm x 50mm medium duty interlocking blocks for surfacing as detailed in the drawings.
- Construction of improved Sub-grade – 300mm improved sub-grade (minimum CBR of 30%) compacted in two layers of 150mm compacted to 95% MDD (AASHTO T180)
- General Earthworks Construction – Up to 300mm below formation level, (minimum CBR of 10%) and compacted to 95% MDD (AASHTO T99) in layer not exceeding 150mm thick

Drainage works

- Construction of cross pipe culverts and access culverts
- Construction of lined trapezoidal side drains.
- Construction of a combination of earth standard and lined drains within Bondeni settlement as detailed in the drawings

Other works

- Road furniture

2.6.2 Road Furniture Safety

In order to align with safety requirements, the project engineers have proposed the following road safety features;

- Road edge kerbs have been proposed on all the roads to provide lateral support to the road pavement, given the neat Graded Crashed Stones (GCS) base layer.
- Warning signs have been proposed at key intersections for safety.
- Speed bumps and pedestrian crossings have also been included for enhanced road safety/accidents prevention
- Road surface marking are also proposed to provide manoeuvrability guidance to motorists for safety and to enhance user experience.
- Masonry wall extension on uncovered rectangular drain sections have been proposed for accidents prevention.

2.6.3 Mainstreaming Of Low Carbon Footprint and Climate Resilience in the Design

Infrastructure design can contribute to climate change through use of high carbon footprint base material, construction elements, implementation technologies, operations and maintenance. Road infrastructure certainly contributes to climate change but it is also affected by it. Climate change impacts such as intense precipitation and higher temperatures or temperature fluctuations affect performance/longevity/serviceability of the road infrastructure. Mainstreaming of low carbon footprint and resilience to climate change impacts were key consideration in design proposals.

The following low carbon footprints proposal were considered;

- a) Use of natural material for pavement layers, i.e. neat GCS and gravel which have lower carbon footprint compared to cement stabilized layers.
- b) Proposed pavement materials which are locally available to avoid long haulages associated with high carbon emissions. GCS and gravel area found within the project vicinity.
- c) Provision of NMT facilities in the road space in the form of walkways to further promote walking within the informal settlement, a zero-carbon mode of transport.
- d) Paving blocks are proposed for more labour based methods in road construction. Further, drainage works are to be labour intensive.

To deal with above mentioned impact of climate change and to ensure continued serviceability of the road infrastructure, we have proposed;

- a) Higher penetration grade bitumen 60/70 for increased resistance to higher temperatures.
- b) Lined side drain to prevent ingress of storm into the road pavement. This also helps with prevention of erosion.
- c) Outfall drain works for efficient evacuation of storm water away from the installed road infrastructure.
- d) Higher capacity culverts that can accommodate much higher flows. U-drain where flows are expected to be higher.

2.7 Electrical Works summary.

Currently the proposed project sections have inadequate lighting at night. This has contributed to insecurity at night especially for school-going children who leave for school and come from school at night. Local small-scale traders and other residents indicated that the lighting at night will increase their security and allow them to sell their wares late into the night, earning them a higher wage, while ensuring that they and their children are safe.

2.7.1 30m High Mast Flood Lighting

High-mast lighting is a tall pole with light fittings attached to the top pointing towards the ground at an angle to increase the effective illuminated area. They are usually used for general area flood lighting and road flood lighting at interchanges where navigational tasks are difficult.

The proposed high mast pole is 30 M (98 ft) high. The light fittings are mounted on a circular ring mounted at a distance of 30M on the pole with nine number independent light emitting diode (LED) lighting fittings mounted around the ring. Some high mast units have the lighting surrounded by a circular shield to prevent or reduce light pollution or light trespass from affecting neighbourhoods adjacent to the highway.

The high mast units must be provided with a lightning arrester and aircraft warning light mounted on the highest point of the high mast pole. The pole must also be provided with earthing using a copper earth electrode driven in the ground and solidly connected to the steel pole using a copper earth continuity conductor. The lightning arrester should be grounded using the copper earth electrode.

Maintenance of these systems is done by lowering the luminaire ring from the mast head to the base using a winch and motor to the ground or at a height accessible by the maintenance technician using a ladder or cherry picker and located in areas to allow for easier access without disrupting traffic.

30m High Mast Flood Lighting Illumination Levels

The proposed 30M high mast flood lighting system was designed to use 9No. 400W L.E.D area floodlights mounted on a circular ring. The calculated effective illuminated area is 95M radius (190M diameter) from the high mast footing. From the calculation results, the calculated lighting levels were **7.95 Lux** against the recommended $\geq 7.50 \text{ Lux}$ for general circulation areas at outdoor workplaces.

The proposed 30M high flood lighting system will be powered from the national grid power supplied by Kenya Power and Lighting Company Ltd. (K.P.L.C). Grid powered L.E.D flood lights were selected since they are brighter than solar powered L.E.D flood lights.

The grid powered L.E.D flood lights were selected due to their high illumination characteristics hence having a great impact on improvement of night time security.

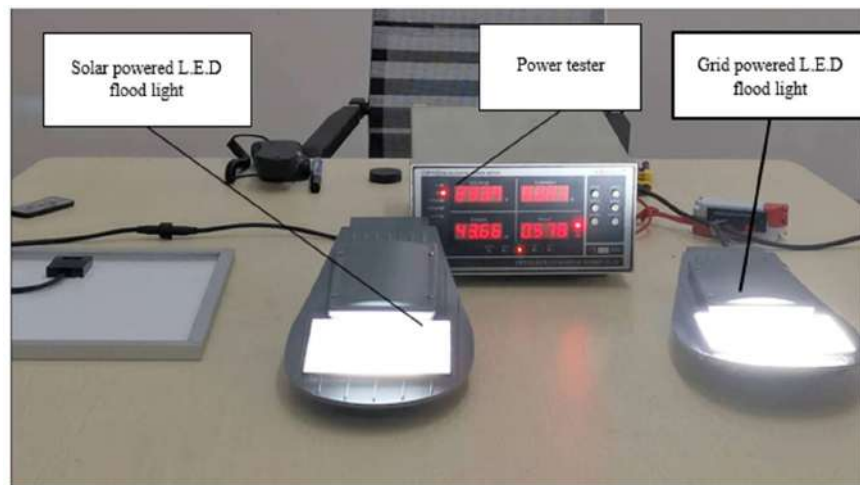


Figure 2.7: Brightness of grid powered L.E.D flood light Vs. Solar Powered

From the naked eye in the picture above, the brightness of the grid powered L.E.D flood light is much higher than that of the solar powered flood light.

2.7.1.1 Manyatta –A Settlement Proposed design

Table 2.8: Average Luminance (Lux)

Working planes					
Properties	\bar{E} (Target)	E_{min}	E_{max}	g_1 (Target)	g_2
30M High Mast No. 1 Perpendicular illuminance (adaptive) Height: 30 m, Wall zone: 0.000 m	7.95 lx (≥ 7.50 lx) ✓	2.03 lx	32.6 lx	0.26 (≥ 0.25) ✓	0.062
30M High Mast No. 2 Perpendicular illuminance (adaptive) Height: 30 m, Wall zone: 0.000 m	7.96 lx (≥ 7.50 lx) ✓	2.01 lx	32.6 lx	0.25 (≥ 0.25) ✓	0.062
30M High Mast No. 3 Perpendicular illuminance (adaptive) Height: 30 m, Wall zone: 0.000 m	7.75 lx (≥ 7.50 lx) ✓	1.96 lx	32.4 lx	0.25 (≥ 0.25) ✓	0.060
30M High Mast No. 4 Perpendicular illuminance (adaptive) Height: 30 m, Wall zone: 0.000 m	7.79 lx (≥ 7.50 lx) ✓	1.98 lx	32.5 lx	0.25 (≥ 0.25) ✓	0.061
30M High Mast No. 5 Perpendicular illuminance (adaptive) Height: 30m, Wall zone: 0.000 m	7.80 lx (≥ 7.50 lx) ✓	1.99 lx	32.5 lx	0.26 (≥ 0.25) ✓	0.061
30M High Mast No. 6 Perpendicular illuminance (adaptive) Height: 30 m, Wall zone: 0.000 m	7.75 lx (≥ 7.50 lx) ✓	1.96 lx	32.4 lx	0.25 (≥ 0.25) ✓	0.060

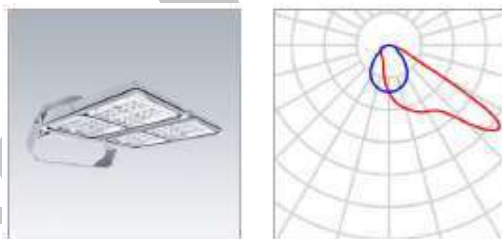


Figure 2.8: 400W L.E.D Area Floodlight with 143Lm/W

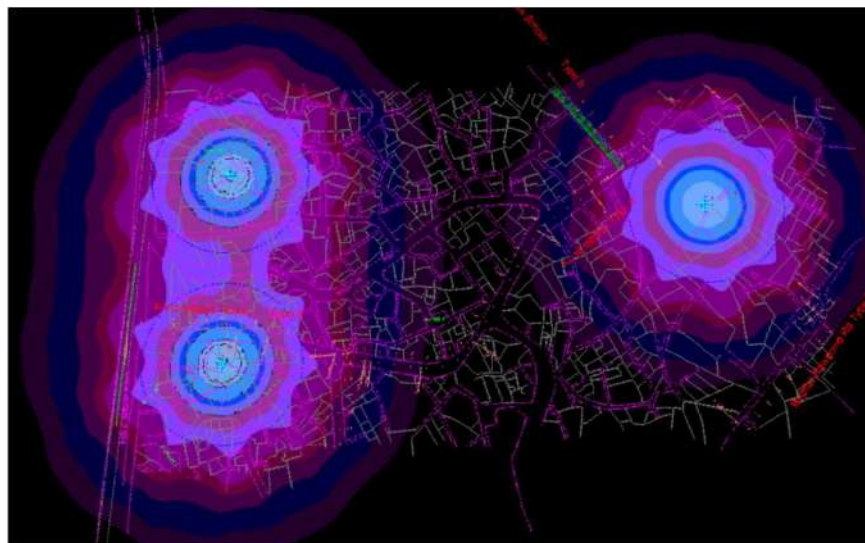


Figure 2.9: False Colour Rendering HM1, HM2 and HM3

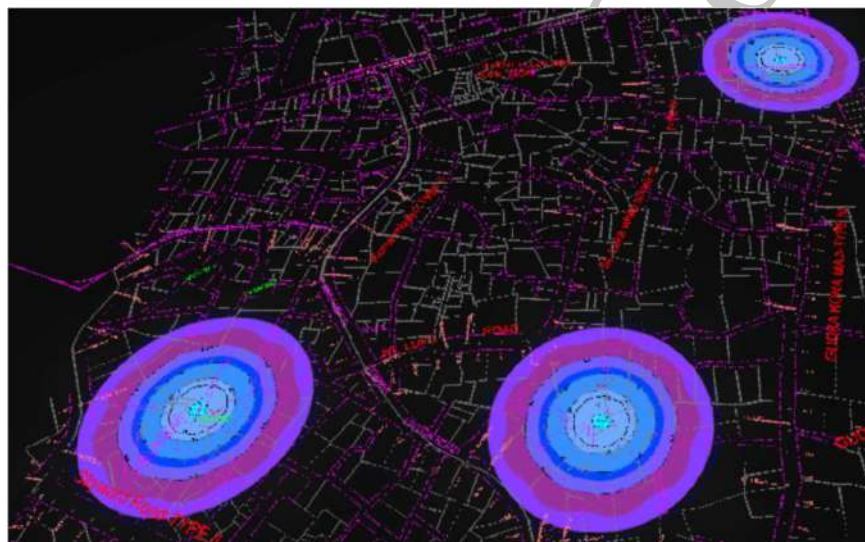


Figure 2.10: False Colour Rendering HM4, HM5 and HM6

Table 2.9: Manyatta - A 30M High Mast Co-ordinates

ITEM	30M HIGH MAST	X - COORDINATES	Y - COORDINATES
	HM 1	698282.282	9990202.208
	HM 2	697681.134	9989991.624
	HM 3	697675.014	9990230.478
	HM 4	698244.813	9990771.279
	HM 5	697902.178	9990802.501
	HM 6	698468.099	9991242.781

2.7.1.2 Migosi Settlement

Table 2.10: Average Luminance (Lux)

Working planes

Properties	E (Target)	E _{min}	E _{max}	g ₁ (Target)	g ₂
30M High Mast No. 1 Perpendicular illuminance (adaptive) Height: 30 m, Wall zone: 0.000 m	7.77 lx (≥ 7.50 lx) ✓	1.96 lx	32.5 lx	0.25 (≥ 0.25) ✓	0.060
30M High Mast No. 2 Perpendicular illuminance (adaptive) Height: 30m, Wall zone: 0.000 m	7.77 lx (≥ 7.50 lx) ✓	1.98 lx	32.5 lx	0.25 (≥ 0.25) ✓	0.061
30M High Mast No. 3 Perpendicular illuminance (adaptive) Height: 30m, Wall zone: 0.000 m	7.75 lx (≥ 7.50 lx) ✓	1.96 lx	32.4 lx	0.25 (≥ 0.25) ✓	0.060

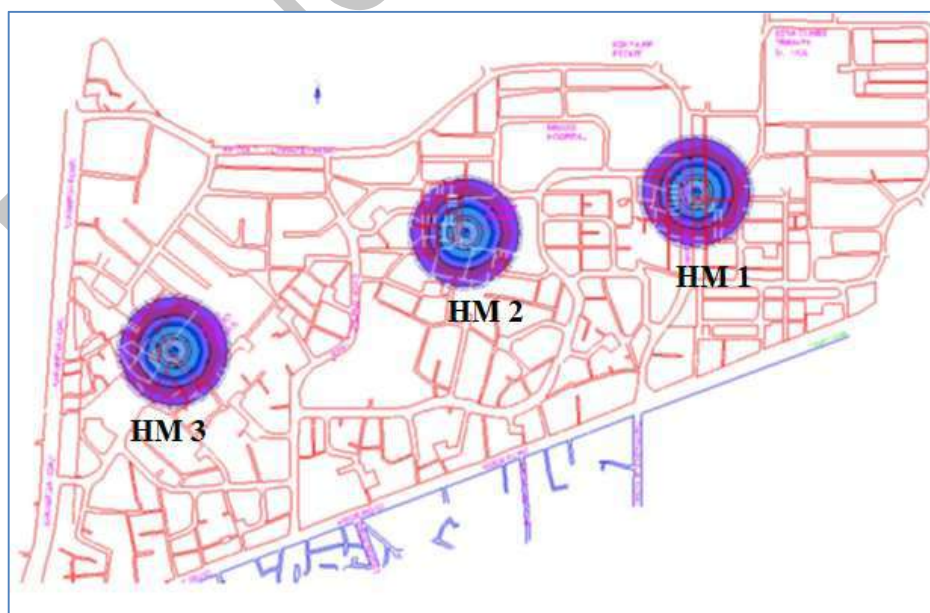


Figure 2.12: Effective Illumination circle of radius 95M (diameter 190M) at 7.77 Lux.

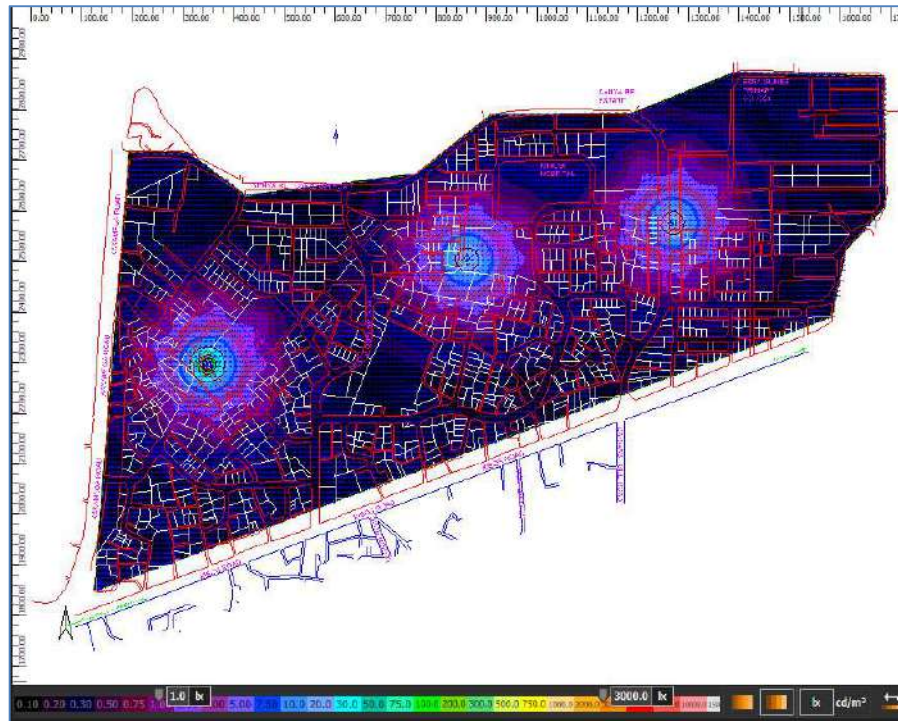


Figure 2.13: False Colour Rendering

From the false colour rendering results, the illumination levels are observed to have a maximum of 3000.0 Lux and a minimum of 1.0 Lux. From the results above it is clear that at the least illuminated areas receiving 1.0 Lux, a pedestrian can see obstacles on the street and can clearly see other pedestrians in their vicinity.

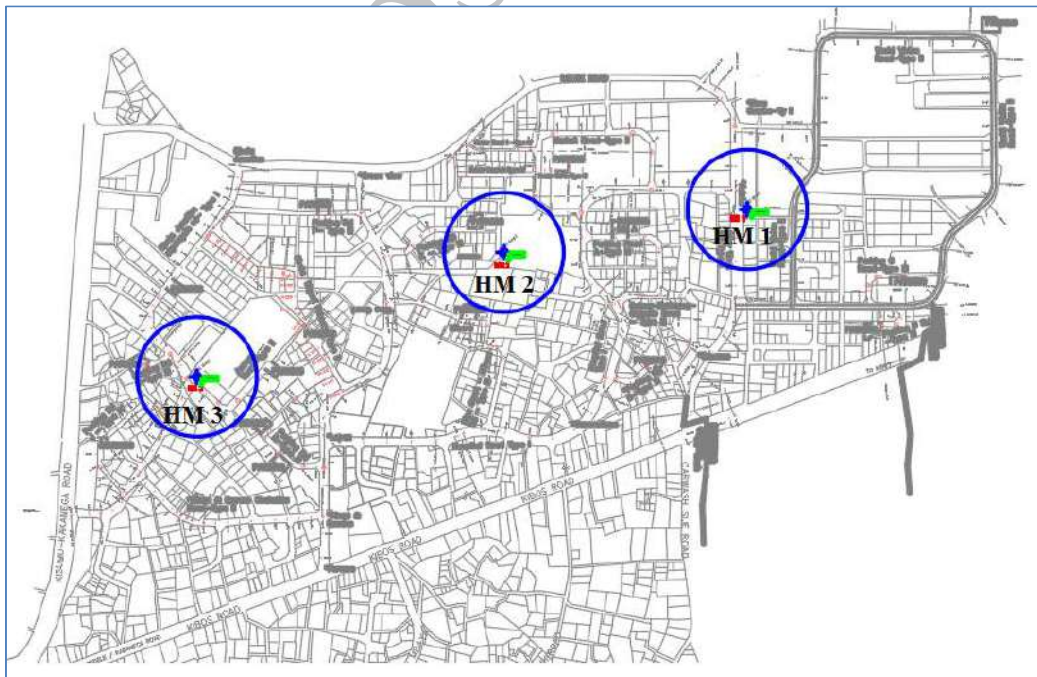


Figure 2.14: Migosi 3No. 30M High Mast Layouts

Table 2.11: Migosi 30M High Mast Co-ordinates

ITEM	30M HIGH MAST	X - COORDINATES	Y - COORDINATES
	HM 1	698593.467	9991825.179
	HM 2	698186.416	9991753.465
	HM 3	697673.313	9991545.062

2.7.1.3 Bondeni Settlement

Table 2.12: Summary of Simulation Results

ITEM	No. OF L.E.D FLOOD LIGHT FITTING	MOUNTING HEIGHT	CALCULATED (Lux)	TARGET (Lux)	CHECK
1	9 No. (400W, 143 Lm/W)	30M	7.95	≥ 7.50	✓

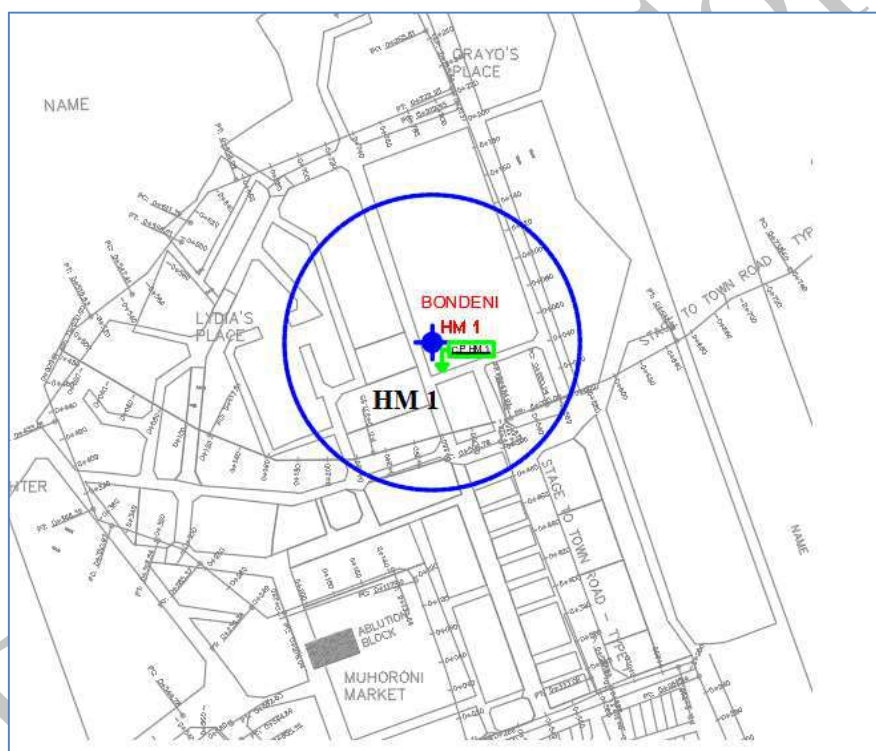


Figure 2.15: Bondeni 30M High Mast Layouts

Table 2.13: Bondeni 30M High Mast Co-ordinates

ITEM	30M HIGH MAST	X - COORDINATES	Y - COORDINATES
	HM 1	744688.522	9983337.170

2.7.1.4 Shauri Moyo

Table 2.14: Summary of Simulation Results

ITEM	No. OF L.E.D FLOOD LIGHT FITTING	MOUNTING HEIGHT	CALCULATED (Lux)	TARGET (Lux)	CHECK
1	9 No. (400W, 143 Lm/W)	30M	7.95	≥ 7.50	✓

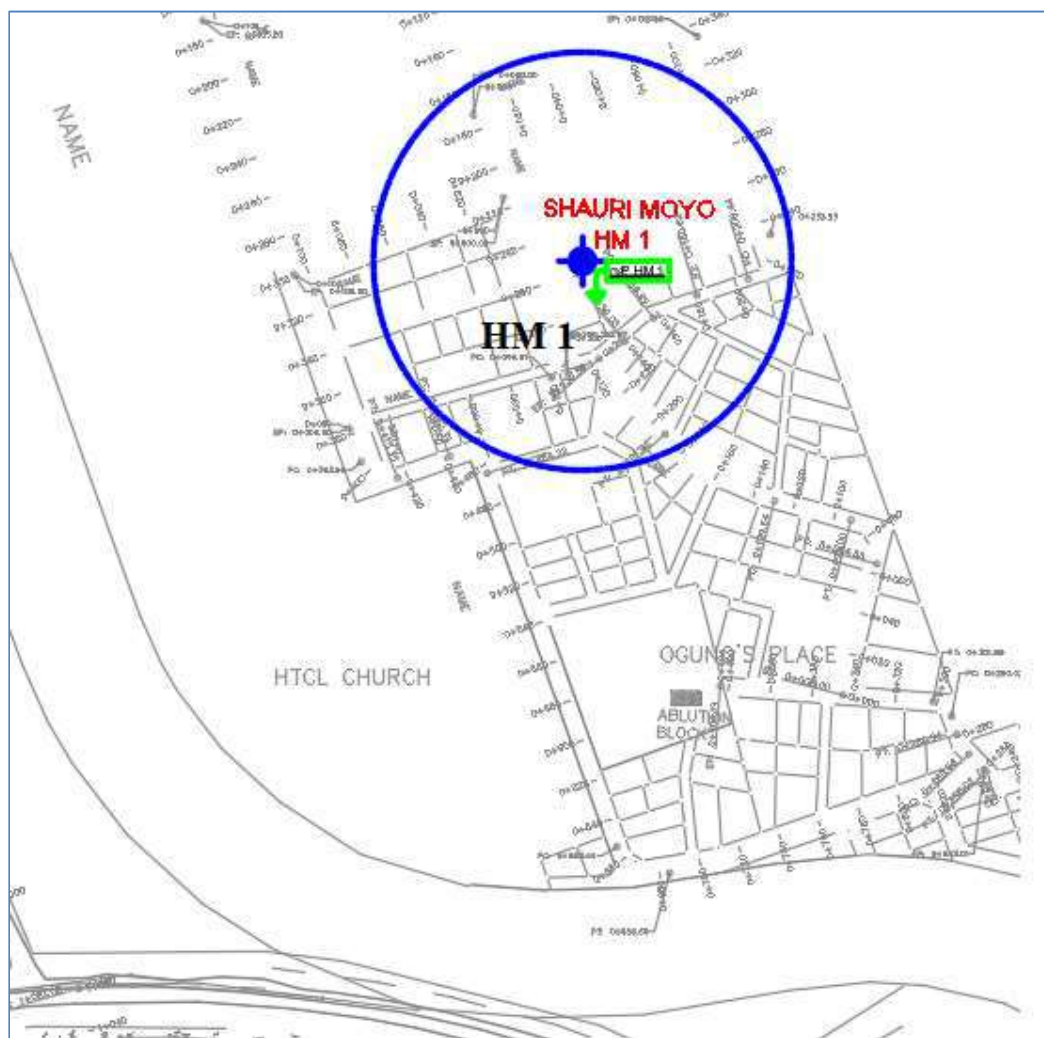


Figure 2.16: Shauri Moyo 30M High Mast Layouts

Table 2.15: Shauri Moyo 30M High Mast Co-ordinates

ITEM	30M HIGH MAST	X - COORDINATES	Y - COORDINATES
	HM 1	745252.255	9983187.078

2.7.2 Climate Resilience and Adoption for Electrical Component

2.7.2.1 LED lights are more energy efficient than traditional lighting

With LEDs, 95% of energy is converted into light and only 5% is wasted as heat. The main reason why LED lights are more energy efficient than ordinary bulbs is that they work using the electrons passing through a semiconductor and don't have a filament that wears out over time. This helps to explain why LEDs are cooler than standard incandescent bulbs and why they lose less of their energy to heat.

Installing LED flood lights helps to significantly reduce electricity bills, something we all ought to be striving to do in light of the current rising energy costs.

2.7.2.2 LED lights have a longer lifespan

LED lights are designed to last considerably longer than traditional bulbs, and this has a positive eco-friendly effect on the environment. So, when you choose to go down the LED lighting route, you won't have to worry about constantly having to go out and purchase new replacement bulbs thanks to their additional lifespan.

Having to purchase fewer light bulbs will have a positive environmental knock-on effect. Lower demand from consumers for bulbs should result in lower bulb production, ultimately causing fewer unsustainable resources to go into things like packaging and product transportation.

2.7.2.3 LED lights do not contain harmful toxic chemicals

LEDs lights are non-toxic and do not contain hazardous chemicals that can cause harm to the natural environment and human health. On the other hand, fluorescent bulbs contain mercury which is a harmful toxic pollutant when it's released into the atmosphere. Inhaling mercury can harm the body's lungs, kidneys, and nervous system.

So, not only are LED lights better for the environment, but business owners and families also don't have to worry about putting staff or fellow family members at risk from exposure to harmful chemicals when installing LEDs. The fact that LED lights are eco-friendly and without toxic chemicals is one of the reasons why there is a mass move towards using them across the board.

2.7.2.4 LEDs have a much smaller carbon footprint

The total amount of carbon dioxide released into the atmosphere as a result of human activities is called a carbon footprint. LEDs contain vastly lower quantities of greenhouse gas emissions than traditional incandescent or fluorescent light bulbs. So, businesses, organisations, and individuals can all reduce their carbon footprint by using LED lights.

We can all do more to lead a more sustainable lifestyle and chip in to help combat climate change. Recycling as much as you can plays a big role in reducing your carbon footprint. LED bulbs are 100% recyclable, so they don't end up rotting away in a landfill site.

2.7.2.5 LED lights help promote plant growth

Biologists and plant experts firmly agree that LED lighting is an ideal artificial lighting solution for promoting plant growth. Plants prefer blue and red grow lights to reach their full growth potential and fortunately you can get LED lights in a range of colours, not just white.

Indoor plants and gardens are trendy these days, especially since many people spent the lockdowns during the pandemic working remotely from homes without access to a sizeable outdoor garden space.

Indoor plants need all the quality artificial light they can get since they have limited access to light compared to if they were outdoors and taking in natural sunlight.

2.7.2.6 LED lights lose less heat to the environment

LED lights lose a really minimal level of heat to the environment compared with other types of lights. This is due to the fact that they have such a high light conversion efficacy. Incandescent bulbs with wired filaments give off the most heat given that they are the least energy efficient.

In contrast, LED lights are able to stay relatively cool to touch and therefore are more energy efficient. This is why LEDs are able to last 25 times longer than traditional bulbs, amounting to a lifetime of more than 3 years if they run for 24 hours a day, seven days a week. All of this means that they are around 6 to 7 times more energy efficient than conventional incandescent bulbs, cutting energy use by up to 80%.

2.8 Water Supply Component

The water supply component has been proposed for Kibuye and Manyatta B in Kisumu and Swahili/Sangoro and Shauri Moyo settlements in Muhoroni following the re-scoping.

2.8.1 Kisumu

2.8.1.1 Kibuye Settlement

Kibuye Market in Kisumu, Kenya is one of the largest open-air markets in all of East Africa. Kibuye is the main retail market for agriculture in Nyanza Region. It has grown over the years to offer goods and resources ranging from furniture, clothes, shoes, metal works, hair salons, carpentry, and religious and medical services. The market was started in the 1950's and lies on 12ha land. The market has a population of 30,000 – 35,000 persons daily and 60,000 to 70,000 on Sundays (market day).

Kibuye is served by a 6 inch transmission main from Kisumu Water and Sanitation Company (KIWASCO) storage tanks in at Kibuye. The initial design had proposed four water kiosks and 30nr individual connections. Based on the budget allocation and the current situation, the following works were considered;

- The two waterlines, Avenue and Mama Ngina were maintained as per the initial design.
- One water Kiosks
- Three public Tap yards
- A combined ablution block and water Kiosk



Figure 2.17: Kibuye proposed water supply layout plan

2.8.1.2 Manyatta B

In Manyatta B informal settlement, water is supplied by a community initiative – Wandiege Water Supply Company (WWSC), as well as KIWASCO and individual boreholes/wells. WWSC is the main water supplier and draws water from a borehole constructed in 2003. Though KIWASCO has an elaborate water network in the settlement, the level of connectivity is still low. The WSP also operates 8 water kiosks in the settlement.

As per the 2019 census, Manyatta B has a total population of 33,183. Based on the National population census of 1989, 1999, 2009 and 2019, the settlement has been growing at a rate of 1.6%. While the settlement has an area of 2.6km, the project will cover 0.85 Km² (sewerage and water). This translates to a population projected population of 11,847 in the initial of 2024 and 17,611 for the ultimate year 2054. So the impact of the project in the ultimate year 2054 will be 17,611.

Considering the existing KIWASCO'S water supply network, the following interventions have been considered in the settlement;

Construction of;

- Mbeme Auji Line
- Geseko Line
- Raila estate Line

With the three lines and the available budget; two water kiosks and 10 public water points have also been proposed.

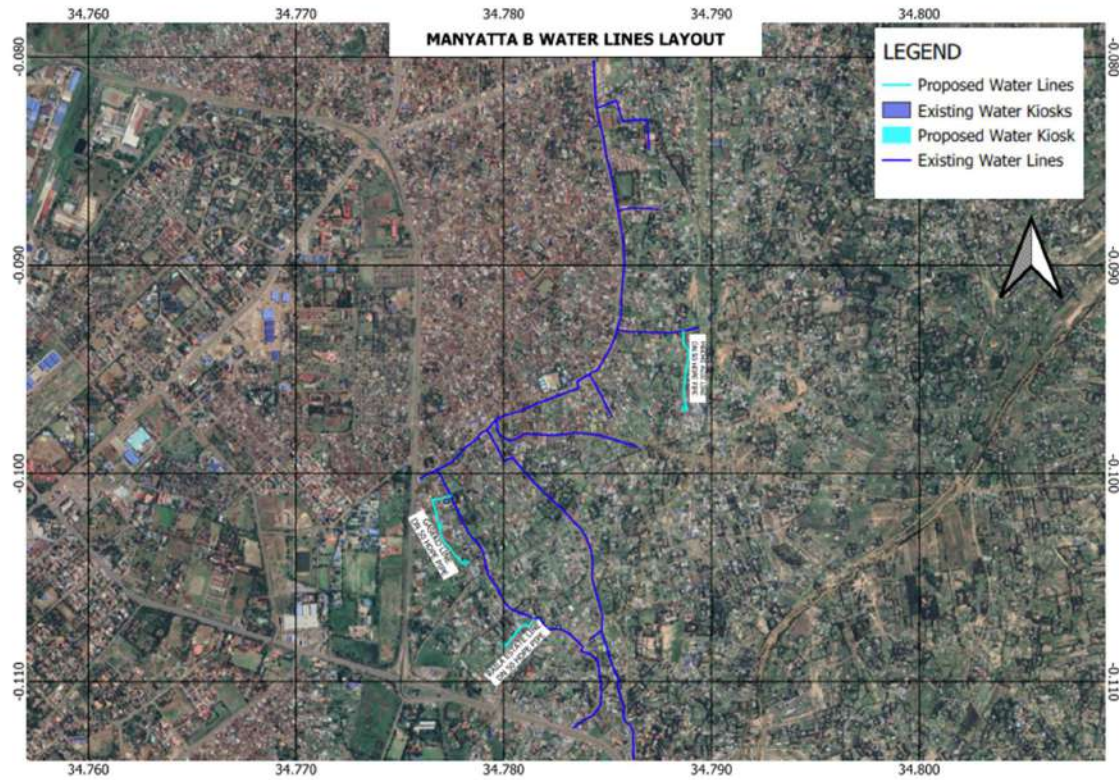


Figure 2.18: Manyatta B proposed water supply layout plan

2.8.2 Muhoroni

Muhoroni town has an urban population of 7,215. The main water supply for the settlements is from River Nyando. Though there are several individual water service providers, the main water service provider in the settlements is KIWASCO. The water supply network consists of an intake at River Nyando and a rising main to the Muhoroni elevated (railway station) tanks in railway station. From the tank the water is supplied to the supply areas. There are currently 546 individual connections and 3no water kiosks (standpipes). The water reticulation system by KIWASCO is inadequate and from the stakeholder engagement, the following intervention have been proposed

2.8.2.1 Swahili/Sangaro

The proposed service area in Swahili/Sangaro is mainly the central business

- Offtake from the 110mm upvc pipe
- Water supply – 690m
- Consumer connection – 40 nr
- Water Kiosks – 2 Nr
- Public yard tap – 10 Nr

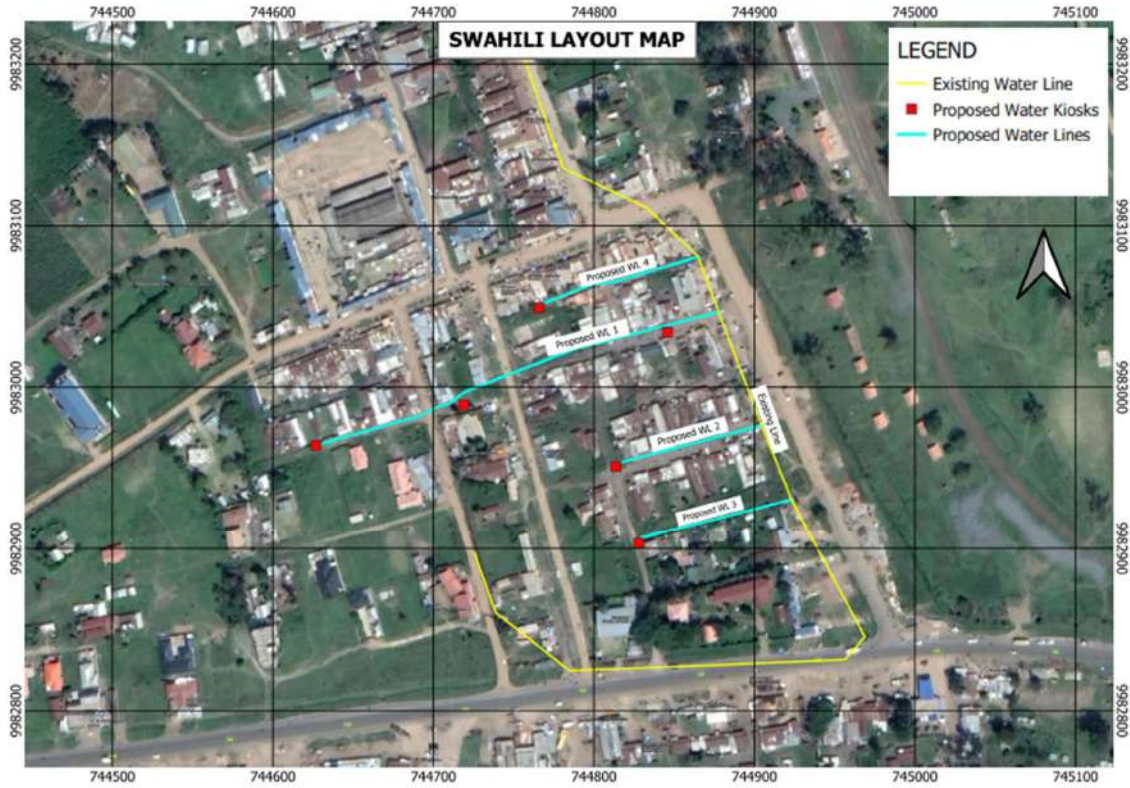


Figure 2.19: Swahili/Sangoro proposed water supply layout plan

2.8.2.2 Shauri Moyo

- Offtake from the 110mm upvc pipe
- Water supply – 1300m
- Consumer connection – 20 nr
- Water Kiosks – 2Nr
- Public yard taps – 10Nr

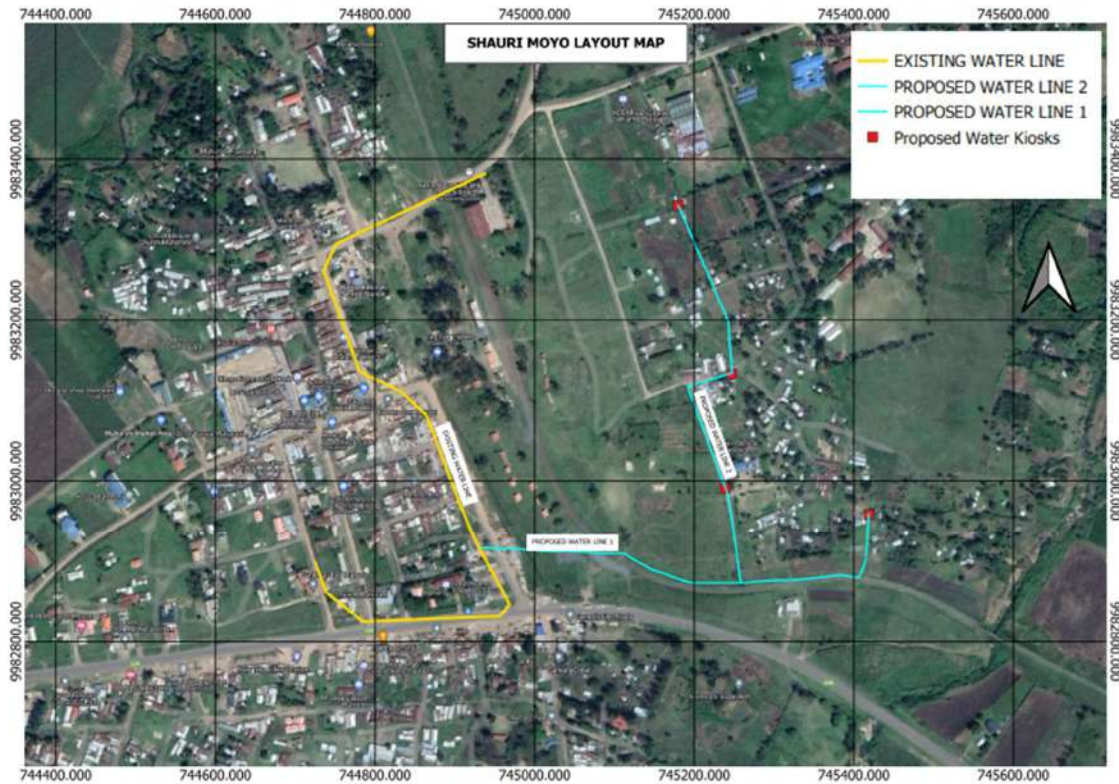


Figure 2.20: Shauri Moyo proposed water supply layout plan

2.9 Sewer Improvement Component

Overall, in Kisumu City, only approximately 20 percent of residents are connected to sewer, followed by 5 per cent connected to septic tanks. Low-income areas, access to improved sanitation is very limited. Approximately 60 per cent of the population uses unimproved sanitation. Basic unlined pit latrines, usually shallow pits due to the high water table, are the main sanitation facility used by 55 per cent of the population in low-income areas. Open defecation is also practiced in these areas by 5 per cent of the population.

The city is served by two waste treatment plants; Nyalenda and Kisat Treatment Plants which have a combined wastewater treatment capacity of 17,700m³/day.. Kisat serves the central district and the north-western part of the city while Nyalenda serves part of the central business district and the east of the city. The sewerage component for KISIP 2 project shall be in Manyatta B and Migosi.

2.9.1.1 Status of sewerage connectivity in Migosi

Lower Migosi has no functional sewerage system. Residents of the area release raw sewer into storm water drainage systems. This untreated water ends up in the storm water drainage channels and ultimately in Lake Victoria. While Upper Migosi has a sewerage system, the system is in a dire state of disrepair characterized with pipe bursts and blockages leading to release of raw sewer into the environment. This wastewater ends up in local storm water drainage systems within the area and ultimately to Lake Victoria. Manholes chambers are in state of disrepair and some lack covers. Also some sewer lines in this area passed under private buildings with manholes located in private properties.

While the ongoing LVSWATSAN Project will also go a long way in increasing access to sewer services in the settlement. There shall still be a gap in Lolwe area and the Kenya RE estate.

Migosi had a population of 23,892 as per the 2019 population census. This translates to a population density of 12,876 person per Km². There are several existing and ongoing sewerage project in the settlement. The gap identified were two primary sewer lines and four lateral lines, these two cover an area of 0.2km² translating to an initial population of 2606 for the initial year of 2024 and 3861 for the ultimate year 2054.

With the existing sewerage network and the ongoing Lake Victoria Water and Sanitation Program (LVWATSAN), KISIP 2 project intervention, a primary sewer line, Lateral Lines and individual connections have been proposed.

- Primary sewer Line – DN 200 – 300mm DWC Pipe 1200m Long
- Laterals sewer Lines – DN 200mm DWC Pipes
- Individual Connections – 40 Nr

The 300mm Sewer line 1700m long sewer line will run from upstream of Lolwe stadium through Kenya RE estate and discharge into the proposed line 3 trunk being undertaken under the LVSWATSAN Project.



Figure 2.21: Migosi proposed sewer design layout plan

2.9.1.2 Status of sewerage connectivity in Manyatta B

While Manyatta A has existing sewerage network and is also benefitting from the ongoing LVSWATSAN project, Manyatta B as over the years been neglected as far as sewerage services are

concerned. In the ongoing LVSWATSAN project, a 500mm diameter trunk running along Auji River has been proposed. No service lines to Manyatta B has been provided

As per the 2019 census, Manyatta B has a total population of 33,183. Based on the National population census of 1989, 1999, 2009 and 2019, the settlement has been growing at a rate of 1.6%. While the settlement has an area of 2.6km, the project will cover 0.85 Km² (sewerage and water). This translates to a population projected population of 11,847 in the initial of 2024 and 17,611 for the ultimate year 2054. So the impact of the project in the ultimate year 2054 will be 17,611.

The LVWATSAN project is constructing a main trunk along the Auji River and cutting through the settlement.

The proposed DN500mm DWC sewer line run along Auji River stretches on 3,496 lm and collects wastewater from a large catchment not yet connected to the existing network. It will connect to the proposed Nairobi interchange pumping station.

Seven lateral lines of DN 200mm to 300mm totaling to 5,155m have been proposed to serve Manyatta B under the KISIP 2 project. 120 connection boxes have been proposed which will connect more than 200 households to the sewer system.

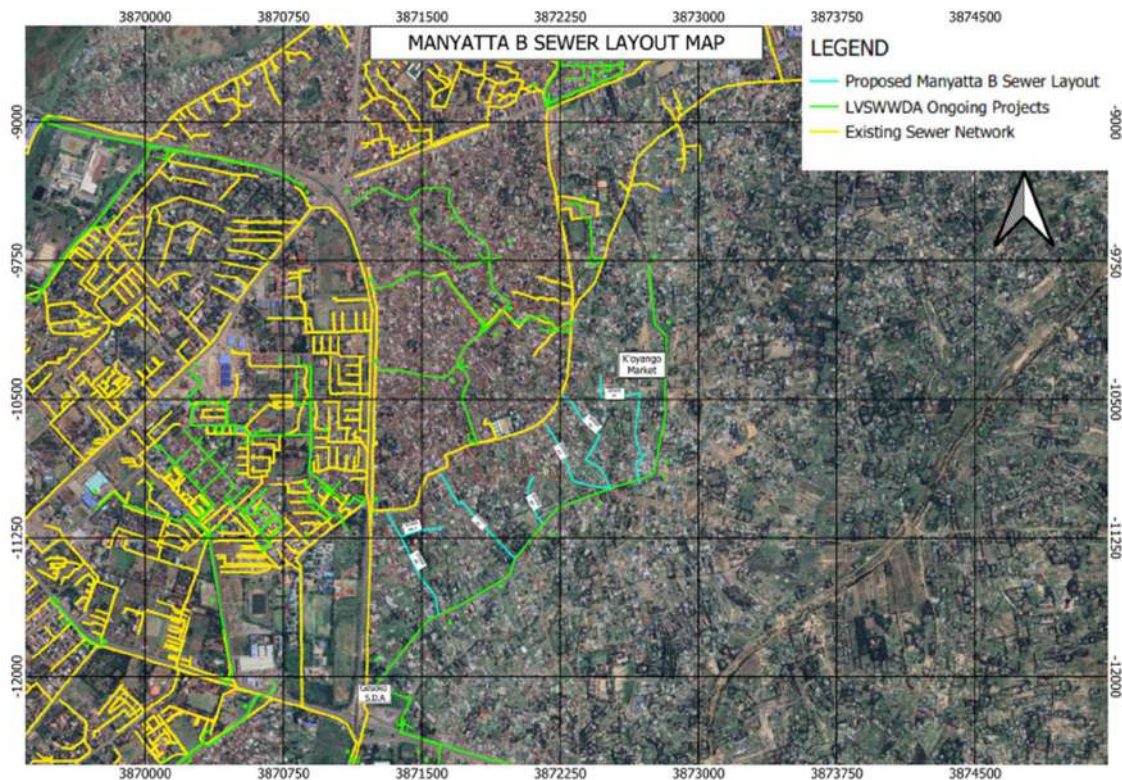


Figure 2.22: Migosi proposed sewer design layout plan

2.10 Construction Materials

A number of Construction materials have been identified for the project. These includes, Aggregates, Sand, Gravel and Fill materials. These shall be sourced from locally available materials sources especially existing Commercial sources. Where new sources are identified by the Contractor, Specific ESIA reports and NEMA Licenses shall be sort before commencement of extraction.

The predominant stone being crushed at the commercial quarries are the volcanic phonolite. Shajanand, Ujenzi and Hayer Bishan Singh have established quarries located 2km along Kisian – Bondo Road. The quarries produce stone ballast for both road and building construction works. There are two other commercial quarries within Mamboleo area, Ndugu transporters and Kisumu Concrete that are operating.

Two commercial quarry sites (Ujenzi and Shajanand) were identified and samples taken from these sites were taken to the Materials Laboratory, Nairobi and tested for the following properties:

- Los Angeles Abrasion (LAA) Test
- Aggregate Crushing Value (ACV) Test
- Sodium Sulphate Soundness (SSS) Test
- PI on fines
- Bitumen Affinity Test

During the design review, some privately owned sites, namely, Awasi quarry and Undugu quarry. The sites were under-utilization by the nearby road projects.

There are seven sources of sand within the area. Five sources shown below were identified and investigated.

- River Kibos (Kajulu), 19km from Kisumu
- River Mugruk (Usare) near Lake Victoria
- Ndebra River
- Nyamenda (Sinyoro)
- Kobonaka River (Kima)

During the design, samples of sand from the above sources were taken to Kisumu Regional Laboratory for grading analysis. In the review, the quarry dust will also be used when sand is insufficient.

Lake Victoria is a major source that is accessible from Kisumu town. The small river at Kasagam at the start of the project, Kajulu River at Mamboleo and Kisian river at end of project can also yield water for construction.

Other Construction materials such as Bitumen, Steel, Pipes, Tanks and Electrical components shall be sourced both locally and imported.

2.11 Labour Requirements

The Contractors will have to employ various Personnel to fulfill the labour requirements. They will include but not limited to;

- Site Agent
- Deputy Site Agent
- Earthworks Foreman
- Concrete Foreman
- Bitumen Expert
- Crusher Plant Technician
- Electrical Foreman
- Plumbers

- Surveyors
- Pant Operators
- Mechanics
- Drivers
- Unskilled Laborers

2.12 Materials and Equipment Storage/Laydown Areas

Material and Equipment storage shall be done in specific areas and approved by the ESMP Team and the Resident Engineer.

2.13 Project Implementation Schedule

The time period required for the project is 12 months for supervision of works and 12 months for Defects Notification Period of the works and 1 months for preparation of Final Completion report.

The envisaged Project Schedule is as follows:

- Construction Supervision & Works Commissioning 12 months
- Defects Liability Period Inspections 12 months
- Final Completion Report 1 month

2.14 Project Cost Estimates

The table below summarizes the project cost;

Table 2.16: Summarized project cost

No.	CONTRACT PACKAGE	SETTLEMENTS COVERED	ESTIMATED AMOUNT
K-1	ROADWORKS CONTRACT PACKAGE 1	Bandani/Nyawita/Migosi	311,961,020.39
K-2	ROADWORKS CONTRACT PACKAGE 2	Kibuye & Manyatta A	288,427,910.70
K-3	ROADWORKS CONTRACT PACKAGE 3	Manyatta B	414,761,020.66
K-4	ROADWORKS CONTRACT PACKAGE 4	Shauri Yako & Bondeni	117,676,602.01
K-5	WATER AND SANITATION CONTRACT PACKAGE 1	Kibuye/Migosi/Manyatta A B	103,135,991.50
K-6	WATER AND SANITATION CONTRACT PACKAGE 2	Sangoro/Swahili & Shauri Moyo	11,711,360.17
K-7	ELECTRICAL WORKS CONTRACT - 1 No.	Migosi/Manyatta A/Bondeni/Shauri Moyo	73,286,620.38
SUB-TOTAL OF THE ESTIMATED AMOUNTS (Including VAT)			1,320,960,525.82
TOTAL ALLOCATION FOR KISUMU COUNTY			1,319,477,524.00
VARIANCE (TOTAL ALLOCATION - TOTAL			(1,483,001.82)

2.15 Project Beneficiaries

Individuals, private and public institutions and the general public will greatly benefit from the implementation of the project. Some groups may benefit during the planning of the project, others during its implementation and others during its operation. Some of the identified project beneficiaries include;

- The County Government of Kisumu
- Government institutions (Kenya Power and lighting, KIWASCO)
- Educational facilities (especially those near the roads, lighting and water and sanitation components)
- Traders
- Students within the community
- Health Facilities
- Women, children and other vulnerable and marginalized persons within the community
- Laborers (both skilled and unskilled) within the community

During the construction of the project many community members will benefit from employment as casual laborers and skilled workers (electricians, masons, road marshals, heavy machinery equipment operators among other) with additional sources of income to women from the project area to cook for workers engaged in the project. They will also significantly benefit from capacity building through on-job training opportunities which will enable them to secure future projects. Persons or institutions supplying other services such as cleaning, and supply of material for construction such as those that own or operate material quarries, land owners who may supply aggregates, water supply and supply of vehicles will financially benefit from implementation of the project may improve their standards of living and opportunities to employ more persons within their institutions.

The general community members living in informal settlements will be the immediate beneficiaries of the project once the project is completed, with improved drainage structures, roads and lighting. Selected roads that link settlements will improve general trade and access to social amenities such as health centers, educational institutions, markets among others. Kanyamedha School and Highways secondary school in Bandani and Kibuye, will benefit significantly with the reduction in the amount of dust raised as the vehicles use the improved roads near their institutions. Reduced number of road traffic incidents recorded within the project area may reduce with the improvement of the road and introduction of speed bumps and other road safety features.

There will be increased access to potable water within the informal settlements which will reduce the number of reported communicable diseases within the settlements. Further, improved drainage structures will reduce stagnation within the project areas which improves the general health of the settlement (air quality and water quality) with better quality of life of the residents. Improvement of selected sewer structures and the construction of new sewer lines will increase the connection to sewer lines which reduces the need of pit latrines. It will also reduce instances where as is the case in Migosi, damaged sewer lines spill sewer onto the surfaces contaminating the targeted areas within the settlements. Improved environmental health may in turn improve the general community health and reduce the number of water borne (cholera, diarrhea, stomach bugs) and other illnesses (respiratory tract illnesses) reported to health centers. This allows for more health workers available

to manage other ailments. Landlords may be able to get more tenants even with increased rent since the general environment is sanitary, water is easily available, sanitary conveniences are not latrines but flushable toilets (available water and connection to the sewer) and increased security within the area due to increased illumination at night. This will increase rent collected by the landlords which will also increase revenue collected by the County Government of Kisumu.

Reduced crime rate is expected with the increased street lighting and inclusion of high mast to illuminate the project areas enabling traders to work for longer hours hence increase their income and generally increase revenue collection from the Kisumu County Government. In addition there will be increased security for school going children and other persons in formal and informal employment can move early in the morning and later at night with better visibility.

2.16 Institutional Framework for Implementation of KISIP

Implementation of the project will involve a three-tier institutional arrangement (National, County and Community). Both the National and County Project Coordination Teams (PTCs) will have dedicated Safeguards Teams to address safeguard issues. The community through the Settlement Executive Committees (SECs) and the Grievance Redress Committees (GRCs) will be enabled to participate in the preparation of mitigation plans, implementation and monitoring as well as grievance redress. The below figure 2.21 shows the institutional framework for KISIP.

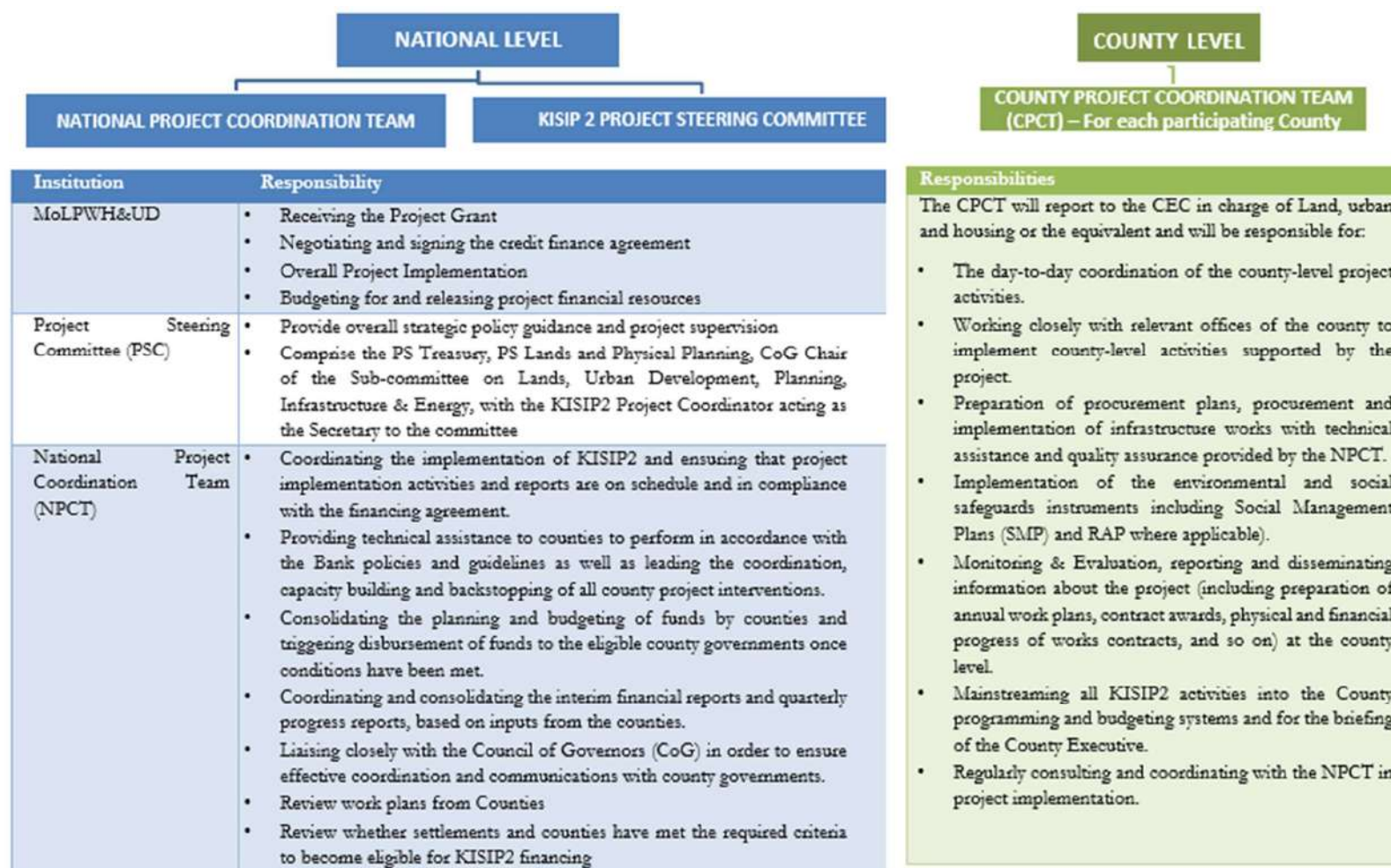


Figure 2.23: KISIP Institutional Structure

3. ANALYSIS OF PROJECT ALTERNATIVES

3.1 Alternative Design and Technology

3.1.1 Solar Powered High Mast Vs Grid Powered High Mast

The Working Principle of Integrated Solar Street Light:

When the sun rises and the temperature in the area increases, the sensor tells the LED lamp to switch off. As the temperature further rises, it prompts the solar panel to begin harnessing the sun's energy. The energy harnessed will then be stored in the battery. To prevent the battery from overcharging, a smart charge controller will disconnect the battery from the solar panel whenever it's fully charged. During the night, the LED light is prompted to switch on. Unlike a normal solar street light that just stays lit the whole night, an all-in-one solar street light does more than that; it has PIR human body induction Function, can realize the infrared induction control light work mode of the intelligent human body at night, 100% bright when there are people, and automatically change to 30% (default) of the brightness after a certain delay when there is no one, which saves more energy intelligently. At the same time, solar energy, as a kind of "inexhaustible" safe, environmentally friendly new energy, has played an important role in integrated solar street lights.

The Benefits of Using All-In-One (Integrated) Solar Powered Street Light.

- a) *Ultra-thin, Lightweight and Fully Assembled for Easy Maintenance and Installation:* With its ultra slim body and lightweight attachments, the All-in-One Solar Street light can be easily maintained during its lifetime. It also allows for an easy and hassle-free installation which can only last for 5 to 15 minutes per unit.
- b) *No Trenching and Earthworks Needed:* There's no need for earthworks and trenching as what is normally done in normal street lights. Thus you can potentially save a lot of time and money.
- c) *Zero Energy Costs with High Lighting Efficiency:* An All-in-one solar street light LED lamp can provide up to 200 lumen/watt lighting efficiency. You can save almost 80% of energy as compared with traditional street lights. And since solar street lights are also off-grid, it leads to zero cost for operation and electricity bills are eliminated.
- d) *Economical Construction with Maximized Protection from Theft and Vandalism:* An All-in-one solar street light incorporates a GPS (Global Positioning System) inside of the integrated solar street lights. With this system, we can see the location of the lamp at any time. If the solar street lights were stolen, we can track the lamp very easily. This solution work very well for highways or somewhere no people around.
- e) *Renewable energy:* Unlike coal and oil, which have finite supplies that need to be mined, solar energy is renewable. Importantly, renewable energy is receiving the official recognition it deserves, with many governments adopting policies to support solar projects. In the future, more and more electric lights will be replaced by solar lights.
- f) *Long Life Span:* The integrated solar street light has a long-life span of 10 years. It uses the world's first lithium battery management and control technology. Compared with some ordinary battery products that need to be replaced in two years, the future after-sales service and component replacement costs for integrated solar street lights can be greatly reduced. Usually, there is no need to replace the battery or maintenance within 8 years, even when it needs to be replaced after 8 years. Due to the unique product structure design, users can complete the replacement in just a few minutes.

3.1.2 Cabro road surface Vs Asphalt Road Surface

There was a proposal to have cabro road surfaces as opposed to the asphalt road surfaces within the informal settlements for the following reasons;

- a) Faster to implement as the process for constructing asphalt roads requires a series of steps that take longer
- b) Road can still be actively used by the settlements residents since closing the roads within informal settlements can result in significant traffic concerns.

On assessing both options, the asphalt road surface was settled on due to its longevity in comparison.

Cabro was however selected for the footpaths in the selected sites. Given the limited space, after limiting the road corridor to the already limited public land, having a cabro walkway constructed was considered due to it's;

- a) Ease in construction which makes its construction faster to allow its use especially in the informal set-up
- b) Ease in manipulation as its construction can continue even with high foot traffic within the proposed project locations.
- c) Ease in its maintenance with quick replacement of the cabro blocks whenever necessary.

3.2 Individual consumer water supply connections

According to the Water Act, 2016, provision of sewerage services is the responsibility of Water Services Regulatory Board (WSRB). The Act, however, allows the WSRBs to subcontract Water Service Providers (WSPs) through Service Provision Agreements to do the actual service delivery, while the boards remain responsible for the development of the water and sewerage used by WSPs.

While significant development has been achieved in the development of the main trunk mains, minimal investments have been done in the last mile connectivity. This has led to most residents in the project area to use public water points as their source of water and onsite disposal methods for their sanitation needs.

To ride on the available infrastructure to uplift the living standards of the residents in the project area; individual connections to the public mains have been proposed. However, in some areas due to the socioeconomic dynamics, a number of public water points have been proposed. They have been designed in such a manner that the distance the residents go to fetch water is as minimal as possible.

3.2.1 Benefits of Individual water consumer connections

- Convenience of 24 hour access.
- Higher water quality.
- Customer satisfaction is generally high with this level of service.
- Increased water quantity allows for improved health and hygiene.
- Households have strong incentives to maintain their water-supply infrastructure.

3.2.2 Benefits of household public sewer system to onsite waste disposal

Connecting to the sanitary sewer benefits not only property owners, but improves the environmental and public health as well.

- Water Protection - Improved protection of drinking and surface water.
- Nitrate Control - Improperly treated sewage can also lead to increased nitrates in local water supplies, which is dangerous for infants, pregnant women and those with already compromised immune systems.
- Reduced Diseases - Reduced risks to public health from diseases such as hepatitis or dysentery.
- Reduced Insects - Fewer disease-carrying mosquitoes and flies.

3.2.3 The Benefits of Using HDPE Pipes

The proposed water and sewerage system has proposed High-density polyethylene (HDPE) for the transmission. The main advantages of HDPE to the other pipe material such as Steel pipes, uPVC pipes and concrete pipes are;

Eco-friendly Option

HDPE pipe fittings are recognized for their minimal impact on the environment. For instance, it takes less energy to manufacture HDPE pipes than their non-plastic counterparts. HDPE pipe is lightweight, making it more cost-effective to transport than metal pipes. Additionally, HDPE pipe manufacturing does not emit hazardous levels of toxins into the air during production or welding. Acu-Tech HDPE pipes are the right choice; they are durable, versatile and compatible with technology like poly electrofusion fittings, poly compression fittings and clamp saddles, ensuring seamless joints and high-integrity systems. The pipe's smooth internal surface gives it a high flow and pressure capacity, enabling it to facilitate fluid transfer without the risks of obstruction or breakage.

Corrosion Resistance

High-density polyethylene (HDPE) pipes are effective for the large scale transfer of liquids given that they can withstand high amounts of pressure and are unaffected by rust due to their thermoplastic quality. Unlike traditional metal pipe fittings, HDPE pipes do not rust, corrode or rot. PE pipes are also resistant to biological growth, eliminating the costly problems associated with corrosion and fouling.

Extended Service Life

Additionally, the lifespan of high-density plastic pipes is longer than metal pipes – which only last from 20 to 50 years. The service life of polyethylene pipe and fittings is estimated to be between 50 to 100 years depending on design, installation and application.

Fatigue Resistance

HDPE pipes are ductile and flexible, not rigid. This means they have outstanding resistance to fatigue. PE100 poly pipes are designed and pressure-rated to handle the usual and recurring surges that are common in water distribution systems.

Leak-free Joints

Traditional metal piping systems are joined with mechanical type joints or with a bell and spigot. These come with specified leakage factors that waste precious resources. Meanwhile, HDPE piping systems

can be joined using heat fusion. Heat fusion involves the heating of two HDPE pipe surfaces at a specific pressure, and then allowing the PE pipe to cool, producing monolithic, permanent and leak-free pipe joints.

3.3 Selection of Sanitation/Sewerage Technology

There are a wide range of sanitation technologies available for managing domestic wastewater and excreta. In addition, designing a sanitation chain means using a series of complementary components, the organization and combination which will vary according to the physical context, user demand and the level of treatment required.

The criterion for selection of the wastewater treatment system involves determination of service levels of water supply, ground permeability, and ground water table, nature of development area, population density and ground slope.

Formulation of a sanitation master plan begins with identification of an appropriate Sanitation system, categorized as either on-site or off-site treatment facilities. Second step is to define the type of sanitation technology to be applied to the adopted system.

3.3.1 Sanitation System

On-site sanitation systems are technologies that enable wastewater storage within a plot. Storage can be combined with pre-treatment (septic tank).

The choice between connecting wastewater to a trunk sewer and using a septic tank depends on several factors, such as the location, cost, environmental impact, and the community preference.

On-site sanitation systems such as septic tanks are most commonly used as private drainage facilities. They are step up from a cesspool, which can only store waste and must be emptied regularly, in that they are able to partly process and discharge some of the sewage collected. Whilst also installed underground, septic tanks, be they single or multi-chamber designs, utilize gravity to separate the liquid waste from the solid waste. They are a fairly low-cost option since they require less infrastructure and energy as compared to a sewer system.

Population Density: On site waste disposal options require adequate space within the lot for their installation and thus work well in rural and low-density areas to medium density urban areas. Most informal settlements have utilized most of their available land spaces in buildings and where a settlement is not densely populated the construction of a single septic tank to serve the population lacks economic feasibility as it involves a lot of infrastructure. On the other hand a single septic tank provision for each household would prove not feasible.

Cost and maintenance: On-site systems, maintain a constant unit household cost irrespective of the density of settlement. Utilizing single units of septic tanks has proved far more costly than all forms of pipe networks which have demonstrated marked reductions in unit household costs as density of the settlement increases as the same length of pipework serves an increased number of houses. Septic tanks also involve constant desludging during their operation, a practice not so much entertained by the persons residing there.

Environmental impact: Septic systems are environmentally friendly when properly maintained and also prove to be important in conserving the local water supply as they return the effluent to the ground therefore replenishing the groundwater. However, this option also comes with some drawbacks, such

as higher initial installation costs, regular maintenance and pumping requirements, and potential health and environmental risks if the system malfunctions or leaks. Under new NEMA regulations, septic tanks can only discharge into a soak way or drainage field and thus can't discharge directly into a watercourse.

Soak ways/drainage fields must also comply with building regulations, BS 6297;

- Must not be too close to any buildings, boundaries or watercourses;
- Must be away from electrical cables or pipework;
- Must not be part of a road, driveway or other areas trafficked by vehicles;
- Must have passed a series of tests to ensure the soil is suitable for drainage and there's no risk of contamination to watercourses.

Connecting wastewater to a trunk sewer is usually more convenient and reliable for properties that are located in urban or suburban areas, where the public sewer system is already established and accessible. The informal settlements in context lie in areas with easy access to the main trunk sewers. This option eliminates the need for individual maintenance and responsibility for the wastewater treatment, as the local government handles this. However, this option also comes with some disadvantages, such as monthly fees for the service, potential system failures or overflows that can affect a large number of properties. The local governments' maintenance practices have proved capable of handling most issues that may arise along the sewer lines and so preventing system failures and leakages.

3.4 Last Mile Water Connectivity System

Water kiosks and household tap connections are two different ways of providing access to safe and reliable water supply for urban residents especially in low-income areas.

3.4.1 Water Kiosks

Water kiosks are outlets where formal water providers deliver water at affordable prices to customers who bring their own containers. They typically have four taps on the outside and faucets inside, operated by a kiosk attendant. They usually receive treated water from utilities through a piped distribution network. Where water supply in the network is intermittent, kiosks sometimes also have a water storage tank.

Advantages of Water Kiosks are:

- They can provide water to a large number of residents in urban low-income areas, where individual connections may not be feasible or affordable.
- They can offer lower prices than vendors or resale by neighbours, who may charge high mark-ups for water delivery.
- They can ensure higher water quality than private point sources or rainwater harvesting, which may be contaminated or unreliable.
- They can reduce the time and effort required for fetching water, especially for women and children, who often bear this burden.

Disadvantages of water kiosks are:

- They may not be available 24 hours a day, depending on the opening hours and the reliability of the network supply.
- They may not provide enough water for domestic needs, such as bathing, laundry, or gardening, as customers are limited by the size and number of their containers.

- They may not offer enough privacy or convenience for customers, who have to queue and share taps with others.
- They may require regular maintenance and supervision by the kiosk attendant, who may also be susceptible to corruption or mismanagement.

3.4.2 Household Tap Connections

Household tap connections are pipes that deliver water directly to the premises of a single household or a shared compound. They can be either in-house connections (tap inside the house) or yard taps (tap outside the house). They also receive treated water from utilities through a piped distribution network. They may have meters to measure and charge for the water consumption, or they may have flat rates or subsidies.

Advantages of household tap connections are:

- They can provide convenience and privacy for customers, who can access water anytime and anywhere within their premises.
- They can increase water quantity and quality for domestic use, which can improve health and hygiene outcomes.
- They can increase customer satisfaction and willingness to pay for water services, which can enhance revenue and sustainability for utilities.
- They can encourage water conservation and efficiency, if metering and realistic pricing are used.

Disadvantages of household tap connections are:

- They may be too costly or difficult to install for low-income households, who may need financing or subsidies to afford them.
- They may consume more energy and resources for the centralized treatment plant, which may have environmental impacts.
- They may require waste-water disposal facilities, such as septic tanks or sewers, which may also entail additional costs and challenges.
- They may be affected by system failures or overflows that can disrupt service or cause health hazards.

The consultant has proposed utilization of both methods of connectivity dependent on the nature of the settlement and needs of the target community.

3.5 Alternative Sites

Alternative locations of the project components were selected in collaboration with the SEC members. The basis of the location of these sites were;

- a) To minimize as much as possible the number of project affected persons (PAPs) by limiting the roads and drainage structure, electrical component and the water and sanitation component to the existing road corridor.
- b) To ensure that the proposed project site serves a majority of people within the informal settlement.
- c) Ensure that for proposed roads projects, the proposed location ensured that it connects to other asphalt roads or major roads within the proposed settlement.
- d) Check that, as much as possible, the proposed roads projects connects public institutions such as schools to the major roads.

- e) Check that the water supply projects supplement the Last-Mile water supply projects within the project area.
- f) Check that the water supply projects connect to a many persons as possible.
- g) Consider improving the existing sewer lines within the settlements as opposed to having new sewer lines. This reduces the release of toxic wastes and related greenhouse gases into the atmosphere while improving the general sanitation in the informal settlements.

3.6 The No Project Option

Currently, the informal settlements have significant infrastructural challenges in terms of high amount of dust that is generated from the movement of motorized and high number of non-motorized transport. Further, in Migosi, significant concerns of poor drainage and sanitation challenges are experienced which only get worse with the onset of rains. One of the more significant concerns within the informal settlement is insecurity at night, with mentions from the community of muggings, and violence. The concern is that without the implementation of the project and its components, these situations will continue to be the same.

The do nothing option is the least preferred from the socio-economic, cultural, and partly environmental perspective due to the following factors:

- The socio-economic status of the beneficiaries and the residents in the project area of the
- Project area would remain unchanged;
- The local skills would remain under-utilized as no employment opportunities will be
- created for some residents who would have otherwise worked at the project areas;
- Reduced local interaction and business development due to lack of these infrastructure;
- Further soil erosion and environmental deterioration due to lack of proper drainages;

This option requires that the situation remains as it is, meaning that the status quo in the settlement remains. The benefits that the project implementation would have will be foregone.

Short term negative impacts due the construction phase will however not be felt by the community. Given that the negative impacts are short term, implementation of the project which has longer term positive impacts, the Consultant recommends that the NO-Project alternative is not most ideal.

4. REVIEW OF POLICY AND LEGISLATIVE FRAMEWORK THAT HAS IMPLICATIONS FOR THE PROPOSED KISIP PROJECT

This section was developed guided by the principles of environmental and social management. The Employer is expected under the law and best practice to consider and exercise all the principles and tenets of environmental management. These principles are discussed below;

4.1 Principles of Environmental and Social Management

4.1.1 The principle of sustainability

The principle of sustainability requires that natural resources should be utilized in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations. It strives for equity in the allocation of the benefits of development and decries short-term resource exploitation which does not consider the long-term costs of such exploitation.

To reduce the negative impacts on the availability and sustainability of the materials, the Employer will only order what will be required through accurate budgeting and estimation of actual construction requirements. This will ensure that materials are not extracted in excessive quantities. Moreover, the Employer will ensure that wastage, damage, or loss (through run-off, wind, etc.) of materials at the borrow site is kept minimal, as these would lead to additional demand for and extraction or purchase of materials. This will lead to a reduction in the number of raw materials extracted from natural resources as well as reducing impacts at the extraction sites. The extraction of materials will be done according to Integrated National Land Use Guidelines (INLUG).

4.1.2 The principle of intergenerational equity

The principle of sustainability should be examined together with that of intergenerational equity, which focuses on future generations as rightful beneficiaries of environmental protection. Essentially, the principle of intergenerational equity advocates fairness, so that present generations do not leave future generations worse off by the choices they make today regarding development. Its implementation requires the utilization of natural resources sustainably while avoiding irreversible environmental damage.

The contractor will ensure sustainability of the borrow site and extraction activities do not exploit natural resources.

4.1.3 The principle of prevention

The principle of prevention states that; “protection of the environment is best achieved by preventing environmental harm rather than depending on remedies or compensation for such harm after it has occurred”. The reasoning behind this principle is that prevention is less costly than allowing environmental damage to occur and then putting into place mitigation measures.

4.1.4 Precautionary principle

The precautionary principle recognizes the limitations of science, as it is not always able to accurately predict the likely environmental impacts of resource utilization. It calls for precaution in the making of environmental decisions where there is scientific uncertainty. Accordingly, it is closely related to the principle of prevention and can be viewed as the application to the principle, where the scientific

understanding of a specific environmental threat is not complete. The precautionary principle thus requires that all reasonable measures must be taken to prevent the possible disastrous environmental consequences of development activities. Furthermore, it demands that scientific uncertainty should not be used as a reason for not taking cost-effective measures to prevent environmental harm.

4.1.5 Polluter pays principle

The polluter pays principle requires that polluters of natural resources should bear the full environmental and social costs of their activities. It seeks to internalize environmental externalities by ensuring that the full environmental and social costs of resource utilization are reflected in the ultimate market price for the products of such utilization. Since environmentally harmful products will tend to cost more, this principle promotes efficient and sustainable resource allocation as consumers are likely to prefer the cheaper and less polluting substitutes of such products.

The contractor will put in place measures in the ESMP to reduce pollution, restoring the environmental degradation from the material sites

4.1.6 Principle of public participation

The principle of public participation seeks to ensure environmental democracy and requires that the public, especially local communities should participate in the environment and development decisions that affect their lives. It requires that the public should have appropriate access to information concerning the environment that is held by public authorities and should be allowed to participate in decision-making processes.

Public participation will help understand the perception of the local community by gathering information about their perceived positive and negative impacts of the project. This will help the contractor find the most appropriate mitigation measures that are relevant and suitable for the negative aspects

4.1.7 National Environmental and Social Policy Framework

The Table 4.1 below outlines the National and environmental social policy framework and their relevance to the proposed project.

Table 4.1: National and environmental social policy framework

Policy	Policy Brief	Relevance to the project
Kenya Vision 2030	<p>The Vision is to be achieved through 3 economic pillars: - Economic, social and political pillar. The overall goal pertaining to environmental conservation are captured under the social Pillar and are aimed at making Kenya a clean, secure and sustainable nation. Some of the strategies to be employed are:</p> <p>Promoting environmental conservation in support of the economic pillar and also so as to achieve the MDGs;</p> <p>Improving on pollution control and waste management through implementation of economic instruments</p> <p>Providing access to water and sanitation for all by 2030;</p> <p>The project components are anchoring on the Urban Water Supply Sub Program under Environment, Water and Sanitation;</p> <p>Installation of physical and social infrastructure in slums and informal settlements in selected urban areas</p>	<p>This report has been developed in a bid to conserve the environment of the informal settlements, and has assessed various supporting components of the project such as Gender youth and vulnerable groups, environment water and sanitation, health and population urbanization and housing enshrined in the Kenya Vision 2030</p>
The Third Medium Term Plan (MTP III) 2018-2022	<p>The National Agenda's Third Medium-Term Plan (MTP III) for the years 2018 to 2022 includes this as one of its development objectives; Vision 2030, the Big Four Agenda, and the Africa Agenda 2063 are among them. By the end of the Plan period, the MTP III aims to move the economy toward a high growth trajectory with an economic growth rate of 10%. MTP III's theme is "Transforming Lives": Promoting socioeconomic progress through the "Big Four." The MTP III builds on the progress that has been made in important parts of the economy, like finishing projects started in MTP II, like roads. In addition to raising investment levels, MTP III aims to boost economic productivity across the board. MTP III aims to make structural changes that will increase the economy's share of the manufacturing, industrial, and exporting sectors. The Micro, Small, and Medium Enterprises (MSME) sector of Kenya's economy is prioritized in MTP III, and it outlines strategies to encourage its expansion. Enhancing and developing the foundations for economic transformation as well as enablers like infrastructure, reforms to the public sector, science, technology, and innovation, and information and communication technology (ICT) are prioritized in MTP III.</p>	<p>The proposed projects support the MTP's agenda which includes implementation upgrading of infrastructure in the informal settlements enhancing access to utilities projects and in wholesome improving the socio-economic status of the communities in the settlements.</p>

Policy	Policy Brief	Relevance to the project
National Environment Policy, 2014	This policy sets out important provisions relating to sustainable use of environment and natural resources. It articulates the guiding principles in the implementation of the policy which should include: Environmental rights of Kenyans; the right to development; Ecosystem approach, total economic value, sustainable resource use; equity, public participation, subsidiarity (decentralization and devolution of authority to lower levels); the need to apply the precautionary principles, polluter pays, benefit sharing; community empowerment, good governance and international cooperation.	<p>The Policy guides that the project ensures public participation is undertaken effectively and the identification of resources to develop and implement the project are to be done sustainably. It also emphasizes the right of Kenyans to development, community empowerment, good governance and international cooperation.</p> <p>Section 5.6 of this Session Paper focusses on infrastructure development and environment and makes explicit policy statements to ensure sustainable management and use of the environment and natural resources during the construction and operation of infrastructure developments including roads. These policy statements require the commitment of the Government to:</p> <p>Ensure Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), Social Impact Assessment (SIA) and Public Participation in the planning and approval of infrastructural projects;</p> <p>Develop and implement an environmentally-friendly national infrastructural development strategy and action plan; and</p> <p>Ensure that periodic Environmental Audits are carried out for all infrastructural projects</p>
The National Environmental Action Plan (NEAP) 2009-2013	The Government of Kenya developed its first National Environment Action Plan (NEAP) in 1994. The NEAP report addresses environmental issues from various sectors in an integrated manner and their significance in development planning. It proposed a strategy for achieving sustainable development in line with Kenya's quest to meet the Sustainable Development Goals (SDGs), Vision 2030 and Medium-Term Plan (MTP). The report brings out several proposed interventions, legal and institutional framework to be incorporated into sectoral development plans and programs. Its implementation is monitored through the Annual State of the Environment Reporting	The Action Plan guides on the legal and institutional framework which the Employer is guided by in the development, operation and decommissioning of every component of the proposed project.

Policy	Policy Brief	Relevance to the project
National Climate Change Framework Policy 2014	The purpose of the National Climate Change Framework Policy is to facilitate a coordinated, coherent, and efficient response to the opportunities and challenges posed by climate change on a global, regional, and local level. To ensure that climate change considerations are incorporated into development planning, budgeting, and implementation across all sectors and government levels, an overall mainstreaming strategy has been adopted. As a result, the goal of this policy is to promote a low-carbon development path while also enhancing adaptive capacity and building resilience to climate change and variability.	Due to the nature of activities carried out during the construction phase, the contractor will be required to implement measures that will protect the environment in terms of emissions at the local level. The policy could also be implemented by adopting the use of environmentally sustainable and locally appropriate technology.
Kenya's National Policy for Disaster Management, 2009	<p>The government, the community, and other stakeholders' preparedness for Disaster Risk Reduction activities is emphasized in the policy. By establishing and strengthening Disaster Management institutions, partnerships, networking, and mainstream Disaster Risk Reduction during the development process, the policy aims to strengthen the resilience of vulnerable groups to potential disasters. The Ministry of State for Special Programs in the Office of the President will coordinate Disaster Risk Reduction initiatives within a unified policy framework in a proactive manner at all levels.</p> <p>Disasters typically fall into two broad categories: Natural and man-made in the following ways:</p> <ol style="list-style-type: none"> 1. Natural: fires in the Bush, epidemics that affect humans and animals, pests that damage crops, forests, and livestock, Droughts, floods, landslides, cyclones, storm surges, coastal erosion, earthquakes, and invasive plants are examples of geologic and climatic disasters. 2. Human-made: Accidents at work, fires, accidents in the transportation system, civil, resource-based, and political conflicts, crumbling infrastructure, food poisoning, invasive plants, drug and substance abuse, human trafficking, industrial sabotage, environmental degradation, and other new disasters. <p>In addition to the natural climate variability that has been observed over comparable time periods, climate change is a change in the climate that is attributed directly or indirectly to human activity (particularly carbon-emitting industries, fossil fuels, and deforestation) that alters the composition of the global atmosphere.</p>	The contractor should ensure that measures to safeguard against and reduce disasters, risk and environmental destruction during the development process, are implemented. This will include enforcing clear operating procedures at the worksites to prevent risks and also maintaining machinery to reduce the rate of emissions into the atmosphere that will influence the alteration of the air quality. Additionally, after the project activities, a decommissioning plan will be implemented to rehabilitate and restore any material sites contractor shall open.

Policy	Policy Brief	Relevance to the project
The National Biodiversity Strategy Action Plan 2019-2030	The goals of the plan include 1. Mainstreaming biodiversity conservation and sustainable use into decision making process across all sectors to address underlying biodiversity loss 2. Reduce direct pressures on biodiversity and maintain their capacity to provide goods, services and support livelihoods 3. Safeguard ecosystems, species and genetic diversity including, agro- biodiversity to improve the status of biodiversity. 4. Promote and enhance fair and equitable sharing of benefits accruing from utilization of biodiversity and ecosystem services. 5. Strengthen participatory planning, knowledge base and capacity building for biodiversity conservation. 6. Mobilize financial, technological and human resources.	The development of the project is aligned to the goals of the NBSAP through sustainable working within the roads corridors and wayleaves. The Employer will continuously be guided to, as far as reasonably possible, protect biodiversity through avoiding the cutting of trees, re-planting trees that had to be cut down, and develop a monitoring plan to manage the trees re-planted even after project completion.
National Occupational Safety and Health Policy, 2012	The aim of the policy is to continuously sustain the development and implementation of the National Occupation Safety and Health systems and programs to reduce incidences of work related accidents.	The Employer will continuously guide the contractor to comply to the requirement of this policy through adopting sustainable health and safety practices that hold the health and well-being of the workers with high integrity.
Sessional Paper No.3 on Land Policy 2009	The policy provides a framework to address and define key measures required to address the critical issues of land administration and access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal settlements, outdated legal framework, institutional framework and information management. Key highlights of the policy are: Recognizes the importance of security of land tenure for all Kenyans; Classifies all land in Kenya as public, private or community; Provides for the enactment of a Land Act to govern all land in Kenya replacing previous statutes; Gives recognition and protection to customary rights to land; Protects private land rights and provides for derivative rights from all categories of land holdings. Defines community land as land lawfully held, managed and used by a given community;	This policy guides the project towards proper land use planning, conflict management, caution on environmental degradation, and ensuring that the legal, institutional and informational are updated.

Policy	Policy Brief	Relevance to the project
National Wetlands Conservation and Management Policy (Draft) 2013	Among other targets this Policy aims at: Regulating, protecting, managing and conserving all wetlands Ensuring appropriate wetlands management plans are developed and implemented through a participatory approach Support the restoration, rehabilitation and management of wetlands	The project should ensure that all natural wetlands are held sacred. Sources of construction water should be managed sustainable in order to allow for recharge, protection of the source infrastructure, and equitable sharing with the community.
Sessional Paper No. 3 of 2009 on National Land policy 2007	Some of the principles employed in this policy are: Equitable access to land for subsistence, commercial productivity, settlement, and the need to achieve a sustainable balance between these uses; Secure land rights, sustainable management of land and effective development regulation of land development. Defines land as public, private and community. It further provides for the titling of community lands. In addition, the government will hold in trust forests, national parks and water catchment areas in trust for the people of Kenya;	The Employer will, as much as reasonably possible, ensure that the project is not on privately owned land. However, in the event private or community land will be impacted, the Employer stands guided on sustainable management of land, effective development, security of land rights.
Sessional Paper No. 01 of 2021 on National Water Policy	The sessional paper adopted in 2021 on the National water policy guides on management of water as a resource and promote inclusive and integrated approach in managing water resource. It promotes water harvesting and storage to meet the high water demand, and promote the progressive realization of human rights towards universal access to and equitable access to water. The sessional paper also establishes the prioritization of progressive and equitable realization of sewerage and non-sewer sanitation services. Other components of the document guide on; Gender mainstreaming in managing water resource Mainstreaming Climate change and disaster risks reduction equity for vulnerable persons and youth in the water sector	As one of the components of the project is water supply within the informal settlement, the Employer will engage the community in exploring sustainable water harvesting and storage practices to substitute the water being supplied. Water from construction will be used sustainably so as not to deprive the community of water for their daily use. Any additional water source that will be explored will consider the community needs and seek ways to efficiently and equitably close the need gap as far as reasonably possible.
National Environmental Sanitation and Hygiene Policy (2007) (GOK, 2007a)	Sanitation and the environment 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; Increasing environmental sanitation awareness across the country	The Employer is guided to ensure that the project does not pollute the environment and any accidental pollution is to be promptly addressed. As part of community capacity building, the Employer will raise the community awareness on hygiene and sanitation through training, initiating community clean-up exercises jointly with the community and implement pollution prevention structures at all stages of the project life-cycle.

Policy	Policy Brief	Relevance to the project
National Housing Policy for Kenya Sessional Paper No. 3	<p>Developed to address issues of deteriorating housing conditions and also bridging the shortfall in housing stock especially in urban areas. it aims include:</p> <p>Enhancing access to housing, basic services and infrastructure especially for the poor towards improved living conditions mostly in urban areas</p> <p>Promoting integrated, participatory approaches to slum upgrading including livelihood activities that combat poverty</p> <p>Harmonizing existing laws governing urban development and electric power to facilitate more cost-effective housing development</p> <p>Facilitating increased investment by the formal and informal private sector, in the production of housing for low and middle-income urban residents</p>	Participatory approach to the upgrading of the informal settlement was done during the initial and subsequent environmental and social assessment of the project.
National Policy on Water Resources Management and Development (1999)	Promotes the systematic development of water facilities in all sectors while recognizing wastewater as a by-product of this process. This policy guides for the development of appropriate sanitation systems to protect people's health and water resources from institutional pollution. Pollution from any business development activities should be accompanied by corresponding waste management systems to handle the wastewater and other wastes emanating.	Sustainable waste management practices need to be employed during project development in order to align to this policy. Further, as part of capacity building, community participation in waste and wastewater management can be enshrined into the social management plan to guide local business owners in sustainable waste management for a clean environment.
Session Paper No. 5 on the Development and Management of the Road Sub-Sector for Sustainable Economic Growth, 2006	Guides the attainment of efficient road sector that supports and promotes economic growth through the cost effective provision and maintenance of infrastructure that is necessary for safe and reliable road transport.	<p>Selected roads and roads' infrastructures ought to align to this policy. Section 5.1.1 states that the road development will be focused on improving accessibility, increasing the variety and quality of urban and rural transport and improving accessibility for the development of key economic sectors.</p> <p>Section 5.1.5 states that the government ought to take measures that will, among others, improve junction, improve carriageway capacity in order to improve traffic congestion un urban areas. This is in line with the purpose of the project under development.</p>

Policy	Policy Brief	Relevance to the project
Gender Policy, 2011	This Policy Framework aims at mainstreaming gender concerns in the national development process in order to improve the social, legal/civic, economic and cultural conditions of women, men, girls and boys in Kenya. The policy provides direction for setting priorities to ensure that all ministerial strategies and their performance frameworks integrate gender equality objectives and indicators and identify actions for tackling inequality. In addition, each program will develop integrated gender equality strategies at the initiative level in priority areas. Within selected interventions, the policy will also scale-up specific initiatives to advance gender equality.	The overall objective of the Gender and development is to facilitate the needs and concerns of both, men and women in all areas in the development process in the country. This policy calls for awareness of mainstreaming gender and gender concerns during the pre-operational, operational and decommissioning phases of the proposed project. With awareness of gender concerns and issues in the society the ESIA is able to identify impacts and develop mitigation to ensure gender mainstreaming in all aspects of the project and reporting, strategies to ensure inclusivity and retention of those considered vulnerable in the community.
Kenya National Social Protection Policy 2011	<p>The overarching objective of this policy was to provide social protection so that every Kenyan can live in dignity and use their human abilities for their own social and economic development. This is in line with the provisions of the Kenyan Constitution of 2010's comprehensive Bill of Rights, which includes Article 43, which guarantees all Kenyans their ESC (economic, social and cultural) rights "The right for every person to social security and binds the State to provide appropriate social security to persons who are unable to support themselves and their dependents" is the claim made in the article. The right to healthcare, the right to human dignity, the right to reasonable working conditions, and the right to access to justice are all closely related to this right. The overarching policy objective is as follows in order to achieve this:</p> <ul style="list-style-type: none"> • Protecting individuals and households from the impact of adverse shocks to their consumption that is capable of pushing them into poverty or into deeper poverty; • Supporting individuals and households to manage these shocks in ways that do not trap them in poverty by reducing their exclusion and strengthening their ability to graduate from social assistance and to become financially self-sufficient; • Cushioning workers and their dependents from the consequences of income threatening risks such as sickness, poor health, and injuries at work as well as from the threat of poverty in their post-employment life; • Promoting key investments in human capital and physical assets by poor and non-poor households and individuals that will ensure their resilience in 	In adherence to this policy, the contractor should guarantee safety of his labour force to ensure no injuries at work that may affect their post-employment life and those of their dependents. Additionally, measures to safeguard the community's cultural and social setting during the operational phase should be taken seriously by the proponent's team and any other outsiders

Policy	Policy Brief	Relevance to the project
	<p>the medium-term and that will break the intergenerational cycle of poverty; and</p> <ul style="list-style-type: none"> Promoting synergies and integration among social protection providers as well as positive interactions among stakeholders for the optimal functioning of this Policy. 	
HIV/AIDS policy 2009	<p>The policy identifies HIV/AIDS as a global crisis that constitutes one of the most formidable challenges to development and social progress. The Pandemic heavily affects the Kenyan economy through loss of skilled and experienced manpower due to deaths, loss of man hours due to prolonged illnesses, absenteeism, reduced performance, increased stress, stigma, discrimination and loss of institutional memories, among others. Specifically, the policy aims at:</p> <p>Setting Minimum Internal Requirements (MIR) for managing HIV and AIDS;</p> <p>Establishing and promoting programs to ensure non-discrimination and non-stigmatization of the infected;</p> <p>Contributing to national efforts to minimize the spread and mitigate against the impact of HIV and AIDS;</p> <p>Ensuring adequate allocation of resources to HIV and AIDS interventions;</p> <p>Guiding human resource managers and employees on their rights and obligations regarding HIV and AIDS</p>	<p>Due to the workers who will be involved during the operational and decommissioning stage of the borrow site, spread of HIV/AIDS and STIs has been identified as one of the adverse impacts. The borrow pit site isolated from the community settlements and might provide an avenue for SGBV and possible high infections. The contractor will engage HIV/AIDS service provider who will conduct awareness and sensitization for behavioral change in mitigation of spread of HIV/AIDS.</p>
National Policy on Family Promotion and Protection Draft, 2019	<p>According to Chapter 4, Article 45 of the Kenyan Constitution, the family is the natural and fundamental unit of society, the essential foundation of social order, and ought to be protected by the state. In addition, it states that every adult has the right to marry someone of a different sex if both parties freely consent. Parties are entitled to equal rights at the time of marriage, during the marriage, and at the time of the marriage's dissolution, as stated in Article 45(3) of the Constitution. In addition to the Constitution, there are a number of national laws that pertain to the family as a whole as well as specific members of the family and the issues that affect them. The National Family Policy on Promotion and Protection will provide a comprehensive and coherent framework for the implementation and evaluation of programs and policies designed to instill a sense of family support and protection in individuals. As a result, the family will be able to effectively contribute to the country's development. It is anticipated that this Policy will make it easier to</p>	<p>The proponent ought to take steps to guarantee the utmost respect for family life and the operational structures of the community during the operational phase of the project. This will not be indulging part in anything that the community thinks are inappropriate or that goes against societal norms</p>

Policy	Policy Brief	Relevance to the project
	<p>create a setting that will make it easier for families to improve and support the socioeconomic empowerment, care, and protection of individuals and members who are vulnerable. The primary goals of this policy are as follows:</p> <ul style="list-style-type: none"> • Improve programs that encourage families with disabled members and other vulnerable members of the family to participate fully in society; • Strengthen families' capacities for establishing social interactions that foster a sense of community, cohesiveness, and national unity; • Give families and their members the ability to identify, negotiate, and take full advantage of the country's socioeconomic and other opportunities for sustainable development; • Enhance families' capacities to care for, nurture, and support one another so that members of those families can effectively contribute to the overall development of the country • To encourage the transmission of social norms, taboos, and knowledge among generations, all policies, strategies, programs, and projects should incorporate mainstream interventions that support and safeguard families. • Conduct periodic research-based research monitoring and evaluations of the family's state 	

4.2 National Environmental and Social Legal Framework

Further to the policies, legal statutes guide on the development of projects within the confines of the law to ensure that the project aligns with the Constitution of Kenya that protects the rights of every Kenyan. This section outlines specific guidelines that the project should align with during project development, implementation, operation and implementation.

Table 4.2: National Environment and Social Legal Framework

Act	Brief	Relevance to the project
Constitution of Kenya 2010	<p>Devolves governance to County governments. (Functions devolved include forestry, Fisheries, waste management, soil and water conservation)</p> <p>Article 42 under the Bill of Rights entitles Kenyans to a clean and healthy environment. It also confers upon all Kenyans which also includes the right to have the environment protected for the benefit of present and future generations;</p>	<p>The project development process and its components will ensure that the right or all Kenyans to a clean environment as is enshrined in the Constitution. Other project development details such as public participation, rights of Kenyans to land security have been considered in the development of the report and equally in the project design.</p>

Act	Brief	Relevance to the project
	Contains provisions on Land and Environment in Chapter 5 and indicates that land will be guided by the Principles of equitable access to land, security of land rights, sustainable and productive management, and sound conservation and protection of ecologically sensitive areas among others; Public participation in the management, protection and conservation of environment; State shall eliminate processes and activities that are likely to endanger the environment; Article 70 gives every Kenyan a duty to cooperate with state organs and other persons to protect, conserve the environment and ensure ecologically sustainable development and use of natural resources.	
The Kenya Roads Act, 2007 (revised in 2012)	The Act guides that no structures and other works shall be constructed on, over or below roads. The Kenya Roads Authority may permit or refuse to give permission to; (a) erect, construct or lay, or establish any structure or other thing, on or over or below the surface of a road reserve or land in a building restricted area; (b) make any structural alteration or addition to a structure or that other thing situated on or over, or below the surface of a road or road reserve or land in a building restriction area; or (c) give permission for erecting, constructing, laying or establishing, any structure or that other thing on or over, or below the surface of, a road or road reserve or land in a building restriction area, or for any structural alteration or addition to any structure or other thing so situated.	Several roads represent components of this project. Since the roads are existing there should be coordination between the Client, Consultant, Contractor and the Kenya Roads authority in order to receive permission to conduct any works on these roads.
Traffic Act (Cap 403, revised in 2012)	This Act consolidates the law relating to traffic on the roads. Section 69 of this Act makes it the duty of the police: to regulate all traffic and to keep order and prevent obstruction in all roads, parking places and other places of public resort; and to divert traffic temporarily, or to restrict or close and deny public access to any road, parking place or other place of public resort, where any emergency or any assembly or other event appear to render advisable such a course. Section 70 of this Act further makes it a requirement for the relevant authority to install road signs on or near a road including road	During the implementation of the project, the project will coordinate with the police to manage traffic flow within the informal settlements. Traffic marshals will be trained to guide traffic during project implementation in order to alleviate the risk of significant traffic congestion.

Act	Brief	Relevance to the project
	traffic signs prescribing speed limits on the road.	
Climate Change Act, 2016	The Act aims to reduce vulnerability to climate change and improve our country's ability to take advantage of the opportunities that climate change offers. It guides that every sector of the economy shall mainstream Climate Change responses into the development planning, decision making and implementation, mainstream and reinforce climate change disaster risk reductions strategies into actions in public and private entities and mainstream intergenerational and gender equity in all aspects of Climate Change responses.	The Act guides the Employer in the identification of appropriate Climate Change mitigation strategies into the project design and implementation process through the use of sustainable energy consumption practices, waste management practices and promote afforestation activities.
Environmental Management and Coordination Act (EMCA), 1999 (Amended, 2015)	<p>Establishes NEMA as an Authority that should exercise general supervision and coordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment. Entitles every person in Kenya to a clean and healthy environment, but also confers responsibility on them to safeguard and enhance the environment. Other key principles that should guide environmental management and decision making contained in this Act include: public participation, the polluter pays principle, the precautionary principle and the subsidiarity principle. EMCA liberalizes locus standi and empowers any person who alleges the entitlement has been, is being contravened or is likely to be, to bring an action in the High Court. The Act further provides for the protection and conservation of rivers and wetlands, lakes, forests, hill tops, mountains, environmentally significant areas (ESA), the coastal zone, ozone layer, biological diversity (in-Situ and ex situ).</p> <p>Environmental Impact Assessment (EIA) as well as the Strategic Assessment Processes are provided for as a mechanism of reconciling development with environmental protection before policies, programs and projects are implemented.</p> <p>Additionally, the Act provides for the development of regulations that would help actualize it. The following are the key Regulations that have been gazette since then. Environmental Management and Co-</p>	<p>As an overarching Act to the management of the environment within the country, the EMCA establishes guidelines for the protection of the various components of the environment within which the components of the project will be developed.</p> <p>The amendment of the Act guides for the inclusion of the County Environmental Committees (CECs) in managing environmental affairs at county level. It further directs that complaints on environmental management be directed to the National Environmental Complaints Committee that was established under this Act. Matters relating to the environment will be addressed by the Environment and Land Court.</p>

Act	Brief	Relevance to the project
	<p>ordination (Environmental Impact Assessment and Audit) Regulations, 2003 Environmental Management and Co-ordination (Water Quality) Regulations, 2006 Environmental Management and Co-ordination (Fossil Fuel Emission Control) Regulations, 2006 Environmental Management and Co-ordination (Waste Management Regulations, 2006), Environmental Management and Co-ordination (Controlled Substances) Regulations, 2007 The Environmental management and coordination (Noise and Excessive vibration (Pollution Control) Regulation, 2008; Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 (L.N. No. 160 of 2006); Air Quality Regulations, 2008; Fossil fuels Emissions Control Regulations;</p> <p>The principle Act was amended in 2015 to align it to the constitution, 2010 Provides for the formation County Environmental Committees whose obligations are: management of the environment affairs at the County level by developing county environment strategic action plan every five years and any additional functions prescribed under the Act or as assigned by governor by notice in the gazette Provides for the establishment of the National Environmental Complaints Committee replacing the Public Complaints Committee and its functions are: to investigate allegations or complaints related to the environment: prepare annual reports on the state of the environment and undertake public interest litigation on behalf of the citizens in environmental matters. The Act directs that the Matters relating to the environment are to be addressed by the Environment and Land court that is established under the Environment and Land Court Act.</p>	
EMCA Subsidiary Regulations		
Noise and excessive vibration and	Guides on excessive noise and vibration analysis and monitoring. Defines excessive vibration as vibration that is of such intensity, duration,	Heavy machinery, high influx of laborers and increased number of motorized transport contribute to the increased noise

Act	Brief	Relevance to the project
pollution control regulations 2009	<p>frequency or character as to annoy, disturb, or cause or tend to cause adverse psychological or physiological effects on persons, or to damages or tend to damage personal or real property; and exceeds 0.5 centimeters per second beyond any source property boundary or 30 meters from any moving source.</p> <p>The First Schedule also guides on permissible noise levels at night and during the day within different areas including mixed residential areas.</p>	levels within the project area. As much as the project area is already disturbed, the proponent should continuously adhere to the permissible noise levels during the day and at night.
Air quality regulations 2014	<p>The objective of these Regulations is to provide for the prevention, control and abatement of air pollution to ensure clean and healthy ambient air. No person shall cause the ambient air quality levels specified in the First Schedule of these Regulations to be exceeded.</p> <p>A person, being an owner of premises, who causes or allows the generation, from any source, of any odour which unreasonably interferes, or is likely to unreasonably interfere, with any other person's lawful use or enjoyment of his property shall ensure that the odour emission limits comply with the ambient quality limits set out under the First Schedule.</p> <p>The Act also guides on hazardous air emissions, and emissions from vehicles.</p>	A number of vehicles and heavy machinery will be introduced into the project area that will impact the ambient air quality through vehicle emissions and dust raising within the project area. The project stands guided by this Act on managing air quality.
Water Resources Regulations, 2021	<p>The Act guides water users on the various permissible uses of water and attaches penalties to the improper use, or pollution of water. It also guides on the application of water abstraction or other permits and limits of such permits.</p> <p>Section 15 states that any water use applicant shall submit to the Authority a map showing the water body, the location of the works, supply area, location of all authorizations or permits currently held by the applicant which are relevant to the application and any other relevant details as may be required by the Authority.</p> <p>A technical report may be required if the application falls under category B.</p>	<p>Temporary abstraction of water for construction requires a permit from the Water Resources Authority. Any sand harvesting activities that may be employed by the project equally requires approval by the Authority. The permit may be sourced from the Regional WRA office.</p> <p>For ground water permits, the application is to be accompanied with payment for physical chemical analysis.</p>

Act	Brief	Relevance to the project
Waste Management Regulations, 2006	The Waste Management Regulations are basically aimed at streamlining the handling, transportation and disposal of various types of wastes. The broad goal of the regulations is to protect human health, wildlife and the environment.	<p>The regulations will be critical during the construction phase of the project when various wastes will be generated. Since there will be both ordinary and hazardous (used oil and hydraulic fluid) wastes generated, the Contractor will be expected to engage a NEMA registered/approved waste collection firm to manage the transportation and disposal of waste.</p> <p>The Contractor will follow the Waste Management Plan to carry out segregation, storage, transportation and disposal of waste at all the operational areas (Camp, Workshop area and Construction site)</p>
Environmental Impact Assessment / Environmental Audit Regulations amended 2019 (Legal notice 31 and 32)	The Environmental (Impact Assessment and Audit) Regulations provides ESIA process for preparation of the EIA Project or Study Reports that have to be submitted NEMA for review and issuance of EIA License. The regulations provide details on the aspects to be evaluated and ESMPs and Monitoring plans to be prepared. Further the amendments provide for the categorization of proposed projects into Low, Medium and High Risk Projects that require either a Summary Project Report (SPR), Comprehensive Project Report (CPR) or Full ESIA study.	The proposed project must comply with the requirements of the regulations that also include conducting regular monitoring and annual audits. The project requires an EIA license from NEMA before commencement of any activity. The projects falls under the medium risk category and would ideally be subjected to an SPR and subsequently the CPR. However, the consultant was required to update the existing ESIA full study that was conducted prior to the enactment of these requirements.
Wetlands, River Bank, lakeshore , sea shore regulations 2009	<p>The Environmental Management and Co-ordination (Wetlands, River Banks, Lake Shores and Sea Shore Management) Regulations, 2009 applies to all wetlands in Kenya whether occurring in private or public land.</p> <p>The objectives of the regulations are to provide for the conservation and sustainable use of wetlands and their resources.</p>	Sources of water identified for construction are the natural rivers such and Lake Victoria whose shores and river banks are to be protected as guided by this Act.
EMCA (Fossil Fuel Emission Control) Regulations, 2006	The EMCA (Fossil Fuel Emission Control) Regulations, 2006 aims at eliminating or reducing emissions emitted from internal combustion engines to acceptable levels. The regulation provides guidelines on use of clean fuels, use of catalysts and inspection procedures for engines and generators	This regulation is applicable to the proposed project since there would be use of vehicles, machinery and equipment that depend on fossil fuel as their source of energy. The requirements of the regulation must be implemented to eliminate or reduce air quality degradation. Sections of the regulation citing the standards of recommended emission levels will be given to the contractor and or pinned at strategic points in the contractor's field offices

Act	Brief	Relevance to the project
EMCA (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006	The EMCA (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 provides that no person shall engage in any activity that may have an adverse impact on any ecosystem; may lead to the introduction of any exotic species or to unsustainable use of natural resources, without an Environmental Impact Assessment License issued by the Authority under the Act.	The proposed projects may material sources may impact on natural resources that need to be protected as guided under this Act.
Other legal requirements		
Sustainable Waste Management Act, 2022	The Act guides on the sustainable management of wastes at the county level. The general principles of the Act include the precautionary principle, polluter pay principle, promoting the right to a clean and healthy environment, payment for ecological services, zero wastes principles and achieving sustainable development goals	The Employer is required to adhere to the principles of this Act with the premise that in case the project activities result in the pollution of the environment, the Employer or the contractor will be required to pay. Reduction, recycling and re-use of wastes are encouraged guided by this Act.
Land Act (Amended) 2019	Provides details about administration of land in Kenya; Assigns responsibility to NLC to take actions that maintain public land that has endangered or endemic species of flora and fauna, critical habitats or protected areas. Assigns responsibility to NLC to identify ecologically sensitive areas that are within public lands and demarcate or take any other justified action to prevent environmental degradation and climate change.	Section 10 guides on the use of public land that will be used in the implementation of the project components.
The Land (Assessment of Just Compensation) Rules, 2017 - LN 283 of 2017	Section 3 guides the on factors that are considered in the allocation of compensation of land or property affected by the project. Market value of the land and property, damage sustained or likely to be sustained, reasonable relocation expenses, and genuine cases of diminished value of land due to the project or development.	As much as the Employer does not intend to damage any currently existing property, this guidelines direct on assessment of just compensation in the event damage to property occurs.

Act	Brief	Relevance to the project
Urban Areas and Cities Act, 2011	<p>Section 36 of the Act guides that every city and municipality established under the Act will align with the framework of integrated development planning which guides the basis for provision of physical and social infrastructure and transportation, disaster preparedness and response, overall service delivery (provision of water, electricity, health, telecommunications and SWM)</p> <p>It also provides for the promotion and development of informal commercial activities in an orderly and sustainable manner. Urban planning process shall be followed for every settlement with at least 2000 people.</p> <p>This law describes the criteria for classifying urban areas and cities i.e. the requirements for conferment of city, municipal and town status. It provides for the establishment of Boards of Cities and Municipalities, development of integrated management plans and citizen participation rights in development programs. The ability of urban areas to provide essential services and infrastructure has also been emphasized as a requirement including roads, street lighting, parking, markets, solid waste management facilities and disaster management facilities e.g. fire stations.</p>	<p>The project design and implementation is guided by this act in terms of its alignment to the Kisumu county integrated development plans. Components of the project such as the provision of Water, electricity and solid waste management should, in this case, equally align to the Integrated development plan.</p> <p>The development will provide essential services such as roads and water supply and public participation should be a key component during the life-cycle of the project.</p>
Environment and Land Court Act No. 19 of 2012	<p>It gives effect to Article 162(2) (b) of the Constitution; to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers. This shall be an important institution in case of grievances with regard to impacts/displacement that cannot be solved through the project grievance redress system.</p>	<p>The court shall here and determine disputes;</p> <p>(a) relating to environmental planning and protection, climate issues, land use planning, title, tenure, boundaries, rates, rents, valuations, mining, minerals and other natural resources;</p> <p>(b) relating to compulsory acquisition of land;</p> <p>(c) relating to land administration and management;</p> <p>(d) relating to public, private and community land and contracts, choses in action or other instruments granting any enforceable interests in land; and</p> <p>(e) Any other dispute relating to environment and land.</p>
County Government Act, 2012	<p>Section 113 of the Act makes public participation in County planning processes compulsory;</p> <p>Planning at county level should protect and develop natural resources in a manner that</p>	<p>The County Government of Kisumu is guided to ensure that the public participatory process is made compulsory. And to ensure that the project is</p>

Act	Brief	Relevance to the project
	<p>aligns national and county government policies;</p> <p>Ensure harmony between national, county and sub-county spatial planning requirements</p> <p>County government cannot appropriate public funds outside the planning framework (CIDP).</p> <p>The planning process will take into consideration social, economic, environmental, physical and spatial planning. County plans shall also be binding for all sub counties for development activities.</p> <p>The County planning authorities shall be responsible for integrating; coordination and ensuring there is integrated development planning at the County level as well as ensuring there are linkages between the County and national planning frameworks; and ensuring that the citizenry is adequate engaged in the planning process.</p>	integrated, coordinated for alignment with the County Integrated Development Plan.
The Inter-Governmental Relations Act, 2012	As far as planning, policy development and implementation are concerned, the Act provides that cooperation and consultation between the National Government and the County Government shall be undertaken through the National and County Government Coordinating Summit (NCGCS) comprising the President and 47 County Governors. The Council of County Governors (CCG) is also established under the Act as a forum for consultation amongst County Governments on matters of common interest and dispute resolution	This Act guides for the cooperation between the different arms of government in planning, development and implementation of all policies.
Energy Act, 2019	<p>The provisions of this Act apply to every person or body of persons importing, exporting, generating, transmitting, distributing, supplying or using electrical energy;</p> <p>Establishes the Energy Regulatory Commission (ERC). One of the objects of ERC is to regulate the production, distribution, supply and use of renewable energy.</p> <p>The Act further give the Minister powers to promote the development and use of renewable energy technologies through mechanisms such as:</p> <ul style="list-style-type: none"> - Formulation of national strategy for conducting research in renewable technologies; - Provision of an enabling environment for efficient and sustainable production and 	Establishes that the penalty for the person who carries out any electricity undertaking without a license commits an offence and shall, on conviction, be liable to a fine of not less than one million shillings or to a term of imprisonment not less than one year or to both such fine and imprisonment.

Act	Brief	Relevance to the project
	distribution and marketing of various sources of renewable energy including biomass	
Physical and Land Use Planning (2019)	<p>It provides for the preparation and implementation of physical development plans at County level and regional plans. These plans should be in harmony with environmental considerations, and the Director of Physical Planning has powers to declare special planning areas; Has provisions for reservation and maintenance of all land planned for open spaces, parks, urban forests and green belts in accordance with the approved physical development plan;</p> <p>With regard to development application, Act provides the undertaking of EIA for projects deemed to cause harm to the environment to be submitted together with the application.</p>	The Inception of the project under study was under the National development plans aimed at improving the Informal settlements within the country. The project equally should align with the county Physical and Land Use plans.
Water Act, 2016	<p>The Act establishes the following important institutions: The Water Resources Authority (WRA) whose functions include:</p> <ul style="list-style-type: none"> - Development of principles, guidelines and procedures for the allocation of water resources; monitor and assess from time to time the national water resources management strategy; - To receive and determine applications for permits for water use; to regulate and protect water resources quality from adverse impacts; manage and protect water catchments; to gather and maintain information on water resources and from time to time publish forecasts, projections and information on water resources - The Water Act Rules make provision for discharges in a number of respects, as follows: Effluent shall not be returned to any body of water unless it has been purified. Further, it must not contain poisonous or injurious matter or excess silt, gravel or boulders, this therefore enhances the conservation of the aquatic life. <p>A permit is required for any of the following purposes:-</p> <ul style="list-style-type: none"> (a) any use of water from a water resource, except as provided by section 37; - the drainage of any swamp or other land; 	The Employer shall develop a sustainable waste water management plan that prevents the discharge of effluents into water bodies. Pollution through surface runoff, and wastes deposited into underground or surface water bodies will be prevented in accordance with this Act.

Act	Brief	Relevance to the project
	<ul style="list-style-type: none"> - the discharge of a pollutant into any water resource; and - any other purpose, to be carried out in or in relation to a water resource, which is prescribed by Regulations made under this Act to be a purpose for which a permit is required. 	
The Occupational Health and Safety Act, 2007 (Revised, 2012)	<p>Main purpose of this Act is to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces and also for the establishments of the National Council for Occupation Safety and Health. Its goals include:</p> <p>Securing a safe and healthy working environment;</p> <p>Setting standards in regards to safety and health at work places</p> <p>Developing safety and health conscious culture at work places</p> <p>Encouraging incidents, accidents and injuries at work places</p> <p>Employers are obligated to ensure the safety, health and welfare of all employees and persons at their work place including provision of PPE. Persons and employees at a workplace are obliged to ensure that their acts or omissions do not compromise the safety and health by complying with the provided safety and health procedures, requirements and instructions</p>	<p>For all workplace health and safety guidance, this Act guides the Employer on managing health and safety at the workplace. The Act assigns Health and Safety responsibilities to the different groups of persons within the workplace, guides on equipment safety, welfare, inspection and maintenance, competency of inspectors, and offences and penalties under the Act.</p>
The Public Health Act (Cap 242) (Revised Edition 2012)	<p>A law concerned with the protection of public health laying down the rules for, among other things, protection of public water supplies, prevention and destruction of mosquitoes and the abatement of nuisances including those arising from sewerage. It also provides for the establishment of the Central Board of Health and District Health Management Boards while also defining the functions of various health authorities. It also defines the duty of local authorities towards protection of water supplies.</p>	<p>The Employer, will guide the contractor to ensure that as far as reasonably possible, measures that prevent the spread of infectious diseases by ensuring the highest standards on hygiene and sanitation, destruction of infected bedding where possible, setting up isolation rooms for employees suspected of having infectious diseases, sanitizing breeding grounds for rats, mosquitoes, tsetse flies and any other animal known to carry spread infections. All diseases as listed on the section 17 (2) (A) - Infectious diseases declared to be notifiable diseases - shall be reported accordingly to the health department as guided. Destruction of any animals and/or animal breeding grounds should be done using only approved chemicals under rule</p>

Act	Brief	Relevance to the project
		14(G)(I) of the Public health (tents and Caravan Sites) Rules, 1960
Health Act, 2017	<p>Section 68 of the Act guides on the implementation of health systems that promote health and counters influences that have negative impact on the health of the people including</p> <ol style="list-style-type: none"> 1. Interventions to reduce the burden imposed on the people by communicable diseases 2. Interventions to promote healthy lifestyle such as countering excessive alcohol consumption, and the adulteration of such products 3. General health education to the public 4. Comprehensive program to advance reproductive health such as effective family planning services and adolescent and youth sexual and reproductive health. <p>The Act also provides for the protection of the mental health of the people by emphasizing on the protection of the rights of persons suffering from any mental disorder or condition.</p>	The Employer will guide the contractor to develop programs that promote a healthy lifestyle while countering excessive consumption of alcohol and other substances. The contractor will be guided to ensure that the employees receive emergency treatment whenever the need arises as guided by this Act.
HIV and AIDS Prevention and Control Act, 2006	This is an Act of Parliament to provide measures for the prevention, management and control of HIV and AIDS, to provide for the protection and promotion of public health and the appropriate treatment, counselling, support, and care of persons infected or at risk of HIV and AIDS infection, and for connected purposes	The contractor will engage a HIV/AIDS sub-consultant who will implement the HIV/AIDS awareness management plan in mitigation of the spread of HIV/AIDS.
The Sexual Offences Act, 2006	This Act protects the community members and employees from sexual gender base violence. This Act ensures safety for women, children and employees from any sexual offenses including rape, defilement, and indecent acts.	The contractor will developed mitigation measures to ensure that project workers do not harm the community members and fellow employees through signing of the code of conduct
The National Gender and Equality Act, 2011	National Gender Equality Commission is a constitutional Commission established by an Act of Parliament in August 2011, as a successor commission to the Kenya National Human Rights and Equality Commission under Article 59 of the Constitution. NGEC derives its mandate from Articles 27, 43, and Chapter Fifteen of the Constitution; and Section 8 of NGEC Act (Cap. 15) of 2011, with the objectives of promoting gender equality and freedom from discrimination.	The Employer will ensure that the contractor mainstreams gender in all activities including inclusion of women to be wired in the project works.

Act	Brief	Relevance to the project
The Children Act, 2022	<p>This Act protects the welfare of children within the Country. The Act identifies Children as people below 18 years old and protects them from exploitation. Section 10, protects the child from:</p> <p>Economic exploitation.</p> <p>Any work that interferes with his/ her education or harms the child's health or physical, mental, spiritual, moral, or social development.</p>	The contractor will adopt the child protection strategy throughout the project implementation. The project will not engage any persons below the age of 18
Persons with Disability Act, CAP 133	<p>This act protects the rights of people with disabilities ensuring they are not marginalized and that they enjoy all the necessities of life without discrimination. The act guarantees that:</p> <p>i. No person shall deny a person with disability access to opportunities for suitable employment.</p> <p>ii. A qualified employee with a disability shall be subject to the same terms and conditions of employment and the same compensation, privileges, benefits, fringe benefits, incentives, or allowances as qualified able-bodied employees.</p> <p>iii. An employee with a disability shall be entitled to exemption from tax on all income accruing from his employment.</p>	This Act will ensure that persons with disabilities are included in vital decision-making processes as well as for any opportunities available in the project throughout all phases of the proposed project.
National Construction Authority Act, 2011	<p>The Act guides on the functions of the authority which include to promote and stimulate the development, improvement and expansion of the construction industry, promote and ensure quality assurance in the construction industry, enforce prescribed building code in the construction industry, accredit and register contractors and regulate their professional undertakings, develop and publish a code of conduct for the construction industries among others. No person will trade as a business unless the person is registered by the board under this Act</p>	The Employer, guided by this Act will ensure that the contractor to be identified and awarded the contract to implement the project is duly registered as a contractor under this Act.
Work Injury Benefits Act, 2007	<p>The Work Injury Compensation Benefit Act 2007 provides a guideline for compensating employees for work-related injuries and diseases contracted during employment. The Act also requires the provision of compulsory insurance for all employees. The Act defines an employee as any worker on a contract of service with an employer.</p>	It will be important for the Employer of the proposed project to ensure that all workers contracted during the project implementation phase are provided with appropriate insurance covers so that they can be compensated in case they get injured while working.

Act	Brief	Relevance to the project
Wildlife Conservation and Management Act, 2013	The Act establishes the Community Wildlife Conservation Committees that, among other duties, bring together relevant stakeholders to harness participation in conservation and management programs of wildlife. The Act further guides on the conservation, protection and management of the environment shall be in conformity with the provisions of the Environmental Management and Coordination Act, 1999. It also prohibits any activity that is likely to have adverse impact on the environment including the seepage of toxic wastes into streams, rivers, lakes and wetlands.	Pollution prevention measures will be enshrined into the Contractor's Environmental and Social management Plan as guided by this Act. In the event the Employer plants trees as part of the project, the identification of the tree species will be such that they are not in contravention of this Act
Land Value (Amendment) Act, - 2019	The Act considers that compensation due to involuntary resettlement should be just, done promptly and in full prior to the start of the project. Further, the Act guides that the affected land be mapped out and valued by the commission as is guided by the valuation criteria, outlining the purpose of the acquisition, the general location, description and approximate area. The Act also guides that the persons whose parcels of land will be affected should be notified on the day the acquisition will take place to avoid the persons being rendered homeless.	The Act guides the development and effective implementation of the resettlement action plan prior to the development of the project.
The Valuers Act – 1985	The Valuers Act establishes the Valuers Registration Board, which regulates the activities and practice of registered valuers. The RAPs to be prepared in response to the impacts on structures and livelihoods should make use of the services of a registered valuer (who is approved by the Board) who undertook asset valuation for the purpose of facilitation.	The Employer should ensure that the requirements of this Act are adhered to before the project is implemented

Act	Brief	Relevance to the project
The Penal Code CAP 63	<p>The Penal Code (Cap. 63) chapter on “Offences against Health and Conveniences” strictly prohibits the release of foul air into the environment, which affects the health of other persons. Any person who voluntarily violates the atmosphere at any place, to make it noxious to the health of persons in general dwelling or carrying out business in the neighborhood or passing along public ways is guilty of a misdemeanor and shall be subjected to imprisonment not exceeding two years with no option of fine.</p> <p>Any person who for trade or otherwise makes a loud noise or offensive awful smell in such places and circumstances as to annoy any considerable number of persons in the exercise of their rights commits an offence and is liable to be punished for a common nuisance, i.e., imprisonment not exceeding one year with no option of fine.</p>	The Employer will ensure that all emissions are controlled during the life-cycle of the project in order to avoid impacting the health of the community members and the workers.
The Employment Act, 2012 (amended 2022)	The Employment Act, 2012 defines the fundamental rights of employees including the basic conditions of employment of workers. It also regulates the employment of children. The Employer will have to employ casual laborers probably from the communities where the proposed project is located during implementation.	The basic conditions of employees should be observed to avoid unnecessary conflicts during the implementation. The Employer shall pay the entire amount of the wages earned by or payable to the workers. Payment of such wages should be done agreed at or near the place of work. The Employer shall also ensure that all statutory deductions are submitted without delay to appropriate government agencies e.g., Kenya Revenue Authority, NSSF, and NHIF, among others
Security Laws (Amendment) Act, 2014	This act entails a legal framework and jurisdiction on security matters. It is a constitutional entitlement to live and feel secure from agents that may compromise one’s life and safety. Security measures are vital in this project following past terrorist experiences reported in the area; the Employer shall embark on a community policing program to be executed by a competent security firm.	The contractor has prepared a project security management plan that will act as standard operational procedure in management of security issues in the project.

4.3 Kisumu County Social and legal guidelines

At county level, several legal requirements were identified and reviewed to align the process of project development to the County regulatory requirements. Legal statutes that were reviewed and found relevant for the proposed project included;

- **Kisumu County Climate Change Act, 2020**; provide for a regulatory framework for enhanced response to climate change, to provide for mechanism and measures to achieve low carbon climate

development, financial mechanism for implementation of climate change adaptation activities and connected purposes

- **Kisumu County Administration (Village Units) Act, 2019** : provide for the establishment of the Village Units in Kisumu County, to enable effective participation of the local community in the governance and development of the village units and to enable effective accountability to the local communities in matters affecting them
- **The Kisumu County Transport Act, 2019** : to facilitate the management, planning and development of county transport facilities and transport infrastructure and to give effect to and ensure a balanced transport policy and planning
- **The Kisumu County Disaster and Emergency Management Act, 2015**: implement mechanisms to reduce risks and hazards that may cause, contribute to, or exacerbate disaster situations in the county.

To a large extent, the county specific bills and acts guidance show similarity to the National statutes. However, the Employer is guided to ensure that County requirements have been adhered to. The County specific guidelines guide on the responsible persons for application of necessary permits such as the water permit, local waste management practices, HIV, AIDs and STI sensitization, awareness and privacy the right of PWD to employment and also public participation guidelines.

4.4 International Guidelines on Environmental and Social Management

4.4.1 Applicable International Conventions

Kenya has ratified several international legislations, conventions and treaties that guide on the bio-physical and social environment is to be governed. The proposed project should equally adopt environmental and social governance practices that are guided by these legislature, conventions and treaties. Some of the key conventions and treaties are outlined in the subsequent chapters.

a) World Commission on Environment and Development

'The Bruntland Commission' as it is also known as, emphasizes on sustainable development without lasting damage to the ecosystem. It also guides on economic sustainability and social sustainability that utilizes available resources while maintaining cohesion of a society and its ability to help its members work together towards achieving collective goals. This project will be guided to sustainable utilize available resources, and restoring the damaged environment through decommissioning of temporary infrastructure. The aim of the project is to improve the social and economic status of the community members, thus contributing to social and economic sustainability.

b) The Rio Declaration (1992)

States that the right to development must be fulfilled so as to equitably meet development and environmental needs of present and future generations. It further emphasizes the participation of all citizens in all relevant levels, in project or program development, while ensuring that the public have access to information concerning the environment. For this project, judicial and administrative proceedings, including redress and remedy, as guided by the Rio Declaration, will be provided by the KISIP Grievance Redress Committee (GRC).

c) United Nation Framework Convention on Climate Change (UNFCCC) (1992)

The UNFCCC guides that all parties ‘stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’. This should be done within a timeframe that is “sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner”. The scope and design of the projects will not have significant contribution to climate change. However, the current felt impacts of climate change have been considered by the design engineers and adaptation measures have been designed into the project.

d) The Paris Agreement (2015)

The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016. Kenya demonstrates its application of the agreement by increasing its visibility in climate change management by financing climate adaptation studies such as the county climate action plans and ensuring that climate change and its adaptation measures are included in ESIA studies among other measures.

e) Convention on the Rights of Persons with Disabilities (CRPD)

The Convention re-affirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms. Additionally, it specifies where ‘adaptations have to be made for persons with disabilities to effectively exercise their rights and areas where their rights have been violated, and where protection of rights must be reinforced’. The project management team will be guided in development of the construction camp to consider persons with all disabilities. As is enshrined in the Kenya’s employment Act (2007, Rev 2012), all persons will be given equal rights in employment. The persons with disabilities will participate in the development and implementation of the project directly and indirectly as one of the vulnerable groups within the project area.

f) Convention on the rights of the Child

Among other rights, this convention guides that children are to be protected from doing work that is dangerous or harmful to their health, education or development. Children are also protected from sexual exploitation. The project considers this convention by guiding that the project shall only employ persons as guided by the Kenya Employment Act (2007, Rev 2012). Further, children are included in the assessment of vulnerable persons during project implementation and Implementation. The contractor shall be instructed to sign Against the Sexual Exploitation and Abuse/Sexual Harassment Clause enshrined within the contracts.

4.4.2 World Banks Environmental and Social Framework

The Employer is also required to adhere to the requirements of its lenders the International Development Agency. As one of the arms of the World Bank’s, it is guided by the Bank’s Operational Policies. The Bank’s Environment and Social Framework (ESF) supports green, resilient and inclusive development by strengthening protections for people and the environment and making important advances in areas such as labor, inclusion and non-discrimination, gender, climate change, biodiversity, community health and safety, and stakeholder engagement. The ten EFS standards that were reviewed based on the scope of the project, to verify if any of them have been triggered by the project development and implementation.

Table 4.3: International Guidelines on Environmental and Social Management

Safeguard Policies	Applicable?	Applicability
Environmental Assessment OP4.01	Yes	Environmental and Social assessment conducted guides the project developers and implementers to ensure that environmental and social risks have been identified at an early stage and have been addressed promptly and effectively. This minimizes these risk to as low as reasonably possible and promotes sustainability and acceptability of the project by the host community.
Physical and Cultural Resources (OP4.11)	Yes	Sustainable material sourcing and general entry into the host community for the development of the project are guided by OP 4.11. Guidance by the policy reduces the risk of conflicts due to uncontrolled and unsustainable impact on the physical and cultural resources. The policy guided the consultant in developing comprehensive ESMP that will guide the contractor in managing the host community's physical and cultural resources.
Involuntary Resettlement OP 4.12	Yes	OP 4.12 was applicable in the review and update of the project Resettlement Action Plan. Further, the policy will coupled with the Land Valuation (amendment) Act, 2019, will ensure that all PAPs are duly compensated and relocated prior to the start of project implementation.

4.4.2.1 The Environment and Social Standards (ESS)

The consultant was also guided by the Environment and Social Standards under the World Bank's Environmental and Social Framework (ESF), in reviewing the various aspects social and bio-physical environment and also in developing of the environment and social impact assessment report.

ESS1 on Assessment of Environmental and social risks at the various stages of the project development, the consultant was guided to identify the direct, indirect and cumulative environmental and social risks and propose possible mitigation measures of such risks that are proportionate, accurate and current.

ESS2 on Labor and Working conditions guides the Employer on engaging labor during the implementation of the project. The project is guided to provide safe working environment for its laborers who are engaged in a bid to eradicate poverty by improving their livelihood. It guides on non-discrimination of workers and consideration for vulnerable persons within the project. Workers, additionally ought to be given a platform through which they can air their grievances.

ESS3 on Resource Efficiency and Pollution Prevention and Management guides the Employer sustainably use the resources available to avoid waste production as much as possible. Further, the Employer is guided to manage any wastes sustainably. Proposed waste management practices that can be adopted by the Employer on anticipated impacts and mitigation measures.

ESS4 on Community Health and Safety guides the Employer to protect the health, safety, and security risks and impacts on project-affected communities by implementing effective mitigation measures on to guard the communities against any possible health, safety and security risks. The Employer is guided to ensure that project activities that will lead to increased traffic, introduction of heavy

machinery into the area, increase waste production and introduction of construction waste among others are managed to guard the community members from risks that arise from them.

ESS5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement advocates for the avoidance of involuntary resettlement as much as possible, and where this is not possible, it guides that proper mitigation measures to protect and where possible alleviate the livelihood of the affected community members be developed and documented and implemented in a timely and justifiable manner.

ESS6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources guides on the management of natural habitats as a means of conserving the biodiversity. The project is however not located in an ecologically sensitive area as the environment is already disturbed. The Employer is however guided not to worsen the situation through the development of sustainable designs that do not promote further damage to natural habitats.

ESS7 on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities guides the Employer on the protection of the needs and vulnerabilities on indigenous and historically underserved communities. The host community presents a distinct social and cultural group that are collectively attached by distinct language, self-identification and customary and cultural practices. Given this guidance, no indigenous people were found within the affected project area.

ESS8 on Cultural Heritage guides the Employer to ensure that the project development and implementation take note of the heritage of the community and any heritage sites. Through consultative meetings and project assessment, the consultant ascertained that there were no heritage sites nor practices that will be impacted due to the development of the project.

ESS9 on Financial Intermediaries is not applicable to the project since KISIP component 2 will be implemented by the County Governments and not FIs.

ESS10 on Stakeholder Engagement and Information Disclosure recognizes and emphasizes the need for transparency during the various stages of project development. The Employer has since engaged the community extensively during the initial ESIA and development of the initial project design, and the community was also engaged during the design review phase in the selection of prioritized projects, and the updated ESIA report. This is in a bid to ensure that that the project, its scope, its possible impacts and mitigation, its benefits among others, are disclosed to the community.

4.4.3 General EHS Guidelines

The IFC General EHS guidelines guides the implementation of and monitoring of the project and its components. The Bank guides the Employer to provide for;

- The Identification of the EHS project hazards as early as possible in the project cycle
- Involvement of EHS professionals with the necessary competency and training to assess and manage EHS impacts and risks
- Understanding of the likelihood and magnitude of EHS risks based on professional and sound judgment
- Exploration of strategies that eliminate the hazard at its source
- Avoidance of the hazards where possible, if it is not possible to eliminate the hazards at source.
- Preparation of the workers and nearby communities to respond to emergencies, including provision of the required resources and technical and other requirements.

- Overall improvement of performance through a combination of on-going monitoring of the project performance and effective e accountability.

Various environmental (air quality, solid and effluent wastes, water quality) and social (labour, public health, traffic safety) should all be considered in the development of a site specific EHS management plan in order to align with the requirements of this guideline. The Consultant has, developed a detailed Environment, Social, Safety and Health Management Plan that aligns to this requirements.

4.4.4 World Bank's guidelines on managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx

Bank-financed investment projects often involve construction of civil works for which the required labor force and associated goods and services cannot be fully supplied locally for a number of reasons, among them worker unavailability and lack of technical skills and capacity. The proposed project is expected to attract a high influx of workers to fill this labour and capacity gaps which presents a series of adverse environmental and social impacts on the local communities. These may include increased demand and competition for local social and health services, as well as for goods and services, which can lead to price hikes and crowding out of local consumers, increased volume of traffic and higher risk of accidents, increased demands on the ecosystem and natural resources, social conflicts within and between communities, increased risk of spread of communicable diseases, and increased rates of illicit behavior and crime.

The implementation of the project needs therefore to adhere to these guidelines to avoid these impacts;

- Tap into local workforce for unskilled labour effectively and identify ways to build local capacity in skilled labour
- Incorporate social and environmental mitigation measures into the civil works contract, and guide for the development of the CESMP that is guided by the legal requirements and the Bank's guidelines.
- Assess previous environmental and social concerns such as pre-existing social conflicts between tribes or clans, prevalence of gender based violence, culturally guided gender responsibilities, prevalence of child labour, prevalence of drug and alcohol abuse among others that can contribute to high worker turnover and possibly impact project progress.

4.4.5 The World Bank's Good Practice Note on Assessing and Managing the Risks and Impacts of the Use of Security Personnel

The Bank requires that Borrowers assess and manage potential environmental and social risks and impacts arising from projects that the World Bank supports through Investment Project Financing (IPF). Specifically, the borrower is guided to focus on, among others, threats to human security through personal, communal or interstate conflict, crime or violence.

Generally the Bank guides the project to;

- Assess security risks for the project, including security risks to project workers, assets, and activities.
- Assess risks to and impacts on human security that could arise from the engagement with to protect project workers, sites, assets or activities
- Depending on the severity and complexity of the security risk, the Borrower should prepare a standalone Security Management Plan (SMP) and/or ensure that key elements of the security assessment and arrangements are reflected in the Environmental and Social Commitment Plan (ESCP) for the Project.

Guided by this Good Practice Note, the project is guided to assess security in the project and propose mitigation measures for identified social and security risks.

4.4.6 Gap Analysis between Bank Requirements and National and County-Level Laws and Legislation

Both the World Bank's safeguards and GoK laws are generally aligned in principle and objectives of environmental and social sustainability. The following table summarize the similarities/differences or gaps of the two policies.

Disclosure Copy

Table 4.4: Gap Analysis between Bank Safe guard Instruments and National Environmental and Social legal framework

World Bank OP 4.01	EMCA	Comparison	Recommendation
O.P 4.01 requires screening of sub project investments in order to determine if further environmental and social assessments (ESIAs) are required After screening and determination of required ESIA category, an ESIA is prepared before project design and implementation (which includes an assessment of social impacts).	EMCA requires screening of project investments in order to determine if further environmental and social assessments (ESIAs) are required	Both the Kenyan and World Bank safeguards require screening to establish the level of ESIA prepared.	Preparation of the ESIA to meet both NEMA and World Bank Standards.
Also gives guidelines on air, noise, water, waste management, emissions and wetlands management.	An ESIA of a project will be prepared in accordance to EMCA guidelines and the report submitted to NEMA for licensing. EMCA is also equipped with regulations on air, noise, water, waste management, emissions and wetlands management.	The ESIA will be prepared with mitigation measures for any negative environmental and social impacts. The various limits set out in the regulations are close to World Bank and IFC policies with minimal differences in the actual figures.	Use of Kenyan regulations in accordance to EMCA.
The prepared ESIA Study should take into account natural resources and the principle approach to natural resource management to ensure environmental sustainability.	The EMCA (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 provides that no person shall engage in any activity that may have an adverse impact on the ecosystem, lead to the introduction of any exotic species or to unsustainable use of natural resources.	Both require an ESIA to establish the potential impact of a development on biodiversity and ensuring environmental sustainability.	Preparation of the ESIA to meet both NEMA and World Bank Standards.
This policy guides in preserving physical cultural resources and helps reduce chances of their destruction or damage.	The Wildlife Management and Conservation Act also ensures consideration of wildlife and their conservation in project implementation. The National Museums and Heritage Act identifies the need for the protection, conservation and transmission of the cultural and natural heritage of Kenya	The World Bank policy offers more detail on the physical and cultural resources other than archaeological finds identified in the Kenyan Policy.	Use of the World Bank policy in handling any physical and cultural site, while making use of the Kenyan institutional framework.

World Bank OP 4.01	EMCA	Comparison	Recommendation
Involuntary resettlement should be avoided wherever possible, or minimized, exploring all alternatives.	Involuntary resettlement may occur as a result of projects implemented in public interest.	The Kenyan Policy does not stipulate that resettlement should be avoided wherever possible; on the contrary, as long as a project is for public interest, involuntary resettlement is considered to be inevitable.	Resettlement issues are to be considered at the design stage of the project in order to avoid/minimize resettlement.
Inclusion of persons considered indigenous, who without proper consultation may suffer as a result of the project leading to further marginalization. Similarly, the bank has a directive on vulnerable groups, who may be left out of the benefits of the project or suffer more as a result of the negative impacts of the project. These safeguards are in place to ensure the vulnerable and often marginalized are adequately consulted and their issues addressed in the ESIA.	Article 56 of the constitution highlights the rights of marginalized communities, in the decision-making process with regards to development and their input. The National Gender and Equality Act, Children Act and Persons with Disabilities Act promote the inclusion of these persons, who in society are often looked over, in the implementation of projects.	Both the Kenyan and World Bank Safeguards requires the inclusion of communities that are marginalized and inclusion of the vulnerable in project planning, implementation and operation phases of the project. In order to ensure these communities, reap the benefits of the project without suffering disproportionately in comparison to the rest of the communities.	Preparation of an ESIA in accordance to Kenyan and World Bank Standards to protect indigenous persons.
Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs	EMCA requirements for project proponent to seek the views of persons/communities that may be affected by the project to be consulted, at least explain project potential impacts and obtain oral/written comments	Both Policies are similar	Consultation of stakeholders in the ESIA in accordance to both Kenyan legislation and World Bank Safeguards.
In addition to the operational policies, the World Bank has guidelines to ensure, environmental, occupational and community health, and decommissioning guidelines. These guidelines will provide the Contractor with best working procedures.	The Occupational Health and Safety Act is the main act ensuring the health and safety of the Contractor's employees and the surrounding community	Both provide guidelines which should be adhered to, during all phases of the project, with the Kenyan legislation providing an institutional framework for the implementation of the Act. The World Bank guidelines provides best international practices for construction works.	Incorporation of the World Bank Guidelines while ensuring conformance to the Kenyan Legislation and institutional framework.

4.5 Institutional Framework on Environmental and Social Management

Guided by the KISIP Project Operations Manual (POM), the overall authority for implementation of the environmental and social mitigation measures and management plans will be the Ministry Of Lands, Public Works, Housing And Urban Development through the County Government of Kisumu. A key objective of the project will be to ensure that the national and county government conduct their affairs in consultation and with coordination as stipulated in the Constitution and the Intergovernmental Relations Act 2012. Further, the successful implementation of KISIP 2 requires firm compliance and support to the national, county, and settlement structures and systems for implementation such as NPCT, CPCTs and SECs. A summary of other organizations that are relevant to the proposed project as provided in table 4.4.

Table 4.5: Institutional Framework on Environmental and Social Management

Institution	Responsibilities
Ministry Of Lands, Public Works, Housing And Urban Development	Provision of the necessary financial and technical requirements to ensure effective Implementation of Social Management Plans, Resettlement Action Plans, and ESIA where applicable
The State Department for Housing and Urban Development	Overall Project implementation responsibility. The agency will however work closely with the participating Counties, Ministry of Lands and Physical Planning, Council of Governors (CoG), and the National Land Commission (NLC) where Project activities are directly linked to their respective mandates.
The National Environmental Council	Responsible for Policy formulation and issuance of directives as guided by the EMCA. It sets national goals and objectives and determines policies and priorities for environmental protection
The Kisumu County Government (County Project Coordination Team (CPCT))	<p>The CPCT will comprise of a County Project Coordinator, a Financial Management Specialist, a Procurement Specialist, a Monitoring and Evaluation Specialist, technical specialists in planning, surveying, engineering, Social Safeguards/Community Development Specialists, and Environmental Safeguards Specialists and City/Municipal Manager or their representatives where applicable (whose areas of jurisdiction have settlements benefiting from KISIP2 interventions). The CPCT should consist of full-time focal persons from the relevant departments.</p> <ul style="list-style-type: none"> • The CPCT will report to the CEC in charge of Land, urban and housing or the equivalent and will be responsible for: • The day-to-day coordination of the county-level project activities. • Working closely with relevant offices of the county to implement county-level activities supported by the project. • Preparation of procurement plans, procurement and implementation of infrastructure works with technical assistance and quality assurance provided by the NPCT. • Implementation of the environmental and social safeguards instruments including Social Management Plans (SMP) and RAP where applicable). • Monitoring & Evaluation, reporting and disseminating information about the project (including preparation of annual work plans, contract awards, physical and financial progress of works contracts, and so on) at the county level.

Institution	Responsibilities
	<ul style="list-style-type: none"> • Mainstreaming all KISIP2 activities into the county programming and budgeting systems and for the briefing of the County Executive. • Regularly consulting and coordinating with the NPCT in project implementation.
Project Steering Committee (PSC)	<ul style="list-style-type: none"> • The PSC will comprise of PS SDHUD, PS Treasury, PS Lands and Physical Planning, CoG Chair of the Sub-committee on Lands, Urban Development, Planning, Infrastructure & Energy, with the KISIP2 Project Coordinator acting as the Secretary to the committee. • The PSC shall, in consultation with the Bank, <ul style="list-style-type: none"> ○ provide its written confirmation to the National Treasury and the Bank of the overall Annual Work plans and Budgets (further discussed below); ○ Provide written confirmation that the selected informal urban settlements and proposed Participating Counties meet the Eligibility Criteria and/or County Readiness Criteria.
The National Environmental Management Authority (NEMA)	<p>NEMA provides oversight, coordination and general supervision over all matters that are relating to the environment or that can impact the environment. NEMA is the principle instrument of the Government in the implementation of all policies relating to the environment</p> <p>Assess and approve the amended ESIA report in order to provide the required variation to the ESIA license that had been earlier provided for the implementation of the project.</p>
National Project Coordination Team (NPCT)	<p>Will be in charge of Project design, overall Project coordination (including liaising with senior Government officials and the Development Partners' team), financial management, procurement, monitoring and evaluation (M&E), reporting, capacity building and communications activities.</p> <p>The NPCT will also be responsible for the following:</p> <ol style="list-style-type: none"> a) Coordinating the implementation of KISIP2 and ensuring that project implementation activities and reports are on schedule and in compliance with the financing agreement. b) Providing technical assistance to counties to perform in accordance with the Bank policies and guidelines as well as leading the coordination, capacity building and backstopping of all county project interventions. c) Consolidating the planning and budgeting of funds by counties and triggering disbursement of funds to the eligible county governments once conditions have been met. d) Coordinating and consolidating the interim financial reports and quarterly progress reports, based on inputs from the counties. e) Liaising closely with the Council of Governors (CoG) in order to ensure effective coordination and communications with county governments. f) Review work plans from Counties g) Review whether settlements and counties have met the required criteria to become eligible for KISIP2 financing
Standard Enforcement Review Committee (SERC)	<p>EMCA provides for the establishment and enforcement of environmental quality standards by a technical committee of NEMA known as the Standards and Enforcement Review Committee (SERC)</p>

Institution	Responsibilities
National Complaints Committee	EMCA has also established a Public Complaints Committee, which provides the administrative mechanism for addressing environmental harm. The Committee has the mandate to investigate complaints relating to environmental damage and degradation. The members of the Public Complaints Committee include representatives from the Law Society of Kenya, non-governmental organizations (NGOs) and the business community
Water Resources Authority	<p>The WRA is responsible for the regulation of water resources such as water allocation, source protection and conservation, water quality management and pollution control and international waters. Its roles and responsibilities are as follows:</p> <ul style="list-style-type: none"> • Planning, management, protection and conservation of water resources; • Planning, allocation, apportionment, assessment and monitoring of water resources; • Issuance of water permits; • Water rights and enforcement of permit conditions; • Regulation of conservation and abstraction structures; • Catchment and water quality management; • Regulation and control of water use; and • Co-ordination of the Integrated Water Resource Management (IWRM) Plan.
Directorate of Occupational Safety and Health Services (DOSHS)	<p>The Directorate of Occupational Safety and Health Services (DOSHS) is one of the departments within the Ministry of Labour and East African Community Affairs, whose primary objective is to ensure the safety, health, and welfare of all workers in all workplaces.</p> <p>An unsafe and unhealthy work environment causes accidents, diseases, disasters, and environmental pollution that occasion huge economic and social burdens to individuals and enterprises thereby stifling economic and social growth.</p> <p>DOSHS will be responsible for the issuance the Workplace Registration Certificate for the relevant areas during project implementation and monitoring if necessary (Project offices, Quarry etc)</p>
The National Museums of Kenya	Is a state corporation established by an Act of Parliament, the National Museums and Heritage Act, 2006 no. 6 of 2006. It is a multi-disciplinary institution whose role is to collect, preserve, study, document and presents Kenya's past and present cultural and natural heritage. This is to enhance knowledge, appreciation, respect, and sustainable utilization of these resources for the benefit of Kenya and the world, for now, and for posterity. The National Museums of Kenya will provide guidelines in case any discoveries or existing cultural and natural heritage resources within the project area.
National Gender and Equality Commission	The National Gender Equality Commission is a constitutional Commission established by an Act of Parliament in August 2011 with the objectives of promoting gender equality and freedom from discrimination. This commission will be charged with ensuring gender equality and equity throughout the implementation of the project. Representatives will monitor and evaluate gender quality and equity regarding job provision and harassment cases on-site to ensure compliance with the law.

Institution	Responsibilities
The World Bank	<ul style="list-style-type: none"> Monitoring the effective implementation of Social Management Plans, Resettlement Action Plans, and ESIA where applicable Reviewing the project documents, providing guidance to improve them, and issuance of the Letter of No Objection in order for the project implementation to commence.
Host Community	<ul style="list-style-type: none"> Holding the project developers accountable over the Implementation of Social Management Plans, Resettlement Action Plans, and ESIA where applicable Through public participation, the host community can guide vulnerable persons to social safety nets to ensure economic inclusion. Participate in crime and violence prevention (including prevention of Gender Based Violence) through keeping law and order and retaining high moral values.
Settlement Executive Committee (SEC)	<ul style="list-style-type: none"> Initiation: Documenting and reporting community's view, disseminating information to the community, and coordinating stakeholders. Implementation: Identifying existing resources within the community, updating the community of the project progress, and accompanying technical staffs. Monitoring and evaluation: identifying issues and problems and communicating them with the relevant stakeholders. SECs also contribute to sharing knowledge and lessons learned for future implementation.
Grievance Redress Committee (GRC)	<ul style="list-style-type: none"> Grievance receipt and registration/logging Development and implementation of response Verifying the implementation of redress action

4.6 List of Permits required for the project as per the Kenyan requirements

In order for the Employer to start implementing the project, the permits listed below should be available and valid.

Table 4.6: List of Permits required for the project

Relevant activity	Statute	Requirement	Competent Authority	Date of Acquisition
Implementation of the Project	Environmental Management and Coordination Act (EMCA) Cap 387, Rev 2015	ESIA Study report to be submitted to the County NEMA offices for the variation of the existing EIA License.	NEMA	Before commencement of project
Implementation of the Project	The Kisumu County Trade Licensing Act, 2015	Acquiring and renewal of the Single Business Permit for the contractor	County Government of Kisumu	Before the commencement of the project.

Relevant activity	Statute	Requirement	Competent Authority	Date of Acquisition
Water abstraction for the purpose of construction	Water Resources Regulation	For Ground water: Physical Chemical Analysis Report A technical report for category B application Location map for the water source.	WRA	Before commencement of the project
Cutting of trees	Forest Management and Conservation Act, 2016	Need to obtain permission to cut down trees	Kenya Forest Service KFS	Before cutting down trees to allow for construction
Setting up of the Construction Camp	Environmental (Impact Assessment and Audit) Regulations, 2003	An Environmental Impact Assessment Report for the Construction Camp	National Environment Management Authority (NEMA)	Before commencement of the project
Material Extraction	Environmental (Impact Assessment and Audit) Regulations, 2003	An Environmental Impact Assessment Report for the Construction Camp	National Environment Management Authority (NEMA)	Before commencement of the project
Registration of Workplaces	Occupational Safety and Health act, 2007	Filled Application Form and Initial Health and Safety Audit. Application fee	Directorate of Occupational Safety and health Services	Less than 3 months after the development of the construction camp, and before construction begins
Initial and Annual Environmental audit of the Project	Environmental (Impact Assessment and Audit) Regulations, 2003	Environmental Audit report developed by authorized expert	NEMA	Within the first 12 months of commencement of the project.
Engagement of Workers	Work Injury Benefit Act (WIBA) 2007	Acquire WIBA insurance cover to cover all employees that will be engaged in the project.	Directorate for Occupational Safety and Health Services	Before the commencement of the project.

5. ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION

5.1 Biophysical Environment

5.1.1 Climate

Kisumu County experiences an equatorial type of climate with substantial rainfall received throughout the year. It is an area falling in the ecological zone II & III (Ouma F et al, 2016). However, altitude and relief affect the amounts of rainfall with areas close to the highlands receiving more. Rainfall in the County is bimodal with the long rains received during the month of March through May while the short rains occur from September to November. Rain falls almost throughout the year in Kisumu (Ouma F et al, 2016). The month with the most rain in Kisumu is April, with an average rainfall of 9.6 inches. The month with the least rain in Kisumu is January, with an average rainfall of 2.1 inches (fig 5.1).

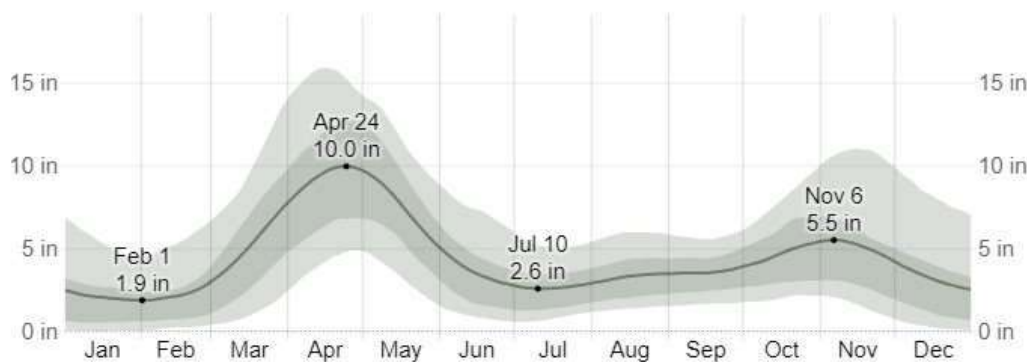


Figure 5.1: Monthly average rainfall in Kisumu County

Source: Weather spark <https://weatherspark.com/y/98112/Average-Weather-in-Kisumu-Kenya-Year-Round>

Kisumu County has a relatively warm and humid climate all year round with mean annual temperatures being predominantly in the range of 21°C to 23°C in most parts of the county, except for a few pockets in the south and east where mean annual temperatures are below 21°C and a few pockets in the central parts where mean annual temperatures are between 23°C and 24°C. The county has two rainfall seasons, the first from March to May and the second from November to December (Ouma F et al, 2016). Mean annual rainfall in the county is mostly in the range of 1200 to 1500mm. However some areas do receive mean annual rainfall of above 1500mm (ICTA, n.d). The climate and weather of Kisumu is largely modified by its location on the shore of Lake Victoria, which results in high humidity all year round.

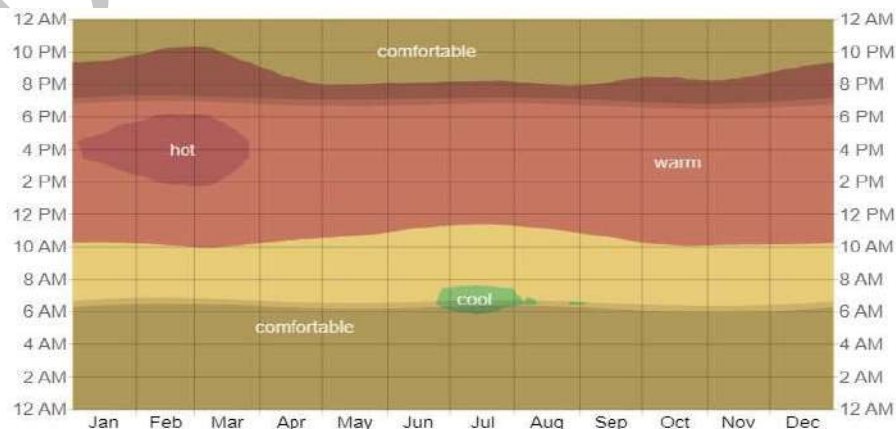


Figure 5.2: Daily average temperatures in Kisumu County

Source: Weather spark <https://weatherspark.com/y/98112/Average-Weather-in-Kisumu-Kenya-Year-Round>

5.1.2 Geology and Soils

The principal rock types of the escarpments enclosing the basin are primarily volcanic rocks. At the edges of the sedimentary basin to the north and to the south, granites and granodiorites are the main rock types while the eastern and north-western edges were dominated by phonolites (Mutiso B. 2015). The oldest rocks in the region are the Archean rocks and are represented mainly by both basic and acidic volcanic namely: granites, granodiorites, basalts, andesites and rhyolites. Also present clastic rocks showing horizons of acid lava overlying the volcanics; characterized by sandstones, quartzites and greywackes. They are the most dominant rocks along the escarpments enclosing the Nyanza basin; granites are most to the north while granodiorites dominate the southern escarpment (Mutiso B. 2015). These are three parallel faults trending north-east to south-west and are responsible for the scarp near Kisumu Township.

The geological composition allows the project area to have several options to access material for the construction of the project. Currently, there exists several quarries such as the Kisumu Concrete Products/Ndugu, Adhiambo, Lake Quarry, Homa Hill, and Raroki among others.

Soils in the County are generally characterized by lake sediments mainly consisting of clay and sand. Kano plains which cover an expansive part of the County exhibit deep dark brown and grey soils that are poorly drained. Dark cotton soils commonly associated with swamps are mostly found to the western parts of the Kano plains and cover about 70% of the county. Soils in the Kisumu area are chemically a fine blend of all sediments transported from the surrounding hills and mountains (Mutiso B, 2015).

Soils in the settlements within the county were all noted to be black cotton that are poorly drained. Sections had marram soils which had been imported into the settlements to be used in roads construction. Poor soil drainage resulted to water collecting at several sections visibly noted in Kibos/Bandani and Kibuye flooding was noted are also compounded by lack of/or inadequate drainage structures. In some cases, housing structures constructed on drainage lines also interfere with drainage within the settlements. Soils in the Muhoroni settlements were better drained in comparison to those in Kisumu. Black soils spread through all the settlements which supported agriculture and planting of the trees.

5.1.3 Topography and Physical Features

This county lies in a down warped part of large lowland surrounding the Winam gulf with Kisumu town located at its tip (CIDP, 2023). The county can be divided into three distinct topographical zones comprising of the Kano plains found on the floor of the Rift valley; the Nyabondo plateau and the midland areas of Maseno. Altitude within this county varies from 1,144 MASL around the plains to about 1,525 MASL in the Maseno and Lower Nyakach areas. Uplands within the county comprise of ridges that rise gently to an altitude of 1,835 MASL. Physical features within the county include: Kisian granite rocks, the legendary Kit Mikayi, L. Victoria, Kano plains and the lake islands (CIDP, 2023).

The topography of the Kibuye, Bandani/Kibos, Manyatta A, Manyatta B and Nyawita is generally flat with no significant physical feature nearby. They are all located near the Lake Victoria with Bandani and Nyawita nearest to the Lake. Bandani however also near the Kisumu International Airport. The settlements in Muhoroni (Shauri Moyo, Shauri Yako and Bondeni) are also in a relatively flat area with the Muhoroni sugar belt surrounding the settlements and the town in general.

5.1.4 Hydrology

There are small streams that traverse some of the KISIP sites, however, the county is generally endowed with surface water resources. These include 11 permanent rivers with the 3 main ones being Nyando, Kibos and Sondu. These rivers are heavily silted since they originate from high up in the highlands where a lot of soil erosion has taken place. Kano plains area as well as the low lying Nyando area are vulnerable to flooding during heavy rains. This county fronts Lake Victoria and therefore has a shoreline that stretches for 90km. The lake system has been affected seriously by the invasive water hyacinth (*Eichhornia crassipes*). Manyatta A and B sites are not far from Lake Victoria and Auji River which traverses Manyatta B drains into the Lake through Impala Park. The boreholes located in the Kavirondo Rift Valley sediments are very productive. The mean depth of the boreholes is about 90 m and average borehole yield is about 10 m³/hr (Kanoti J et al, 2019).

In areas where the geology is dominated by successions of volcanic rocks, groundwater is found in erosion layers that occur between successive lava outflows, in tunnels formed during cooling of the lava, or in buried river channels. Water bearing zone occur at the contact between the lava flow and the Precambrian rocks, at depths of over 300 m. The contact consists of the Miocene limestone and bedded tuffs resting on gneisses of the sub-Miocene peneplain. Fault zones also have high groundwater prospects (Kanoti J et al, 2019).

The nearest water body that are near the settlements in Kisumu town is the Lake Victoria. Generally water from rivers and surface run-off drain towards the lake. Auji River crosses through Manyatta B as it drains to the Lake. Nyamasaria River and Kibos River pass south east of Manyatta A. Nyando river drains through Muhoroni as it flows towards Lake Victoria.

5.1.5 Biodiversity

Generally biodiversity in Lake Victoria consists of fish species, birds and higher vertebrates like amphibians, reptiles and mammals as well as several plant species. A total of 31 amphibians, 28 reptilian and mammalian species have been recorded on various sites in the Lake Victoria basin. Inshore waters, satellite water bodies and fringe wetlands support several species of reptiles, the commonest of which are the Nile crocodile (*Crocodylus niloticus*) and snakes such as African rock python (*Python sebae*), mambas and cobras (Ouma F et al, 2016).

The dominant terrestrial vegetation comprises of dry, peripheral, semi- evergreen rainforest and scrub forest in the eastern parts of the basin. Several species are currently threatened, particularly those in fragile areas such as wetlands. Much of the lake margin is swampy and vegetated mainly by the cyanobacteria *Cylindrospermopsis* and *Planktolynghya*, and the diatom *Nitzschia*. Zooplanktons consist of abundant copepods and cladocerans. As recently as the 1960s, Lake Victoria supported an endemic cichlid fish species flock of over 500 species (Ouma F et al, 2016), but these have progressively disappeared from the catches to become poorly represented today.

The KISIP sites are not near any parks or reserves with the exception of Manyatta B which is only a short distance from the shores of Lake Victoria. L. Victoria. However, the proposed sites are within the Lake Victoria Basin and therefore have the potential to have adverse cumulative impacts. Generally speaking, the Lake and the many wetland environments created by the rivers such as the Nyando, Sondu make the area important for birds.

5.1.6 Vegetation and Forest Cover

Savanna woodlands comprises the main type of vegetation within the county. Papyrus reeds are common along the shoreline. From 2001 to 2021, Kisumu lost 1.82kha of tree cover, equivalent to a

7.0% decrease in tree cover since 2000, and 639kt of CO₂e emissions (Global Forest Watch www.globalforestwatch.org accessed on 18 July, 2023). From 2013 to 2021, 100% of tree cover loss in Kisumu occurred within natural forest. The total loss within natural forest was equivalent to 151kt of CO₂e emissions. In Kisumu, the top 2 regions were responsible for 50% of all tree cover loss between 2001 and 2021. Muhoroni had the most tree cover loss at 511ha compared to an average of 260ha. Nyando and Nyakach were responsible for 408ha and 386ha loss of vegetation cover respectively.

There are no gazetted forests near the proposed KISIP sites since the areas are heavily settled with most of the original vegetation cover having been cleared. Some of the sites are in heavily cultivated areas where maize and sugar cane are grown.

5.1.7 Climate Change Vulnerability and Adaptation

According to a research prepared by the International Center for Tropical Agriculture (ICTA, n.d), analysis of temperature trends in the county over 25 years (1980 to 2005), showed that although mean second season temperatures have remained relatively constant, there has been a significant increase of approximately 0.5°C in mean first season temperatures. Average annual rainfall, measured over a 35-year period (1980-2015), has also increased in both seasons. However the increase has been more pronounced in the second season. The increase in second season rainfall has been accompanied by an increase in the length of the growing season, and a slight decrease in the number of heat stress days.

The same assessment by ICTA indicates that heat stress is also expected to increase significantly under both scenarios, the number of days with a mean temperature above 35°C in the second season being particularly affected and expected to rise from an historical average of just under 10 days to over 15 days under the conservative emissions scenario and 20 days under the high emissions scenario. These changes represent an increase in the number of heat stressed days by approximately 50% and 100% respectively. Looking ahead to the period 2021-2065, climate projections indicate that there is expected to be a moderate decrease in the length of both growing seasons as well as a large backward shift in the start of the second growing season by as much as 50 days.

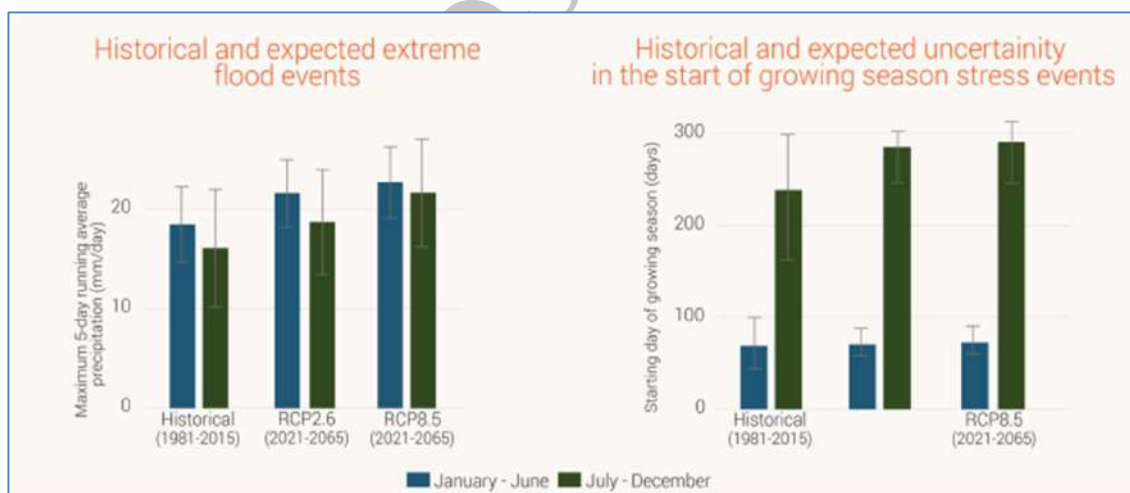


Figure 5.3: Historical and expected changes in heat stress and crop productivity due to Climate Change

It is thought that farmers within the County will be the most affected by the impacts of Climate Change. Their heavy reliance in rain fed Agriculture for food production increases their vulnerability to the effects of climate change. The frequency and severity of climate shocks such as drought, floods, and heat stress; the uncertainty related to the start of the growing season and the duration of the growing periods affect key value chains and farmer groups significantly.

Apart from the on-farm and off-farm adaptation practices by the farmers such as use of organic manure, use of agricultural extension services among others, the County has put in measures and institutions that help in the management and adaptation of climate change. Kenya Agricultural and Livestock Research Organization (KALRO), for instance, a governmental organization operating at the County level, is responsible for the promotion and dissemination of knowledge and technological development among relevant stakeholders. Together with its partners⁶², the institution supports the development of trials and on-farm demonstration plots for sustainable land and water management and crop and livestock production practices, all these targeted at farmers and staff in relevant local departments. The KFS is a semi-autonomous government parastatal, implementing activities related to climate change, forestry, forest conservation, and ecosystem conservation. KFS finances and monitors projects related to ecosystem conservation. KFS engages in tree planting (such as the afforestation project in Nyakach), provides extension services to farmers like providing quality germplasm at subsidized rates and technical advisory

5.1.8 Air Quality

Air quality in Kisumu County is generally moderately polluted with an average annual air quality index of between 51 and 112 (<https://www.aqi.in/dashboard/kenya/kisumu/kisumu> accessed on 18 July, 2023). This makes the air to have long term health impacts to residents with high sensitivity to pollen and will not be able to perform high intensive tasks for prolonged periods of time. People with already existing respiratory diseases are most affected.

5.1.9 Noise levels

The project area is within disturbed environment with various activities, such as shops, motorized and non-motorized transport, people, and domestic animals among others within fairly limited surface area. The noise levels are generally high during the day, and part of the night. The sources of noise are the same as the sources of air pollution in the area, and include:

- Vehicular traffic along the major roads.
- Construction material haulage operations and,
- Any potential project component depending on intention of use (i.e. mechanical pumps)

5.2 Social Economic Baseline Information

5.2.1 Land Use and Tenure

On average according to the Household Baseline Survey Report (2014) land allocation to different uses was as follows: subsistence crops (34%), natural pastures (34%), commercial crop production (18%) and homesteads (7%). About 1% of the lands constituted woodlots while 18% was classified as not utilizable. Very little land was identified to have been set aside for conservation purposes that have potential to negatively affect water, soil nutrients, plants and animals (GoK, 2014).

The mean land holding size at 1.6 acres while the mean agricultural parcel is 1.0 acres. Subdivision into smaller parcels is high mostly driven by the demand for land as a result of population rise and the traditional land inheritance practices. About 61.3% of the land has been titled and is mostly owned by individuals (78.8%).

Other land tenure arrangement includes: leases (10.7%), Clan/ family owned (4.9%) and Communal land (0.4%). The CIDP indicates that incidences of landlessness are generally low in the county with the exception of Muhoroni; which is a settlement scheme.

Within the KISIP sites, great variations exist in terms of land ownership as captured in the KISIP sites socio-economic survey. In Manyatta A for example, 70% of the respondents owned the land while in Nyawita and Kibuye, very few people owned the land. Even in areas where people said they owned the

land, only a small number had ownership documents. In some places such as Bondeni, the respondents owned land elsewhere but chose to live there due to proximity to business opportunities. The main land use in most of these settlements is residential and commercial.

Table 5.1: Land Tenure in the KISIP Sites (- means information not indicated)

Name of Site	% of those who own land	% of those who do not	% with ownership documents	Comments
Manyatta A	70	30	13	
Manyatta B	30	70	24	
Nyawita	6	91	6	
Shauri Yako	60	40		66.7% did not disclose ownership.
Shauri Moyo	38%	64	9	
Kibuye	9.5	90.5		
Bondeni		Most own land elsewhere		

Source: KISIP Social economic survey Report

5.2.2 Energy

Firewood is the main source of energy used for cooking in the county accounting for about 60% of all energy forms. Other forms of energy used for cooking include charcoal (17.1%), Paraffin (6.9%), and Liquefied Petroleum Gas (LPG) (2.5%). For lighting, paraffin dominates with its usage estimated at 79.3% followed by electricity at 18.3%. Through the Rural Electrification Program, electricity coverage has improved in the county with homes, trade centers and schools being continually connected to the national grid. About 36 trading centers have electricity while 17 do not. 35 secondary schools have been connected to the national grid while another 34 are yet to be connected (Kisumu County Fact Sheet).

In the sites being targeted by KISIP, charcoal is the main source of energy for cooking followed by firewood. Only a small percentage of the residents of these informal settlements use gas for cooking with the highest number being in Shauri Yako at 13.9% as per the KISIP socio-economic survey.

Most of the respondents alluded to having a stable supply of both charcoal and firewood.

Table 5.2: Sources of Fuel in the KISIP Sites

Name of Site	Charcoal	Firewood	Gas	Comments
Manyatta A	50	13.6	4.5	
Manyatta B	70 (both C+F)			
Nyawita	94	6		
Shauri Yako	51.4	34.7	13.9	
Shauri Moyo				All use both charcoal and firewood.
Kibuye	90.5		9.5	
Bondeni	Almost all use charcoal			Actual % not provided

Source: KISIP Social Economic Survey Report, 2017

5.2.3 Water Supply

The main water sources in Kisumu are L. Victoria, shallow wells, unprotected springs, boreholes and roof catchment systems. During the dry season, some of the water sources run dry forcing people to take longer time to fetch water. Women and children specially spend more time in search of water than men and boys.

Water supply and provision within the county is undertaken by 10 gazetted water suppliers, 15 Community water suppliers, 40 boreholes, 70 shallow wells and 7 water pans developed by the local authorities. In total the County has about 212 boreholes and 27 water pans. The water coverage for the county stands at 58% and gazetted water supplies covering a total area of 956km² who have a production capacity at 38,308.8m³/day and directly reaching 25,000 residents (CIDP 2018 - 2012). Storage and reservoir capacity is estimated at 36,296m³ and an established 763 km of piped network. Each sub-county has a water service provider as well as community managed suppliers. As per the 2009 Population and Housing census, the mean distance to watering points is about 1km. about 47% of the HH spend less than 5min, one way, to fetch drinking water.

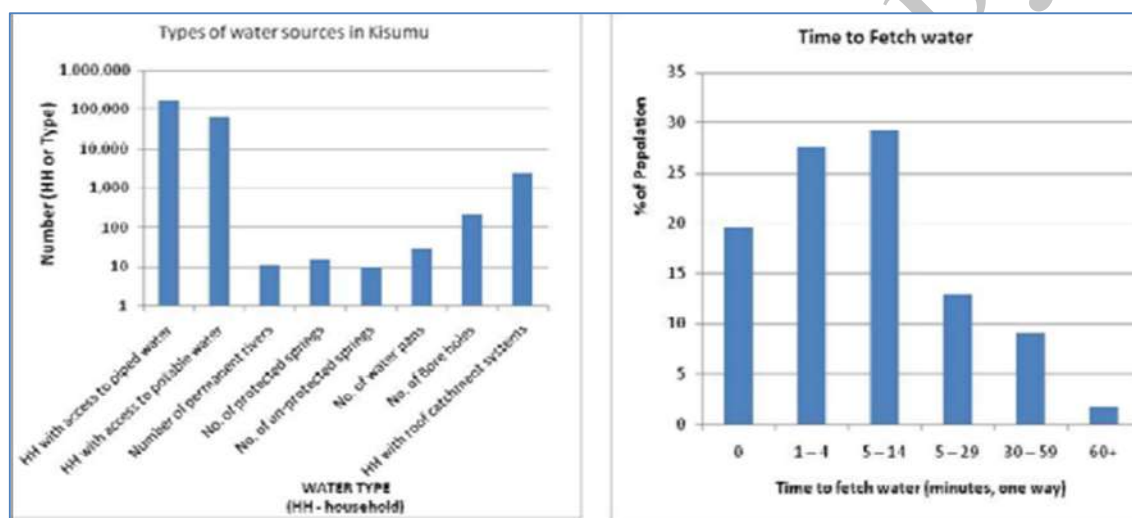


Figure 5.4: Assessment of the types of water sources and time it takes to fetch water

Source: Kanoti J et al, 2019

Although the county receives substantial rainfall, throughout the year, water harvesting and storage are yet to be fully exploited.

Table 5.3: Gazetted Water Suppliers in Kisumu County

Name of Water	Sub county	Status in terms	WSP
Kisumu	Kisumu Central	Full	KIWASCO
Kisumu Rural	Seme	Full Treatment	Gulf
Maseno Kombewa	Seme/Kisumu West	Full Treatment	Gulf
Nyahera	Kisumu West	Partial Treatment	Gulf
Mkendwa-k/ Kwar	Kisumu West	Partial	Gulf
Nyakach	Nyakach	Full	NYANAS
Muhoroni	Muhoroni	Full	NYANAS
Tamu	Muhoroni	Full	NYANAS
Koru Mnara	Muhoroni	Partial	NYANAS
Kibigori	Muhoroni	Partial	NYANAS

Table 5.4: Major Community Water Suppliers

Name of Water Supply	Sub county	Service Area	Management
Asengo	Kisumu West	5Km ²	CBO
Rabuor	Kisumu East	8Km ²	C.B.O
Wandiege	Kisumu East	4Km ²	C.B.O
Kolal	Kisumu East	4Km ²	C.B.O /Govt
Kadete	Kisumu East	2Km ²	C.B.O /Govt
Kawere	Nyakach	2Km ²	C.B.O
Olembo	Nyakach	2Km ²	C.B.O
St. Camilus	Nyando	1Km ²	C.B.O /Govt
Sangoro	Nyakach	2Km ²	C.B.O /Govt
Odino	Nyakach	2Km ²	Private
Kowi	Seme	2Km ²	C.B.O /Govt
Mbaka oromo	Kisumu West	1Km ²	C.B.O /Govt
Nyabera	Kisumu west	1Km ²	C.B.O /Govt
Paga	Seme	1Km ²	C.B.O

Source: Kisumu CIDP

Within the proposed sites for KISIP investments, a significant part of the population uses tap water mainly supplied by either water service providers or by CBOs working in collaboration with government. Piped water is in some cases untreated while those drawing from the rivers and lakes directly also have untreated water. At the household level, some of the residents treat water with Aqua guard. The residents however indicated that water was not reliable in most of the cases and in such circumstances, they sought other sources such as vendors, rivers and the lake. The sites with the highest number of respondents indicating that they draw water from taps was in both Manyatta A and B that are on the periphery of Kisumu town. Shauri Moyo almost relies on water from river Mtwala.

Table 5.5: Sources of Water in the KISIP Sites

Name of Site	Tap	Borehole/well	Vendors	Lake or River
Manyatta A	70		10	
Manyatta B	62		16	22 (lake)
Nyawita	94	3		3 (lake)
Shauri Yako	73			27 (river)
Shauri Moyo (Koru)				100 (river Mtwala)
Bonden	Almost 00%			Some use water from babu river

Source: KISIP Social Economic Survey, 2017

5.2.4 Water Quality and Prevalence of Water Borne Diseases

There is substantial uncertainty concerning the renewability, accessibility and management of groundwater resources in sub-Sahara Africa. Over the past decade, the sub-Saharan Africa has experienced severe change of climate variables including extreme droughts, extreme rainfalls and extreme temperatures. One effect of this variability in climate is the impacts on groundwater quality and quantity. The related consequences and shocks take a long time to subside and are mostly associated with poor community health and infectious waterborne diseases. Short-term changes in groundwater quality in Kisumu. The interaction between the rocks and water modifies the chemistry of water

overtime. The table 5.6 below gives data for groundwater samples collected in Kisumu. Routine water quality monitoring is rarely done and data available is from the borehole completion records.

Table 5.6: Water Quality analysis from selected Kisumu County boreholes.

STN CODE	pH	COND	Fe	Mn	Ca	Mg	Na	K	Cl	F	SO4	HCO3	TDS	NO3
C-11508	6.5	480	0.07	0.07	36	9.1	55.5	12	21	1	10	224	328	1.7
C-11947	7	600	4.3	0.7	26	14.4	96.1	28.9	32.5	0.4	70	250	420	0
C-12126	6.4	270	0.02	0.01	28	15.4	68.04	15.01	5	0.2	12	148	190	0
C-13702	8.3	680	1	0.1	16	2.4	148.9	8.3	30	4	20	325	480	0
C-13703	8.2	1400	0	0.2	40	6	252.8	28	110	4	70	500	950	0
C-2873	8.5	325	0.2	0	36	13	17	2	5	0.8	8	146	195	0
C-2874	8.6	381	0.2	0	32	17	28	3	9	1.1	7	210	228	3.2
C-2875	7.9	680	0	0	68	17	82	1	16	1.9	13	378	408	11.1
C-3330	8.2	442	0	0	36	22	39	5	3	1	3	281	265	0
C-3401	7.8	998	0	0	51	6	172	4	24	4	28	537	598	1.1
C-3435	8.5	875	0	0	43	6	147	6	21	4.6	24	461	525	6.6
C-3550	8.4	382	0	1	43	5	29	5	9	1.1	5	185	229	0
C-3734	7.4	675	0	0	85	16	58	3	34	1.3	33	283	405	44.3
C-3806	7	650	0.6	0	71	27	28	10	8	0.6	28	459	390	2.2
C-3817	7.4	758	0.3	0	50	12	65	14	26	1.8	17	329	455	5.5
C-4145	7.7	1400	0.2	0.6	45	3.8	153	66	31	4	15	622	840	0
C-4246	8.3	1100	0.1	0.1	84	44	53	6	35	2	25.6	56	66	0
C-8062	8.3	1140	2	0.1	49	7	19	4	33	2	103	514	684	0

Source: Kanoti J et al, 2019

From the water chemistry perspectives, groundwater is of good quality. However, fluoride levels exceed the WHO limits in a number of borehole (World health organization, 2017). The recommended maximum is 1.5 mg/l. Concentrations above this value carry an increasing risk of dental fluorosis, and much higher concentrations lead to skeletal fluorosis. The nitrate levels are within the WHO limits (nitrate max 10mg/L). Presence of nitrate is an indicator of contamination either through grey water or sanitation (Kanoti J et al, 2019)

An inadequate water supply enhances the prevalence of water borne diseases such as typhoid, cholera and diarrhea. Prevalence of these diseases varies from one KISIP site to the other where the high incidence of these diseases could be attributed to people drinking untreated water some directly from the rivers. There could also be the risk of contamination of ground and surface water by sanitation facilities especially during the rainy season when there is flooding. The Table below summarizes disease prevalence as reported in the Kisumu KISIP social economic survey report undertaken as part of the implementation of the KISIP Project.

Table 5.7: Disease Prevalence in the KISIP Sites

Settlement	Type of Disease			
	Typhoid	Cholera	Malaria	Diarrhea
Manyatta A	41.5	27	17	6.4
Manyatta B	-	16	50	58.1
Nyawita	Prevalent	-	Prevalent	-
Shauri Yako				-
Shauri Moyo (Koru)	Prevalent	Occasionally reported	-	Prevalent
Kibuye	Prevalent	-	Prevalent	

In addition, Kisumu County has a high prevalence of HIV/AIDs which stands at 19.9%; (CIDP, 2018).

5.2.5 Solid Waste Management

The waste disposal in Kisumu is not well organized – the refuse collection efficiency is less than 20%. Wealthier estates have their refuse collected whereas slums are largely neglected and rely on on-site burning and open public dumping site along the streets. The city has about 10% sewerage coverage and the slum dwellers rely on pit latrines that are overused and not adequately maintained. Kisumu City generates approximately 400 tonnes of solid waste per day, 20%- 25% of which is collected to the open dump site. Of the total municipal solid waste that is collected, 65% is organic and another 27% is recyclable (County of Kisumu, 2015). The collection and handling of municipal solid waste poses a significant challenge in Kisumu City.

In the sites proposed for KISIP investments, open random dumping was observed. In some places, burning is used as a waste management method. The common waste type was found to be vegetative matter which can easily be handled through composting. Plastics are also a common waste type and this waste when burned becomes a serious environmental pollutant with adverse health implications. The residents of these sites want an intervention that would improve waste management through the establishment of waste collection centers and other mechanisms. Solid wastes are also a major cause of clogged drainage systems, a cause of flooding in some sites. Owing to the fact that overall the county has no efficient system for waste management, it would be prudent to have local level solutions to waste management such as composting of organic matter and recycling of plastics; although this is expected to be less of a problem in the future because of the recent ban on use of plastics.

5.2.6 Sanitation

In Kisumu County, the main method of disposal of fecal matter is through pit latrines used by 77% of the population with only 7% having flush toilets. Traditional pit latrines are preferred in all informal settlements in Kisumu because they are cheap to dig and construct. A number of households do not have sanitation facilities and use flying toilets or open defecation along drains, or disused railway line. The fecal matter is washed into the rivers and ultimately into Lake Victoria. The County Government of Kisumu and NGOs are constructing communal toilets and open defecation may soon be a thing of the past.

Table 5.8: Main sanitation facilities and practices in an informal settlement in Kisumu County

Facility	Percentage	Number
Traditional pit latrine	55.01	4 758
Improved pit latrine (air vent, proper superstructure)	19.99	1 729
Toilet linked to sewer	10.72	927
Other sanitation facility	5.94	514
Ventilated Improved Pit latrine (VIP) (vent pipe, fly screen)	4.06	351
Pour flush toilets	1.45	125
Flying toilets	1.23	106
Toilet linked to septic tank	1.19	103
Open defecation (bush, drain, etc.)	0.41	35

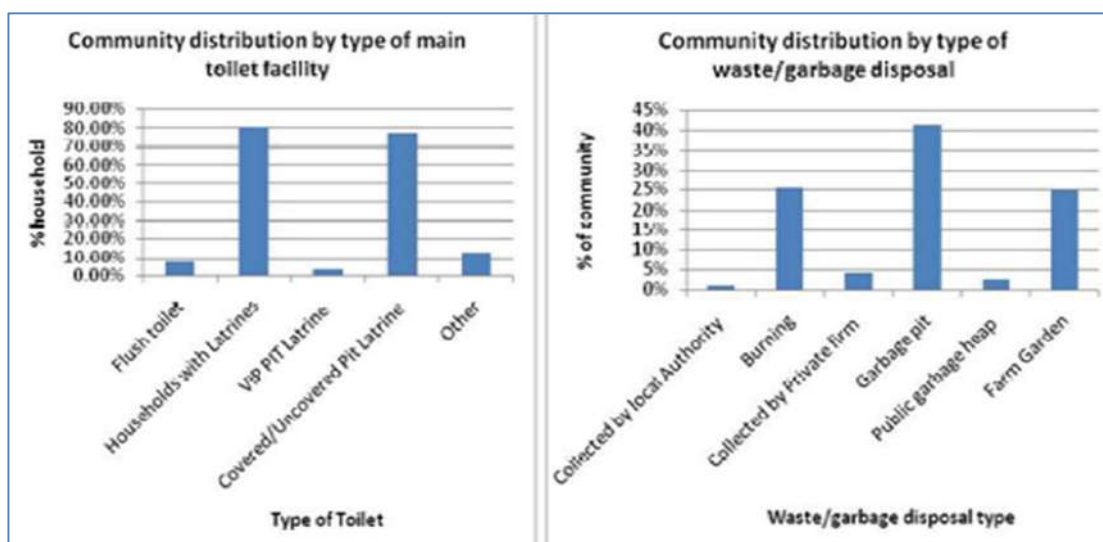


Figure 5.5: Main sanitation facilities and practices in an informal settlement in Kisumu County

In the 13 sites targeted by KISIP, this same pattern was exhibited in a social economic survey conducted in 2017 in order to understand the social and economic dynamics in the sites. Most of the sites are not on a sewer line except for Manyatta A. Flying toilets were reported in Manyatta A by 28% of the respondents. Inadequate sanitation not only degrades the environmental conditions in the settlements but only poses the risk of surface and ground water contamination and the spread of water borne diseases. The sanitation situation in 9 sites as gathered by the KISIP Social economic survey are presented in the Table 5.9.

Table 5.9: Types of Sanitation Facilities Used and by what Percentage of the Population

Name of Site	Pit latrine	Flush	Existence of sewer line	VIP	Flying Toilets
Manyatta A	67	4	Yes		28%
Manyatta B	69.2		No	26.9	
Nyawita	87		No	10	
Shauri Yako	66	34	No		
Shauri Moyo	100		No		
Bondeni	Almost all		No	7	
Chemelil	54	18	NO	14	

The main sewage treatment plant in Kisumu is the Kisat Conventional Sewage Treatment Plant that was built in 1958. There are in addition three main private industrial wastewater treatment plants, two of which are pre-treatment facilities only, with just one a full treatment plant. The three are Kisumu molasses, Kisumu cotton mills and the Kenya breweries. Kisumu molasses is a full treatment plant. Nyalenda Waste Stabilization Pond serves the eastern part of the city and is located adjacent to the Nyalenda low-income area. This plant has not been properly maintained and is not fully operational.

5.2.7 Drainage

There is poor drainage within the 13 sites proposed for KISIP improvements mainly comprising of earth drains or natural drainage. Where a few drain pipes exist such as in Sangoro, they are poorly/ rarely maintained. Investments in storm drains were reported by 95% of the Kibuye respondents as a priority in the KISIP social economic survey (2017) and are mainly maintained by the county

government, individuals and the community. Similarly, Bondeni has concrete lined drains whereas in Manyatta A and B, there are erected structures on the drain paths impeding run-off flow.

5.2.8 Administration

Kisumu County comprises of seven sub-counties, with the Muhoroni sub-county being the largest, covering 658 km² with two divisions, 10 locations and 35 sub locations. Nyakach Sub County, as the second largest, has the highest number of divisions (4) and locations (23), while Kisumu East, Kisumu Central, and Seme have the lowest number of divisions (1 each). Kisumu Central has the lowest sub-locations (3) and sub locations (9). Nyando, the third largest area coverage, has the most sub-locations (36).

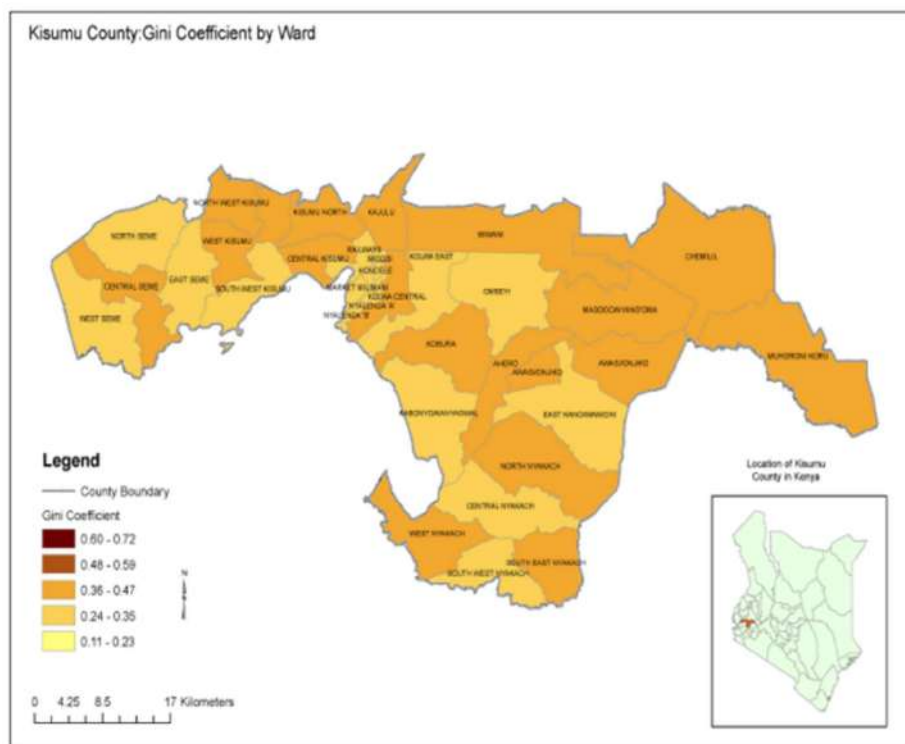


Figure 5.6: Kisumu County Administrative/ Political Boundaries showing the wards

Table 5.10: Kisumu County Administrative/ Political Boundaries Summary

Sub-County	No. of Divisions	No. of Locations	No. of sub-locations	Area (Km ²)
Kisumu East	1	5	12	141.6
Kisumu Central	1	3	9	36.8
Kisumu West	3	6	20	209.0
Seme	1	6	28	267.7
Muhoroni	2	10	35	657.5
Nyando	2	14	36	446.1
Nyakach	4	23	35	326.7

Source: Kisumu County Integrated development Plan (CIDP), 2023-2027

Table 5.11: Kisumu County Government Administrative wards

Sub County	No. of Wards	No. of Villages
Kisumu Central	6	12
Kisumu East	5	10
Kisumu West	5	10
Nyando	5	10
Nyakach	5	10
Muhoroni	5	10
Seme	4	8

Source: Kisumu County Integrated development Plan (CIDP), 2023-2027

The Table below shows the administrative locations of the 9 sites earmarked for KISIP investments as well as the sub counties in which they are located.

Table 5.12: Sites of KISIP Investment Sites

Name of site	Sub County	Ward
Manyatta A	Kisumu Central	Kodele
Manyatta B	Kisumu East	Manyatta B
Bandani	Kisumu West	Central Kisumu
Migosi	Kisumu Central	Migosi
Nyawita	Kisumu Central	Railways
Shauri Yako	Muhoroni	Koru
Shauri Moyo	Muhoroni	Koru
Kibuye	Kisumu Central	Kaloleni-Shauri Moyo
Bondeni	Muhoroni	Koru

5.2.9 Population

Population size, structure and distribution against the county resource endowment are major challenges to the setting of priorities for development and in implementing plans. In 2019, the population of the county was 1,155,574 consisting of 560,942 males and 594,609 females and 23. Intersex. This figure has been projected to increase to 1,290,016 in 2025 and 1,329,805 in 2027 respectively. The rapidly increasing population requires increased investments in basic social infrastructure and utilities such as schools, health infrastructure, water, sanitation and services.

The sites targeted by the KISIP have high densities in terms of population especially in Manyatta A, Manyatta B, Nyawita and Kibuye, with the major influence the desire to be near to major urban centers where there are likely to be more economic/livelihood activities. The population of sites where KISIP interventions are being implemented is summarized below.

Table 5.13: Population distribution within the selected settlements

Name of Settlement	Sub location	Sex			Households
		Male	Female	Total	
Manyatta A	Manyatta A	22,444	24,259	46,705	14,086
Manyatta B	Manyatta B	16,492	16,691	33,183	10,375
Kibuye	Kaloleni	8,173	8,831	17,004	5,148
Nyawita	Nyawita	6,011	6,134	12,145	3,767
Migosi	Migosi	10,630	13,262	23,892	6,777
Bandani	Kogony	15,405	15,735	31,140	9,255
Shauri Moyo	Muhoroni East	1,827	1,913	3,740	1,066
Shauri Yako	Muhoroni East	1,827	1,913	3,740	1,066
Bondeni	Muhoroni East	1,827	1,913	3,740	1,066
Swahili	Muhoroni East	1,827	1,913	3,740	1,066

Source: 2019 Kenya Population and Housing Census: volume II

According to 2019 Census, 2.2% (0.9million people) of the total population of Kenyans represent PWDs. From the National census conducted Kisumu County had a total of 39,868 Persons with Disabilities in which Males were 16,311 and Females 23,557 spread across the seven sub counties. Majority of the Population presenting with disability were of the Visual domain (17606) and this was evident across all the age groups, followed by physical/mobility (16,196), Hearing (7291), other cognition (7922), Self-care (4288) and Speech (3409). The age group that is mostly affected by disability is the 55+ due to the onset of old age.

5.2.10 Literacy Levels

There are both public and private schools in the identified settlements. The table below shows the existing both public and private schools with most of the schools being public.

Table 5.14: Schools within the Project Area

SETTLEMENT	NAME OF SCHOOL	TYPE OF SCHOOL
KIBUYE	Highway Primary	Public
	Shauri Moyo Primary	Public
	Bishop Abiero Secondary	Public
MIGOSI	Ezra Gumbe Primary	public
	Kondele Primary	public
	Migosi Primary	public
	Migosi SDA primary	public
	Kings and queen Primary	Private
	St.Jude Primary	private
NYAWITA	Ken Obura Secondary	public
	Hayanga Nursery school	Private
BANDANI	Kanyamedha primary	Public
	Kanyamadha Secondary	Public
	Seed of Abraham Primary	Private
	Pendo Primary	Private
MANYATTA B	NITA College	Public
	Wandiege Primary	Public
	Magadi Secondary	Public
	Avilla Primary	Private

SETTLEMENT	NAME OF SCHOOL	TYPE OF SCHOOL
SHAURI MOYO	Muhoroni Secondary	Public
SHAURI YAKO	Wings Primary	Private
BONDENI	Muhoroni Township Primary	Public
	Muhoroni Secondary	Private
SWAHILI	Muhoroni Township Primary	Public
	Muhoroni Secondary	Private
MANYATTA A	Kosao Primary	Public
	Manyatta Primary	Public

Source: Field Observations

Kisumu County has 90.8% and 70.5% of its population who can read and write respectively (County Fact data sheet 2018).

5.2.11 Livelihoods

According to the socio-economic studies done most of the resident interviewed reported of their main source of livelihood being from trade and employment across all settlement identified for upgrade. Manyatta B settlement recorded a high number of populations involved in Trade as a source of livelihood.

The businesses done in the settlements are small scales businesses.

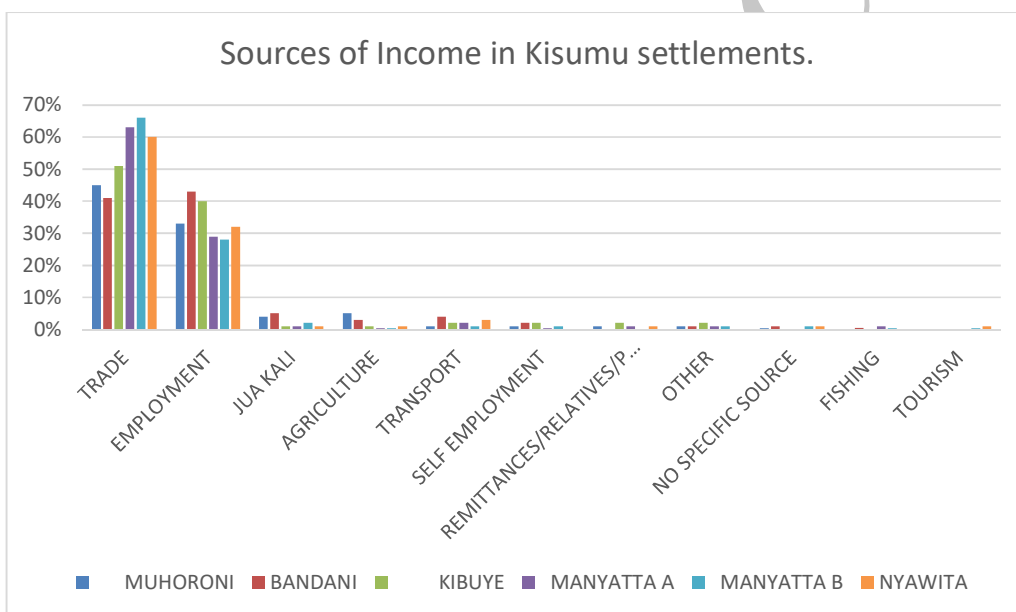


Figure 5.7: Sources of Livelihoods

Source: KISIP socio-economic survey March 2023.

5.2.12 Income Levels

Incomes for all the sites are relatively low and mostly ranging from less than Kshs.3000 – 9000 per month. Muhoroni settlements has the highest number of people earning less than 3000 shillings a month while Bandani has the lowest number earning less than 3000 Kenya shillings. There are some people who depend on family relations for sustenance.

Since the average monthly household income is relatively low, household expenditure is highly constrained. Nyawita records highest number of expenditures at 45%.

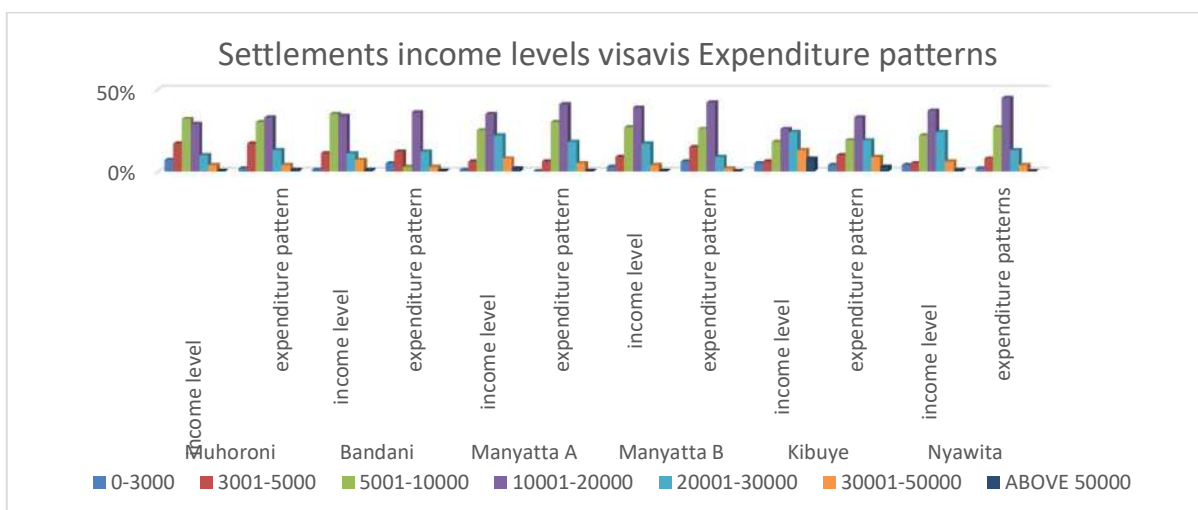


Figure 5.8: Sources of Livelihoods

5.2.13 Type and Quality of Housing Infrastructure

Most of the residents in the settlements reported of living in one room house (Socio-economic study 2023). Kibuye recorded the highest with 78.8% of residents reporting of living in one room house.

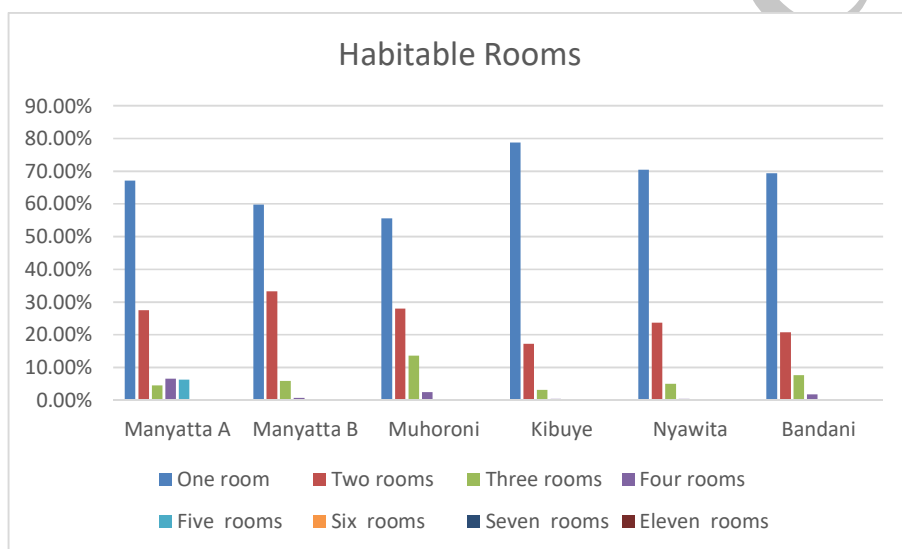


Table 5.9: Type and Quality of Housing Units

Source: KISIP Social Economic Report 2023.

The housing structures in the project area are a mix of permanent houses and semi-permanent temporary houses. In most of the sites, corrugated iron sheets is what makes the walls of the houses. The same material is used for roofing. However, the housing structures are varied and some are constructed of mud walls and roofed with iron sheets.

The information is displayed as per the graphs below.

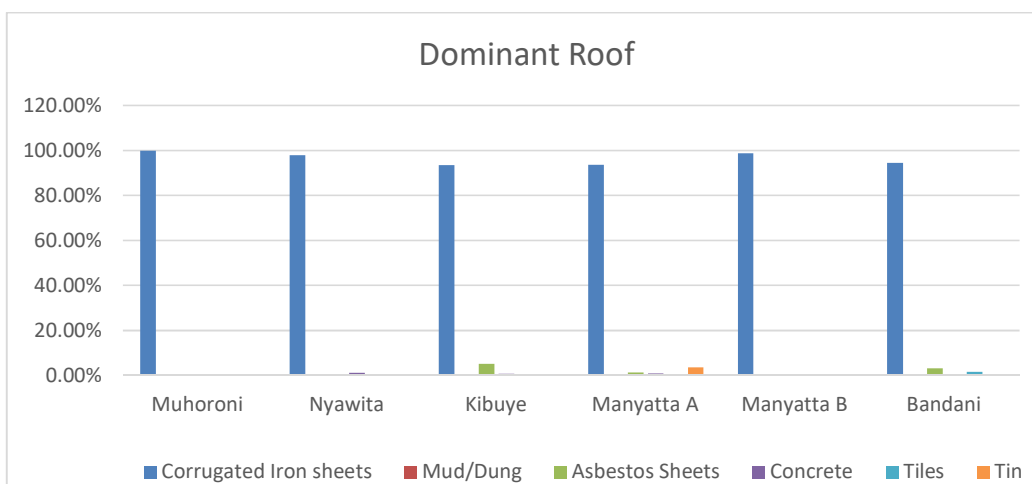


Figure 5.9: Type of housing structures_Dominant Roof

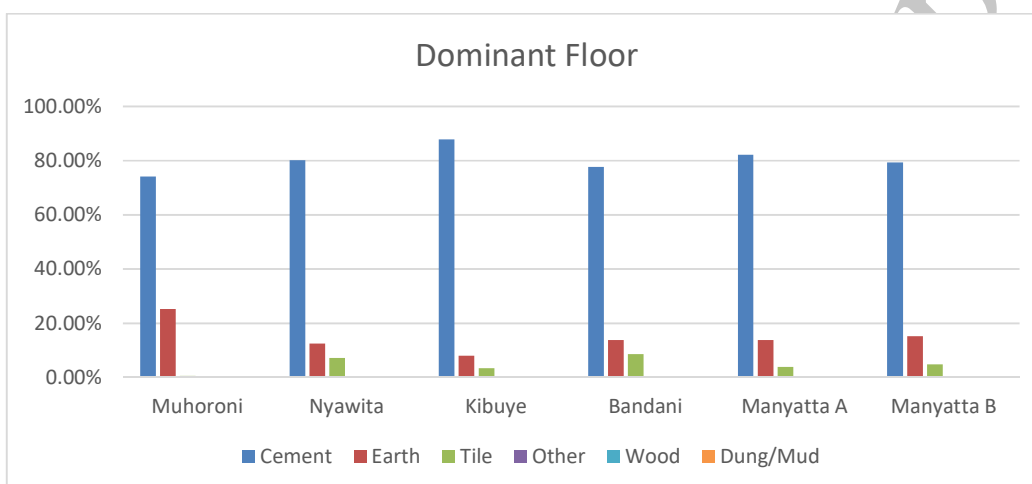


Figure 5.10: Type of housing structures_Dominant Floor

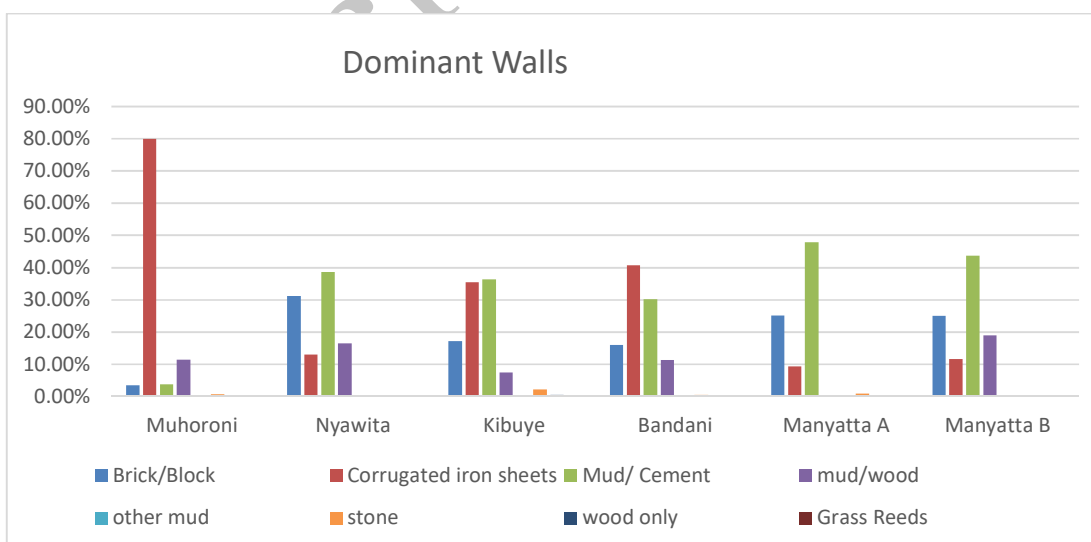


Figure 5.11: Type of housing structures_Dominant Wall

5.2.14 Land Use and Tenure

On average according to the Household Baseline Survey Report (2014) land allocation to different uses was as follows: subsistence crops (34%), natural pastures (34%), commercial crop production (18%) and homesteads (7%). About 1% of the lands constituted woodlots while 18% was classified as not utilizable. Very little land was identified to have been set aside for conservation purposes that have potential to negatively affect water, soil nutrients, plants and animals (GoK, 2014).

The mean land holding size at 1.6 acres while the mean agricultural parcel is 1.0 acres. Subdivision into smaller parcels is high mostly driven by the demand for land as a result of population rise and the traditional land inheritance practices. About 61.3% of the land has been titled and is mostly owned by individuals (78.8%). Other land tenure arrangement includes: leases (10.7%), Clan/ family owned (4.9%) and Communal land (0.4%). The CIDP indicates that incidences of landlessness are generally low in the county with the exception of Muhoroni; which is a settlement scheme.

Within the KISIP sites, great variations exist in terms of land ownership as captured in the KISIP sites socio-economic survey. In Manyatta A for example, 70% of the respondents owned the land while in Nyawita, Sangoro, Chemilil, and Kibuye, very few people owned the land. Even in areas where people said they owned the land, only a small number had ownership documents. In some places such as Bondeni, the respondents owned land elsewhere but chose to live there due to proximity to business opportunities. The main land use in most of these settlements is residential and commercial.

Table 5.15: Land Tenure in the KISIP Sites

Name of Site	% of those who own land	% of those who do not	% with ownership documents	Comments
Manyatta A	70	30	13	
Manyatta B	30	70	24	
Sangoro	11	89		
Kiboswa	66.7	33.3		
Sondu Mama Baby	20	80	20	
Nyawita	6	91	6	
Ahero	76	24		
Katito	62.5	39.5	40	
Shauri Yako	60	40		66.7% did not disclose ownership.
Shauri Moyo	38%	64	9	
Kibuye	9.5	90.5		
Bondeni				Most own land elsewhere
Chemilil	5	95 (have rented houses)		

Source: KISIP Social economic survey report, 2017

5.2.15 Transport Infrastructure

The KISIP sites are largely served by earthen roads that make transportation very difficult especially during the rainy season. One thing that attracts people to these sites is the nearness to the places where

they work, as such a significant number of them walk to and from their work places. Where there are some improvements, roads have been graveled.

5.2.16 Gender Assessment

As per the Gender analysis conducted for KISIP 2 in May 2022, the findings were that:

- Most men lived longer in the settlements compared to women.
- Most inhabitants were tenants.
- 71% of men as opposed to 66% of females have access to water within the house or compound.
- Both Gender is nearly uniform at 67% and 66% respectively accessing health services.
- Both males and females have access to transportation services at 91% and 90% respectively.
- Both Genders have access to childcare facilities in similar proportions.
- Men tend to earn more than women.
- More males are employed as casual workers and while women are more in petty trading than men.
- More men (65%) than women (62%) indicated that they were able to spend the money earn without consulting partners.
- More men were considered head of household at 91%.
- 54% of respondents indicated that domestic violence happens irregularly while 29% though it happens regularly.
- Most of the households earn a monthly income of over kshs.12000 with more male headed household earning 12000 compared to female headed household.

From the GAP analysis conducted its proper to deduce that despite the vulnerability of the settlement population, more women or female headed households are more vulnerable compared to the male headed households.

Kenya Demographic Health survey (KDHS 2022), Kisumu County 36% of women reported of having experience physical violence since age15. Most settlements are in urban centers where sexual violence was reported by 12.8% of the respondents with 5.7% and 5.1% women and men respectively have experienced sexual violence in the last two months. In Kisumu, 10.8% of women recorded of having experienced sexual violence.







During the project implementation, the implementation team should ensure Gender mainstreaming in the construction activities of the project. The gender rule of 30% should be enforced during recruitments and put in strategies to encourage more women to access employments and benefits of the project.





Enforcement of Code of conduct to ensure zero sexual exploitation, sexual harassment and GBV cases taking place should be put in place as this will encourage uptake of Jobs and retention of jobs for women in the identified settlements.





5.3 General Site Photos





Table 5.16: Photos showing general observations within the settlements

Settlement	Observations
Kisumu County	





Settlement	Observations
Bandani	<div>  <p><i>Corridor encroachment by powerline</i></p> </div> <div>  <p><i>Adequate Road, passes through stable alignment soils</i></p> </div> <p>Field observations:</p> <ul style="list-style-type: none"> • Encroachment by powerline, waterlines and structures were noted. • Sections of the networks are defined by poor road condition i.e. undefined carriageway characterised by soft spots and potholes. • Road 2, part of a key Kisumu bypass road, is currently being implemented by KURA. This will need to be de-scoped and savings allocated depending on the community needs. During the stakeholders meetings and the detailed fieldwork, KURA, KUP and other agencies implementing the roads in Kisumu will be engaged to establish their project timelines. This will ensure that no road done under KISIP road is left hanging without access to the main upgraded network. • Significant drainage works required due to massive storm water in the area as evidenced by extensive roadside erosions/gullies. • Road 1 passes through a flat terrain characterised by expansive soils • Road 3 is gently sloping with slightly stable subgrade. • Road 4 traverses a flat terrain with slightly stable subgrade.
Manyata A	<div>  <p><i>Turnel – Kondele Road</i></p> </div> <div>  <p><i>Kona Mbuta Mosque</i></p> </div> <div>  <p><i>Community water point</i></p> </div> <div>  <p><i>Poor stormwater drainage and water point in use</i></p> </div>

Settlement	Observations
	<p>Field observations:</p> <ul style="list-style-type: none"> • Limited to adequate road corridor. • Corridor encroachments by power lines, structures and commercial activities noted. • There will be need to scope demolition of existing drainage structures to achieve a standard road width and alignment. • Roadside water points alluding to the possible need for relocation of water lines the and need to put up a water kiosk adjacent to/within the corridor. • There is limited drain outfalls - stormwater to be channeled along the road for extended lengths to appropriate exits • The main collector road within the network, the Corner Mbaya Bypass has been implemented by KURA. This will need to be de-scoped and savings allocated depending community needs. • Most network road sections are characterised by stable alignment soils. • Social facilities found within the settlements included Kosawo Primary, hospitals and clinics. • There is a decommissioned trunk sewer (Migosi trunk). • Water is available with provision made by KIWASCO through individual connections, a number of water kiosks and water points.
Manyata B	<div>  <p><i>Comptic Kaumbe – Geseko Road</i></p> </div> <div>  <p><i>Proposed beneficiary road on de-scoping of Wandiege – Walgudha Road</i></p> </div> <div>  <p><i>Access Road with in-effective streets light</i></p> </div> <div>  <p><i>Road with poor storm water channel</i></p> </div> <p>Field observations:</p> <ul style="list-style-type: none"> • This area generally has un-paved roads but well graded. There is a major market (Wandiege Market) with a few amenities that the community depends on.

Settlement	Observations
	<ul style="list-style-type: none"> Corridor encroachment by roadside commercial activities and powerlines. Poor and challenging drainage conditions due to a flat terrain and limited outfalls. Removal of the existing drainage structures required to achieve a standard road. No Solid waste management infrastructure recorded. Wandieg - Walgudha Road, the main collector road within the network, has been implemented under the Kisumu Urban Project as Nairobi Road - KFW school - Sije Road. This will need to be de-scoped and savings allocated depending on the community needs. Consultations with the key stakeholders shall be done to ensure all savings are utilized within the settlement. The road network pass through a flat terrian with expansive soils recoded on some sections. Storm water chanelisation is critical but not easily achievable. The area is relatively poorly lit irrespective of presence of street lights along major access The area lacks sewer reticulation system
Nyawita	 <p><i>Koyoo Koyuga</i></p>
	 <p><i>Proposed Koyoo Koyuga realignment section to reduce on relocations</i></p>
	 <p><i>Obunga Road sewer trunk line</i></p>
	 <p><i>Encroachment by power lines and temporary structures</i></p>
	<p>Field observations:</p> <ul style="list-style-type: none"> Corridor encroachment by roadside powerlines, waterlines, structures and property fencelines. Stable subgrade due to slightly rolling terrain - well derained Poorly defined road alignment. Nearby is a major sewer trunk line along Obunga road which is essential for sewer laterals connections from Nyawita. Water supply is dominantly aided by two KIWASCO lines and a few water kiosks. Streets in this area are poorly lit and the community would like a number to be installed in order to curb insecurity in the area.

Settlement	Observations
Kibuye	 <p><i>Kibuye Road</i></p>
	 <p><i>Highway School Road</i></p>
	 <p><i>Water kiosk in Kibuye market</i></p>
	 <p><i>Major access road in Kibuye market</i></p>
<p>Field observations:</p> <ul style="list-style-type: none"> ● Kibuye is a market settlement that sits at a busy intersection. An influx of people is evident at most times accessing the market and its environs. The market has an ablution block and a water kiosk. ● Adequate road corridor but heavily encroached by roadside commercial activities. ● Stable subgrade due to slightly sloping terrain - good drainage conditions. ● Drainage works will need to extend far along the existing road for proper storm water channeling. ● The road requires very wide NMT corridor to accommodate roadside traders. ● The area lacks good lighting irrespective of the large multitude of people that access the area. ● Sanitation in the settlement is via the public toilet in the market. An additional toilet will be required for the area around Kibuye supermarket and the court. The public can be combined with a water kiosk. 	

Settlement	Observations
Muhoroni	 <p><i>SM1 Road – Corridor partly taken by Kenya Railways (Shauri Yako)</i></p>
	 <p><i>SM3 Road (Shauri Yako)</i></p>
	 <p><i>Unpaved road adjacent to Muhoroni High School</i></p>
	 <p><i>Pit latrine in Shauri Moyo</i></p>

Settlement	Observations
	 <p><i>High mast flood light at Bondeni Market</i></p>  <p><i>Privately owned Water Kiosk in Bondeni</i></p>  <p><i>Privately run ablution block at Bondeni Market</i></p>  <p><i>Bondeni Market Intersection</i></p> <p>Field observations: Consists of three informal-settlements earmarked for development. Access roads to the settlements, vital institutions among them the sub county hospital, Muhoroni High School and the briquette's factory are generally un-paved with poor drainages while some face encroachment from local squatters. Shauri Moyo access to the railway station is riddled with an unsavoury area where muggings are dominant mostly at night due to lack of floodlights. Bondeni area is the dominant shopping town and has a market serving majority of Muhoroni. The market has an ablution block managed by a private individual and one high mast flood light. The area has one major school i.e., Muhoroni Township Primary School. Shauri Moyo has one major hospital, a major church and one school.</p> <ul style="list-style-type: none"> • Adequate road corrior with limited encroachments by powerlines and structures. • Road passes through a flat terrain charaterised with expansive soils, <i>Shauri Moyo</i> and <i>Bondeni</i> area will require extensive earworks to very poor alignment soils. • Drainage works necessary by not easily achievable due to very flat terrian in especially in <i>Shauri Yako</i> and <i>Bondeni</i>. • Existence of sewer lines is null in all the settlements. • The Sanitation facilities in the three settlements are majorly via communal pit latrines. • The area's water supply is via water kiosks. The water kiosks are served by water from KIWASCO while others by private individuals. The water supply by KIWASCO is not reliable. The individual water kiosks are supplied by water by pumping with the main water source being R.Nyando.

6. STAKEHOLDER ENGAGEMENT AND CONSULTATION

6.1 Introduction

Consultative Public Participation (CPP) is an aid to project management. It is a useful tool for gathering local environmental information by understanding anticipated impacts from local people who have lived and understand their environment better. Consultation also gives a chance to the local community to participate in the determination of project alternatives regarding designing and citing viable and sustainable mitigation and compensation plans.

The Government of Kenya has an objective of involving communities in policy formulation and implementation at the local level. Further, EMCA requires project proponent to seek the views of persons/communities that may be affected by the project to be consulted, at least explain project potential impacts and obtain oral/written comments, which will be included in the ESIA for implementation by the proponent. In keeping with the Environmental (Impact Assessment and Audit) Regulations (2003) and the Environmental Management and Co-ordination Act (1999), the views of all stakeholders including the local community of the proposed project site were considered and included as part of the ESIA report.

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

- Re-scoping of the project-Disseminate information to the public and stakeholders about the project with Special reference to its key components, description, original scope of work, appraised cost, and allocated project cost. Allow community members choose their priority projects with reference to the allocated costs.
- Create awareness to the Settlement Executive committees (SEC) and Grievance Redress Committees (GRC) on the proposed project.
- Gather comments, suggestions, and concerns of the interested and affected parties.
- Build Community Consensus and acceptance of the proposed project.

The purpose for such a process was to identify the positive and negative impacts and subsequently promote and mitigate them respectively. It also helped in identifying any other miscellaneous issues which may bring conflicts in case project implementation proceeded as planned.

6.2 Identification of the Public Participants and Approach of Their Engagement

6.2.1 Stakeholder Mapping

Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. Stakeholder mapping is done to understand the interest and influence of different stakeholders in the project and their varied expectations. Stakeholder consultation will begin in the pre-construction phase and throughout the project cycle.

Categories of stakeholders in the project area encompass:

Project- Affected Parties – these are individuals, households, businesses, and institutions affected or are likely to be affected by the Project i.e., residents of the selected settlements within Kisumu County, PAPs, business owners, county officials and administrators.

Other. Interested Parties or Stakeholders: individuals/groups/entities that may not be direct beneficiaries but who consider or perceive their interests in the project and the process of its

implementation in some way (government entities, political leaders, County Government officials, KISIP National Project Coordination Team); and

Vulnerable individuals and households: persons who may be disproportionately impacted or further disadvantaged by the project as compared with any other groups due to their vulnerable status, and that may require special engagement efforts to ensure their equal representation in the consultation and decision-making process associated with the project, and they equally take advantage of the project's benefits and opportunities. For instance; women, children, differently abled persons, and the youth.

To ensure effective and continuous stakeholder engagement, the Contractor is expected to develop and implement the stakeholder management plan in the pre-operation, operation, and decommissioning phase of the project.

Table 6.1: Stakeholder identification and engagement strategy

Institution	Stakeholders	Engagement Strategy	Purpose of Engagement	Level of Engagement
National Government	<ul style="list-style-type: none"> County commissioner Deputy County Commissioner Assistant County commissioner Chief Assistant chief. 	Correspondence by Phone / email / text messaging, One-on-one interviews, Formal meetings, Workshops	<ul style="list-style-type: none"> Disseminate project information to government officials. Invite stakeholders to meetings. Collect relevant information. 	High
National Government	<ul style="list-style-type: none"> National Agencies such as NEMA, WRA. KISIP National office 	Correspondence by Phone / email / text messaging, One-on-one interviews, Formal meetings workshops	<ul style="list-style-type: none"> Disseminate project information to government officials. Invite stakeholders to meetings. Collect relevant information. 	Moderate
Political Stakeholders	<ul style="list-style-type: none"> Members of the Parliament Member of the County Assembly from Migosi ward, Central Kisumu, Koru, Kondele Manyatta B and Railways Ward. Women representative 	Formal meetings	<ul style="list-style-type: none"> Disseminate project information to local political leaders and county assembly representative. Invite stakeholders to meetings. 	Moderate
County Government	<ul style="list-style-type: none"> County governor County executive officials Ward administrator Public Health Department, AIDS control department. Sub-County administrator office. Village Administrators 	Correspondence by Phone / email / text messaging, One-on-one interviews, Formal meetings workshops	<ul style="list-style-type: none"> Disseminate project information to county government officials Invite stakeholders to meetings 	Moderate

Institution	Stakeholders	Engagement Strategy	Purpose of Engagement	Level of Engagement
	<ul style="list-style-type: none"> County revenue department Water department 			
Community Members	<ul style="list-style-type: none"> PAPs Women Youth Clan elders SEC members GRC members 	Community <i>barazas</i> . Questionnaires, One on one interviews, Notices on notice boards at accessible spaces / places, Phone calls and SMS where applicable.	<ul style="list-style-type: none"> Dissemination of project information. Perception and fears. Community wishes. 	High
NGOs/CSOs	<ul style="list-style-type: none"> Church organizations HIV/AIDS programs Child fund (various organizations and contact persons to be identified) 	Correspondence by Phone / email / text messaging. One-on-one interviews. Formal meetings	<ul style="list-style-type: none"> Disseminate project information, Community support, Assist in community sensitization. 	Moderate
Kenya Police Kisumu County	<ul style="list-style-type: none"> Kenya police county office. Administration police County office Officers at police front desk 	Correspondence by Phone / email / text messaging. One-on-one interviews. Formal meetings	<ul style="list-style-type: none"> Disseminate project information, Invite stakeholders to meetings 	High
Local Media	<ul style="list-style-type: none"> Contact persons in local newspapers, local FM stations community radios to be determined 	Correspondence by Phone / email / text messaging. One-on-one interviews. Formal meetings	<ul style="list-style-type: none"> Disseminate project information 	Low

6.3 Approach and Methodology

As part of the ESIA process, stakeholder consultations were undertaken in accordance with the EMCA and World Bank requirements. The consultant employed various methods in engaging different categories of stakeholders. These methods include face to face discussions, formal meetings, and focus group discussions with settlement Executive Committees (SEC) and GRC committees constituted by KISIP County office.

Mobilization was done through the CPCT, Settlement executive Committees and Settlement Grievance Committees. Despite engagement of the SEC and GRCs, mobilization was done deliberately to enough representation of women, people living with disabilities and the elderly. The SEC chairs were informed of the number of the vulnerable groups to be mobilized to ensure representation. The meetings were majorly conducted in the community social halls which are easily accessible and transport allowance offered to all present with those abled differently given a higher allowance.

The entry point into community discussions was the Settlement Executive Committee (SEC) constituted by KISIP to coordinate its various activities at that level. In each of the settlements, the consultant technical and ESIA team held an engagement meeting on re-scoping of the project description against the available funds. The participants were addressed in vernacular language with a mix of Swahili to enhance consensus and acceptance of the Project. The meeting objectives

considered community priorities and community views about their needs in terms of infrastructure as well as any issues of environmental and social concern and how they should be mitigated. They also gave their input about the potential benefits of the proposed infrastructure, their current challenges and any anticipated dis- benefits of the proposed project. The minutes of the meetings held and photographs taken during stakeholders' participation have been attached in the Annexes. Generally, the stakeholders were in support for the proposed program implementation, appreciating its potential benefits.

6.4 Public Participation meetings

The initial public participation meetings were held between the 10th -17th November 2017, and the minutes are under annex V of this report. The following is the feedback given by the project beneficiaries/residents:

Table 6.2: List of Issues/Comments that Came out of the Public Consultation Meetings

Name of Settlement	Comments/things to be taken into consideration during implementation
Manyatta A	<ul style="list-style-type: none"> Settlement has no dumping site and solid waste management is a major problem; Drainage is poor Sewer line in some parts of the settlement are narrow. A proper sewer system should be constructed and should factor the expanding population; - The County Government should provide waste collection vehicles.
Nyawita	<ul style="list-style-type: none"> Pit latrines usually fill up; therefore, a sewer line is preferred; There is not drainage system in the settlement; Solid waste is a major problem; There is insecurity and anti-social behavior – security lighting will help address this problem;
Shauri Moyo	<ul style="list-style-type: none"> There was need to consult the water supply service provider; Communal water points were needed in the form of water kiosks. The community underscored the need for several water Kiosks Construction should be undertaken during the dry season due to the challenges occasioned by rains in the wet season. Consideration of people living within the road corridor should be made/done. They were however given the response by the KISIP field team that as much as possible, KISIP prefers to develop infrastructure that does not involve relocation of people). Non-technical jobs/ casuals should be engaged from the local people; Development of footpaths should take into consideration the huge volume of storm-water from the upper side of the settlement. In addition, design should then focus on managing that huge volume of water before it gets into the settlement; There is need to have an effective communication system within the settlement to facilitate organization and relocation of people if need be. Also, information should be provided early enough for people to prepare for any movement of structures or agricultural crops during road construction Adequate drainage should be addressed since water flows in a big volume. Big culverts should also be installed where necessary. Residents requested for a road to link them to the main highway. This will improve access to their settlement. Residents agreed to plant trees and take care of them once they are provided during the construction period. Drainage in the settlement should be connected to the existing one at Kenya railways corporation facilities. Kenya Railways Corporation was to be consulted about this proposal

Name of Settlement	Comments/things to be taken into consideration during implementation
Sang'oro	<ul style="list-style-type: none"> Materials to be used for construction should be sourced locally where possible; The area experiences flooding and attention should be given to this perennial challenge Residents expected socio-economic benefits such as sale of ready food and food materials to construction firm workers during project implementation; Black cotton soil is bad for construction. Good foundation should be made when erecting high mast lighting (mulika mwizi) KISIP should strive to deliver projects with the greatest benefits to most people (quality and quantity); Residents requested for opportunities for engineering and technical jobs as well as non-technical ones during the implementation of the project.
Bondeni	<ul style="list-style-type: none"> Residents requested for skilled and non-skilled job opportunities for youths during construction. A security firm should be hired to take care of the construction sites. We use river water which is very dirty; Flood water mixes with solid wastes washing it away.
Shauri Yako	<ul style="list-style-type: none"> Settlement does not have an existing sewer line. It would be good if this was constructed; Water supply system should be extended to reach more residents since some of the residents are getting water from rivers and they have to go far; Storm water gets into people's houses; The toilets overflow at times and they have to be de-sludge. The sludge is then dumped just outside the residences thus polluting the environment;
Kibuye	<ul style="list-style-type: none"> Movement of businesses affected by the proposed developments may require compensation; Drains should be covered so as to allow businesses to continue operation on the on the surface; Adequate drainage should be constructed to avoid overflow of storm water; - There is need for a resettlement plan; Potential for sewer line bursting exists, therefore there is need to involve KIWASCO during project implementation since they know and have the necessary experience; Dust and noise impacts were a concern. What will the project do to mitigate these impacts; Water pipes should be large and of a good quality:

Stakeholder Engagement that led to update of the ESIA took place at KISIP Boardroom on the 6th of January 2023 with County project coordination committee and the officials from the County Government of Kisumu. The total number of individuals who attended the meeting was 37, out of which 26 were male and 11 females.

The objective of the meeting was to present to the Kisumu KISIP County team the original scope of work, appraised cost and cost allocated to implement the project. Public participation meetings were also conducted in each of the selected settlements. The purpose of the meetings was to allow the community members identify priority projects that would fit the allocated costs and would be most beneficial to the project.

The community members were advised to identify projects in areas that had no RAP concerns emerging. The project team confirmed that the project components would as much as possible, fit within allocated public land and wayleaves.

The table 6.3 below summarizes the details of the meeting and gender representation.

Table 6.3: Summary of meeting attendance in ESIA review and update

Settlement	Date	Location	Total No. attendants	Male representation	Female representation	Disabled	Widows	Elderly	Female head of household
Bandani	7 th Feb, 2023	Bright Light	54	37	17	1	1	0	2
Kibuye	7 th Feb, 2023	Mama Ngina Social Hall	37	25	12	1	2	0	2
Nyawita/Migosi	8 th Feb, 2023	Ezra Gumbe social Hall	60	35	25	2	1	0	1
Manyatta A	9 th Feb, 2023	Kosawo Hall	50	33	17	1	0	1	0
Manyatta B	9 th Feb, 2023	Kasawino Social Hall	54	39	15	1	2	1	2
Muhoroni	10 th Feb, 2023	Chief's Camp	68	48	20	4	2	3	2
Total number of participants in the county			323	217	106	10	8	5	9

Key points that were tabled to the SEC and GRC members included the project details, original scope of work, appraised costs for the proposed facilities and the cost allocated for the project. The minutes and list of attendees is on Annex VI of this report. It has been demonstrated successfully that projects that undergo public participation will acquire a high level of acceptance and accrue benefits to a wider section of society.

All community members including vulnerable groups i.e., the youth, men, women, and persons living with disability were represented in the identification of priority projects.

6.5 Perceived Impacts of the proposed project.

Further to the consultative meetings, the community SEC and GRC members raised the following as the anticipated positive impacts of the proposed activities.

- Improved movement of non-motorized and motorized traffic with reduced traffic congestion and increased safety due to the road bumps.
- Reduced level of dust to the adjacent businesses which would improve their overall health by reducing respiratory illness and retain the quality of the goods they sell.
- Improved night-time security especially to school going children who need to leave their homes before the sun rises. Also added security to business owners and other road users especially pedestrians using the roads at night. It was noted that some students may be able to complete their schoolwork under the streetlights for those without power connection in their homes.
- Creation of employment opportunities especially during the construction phase. It was highlighted that the informal settlements hosted persons with different levels of education, all of whom should be considered in the labour management plan (with or without formal education). It was also emphasized that the youth in the community are engaged in all levels of employment opportunities. They should be prioritized.
- Ease of access to community amenities such as schools, hospitals and the markets which at times are not easily accessible due to stagnant sewage and water.

- Increase accessibility to portable water once the last mile connectivity is implemented. This will increase time allocated for other tasks that is currently allocated to fetching and treating water to potable standards using traditional methods such as boiling and UV treatment (putting water in clear bottles and placing them on the roofs during the day). This will also reduce the number of reported water borne diseases such as cholera, typhoid, diarrhea and vomiting.
- Solve drainage and sanitation problems in the area currently significantly experienced in Migosi/Bandani settlement. This will make the settlements have a healthier environment with less areas that can expose the residents to bad odour, contaminated shallow wells and flooding.
- Increase in business opportunities for supply of construction materials, supply of construction vehicles, and supply of food to the workers, availing houses or apartments for foreign employees among others.

It was also, however noted that the project will negatively impact the project area in several ways.

- Migrant employees may be preferred over the residents which will result in the rise of labor related grievances. Internship and apprenticeship opportunities for unique trades should be considered.
- Increase in the number of youth engaged in the consumption of illicit or other liquor or drugs due to an increase in their income and peer pressure from fellow employees.
- Increased number of project vehicles that may lead to an increase in the dust raised and motorized traffic incidents.

6.6 Key Concerns Highlighted during the re-scoping exercise.

Following the consultative meetings, the concerns raised by the respondents were highlighted in table 6.4 below;

Table 6.4: Stakeholder consultation concerns

Settlement	Issues/Concerns Raised
	<ul style="list-style-type: none"> • Key stakeholders to be consulted including Lake Victoria South Water Works Development Agency (LVSWWDA) on works they are currently being implementing to realize gaps to guide the community in selecting priority infrastructures.
Bandani Settlement	<ul style="list-style-type: none"> • Accessibility to amenities is the main issue faced in the settlement and hence need to consider upgrading of the roads to increase accessibility. • Auji Pundo road should be the first priority road since it served most of the residents • Pamjos Kanyamedha road was also a priority road since it served pupils going to Kanyamedha Primary • road 5(Pundo Nita road) to be included among the priority roads since it would • connect Auji Pundo road to the main road
Manyatta A	<ul style="list-style-type: none"> • Kajanta Corner Mbaya Road and Mosque- Kaego Road would serve majority of the settlement dwellers hence should be prioritized • Insecurity was rampant in the area
Manyatta B	<ul style="list-style-type: none"> • consultant team to organize for a meeting with LVSWWDA to know their scope of work on sewer lines then identify gaps to be addressed by the KISIP • the money for flood lights to be re-directed to sewer project since the community • Could request for flood lights from the County Government. • Sewer is usually directed to River Auji hence sewer project is more of a priority than the flood lights.

Settlement	Issues/Concerns Raised
Kibuye	<ul style="list-style-type: none"> The two roads in the proposed facilities for Kibuye Settlement should be implemented since they were all weather roads and during the rainy season were impassable. Water supply in the market was insufficient hence water facility should be among the priority projects. Requested for more ablution blocks since the ones available were not enough.
Nyawita/Migosi	<ul style="list-style-type: none"> Insecurity was rampant in the area hence there was need for flood lights. The area was prone to flooding due to lack of drainage facility hence there was need to prioritize drainage project. Most of the households had not been connected to sewer lines.

6.7 ESIA Disclosure and Public Participation Exercise

The ESIA team held a public Consultation meeting both in Kisumu targeting Kisumu settlements and Muhoroni at the Chief's camp targeting residents of Muhoroni Settlements. The main aim of these meetings was to public disclosure of the approved alignment, designs, construction methodologies, Impact Identification and Mitigation measures recommended. Through these meetings the settlement residents were able to air their views/fears and concerns to be considered in the ESIA and RAP processes.

Table 6.5: Summary of meeting attendance

Settlement	Date	Location	Total No. attendants	Male representation	Female representation	Disabled	Widows	Elderly	Female head of household
Kisumu	21 st June 2023	Ezra Gumbo Social Hall	158	102	56	6	8	6	10
Muhoroni	21 st June 2023	Chief's Camp	116	65	51	4	5	7	6

6.7.1 Key Concerns Highlighted during the Public Participation Exercise.

Following the consultative meetings, the concerns raised by the respondents were highlighted in table 6.6 below;

Table 6.6: Views and Concerns of the Public disclosure meetings

Settlement Issues/Concerns Raised	Response
GRC and SEC should be included in the payroll	KISIP County GRC Chairperson stated that GRC and SEC positions are considered as volunteers.
Community members to be provided with hard copies of the agreed scope of work per settlement	KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected
A follow up to be done on the few PAPS who have not yet been facilitated from the last ARAP implementation due to bank detail issues	KISIP County GRC Chairperson assured the few PAPS who were yet to be facilitated that the issue will be addressed, and matters closed
The engineers to consider community members opinions when designing drainages	Consultant's engineer assured the community members that they will be involved during decision making and implementation process of the project.

Settlement Issues/Concerns Raised	Response
A road should be constructed in Shauri Moyo in future project to improve access in the area	KISIP County GRC Chairperson stated that road project could not be undertaken in the settlement under KISIP2 project due to limited funds but when funds are available in future the project will be implemented
Corruption may interfere with how grievances will be handled	The Sociologist stated that handling of grievances will be done in a transparent and fair manner jointly with the Grievance Redress Committees.
Allocate a budget to build waste disposal facilities to avoid dumping waste in the drainages to be constructed	KISIP County CGRC Chairperson said that due to limited funds KISIP2 will not be able to go beyond the selected scope of work however the county government will include in its budget construction of waste disposal facilities to avoid clogging of the drainages.
Community members to be provided with hard copies of the agreed scope of work per settlement	KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected
The engineers to consider community members opinions when designing drainages and culverts	Consultant's engineer assured the community members that they will be involved during decision making
Relocation of PAPS should be done in an orderly manner	The sociologist stated that relocation of PAPs will not be forceful and the SEC, GRC, sociologist, valuer and Surveyor will be involved in the RAP process
Relocation of PAPS should be done in an orderly manner	The sociologist stated that relocation of PAPs will not be forceful and the SEC, GRC, sociologist, valuer and Surveyor will be involved in the RAP process
Corruption may interfere with how grievances will be handled	The Sociologist stated that handling of grievances will be done in a transparent and fair manner jointly with the Grievance Redress Committees.
Allocate a budget to build waste disposal facilities to avoid dumping waste in the drainages to be constructed	KISIP County CGRC Chairperson said that due to limited funds KISIP2 will not be able to go beyond the selected scope of work however the county government will include in its budget construction of waste disposal facilities to avoid clogging of the drainages.

The main aim of Public participation was to ensure ownership of the project by the settlement residents, leaders, SEC committees and GRC committees. Through the meetings conducted the participants fully agreed to own the project and assist in its implementation.

7. IMPACTS IDENTIFICATION AND MITIGATION

7.1 Benefits/Positive Impacts of the Project

The overall positive impact of the project will be an improvement of the critical infrastructure in the informal settlements thus enhancing the quality of life of the residents. The County Government of Kisumu will also be a beneficiary in terms of achieving its goals and objectives as articulated in the CIPD with regard to improving the living conditions of the residents. The following are some of the anticipated benefits.

7.1.1 Enhancement of the Aesthetics of these Settlements

The proposed improvements in the respective sites in access roads and drainage, solid waste management, water supply, sanitation, and management of open public spaces will redress the prevailing conditions of poor solid waste management that includes open burning, littering and dumping in undesignated zones; water logging, blockage of drains, leaking/overflowing sanitation facilities among others.

7.1.2 Reduction in Environmental Pollution

The existing scenario of poor or lack of appropriate disposal facilities thus leading to discharge of effluent, solid wastes, waste water and in some cases human fecal matter into the environment will be reduced by the project interventions. In addition, erection of drainage structures will significantly reduce ponding which makes access to people's houses as well as creating stagnant pools of water will be achieved. Environmental pollution leads to contamination of soils, water (surface and ground) which in terms impacts on human health.

7.1.3 Soil Erosion Control

Unpaved roads especially when used by a high traffic can lead to soil erosion, often increasing sediments in nearby surface waters. Paving of these roads and footpaths, as well as constructing adequate drainage will play a critical role in reducing the vulnerability of land to soil erosion within the settlement.

7.1.4 Optimization of Land Use

As part of the design of the proposed investments, planning and mapping of existing infrastructure has been done. In addition, the design and alignment of proposed truck infrastructure (roads, drainage, and sewer line) will to a large extent reclaim road reserves/way leaves that had been encroached upon besides creating awareness about public utility lands among the residents who in turn will be in a position to prevent future encroachments. The proposed investments will also add social economic value to these settlements as well as opening up them up for increased socio-economic activities.

7.1.5 Resolution of Land Tenure Issues

The planning process will help to some extent affirm land tenure security for the residents which in turn enhances its sustainable use and livelihoods. Reclamation of public land and establishments of public utility spaces will encourage socialization and recreation opportunities. Tenure in Kisumu is both public land and private land.

7.1.6 Access to Quality Portable Water

The proposed extension of water supply will be a big benefit who some of the residents who can easily access a reliable supply of quality water. The water will be supplied through water kiosks and will help achieve the objectives of the County Government in achieving SDG 7. An increased supply of water for domestic use enhances general hygiene at the household level and helps reduce/prevent incidences of water borne diseases such as cholera, typhoid, dysentery and diarrheal diseases. These diseases often take a toll on residents especially children resulting into death in some cases. The project intervention will also help reduce the length of time taken to fetch water especially thereby allowing those affected especially women to have more time to engage in other productive activities.

7.1.7 Street Lighting

Installation and rehabilitation of street lighting including set up of high security lighting masts will help enhance security and mitigate against crime thereby addressing one of the major problems in informal settlements. Improved visibility will also extend the hours of undertaking socioeconomic activities thereby enhancing livelihoods.

7.1.8 Improved Sanitation

Construction of the proposed sewer lines and connecting them with the existing sewers in the neighborhoods will help address the problems of water pollution, spread of water borne diseases, foul odors and general environmental degradation. The proposed works are expected to draw human wastes from the public toilets, thereby easing the management of such facilities (mainly done through pumping out with the wastes removed from one area to another) thereby just transferring the problem. In general, this will improve public health within the settlements. Proper waste management will mitigate against contamination of water resources (surface and ground) reducing prevalence of related diseases. Proper maintenance of drains will also mitigate water logging and stagnation mitigating related effects like malaria outbreaks e.g. controlling mosquito breeding.

7.1.9 Accessibility

Improvement works on the paths and road will ease movement within the settlement thus enabling quick response to distress calls, emergency and security matters. Better access routes also ease the movement of people and goods enhancing economic opportunities. Improving access routes will also help minimize vehicular traffic congestion.

7.1.10 Provision of Jobs and Income Generating Activities

Casual labor required during project implementation will be given to the residents and especially the youth. Further, community members will get an opportunity to sell their commodities such as food, and other household goods to the construction workers. The traders within the settlements will have more consumers which will improve their income and livelihood.

7.1.11 Improved Capacity for the local youth

Through training, apprenticeship and awareness campaigns, the youth and other members of the community gain information on road safety, waste management, GBV, Sexual harassment among others, will not only improve the chances of an individual to gain future employment, but it will improve the lives of the community members who will be able to choose safer, more sustainable, moral and beneficial lives which will improve their lifestyle.

7.2 Potential Adverse Impacts of the Proposed KISIP

While there are many positive benefits to be realized once the project is implemented, potential adverse impacts are also likely to occur and these can lead to the non-realization or reduction in the social economic benefits of the project.

This section analyses the potential adverse impacts through the four phases of the project cycle (planning and design, construction, operation and decommissioning). The anticipated impacts have been assessed for their significance.

7.2.1 Negative Impacts during Pre-Construction Phase

7.2.1.1 Loss of Structures

This is commonly associated with resettlement or loss of structures. The project area is within settlements whose inhabitants will lose their structures paving way for the proposed project.

The structures and Livelihoods to be affected by the proposed project has been summarized below:

Table 7.1 Summary of structures and PAPs per settlement.

Settlement	No. of structures	Livelihood	Tenants	Male	Female	Total PAPS
Manyatta A	7	2	1	4	2	6
Manyatta B	15	4	1	7	3	11
Nyawita	3	1	1	2	2	4
Kibuye	5	-	-	5	1	6
TOTAL	30	12		18	8	27

Four vulnerable persons were identified.

Mitigation

- Compensation of the affected structures at full cost and relocation of all impacted persons through the guidelines of the ARAP before project implementation begins.
- Grievance redress mechanism guided by the approved grievance redress strategies to assist in solving disputes and issues that may arise from the proposed project.

7.2.1.2 Loss of Land

This will happen as a result of leasing or allocation of land for Contractors facilities and workers camp

Mitigation

- Ensure implementation of agreements for use of land and restoration entered between the Contractor and the settlement people.
- Grievance redress mechanism guided by the approved grievance redress strategies to assist in solving disputes and issues that may arise from the land lease agreements.
- Ensure that the agreements the contractors enters into do not exploit the residence of these settlements and are guided by all the environmental and social impacts spelt out her
- Review the design to ensure no new risks arise that had not been factored in.

- Plan for entry meetings together with the CPCT and the SECs in order to address early on, any concerns that may be raised by the community members.
- Ensure that environmentally and socially sustainable materials, construction methods, equipment maintenance, waste management methods etc, are considered and planned for, for the duration of the project.

7.2.1.3 Impact on Physical Cultural Resources

Physical Cultural Resources are resources of archaeological, paleontological, historical, architectural, and religious (including graveyards and burial sites), aesthetic or other cultural significance. In Manyatta B, grave sites have been sighted but will not be affected by upgrading construction. However, other sites might be underground or not identified; as such, the Consultant has proposed chance find procedures if the Contractor discovers archaeological site remains and objects, including graveyards and /or individual excavation or construction.

Procedures to Address Chance Finds

To avoid damaging cultural resources during project activities, the following will be followed;

- Project personnel must take total care of any unfamiliar materials encountered during project activities. Upon establishing a discovery, the personnel must immediately report the case to their immediate supervisor
- The contractor or officer supervising the project would report the finds to the local administration such as the local chief or the Assistant County Commissioner (ACC).
- The local administration would then report the find to NMK
- The contractor must stop work immediately after discovering evidence of possible scientific, historical, prehistoric, or archaeological data and notify the Resident Engineer giving the location and nature of the finds
- The client; the County government of Kisumu through CPCT will then notify the NMK, which will have to send qualified personnel to assess the material for further steps
- NMK would temporarily stop the works to conduct an assessment and prepare a report. The period of stoppage is from 10 days to 21 days depending on the complexity of the project; Retrieve movable artifacts and preserve immovable ones;
- NMK would also map out the area to be preserved during the investigation period and arbitrate between the community and developers in the event of dispute;
- NMK to circulate the cultural impact assessment report to the developer, NEMA, relevant lead agencies and the community.

7.3 Construction Phase

7.3.1 Positive Impacts during Construction Phase

7.3.1.1 Local Employment

With the construction of the proposed project, employment opportunities are anticipated for both skilled and unskilled labour which the Contractor should exhaustively source locally before outsourcing to ensure the local community fully benefits.

7.3.1.2 Local Sourcing

The construction of the proposed project will create market for construction materials sold locally including cement, PVC pipes, sand, ballast, beams others leading to economic boost in the project area.

7.3.2 Negative Impacts during Construction Phase

7.3.2.1 Production and raising of Dust

Dust from trenching and excavation activities during the construction of roads, drainage, water pipeline extension as well as the sewer line generate dust especially when done during the dry season can be a nuisance and can also lead to respiratory diseases especially in children and complicate matters for people who already have respiratory problems such as asthmatics. Dust clouds will also be common during this period and until the roads are upgraded to better standards.

In addition, generation of dust and particulate matter can also occur off site during the borrowing of construction aggregate such as gravel, sand and marram among others. These impacts are however limited and confined only to this phase and can be easily mitigated. These are therefore considered not significant. Vehicular traffic ferrying construction materials can also increase the dust levels affecting the residents adversely.

This impact is considered high risk as it may result in the stoppage of works by the host community in order to have their grievances about the dust heard. Uncontrolled raising of dust will result in increase of acute respiratory illnesses that is considered medium risk to the project.

Mitigation

- Regular sprinkling of water on roads under construction will be done by the Contractor.
- Staff deployed in activities that generate dust (trenching, backfilling, excavation) and who are directly affected should be provided with dust masks which they should wear at all times when on duty. They should also wear goggles to protect their eyes.
- Speed limits to be adhered to by the contractor employees to reduce the chance of dust raising
- Create awareness, especially to business owners and residents living near the construction area to use masks to protect themselves from the dust being produced.

7.3.2.2 Air Pollution

Use of different plant, machinery, equipment and vehicles during road construction can lead to an increase in air pollution mainly from combustion of fossil fuels. The problem is compounded when the machinery being used is not well serviced. Foul smell may also emerge from the waste piles and also the stagnant waters which may also increase the risk of water borne diseases. Air pollution will worsen health conditions for those that already experience respiratory illnesses which is considered medium risk. Production of the greenhouse gases (GHGs), however in low quantities, contribute to global warming, but the length and scope of the project classifies this risk as low risk.

Mitigation

- Ensure that all machinery being used are well serviced. In addition, construction camps should be sited a bit far from dense human settlements.

- Conduct quarterly air quality analysis within the project to assess the air quality in comparison to the baseline air quality assessment initially tested.
- Reduce the number or privately driven project vehicles and opt for buses or vans that transport more people from the camp to the work fronts.
- Create awareness among the drivers and equipment operators to ensure that the vehicles and equipment are switched off whenever they are not in use.
- Use clean fuel from reputable fuel providers. Adulterated fuel can cause more pollution as its combustion is impacted.

7.3.2.3 Excessive Noise and Vibrations

Excavation, drilling and movement works will generate noise and vibration nuisances at varying magnitudes in the different sites depending on the nature of activity. These nuisances are mainly localized be it on site or off site. Heavy machinery use is also likely to generate the same nuisances which could exceed normal levels in the neighborhoods thereby causing discomfort and disruptions. Noise and vibrations if very high can lead to hearing impairment while poorly erected structure may also be affected by such vibrations with the possibility of collapse. The proposed project is however not expected to generate noise and vibrations that can lead to hearing impairment to the residents but could affect those operating the machines and equipment generating the noise, and possible introduce cracks on the walls of structures near to the material sites.

During the borrowing of materials for construction (murrum, gravel, stone), heavy machinery will be used and this is likely to also have offsite impacts of noise and excessive vibrations. Mitigation measures to avert impacts should include use of ear sound mufflers in zones where loud noise is predicted both by the locals and workers.

Mitigation Measures

- Ensure the machines/ engines are in proper working conditions; regular maintenance;
- Provide the plant/machine operators with ear muffs and enforce their wearing;
- If generators are being used in camps or nearby settlements, ensure the generator houses are fitted with silencers through double walling;
- Ensure all people accessing the site have appropriate ear protection PPE;
- Ensure that operations that generate noise start at 6am and close by 6Pm;
- Ensure borrow sites are as far as possible from human settlements.

7.3.2.4 Soil Erosion

Soil erosion may result from excavation works, movement of heavy machines (on site and off site) and removal of vegetative cover prior to construction activities. Silts carried from eroded surfaces contaminate adjacent water surface water bodies.

Mitigation

- Sprinkle water during the excavation works to reduce erosion vulnerability.
- Undertake selective clearing of vegetation cover especially indigenous trees.
- Use excavated excess soil to fill open pits within the settlements;
- Design appropriate and adequate drain canals to contain the surface runoff;
- Backfill all trenches dug during construction;

- Cover excavated soils with appropriate material to reduce their exposure to erosion agents;
- Decommission all borrow pits;
- Local material and vegetation should be given priority during the landscaping to mitigate possible introduction of invasive alien species.

7.3.2.5 Loss of Vegetative Cover

Construction activities may lead to loss of vegetative cover which in turn leads to other impacts such as loss of biodiversity, aesthetic appeal, soil erosion and siltation of water bodies. While the proposed sites are already disturbed, care should be taken to minimize loss of vegetative cover.

Mitigation

- Carefully consider what vegetation cover to remove avoiding as much as possible indigenous trees;
- Landscaping of sites should integrate revegetated using suitable trees, shrubs etc and especially those are that locally adapted;
- Avoid alien invasive plants
- Encouraging residents to beautify the sites/increase vegetative cover as appropriate

7.3.2.6 Loss of Aesthetic Appeal

Construction activities disturb the status quo with the potential to loss of the aesthetic appeal as construction materials are stock piled by the road side; debris and other solid wastes are generated; vegetative matter is removed among other adverse impacts. Stagnant pools of water may also be seen especially during the rainy season. In the case of the proposed activities, public consultation meetings revealed that development of road and drainage infrastructure may affect existing septic tanks which were constructed on road reserves. This can have very serious impacts as the grey and black water could collect in the trenches being dug.

Mitigation

- Ensure that all construction wastes are collected from site and disposed of appropriately;
- All disturbed areas are restored;
- Landscaping as appropriate is undertaken.
- Use screens where possible to shield the community from the construction activities.

7.3.2.7 Impacts on Climate Change

An increase in air pollution within the project area will contribute to the increase in GHGs within the project area's atmosphere. Although the impact may be seen as minimal, any action towards reducing the emission of GHG gases and capitalizing on climate change adaptation measures, aligns to the National goal and the guidelines of the Paris Agreement which Kenya has ratified.

Mitigation

Similar to the mitigation measure against air pollution, strategies that will mitigate the release of GHGs include;

- Ensure that all machinery being used are well serviced. In addition, construction camps should be sited a bit far from dense human settlements.

- Conduct quarterly air quality analysis within the project to assess the air quality in comparison to the baseline air quality assessment initially tested.
- Reduce the number of privately driven project vehicles and opt for buses or vans that transport more people from the camp to the work fronts.
- Create awareness among the drivers and equipment operators to ensure that the vehicles and equipment are switched off whenever they are not in use.
- Use clean fuel from reputable fuel providers. Adulterated fuel can cause more pollution as its combustion is impacted.

However, given that Climate change adaptation measures are paramount as part of Climate mainstreaming within the project, the contractor should;

- Use sustainable measures to extract materials for construction that will not contribute to an increase in soil erosion. This includes not extracting material from hill slopes, reduce the slopes of quarries, and adopt planting of grass or trees or use stone pitching to hold soil together among others.
- In the design, the size of the drains, type of materials selected to be used, and topography of the area, Natural River and stream channels should all be considered before the project is implemented.
- Having relatively polluted area due to dust and pollen, the contractor should increase awareness of among the employees on the possibility of having respiratory illnesses triggered, and should ensure that all persons undergo pre-employment medical examination in order to identify and protect persons with increased sensitivity in their respiratory systems.

7.3.2.8 Disruption of Normal Life in the Settlements

Business may be significantly affected especially that movement of their goods through the already congested roads, will be worsened due to the presence of project vehicles and equipment, and an influx of workers. Increase in noise levels, dust production, waste production, water use conflicts may result in significant social issues that will be raised by the community.

Mitigation

- Increasing awareness to the population on the expected project scope, its duration, impacts and mitigation will help in managing their expectations and prepare them for short term disturbance. Listening to their suggestions on how to alleviate this to make their work easier and implementing their suggestions as far as reasonably possible will ease the transition pre-project, during project, and post project in terms of disturbance.
- Avoid any natural resource use conflicts but working with SEC and CPCT to identify the most suitable material sources.
- Ensure that the grievance redress mechanism is robust and implementable through the course of the project.
- Involve the community members in decision making whenever possible, such as in management of labour. Reduce the number of migrant workers into the project unless it is very necessary.

7.3.2.9 Increase in Respiratory Diseases:

Dirt from dust cloud can cause respiratory complications whiles also affecting cleanliness and hygiene within these settlements e.g. dirtying cloths and contaminating foods etc.

Traffic congestion: Automobile traffic is expected to rise significantly due to movement of raw materials (road construction and any other) from source, as well as the movement of wastes from the sites; in addition to the normal traffic. Movement of heavy machinery for road construction (excavators and graders) is expected to affect the movement within these settlements. Various works such as excavations and closure of access routes being constructed will affect the smooth flow of traffic.

Mitigation Measures:

- Minimize potential sources of causative factors, for example, ensure dust minimization during the construction phase through sprinkling water regularly;
- As much as possible, meticulously identify in collaboration with the residents' location of septic tanks to minimize destruction and leakage during the construction phase;
- Evacuate septic tanks before construction commences;
- Provide alternative vending platforms for traders whose business premises would be affected by the construction of infrastructure in the neighborhood. These can be identified in consultation with the residents and the SECs in each informal settlement;
- Ensure that excess excavated materials/construction debris (not used for backfilling) is not dumped on public access routes but is removed as it is generated to another carefully identified location (could backfill existing quarries);
- Manage traffic in and out of the settlements during the construction phase continuously to avoid unnecessary traffic jams especially that caused by closure of sections of the roads during that phase.

7.3.2.10 Water Contamination and Water Quality Degradation

Surface water especially open streams are at risk of contamination, siltation and degradation by soils, spillages and waste discharges. These impacts will be onsite and may also extend to offsite if appropriate mitigation measures are not employed. During the improvement works there is potential risk of water pollution as a result of leakage from sanitary and liquid waste holding/septic tanks facilities. Oils and greases from fueling, servicing and maintenance of vehicles, plant and equipment, as well as storage facilities could be washed away into rivers and streams contaminating them. Ground water resources especially in shallow wells might also get contaminated due to seepage and leaching. Water contamination by leaking septic tanks can spread water borne diseases. Polluted stagnant waters also emit foul stench compromising human comfort. In addition, construction wastes/debris if not disposed of properly may pollute water resources.

Mitigation Measures

To prevent water contamination and quality degradation, the following measures will be employed:

- Implement measures proposed above to contain the problem of soil erosion;
- Map all the septic tanks that will be affected by road and drainage construction; exhaust the septic tanks before works commence and construct adequate public toilets for use as an alternative during the construction phase;
- Put measures in place that ensure in the future people are not constructing septic tanks on the reserve which could lead to a repeat of the problem in the future during road maintenance;

- Where sewer lines will be done as part of the KISIP improvement activities, ensure that they are clearly mapped/marked and communicate the same to the residents to avoid future problems;
- Ensure appropriate management of oils and greases used in the plant and machinery to avoid spillage/overflows. In addition, if oils and greases are to be stored, this should be on an impervious surface that is bunded to contain any spillage/overflow;
- Have appropriate measures in place for storing and managing used oils;
- Solid waste, another contaminant of surface waters should be managed effectively through regular collection, reuse, recycling. Waste segregation should be promoted at the household level;
- Ensure that activities that can potentially contaminate water are undertaken away from surface waters and any other water points;
- During the construction phase, the risk of water contamination may be increased, therefore, there should be a campaign to make residents aware of the need to boil/treat water before drinking.

7.3.2.11 Occupational Health and Safety Impacts

Trenching and excavation during infrastructure development creates pits and trenches which are potentially dangerous to people and animals if they fall into them. Such areas should be marked with a red tape to communicate to people of the potential hazards. Due to the high density of people in these settlements, there is need to create awareness on the potential dangers. Other occupational and safety impacts may arise from accidents while operating machinery and equipment, construction activities, respiratory diseases arising from dust inhalation during road and other construction activities, exposure to loud noises/vibrations and fires. Accidents can also occur as road construction workers are hit by vehicles while doing their work.

Mitigation measures

- Caution signage should be erected at strategic points within the settlement to alert motorists and pedestrians of potential risks;
- Construction workers on roads should be fully kitted (reflector jackets, heavy boots, and helmet, gloves) full time whenever engaged in roads construction activities;
- Brief construction workers about protocols to be observed while deployed at work;
- Excavated areas and trenches should be barricaded off and fenced to control access and minimize physical hazards such as falling into ditches/trenches and especially for children.
- Well serviced fires fighting equipment e.g. extinguishers to be provided/ strategically positioned in road construction camps;
- First aid kits on site to be provided and readily accessible;
- Ensure there are well trained first aid givers on site;
- Follow other requirements of OSHA as stipulated such as having a register of all incidents and documenting all such incidents, registering any places where works will be undertaken among others.

7.3.2.12 Traffic Accidents

Vehicles ferrying road construction materials to the sites can lead to increased road accidents. Improved and tarred roads also always lead to motorists driving at high speeds which can lead to

increased incidences of accidents. This problem is compounded by the high human traffic within the targeted settlements. Death and injury can result from such accidents especially of children.

Mitigation

- Set speed limits for residential zones should be adhered to and where necessary be reviewed to suit the circumstances;
- Erect road signage indicating allowed speed limits especially near high human traffic crossings, schools and institutions;
- Manage traffic in the settlement during the construction phase in collaboration with the relevant agencies;
- Plan a schedule for material supply to the site during hours that pupils are in classrooms to minimize accidents;
- Ensure all the drivers serving the site are sober and not under any substances influence.
- Brief drivers, plant and equipment operators about expected conduct when ferrying materials, grading and using other types of plant and equipment;
- Brief residents about potential hazards during project implementation and operation and the need to obey traffic signs and other requirements.

7.3.2.13 Land/Resource Use Conflicts

Some of the residents have encroached on the road reserves (houses or supporting infrastructure such as septic tanks) and they may feel aggrieved when required to relocate and/or their assets are demolished. Others may also not have encroached but may have to cede their land to allow for development of infrastructure. In addition, sourcing of local materials needed for construction (stone, gravel, sand, and ballast) can lead to conflicts with other users. In addition, water needed during construction can deplete the available water resources to the residents.

Mitigation Measures

- Hold early consultations with the affected persons and explain the actions to be taken early enough (affected persons have been identified in the RAP);
- Prompt payment of compensation where this is due;
- During the planning and design phase, sources of construction materials should be identified bearing in mind the needs of the local people.
- Contractor will hold consultations with the local communities and government agencies in each of the settlements with a view to discussing any potential resource use conflicts that may arise and come up with a strategy of how to avoid them. Of importance are the sources of water which may diminish available supplies to the settlements
- In addition, careful identification of the water sources to be used during the construction phase should be done by the contractor during the planning and design phase and possibly, this should not be from any community water sources.

7.3.2.14 High influx of labor for construction workers

In search of a better source of living, several persons both within and outside the project area will migrate into the project area to seek either skilled or unskilled work. Potentially, a high influx of laborers will put a strain on available natural and man-made resources resulting in resource use conflicts, hike in basic

commodities for community members, increased crime rate, increased gender based violence cases among other concerns.

Mitigation:

- Ensure that the majority of skilled and unskilled workers are sourced from the community members.
- Develop a labour management plan that gives guidance for hiring skilled and/or unskilled labour.
- Develop and implement a robust grievance redress mechanism that guides in handling labor-related grievances.
- Ensuring that all hires are engaged after a written contract is drafted, shared with the potential employees and signed to accept the terms of the contract. The employment must clearly state the pay, leave allowances, disciplinary measures, termination, and grievance redress among others.
- Labour management should be transparent and the SEC should be actively engaged to reduce the risk of labour-related grievances.
- Community concerns on labour management should be quickly addressed to avoid exacerbating the situation.

7.3.2.15 Spread of Communicable and Vector Borne Diseases

Incidence of vector borne diseases (Cholera, typhoid, dysentery, malaria) could potentially increase due to leakage of septic/sewerage system during road/drainage construction. Trenching/excavation creates ponding and/or stagnant pools of water which provides ideal breeding grounds for disease vectors. Dumping of construction wastes on the natural drainage channels could also obstruct the free flow of water leading to ponding.

Mitigation:

- Clearly map the location of septic tanks/sewer lines before commencement of trenching/excavation for road and drainage construction and avoid them;
- Ensure those selling food to construction workers are sensitized about proper food handling practices including having Food Handlers Certificates;
- Promote boiling of drinking water and/or treating it;
- Promote hand washing and provide hand washing basins with soap at strategic locations for ease of access by the construction workers;
- Promote adequate sanitary facilities that should be regularly cleaned and disinfected;
- Provide for alternative latrines before commencement of any works and evacuate existing toilets;
- Constantly monitor for leakages during construction and contain them to prevent over flow and spreading of both grey and black water;
- Backfill trenches and ditches as soon as possible and where septic tanks are damaged, contain any potential leakage;
- Sensitize those working on the project as well as residents about the potential risks of contracting HIV/AIDS and other STIs due to sexual interactions between them;
- Locate construction camps away from the settlements being up graded.

7.3.2.16 Spread of HIV/AIDS

HIV/AIDs and other STIs could increase if external labor is brought into the settlements. On the other hand, construction workers brought into the area by the project could also get infected by HIV and AIDs through interactions with the residents of these settlements. These diseases could be fatal if not diagnosed and treated immediately.

Mitigation

- Raise awareness of the risks of contracting AIDS/HIV among the population (site residents from construction workers and vice versa. This can be done through barazas, poster and any other appropriate means as identified on the ground.
- Contractor to also raise awareness among their workers not to engage in irresponsible sexual behavior with the residents
- Provide voluntary Counseling and Testing Services (VCT) in the construction camps as well in the villages

7.3.2.17 Child Labor/Exploitation

There is potential of children being engaged in the project construction activities and also risk of child abuse by the project workers.

Mitigation

- Implement child protection strategy to prevent or mitigate abuse or any child protection concern.
- Ensure no employment of persons below eighteen years in any KISIP related construction activities whether on site or offsite.
- Ensure every potential job seeker presents an original national identity card during recruitment
- Ensure no children are engaged in Gender based Violence/Sexual Harassment

7.3.2.18 Gender Based Violence, Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)

GBV and more so sexual exploitation and abuse (SEA) of communities and sexual harassment (SH) amongst can potentially occur with women being more vulnerable especially when seeking employment during this phase of the project. The Contractor should ensure that this does not happen by implementing the following:

Mitigation

- Contractor to develop and Implement policy on sexual exploitation/harassment and Gender based violence.
- The contractor to develop and implement grievance redress mechanism including non-retaliation of whistle-blower, the GRM strategy will be specific in handling of GBV, SEA and SH (sexual harassment cases) that will ensure survivor centred approach and confidentiality.
- The contractor will develop a whistle blower strategy ;
- Implement the signing of Code of Conduct before deployment to site after recruitment.
- Undertake gender mainstreaming during the construction phase
- Disseminate the policy among all the staff and SEC;
- Put in place measures for monitoring GBV/sexual harassment;

- Create awareness among women and men on GBV and SEA risks including reporting and referral pathways
- Have deterrent/punitive measures for any offenders reported.

7.3.2.19 Exclusion of Disadvantaged and Vulnerable Groups e.g. VMGs, PWDs, elderly, youth, the sick, the poor, single women, OVC etc.

These groups of people might be left out in terms of participation in the project activities hence not fully benefiting from the proposed project.

Mitigation

- Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs
- Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities
- Undertake recruitment transparently, while ensuring the inclusion of VMGs

7.3.2.20 Inadequate Stakeholder Engagement

Adequate understanding and managing project stakeholders and knowing their expectations and limitations will contribute to successful implementation of the proposed project. The contractor to ensure adequate engagement of project community through the following;

- Development and implementation of a stakeholder engagement plan
- Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan

7.3.2.21 Ineffective GRM

Given that VMGs and PWDs often face the most obstacles in accessing and using GRMs, throughout the construction phase special attention must be given to incorporating all GRM levels to make them participatory and socially inclusive. The project should ensure an effective GRM through the following,

- Proper facilitation and capacity building to make the GRM an effective conduit for grievances redress
- Project to ensure sensitization of the GRM, its procedures, the levels or officers to whom different types of grievances should be addressed and other relevant information.

7.4 Operational Phase

7.4.1 Negative Impacts during Operation Phase

7.4.1.1 Physical Hazards/Traffic Accidents

Improvements in the roads may lead to people driving through the settlements at high speed which may lead to accidents. Motor bikes (Bodaboda) which has become a mode of transportation for many people now in Kenya and who have a knack for not following any traffic rules could also lead to an increase in the number of accidents in the settlements. If the drainage system to be constructed will be an open one, there is the risk of people falling into them which could be serious depending on their size.

Mitigation Measures

- Set speed limits for residential zones should be adhered to and where necessary be reviewed to suit the circumstances. It should also be made clear to the boda bodas operators that they should also obey the allowed speed limits and other traffic regulations;
- Erect road signage indicating allowed speed limits especially near high human traffic crossings, schools and institutions.
- Erect speed bumps where found necessary;
- Ensure infrastructure such as foot paths are only used by human traffic and not Boda.
- The youth can play a critical role in enforcing this and/or the boda riders can be organized into an association that monitors and censure those violating the stipulated guidelines.

7.4.1.2 Water Contamination

Illegal connections to water supply pipelines which is common in informal settlements can lead to water contamination. While one of the goals of the proposed project is to increase access to good quality drinking water, this can negate the process significantly with the potential of spread of water borne diseases. This would lead to the non-realization of a reduction in water borne disease burden among the residents.

Mitigation Measures

- Sensitize the residents about the risks of illegal connections and that it is an offence;
- SEC to put mechanisms in place of monitoring illegal water connections.

7.4.1.3 Loss of Water/Improper Management of Water Resources

Lack of maintenance of the water pipelines and non-replacement of leaking taps could lead to loss of water. Water will be provided through kiosks to the vendors, therefore at the point of water collection, care must be taken to minimize wastage. In addition, illegal connections to the extended pipeline indirectly affect water supply due to unaccounted consumption which in turn leads to inefficiencies/revenue loss to the service water provider, thus creating in them an inability to meet their mandate

Mitigation Measures:

- Sensitize the residents on the need to protect the water pipeline/supplies in each of the settlements;
- Undertake community policing to ensure that there are no illegal connections and have a mechanism of reporting and addressing such incidents;
- Ensure water is metered at the kiosk for accountability and train the vendor on how to document water given out/sold;
- Regularly monitor pipeline for leakages and repair them immediately;
- Ensure fair pricing of supplied water to ensure broader affordability among the residents;
- Create awareness on prudent and sustainable management of water resources including recycling of waste water especially that used for cleaning /rinsing household items. This could be used for establishing kitchen gardens at the household level where feasible.

7.4.1.4 Vandalism of Installed Infrastructure

While vandalism of installed infrastructure (street lights, guard rails and water meters among other portable items) is not an impact of the proposed project and is already occurring even without the

project, it will affect the non-realization of the expected project benefits. High prevalence of criminal activities within these settlements is fueled by poverty, limited economic activities, drugs and substances abuse also affects installed public amenities Drug and substances abuse is also a proven contributor to vandalism as the addicts seek cheap means of raising funds for their craving habits. Collaboration with corrupt individual in the public utilities institution also fuels the continued vandalism of installed infrastructures. Malice especially towards installation meant to boost security during the night will most probably occur as the perpetrators seek to create conducive environments for their activities.

Consequences of vandalism negatively affect those meant to benefit from the improvement works. Security deterioration is linked to lack of proper lighting especially at night in these poorly planned settlements. Financial loss due to looting and breakage of installations that will also result into high maintenance, repair and replacement costs. Proper supply of key resources especially water and power will be greatly affected due to breakdowns.

Mitigation Measures:

- Strengthen community policing efforts working in collaboration with the chiefs and administrative police to curb such crimes;
- Implement youth counselling programs to deter them from engaging in criminal activities, drugs and substance abuse etc.
- Security patrols should be enhanced to boost monitoring of key installations.
- Site installations with a potential for being vandalized in more secure areas and also reinforce them as much as possible.

7.4.1.5 In Migration of People Putting Pressure on Existing Services

In migration is likely to occur due to attraction of the people by the proposed improvements in infrastructure which will put pressure on some of the resources and services such as water supply, sanitation and roads.

Mitigation Measures

- Project design to project expected increase of people into the settlements so as to ensure a steady supply of water and adequate sanitation facilities among others. In addition, project planning and design should factor people serviced by the existing water supply lines as well as sewers that are to be recipients of waste from the sites to be improved so as not to create a problem to existing communities (less water available for them) and overload of recipient sewerage system.

7.4.1.6 Public Health Issues

Waste generation will increase with population growth and is a major hazard considering current management challenges. Deterioration of moral may also rise resulting to irresponsible behaviors like prostitution, drug and substances abuse and criminal activities. Transmittable diseases prevalence may rise due to the high population mostly related to contamination of water, food and also resulting from irresponsible behaviors e.g. prostitution. Increased waste generation also raises the possibilities of pollution resulting into water and food contaminations and a rise in related communicable diseases such as cholera. Increased pressure on available sanitary facilities may complicate human waste disposal resulting into pollution, HIV and STI prevalence may considerably rise due to moral decay, drugs and substances abuse.

Mitigation measures:

- Continuously create awareness about public health issues in each respective settlement including HIV/AIDS;
- Provide VCT services in each site including condoms;
- Monitoring of key driver to be regularly conducted while responsible enforcement agencies to ensure public health regulations are adhered to

7.4.1.7 Pressure on Resources and Amenities due to in Migration

Improved accessibility and sanitation facilities, better supply of water and power, enhanced security are likely to lure more people to migrate to these settlements. This will put pressure on available resource as the population increases within these settlements thereby burdening already outstretched social amenities and resources.

In addition, more wastes will be generated compounding the current waste management problem. Risks related to these pressures include pollution of water resources and the resultant increase in water borne diseases, inadequate water supply which reverse the gains made by the project; sewer line/septic tanks overloads leading to leaking and environmental pollution, traffic congestion and increased vulnerability to disasters such as fires. Conflicts may also arise in competition to control and access the limited available resources and amenities.

Mitigations:

- Adherence to physical planning regulations and enforcement can help in development control and population growth within these settlements;
- Community participation in the planning for available resources allocation and distribution is encouraged to address potential conflicts.
- Community policing should be enhanced to monitor and provide surveillance to installed infrastructure for the benefit of all;
- Infrastructure development and improvement of livelihood opportunities in other parts of the county can greatly help in controlling migration into these settlements providing relief to the strained resources and facilities. This however is outside the scope of this project and is more of a responsibility of the County government and the Ministry of Lands, Housing and Urban Development where KISIP is domiciled. Stakeholders at the national level must engage about the underlying factors, causes of proliferation and expansion of slums/informal settlements throughout the Country.

7.4.1.8 Inadequate Stakeholder Engagement

With the implementation of the projects, stakeholder consultation on the management of projects is key. Insufficient or discontinued stakeholder consultation could lead to neglect of the implemented projects.

Mitigation

- Continuous engagement of stakeholders to gather comments, suggestions, and concerns of the various parties on the continuity of the project
- Continuous sensitization to build community acceptance and ownership of the implemented projects

7.5 Decommissioning

All undesired effects of the construction phase of the project will be carefully decommissioned. These will include but not limited to:

- Borrow pits and other sites where materials were being stored. The borrow pits should be backfilled and restored by planting trees/vegetative cover using indigenous tree species;
- All trenches/excavated areas will also be back filled
- Septic tanks, toilets not in use will also be filled with soil/materials (part of the construction wastes/debris could be used in this;
- Construction camps if any were done during the construction phase. The use to which the sites will be put to will be agreed between the contractor, local community represented by the SEC and the County government.

In general, anything that was used during implementation of project activities as well as those directly related to the project. Potential impacts of the decommissioning phase include:

- Noise and excessive vibrations
- Dust;
- Generation of solid waste

Mitigation (to be mitigated as recommended for similar impacts during the construction phase).

8 Environmental and Social Management Plan (ESMP)

8.1 Overview of the ESMP

This plan outlines the potential impacts anticipated as a result of implementation of the proposed project, summarizes the proposed mitigation measures and how monitoring will be undertaken during the various phases of the projects implementation.

8.1.1 The ESMP Principles

Implementation of KISIP program will adhere to the EMCA, 1999 and the EMCA (amendment Act, 2015) and all other related sectoral laws and regulations as provided for in Chapter Three of this report. The overriding goal will be to ensure that KISIP activities cause minimal harm to the environment while overall having a positive impact on the wellbeing of the project beneficiaries as well as on the environment. In addition, this aim extends to ensure the lives of those socially impacted physically or economically through displacement is improved or at least restored to its previous level. This will entail constant and regular consultations, evaluations in addition to reviewing the design aspects and modes of operation throughout the entire project cycle. Some of the factors to be taken into consideration during project implementation include;

- Preservation of zones that have natural aesthetic within and around the projects sites;
- Soil, ground and surface waters protection;
- Prevention and mitigation of air, noise and vibration impacts;
- Adherence to the legal statutes relevant to the projects activities;
- Stakeholders' engagement and regular consultations;
- Enhanced integration of environmental, social and economic functions across the entire project framework;
- Enhancing equity and maximizing socioeconomic benefits for the local community through extended income generation such as employment opportunities;
- Improvement, or at least restoration of the lives/livelihoods of Project Affected Persons (PAPs).
- This environment management plan identifies measures needed to address adverse impacts identified and guides implementation of actions to mitigate such impacts as well as who is responsible.

8.1.2 Purpose and Objectives of this Environmental and Social Impact Management Plan

- Ensure that the proposed KISIP projects are implemented without adversely affecting the environment, human health and welfare in general;
- Providing appropriate mitigation measures for all adverse impacts identified to guide their implementation;
- Facilitate monitoring of key environmental variables and indicators during the various program phases to check the effectiveness of mitigation measures with a view to instituting adaptive mitigation and management when necessary

Monitoring plan implementation will be an integral part of ESMP implementation and will focus on:

Implementation and Effectiveness of Mitigation Measures:

The objective is to assess whether interventions (mitigation measures) have been implemented as recommended, and if they were having the desired outcomes.

Unanticipated and undesired impacts of the project will also be monitored with the goal of undertaking adaptive mitigation.

Compliance Monitoring:

The objective is to ensure that specific conditions or standards, for example, periodic checks to determine whether levels of pollution or water abstraction thresholds are within limits specified in the Environmental Mitigation and Monitoring Plans as required by the various statutes. Thresholds for compliance monitoring are guided but not limited to:

- Waste Management Regulations, 2006 (Legal Notice 121)
- Noise and Excessive Vibrations Regulations 2006
- Occupational Safety and Health Act (OSHA) 2007
- Water Act 2016
- Public Health Act
- Employment Act, 2012
- Children's Act, 2022
- The Bank's guidance on Managing The Risks Of Adverse Impacts On Communities From Temporary Project Induced Labor Influx
- The Bank's Environment and Social Framework

For each of the identified impacts, indicators to be monitored, monitoring responsibility, and frequency of monitoring have been identified together with an implementation timeframe.

8.2 Grievance Redress Mechanism (GRM)

8.2.1 Overview

The grievance redress mechanism is a key tool through which local communities and other stakeholders exercise their voice. It is also a way to mitigate, manage and resolve potential or realized negative impacts.

A grievance is an issue, concern or complaint raised by an individual or group affected by the project exploration, construction, or operational activities. Both concerns and complaints can result from either real or perceived impacts of a company's operations and may be filed in the same manner and handled with the same procedure.

In this Project, a grievance is NOT:

- A question or suggestion on the company or project; and/or
- An appeal or request for assistance.

8.2.2 Objective of the GRM.

- Develop an easy-access, no-cost and efficient complaint procedure for the community involved and/or impacted by the project.
- Provide the community, PAPs, and stakeholders with a clear process for raising grievances.

- Establish a system of investigation response and quick complaint resolution.
- Allow stakeholders the opportunity to raise complaints.
- Ensure that grievances are handled in a fair and transparent manner, in line with the projects' internal policies, international best practice and lender expectations.
- Install suggestion boxes for anonymity logging of complaints.

8.2.3 Principles Guiding the Project-Level GRM

Accessibility and Availability: It should be accessible to everybody who would like to submit a complaint; aid those who face barriers such as language, literacy, awareness, cost, or fear of reprisal. Linked to overall community engagement strategy.

Predictability: It should offer a clear procedure with time frames for each stage and clarity on the types of results it can and cannot deliver. Clear resolution procedures.

Fairness: Its procedures should be widely perceived as fair, especially in terms of access to information and opportunities for meaningful participation in the final decision.

Rights compatibility: Its outcomes should be consistent with applicable national and international standards and should not restrict access to other redress mechanisms.

Transparency: Its procedures and outcomes should be transparent enough to the public interest concerns at stake. Clear structured process from complaint to resolution.

Capability: It should have the necessary technical, human, and financial resources to deal with the issues at stake.

Feedback: It should serve to channel citizen feedback to improve project outcomes for the people.

8.2.4 Grievance Redress Mechanism

The consultant will develop a Grievance redress mechanism strategy that will guide the works of the contractor in Grievance management. This will be done with the absolute knowledge and participation of the existing GRC committees and KISIP county team.

The Resettlement plan framework (RPF) recommends a four-tier grievance mechanism- at the community, county, national and resolution through courts of law. It is desirable to resolve all the grievances at the community level to the greatest extent possible. To achieve the community or settlement level grievance mechanism must be credible and generally acceptable. The grievance redress mechanisms will aim to solve disputes at the earliest possible time in the interest of all parties concerned.

The first level in addressing grievances will be at the settlement. The settlement Grievance Redress committees will work jointly with the contractor's and consultant social safeguard team and will form part of the existing settlement GRC in resolving grievances brought forward. The Contractor's sociologist is expected to develop "live grievance log" that all grievance will be logged and response, status, records towards grievance resolution filed.

The second level of grievance mechanism will involve the County KISIP Implementation Committee. The committee will consider grievance reports forwarded to it from the community grievance committee and make a determination. The county level grievance redress committee will comprise of the County Coordinator, Environment officer, Social/Community Officer, Component Heads for Infrastructure, and Land tenure, Assistant Deputy County Commissioners and Ward administrator.

The third level of grievance mechanism will involve National KISIP implementation committee, which will comprise of the National project Coordinator, Heads of Components, Environment and Social Safeguard heads, and a designated Grievance Redress Officer who will be the Secretary. It will handle grievances referred to it by the county team and monitor the performance of the whole GRM for the project.

The fourth level of grievance is the Court of law which will involve the land and environment court. The legal option will only act as avenue of last resort and will be sought after all other redress mediums have been exploited and exhausted.

8.2.5 Grievance handling process

8.2.5.1 Grievance Reception/ Acceptance.

A grievance can be submitted either in writing or verbally through various mechanisms such as the grievance redress committees, stakeholders. The project community liaison officer and the contractor sociologist will be the focal point in the collection of grievances in the community and from workers. The project will also adopt the use of emails, suggestion box and phone conversations (Dedicated phone number to record grievances) in collecting grievances that are considered confidential.

There is no formal minimum requirement for submitting a grievance to enable review and management. However, the following need to be met:

- The name (s) of the complainant (s).
- Information on whether the identity of the complainant should be kept confidential (cases reported by interested and third-party stakeholders).
- Contact details (Geographical locations, telephone number, email)

Details of grievance should answer the question of how and when with detailed information of the location, time, date and the circumstances under which it happened. While the GRM is operated in English, the person picking or handling grievances will make all efforts to translate or write down grievances presented in local languages.

8.2.5.2 Acknowledgement, Assessment and Record.

The social safeguard specialist will also be the grievance officer who will receive all grievances and feedback for the project. The project will acknowledge grievances about the project from all stakeholders and the different channels mentioned. The complainant should receive an acknowledgement of receipt of the grievance within 3 days from the receipt of the complaints, in writing. The participant will be engaged in the resolution process. This process is participatory as the aggrieved can spell out his/her wishes and be part of the problem-solving process.

The grievance will be logged in the grievance register before the assessment of the grievance is done. Assessment is done to ascertain the type of grievance before relevant management is notified. Assessment of the grievance helps in the determination of the magnitude and intervention paths to be adopted and assigning responsibilities. This is expected to be done in four days within which the grievance has been received.

8.2.5.3 Investigation

Complaints may be straightforward and can often be resolved on receipt of the grievance. If not, the case requires investigation. The investigation includes gathering relevant documents, data and

maybe statements and facts as well as clarifying the background information to verify the circumstances surrounding the grievance. It also may include risk assessment, follow-up meetings between stakeholders where an impartial party is present, and minutes of the meeting recorded. The aggrieved will be continuously updated on the progress of the investigation. The investigation will be carried out within 15 days. The outcome of the investigation will include an investigation report highlighting steps and procedures, and recommendations towards grievance resolution.

8.2.5.4 Resolution

Depending on the findings and severity of a complaint, resolution and response timelines will be set with a rider and where the set timelines cannot be met due to complexity of the grievance, notification will be sent to the aggrieved. The GRM will employ the following resolution options when handling Grievances:

- i) Unilateral- Where a solution to a presented complaint is sorted internally
- ii) Bilateral- Where the complainant is involved in decision making and find solution to the Grievance.
- iii) Third party- Where an Impartial party is involved to assist in solving grievances.
- iv) Traditional and Customary Practices- Where the Traditional or customary ways of solving grievances and conflicts is used.

Grievances related to Gender based violence, sexual exploitation, and sexual harassment will be managed through the project GRM. The GRM will be enhanced to ensure GBV-SEA/SH responsive.

Written feedback and response are communicated within five days upon completion of the investigation and report done. Once the aggrieved party is satisfied with resolution a Grievance settlement form is signed to log in satisfaction and the case is considered closed. There may be a likelihood.

8.2.5.5 Consider Recourse or Appeal

Before a consideration for recourse, the Resident Engineer will review to ascertain whether additional reasonable actions are appropriate. The grievance mechanism will incorporate any appeals provision for complaints that cannot be solved by the Project – level grievance committees. The process of appeal is expected to take a period of five days towards closure of the grievance; the aggrieved will be notified if the appeal process may take longer than the outlined timing.

Recourse will be considered where there is need of involving an impartial mediator or legal action to completely resolve a case. This will in turn be communicated to the aggrieved.

8.2.5.6 Follow Up and Close Out.

Once a resolution would have been reached or a decision made to close out, the final stage will be to monitor outcomes and close out the grievance. All grievances redress activities will be recorded.

8.2.6 World Bank Grievance Redress Service (GRS)

The Grievance Redress services allows individuals and communities to submit complaints directly if they believe that a World Bank-supported project has or is likely to have adverse effects on them, their community or their environment.

8.2.7 Possible Grievances

Table 8.1: Showing Potential Sources of Grievances

Grievance Issue/Concern	Grievance Generating Activity/Condition	Nature of Grievance
Health and Safety	Material Extraction, Hauling and Storage, Construction works.	<ul style="list-style-type: none"> Diseases and Health infections due to Dust, Noise and Water Pollution Injury and Health complications of workers at the work sites.
Physical and Environmental	Construction works	<ul style="list-style-type: none"> Structure interference due to Excessive vibrations Loss of Pasture for Livestock Disruption of utility services
Social	Employment /Labour-force	<ul style="list-style-type: none"> Failure to employ locals, Underpayment & Delayed Payments, Employment of under-age. Lack of accesses to houses and shops during construction.
	Social Interactions	<ul style="list-style-type: none"> Sexual exploitation, sexual harassment, Gender based violence. Pressure on existing facilities.
Land and Settlements	Loss of structures and or livelihoods	<ul style="list-style-type: none"> Displacements and Lack/Delayed compensation
Waste Management	Poor Solid Waste Management	<ul style="list-style-type: none"> Bad odour and Land Degradation due to solid waste pollution
Water Scarcity and Storm Water Management	High Demand for water at the project site Poor Storm Water Management	<ul style="list-style-type: none"> Water shortages for domestic use and livestock Land Erosion

8.3 Grievance Redress Committee.

Community members in the selected settlements appointed new GRC members to work in KISIP II project. The GRCs for all the selected settlements were formed in 2022. There is need to conduct capacity building to the new GRC since they have not received any training. Capacity building will enable them to perform their duties efficiently.

8.3.1 Roads Construction Component

The construction of Roads and drainages have been proposed in all the settlements (Shauri Yako, Manyatta A, Manyatta B, Kibuye and Bondeni). This scope of the ESMP will therefore be applicable in all the settlements during the construction of Roads and drainages.

8.3.1.1 ESMP Pre-construction Phase

Table 8.2: Environmental and Social Management Plan_Roads and Drainage_Pre-construction

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
PLANNING STAGE								
Clearance of right of way/ Corridors	Physical and Economic Displacement	In line with the provisions of the RPF prepare and effectively implement a plan for managing land related impacts. Facilitate all affected persons and address all grievances prior to commencement of works.		<p>Consultation Minutes and signed lists of participants.</p> <p>Type and amount of facilitation /compensation provided to affected persons.</p> <p>Number of project affected persons facilitated/compensated.</p> <p>Number and Type of Grievances reported.</p> <p>Number of Grievances resolved/not resolved.</p>	RAP implementation report.	CPCT CRIC	<p>Prior to project starting</p> <ul style="list-style-type: none"> • Whenever needed 	County Internal Cost
Developing of the Site Specific ESMP	Ineffective implementation of the ESMP as guided in this ESIA report leading to contractual and	Development of a site-specific Environment and Social Management Plan adhering to the laws and the Bank's requirements		Available comprehensive C-ESMP that covers all the E&S risks as guided by the Bank	Available C-ESMP document	Contractor	Prior to the start of the Project	400,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	other E&S impacts			and the relevant statutes				
Undertaking Baseline Vibration Analysis	Gap in baseline analysis results that may result in grievances if structures are impacted and a gap in the monitoring plan	Undertake baseline vibrational analysis within the project site. At least 2 points per kilometer		Baseline Vibration analysis report	Available Vibration analysis report	Contractor	Prior to the start of the Project	300,000
Undertaking Baseline Noise and Air Quality measurement	Gap in baseline analysis results that may result in grievances and a gap in monitoring	Undertake baseline air quality and noise survey within the project site. At least 2 points per kilometer		Baseline Air and Noise quality assessment report	Available Noise and Air quality assessment report.	Contractor	Prior to the start of the Project	300,000
Preparing ESIA for the borrow pits, Camp-sites, Batch plants etc	<ul style="list-style-type: none"> Legal implications due to lack of adhering to the laws. Project stoppage by the Environment department Project delay prompting social issues. 	<ul style="list-style-type: none"> Prior identification of material sites, campsites etc that require an EIA license in order to develop/start construction. EIA reports to be reviewed and submitted to NEMA by Kisumu County 		ESIA licenses for the respective tasks as guided by the EMCA, 1999 (Rev 2015)	Available EIA reports and subsequent EIA licenses	Contractor CPCT	Prior to the start of the respective tasks	400,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Acquiring the OSHA Workplace Registration Certificate as required.	Legal implications due to lack of adherence to the law Project stoppage by DOSHS	Acquire the required Workplace registration certificates within 3 months of the development of the campsite, quarry etc		Workplace registration certificate (accompanied by Health and Safety Audit report and Fire safety audit report)	Available Workplace registration certificate	Contractor	Within first 3 months of setting up the camp	400,000
Total								1,800,000

8.3.1.2 ESMP Construction Phase

Table 8.3: Environmental and Social Management Plan_Roads and Drainage_Construction

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
CONSTRUCTION PHASE								
Excavation, trenching and high vehicular speeds	Dust	<ul style="list-style-type: none"> Establish a water sprinkling program in the dry season; Provide to workers dust masks always and ensure they use them; Control and limit speed of vehicles to about 20km/hr and ensure this is adhered to 		<ul style="list-style-type: none"> Water sprinkling undertaken/reduction in amount of dust; Availability of onsite sprinkling water bowser; On site plan for dusty sections Workers wearing dust masks always; 	<ul style="list-style-type: none"> Observations; Complaints from residents/SEC Traffic/Transport audits 	Contractor	Daily	Considered under the works contract

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
				<ul style="list-style-type: none"> Speed limit 30Km/hr. observed at construction areas and near the markets; No. of reports by Community about high dust levels 				
Gaseous emissions from operation of equipment, plant and machines	Air Pollution Fumes/Gaseous Emissions	<ul style="list-style-type: none"> Regular maintenance of equipment and machinery; Sensitize machine operators about shutting off plants not in use and Quarterly Air quality monitoring Ensure no unnecessary idling when not in use; Adhere to thresholds provided in EMCA (Air Quality Regulations) 		<ul style="list-style-type: none"> Machinery not in use shut down/not idling; % of staff sensitized; Gaseous emissions with EMCA thresholds 	<ul style="list-style-type: none"> Monitoring logs of maintenance schedules Records of machine operators sensitized 	Contractor	Routine	400,000 for quarterly air quality monitoring Other aspects to be considered under works contract
Trenching, Clear felling, Borrowing Construction materials,	Soil Erosion Rising of dust Increased acute respiratory illnesses Poor visibility for road users Blocking of available drainages	<ul style="list-style-type: none"> Stabilize disturbed soils with grass and other vegetative matter; Avoid activities that can lead to soils erosion during the rainy season; Install adequate drainage structures; Backfill trenched areas; Stabilize drainage channels with concreted or grass. 		<ul style="list-style-type: none"> % area of Land disturbed during Construction stabilized with grass or vegetative cover; Adequate drainage in place as provided for in design and stabilized accordingly; % areas of land Landscaped upon Completion of construction works 	<ul style="list-style-type: none"> Site inspection, Project records of area stabilized 	Contractor SEC, Host community CPCT	Daily	Under the works contract

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none">Implement dust control measuresSensitize workers and community on respiratory illness management including wearing of masks near construction areas.						
Improper disposal of Construction debris and lack of/poor sanitation from Construction workers.	<p>Soil, ground and water contamination</p> <p>General poor housekeeping that will increase health and safety risks</p> <p>Introduction of breeding grounds for vermin</p>	<ul style="list-style-type: none">Stockpile all construction debris/wastes and dispose in according with EMCA solid waste management guidelinesProcure qualified and approved NEMA waste handling firms;Ensure Wastes are not deposited or stored within a riparian zone/wetland and or near storm drainage channels;Provide sanitation facilities for construction workers;	<ul style="list-style-type: none">EMCA guidelines being used i.e. storage and transportation by a licensed transporter;Good housekeepingDesignated and well-marked temporary waste holding facilityNo wastes deposited any other place other than the designated area	<ul style="list-style-type: none">Field/site inspections;Solid waste operator license;Records of where waste was delivered to;Visual inspection of riparian and other public areas for	Contractor CPCT Host Community	Weekly	1,400,000	
Fueling and servicing of vehicles and heavy equipment. Management of vehicles	<p>Ground and underground contamination of soils and water</p>	<ul style="list-style-type: none">Careful fueling of vehicles, plant and equipment used during construction;Construct an impervious platform that is bundedWhere fueling and servicing of vehicles in done;	<ul style="list-style-type: none">Impervious platform that is bunded in place;Oils and fuel stains on the on the exposed groundNEMA Licensed Transporter to transport hazardous/contaminated wastes;	<p>Presence of Bunded area for fueling and servicing of vehicles</p> <p>Licensed hazardous waste handle to transport offsite</p>	Contractor	Routine	Considered in works contract	
Running equipment/ machines/ tools	<ul style="list-style-type: none">Noise and Vibrations nuisances	<ul style="list-style-type: none">A regular proper maintenance of machinery including generators;	<ul style="list-style-type: none">Noise and vibrations within allowable limits under EMCA	<ul style="list-style-type: none">Sample visits;Vehicle and equipment	Contractor	Routine	Considered in works contract	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none">Grievances from the host communityImpact on nearby structures	<ul style="list-style-type: none">Sensitization of machine operators to shut off plants not in use and ensuring no unnecessary idling;Provision of ear mufflers to those most exposed, especially that operating heavy machinery/ equipment;Adhering to the Noise and Vibrations regulations	especially near residential areas and other sources of noise;	<ul style="list-style-type: none">Maintenance and servicing records for the machinery;Noise and vibrations analysis records;Qualified plant/ machinery operators;	monitoring schedule and reports			
General construction activities	Loss of Aesthetic Value	<ul style="list-style-type: none">Ensure timely collection and disposal of all types of wastes, solid & liquid wastes generated by the project;Landscaping works upon completion of construction activities;	<ul style="list-style-type: none">No solid construction waste accumulation;Restoration and landscaping of areas affected by construction activities undertaken;	<ul style="list-style-type: none">Solid waste management practicesLandscaping	Contractor; KISIP	Routine	In the works contract	
Damaged water pipelines and sewer lines/ systems	<ul style="list-style-type: none">Waste water generationGrievances due to loss of waterEyesoreCan lead to stagnationContamination of surface and underground water sources	<ul style="list-style-type: none">Identify and mark the location of existing underground servicesImprovement of existing waste water and sewerage management systems/ structures;Putting in place appropriate measures to curb leaks and spillages;	<ul style="list-style-type: none">Reduction in number of point source discharges from damaged infrastructure;Repair of existing waste water and effluent managing structures e.g. sewerage lines;	<ul style="list-style-type: none">Physical inspections;Grievance reports	Contractor; CPCT, SEC	Routine	800,000	
Management of solid and liquid wastes	<ul style="list-style-type: none">Eruption and spread of communicable diseasesEye sore	<ul style="list-style-type: none">Sustainable management of waste (solid and effluent);Treating effluent wastes at source	<ul style="list-style-type: none">Training matrix to include community and workers training on solid and liquid wastes management	<ul style="list-style-type: none">Waste management planWaste tracking sheets	Contractor CPCT; Public Health Officer;	Weekly for solid waste and effluent;	1,000,000	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none">Increased in grievances from Host community and SECLegal disputes	<ul style="list-style-type: none">No disposal of solid or liquid wastes near water sourcesEnsure sanitary facilities are not near water sources and are well constructed and managedAvail toilets at the work fronts easily accessible to the workers.Sensitization of residents on observing proper hygiene practices e.g. proper hand washing;Monitoring and unclogging blocked drains including draining stagnant waters;		<ul style="list-style-type: none">Designated and well managed solid and liquid waste facilitiesWaste management plan	<ul style="list-style-type: none">Effluent treatment waste quarterly analysisLocation of the toilets and their general structure			
Temporary Traffic and business disruption	Livelihood Disruptions Traffic congestion	<ul style="list-style-type: none">Provision of alternative sites for relocation of business premises affected and provide vending platforms;Installation of appropriate signage to direct and control human and vehicular traffic;Provision of alternative routes of access during the construction phase;Adherence to settlement Physical Planning regulations and zoning/ spatial plans;Traffic Safety awareness through training workers and host community members, displaying traffic safety campaign posters		<ul style="list-style-type: none">Residents whose businesses are affected temporarily provided with alternative sites;Road signage to control traffic in place;Alternative routes provided;Contractor adhering to site specific settlement physical development plans/ ESMP	<ul style="list-style-type: none">Record of those affected and those provided with alternatives;Visual inspection of site to check that measures are in place;Review of plans vis a vis what the contractor was doing;Grievance records on traffic management	Contractor CPCT	Daily for Traffic Management; Monthly for Training and awareness campaigns	800,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none">• Training traffic marshals who aid in guiding traffic• Document, communicate and clearly mark alternative routes						
Driving and operation of heavy equipment	<ul style="list-style-type: none">• Road traffic accidents• Worker health and safety hazards such as crushed by equipment, entrapment etc• Increased dust emission.• Damage to alternative routes used• Damage to community assets	<ul style="list-style-type: none">• Ensure only qualified and experienced plant operators handle machinery/ equipment;• Maintain machines and equipment in proper working condition;• Control access around construction sites;• Install all relevant traffic signs and traffic safety awareness posters• Enforce and monitor a speed limit of 20km/hr within the construction area, at the campsite etc;• Training and awareness to workers and community	<ul style="list-style-type: none">• Record of licensed and approved drivers and equipment operator;• Access control barriers, management system, signs (danger signs, hazard signs etc)• Security provided around construction sites and excavations sites;• Training records	<ul style="list-style-type: none">• Qualification record of drivers and heavy equipment operators• Display of warning and danger signs on traffic safety	Contractor SEC CPCT	Monthly for training and competence records. Daily for adherence to traffic management protocol in place.		

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
General work practices (Occupational Safety and Health)	Occupational Safety and Hazards	<ul style="list-style-type: none"> • Conduct a comprehensive OHS risk assessment and outline all possible risks that arise from the various tasks; • Implement the mitigation measures outlined in the OHS risks assessment; • Develop the EHSS Management Plan; • Train all workers on General OHS as guided by OSHA 2007 • Verify competence of all workers undertaking specialized tasks such as the heavy equipment operators; • Provide all other necessary training to the workers (Traffic safety, work at height, risk assessment, First Aid, Fire safety, Manual Handling) as guided by the relevant statutes and Industry Best Practices; • Provide and ensure that all workers on site wear PPEs (reflectors, safety boots, gloves, goggles, ear muffers and breathing protection) relevant to the tasks assigned to them; • Increase OHS awareness through conspicuously display safety caution signage at strategic places within all work places; • Put in place necessary hazards and risk mitigation measures; 		<ul style="list-style-type: none"> • OHS Risk Assessment document • Site Specific Environment, Social, health and Safety Management Plan • PPE provision and monitoring plan • Training and Competence matrix outlining all training that will be done and all that have been done on a monthly basis (including toolbox talks) • Availability and easy access to first aid kits/tools; • Records of OSHA kept; 	<ul style="list-style-type: none"> • Monthly OHS inspection (housekeeping , PPE, training etc) • Quarterly OHS Audits • Availability of the OHS risks assessment document • Available EHSS Management Plan 	Contractor CPCT	<p>Daily activities for pertaining to works;</p> <p>Monthly scope specific monitoring OHS inspections</p> <p>Quarterly OHS Audits</p>	1,200,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none">• Keep records of OSHA including reported incidents;• Ensure only qualified and experienced personnel handle machinery and equipment;• Provide appropriate tools that should be in good working conditions;• Adherence to the Occupation Safety and Health Act (OSHA 2007) and subsequent regulations						
Sourcing construction water	<ul style="list-style-type: none">• Resource use conflicts• Water source contamination• Increased water borne diseases	<ul style="list-style-type: none">• Hold consultations with the SEC and CPCT with a view to discussing any potential resource use Conflicts that may arise and come up with a strategy of how to avoid them;• Identify water sources for construction during the planning and design phase and as much as possible, avoid community water sources• Acquiring the Water Abstraction Permit from the Water Resources Authority	<ul style="list-style-type: none">• Minutes of Consultative meetings held to identify water sources;• Grievance records• Map showing the approved sources of water and water abstraction point• Water abstraction permit	Grievance records	Contractor SEC CPCT	Water abstraction permit before abstraction begins Other measures monitored monthly	150,000	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Labor influx	<ul style="list-style-type: none"> Local Employment 	<ul style="list-style-type: none"> Prioritize hire of locals for all unskilled labour. Implement a local recruitment plan that is fair and transparent (including recruitment processes that ensure inclusivity of both men and women, vulnerable individuals, minority clans, ethnic groups etc. Adhere to all local labour laws and labour management practices (timely remuneration, equitable compensation for both genders for equal work etc.). Create awareness to workers and the community on worker and project grievance redress mechanism. Hiring unskilled construction and skilled (if available) labour from the local population as far as possible. Use of manual labour during excavation and construction works where possible. Prepare a labour influx plan to manage labour influx. Prepare an employment plan. Sensitizing workers and the surrounding community on awareness, prevention, and management of HIV / AIDS. 		<ul style="list-style-type: none"> Grievance raised, those aggrieved, status of resolution. Fair and Transparent local recruitment plan in place. Recruitment processes (job adverts, interviews, selection etc.) Number of Locals employed based on gender, vulnerability, Ethnic group, clan etc. Type of employment (skilled, semi-skilled and unskilled). 	<ul style="list-style-type: none"> Policy document; Interviews records; Record of incidents of GBV reported; Labour management records 	Contractor SEC CPCT	Continuously	No additional cost

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Stakeholder Engagement	<ul style="list-style-type: none"> Exclusion of Disadvantaged and Vulnerable groups. Inadequate stakeholder Engagement. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of VMGs Development and implementation of a stakeholder engagement plan Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan 		<ul style="list-style-type: none"> No of Vulnerable and Disadvantaged groups mapped in each of the settlements. Meetings and agenda of all meetings held with all stakeholders. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs
Grievance Redress Mechanism	Ineffective Grievance Management	<ul style="list-style-type: none"> Constitute a local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. Create awareness on the culturally appropriate and accessible GRM to all community segments including 		<ul style="list-style-type: none"> Local Grievances Committee in place, composition of Committee. Number of nature of cases received and logged (Updated grievance Redress logs/register. Number and type of pending Grievances. 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance Resolution forms. Minutes of meetings held with 	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> vulnerable individuals and households and CSOs Log, date, process, resolve and close out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. 		<ul style="list-style-type: none"> Number of GRC meetings conducted and grievances resolved in the GRC meetings. Number and type of facilitations done for SEC/GRC to solve Community Grievances. Awareness of community and worker's on project and worker's GRM. Number of grievances resolved in a timely manner. Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 	community towards Grievance register.			
Labour Management	<ul style="list-style-type: none"> Child Exploitation/Labour 	<ul style="list-style-type: none"> Ensuring that each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws. Ensuring that any child sexual relations offenses among contractors' workers are promptly reported to the police. Employ workers who are 18 years and above and with a valid national ID at the time of hire. 		<ul style="list-style-type: none"> Records of Child protection cases reported in the project. Develop a child protection Code of Conduct. Number of Inductions sessions on Child protection Code of Conducts. Number of refresher awareness training on 	<ul style="list-style-type: none"> Approved Code of Conduct document. Records of Employees engaged in the project. Contract documents of all employees engaged in the project. 	Contractor Resident Engineer	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Implement and monitor the employment register regularly. Comply with the national labour laws and labour management practices. Put visible signage on site “No Jobs for children.” 		<ul style="list-style-type: none"> Child protection Code of Conduct. Number of staff who have signed Code of Conduct. 				
Labour Management	<ul style="list-style-type: none"> GBV/SEA/SH 	<ul style="list-style-type: none"> Develop and implement a plan to manage the risk of SEA/SH. Map the GBV referral pathways and create awareness among women and men on the risk of SEA/SH. Ensure the GRM is SEA/SH responsive. Ensure all those with physical presence on site sign and understand the Code of Conduct. Put in place measures for monitoring GBV/sexual harassment. Contractor to develop and Implement policy on sexual exploitation/harassment and Gender based violence. The contractor to develop and implement grievance redress mechanism including non-retaliation of whistle-blower, the GRM strategy will be specific in handling of GBV, SEA and SH (sexual harassment cases) that will ensure survivor centered approach and confidentiality. 		<ul style="list-style-type: none"> Number of Inductions sessions on GBV/SEA/SH and signing of Code of Conduct. An approved Code of Conduct. Number of GBV, SEA and SH cases reported and resolved. Number of Community sensitization sessions on GBV/SEA and SH. Number of Continuous training and awareness training done through toolbox talks. Number of IEC materials done to create awareness. Number of stakeholder engagements conducted on GBV/SEA/SH. 	<ul style="list-style-type: none"> Minutes of meetings conducted. List of attendance and pictures of the stakeholder engagements. List of attendance of Toolbox talks trainings. Evidence of IEC materials used. Signed Codes of Conducts 	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> The contractor will develop a whistle blower strategy ; Implement the signing of Code of Conduct before deployment to site after recruitment. Undertake gender mainstreaming during the construction phase Disseminate the policy among all the staff and SEC; Put in place measures for monitoring GBV/sexual harassment. Create awareness among women and men on GBV and SEA risks including reporting and referral pathways. 		<ul style="list-style-type: none"> Establishment of a grievance responsive GRM. 				
Total Cost for Construction Phase								4,350,000

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8.3.1.3 ESMP Operational Phase Roads and Drainages

During operation, several impacts, are expected, and planning for their mitigation is paramount.

Table 8.4: Environmental and Social Management Plan_Roads and Drainage_Operation phase

Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Poor Solid Waste Generation and Disposal	<ul style="list-style-type: none">• Negative Visual Impact• Clogged drainages• Increase of vermin within the settlement• Increase of water borne diseases	<ul style="list-style-type: none">• Encourage resident’s participation in waste management initiatives;• Provide waste skips at strategic locations such as the markets• Discourage open dumping at non-designated places;• Promote at source waste separation, reduction, reuse and recycling;• Build capacity of residents to embrace waste reduction, reuse and recycling e.g. composting organic waste;• Utilize designated waste collection points;• Engage the services of approved waste handlers;• Adherence to Waste Management regulations of 2006;	<ul style="list-style-type: none">• Training and awareness records, posters.• Available Waste Skips strategically placed within the settlement• Reduced/no littering within the settlement• Removal of wastes from the skips by County team when they are full.	<ul style="list-style-type: none">• Available waste skips• Use of the skips by the residents• Waste management plan implemented by the CPCT• 	SEC/CPCT County government	Monthly	Internal Costs	
Piles of waste provide breeding grounds for disease vectors	Outbreak of Diseases	<ul style="list-style-type: none">• Ensure waste are collected from households and disposed of appropriately;	<ul style="list-style-type: none">• Mechanisms for waste collection in place;• Responsibility for cleaning drains;	<ul style="list-style-type: none">• Records of waste collection• Drainage maintenance plan	SEC County Government (road maintenance/	Routine	County Internal Cost	

Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none">• Drain/fill all pools of stagnant water;• Clear drains regularly;• Waste from desludging to be kept far from human settlements, rivers, streams and wetlands;• Prevention of ponding assigned;			<ul style="list-style-type: none">• Public health reports on spread of vector borne diseases	environment department CPCT		
Reckless driving	Increase in the number of Road Traffic Accidents	<ul style="list-style-type: none">• Audit the road to check that the safety infrastructure are effective (speed bumps, road markings, road signs etc)• Increase road safety awareness through road safety campaigns in the mass media, awareness posters, training in schools, churches etc• Design and implement hefty fines system for reckless drivers	<ul style="list-style-type: none">• Number of road traffic accidents• Number and spread of road safety campaigns done• Number of road safety violators/reckless drivers identified and fined	<ul style="list-style-type: none">• RTA reports• Success factor reports for road safety campaigns	CPCT Traffic Police KURA/KERRA County offices	Monthly	County Internal costs	
Insecurity, inadequate monitoring measures and poor community policing;	Vandalism and infrastructure damage	<ul style="list-style-type: none">• Enhance community policing;• Boost security and patrol activities;• Liaison between residents and security organs to enhance security;• Frequent inspection of infrastructure state;	<ul style="list-style-type: none">• Apprehension and prosecution of culprits of vandalism and those that maliciously with supply lines;• Establishment and embracing community policing e.g. Nyumba Kumi initiative;	<ul style="list-style-type: none">• Incidence of vandalism reported;	Residents; Local administratio n;	Routine	County Internal Costs	

Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Stakeholder Engagement	<ul style="list-style-type: none"> Exclusion of Disadvantaged and Vulnerable groups. Inadequate stakeholder Engagement. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of VMGs Development and implementation of a stakeholder engagement plan Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan 		<ul style="list-style-type: none"> No of Vulnerable and Disadvantaged groups mapped in each of the settlements. Meetings and agenda of all meetings held with all stakeholders. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuousl y	Stakeholder engagement costs

Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs Log, date, process, resolve and close out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. 		<ul style="list-style-type: none"> Local Grievances Committee in place, composition of Committee. Number of nature of cases received and logged (Updated grievance Redress logs/register. Number and type of pending Grievances. Number of GRC meetings conducted and grievances resolved in the GRC meetings. Number and type of facilitations done for SEC/GRC to solve Community Grievances. Awareness of community and worker's on project and worker's GRM. Number of grievances resolved in a timely manner. Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance Resolution forms. Minutes of meetings held with community towards Grievance register. 	Contractor Resident Engineer CPCT GRC SEC	Continuousl y	No additional cost.

8.3.1.4 ESMP Decommissioning Phase

Table 8.5: Environmental and Social Management Plan_Roads and Drainage_Decommissioning

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Demolition of camp site	<ul style="list-style-type: none"> • Solid construction waste generation • Increase in Health and Safety Incidents 	<ul style="list-style-type: none"> • Avoid decommissioning by liaising with CPCT and SEC to retain structures to be used by community if possible • Timely collection and disposal of construction wastes and debris by NEMA approved collector; • Identify those who can reuse or recycle aspects of the waste and deliver them such wastes there; • Consistent Health and safety management with competent HSE personnel, equipment operators etc 		<ul style="list-style-type: none"> • Documented agreement with the CPCT and SEC to retain the camp facilities if possible and desired • No construction waste on site and/or dumped near site; • Amount of wastes recycled/reused and who; 	<ul style="list-style-type: none"> • Records of recycled or reused wastes; • Fully rehabilitated campsite (either used by community or removed by the contractor to its original state) 	Contractor CPCT SEC	Once after completion of the project	1,000,000
Rehabilitation of material sites	<ul style="list-style-type: none"> • Grievances due to poorly rehabilitated material sites • Introduction of invasive plant species • Incidents with the heavy equipment 	<ul style="list-style-type: none"> • Develop and implement an approved rehabilitation plan • Liaise with Forestry department to identify and get approved seedlings that should be planted • Acquire good backfill material that does not endanger the life of the humans, animals and plants 		<ul style="list-style-type: none"> • An approved rehabilitation plan with the rehabilitation schedule detailed • Well rehabilitated material site governed by the rehabilitation plan • Grievance reports 	A well rehabilitated material site that has been approved by SEC and CPCT	Contractor County Forest Department CPCT SEC	Routine after project implementation	1,200,000

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> • Ensure that the material sites are fully rehabilitated before giving submitting final invoice for payment • Ensure supervision and approval of rehabilitated sites are done in collaboration with the SEC. 					
Decommissioning of roads and drainages	<ul style="list-style-type: none"> • Grievances due to the loss of accessible roads • Health and Safety incidents during the decommissioning phase • Rising of dust • Increase amount of non-recyclable waste material • Impact on service lines (water, sewer and lighting) • Impact on community assets along the road corridor • Increase in noise pollution • Increase in surface run-off due to poor drainage • Stagnation of water • Increase in available land for other uses 	<ul style="list-style-type: none"> • Waste management plan with identified locations for disposal, re-use or re-purposing the waste material • A well developed and approved road decommissioning plan • Health and Safety Management Plan for the phase • Acquisition of all approvals, licenses, permits from relevant national and county government authorities 	<ul style="list-style-type: none"> • Well documented and approved decommissioning plan, waste management plan, health and safety plan etc • Available permits, licenses and approvals prior to the start of the decommissioning task 	<ul style="list-style-type: none"> • Grievance reports • Permits and licenses • Management Plans 	Contractor; County Government SEC	Unforeseeable future	To be factored in at a later date

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none"> • Increase employment opportunities in 							
Labour Influx	<ul style="list-style-type: none"> • Local Employment 	<ul style="list-style-type: none"> • Prioritize hire of locals for all unskilled labour. • Implement a local recruitment plan that is fair and transparent (including recruitment processes that ensure inclusivity of both men and women, vulnerable individuals, minority clans, ethnic groups etc. • Adhere to labour laws, and labour management practices (timely remuneration, equitable compensation for both genders for equal work etc.) • Create awareness to workers and the community on worker and project grievance redress mechanisms. 		<ul style="list-style-type: none"> • Fair and transparent local recruitment plan in place. • Recruitment processes (job adverts, interviews, selection etc.). • Number of locals employed based on gender, vulnerability, ethnic group, clan etc. • Type of employment (skilled, semi-skilled and unskilled). • Grievances raised, those aggrieved, status of resolution. 	<ul style="list-style-type: none"> • Policy document; • Interviews records; • Record of incidents of GBV reported; • Labour management records 	Contractor SEC CPCT	Continuously	No additional cost
Community Engagement	<ul style="list-style-type: none"> • Local Sourcing 	<ul style="list-style-type: none"> • Source materials from local businesses/communities. • As applicable, give opportunities to businesses owned or operated by vulnerable individuals. 		<ul style="list-style-type: none"> • Number and types of businesses sourced from. • Number and types of businesses owned and operated by vulnerable individuals. 	<ul style="list-style-type: none"> • List of suppliers by gender. • Local suppliers engaged in the project 	Contractor	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Community Engagement	<ul style="list-style-type: none"> Inadequate Stakeholder Engagement Exclusion of disadvantaged and vulnerable groups. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through diverse, feasible and accessible channels of communication e.g., public forums. Introduce measures for affirmative action that would ensure especially persons with disability, the elderly and women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of disadvantaged groups. Develop and implementation of a stakeholder engagement plan. Engage stakeholders throughout the project phase as guided by the approved stakeholder engagement plan. 		<ul style="list-style-type: none"> Number of Vulnerable and disadvantaged groups mapped in each of the settlements. Minutes of all meetings held with disadvantaged/vulnerable groups. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a Local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. 		<ul style="list-style-type: none"> Local Grievances Committee in place, composition of committee. Number of nature of cases received and logged (updated GR logs/register). 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance 	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs. Log, date, process, resolve, and close-out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV, as well as anonymity. 		<ul style="list-style-type: none"> Number and type of pending grievances. Number of GRC meetings conducted and grievances resolved in the GRC meetings. Number and type of facilitations done for the SEC/GRC to solve community Grievances. Awareness of community and workers on project and worker GRMs. Number of grievances resolved in a timely manner. Number of grievances escalated to national courts and the World Bank Grievances Redress Service and Inspection Panel. 	<ul style="list-style-type: none"> Resolution forms. Minutes of meetings held with community towards Grievance register. 			
Labour Management	<ul style="list-style-type: none"> Gender Based Violence Sexual Exploitation and Abuse (SEA) and Sexual Harassment 	<ul style="list-style-type: none"> Develop and implement a policy on SEA/SH. Map the GBV referral pathways and create awareness among women and men on the risk of SEA/SH. Ensure the GRM is SEA/SH-responsive. Ensure all those with physical presence on site 		<ul style="list-style-type: none"> Number of Inductions sessions on SEA/SH. and signing of Code of Conducts. Signed Code of Conducts. Number of, SEA and SH cases reported and resolved. Number of Community 	<ul style="list-style-type: none"> Approved Code of Conduct document. Records of Employees engaged in the project. Contract documents of all 	Contractor Resident Engineer	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> sign and understand the Code of Conduct. Put in place measures for monitoring GBV/sexual harassment. 		<ul style="list-style-type: none"> sensitization sessions on SEA and SH. Number of Continuous training and awareness training done through toolbox talks. Number of IEC materials done to create awareness. Number of stakeholder engagements conducted on GBV/SEA/SH. Establishment of a grievance responsive GRM. 	employees engaged in the project.			
Labour Management	<ul style="list-style-type: none"> Child Exploitation and Abuse 	<ul style="list-style-type: none"> Ensure each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws. Ensure that any child sexual relations offenses among contractors' workers are promptly reported to the police. Employ workers who are 18 years and above, and with a valid national ID at the time of hire. 		<ul style="list-style-type: none"> Records of Child protection cases reported in the project. Develop a child protection Code of Conduct. Number of Inductions sessions on Child protection Code of Conducts. Number of refresher awareness training on Child protection Code of Conducts. Number of staff who have signed Code of Conduct. 	<ul style="list-style-type: none"> Minutes of meetings conducted. List of attendance and pictures of the stakeholder engagement s. List of attendance of Toolbox talks trainings. Evidence of IEC 	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> • Implement and monitor the employment register regularly. • Comply with the national labor laws and labour management practices. • Put visible signage on site “No Jobs for children.” 			<ul style="list-style-type: none"> • materials used. • Signed Codes of Conducts 			
Total Cost for Decommissioning Phase								2,200,000
Overall costs for Roads and Drainage ESMP								8,350,000

8.3.2 Water Supply and Sewerage Component

The proposed Water supply and sewerage system construction component will be done in Kibuye, Migosi, Manyatta B, Sangoro/Swahili, and Shauri Moyo Settlements. The environment and social impacts that have been identified for mitigation and costing are as outlined in the tables below;

8.3.2.1 ESMP Pre-Construction Phase

Table 8.6: ESMP for Water Supply and Sewerage_Pre-construction

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
PLANNING PHASE								
Clearance of right of way/ Corridors	Physical and Economic Displacement	In line with the provisions of the RPF prepare and effectively implement a plan for managing land related impacts. Facilitate all affected persons and address all grievances prior to commencement of works.		<p>Consultation Minutes and signed lists of participants.</p> <p>Type and amount of facilitation /compensation provided to affected persons.</p> <p>Number of project affected persons facilitated/compensate.</p> <p>Number and Type of Grievances reported.</p> <p>Number of Grievances resolved/not resolved.</p>	RAP implementation report.	CPCT CRIC	<p>Prior to project starting</p> <ul style="list-style-type: none"> • Whenever needed 	County Internal Cost

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Developing of the Site Specific ESMP	Ineffective implementation of the ESMP as guided in this ESIA report leading to contractual and other E&S impacts	Development of a site-specific Environment and Social Management Plan adhering to the laws and the Bank's requirements		Available comprehensive C-ESMP that covers all the E&S risks as guided by the Bank and the relevant statutes	Available C-ESMP document	Contractor	Prior to the start of the Project	400,000
Undertaking Baseline Vibration Analysis	Gap in baseline analysis results that may result in grievances if structures are impacted and a gap in the monitoring plan	Undertake baseline vibrational analysis within the project site. At least 2 points per kilometer		Baseline Vibration analysis report	Available Vibration analysis report	Contractor	Prior to the start of the Project	400,000
Undertaking Baseline Noise and Air Quality measurement	Gap in baseline analysis results that may result in grievances and a gap in monitoring	Undertake baseline air quality and noise survey within the project site. At least 2 points per kilometer		Baseline Air and Noise quality assessment report	Available Noise and Air quality assessment report.	Contractor	Prior to the start of the Project	400,000
Preparing ESIA's for the borrow pits, Camp-sites, Batch plants etc	<ul style="list-style-type: none"> Legal implications due to lack of adhering to the laws. Project stoppage by the Environment department Project delay prompting social issues. 	<ul style="list-style-type: none"> Prior identification of material sites, campsites etc that require an EIA license in order to develop/start construction. EIA reports to be reviewed and submitted to NEMA by Kisumu County 		ESIA licenses for the respective tasks as guided by the EMCA, 1999 (Rev 2015)	Available EIA reports and subsequent EIA licenses	Contractor CPCT	Prior to the start of the respective tasks	1,000,000
Acquiring the OSHA Workplace Registration Certificate as required.	Legal implications due to lack of adherence to the law	Acquire the required Workplace registration certificates within 3 months of the development of the campsite, quarry etc		Workplace registration certificate (accompanied by Health and Safety	Available Workplace registration certificate	Contractor	Within first 3 months of setting up the camp	400,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	Project stoppage by DOSHS			Audit report and Fire safety audit report)				
Total								2,600,000

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8.3.2.2 ESMP Construction Phase

Table 8.7: ESMP for Water Supply and Sewerage_Construction Phase

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
CONSTRUCTION PHASE							
Excavation and trenching	Dust emission	<ul style="list-style-type: none"> Establish a water sprinkling program in the dry season; Provide to workers dust masks always and ensure they use them; 	<ul style="list-style-type: none"> Water sprinkling undertaken/reduction in amount of dust; On site plan for dusty sections Workers wearing dust masks always. No of reports by Community about high dust levels 	<ul style="list-style-type: none"> Observations; Complaints from residents/ SEC 	Contractor	Daily	Cost included in the works contract
Excavation and trenching	<ul style="list-style-type: none"> Health and safety risks (ergonomic risks, injury through equipment etc) Increase in Soil Erosion Blockage of drainages Increase in demand for labor Partial obstruction of traffic 	<ul style="list-style-type: none"> Develop a site specific EHSS Management Plan Develop a comprehensive labour management plan in line with the Employment Act, 2012 Increase awareness among the workers and the host communities about the possible hazards and risks Align the project to ensure other facilities such as drainages and roads are not significantly impacted. 	<ul style="list-style-type: none"> Grievance reports Well documented EHSS management plan and a Labour management Plan. 				

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Trenching, Clear felling, Borrowing Construction materials	<ul style="list-style-type: none"> Soil Erosion Rising of dust Increased acute respiratory illnesses Poor visibility for road users Blocking of available drainages 	<ul style="list-style-type: none"> Stabilize disturbed soils with grass and other vegetative matter; Avoid activities that can lead to soils erosion during the rainy season; Install adequate drainage structures; Backfill trenched areas; Stabilize drainage channels with concreted or grass. Implement dust control measures Sensitize workers and community on respiratory illness management including wearing of masks near construction areas. 	<ul style="list-style-type: none"> % area of Land disturbed during Construction stabilized with grass or vegetative cover; Adequate drainage in place as provided for in design and stabilized accordingly; % areas of land Landscaped upon Completion of construction works 	<ul style="list-style-type: none"> Site inspection, Project records of area stabilized 	Contractor SEC, Host community CPCT	Routine	Under the works contract
Improper disposal of Construction debris and lack of/poor sanitation from Construction workers.	<ul style="list-style-type: none"> Soil, ground and water contamination General poor housekeeping that will increase health and safety risks Introduction of breeding grounds for vermin 	<ul style="list-style-type: none"> Stockpile all construction debris/wastes and dispose in according with EMCA solid waste management guidelines Procure qualified and approved NEMA waste handling firms; Ensure Wastes are not deposited or stored within a riparian zone/wetland and or near storm drainage channels; Provide sanitation facilities for construction workers; 	<ul style="list-style-type: none"> EMCA guidelines being used i.e. storage and transportation by a licensed transporter; Good housekeeping Designated and well-marked temporary waste holding facility No wastes deposited any other place other than the designated area 	<ul style="list-style-type: none"> Field/site inspections; Solid waste operator license; Records of where waste was delivered to; Visual inspection of riparian and other public areas for 	Contractor CPCT Host Community	Weekly	400,000

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Fueling and servicing of vehicles and other equipment. Management of vehicles	Ground and underground contamination of soils and water	<ul style="list-style-type: none"> Careful fueling of vehicles, plant and equipment used during construction; Construct an impervious platform that is bundled Where fueling and servicing of vehicles is done; 	<ul style="list-style-type: none"> Impervious platform that is bundled in place; Oils and fuel stains on the on the exposed ground NEMA Licensed Transporter to transport hazardous/contaminated wastes; 	Presence of Bunded area for fueling and servicing of vehicles Licensed hazardous waste handle to transport offsite	Contractor	Routine	Considered in works contract
Running equipment/ machines/ tools	<ul style="list-style-type: none"> Noise and Vibrations nuisances Grievances from the host community Impact on nearby structures 	<ul style="list-style-type: none"> A regular proper maintenance of machinery including generators; Sensitization of machine operators to shut off plants not in use and ensuring no unnecessary idling; Provision of ear mufflers to those most exposed, especially that operating heavy machinery/ equipment; Adhering to the Noise and Vibrations regulations 	<ul style="list-style-type: none"> Noise and vibrations within allowable limits under EMCA especially near residential areas and other sources of noise; Maintenance and servicing records for the machinery; Noise and vibrations analysis records; Qualified plant/ machinery operators; 	<ul style="list-style-type: none"> Sample visits; Vehicle and equipment monitoring schedule and reports 	Contractor	Routine	Considered in works contract
General construction activities	Loss of Aesthetic Value Health and safety concerns or incidents Public health incidents	<ul style="list-style-type: none"> Ensure timely collection and disposal of all types of wastes, solid & liquid wastes generated by the project; Landscaping works upon completion of construction activities; 	<ul style="list-style-type: none"> No solid construction waste accumulation; Restoration and landscaping of areas affected by construction activities undertaken; 	<ul style="list-style-type: none"> Solid waste management practices Landscaping 	Contractor; KISIP	Routine	In the works contract

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Damaged water pipelines and sewer lines/ systems	<ul style="list-style-type: none"> Waste water generation Grievances due to loss of water Eyesore Can lead to stagnation Contamination of surface and underground water sources 	<ul style="list-style-type: none"> Identify and mark the location of existing underground services Improvement of existing waste water and sewerage management systems/ structures; Putting in place appropriate measures to curb leaks and spillages; 	<ul style="list-style-type: none"> Reduction in number of point source discharges from damaged infrastructure; Repair of existing waste water and effluent managing structures e.g. sewerage lines; 	<ul style="list-style-type: none"> Physical inspections; Grievance reports 	Contractor; CPCT, SEC	Routine	600,000
Management of solid and liquid wastes	<ul style="list-style-type: none"> Eruption and spread of communicable diseases Eye sore Increased in grievances from Host community and SEC Legal disputes 	<ul style="list-style-type: none"> Sustainable management of waste (solid and effluent); Treating effluent wastes at source No disposal of solid or liquid wastes near water sources Ensure sanitary facilities are not near water sources and are well constructed and managed Avail toilets at the work fronts easily accessible to the workers. Sensitization of residents on observing proper hygiene practices e.g. proper hand washing; Monitoring and unclogging blocked drains including draining stagnant waters; 	<ul style="list-style-type: none"> Training matrix to include community and workers training on solid and liquid wastes management Designated and well managed solid and liquid waste facilities Waste management plan 	<ul style="list-style-type: none"> Waste management plan Waste tracking sheets Effluent treatment waste quarterly analysis Location of the toilets and their general structure 	Contractor CPCT; Public Health Officer;	Weekly for solid waste and effluent;	400,000
Temporary Traffic and	Livelihood Disruptions	<ul style="list-style-type: none"> Installation of appropriate signage to direct and control 	<ul style="list-style-type: none"> Register of Residents whose businesses are 	<ul style="list-style-type: none"> Visual inspection of site to check that 	Contractor CPCT	Daily for Traffic Management	400,000

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
business disruption	Traffic congestion	<ul style="list-style-type: none"> human and vehicular traffic; Traffic Safety awareness through training workers and host community members, displaying traffic safety campaign posters Training traffic marshals who aid in guiding traffic 	<ul style="list-style-type: none"> affected temporarily provided with alternative sites; Road signage to control traffic in place; Alternative routes provided; Contractor adhering to site specific settlement physical development plans/ ESMP 	<ul style="list-style-type: none"> measures are in place; Review of plans vis a vis what the contractor was doing; Grievance records on traffic management 		t; Monthly for Training and awareness campaigns	
Driving and operation of other equipment	<ul style="list-style-type: none"> Road traffic accidents Worker health and safety hazards such as crushed by equipment, entrapment etc Increased dust emission. Damage to community assets 	<ul style="list-style-type: none"> Ensure only qualified and experienced plant operators handle machinery/ equipment; Maintain vehicles and equipment in proper working condition; Control access around construction sites; Install all relevant traffic signs and traffic safety awareness posters Enforce and monitor a speed limit of 20km/hr within the construction area, at the campsite etc; Training and awareness to workers and community 	<ul style="list-style-type: none"> Record of licensed and approved drivers and equipment operator; Access control barriers, management system, signs (danger signs, hazard signs etc) Security provided around construction sites and excavations sites; Training records 	<ul style="list-style-type: none"> Qualification record of drivers and heavy equipment operators Display of warning and danger signs on traffic safety 	Contractor SEC CPCT	<p>Monthly for training and competence records.</p> <p>Daily for adherence to traffic management protocol in place.</p>	<p>Internal Cost</p> <p>Training and awareness cost considered</p>

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
General work practices (Occupational Safety and Health)	Occupational Safety and Hazards	<ul style="list-style-type: none"> • Conduct a comprehensive OHS risk assessment and outline all possible risks that arise from the various tasks; • Implement the mitigation measures outlined in the OHS risks assessment; • Develop the EHSS Management Plan; • Train all workers on General OHS as guided by OSHA 2007 • Verify competence of all workers undertaking specialized tasks such as the heavy equipment operators; • Provide all other necessary training to the workers (Traffic safety, work at height, risk assessment, First Aid, Fire safety, Manual Handling) as guided by the relevant statutes and Industry Best Practices; • Provide and ensure that all workers on site wear PPEs (reflectors, safety boots, gloves, goggles, ear muffers and breathing protection) relevant to the tasks assigned to them; • Increase OHS awareness through conspicuously display safety caution signage at strategic places within all work places; 	<ul style="list-style-type: none"> • OHS Risk Assessment document • Site Specific Environment, Social, health and Safety Management Plan • PPE provision and monitoring plan • Training and Competence matrix outlining all training that will be done and all that have been done on a monthly basis (including toolbox talks) • Availability and easy access to first aid kits/tools; • Records of OSHA kept; 	<ul style="list-style-type: none"> • Monthly OHS inspection (housekeeping, PPE, training etc) • Quarterly OHS Audits • Availability of the OHS risks assessment document • Available EHSS Management Plan 	Contractor CPCT	<p>Daily for activities pertaining to works;</p> <p>Monthly scope specific monitoring OHS inspections</p> <p>Quarterly OHS Audits</p>	1,200,000

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Put in place necessary hazards and risk mitigation measures; Keep records of OSHA including reported incidents; Ensure only qualified and experienced personnel handle machinery and equipment; Provide appropriate tools that should be in good working conditions; Adherence to the Occupation Safety and Health Act (OSHA 2007) and subsequent regulations 					
Sourcing construction water	<ul style="list-style-type: none"> Resource use conflicts Water source contamination Increased water borne diseases 	<ul style="list-style-type: none"> Hold consultations with the SEC and CPCT with a view to discussing any potential resource use Conflicts that may arise and come up with a strategy of how to avoid them; Identify water sources for construction during the planning and design phase and as much as possible, avoid community water sources Acquiring the Water Abstraction Permit from the Water Resources Authority 	<ul style="list-style-type: none"> Minutes of Consultative meetings held to identify water sources; Grievance records Map showing the approved sources of water and water abstraction point Water abstraction permit 	Grievance records	Contractor SEC CPCT	<p>Water abstraction permit before abstraction begins</p> <p>Other measures monitored monthly</p>	100,000 (to facilitate consultative meeting)

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Labor influx	<ul style="list-style-type: none"> Local Employment 	<ul style="list-style-type: none"> Prioritize hire of locals for all unskilled labour. Implement a local recruitment plan that is fair and transparent (including recruitment processes that ensure inclusivity of both men and women, vulnerable individuals, minority clans, ethnic groups etc. Adhere to all local labour laws and labour management practices (timely remuneration, equitable compensation for both genders for equal work etc.). Create awareness to workers and the community on worker and project grievance redress mechanism. Hiring unskilled construction and skilled (if available) labour from the local population as far as possible. Use of manual labour during excavation and construction works where possible. Prepare a labour influx plan to manage labour influx. Prepare an employment plan. Sensitizing workers and the surrounding community on awareness, prevention, and management of HIV / AIDS. 	<ul style="list-style-type: none"> Grievance raised, those aggrieved, status of resolution. Fair and Transparent local recruitment plan in place. Recruitment processes (job adverts, interviews, selection etc.) Number of Locals employed based on gender, vulnerability, Ethnic group, clan etc. Type of employment (skilled, semi-skilled and unskilled). 	<ul style="list-style-type: none"> Policy document; Interviews records; Record of incidents of GBV reported; Labour management records 	Contractor SEC CPCT	Continuously	No additional cost

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Stakeholder Engagement	<ul style="list-style-type: none"> Exclusion of Disadvantaged and Vulnerable groups. Inadequate stakeholder Engagement. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of VMGs Development and implementation of a stakeholder engagement plan Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan 	<ul style="list-style-type: none"> No of Vulnerable and Disadvantaged groups mapped in each of the settlements. Meetings and agenda of all meetings held with all stakeholders. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. Create awareness on the culturally appropriate and 	<ul style="list-style-type: none"> Local Grievances Committee in place, composition of Committee. Number of nature of cases received and logged (Updated grievance Redress logs/register. 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance Resolution forms. Minutes of meetings held with community 	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<p>accessible GRM to all community segments including vulnerable individuals and households and CSOs</p> <ul style="list-style-type: none"> Log, date, process, resolve and close out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. 	<ul style="list-style-type: none"> Number and type of pending Grievances. Number of GRC meetings conducted and grievances resolved in the GRC meetings. Number and type of facilitations done for SEC/GRC to solve Community Grievances. Awareness of community and worker's on project and worker's GRM. Number of grievances resolved in a timely manner. Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 	towards Grievance register.			
Labour Management	<ul style="list-style-type: none"> Child Exploitation/Labour 	<ul style="list-style-type: none"> Ensuring that each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws. Ensuring that any child sexual relations offenses among contractors' workers 	<ul style="list-style-type: none"> Records of Child protection cases reported in the project. Develop a child protection Code of Conduct. Number of Inductions sessions 	<ul style="list-style-type: none"> Approved Code of Conduct document. Records of Employees engaged in the project. Contract documents of all 	Contractor Resident Engineer	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<p>are promptly reported to the police.</p> <ul style="list-style-type: none"> • Employ workers who are 18 years and above and with a valid national ID at the time of hire. • Implement and monitor the employment register regularly. • Comply with the national labour laws and labour management practices. • Put visible signage on site “No Jobs for children.” 	<ul style="list-style-type: none"> • on Child protection Code of Conduct. • Number of refresher awareness training on Child protection Code of Conduct. • Number of staff who have signed Code of Conduct. 	employees engaged in the project.			
Labour Management	<ul style="list-style-type: none"> • GBV/SEA/SH 	<ul style="list-style-type: none"> • Develop and implement a plan to manage the risk of SEA/SH. • Map the GBV referral pathways and create awareness among women and men on the risk of SEA/SH. • Ensure the GRM is SEA/SH responsive. • Ensure all those with physical presence on site sign and understand the Code of Conduct. • Put in place measures for monitoring GBV/sexual harassment. • Contractor to develop and Implement policy on sexual exploitation/harassment and Gender based violence. 	<ul style="list-style-type: none"> • Number of Inductions sessions on GBV/SEA/SH and signing of Code of Conduct. • An approved Code of Conduct. • Number of GBV, SEA and SH cases reported and resolved. • Number of Community sensitization sessions on GBV/SEA and SH. • Number of Continuous training and awareness training done 	<ul style="list-style-type: none"> • Minutes of meetings conducted. • List of attendance and pictures of the stakeholder engagements. • List of attendance of Toolbox talks trainings. • Evidence of IEC materials used. • Signed Codes of Conducts 	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> • The contractor to develop and implement grievance redress mechanism including non-retaliation of whistle-blower, the GRM strategy will be specific in handling of GBV, SEA and SH (sexual harassment cases) that will ensure survivor centered approach and confidentiality. • The contractor will develop a whistle blower strategy ; • Implement the signing of Code of Conduct before deployment to site after recruitment. • Undertake gender mainstreaming during the construction phase • Disseminate the policy among all the staff and SEC; • Put in place measures for monitoring GBV/sexual harassment. • Create awareness among women and men on GBV and SEA risks including reporting and referral pathways. • Have deterrent/punitive measures for any offenders reported. 	<ul style="list-style-type: none"> • through toolbox talks. • Number of IEC materials done to create awareness. • Number of stakeholder engagements conducted on GBV/SEA/SH. • Establishment of a grievance responsive GRM. 				
Total Cost for Construction Phase							2,300,000

8.3.2.3 ESMP Operational Phase Water and Sewerage Component

Table 8.8: ESMP for Water Supply and Sewerage_Operations

Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Vandalism or tampering with infrastructure	<ul style="list-style-type: none"> • Unsustainable use of water; improper disposal of effluent, grey water and black water • Source of contamination of underground and surface water bodies 	<ul style="list-style-type: none"> • Promoting water conservation mechanisms; • Regular monitoring and maintenance of sewerage and water supply infrastructures; • Community policing on improper use practices; • Maintain storm water drains in proper working state; • Sensitizing community members on illegal connections, tampering with water supply and their impacts to their public health, and legally. • Enhance community policing; • Boost security and patrol activities; • Liaison between residents and security organs to enhance security; • Frequent inspection of infrastructure state; 	<ul style="list-style-type: none"> • Well-maintained storm water drains; • No. of sensitization and awareness campaigns on water conservation, hygiene and waste water management undertaken; • Sampling and testing effluent before discharge into the environment; 	<ul style="list-style-type: none"> • Site visit project records • Grievance reports 	<ul style="list-style-type: none"> • Residents SEC; • County Government; • KACWASC O 	Routine	Internal Costs within the County

Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Poorly managed and/or constructed sanitation facilities, waste water discharge and spillage	<ul style="list-style-type: none"> • Soil, ground and water contamination • Increase of water borne diseases • Visual pollution • Foul smell 	<ul style="list-style-type: none"> • Promote proper use of sanitation facilities especially toilet and latrines; • Promote for the construction of sanitary facilities that are connected to the sewer system. • Promote construction of sanitary facilities that curb pollution • Attend to broken sewer systems promptly 	<ul style="list-style-type: none"> • Records of regular soil and water quality sampling and testing; • Maintenance of storm drains in proper working conditions; • Pollution sensitization and awareness campaigns; 	<ul style="list-style-type: none"> • General management of available sanitary facilities • No uncontrolled discharge of sewer from the sewer system 	KACWASCO SEC	Routine	Internal Company costs
Unsustainable Water use practices	<ul style="list-style-type: none"> • Increased demand for water with diminished supply • Point contamination of water in supply • Water use conflicts 	<ul style="list-style-type: none"> • Sensitization and awareness creation on responsible use of available resources; • Metering of resource supply points where possible; • Use of incentives and disincentives e.g. charging per units consumed on resource use to encourage conservation; • Mapping and monitoring installed supply structures to curb illegal connections; 	<ul style="list-style-type: none"> • Sustainable water and power management being practiced; • Household level reduced water and electricity utility bills; • No. of illegal connection to supply lines (water, electricity); 	<ul style="list-style-type: none"> • Site visits; • Incidence reports; • Records of utility companies (power and water); 	SEC; Utility companies;	Routine; Consumption record quarterly;	Internal Company costs
Stakeholder Engagement	<ul style="list-style-type: none"> • Exclusion of Disadvantaged and Vulnerable groups. 	<ul style="list-style-type: none"> • Share project information widely and in a timely manner 	<ul style="list-style-type: none"> • No of Vulnerable and Disadvantaged groups 	<ul style="list-style-type: none"> • Stakeholders mapped, 	Contractor	Continuously	Stakeholder

Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means Verification of	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none"> Inadequate stakeholder Engagement. 	<p>through the easily accessible various channels of communication i.e. through local administration and SEC chairs</p> <ul style="list-style-type: none"> Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of VMGs Development and implementation of a stakeholder engagement plan Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan 	<p>mapped in each of the settlements.</p> <ul style="list-style-type: none"> Meetings and agenda of all meetings held with all stakeholders. 	<p>Stakeholder engaged plan.</p> <ul style="list-style-type: none"> Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	<p>Resident Engineer CPCT GRC SEC</p>		engagement costs
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a local Grievances Committee in consultation with all community segments and incorporate the 	<ul style="list-style-type: none"> Local Grievances Committee in place, composition of Committee. Number of nature of cases received and 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms 	<p>Contractor Resident Engineer CPCT</p>	Continuously	No additional cost.

Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<p>existing local dispute resolution mechanisms.</p> <ul style="list-style-type: none"> • Implement a worker's grievances mechanism. • Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs • Log, date, process, resolve and close out all reported grievances in a timely manner. • Ensure proportionate representation of disadvantaged persons in the local grievances committee. • Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. • 	<p>logged (Updated grievance Redress logs/register.</p> <ul style="list-style-type: none"> • Number and type of pending Grievances. • Number of GRC meetings conducted and grievances resolved in the GRC meetings. • Number and type of facilitations done for SEC/GRC to solve Community Grievances. • Awareness of community and worker's on project and worker's GRM. • Number of grievances resolved in a timely manner. • Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 	<ul style="list-style-type: none"> • Hard copy of all Grievance Resolution forms. • Minutes of meetings held with community towards Grievance register. 	GRC SEC		

8.3.2.4 Decommissioning Phase

Table 8.9: ESMP for Water Supply and Sewerage Decommissioning

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Demolition of camp site	<ul style="list-style-type: none"> • Solid construction waste generation • Increase in Health and Safety Incidents 	<ul style="list-style-type: none"> • Avoid decommissioning by liaising with CPCT and SEC to retain structures to be used by community if possible • Timely collection and disposal of construction wastes and debris by NEMA approved collector; • Identify those who can reuse or recycle aspects of the waste and deliver them such wastes there; • Consistent Health and safety management with competent HSE personnel, equipment operators etc 		<ul style="list-style-type: none"> • Documented agreement with the CPCT and SEC to retain the camp facilities if possible and desired • No construction waste on site and/or dumped near site; • Amount of wastes recycled/reused and who; 	<ul style="list-style-type: none"> • Records of recycled or reused wastes; • Fully rehabilitated campsite (either used by community or removed by the contractor to its original state) 	Contractor CPCT SEC	Once after completion of the project	500,000
Decommissioning of water and sewerage piping	<ul style="list-style-type: none"> • Grievances due to the loss of piped water • Increased time taken to fetch water • Increased demand for casual labour • Significance loss of water • Uncontrolled discharge of black and grey water into the environment • Increased incidences of water borne diseases. 	<ul style="list-style-type: none"> • Waste management plan with identified locations for disposal, re-use or re-purposing the waste material • A well developed and approved road decommissioning plan • Health and Safety Management Plan for the phase • Acquisition of all approvals, licenses, permits from relevant 		<ul style="list-style-type: none"> • Well documented and approved decommissioning plan, waste management plan, health and safety plan etc • Available permits, licenses and approvals prior to the start of the decommissioning task • No. incidents of workers who have been affected; 	<ul style="list-style-type: none"> • Grievance reports • Permits and licenses • Management Plans • Incidence records (OSHA); 	Contractor; County Government SEC	Unforeseeable future	To be factored in at a later date

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none">• Health and Safety incidents during the decommissioning phase• Rising of dust• Increase amount of non-recyclable waste material• Impact on service lines (water, sewer and lighting)• Impact on community assets along the road corridor• Increase in noise pollution• Increase in surface run-off due to poor drainage• Stagnation of water• Increase in available land for other uses• Increase in employment opportunities• Occupational hazards/ accidents• Temporary traffic disruption	<ul style="list-style-type: none">• national and county government authorities• Caution all present at the worksite of dangerous zones;• Secure, barricade and condone off dangerous zones;• Implement all the requirements of OSHA (provision of workers with PPE and ensuring that they use it, sensitization of all workers about potential hazards and how to mitigate them;• Employing trained workers;• Provision of workers with appropriate PPES and ensuring they use them;• Ensuring machinery and handled by qualified and experienced personnel;	<ul style="list-style-type: none">• Workers sensitized and using PPE always;• Qualifications of workers engaged;• Ensuring all workers and those present at workplace use PPE;• Proper behavior within the workplace;• Appropriate use of tools to intended activities;					
Grievance Redress Mechanism	<ul style="list-style-type: none">• Ineffective Grievance Management	<ul style="list-style-type: none">• Constitute a local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms.• Implement a worker's grievances mechanism.	<ul style="list-style-type: none">• Local Grievances Committee in place, composition of Committee.• Number of nature of cases received and logged (Updated grievance Redress logs/register.	<ul style="list-style-type: none">• Grievance Register.• Hard copy of all Grievance forms• Hard copy of all Grievance	Contractor Resident Engineer CPCT GRC SEC	Continuousl y	No additional cost.	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> • Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs • Log, date, process, resolve and close out all reported grievances in a timely manner. • Ensure proportionate representation of disadvantaged persons in the local grievances committee. • Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. • 		<ul style="list-style-type: none"> • Number and type of pending Grievances. • Number of GRC meetings conducted and grievances resolved in the GRC meetings. • Number and type of facilitations done for SEC/GRC to solve Community Grievances. • Awareness of community and worker's on project and worker's GRM. • Number of grievances resolved in a timely manner. • Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 	<ul style="list-style-type: none"> • Resolution forms. • Minutes of meetings held with community towards Grievance register. 			
Community Engagement	<ul style="list-style-type: none"> • Local Sourcing 	<ul style="list-style-type: none"> • Source materials from local businesses/communities. • As applicable, give opportunities to businesses owned or operated by vulnerable individuals. 		<ul style="list-style-type: none"> • Number and types of businesses sourced from. • Number and types of businesses owned and operated by vulnerable individuals. 	<ul style="list-style-type: none"> • List of suppliers by gender. • Local suppliers engaged in the project 	Contractor	Continuousl y	No additional cost.
Community Engagement	<ul style="list-style-type: none"> • Inadequate Stakeholder Engagement 	<ul style="list-style-type: none"> • Share project information widely and in a timely manner through 		<ul style="list-style-type: none"> • Number of Vulnerable and disadvantaged groups mapped in 	<ul style="list-style-type: none"> • Stakeholder s mapped, Stakeholder 	Contractor	Continuousl y	Stakeholder engagement costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none"> Exclusion of disadvantaged and vulnerable groups. 	<ul style="list-style-type: none"> diverse, feasible and accessible channels of communication e.g., public forums. Introduce measures for affirmative action that would ensure especially persons with disability, the elderly and women have access to job opportunities. Undertake recruitment transparently, while ensuring the inclusion of disadvantaged groups. Develop and implementation of a stakeholder engagement plan. Engage stakeholders throughout the project phase as guided by the approved stakeholder engagement plan. 		<ul style="list-style-type: none"> each of the settlements. Minutes of all meetings held with disadvantaged/vulnerable groups. 	<ul style="list-style-type: none"> engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Resident Engineer CPCT GRC SEC		
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a Local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. Create awareness on the culturally appropriate and accessible GRM to all 		<ul style="list-style-type: none"> Local Grievances Committee in place, composition of committee. Number of nature of cases received and logged (updated GR logs/register). Number and type of pending grievances. Number of GRC meetings conducted 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance Resolution forms. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> community segments including vulnerable individuals and households and CSOs. Log, date, process, resolve, and close-out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV, as well as anonymity. 		<ul style="list-style-type: none"> and grievances resolved in the GRC meetings. Number and type of facilitations done for the SEC/GRC to solve community Grievances. Awareness of community and workers on project and worker GRMs. Number of grievances resolved in a timely manner. Number of grievances escalated to national courts and the World Bank Grievances Redress Service and Inspection Panel. 	<ul style="list-style-type: none"> Minutes of meetings held with community towards Grievance register. 			
Labour Management	<ul style="list-style-type: none"> Gender Based Violence Sexual Exploitation and Abuse (SEA) and Sexual Harassment 	<ul style="list-style-type: none"> Develop and implement a policy on SEA/SH. Map the GBV referral pathways and create awareness among women and men on the risk of SEA/SH. Ensure the GRM is SEA/SH-responsive. Ensure all those with physical presence on site sign and understand the Code of Conduct. 		<ul style="list-style-type: none"> Number of Inductions sessions on SEA/SH. and signing of Code of Conducts. Signed Code of Conducts. Number of, SEA and SH cases reported and resolved. Number of Community sensitization sessions on SEA and SH. Number of Continuous training 	<ul style="list-style-type: none"> Approved Code of Conduct document. Records of Employees engaged in the project. Contract documents of all employees engaged in the project. 	Contractor Resident Engineer	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Put in place measures for monitoring GBV/sexual harassment. 		<ul style="list-style-type: none"> and awareness training done through toolbox talks. Number of IEC materials done to create awareness. Number of stakeholder engagements conducted on GBV/SEA/SH. Establishment of a grievance responsive GRM. 				
Labour Management	<ul style="list-style-type: none"> Child Exploitation and Abuse 	<ul style="list-style-type: none"> Ensure each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws. Ensure that any child sexual relations offenses among contractors' workers are promptly reported to the police. Employ workers who are 18 years and above, and with a valid national ID at the time of hire. Implement and monitor the employment register regularly. Comply with the national labor laws and labour management practices. 		<ul style="list-style-type: none"> Records of Child protection cases reported in the project. Develop a child protection Code of Conduct. Number of Inductions sessions on Child protection Code of Conduct. Number of refresher awareness training on Child protection Code of Conduct. Number of staff who have signed Code of Conduct. 	<ul style="list-style-type: none"> Minutes of meetings conducted. List of attendance and pictures of the stakeholder engagement s. List of attendance of Toolbox talks trainings. Evidence of IEC materials used. Signed Codes of Conducts 	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Put visible signage on site "No Jobs for children." 						
Total costs for Decommissioning Phase								500,000
Overall cost for implementing the Water Supply ESMP								5,400,000

8.3.3 Electrical Component

Migosi, Manyatta A, Bondeni and Shauri Moyo settlements will benefit from street lighting and high mast lighting. The Consultant combined the two electrical components of the project and developed ESMPs that governs them due to their similarity on implementation and E&S risks that arise from their implementation arise from their implementation.

8.3.3.1 Pre-Construction Phase

Table 8.10: Environmental and Social Management Plan_Electrical component_Pre- Construction

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
PLANNING PHASE								
Clearance of right of way/ Corridors	Physical and Economic Displacement	In line with the provisions of the RPF prepare and effectively implement a plan for managing land related impacts. Facilitate all affected persons and address all grievances prior to commencement of works.		<p>Consultation Minutes and signed lists of participants.</p> <p>Type and amount of facilitation /compensation provided to affected persons.</p> <p>Number of project affected persons facilitated /compensate.</p> <p>Number and Type of Grievances reported.</p> <p>Number of Grievances resolved/not resolved.</p>	RAP implementation report.	CPCT CRIC	<p>Prior to project starting</p> <ul style="list-style-type: none"> • Whenever needed 	County Internal Cost

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Developing of the Site Specific ESMP	Ineffective implementation of the ESMP as guided in this ESIA report leading to contractual and other E&S impacts	Development of a site-specific Environment and Social Management Plan adhering to the laws and the Bank's requirements		Available comprehensive C-ESMP that covers all the E&S risks as guided by the Bank and the relevant statutes	Available C-ESMP document	Contractor	Prior to the start of the Project	200,000
Preparing ESIA for the, Campsites	<ul style="list-style-type: none"> Legal implications due to lack of adhering to the laws. Project stoppage by the Environment department Project delay prompting social issues. 	<ul style="list-style-type: none"> Prior identification of material sites, campsites etc that require an EIA license in order to develop/start construction. EIA reports to be reviewed and submitted to NEMA by Kisumu County 		ESIA licenses for the respective tasks as guided by the EMCA, 1999 (Rev 2015)	Available EIA reports and subsequent EIA licenses	Contractor CPCT	Prior to the start of the respective tasks	300,000
Acquiring the OSHA Workplace Registration Certificate as required.	Legal implications due to lack of adherence to the law Project stoppage by DOSHS	Acquire the required Workplace registration certificates within 3 months of the development of the campsite, quarry etc		Workplace registration certificate (accompanied by Health and Safety Audit report and Fire safety audit report)	Available Workplace registration certificate	Contractor	Within first 3 months of setting up the camp	200,000
Total								800,000

8.3.3.2 Construction Phase

Table 8.11: Environmental and Social Management Plan_Electrical component_ Construction

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
CONSTRUCTION PHASE								
Excavation and trenching	<ul style="list-style-type: none"> Minimal Rising of Dust Trip hazard introduced Ergonomic hazard due to digging trenches Increase labour demand for casual laborers Health and safety hazards (inhalation of dust, struck by, over-exposure to the natural elements, exhaustion etc) 	<ul style="list-style-type: none"> Establish a water sprinkling program in the dry season; Provide to workers dust masks always and ensure they use them; Stabilize disturbed soils with grass and other vegetative matter; 		<ul style="list-style-type: none"> Dust management plan with a dust control schedule; Workers wearing dust masks always; Grievances raised about high dust levels; 	Grievance reports from workers and community members	Contractor	Daily	Included in the project cost
Installation of masts and pole (Transportation of poles and masts to the designated sites)	<ul style="list-style-type: none"> Wide loads that are a traffic safety risk. Waste packaging material produced Musculoskeletal hazards brought from off-loading poles, masts and other equipment Increase of the demand for casual labour Risk of poorly rigged equipment dropping from the vehicles 	<ul style="list-style-type: none"> Mechanize the offloading task as much as possible Follow guidance by the NTSA on labeling of wide load transportation Use traffic marshals as much as necessary Engage employees that are physically able to undertake manual intensive tasks. Train the engaged employees on safe manual handling Ensure only qualified riggers are allowed to secure the equipment. 		<ul style="list-style-type: none"> Number of incidents related to the tasks Grievances related to the task Labour management for casual laborers All required labels and signs displayed appropriately Trained traffic marshals assigned to guide traffic where necessary. 	Grievance reports Labour management plan in place EHS inspection reports for the task	Contractor CPCT SEC	Routine until the completion of the task Weekly inspection for compliance to the requirements to be done	600,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	<ul style="list-style-type: none"> Inefficient and insufficient PPE issued to the contractors 	<ul style="list-style-type: none"> Ensure that the adequate number of the correct type of PPE are issued to the casual and other laborers All personnel should be trained on how to use the PPE and the impacts that come with not using the PPE. 		<ul style="list-style-type: none"> Competency certificates for the riggers. 				
General work practices (Occupational Safety and Health)	Occupational Safety and Hazards	<ul style="list-style-type: none"> Conduct a comprehensive OHS risk assessment and outline all possible risks that arise from the various tasks; Implement the mitigation measures outlined in the OHS risks assessment; Develop the EHSS Management Plan; Train all workers on General OHS as guided by OSHA 2007 Verify competence of all workers undertaking specialized tasks such as the heavy equipment operators; Provide all other necessary training to the workers (Traffic safety, work at height, risk assessment, First Aid, Fire safety, Manual Handling) as guided by the relevant 		<ul style="list-style-type: none"> OHS Risk Assessment document Site Specific Environment, Social, health and Safety Management Plan PPE provision and monitoring plan Training and Competence matrix outlining all training that will be done and all that have been done on a monthly basis (including toolbox talks) Availability and easy access to first aid kits/tools; Records of OSHA kept; 	<ul style="list-style-type: none"> Monthly OHS inspection (housekeeping , PPE, training etc) Quarterly OHS Audits Availability of the OHS risks assessment document Available EHSS Management Plan 	Contractor CPCT	Daily for activities pertaining to works; Monthly scope specific monitoring OHS inspections Quarterly OHS Audits	1,200,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		statutes and Industry Best Practices; <ul style="list-style-type: none"> • Provide and ensure that all workers on site wear PPEs (reflectors, safety boots, gloves, goggles, ear muffers and breathing protection) relevant to the tasks assigned to them; • Increase OHS awareness through conspicuously display safety caution signage at strategic places within all work places; • Put in place necessary hazards and risk mitigation measures; • Keep records of OSHA including reported incidents; • Ensure only qualified and experienced personnel handle machinery and equipment; • Provide appropriate tools that should be in good working conditions; • Adherence to the Occupation Safety and Health Act (OSHA 2007) and subsequent regulations 						
Driving and operation of other equipment	<ul style="list-style-type: none"> • Road traffic accidents • Worker health and safety 	<ul style="list-style-type: none"> • Ensure only qualified and experienced plant operators handle machinery/ equipment; 		<ul style="list-style-type: none"> • Record of licensed and approved drivers and 	<ul style="list-style-type: none"> • Qualification record of drivers and heavy 	Contractor SEC CPCT	Monthly for training and competence records.	Internal Cost

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
	hazards such as crushed by equipment, entrapment etc <ul style="list-style-type: none"> Increased dust emission. Damage to community assets 	<ul style="list-style-type: none"> Maintain vehicles and equipment in proper working condition; Control access around construction sites; Install all relevant traffic signs and traffic safety awareness posters Enforce and monitor a speed limit of 20km/hr within the construction area, at the campsite etc; Training and awareness to workers and community 		equipment operator; <ul style="list-style-type: none"> Access control barriers, management system, signs (danger signs, hazard signs etc) Security provided around construction sites and excavations sites; Training records 	equipment operators <ul style="list-style-type: none"> Display of warning and danger signs on traffic safety 		Daily for adherence to traffic management protocol in place.	Training and awareness cost considered
Installation of masts and poles (Concreting the poles in place)	<ul style="list-style-type: none"> Minimal dust from cement Inhalation of dust by the workers Possible reaction from workers that are sensitive to dust. Skin reactions from workers with Irritant Contact Dermatitis and other skin conditions Poor quality and insufficient number of PPE provided Poor use of water Musculoskeletal issues due to repetitive tasks, heavy weights and awkward postures 	<ul style="list-style-type: none"> Provision of the right type and quantify of PPE that are required for the task Provide training and awareness on the H&S risks attached to the task through daily Toolbox talks Identifying personnel susceptible for respiratory concerns and Irritant Contact Dermatitis and other ailments related to the task. Engage a Designated Health Practitioner to undertake pre-employment occupational medical examination on the employees 		<ul style="list-style-type: none"> Valid 'Fit to Work' certificates available for all employees Toolbox talks records Medical insurance cover for the employees. Grievance reports Spot site inspection Weekly documented EHS inspections of the task. 	Inspection reports Grievance report Training matrix and/ schedule Medical insurance policy cover for employees	Contractor CPCT	Weekly	400,000

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none">• Provide proper medical insurance for the employees• Provide for rest periods• Mechanize the task as much as possible.						
Installation of electrical cables and solar panels	<ul style="list-style-type: none">• Mechanical hazards of cuts and bruises, adverse weather conditions, ergonomic hazards due to repetitive motions etc• Theft of components• Littering of packaging material	<ul style="list-style-type: none">• Only qualified and approved electricians with EPRA certificates should be allowed to install electrical components of the project.• Proper PPE for mechanical and other hazards to be supplied to the employees• Adhere to robust waste management plan in order to avoid littering.• Once installation is complete ensure all items are properly stored.• Engage security personnel and have robust security management plan to reduce the risk of theft• Cordoning the area clearly with marked signs in English and Swahili, clearly indicating the mechanical hazards related with the task	<ul style="list-style-type: none">• Grievance reports from contractor on thefts• Incidents related to the task• Waste management plan to include the packaging wastes management	<ul style="list-style-type: none">• Reports on theft recorded• Number of incidents• General observation on housekeeping• Waste management plan	Contractor CPCT SEC	Routine	Considered in works contract and PPE considered in General work practices (OHS)	
Commissioning and testing	<ul style="list-style-type: none">• Electrical hazards exposure• Fire risk	<ul style="list-style-type: none">• Only qualified and approved electricians with EPRA certificates should be allowed to commission	<ul style="list-style-type: none">• Electrical incidents including injuries, fatalities, or fires	<ul style="list-style-type: none">• Number of incidents• Visual inspection of	Contractor SEC	Routine	Considered in works contract and PPE	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		and test electrical installations <ul style="list-style-type: none">• Issuance of electrical PPE with the arc flash rating to protect the employees against risk of electrocution• Cordoning the work area and erecting electrical hazard signage in English and Swahili clearly stating electrical hazards and minimum PPE to gain authorization.			the work area to confirm compliance	CPCT		considered in General work practices (OHS)
Management of solid and liquid wastes	<ul style="list-style-type: none">• Eruption and spread of communicable diseases• Eye sore• Increased in grievances from Host community and SEC• Legal disputes	<ul style="list-style-type: none">• Sustainable management of waste (solid and effluent);• Treating effluent wastes at source• No disposal of solid or liquid wastes near water sources• Ensure sanitary facilities are not near water sources and are well constructed and managed• Avail toilets at the work fronts easily accessible to the workers.• Sensitization of residents on observing proper hygiene practices e.g. proper hand washing;• Monitoring and unclogging blocked drains	<ul style="list-style-type: none">• Training matrix to include community and workers training on solid and liquid wastes management• Designated and well managed solid and liquid waste facilities• Waste management plan	<ul style="list-style-type: none">• Waste management plan• Waste tracking sheets• Effluent treatment waste quarterly analysis• Location of the toilets and their general structure	Contractor CPCT; Public Health Officer;	Weekly for solid waste and effluent;	400,000	

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		including draining stagnant waters;						
Labor influx	<ul style="list-style-type: none"> Local Employment 	<ul style="list-style-type: none"> Prioritize hire of locals for all unskilled labour. Implement a local recruitment plan that is fair and transparent (including recruitment processes that ensure inclusivity of both men and women, vulnerable individuals, minority clans, ethnic groups etc. Adhere to all local labour laws and labour management practices (timely remuneration, equitable compensation for both genders for equal work etc.). Create awareness to workers and the community on worker and project grievance redress mechanism. Hiring unskilled construction and skilled (if available) labour from the local population as far as possible. Use of manual labour during excavation and construction works where possible. 		<ul style="list-style-type: none"> Grievance raised, those aggrieved, status of resolution. Fair and Transparent local recruitment plan in place. Recruitment processes (job adverts, interviews, selection etc.) Number of Locals employed based on gender, vulnerability, Ethnic group, clan etc. Type of employment (skilled, semi-skilled and unskilled). 	<ul style="list-style-type: none"> Policy document; Interviews records; Record of incidents of GBV reported; Labour management records 	Contractor SEC CPCT	Continuously	No additional cost

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> • Prepare a labour influx plan to manage labour influx. • Prepare an employment plan. • Sensitizing workers and the surrounding community on awareness, prevention, and management of HIV / AIDS. • 						
Stakeholder Engagement	<ul style="list-style-type: none"> • Exclusion of Disadvantaged and Vulnerable groups. • Inadequate stakeholder Engagement. 	<ul style="list-style-type: none"> • Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs • Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. • Undertake recruitment transparently, while ensuring the inclusion of VMGs • Development and implementation of a stakeholder engagement plan • Continuous stakeholder consultation throughout the construction phase as 		<ul style="list-style-type: none"> • No of Vulnerable and Disadvantaged groups mapped in each of the settlements. • Meetings and agenda of all meetings held with all stakeholders. 	<ul style="list-style-type: none"> • Stakeholders mapped, Stakeholder engaged plan. • Minutes of the meetings held with stakeholder engaged. • List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		guided by the approved stakeholder engagement plan.						
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs Log, date, process, resolve and close out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. 		<ul style="list-style-type: none"> Local Grievances Committee in place, composition of Committee. Number of nature of cases received and logged (Updated grievance Redress logs/register. Number and type of pending Grievances. Number of GRC meetings conducted and grievances resolved in the GRC meetings. Number and type of facilitations done for SEC/GRC to solve Community Grievances. Awareness of community and worker's on project and worker's GRM. Number of grievances resolved in a timely manner. 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance Resolution forms. Minutes of meetings held with community towards Grievance register. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
				<ul style="list-style-type: none"> Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 				
Labour Management	<ul style="list-style-type: none"> Child Exploitation/Labour 	<ul style="list-style-type: none"> Ensuring that each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws. Ensuring that any child sexual relations offenses among contractors' workers are promptly reported to the police. Employ workers who are 18 years and above and with a valid national ID at the time of hire. Implement and monitor the employment register regularly. Comply with the national labour laws and labour management practices. Put visible signage on site "No Jobs for children." 		<ul style="list-style-type: none"> Records of Child protection cases reported in the project. Develop a child protection Code of Conduct. Number of Inductions sessions on Child protection Code of Conduct. Number of refresher awareness training on Child protection Code of Conduct. Number of staff who have signed Code of Conduct. 	<ul style="list-style-type: none"> Approved Code of Conduct document. Records of Employees engaged in the project. Contract documents of all employees engaged in the project. 	Contractor Resident Engineer	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Labour Management	<ul style="list-style-type: none"> GBV/SEA/SH 	<ul style="list-style-type: none"> Develop and implement a plan to manage the risk of SEA/SH. Map the GBV referral pathways and create awareness among women and men on the risk of SEA/SH. Ensure the GRM is SEA/SH responsive. Ensure all those with physical presence on site sign and understand the Code of Conduct. Put in place measures for monitoring GBV/sexual harassment. Contractor to develop and Implement policy on sexual exploitation/harassment and Gender based violence. The contractor to develop and implement grievance redress mechanism including non-retaliation of whistle-blower, the GRM strategy will be specific in handling of GBV, SEA and SH (sexual harassment cases) that will ensure survivor centered approach and confidentiality. The contractor will develop a whistle blower strategy ; Implement the signing of Code of Conduct before 		<ul style="list-style-type: none"> Number of Inductions sessions on GBV/SEA/SH and signing of Code of Conducts. An approved Code of Conducts. Number of GBV, SEA and SH cases reported and resolved. Number of Community sensitization sessions on GBV/SEA and SH. Number of Continuous training and awareness training done through toolbox talks. Number of IEC materials done to create awareness. Number of stakeholder engagements conducted on GBV/SEA/SH. Establishment of a grievance responsive GRM. 	<ul style="list-style-type: none"> Minutes of meetings conducted. List of attendance and pictures of the stakeholder engagements. List of attendance of Toolbox talks trainings. Evidence of IEC materials used. Signed Codes of Conducts 	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs

Project Activities	Environmental /Social Impact	Proposed Measures	Mitigation	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		deployment to site after recruitment. • Undertake gender mainstreaming during the construction phase • Disseminate the policy among all the staff and SEC; • Put in place measures for monitoring GBV/sexual harassment. • Create awareness among women and men on GBV and SEA risks including reporting and referral pathways. • Have deterrent/punitive measures for any offenders reported.						
Total costs for construction Phase						1,700,000		

8.3.3.3 Operation Phase

Table 8.12: Environmental and Social Management Plan_Electrical component_Operation

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Insecurity, inadequate monitoring measures and poor community policing;	Vandalism and infrastructure damage	<ul style="list-style-type: none"> Enhance community policing; Boost security and patrol activities; Liaison between residents and security organs to enhance security; Frequent inspection of infrastructure state; 	<ul style="list-style-type: none"> Apprehension and prosecution of culprits of vandalism and those that maliciously with supply lines; Establishment and embracing community policing e.g. Nyumba Kumi initiative; 	Incidence of vandalism reported;	Residents; Local administration; Service providers;	Routine	No project costs.
Stakeholder Engagement	<ul style="list-style-type: none"> Exclusion of Disadvantaged and Vulnerable groups. Inadequate stakeholder Engagement. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through the easily accessible various channels of communication i.e. through local administration and SEC chairs Introduce measures for affirmative action that would ensure VMGs and IPs, especially persons with disability, the elderly and GBV-affected women have access to job opportunities. Undertake recruitment 	<ul style="list-style-type: none"> No of Vulnerable and Disadvantaged groups mapped in each of the settlements. Meetings and agenda of all meetings held with all stakeholders. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<p>transparently, while ensuring the inclusion of VMGs</p> <ul style="list-style-type: none"> • Development and implementation of a stakeholder engagement plan • Continuous stakeholder consultation throughout the construction phase as guided by the approved stakeholder engagement plan 					
Grievance Redress Mechanism	<ul style="list-style-type: none"> • Ineffective Grievance Management 	<ul style="list-style-type: none"> • Constitute a local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. • Implement a worker's grievances mechanism. • Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs 	<ul style="list-style-type: none"> • Local Grievances Committee in place, composition of Committee. • Number of nature of cases received and logged (Updated grievance Redress logs/register. • Number and type of pending Grievances. • Number of GRC meetings conducted and grievances resolved in the GRC meetings. • Number and type of facilitations done for SEC/GRC to solve Community Grievances. 	<ul style="list-style-type: none"> • Grievance Register. • Hard copy of all Grievance forms • Hard copy of all Grievance Resolution forms. • Minutes of meetings held with community towards Grievance register. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Log, date, process, resolve and close out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV as well as anonymity. 	<ul style="list-style-type: none"> Awareness of community and worker's on project and worker's GRM. Number of grievances resolved in a timely manner. Number of grievances escalated to national courts and the World Bank Grievances Redress service and inspection Panel. 				

Disclosed

8.3.3.4 Decommissioning Phase

Table 8.13: Environmental and Social Management Plan_Electrical component_Decommissioning

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Demolition, dismantling and excavation work	Solid construction waste generation	<ul style="list-style-type: none"> Timely collection and disposal of construction wastes and debris by NEMA approved collector; Identify those who can reuse or recycle aspects of the waste and deliver them such wastes there; 	<ul style="list-style-type: none"> No construction waste on site and/or dumped near site; Amount of wastes recycled/reused and who; 	Records of recycled or reused wastes;	Contractor and County Government;	Routine	800,000
Excavation works	Soil erosion	<ul style="list-style-type: none"> Proper scheduling of excavation works to avoid wet season; Backfill all excavated trenches and sites upon completion of works; Plant ground cover plants where backfilling has been done; Maintain soil conservation works until the site stabilizes; 	<ul style="list-style-type: none"> Monitor erosion sedimentation in the area; No gullies and trenches observed upon completion of demolition works; Appropriate landscaping; 	Site visits	Contractor;	Monthly	400,000

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Lack/ failure to use PPEs; Poor handling of machine/ equipment and tools	Occupational hazards/ accidents	<ul style="list-style-type: none"> • Caution all present at the worksite of dangerous zones; • Secure, barricade and condone off dangerous zones; • Implement all the requirements of OSHA (provision of workers with PPE and ensuring that they use it, sensitization of all workers about potential hazards and how to mitigate them; • Employing trained workers; • Provision of workers with appropriate PPES and ensuring they use them; • Ensuring machinery and handled by qualified and experienced personnel; 	<ul style="list-style-type: none"> • No. incidents of workers who have been affected; Workers sensitized and using PPE always; Qualifications of workers engaged; • Ensuring all workers and those present at workplace use PPE; • Proper behavior within the workplace; • Appropriate use of tools to intended activities; 	Incidence records (OSHA); Staff records; Site visits;	Contractor	Monthly; Daily to the end of the demolition works	800,000
Labour Influx	Local Employment	<ul style="list-style-type: none"> • Prioritize hire of locals for all unskilled labour. • Implement a local recruitment plan that is fair and transparent (including recruitment processes that ensure inclusivity of both men and women, vulnerable individuals, minority clans, ethnic groups etc. 	<ul style="list-style-type: none"> • Fair and transparent local recruitment plan in place. • Recruitment processes (job adverts, interviews, selection etc.). • Number of locals employed based on gender, vulnerability, ethnic group, clan etc. 	<ul style="list-style-type: none"> • Policy document; • Interviews records; • Record of incidents of GBV reported; Labour management records 	Contractor SEC CPCT	Continuously	No additional cost

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Adhere to labour laws, and labour management practices (timely remuneration, equitable compensation for both genders for equal work etc.) Create awareness to workers and the community on worker and project grievance redress mechanisms. 	<ul style="list-style-type: none"> Type of employment (skilled, semi-skilled and unskilled). Grievances raised, those aggrieved, status of resolution. 				
Community Engagement	Local Sourcing	<ul style="list-style-type: none"> Source materials from local businesses/communities As applicable, give opportunities to businesses owned or operated by vulnerable individuals. 	<ul style="list-style-type: none"> Number and types of businesses sourced from. Number and types of businesses owned and operated by vulnerable individuals. 	<ul style="list-style-type: none"> List of suppliers by gender. Local suppliers engaged in the project 	Contractor	Continuously	No additional cost.
Community Engagement	<ul style="list-style-type: none"> Inadequate Stakeholder Engagement Exclusion of disadvantaged and vulnerable groups. 	<ul style="list-style-type: none"> Share project information widely and in a timely manner through diverse, feasible and accessible channels of communication e.g, public forums. Introduce measures for affirmative action that would ensure especially persons with disability, the elderly and women have access to job opportunities. Undertake recruitment transparently, while 	<ul style="list-style-type: none"> Number of Vulnerable and disadvantaged groups mapped in each of the settlements. Minutes of all meetings held with disadvantaged/vulnerable groups. 	<ul style="list-style-type: none"> Stakeholders mapped, Stakeholder engaged plan. Minutes of the meetings held with stakeholder engaged. List of attendance of all meetings Conducted. 	Contractor Resident Engineer CPCT GRC SEC	Continuously	Stakeholder engagement costs

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<p>ensuring the inclusion of disadvantaged groups.</p> <ul style="list-style-type: none"> Develop and implementation of a stakeholder engagement plan. Engage stakeholders throughout the project phase as guided by the approved stakeholder engagement plan. 					
Grievance Redress Mechanism	<ul style="list-style-type: none"> Ineffective Grievance Management 	<ul style="list-style-type: none"> Constitute a Local Grievances Committee in consultation with all community segments and incorporate the existing local dispute resolution mechanisms. Implement a worker's grievances mechanism. Create awareness on the culturally appropriate and accessible GRM to all community segments including vulnerable individuals and households and CSOs. Log, date, process, resolve, and close-out all reported grievances in a timely manner. Ensure proportionate representation of disadvantaged persons in the local grievances committee. 	<ul style="list-style-type: none"> Local Grievances Committee in place, composition of committee. Number of nature of cases received and logged (updated GR logs/register). Number and type of pending grievances. Number of GRC meetings conducted and grievances resolved in the GRC meetings. Number and type of facilitations done for the SEC/GRC to solve community Grievances. Awareness of community and workers on project and worker GRMs. Number of grievances resolved in a timely manner. 	<ul style="list-style-type: none"> Grievance Register. Hard copy of all Grievance forms Hard copy of all Grievance Resolution forms. Minutes of meetings held with community towards Grievance register. 	<p>Contractor</p> <p>Resident Engineer</p> <p>CPCT</p> <p>GRC</p> <p>SEC</p>	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
		<ul style="list-style-type: none"> Enable the GRM to provide for confidential reporting of particularly sensitive social aspects such as GBV, as well as anonymity. 	<ul style="list-style-type: none"> Number of grievances escalated to national courts and the World Bank Grievances Redress Service and Inspection Panel. 				
Labour Management	<ul style="list-style-type: none"> Gender Based Violence Sexual Exploitation and Abuse (SEA) and Sexual Harassment 	<ul style="list-style-type: none"> Develop and implement a policy on SEA/SH. Map the GBV referral pathways and create awareness among women and men on the risk of SEA/SH. Ensure the GRM is SEA/SH-responsive. Ensure all those with physical presence on site sign and understand the Code of Conduct. Put in place measures for monitoring GBV/sexual harassment. 	<ul style="list-style-type: none"> Number of Inductions sessions on SEA/SH. and signing of Code of Conducts. Signed Code of Conducts. Number of, SEA and SH cases reported and resolved. Number of Community sensitization sessions on SEA and SH. Number of Continuous training and awareness training done through toolbox talks. Number of IEC materials done to create awareness. Number of stakeholder engagements conducted on GBV/SEA/SH. Establishment of a grievance responsive GRM. 	<ul style="list-style-type: none"> Approved Code of Conduct document. Records of Employees engaged in the project. Contract documents of all employees engaged in the project. 	Contractor Resident Engineer	Continuously	No additional cost.

Project Activities	Environmental /Social Impact	Proposed Mitigation Measures	Monitoring Indicators	Means of Verification	Responsible party	Monitoring Frequency	Estimated Cost (Kshs)
Labour Management	<ul style="list-style-type: none"> Child Exploitation and Abuse 	<ul style="list-style-type: none"> Ensure each employee signs a code of conduct that covers child protection ensuring no children are employed on site in accordance with national labour laws. Ensure that any child sexual relations offenses among contractors' workers are promptly reported to the police. Employ workers who are 18 years and above, and with a valid national ID at the time of hire. Implement and monitor the employment register regularly. Comply with the national labor laws and labour management practices. Put visible signage on site "No Jobs for children." 	<ul style="list-style-type: none"> Records of Child protection cases reported in the project. Develop a child protection Code of Conduct. Number of Inductions sessions on Child protection Code of Conduct. Number of refresher awareness training on Child protection Code of Conduct. Number of staff who have signed Code of Conduct. 	<ul style="list-style-type: none"> Minutes of meetings conducted. List of attendance and pictures of the stakeholder engagements. List of attendance of Toolbox talks trainings. Evidence of IEC materials used. Signed Codes of Conducts 	Contractor Resident Engineer. CPCT	Monthly Quarterly	No additional costs
Total cost for Decommissioning Phase					2,000,000		
Overall cost of Implementing the Street lighting ESMP					4,500,000		

8.4 ESMP Monitoring

The ESMP Monitoring Parameters for the Construction Phase are outlined below;

Table 8.14: Environmental and Social Monitoring Plan

Issue	Monitoring Parameters	Expected Output	Responsibility
Physical Environment	<ul style="list-style-type: none"> ✓ Drainage management ✓ Drainage outfall orientation ✓ River and wetland crossings management 	Drainage systems that are compatible with the land use features along the corridor	Contractor Resident Engineer
	<ul style="list-style-type: none"> ✓ Spoil management and disposal ✓ Other waste management and disposal 	<ul style="list-style-type: none"> ✓ Disposal of spoil in accordance with regulations and conditions on signed agreements ✓ Waste management in accordance with the regulations 	Contractor Resident Engineer
	<ul style="list-style-type: none"> ✓ Materials sites management (restoration plans) ✓ Road corridor finishing (rehabilitation/restorations) 	<ul style="list-style-type: none"> ✓ Materials rehabilitation plans ✓ Road reserve landscaping plans 	Contractor Resident Engineer
	<ul style="list-style-type: none"> ✓ Air quality ✓ Water quality ✓ Noise and vibrations 	<ul style="list-style-type: none"> ✓ Air sampling and measurements ✓ Water sampling and analysis ✓ Noise measurements 	Contractor Resident Engineer
	<ul style="list-style-type: none"> ✓ Vegetation cover ✓ Wildlife disruption ✓ Aquatic features (wetlands and rivers) 	<ul style="list-style-type: none"> ✓ Rehabilitation plans ✓ Conservatory construction practices 	Contractor Resident Engineer
Social Aspects	<ul style="list-style-type: none"> ✓ OHS and Public Safety ✓ Security and emergencies ✓ HIV/AIDS and communicable diseases ✓ Health and Sanitation ✓ Waste Management 	<ul style="list-style-type: none"> ✓ Compliance with established regulations ✓ Provision and operations of wellness centers ✓ Operations of VCT Centers ✓ Training, Awareness and prevention programmes 	Contractor Resident Engineer HIV/AIDS Consultant KISIP
	<ul style="list-style-type: none"> ✓ Displacements of people ✓ Compensation and settlement ✓ Employment and income generation ✓ Accessibility to homes, services and institutions ✓ Traffic management 	<ul style="list-style-type: none"> ✓ Compensation to the PAPs before project commencement ✓ Clear information, signage and barriers for safety 	

9 Conclusions and Recommendations

9.1 Conclusion

The ESIA review revealed several gaps that were identified and documented. First the Baseline environmental and social data for Kisumu County were not only inadequate but also outdated based on the period lapse between the initial ESIA study (2017) and the current ESIA review exercise (2023). New and revised legal requirements in addition to the Bank's Environmental and Social Framework (ESF) and other international requirements and guidelines were reviewed as well and considered in the updates of the ESIA study report. Additional public consultation was also done in order to revise the scope, guided by KISIP. The re-scoping exercise was done consultatively involving both the GRC and the SEC. Only the settlements and the projects that were agreed upon were reviewed and included in the updated ESIA study.

No significant additional impact was identified during the course of the study based on the initial study report.

9.2 Recommendations

The following are the consultant's recommendations;

- That the Contractor, guided by the ESMP, develops project specific Construction Environmental and Social Management Plan that should be reviewed and approved by the Project Engineer prior to implementation
- That a robust Labour Management Plan for the project is developed for application in all projects specifying code of ethics for employment guided by the Employment Act.
- That a robust Waste Management Plan be developed that aligns to the Sustainable Waste Management Act, 2022 and the County legislation
- That a comprehensive Grievance redress procedure be developed by the contractor for review and approval by the Engineer to handle grievances raised by the community members
- That the contractor confirms that all the required permits and approvals have been acquired and available for inspections and audits by the Project Engineer of the Employer.
- That, prior to the start of the project, entry meetings should be held in each settlement to inform the public of the intention to commence the works and clarify to the community measures taken to manage labour related and other grievances that arise from the project.
- Requirement for the contractor to develop and implement a Local recruitment plan. Youth employment is critical for the settlements, and a plan to ensure the contractor complies with prioritizing locals for unskilled labor is important.
- Requirement for the contractor to have a Community Liaison Officer (CLO) on board. The CLO will be the link between the contractor and SEC/GRC/wider community.
- To keep the GRC and SEC motivated to deliver their mandates, consider (if not already being done under projects) providing sitting allowances to the SEC/GRC members. Further, ensure an engagement structure, e.g., monthly meetings involving the SEC GRCs, community members and local leadership, etc.

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- Weather spark <https://weatherspark.com/y/98112/Average-Weather-in-Kisumu-Kenya-Year-Round>
www.globalforestwatch.org accessed on 18 July, 2023

Disclosure Copy

ANNEXES

ANNEX I: Experts license



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
**CERTIFICATE OF REGISTRATION AS AN ENVIRONMENTAL IMPACT ASSESSMENT/
AUDIT EXPERT**

Certificate No: NEMA/EIA/RC/1075

Application Reference No: NEMA/EIA/ER/2928

This is to certify M/s **OCHIENG CYNTHIA ACHIENG**

of

P.O. BOX 956-00200, NAIROBI

(Address) has been registered as an Environmental

Impact Assessment Expert in accordance with the provisions of the Environmental Management and
Coordination Act and is authorized to practice in the capacity of a Lead Expert/Associate Expert/Firm of
Experts (Type) **LEAD EXPERT**

Expert Registration No: **2469**Issued Date : **7/6/2015**

Signature

(Seal)

Director-General

The National Environmental Management Authority

P. T. O.



ISO 9001 : 2008 Certified



nema
mazingira yetu | uhai wetu | wajibu wetu

FORM 7

(r.15(2))

**NATIONAL ENVIRONMENT MANAGEMENT
AUTHORITY(NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT**

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

License No : NEMA/EIA/ERPL/18649

Application Reference No: NEMA/EIA/EL/24562

M/S Cynthia Achieng Ochieng
(individual or firm) of address
P.O. Box 956 - 00200 NAIROBI

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

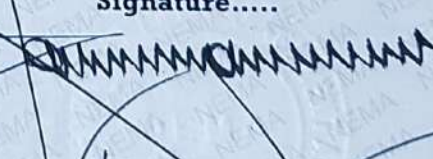
registration number **2469**

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

Issued Date: **1/23/2023**

Expiry Date: **12/31/2023**

Signature.....


(Seal)
Director General

The National Environment Management Authority

P.T.O.



ISO 9001:2015 Certified

ANNEX II: Project EIA license



**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENSE**

License No: **NEMA/EIA/PSL/7694**

Application Reference No: **NEMA/EIA/PSR/10772**

This is to certify that the Environmental Impact Assessment Project Report received from
Ministry of Transport, Infrastructure, Housing and Urban Development.

P.O Box 30450-00100, Nairobi.

submitted to the National Environment Management Authority in accordance with the
Environmental Impact Assessment & Audit Regulations, 2003 regarding the:

Proposed Kenya Informal Settlements Improvement Project (KISIP).

whose objective is to carry on

**Improvement of Kenya informal settlements involving road works, water supply
network, sewerage network extension, street lighting and solid waste management
and associated works.**

located at

Kisumu County.

has been reviewed and a license is hereby issued for the implementation of the project,
subject to attached conditions.

Issue date: **08 April, 2019**

Signature

(seal)

**Director-General
The National Environment
Management Authority.**

P.T.O.



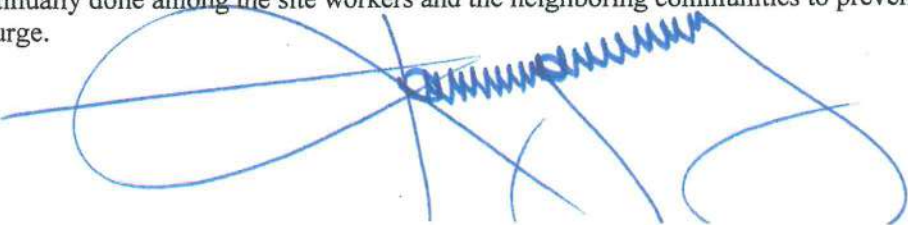
ISO 9001: 2008 Certified

1.0 General Conditions

- 1.1 This project is for the Improvement of Kenya informal settlement project comprising road works, water supply network, sewerage extension network, street lighting and solid waste management in Kisumu County.
- 1.2 The license shall be valid for 24 months (time within which the project shall commence) from the date hereof.
- 1.3 The Director General shall be notified of any transfer, variation or surrender of this license.
- 1.4 Without prejudice to the other conditions of this license, the proponent shall implement and maintain an environmental management system, organizational structure and allocate resources that are sufficient to achieve compliance with the requirements and conditions of this license.
- 1.5 The Authority shall take appropriate action against the proponent in the event of breach of any of the conditions stated herein or any contravention to the Environmental Management and Coordination Act, Cap 387 and regulations therein.
- 1.6 This license shall not be taken as statutory defence against charges of environmental degradation or pollution in respect of any manner of degradation/pollution not specified herein.
- 1.7 The proponent shall ensure that records on conditions of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environmental Inspectors.
- 1.8 The proponent shall submit an Environmental Audit report in the first year of occupation/operations/commissioning to confirm the efficacy and adequacy of the Environmental Management Plan.
- 1.9 The proponent shall provide the final project accounts (final project costs) on completion of construction phase. This should be done prior to project commissioning/operation/occupation.
- 1.10 The proponent shall comply with NEMA's improvement orders throughout the project cycle.

2.0 Construction Conditions

- 2.1 The proponent shall obtain the requisite approvals from the County Government of Kisumu and all other relevant Authorities prior to commencement of works.
- 2.2 The proponent shall put up a project signboard as per the Ministry of Transport and Infrastructure standards showing the NEMA EIA license number among other details.
- 2.3 The proponent shall ensure that the road works conform to the standards set out by the Kenya Roads Board, Ministry of Transport and Infrastructure, National Construction Authority and other relevant authorities.
- 2.4 The proponent shall ensure that key environmentally significant areas along the road such as portable water sources, forests, gazetted parks etc., are protected and preserved.
- 2.5 The proponent shall ensure proper relocation, compensation and restoration of livelihoods for any project-affected- persons and develop a consultative plan for emerging issues and grievance redress mechanism as shall be prescribed in the Resettlement Action Plan.
- 2.6 The proponent shall (as appropriate) construct under-passes to facilitate animals crossing at sensitive wildlife areas as shall be identified by the Kenya Wildlife Service.
- 2.7 The proponent shall ensure that their workers do not engage in illegal activities such as charcoal burning and poaching.

- 2.8 The proponent shall ensure that the borrow sites are continually rehabilitated and finally decommissioned at the end of the project.
- 2.9 The proponent shall ensure that measures (such as sprinkling water) are put in place to control dust pollution at all times.
- 2.10 The proponent shall ensure strict adherence to the provisions of the Environmental Management and Coordination (Air Quality) Regulations of 2014.
- 2.11 The proponent shall ensure that the contractors' camp where asphalt, bitumen-making and concrete batching will take place is cleared and rehabilitated at the end of the project.
- 2.12 The proponent shall collaborate with EIA Experts and the contractor to ensure that the proposed mitigation measures are adhered to during construction phase and where necessary, appropriate mending-up activities undertaken and a report of the same submitted to NEMA.
- 2.13 The proponent shall ensure that appropriate signage and road markings are in place to prevent occurrence of accidents.
- 2.14 The proponent shall ensure that the road construction is developed on the basis of the existing main traffic routes and networks, and shall conform to the zoning plans of the major towns along the routing.
- 2.15 The proponent shall ensure that marking of the road is done concurrently with the works completion to enhance road safety.
- 2.16 The proponent shall ensure that all excavated material and debris is collected, re-used and where need be, disposed off as per the Environmental Management and Coordination (Waste Management) Regulations of 2006.
- 2.17 The proponent shall the proponent shall put in place an appropriate traffic management plan to prevent traffic congestion and shall provide designated truck stops and ample parking spaces along the route.
- 2.18 The proponent shall ensure that construction activities do not damage or disrupt installed utilities such as underground cables, water and sewerage lines etc. Appropriate authorization by the service providers shall be sought and adequate notification given to the parties to be affected.
- 2.19 The proponent shall ensure that drainage systems and surface run-off are not directed into private land and individual farms.
- 2.20 The proponent shall put in place measures to stabilize slopes and safeguard construction activities and the road works against potential occurrence of landslides.
- 2.21 The proponent shall ensure strict adherence to the provisions of the Environmental Management and Coordination (Noise and Excessive Vibrations Pollution Control) Regulations of 2009.
- 2.22 The proponent shall ensure strict adherence to the Occupational Safety and Health Act (OSHA), 2007.
- 2.23 The proponent shall provide safety induction to all the workers and defensive driving training to all the drivers involved in the project.
- 2.24 The proponent shall consider the risk of long working hours and ensure the daily working hours for drivers does not exceed what is stipulated in the Traffic Act Cap 403.
- 2.25 The proponent shall ensure that construction workers are provided with adequate personal protection equipment (PPE), as well as adequate training.
- 2.26 The proponent shall ensure that no child labour is used in the project and that HIV/ AIDS awareness is continually done among the site workers and the neighboring communities to prevent the spread of the scourge.
- 

- 2.27 The proponent shall ensure that construction activities are undertaken during the day (and not at night) between 08.00 hrs and 18.00 hrs and on Saturdays between 0800hrs and 1300hrs. No works shall be undertaken on Sundays and that transportation of construction material to site are undertaken during weekdays and Saturdays only during the hours specified herein.
- 2.28 The proponent shall ensure that all drainage facilities are fitted with adequate functional oil water separators and silt traps.
- 2.29 The proponent shall ensure that the development adheres to zoning specifications issued for development of such a project within the jurisdiction of the Kisumu County Government with emphasis on approved land use for the areas.
- 2.30 The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.

3.0 Operational Conditions

- 3.1 The proponent shall ensure that all equipment used are well maintained in accordance with the Environmental Management and Coordination (Noise and Excessive Vibration Pollution Control) Regulations of 2009.
- 3.2 The proponent shall design and implement an appropriate road maintenance plan to prevent deterioration of the road and to ensure the road is suitably maintained in safely usable state.
- 3.3 The proponent shall mitigate the risk of vehicular collision with pedestrians and provide walkways clearly separated from the roads by guardrails within highly populated and urban settings.
- 3.4 The proponent shall consider the risk of poor visibility at night and clearly and appropriately mark the road and also provide "cat eyes" at all stages of the project.
- 3.5 The proponent shall ensure that all solid waste is handled in accordance with the Environmental Management and Coordination (Waste Management) Regulations of 2006.
- 3.6 The proponent shall ensure that all workers are well protected and trained as per the Occupational Safety and Health Act (OSHA) of 2007.
- 3.7 The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of the County Government Kisumu Ministry of Transport and Infrastructure; Ministry of Health; Directorate of Occupational Health and Safety Services; Ministry of Lands, Housing and Urban Development; Kenya Forest Service; Kenya Wildlife Service; Kenya Roads Board; Water Resources Authority and other relevant Authorities.
- 3.8 The proponent shall ensure that environmental protection facilities or measures to prevent pollution and ecological deterioration such as traffic management plan, solid waste management plan, functional storm water drains, soil erosion control, water sprinkling on road diversions, oil spill management plan, road safety programmes are designed, constructed and employed simultaneously with the proposed project.

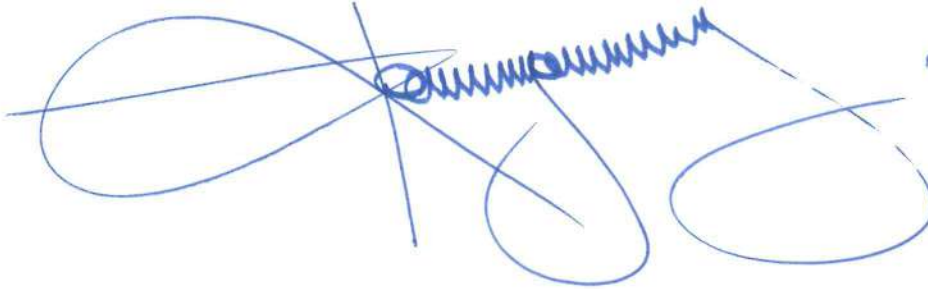
4.0 Notification Conditions

- 4.1 The proponent shall seek written approval from the Authority for any operational changes under this license.
- 4.2 The proponent shall ensure that the Authority is notified of any malfunction of any system within 12 hours on the NEMA hotline No. 020 6006041 and mitigation measures put in place.
- 4.3 The proponent shall keep records of all pollution incidences and notify the Authority within 24 hours.

5.0 Decommissioning Conditions

- 5.1. The proponent shall ensure that a decommissioning plan is submitted to the Authority for approval at least three (3) months prior to decommissioning of any project support facilities.
- 5.2. The proponent shall ensure that all pollutants and polluted material is contained and adequate mitigation measures provided during the phase.











The above conditions will ensure environmentally sustainable development and must be complied with.

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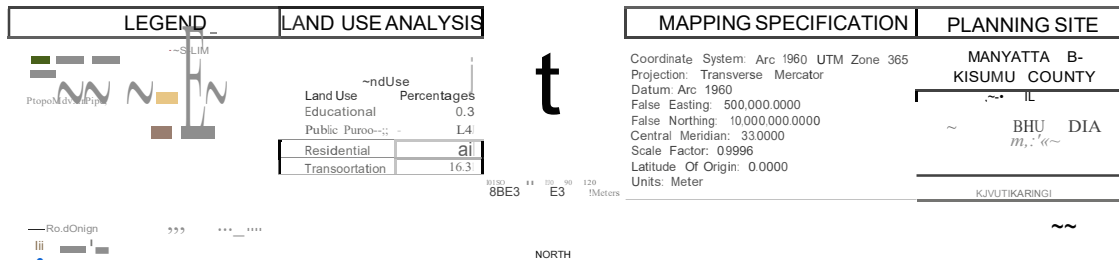
ANNEX III: Project Layout Maps

ANNEX II: KISUMU SETTLEMENT MAPS

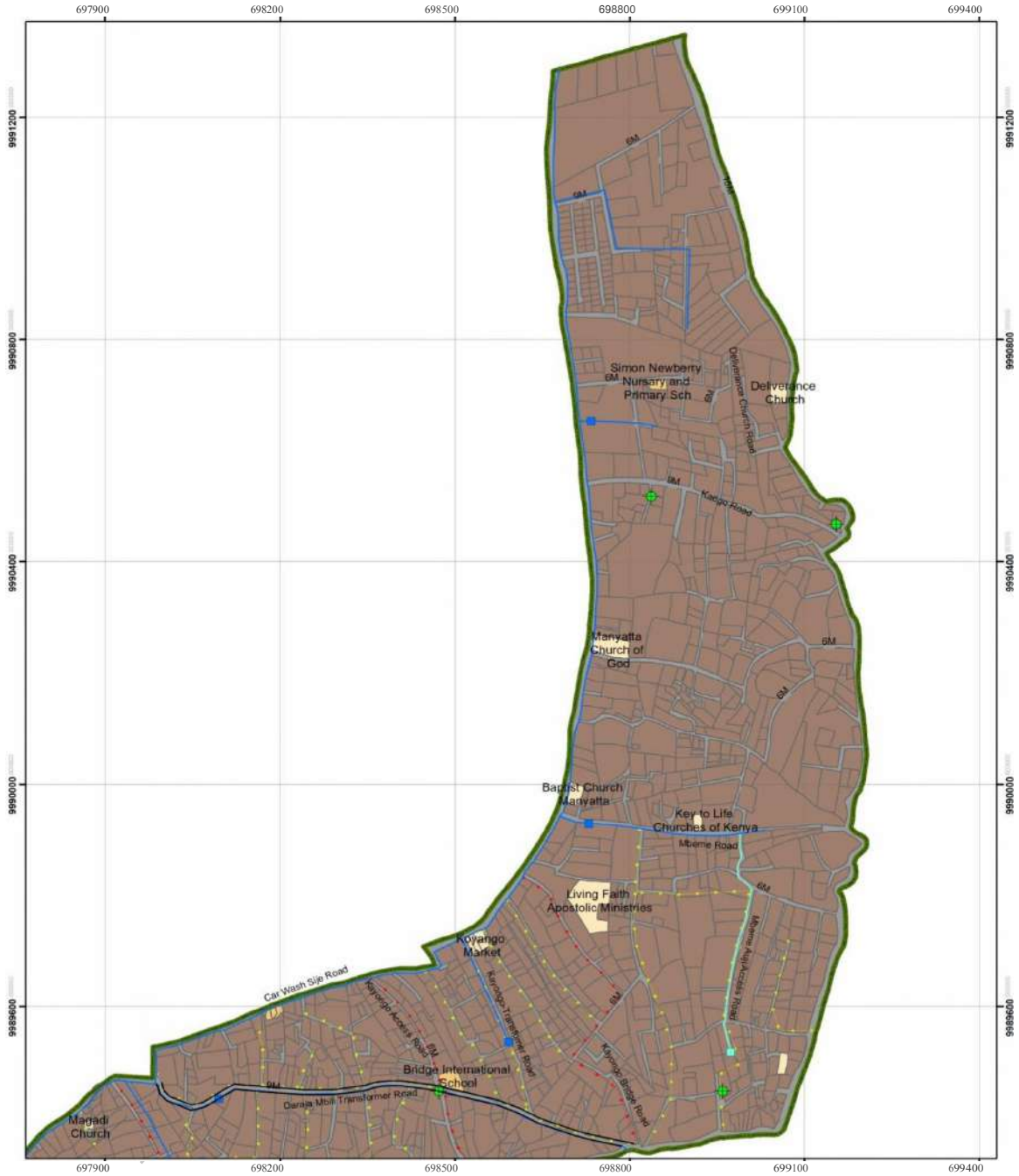


LEGEND		LAND USE ANALYSIS		<div> NORTH 1:7,000</div> <div></div>	MAPPING SPECIFICATION		PLANNING SITE											
<div><div> Planning Boundary</div><div> Parcel Boundary</div><div> Road Design</div><div> High mast</div><div>Land Use</div><div> Commercial</div><div> Educational</div></div>	<div><div> Public Purpose</div><div> Recreation</div><div> Residential</div><div> Transportation</div></div>	<table><tr><th>Land Use</th><th>Percentage (%)</th></tr><tr><td>Transportation</td><td>25</td></tr><tr><td>Residential</td><td>67.54</td></tr><tr><td>Public Purpose</td><td>1.27</td></tr><tr><td>Education</td><td>4.46</td></tr><tr><td>Commercial</td><td>1.52</td></tr><tr><td>Recreation</td><td>0.2</td></tr></table>	Land Use		Percentage (%)	Transportation	25	Residential	67.54	Public Purpose	1.27	Education	4.46	Commercial	1.52	Recreation	0.2	<p>Coordinate System: UTM Zone 36 S Projection: Transverse Mercator Datum: ARC1960 false easting: 500,000.0000 false northing: 10,000,000.0000 central meridian: 33.0000 scale factor: 0.9996 latitude of origin: 0.0000 Units: Meter</p>
Land Use	Percentage (%)																	
Transportation	25																	
Residential	67.54																	
Public Purpose	1.27																	
Education	4.46																	
Commercial	1.52																	
Recreation	0.2																	

INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS



INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS



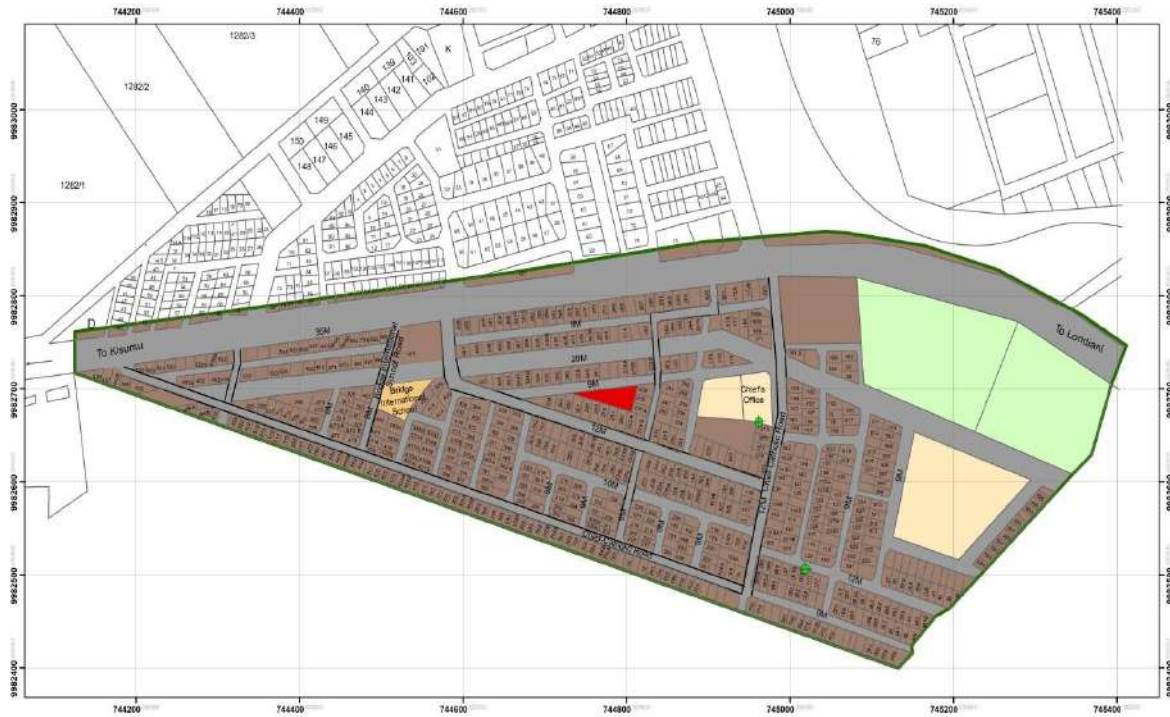
LEGEND		LAND USE ANALYSIS		MAPPING SPECIFICATION		PLANNING SITE
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<p>Land Use</p> <p>Abhale>u811Xk b:llngW.lerKlok Proposed ...tu ROM D Public P:1PROM Hellenai —Bil"Strfg1NaterP!Pff-Tilaspou,uon</p>		<p>Educational p ~</p> <p>idential 82</p> <p>Transportation 16.3</p>		<p>NORTH</p> <p>1:6,000</p> <p>Units: Meter</p>		<p>et11'~1. e1.6~trgm KUVUTIKARINGI</p>














INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS



LEGEND		LAND USE ANALYSIS		<div><div><div></div></div><div>NORTH</div><div>1:2,000</div><div><div><div></div><div></div><div></div><div></div><div></div></div><div>0102030405060</div><div>Meters</div></div></div> <th colspan="2">MAPPING SPECIFICATION</th> <th colspan="2">PLANNING SITE</th>	MAPPING SPECIFICATION		PLANNING SITE	
<div><div><div></div></div>Planning_Boundary</div> <div><div><div></div></div>High_Mast</div> <div><div><div></div></div>Plot Boundary</div> <div><div><div></div></div>Road Design</div>	<div><div><div></div></div>Land Use</div> <div><div><div></div></div>Educational</div> <div><div><div></div></div>Public Purpose</div> <div><div><div></div></div>Residential</div> <div><div><div></div></div>Transportation</div>	<div><div><div></div></div>Land Use</div> <div><div><div></div></div>Percentage (%)</div> <div><div><div></div></div>Transportation</div> <div><div><div></div></div>44.27</div> <div><div><div></div></div>Residential</div> <div><div><div></div></div>51.52</div> <div><div><div></div></div>Public Purpose</div> <div><div><div></div></div>2.67</div> <div><div><div></div></div>Education</div> <div><div><div></div></div>1.54</div>	<div>Coordinate System: Arc 1960 UTM Zone 36S</div> <div>Projection: Transverse Mercator</div> <div>Datum: Arc 1960</div> <div>False Easting: 500,000.0000</div> <div>False Northing: 10,000,000.0000</div> <div>Central Meridian: 33.0000</div> <div>Scale Factor: 0.9996</div> <div>Latitude Of Origin: 0.0000</div> <div>Units: Meter</div>		<div>SANGORO-KISUMU COUNTY</div> <div>CONSULTANT</div> <div><div><div></div></div><div>BHUNDIA CONSULTANTS</div></div> <div><div>PHYSICAL PLANNER</div><div>KILUSI KERINGI</div></div>			

INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS



LEGEND		LAND USE ANALYSIS		MAPPING SPECIFICATION		PLANNING SITE															
<div><div><div><div></div><div>High_Mast</div></div><div><div></div><div>Parcel_Boundary</div></div><div><div></div><div>Planning_Boundary</div></div><div><div></div><div>Road_Design</div></div><div><div></div><div>Land Use</div></div><div><div></div><div>Agricultural</div></div></div><div><div><div></div><div>Commercial</div></div><div><div></div><div>Education</div></div><div><div></div><div>Public Purpose</div></div><div><div></div><div>Residential</div></div><div><div></div><div>Transportation</div></div></div></div>		<table><tr><th>Land Use</th><th>Percentages</th></tr><tr><td>Transportation</td><td>37.25</td></tr><tr><td>Residential</td><td>46.55</td></tr><tr><td>Public Purpose</td><td>5.13</td></tr><tr><td>Agriculture</td><td>10.73</td></tr><tr><td>Commercial</td><td>0.34</td></tr></table>		Land Use	Percentages	Transportation	37.25	Residential	46.55	Public Purpose	5.13	Agriculture	10.73	Commercial	0.34	<div><div></div><div>NORTH</div><div>1:3,500</div><div><div><div>0</div><div>20</div><div>40</div><div>80</div><div>120</div><div>160</div></div><div>Meters</div></div></div>		<div><div>Coordinate System: Arc 1960 UTM Zone 36S</div><div>Projection: Transverse Mercator</div><div>Datum: Arc 1960</div><div>False Easting: 500,000.0000</div><div>False Northing: 10,000,000.0000</div><div>Central Meridian: 33.0000</div><div>Scale Factor: 0.9998</div><div>Latitude Of Origin: 0.0000</div><div>Units: Meter</div></div>		<div><div>SHAURI YAKO-KISUMU COUNTY</div><div>CONSULTANT</div><div><div></div><div>BHUNDIA CONSULTING ENGINEERS</div></div><div>PHYSICAL PLANNER KIVUTI KARIKARI</div></div>	
Land Use	Percentages																				
Transportation	37.25																				
Residential	46.55																				
Public Purpose	5.13																				
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Commercial	0.34																				

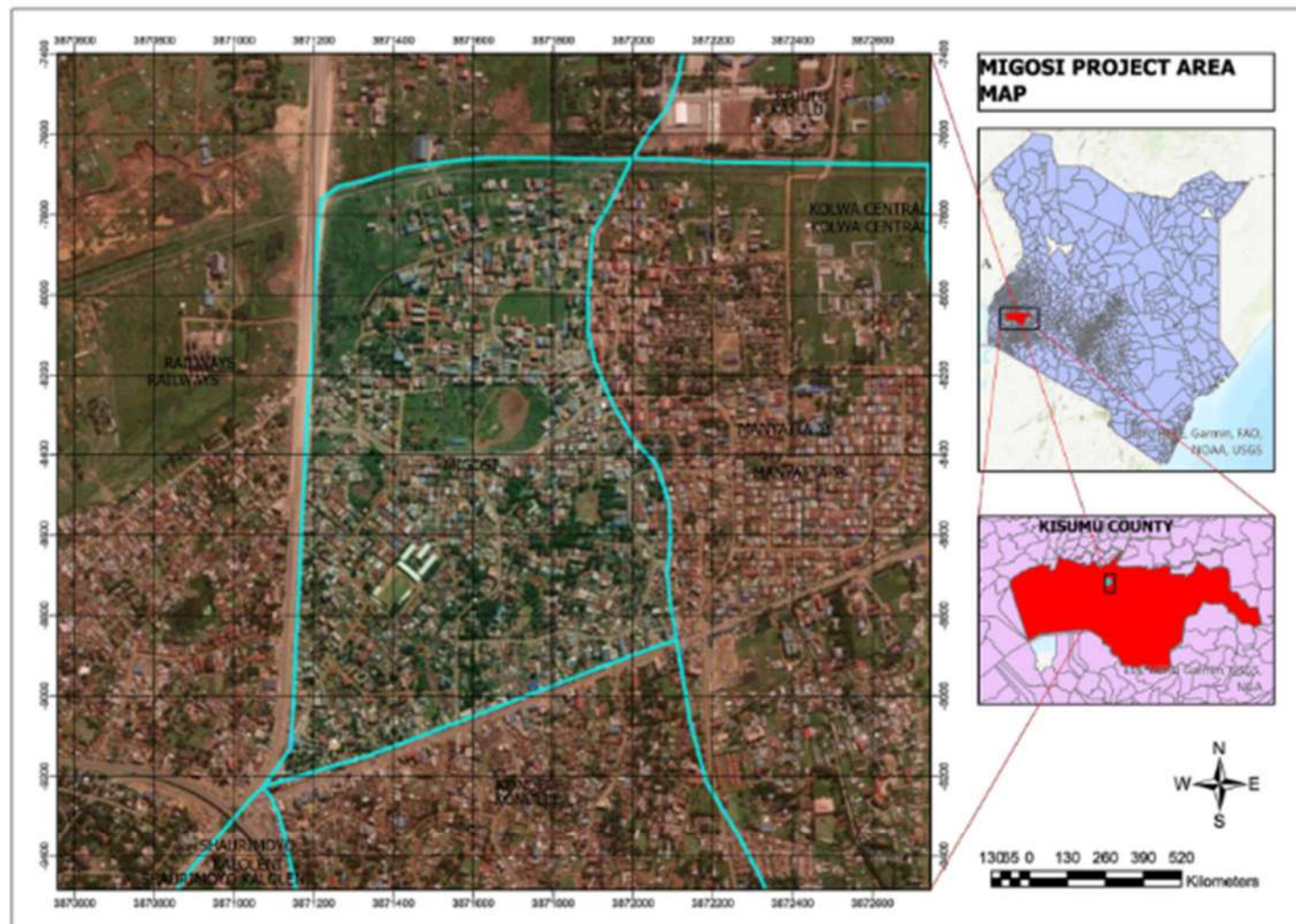
INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS



LEGEND		LAND USE ANALYSIS		MAPPING SPECIFICATION		PLANNING SITE
	High_MHI	Land Use	Percentage 1"	Coordinate System: Arc 1960 UTM Zone 36S	Projection: Transv	SHAURI MOYO-KISUMU COUNTY
	Comm	Transportation	11.14	False Easting: 500,000.0000	Datum: Arc 1960	
	ConMIVITON	Residential	75.57	False Northing: 10,000,000.0000		
	Education	Public Purpose	10.42			
						INSILTAN I

REPORT BY DATE	ISSUED BY DATE	APPROVED BY DATE
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APPENDIX B.1.5

SCALE 1:50,000

SCALE 1:50,000



THE CHIEF OFFICER - LANDS,
HOUSING, PHYSICAL PLANNING
AND URBAN DEVELOPMENT

BATCH
Engineering and Development Consultants

ENGINEERING SERVICES LTD
CONSULTING ENGINEERS

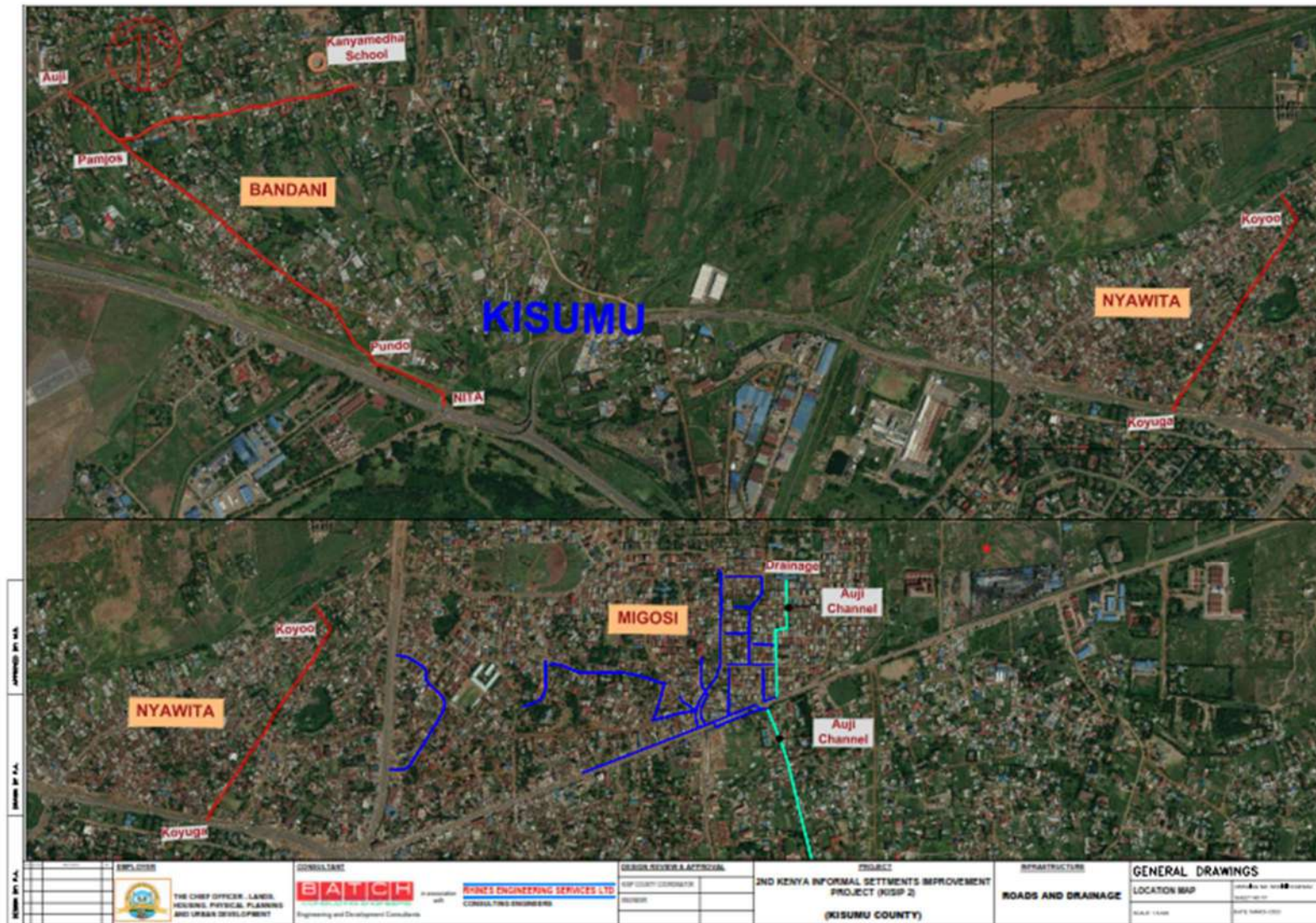
DESIGN REVIEW & APPROVAL
KISUMU COUNTY COORDINATOR
DATE: _____

PROJECT
2ND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2)
(KISUMU COUNTY)

SETTLEMENT & INFRASTRUCTURE
MIGOSI PROJECT AREA MAP

PROJECT AREA MAP
DRAWN BY: _____
CHECKED BY: _____
DATE: _____


PROPOSED DESIGN FOR ROADS AND DRAINAGES

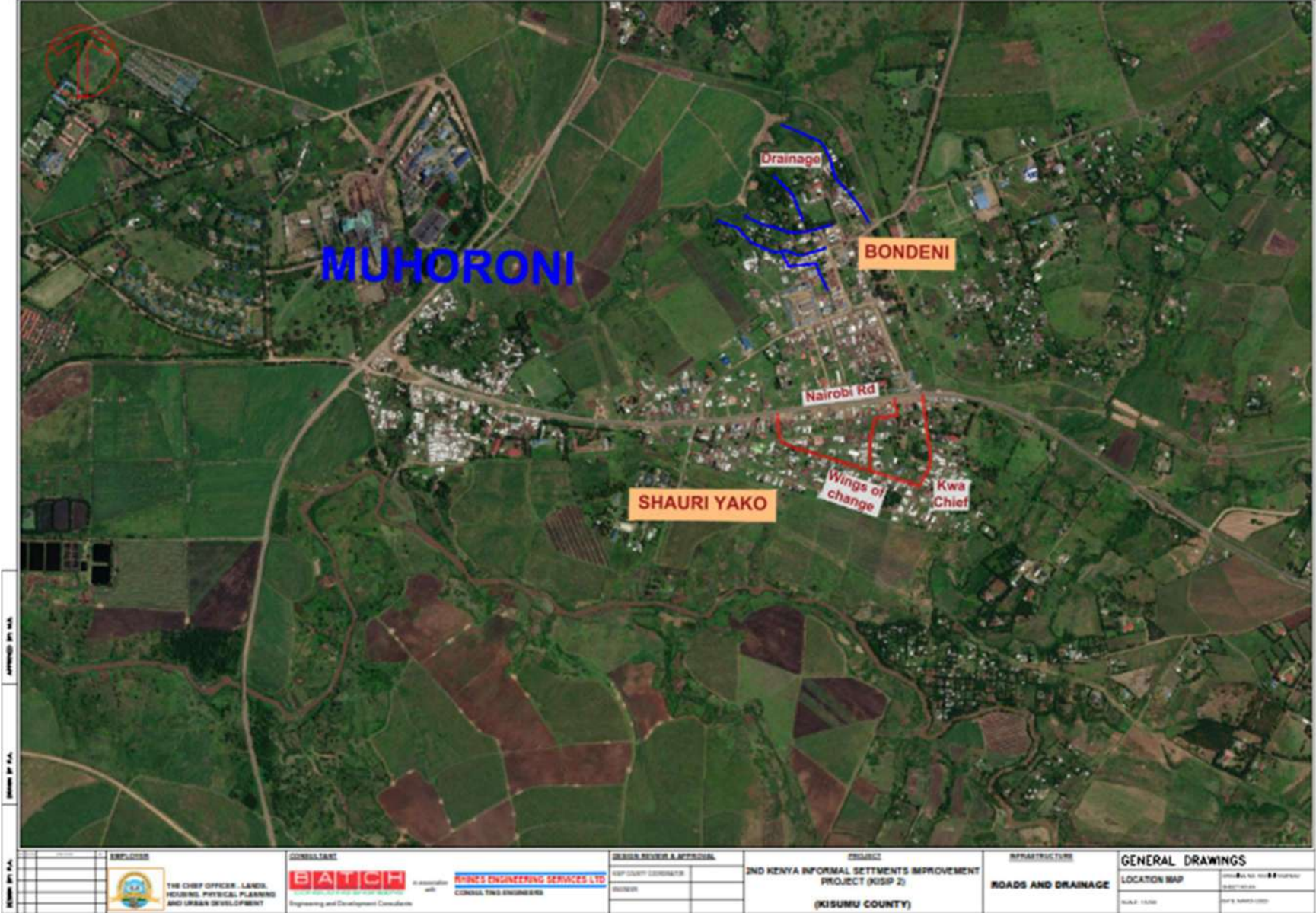






KISUMU DISTRICT
 KISUMU DISTRICT
 KISUMU DISTRICT

APPROVAL  THE CHIEF OFFICER, LANDS, HOUSING, PHYSICAL PLANNING AND URBAN DEVELOPMENT	CONSULTANT BATCH Engineering and Development Consultants ASSOCIATION WITH KHINES ENGINEERING SERVICES LTD CONSULTING ENGINEERS	DRAWING NO. & APPROVAL MAP COUNTY COORDINATOR DESIGNER	PROJECT 2ND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2) (KISUMU COUNTY)	INFRASTRUCTURE ROADS AND DRAINAGE	GENERAL DRAWINGS LOCATION MAP SCALE: 1:500 DATE: 10/03/2022
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Sheet 1 of 1
 Sheet 2 of 1
 Sheet 3 of 1

APPROVED

THE CHIEF OFFICER, LANDS,
HOUSING, PHYSICAL PLANNING
AND URBAN DEVELOPMENT

CONSULTANT

BATCH

in association with

WINGS ENGINEERING SERVICES LTD

CONSULTING ENGINEERS

Engineering and Development Consultants

LOCAL GOVERNMENT

KISUMU COUNTY COORDINATOR

OFFICE

PROJECT

2ND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2)

(KISUMU COUNTY)

INFRASTRUCTURE

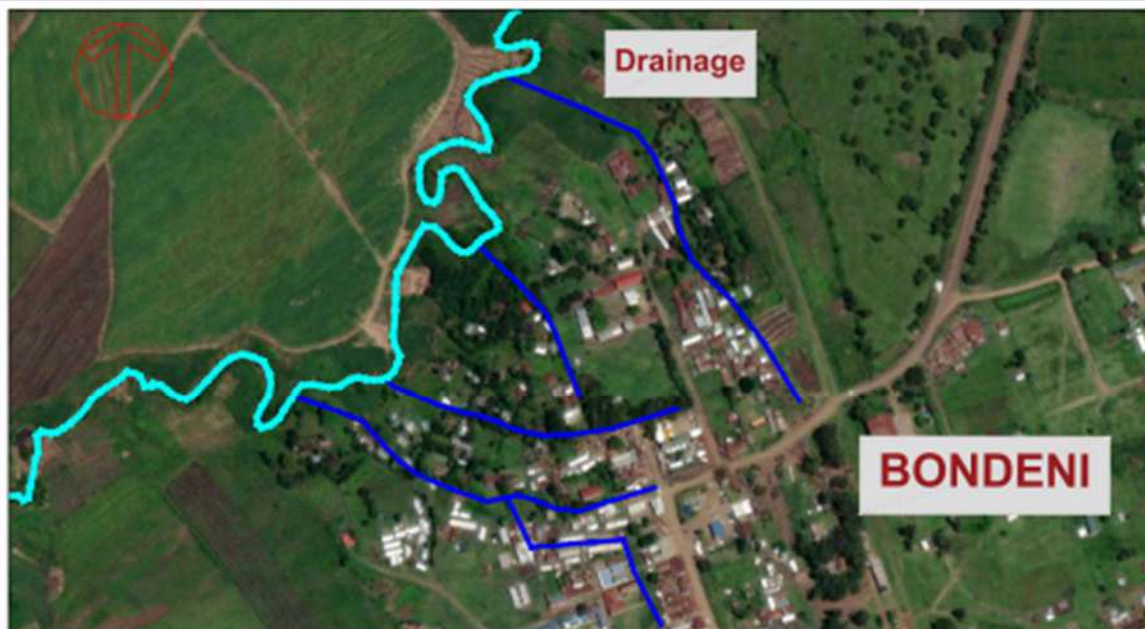
ROADS AND DRAINAGE

GENERAL DRAWINGS

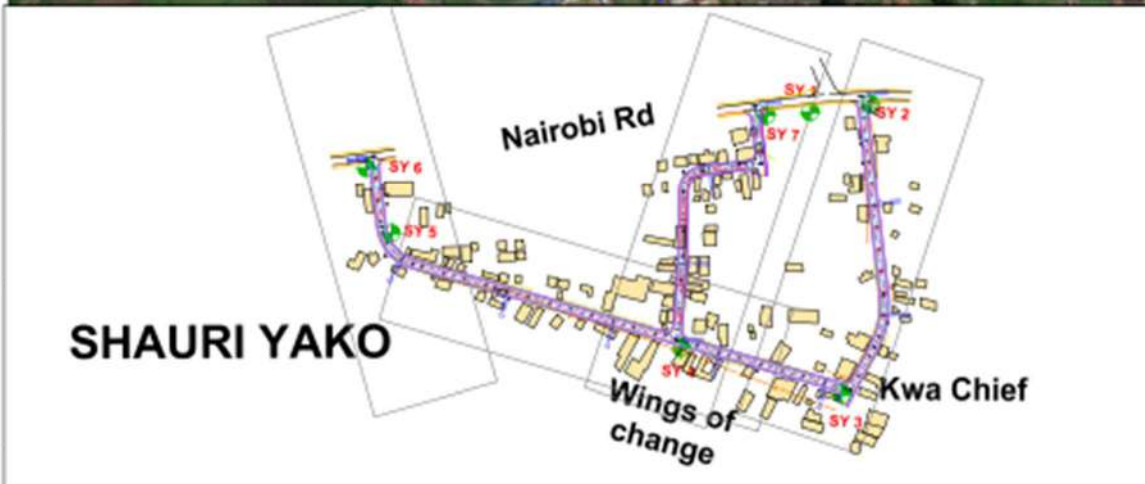
LOCATION MAP

SCALE: 1:5000

DATUM: WGS 84



POINT	NORTHING	EASTING	ELEVATION
SY 2	9,982,831.019	745,027.255	1,298.821
SY 1	9,982,823.871	744,972.682	1,297.949
SY 7	9,982,820.758	744,932.804	1,297.721
SY 3	9,982,567.997	745,001.614	1,294.848
SY 4	9,982,609.449	744,855.804	1,293.541
SY 5	9,982,713.432	744,592.171	1,292.074
SY 6	9,982,773.051	744,569.446	1,292.408



SHAURI YAKO

Nairobi Rd

Wings of change

Kwa Chief



THE CHIEF OFFICER, LANDS,
HOUSING, PHYSICAL PLANNING
AND URBAN DEVELOPMENT

CONSULTANT

BATCH
Engineering and Development Consultants

in association with
PONDS ENGINEERING SERVICES LTD
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DESIGN REVIEW & APPROVAL

DEPT. COUNTY COORDINATOR
PROJECT

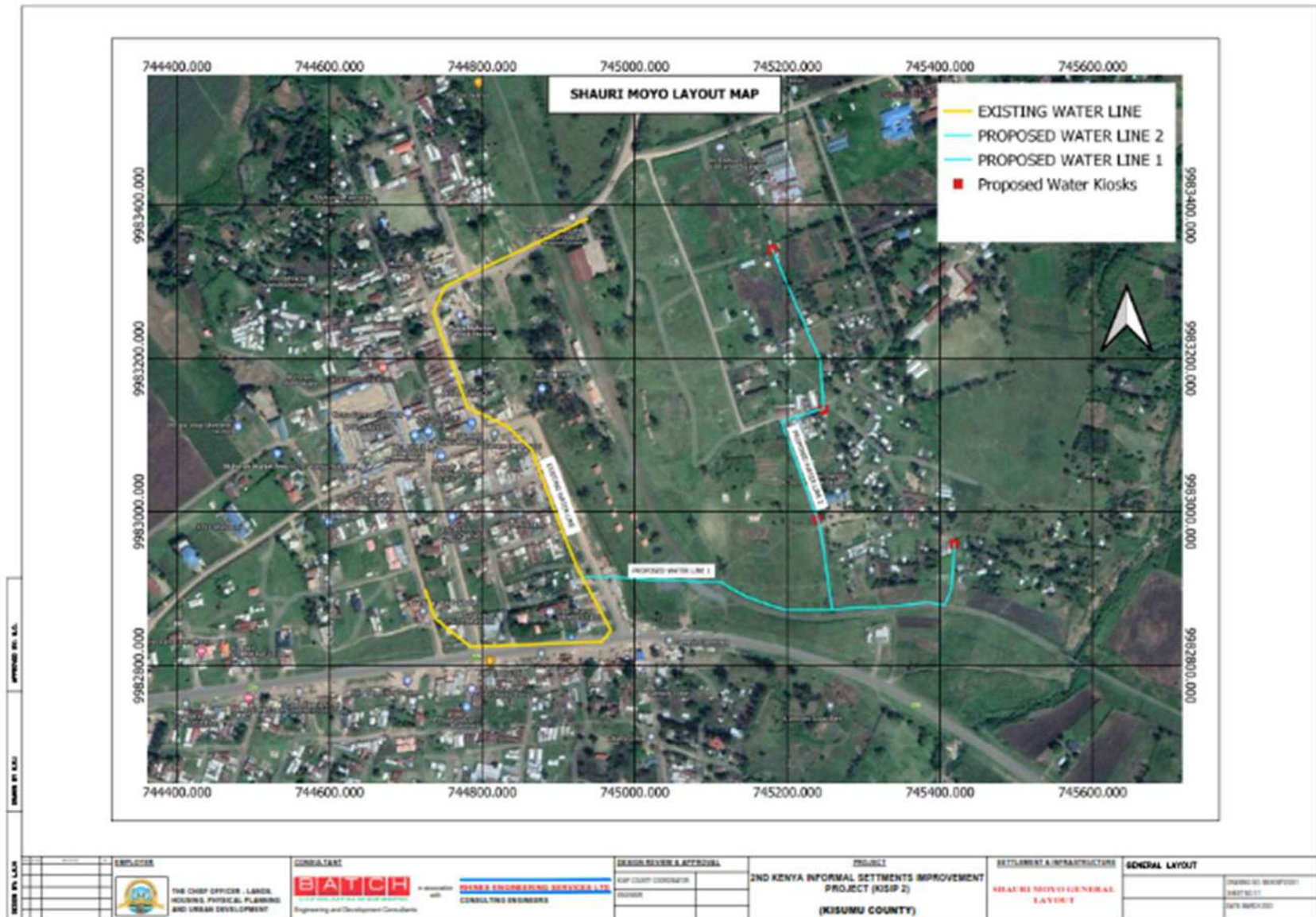
PROJECT
**2ND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2)**
(KISUMU COUNTY)

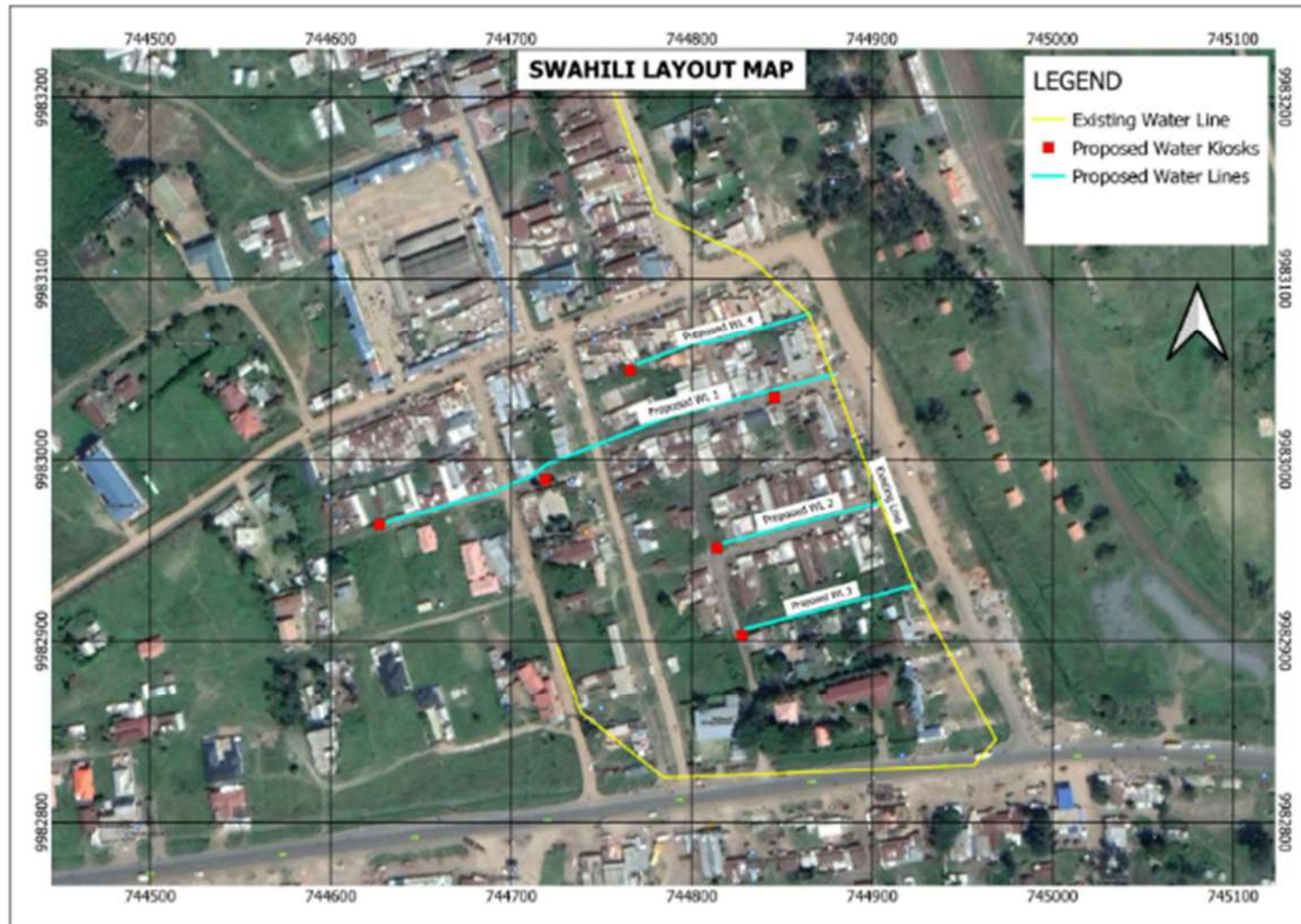
SETTLEMENT & INFRASTRUCTURE
**SHAURI YAKO AND
BONDENI SETTLEMENTS**
ROADS AND DRAINAGE

GENERAL DRAWINGS

PLAN LAYOUT AND
CONTROLS
SCALE: 1:1000
DATE: MARCH 2022

WATER SUPPLY COMPONENT LAYOUT MAP





SWAHILI LAYOUT MAP

SWAHILI LAYOUT MAP

SWAHILI LAYOUT MAP

ENDORSEMENT
THE CHIEF OFFICER, LANDS,
HOUSING, PHYSICAL PLANNING
AND URBAN DEVELOPMENT

CONSULTANT
BATCH
Engineering and Development Consultants

In association with
BUNDA ENGINEERING SERVICES LTD.
CONSULTING ENGINEERS

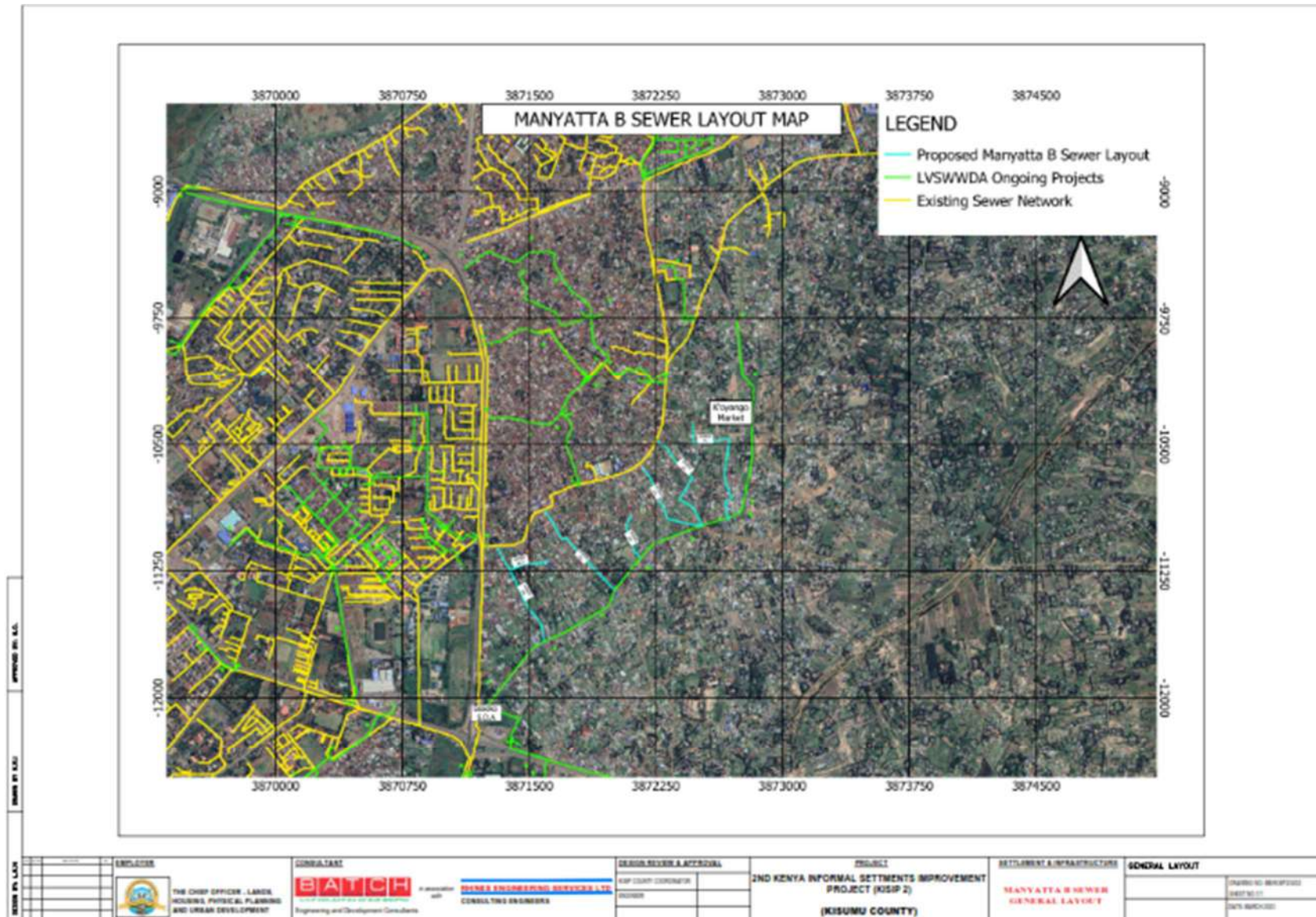
DESIGN REVIEW & APPROVAL
KIP COUNTY COORDINATOR
PROJECT

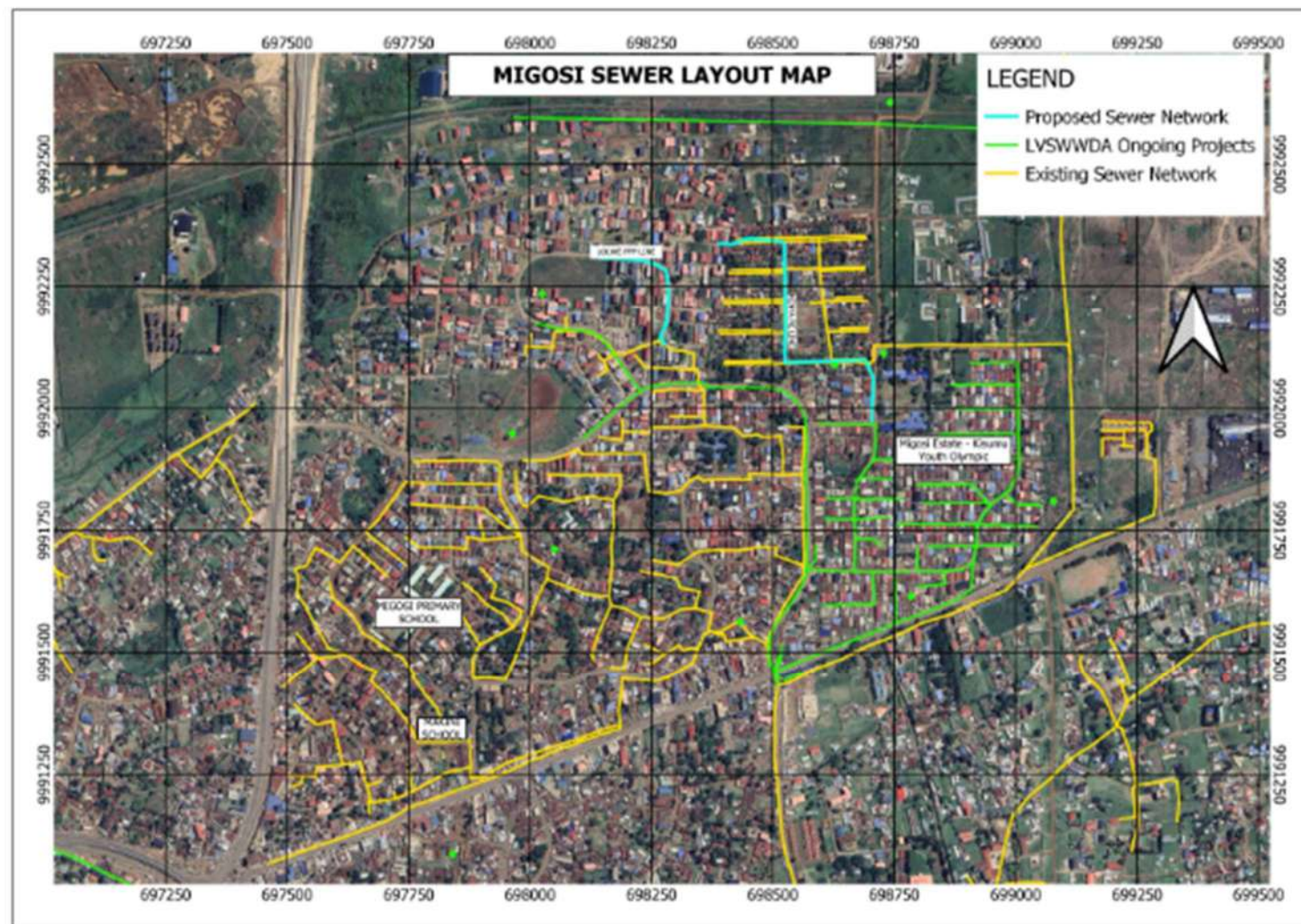
PROJECT
2ND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2)
(KISUMU COUNTY)

SETTLEMENT & INFRASTRUCTURE
SWAHILI GENERAL
LAYOUT

GENERAL LAYOUT
DRAWN BY: BUNDA
CHECKED BY: BUNDA
DATE: 2023/03/01

SEWER COMPONENT LAYOUT MAP





APPROVED BY: S.A.

DATE: 15/12/2021

SCALE: 1:5000



EMPLOYER
THE CHIEF OFFICER, LANDS,
HOUSING, PHYSICAL PLANNING
AND URBAN DEVELOPMENT

CONSULTANT
BATCH
Engineering and Development Consultants

DESIGN REVIEW & APPROVAL
EMPLOYER'S REPRESENTATIVE
PROJECT
CONSULTING ENGINEER

PROJECT
2ND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2)
(KISUMU COUNTY)

SETTLEMENT & INFRASTRUCTURE
MIGOSI SEWER GENERAL
LAYOUT

GENERAL LAYOUT

PROJECT NO: MIGOSI/2021/001
DATE: 15/12/2021
SCALE: 1:5000

ANNEX IV: List of stakeholders consulted in initial ESIA

ANNEX V: Minutes of public consultation meetings during initial ESIA study

APPENDIX 5: MINUTES OF BARAZA MEETINGS HELD IN INITIAL ESIA STUDY

BONDENI

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN DEVELOPMENT

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS

Minutes of a Baraza Meeting held in Bondeni settlement, on Saturday 14th October 2017 at 1.00am

Present:

Name	Designation/Organization
Julius Ngenga	Area MCA
Mbogo c	Area chief
Ms. Dorothy Onong'o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	surveyor-Kisumu County
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Min/B/01/10/2017 Introduction

The meeting started with a word of prayer from the Chairman of the Settlement Executive Committee (SEC) who later made a brief remark and welcomed all participants to the meeting. He went ahead and introduced all the SEC officials present. The KISP coordinator and consultant's team leader were also given a chance to introduce their teams present.

Min/B/02/10/2017 KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*

The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/B/03/10/2017 Consultant's brief/remarks

The consultant explained the purpose of the meeting and the method to be used. Mr William M. noted that it was the first meeting with the community and Focus Group Discussions would be conducted to discuss widely on sensitive security issues of the settlement.

He went ahead to explain that crime mapping exercise would be conducted to map out crime spots within the settlement using GPS equipment.

He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and receive proposals and suggestions from the community on how to address each of them.

The consultant further explained the role they are playing under Component 3 (Investing in Infrastructure and Service Delivery), and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/B/04/10/2017 Problems facing the Settlement

- Silvia Ouma stated that lack of water is a problem facing the settlement. She further informed that only one person is connected to tap water in the settlement, buying from her is a problem because the supply is inadequate.
- Silvia Ouma also indicated that sanitation is also a huge predicament affecting the settlement. Rapid disposal is the method they use to dispose the human waste, which is behind the pit latrines. This causes air pollution and it is a health hazard. A majority of the participants suggested a sewer line connecting to their houses and others septic tanks.
- Isaack Orayo added that security, roads and drainage are also problems facing the settlement. There is no dumpsite in the settlement, open dumping is the method used for disposal of solid waste. Margaret Owino added on the issue of security. She suggested that there be security/floodlights installed within the settlement.
- Kuluoch a participant present suggested that township primary school should be improved and a social hall Constructed for the youth. This will keep the youth busy and reduce crime rates in the area.
- Willis Otieno suggested construction of a polytechnic within the settlement. He further explained that there are many kids who have completed primary school education and the parents cannot afford to take them to next level of education but they have different talents. This way a polytechnic will be of so much use.
- Onyando proposed provision of a shopping Centre and a modern market where they can all do their businesses.
- One of the participants indicated that they do not have title deeds criticizing how these projects are going to be implemented without proper sub-division of land and issuance of titles. The KISIP coordinator clarified that the issue of land division and issuance of title is being carried by **Component 2: Planning and Survey** and the processes is ongoing and will be completed in due time.

The coordinator urged the participants to adhere to the day's program so that the objective of the meeting can be achieved and consultants to collect comprehensive data.

Min/B/05/10/2017 Proposed solutions (projects) to the problems

Drainage and Roads

- The participants suggested that the roads should be expanded and tarmacked,. Presently there are no proper roads for cars to pass through
- Storm water is also a problem.it floods all over the roads when it rains so there is need for a proper drainage system.

Sanitation

- The residents proposed connection of a sewer line in their homesteads because they do not have decent pit latrines and they fill up quickly.
- Construction of Septic tanks in individual houses

Water supply

- Participants suggested a connection of tap water in individual homesteads a more permanent solution to perennial lack of water because the current water source is inadequate.

Security

- The participants were Informed that the consultant was also carrying out a security mapping exercise for the area, participants suggested extra floodlights at marked hotspots and streetlights on main roads to sufficiently light up the settlement.

Min/B/06/10/2017 Proposed Projects

The community with the help of the chairperson of the SEC deliberated and proposed the following projects (in that order);

- Roads needs to be expanded and tarmacked.
- Installation of streetlights to enhance better security in the neighborhood this can also help to respond to emergency cases such as fire breakout. High mast to be provided in blackspot that were identified during the crime mapping exercise.
- Residents want a vocational training Centre to be constructed so that the youths who are not able to join collages and university can enroll and gain skills that will enable them to be productive in the society.
- Upgrade Muhoroni Township Primary and Our Lady Queen of Peace Mixed Secondary schools.
- A social hall and a library.
- Sewer line
- Proper drainage system.
- Dump site
- Solid waste collection facilities
- Youth empowerment on security and economic productivity.

Min/B/07/10/2017 A.O.B and Closing Remarks

Other issues suggested by participants included;

- Upgrading of the houses in future
- Construction of a vocational Centre where youths can gain skills.
- Construction of medium sized roads.

There being no other business, the meeting ended at 5:00pm with a word of prayer.

Disclosure Copy

CHEMELIL

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN DEVELOPMENT

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS

Minutes of a Baraza Meeting held in Chemelil settlement, on Thursday 11th January 2018 at 2.00p.m

Present:

Name	Designation/Organization
Ms. Dorothy Onong`no	KISIP Coordinator-Kisumu County
Mr. George Obiny	County Surveyor-Kisumu County
Ms. Titus Ochieng	County Planner-Kisumu County
Ms. Judith Okore	Roads engineer -Kisumu County
Mr. William Njeru	Bhundia Associates (BA)
Mr Dennis Gitonga	Bhundia Associates (BA)
Mr. Solomon Karani	Bhundia Associates (BA)
Mr. Moses Owuor	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Minutes:

Min/CH/01/01/2018 Introduction

The meeting started with a word of prayer from the Chairman of the Settlement Executive Committee (SEC) who later made a brief remark and welcomed all participants to the meeting. He went ahead and introduced all the SEC officials present. The KISIP coordinator and consultant's team leader were also given a chance to introduce their teams present.

Min/CH/02/01/2018 The KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*

The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/CH/03/01/2018 Consultant's brief/Remarks

The consultant explained the purpose of the meeting and the method to be used. Mr William M. noted that it was the first meeting with the community and Focus Group Discussions would be conducted to discuss widely on sensitive security issues of the settlement.

He went ahead to explain that crime mapping exercise would be conducted to map out crime spots within the settlement using GPS equipment.

He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and receive proposals and suggestions from the community on how to address each of them.

The consultant further explained the role they are playing under Component 3 (Investing in Infrastructure and Service Delivery), and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/CH/04/01/2018 Problems Facing the Settlement

Residents identified the major problems affecting them as follows:

- Leonard Achonyo stated that the greatest problem facing the settlement is poor drainage, explaining that some people have built toilets on the existing earth drains. That, he said, affects the businesses and houses during rainy seasons with a foul smell and risked spreading waterborne diseases. He insisted that roads was not a major problem and could be handled later.
- Vincent Okoth lamented that the buildings in the area are poorly planned and they were very congested. He also emphasized on the need for proper drainage, adding that bathroom and kitchen waste was discharged into the open drains. The resident touched on the issue of the market, insisting that improvement and putting up of proper stalls was necessary.
- Kennedy Otieno mentioned the lack of public toilets, adding that some residents used the sugar plantations. He emphasized on the need for ablution blocks in the settlement.
- The village elder noted that a number of landlords owned buildings but lacked sanitation facilities like toilets. He suggested for construction of modern public toilets to reduce cases of sanitation related illnesses. He also showed concerns on the lack of hospitals in the settlement.
- The elder added that streetlights should be put up to reduce the cases of mugging and crime during the night.
- A participant proposed establishment of sporting facilities at the roundabout (ie. Football and basketball pitches). He also suggested that they needed a social hall for the youths to practice.

- Sarah A. M. stated that the settlement was not adequately supplied with water, mentioning that they only had one borehole and River Nyando as sources. Supported by another participant, they emphasized on the need for another well-established borehole, properly fit with a pump and an elevated tank.

Min/CH/05/01/2018 Proposed solutions (projects) to the Problems

Drainage and Roads

- They suggested construction of proper drainage within the settlement.
- The participants proposed proper planning and tarmacking of the roads within the market to increase access.

Sanitation

- The village elder suggested for construction of modern toilets.
- The participants proposed for ablution blocks in the settlement.

Water Supply

- Participants suggested that an additional borehole was needed to increase the water supply in the settlement.

Security

- The village elder proposed that streetlights should be put up at the roundabout and surrounding areas to light up the settlement and help curb mugging and crime during dark hours.

Min/CH/06/01/2018 Proposed Projects

The community with the help of the chairman of the SEC deliberated and proposed the following projects (in that order);

- Installation of security lights (streetlights, solar-powered)
- Tarmacked roads within the roundabout
- Provide proper drainage facilities
- Garbage bins
- Upgrade the market
- Sporting facilities; modern pitch for football, rugby, volleyball and basketball
- Public health facility
- Increase water supply
- Construct a social hall
- Provide public toilets
- Put up a juakali shade
- Improve the market planning

Min/CH/07/01/2018 A.O.B and Closing Remarks

Other issues suggested by participants included;

APPENDIX 5: MINUTES OF BARAZA MEETINGS HELD IN INITIAL ESIA STUDY

BONDENI

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN DEVELOPMENT

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS

**Minutes of a Baraza Meeting held in Bondeni settlement, on Saturday 14th October 2017
at 1.00am**

Present:

Name	Designation/Organization
Julius Ngenga	Area MCA
Mbogo c	Area chief
Ms. Dorothy Onong'o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	surveyor-Kisumu County
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Min/B/01/10/2017 Introduction

The meeting started with a word of prayer from the Chairman of the Settlement Executive Committee (SEC) who later made a brief remark and welcomed all participants to the meeting. He went ahead and introduced all the SEC officials present. The KISP coordinator and consultant's team leader were also given a chance to introduce their teams present.

Min/B/02/10/2017 KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*

The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/B/03/10/2017 Consultant's brief/remarks

The consultant explained the purpose of the meeting and the method to be used. Mr William M. noted that it was the first meeting with the community and Focus Group Discussions would be conducted to discuss widely on sensitive security issues of the settlement.

He went ahead to explain that crime mapping exercise would be conducted to map out crime spots within the settlement using GPS equipment.

He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and receive proposals and suggestions from the community on how to address each of them.

The consultant further explained the role they are playing under Component 3 (Investing in Infrastructure and Service Delivery), and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/B/04/10/2017 Problems facing the Settlement

- Silvia Ouma stated that lack of water is a problem facing the settlement. She further informed that only one person is connected to tap water in the settlement, buying from her is a problem because the supply is inadequate.
- Silvia Ouma also indicated that sanitation is also a huge predicament affecting the settlement. Rapid disposal is the method they use to dispose the human waste, which is behind the pit latrines. This causes air pollution and it is a health hazard. A majority of the participants suggested a sewer line connecting to their houses and others septic tanks.
- Isaack Orayo added that security, roads and drainage are also problems facing the settlement. There is no dumpsite in the settlement, open dumping is the method used for disposal of solid waste. Margaret Owino added on the issue of security. She suggested that there be security/floodlights installed within the settlement.
- Kuluoch a participant present suggested that township primary school should be improved and a social hall Constructed for the youth. This will keep the youth busy and reduce crime rates in the area.
- Willis Otieno suggested construction of a polytechnic within the settlement. He further explained that there are many kids who have completed primary school education and the parents cannot afford to take them to next level of education but they have different talents. This way a polytechnic will be of so much use.
- Onyando proposed provision of a shopping Centre and a modern market where they can all do their businesses.
- One of the participants indicated that they do not have title deeds criticizing how these projects are going to be implemented without proper sub-division of land and issuance of titles. The KISIP coordinator clarified that the issue of land division and issuance of title is being carried by **Component 2: Planning and Survey** and the processes is ongoing and will be completed in due time.

The coordinator urged the participants to adhere to the day's program so that the objective of the meeting can be achieved and consultants to collect comprehensive data.

Min/B/05/10/2017 Proposed solutions (projects) to the problems

Drainage and Roads

- The participants suggested that the roads should be expanded and tarmacked,. Presently there are no proper roads for cars to pass through
- Storm water is also a problem.it floods all over the roads when it rains so there is need for a proper drainage system.

Sanitation

- The residents proposed connection of a sewer line in their homesteads because they do not have decent pit latrines and they fill up quickly.
- Construction of Septic tanks in individual houses

Water supply

- Participants suggested a connection of tap water in individual homesteads a more permanent solution to perennial lack of water because the current water source is inadequate.

Security

- The participants were Informed that the consultant was also carrying out a security mapping exercise for the area, participants suggested extra floodlights at marked hotspots and streetlights on main roads to sufficiently light up the settlement.

Min/B/06/10/2017 Proposed Projects

The community with the help of the chairperson of the SEC deliberated and proposed the following projects (in that order);

- Roads needs to be expanded and tarmacked.
- Installation of streetlights to enhance better security in the neighborhood this can also help to respond to emergency cases such as fire breakout. High mast to be provided in blackspot that were identified during the crime mapping exercise.
- Residents want a vocational training Centre to be constructed so that the youths who are not able to join collages and university can enroll and gain skills that will enable them to be productive in the society.
- Upgrade Muhoroni Township Primary and Our Lady Queen of Peace Mixed Secondary schools.
- A social hall and a library.
- Sewer line
- Proper drainage system.
- Dump site
- Solid waste collection facilities
- Youth empowerment on security and economic productivity.

Min/B/07/10/2017 A.O.B and Closing Remarks

Other issues suggested by participants included;

- Upgrading of the houses in future
- Construction of a vocational Centre where youths can gain skills.
- Construction of medium sized roads.

There being no other business, the meeting ended at 5:00pm with a word of prayer.

Disclosure Copy

- Sarah A. M. stated that the settlement was not adequately supplied with water, mentioning that they only had one borehole and River Nyando as sources. Supported by another participant, they emphasized on the need for another well-established borehole, properly fit with a pump and an elevated tank.

Min/CH/05/01/2018 Proposed solutions (projects) to the Problems

Drainage and Roads

- They suggested construction of proper drainage within the settlement.
- The participants proposed proper planning and tarmacking of the roads within the market to increase access.

Sanitation

- The village elder suggested for construction of modern toilets.
- The participants proposed for ablution blocks in the settlement.

Water Supply

- Participants suggested that an additional borehole was needed to increase the water supply in the settlement.

Security

- The village elder proposed that streetlights should be put up at the roundabout and surrounding areas to light up the settlement and help curb mugging and crime during dark hours.

Min/CH/06/01/2018 Proposed Projects

The community with the help of the chairman of the SEC deliberated and proposed the following projects (in that order);

- Installation of security lights (streetlights, solar-powered)
- Tarmacked roads within the roundabout
- Provide proper drainage facilities
- Garbage bins
- Upgrade the market
- Sporting facilities; modern pitch for football, rugby, volleyball and basketball
- Public health facility
- Increase water supply
- Construct a social hall
- Provide public toilets
- Put up a juakali shade
- Improve the market planning

Min/CH/07/01/2018 A.O.B and Closing Remarks

Other issues suggested by participants included;

Youth empowerment programmes especially when the schools are out of session. This is to engage the youths and avert their involvement in crime. There being no other business, the meeting ended at 5:00pm with a word of prayer.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/Kat/5/10/2017 Problems facing the Settlement

- Okwach Moses stated that Katito is faced by floods during heavy rainy seasons. The market is heavily affected during the rainy season making it inaccessible and as a result destroying goods meant for sale.
- Michael Opiyo Omollo stated that cattle rusting is a major problem in the upper parts of the settlement and a cause to criminal activities. Lack of enough lighting facilities at night make security of the area even worse.
- Hon. Rashid Meruka stated that water supply is a problem in the area, Katito is faced with perennial water shortage as the current water supply system is not adequate and does not serve the whole area.
- The area MCA further stated that the market structure is in deplorable state and need rehabilitation. He added that access roads within the settlement are also in bad state especially during the rainy season. This roads includes the one leading to the main market Centre.
- George Ouma, a resident of Katito indicated that sanitation is also another problem in the area, with the growing population and limited space for constructing pit latrines, the situation will be unmanageable.
- Nancy Akinyi, said that solid waste management is also a problem in the area and especially in the market. Measures have to be put in place to ensure waste is collected regularly and reduce pollution.
- Other problems facing include lack of equipped health facilities and schools and resource center.

Min/Kat/6/10/2017 Proposed Solutions to the Problems

Drainage and Accessibility

- On drainage, residents proposed construction of elevated roads/paths with proper drainage.
- Main roads within the settlement to be paved to enable accessibility within the settlement especially during the rainy season

The Market

- Upgrade the current market with a public modern toilet facility, floodlights, a fence and a gate.
- The market's drainage facility to be well planned because of the flooding problem within the market

SHAURI YAKO

**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN
DEVELOPMENT**

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

**CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE
UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN
INFORMAL SETTLEMENTS**

**Minutes of a Baraza Meeting held in Shauri Yako settlement, on Friday 13th October
2017 at 2.00pm**

Present:

Name	Designation/Organization
Julius Ngenga	Area MCA
Ms. Dorothy Onong'o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	Surveyor-Kisumu County
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Minutes:

Min/SY/1/10/2017 Introduction

The meeting started off with a word of prayer from one of the participants. The Chairman of the Settlement Executive Committee (SEC) made a brief remark. The chairman welcomed all participants to the meeting and went ahead to introduce all the SEC officials present.

The KISIP coordinator and consultant's team leader were given a chance to introduce their teams present and make brief remarks.

Min/SY/2/10/2017 KISIP program

The KISIP coordinator took time to brief the participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*. The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/SY/3/10/2017 Consultants brief

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them.

Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/SY/4/10/2017 Problems facing the settlement

- The former area chief requested proper planning of the settlement be done to establish where roads and other physical planning facilities should be established. With proper planning, the area requires adequate water supply system, sewerage system, an AP camp and upgrading of resident's houses.
- Mida, one of the participants stated that the settlement required proper physical plan to open it up with good roads.
- The current area chief stated that the security situation in the area was getting bad overtime and the main issue it was difficult to eliminate crime was a lack of AP camp in the area and a lack of security lighting. The AP camp will help accommodate administration police personnel to help fight crime in the area. He also added there was need for proper planning of the settlement to establish children playing grounds and a cemetery to serve the residents.
- One of the participants lamented the inadequate water supply in the area and wanted it expanded. There exist about three water points in the area but water supply is not reliable or adequate. Therefore there was need to expand the water supply system to all parts of the settlement.
- Asha stated that there was need for expansion of health facility because the residents depended on only one hospital, which was about 1.5 km away. Therefore, there was need for a health center in the area to cater for the health needs of the residents and handle emergency cases. She also requested expansion of the road network to open up the settlement and assist in construction of drainage channels along these roads to remedy the flooding that occurs.
- The SEC chair stated Sanitation as the main problems facing the settlement. He added that the area water table is high and this affects the pit latrines which are the only sanitation facilities available to them. There was need of sewer network to be established in the area. He added that there was need for a market in the place since the existing one was across the main highway and was risky for residents to cross the road often to go to the market.
- Paka, a resident in Shauri Yako, observed the need for a social hall with all facilities like a library, indoor sports, meeting halls and other necessary facilities to help keep the youth engaged and away from crime.

Youth empowerment programmes especially when the schools are out of session. This is to engage the youths and avert their involvement in crime. There being no other business, the meeting ended at 5:00pm with a word of prayer.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/Kat/5/10/2017 Problems facing the Settlement

- Okwach Moses stated that Katito is faced by floods during heavy rainy seasons. The market is heavily affected during the rainy season making it inaccessible and as a result destroying goods meant for sale.
- Michael Opiyo Omollo stated that cattle rusting is a major problem in the upper parts of the settlement and a cause to criminal activities. Lack of enough lighting facilities at night make security of the area even worse.
- Hon. Rashid Meruka stated that water supply is a problem in the area, Katito is faced with perennial water shortage as the current water supply system is not adequate and does not serve the whole area.
- The area MCA further stated that the market structure is in deplorable state and need rehabilitation. He added that access roads within the settlement are also in bad state especially during the rainy season. This roads includes the one leading to the main market Centre.
- George Ouma, a resident of Katito indicated that sanitation is also another problem in the area, with the growing population and limited space for constructing pit latrines, the situation will be unmanageable.
- Nancy Akinyi, said that solid waste management is also a problem in the area and especially in the market. Measures have to be put in place to ensure waste is collected regularly and reduce pollution.
- Other problems facing include lack of equipped health facilities and schools and resource center.

Min/Kat/6/10/2017 Proposed Solutions to the Problems

Drainage and Accessibility

- On drainage, residents proposed construction of elevated roads/paths with proper drainage.
- Main roads within the settlement to be paved to enable accessibility within the settlement especially during the rainy season

The Market

- Upgrade the current market with a public modern toilet facility, floodlights, a fence and a gate.
- The market's drainage facility to be well planned because of the flooding problem within the market

SHAURI YAKO

**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN
DEVELOPMENT**

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

**CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE
UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN
INFORMAL SETTLEMENTS**

**Minutes of a Baraza Meeting held in Shauri Yako settlement, on Friday 13th October
2017 at 2.00pm**

Present:

Name	Designation/Organization
Julius Ngenga	Area MCA
Ms. Dorothy Onong'o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	Surveyor-Kisumu County
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Minutes:

Min/SY/1/10/2017 Introduction

The meeting started off with a word of prayer from one of the participants. The Chairman of the Settlement Executive Committee (SEC) made a brief remark. The chairman welcomed all participants to the meeting and went ahead to introduce all the SEC officials present.

The KISIP coordinator and consultant's team leader were given a chance to introduce their teams present and make brief remarks.

Min/SY/2/10/2017 KISIP program

The KISIP coordinator took time to brief the participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*. The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/SY/3/10/2017 Consultants brief

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them.

Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/SY/4/10/2017 Problems facing the settlement

- The former area chief requested proper planning of the settlement be done to establish where roads and other physical planning facilities should be established. With proper planning, the area requires adequate water supply system, sewerage system, an AP camp and upgrading of resident's houses.
- Mida, one of the participants stated that the settlement required proper physical plan to open it up with good roads.
- The current area chief stated that the security situation in the area was getting bad overtime and the main issue it was difficult to eliminate crime was a lack of AP camp in the area and a lack of security lighting. The AP camp will help accommodate administration police personnel to help fight crime in the area. He also added there was need for proper planning of the settlement to establish children playing grounds and a cemetery to serve the residents.
- One of the participants lamented the inadequate water supply in the area and wanted it expanded. There exist about three water points in the area but water supply is not reliable or adequate. Therefore there was need to expand the water supply system to all parts of the settlement.
- Asha stated that there was need for expansion of health facility because the residents depended on only one hospital, which was about 1.5 km away. Therefore, there was need for a health center in the area to cater for the health needs of the residents and handle emergency cases. She also requested expansion of the road network to open up the settlement and assist in construction of drainage channels along these roads to remedy the flooding that occurs.
- The SEC chair stated Sanitation as the main problems facing the settlement. He added that the area water table is high and this affects the pit latrines which are the only sanitation facilities available to them. There was need of sewer network to be established in the area. He added that there was need for a market in the place since the existing one was across the main highway and was risky for residents to cross the road often to go to the market.
- Paka, a resident in Shauri Yako, observed the need for a social hall with all facilities like a library, indoor sports, meeting halls and other necessary facilities to help keep the youth engaged and away from crime.

- Ben stated that there was need for an ECDE center in the settlement to cater for the children. There was none at the moment and children had to cross the highway everyday which was dangerous.

Min/SY/5/10/2017 Proposed solutions (project) to the problems

Drainage and Roads

- To solve the drainage problem and manage rain water run-off, residents agreed that the settlement will have to be re-planned well and provide way for roads and paths.
- The residents agreed that structures that are built on roads will have to be moved so that a properly planned roads and drainage system to manage run-off can be put in place.
- Participants suggested tarmacked roads.

Sanitation

- The Chairman stated that the sanitation issue needed to be solved immediately because the area water table is high and pit latrine constructed are shallow and get filled fast and sometimes if not properly done can cause ground water contamination.
- The participants present tasked the consultant to provide a sewer line with provision to connect individual houses

Water supply

- Participants suggested the expansion of the existing water supply. The water network should reach all parts of the settlement and the water points should be increased and brought near resident's premises.

Security

- Participants suggested extra floodlights and security lighting at marked hotspots on main roads to sufficiently light up the settlement. They also agreed that an AP camp should be built at the chief's camp to strengthen security personnel in the area.

Public ECDE and Dispensary

- Participants agreed that a public ECDE to take care of the children early education and a dispensary be established at the chief's camp compound.

Min/SY/6/10/2017 Proposed Projects

The community with the help of the chairman of the SEC deliberated and proposed the following projects (in that order);

- Roads and drainage
- Water supply
- Sewer system
- Security lighting
- AP Camp
- Dispensary
- Public ECDE (Early Childhood Development Education)
- Social hall
- Market

- Cemetery
- Children playing ground
- Dumpsite

Min/SY/7/10/2017 AOB and closing remarks

Other issues suggested by participants included;

The chief stated that there was space available to establish an AP Camp, an ECDE center and dispensary at the chief's camp compound. There being no other business, the meeting ended at 4:00pm with a word of prayer.

SHAURI MOYO

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN DEVELOPMENT

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS

**Minutes of a Baraza Meeting held in Shauri Moyo settlement, on Friday 13th October
2017 at 10.00am**

Present:

Name	Designation/Organization
Julius Ngenga	Area MCA
Mbogo c	Area chief
Ms. Dorothy Onong`o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	Surveyor-Kisumu County
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Minutes:

Min/SM/1/10/2017 Introduction

The meeting started off with a word of prayer. The Chairman of the Settlement Executive Committee (SEC) made a brief remark welcomed all participants to the meeting. The chairman went ahead and introduced all the SEC officials present. KISP coordinator and consultant's team leader were also given a chance to introduce their teams present.

Min/SM/2/10/2017 KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*. The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/SM/3/10/2017 The Consultant's Brief/Remarks

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them.

Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/SM/4/10/2017 Problems facing the Settlement

- Ann a resident stated that problems facing the settlement are lack of proper roads, water, security and electricity. She further explained that they buy water from vendors and others fetch from the river. The participants suggested that a borehole should be dug and it should use solar because paying electricity bill is a problem, majority cannot afford.
On the issue of security she indicated that there are no security lights in the area, the participants present suggested that when roads are being constructed they should also install streetlights/floodlights.
- Christine Akelo Okoth indicated that they need a shopping Centre where they can do their businesses because it is not safe to walk after dark from the main market.
- Salome Atieno Abonyo also emphasized on the market subject. She said that most traders sell their products from outside the market because the market is small and cannot hold many people, she requested construction of a huge and modern market.
- Erick O Okal stated that the bridge that connects Owaga sub location and Muhoroni is not properly done and 2 deaths have occurred during the rainy season. The participants came to a unanimous agreement that the bridge should be reconstructed.
- Joshua L Ochola stated that sanitation is also a huge problem affecting the settlement. The settlement does not have a sewer line, when the pit latrines fills up they empty and dispose of the raw waste randomly within the residential area which is a health hazard.
- Susan Onyango pointed out that they do not have a place where the youth can entertain themselves, she therefore suggested construction of a social hall.
- Pastor James Koduani indicated that solid waste management is also a problem in the settlement. Currently open dumping is the main disposal method they use which leads to air pollution so the participants suggested establishment of a dump site.
- Kenneth Otieno insisted on the issue of a proper drainage system. He informed the consultants that fire outbreaks in the settlement are very common, for that reason he proposed large hose pipes that can assist to put off a fire in case of an outbreak.

Min/SM/5/10/2017 Proposed Solutions (Projects) to the Problems

Roads and Drainage

- The participants proposed a drainage system that can hold large volume of water especially during rainy season.
- One of the participants suggested a main road from railways to Muhorini Secondary School and it should be tarmacked.
- .

Sanitation

- The participants suggested connection of a sewer line to individual households because the present human waste disposal method is hazardous.
- There was a suggestion of construction of modern toilets because the existing ones fills up very quickly.

Water supply

- Participants suggested connection of pipe water in their homesteads and borehole as an alternative. The borehole should use solar and not electricity because majority of the residents cannot afford to pay the electricity bill

Security

- The participants proposed installation of streetlights/floodlights after roads are constructed.
- Most of the residents do not have electricity connection in their houses, so the participants present requested for connection in their houses.

Min/SM/6/10/2017 Proposed Projects

The community with the help of the chairman of the SEC deliberated and proposed the following projects (in that order);

- Tarmacked roads.
- Provide a dump site.
- Upgrade Muhoroni Township Primary and Our Lady Queen of Peace Mixed Secondary School.
- Provide village polytechnic
- Solid waste collection facilities
- Construction of better classes, dormitory and latrines for Muhorini Secondary School.

Min/SM/7/10/2017 AOB and Closing Remarks

Other issues suggested by participants included;

Construction of septic tank. Construction of a nursery school and primary school. The residents proposed construction of a polytechnique in the settlement. There being no other business, the meeting ended at 1:00pm with a word of prayer.

SANGORO

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN DEVELOPMENT

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE IN INFORMAL SETTLEMENTS

**Minutes of a Baraza Meeting held in Sangoro settlement, on Saturday 14th October 2017
at 10.00am**

Present:

Name	Designation/Organization
Julius Ngenga	Area MCA
Mbogo c	Area chief
Ms. Dorothy Onong'o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	Surveyor-Kisumu County
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Minutes:

Min/SNR/1/10/2017 Introduction

The meeting started off with a word of prayer from one of the participants. The Chairman of the Settlement Executive Committee (SEC) some brief remarks and welcomed all participants to the meeting. The chairman introduced all the SEC officials present and welcomed KISIP coordinator. KISIP coordinator and consultant's team leader were given a chance to introduce their respective teams present.

Min/SNR/2/10/2017 The KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*. The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/SNR/3/10/2017 The Consultant's brief/remarks

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects

Min/SNR/4/10/2017 Problems facing the Settlement

- William Tolbat stated that the residents houses get flooded and their properties destroyed during rainy season because of a lack of drainage system. Also because of the high water table most latrines are shallow and get filled fast and the waste is removed and heaped at the back of most resident's homes. This creates a health problem when it floods and the waste is swept away as flood water to houses. Therefore there was need for a good drainage system and sewer network.
- Christopher Wasonga recommended building of good roads in the settlement to make it accessible and open it up and also install street lights along the roads to enhance security. He requested for proper sanitation to be implemented for example providing centralized septic tank for residents. He also requested for proper planning of the settlement to provide a playing field for the children.
- Agnes Adhiambo stated that the area required a dispensary since the only health facility they relied on was about 1.5 km away. The area require an health center to cater for emergency situations and the growing population of Sangoro.
- Rael Obedi stated that there was no proper solid waste management. Residents dump their waste haphazardly on the roadside and this causes health concerns. She also observed the area needed an ECDE center to cater for the children schooling needs.
- Vincent Ochieng stated the need for a well-equipped social hall in the area to cater for the youth who are unemployed or have just completed schooling. But Amos Pesa lamented the lack of spaces to locate the social hall or even a playing field for children. Therefore there was need for proper planning of the settlement to stablish where all facilities should be located. Michael Mangoo also requested for this planning to be done.
- Moses Oguda stated that water supply was inadequate in the area. Women have to trek for long distances to the river to collect water for cooking or washing. The water supply is by direct pumping and there's no storage tank available to cater for the times pumping is not effected. Therefore there was need to provide storage tanks. David Owiti requested that the water provided should be treated.
- One of the participants requested a bridge be constructed across a seasonal river to connect Sangoro to Agro chemical industry

Min/SNR/5/10/2017 Proposed Solutions (Project) to the Problems

Sewer system and Sanitation

- The participants stated that there was need for a sewer system to be implemented in the area since most of the latrines are filled fast and there was no extra land where to dig new ones. Also because of the health problem the emptied pit latrine waste pose, there was need to provide proper sanitation facilities that may include centralized septic tanks or public toilets. These can be used even when there is water supply shortage.

Drainage and Roads/Paths

- To solve the drainage problem and manage rainwater run-off, residents agreed that the settlement will have to be re-planned well and provide way for roads and paths.
- Residents agreed that properly planned drainage system to manage run-off can be put in place alongside the roads/paths.
- Participants suggested tarmacked roads or murram roads.

Water supply

- Participants suggested expansion of the existing water supply network to cover all parts of the settlement. They also requested the construction of storage tanks to store water for use when there is no pumping. The residents also requested that the water supplied should be treated before it is pumped to the supply network or the storage tanks.

Security

- Participants suggested extra floodlights at marked hotspots to cover the areas where security lighting is not available.

Min/SNR/6/10/2017 Proposed Projects

The community with the help of the chairman of the SEC deliberated and proposed the following projects (in that order);

- Sewer line
- Sanitation
- Roads with drainage channels
- Water supply with water storage tank
- Security Lighting
- Dispensary
- Social Hall
- Dump site
- Market
- Foot bridge

Min/SNR/7/10/2017 AOB and Closing Remarks

Other issues suggested by participants included;

The participants enquired on the issue of acquiring title deeds for the residents to solve land issues existing in the area. There being no other business, the meeting ended at 1:30pm with a word of prayer.

NYAWITA

**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN
DEVELOPMENT**

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

**CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE
UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE
IN INFORMAL SETTLEMENTS**

**Minutes of a Baraza Meeting held in Nyawita settlement, on Sunday 15th October 2017
at 10.00am**

Present:

Name	Designation/Organization
Hon Pst David Arao	Area MCA
Ms. Dorothy Onong'o	KISIP Coordinator-Kisumu County
Mr. Titus Ochieng'	Planner-Kisumu County
Ms. Judith Okore	KISIP Official-Kisumu County
Mr. George Obiny	surveyor-Kisumu County
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Min/NY/01/10/2017 Introduction

The meeting started with a word of prayer. The Chairman of the Settlement Executive Committee (SEC) made a brief remark and welcomed all participants to the meeting. He went ahead and introduced all the SEC officials present. The KISIP coordinator Ms. Dorothy Onong'o and the consultant's team leader were also given a chance to introduce their team members present.

Min/NY/02/10/2017 KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*

The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/NY/03/10/2017 Consultant's brief/remarks

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/NY/04/10/2017 Problems facing the Settlement

- Solomon Nyando stated that insecurity is the main problem affecting the settlement. He informed that there is need for floodlights near the market because the existing ones does not work.
- Robert indicated that the highest percentage uses pit latrine and they fill up very quickly, he suggested construction of a sewer system.
- Elisha stated that roads and drainage are also problems affecting the settlement. He further explained that storm water floods all over the area.
- Abida Koyango suggested that the roads should be tarmacked roads and on the issue of security, there should be installation of floodlights in the market, this way the traders will be able to sell their produce even when it gets dark.
- Peter indicated that early childhood development are privately owned, he said there is need for a public primary that everyone can afford.
- Kennedy Odhiambo stated that there is no police post in the area and this is encouraging crimes in the area.
- Celine Wasunga indicated that there is no health facility nearby therefore there is need for a health facility within the settlement.
- Onyango, a participant, suggested construction of a resource Centre for the youth, this will reduce crime rate in the settlement since the youth will be involved in activities in the settlement.

Min/NY/05/10/2017 Proposed solutions (projects) to the Problems

Drainage and Roads/Paths

- Participants suggested tarmacked roads.
- To solve the problem of storm water, the residents suggested construction of a proper drainage system together with construction of roads.

Market

- The participants suggested that the market should be upgraded to a modern market with floodlights, because the existing floodlight does not work.
- The chairperson stated that there should be enough floodlights in the market; this will enable the traders to work at night. Presently they leave very early due to darkness

Sanitation

- The highest percentage use pit latrines, which fills up very quickly so the participants suggested that they need modern toilets.

- The participants also suggested construction of public toilet within the market.
- One participant stated that there is a sewer line in a nearby area so he proposed that the settlement should also be connected to that existing sewer line.

Water supply

- Participants suggested a more permanent solution to perennial lack of water because the current water source (tap water from the local water company) is inadequate. Ali Yusuf, one of the participants suggested borehole at strategic locations, a suggestion that the participants present agreed with.

Security

- The participants suggested provision of a police post in the area.
- Installation of floodlights at marked hotspots and streetlights on main roads to sufficiently light up the settlement.

Min/NY/06/10/2017 Proposed Projects

The community with the help of the chairperson of the SEC deliberated and proposed the following projects (in that order);

- Installation of high mast within the neighborhood and the market places
- Roads to be tarmacked
- Sewer line
- Construction of a public toilet within the market
- Construction of a public health facility, a resource Centre, social hall, bus park and a footbridge
- Solid waste collection facilities
- Provide an Early Childhood Development (ECD)
- Upgrade Nyawita Market
- Provide a social hall
- Improve the houses

Min/NY/07/10/2017 A.O.B and Closing Remarks

Other issues suggested by participants included;

- A bus park where people can be dropped and picked by public means.
- Social hall to occupy idle youths. According to participants present, this will help reduce crimes and violence in the settlement.

There being no other business, the meeting ended at 1:00pm with a word of prayer.

MANYATTA A

**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN
DEVELOPMENT**

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

**CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE
UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE
IN INFORMAL SETTLEMENTS**

**Minutes of a Baraza Meeting held in Manyatta A settlement, on Tuesday 10th October
2017 at 10.00am**

Present:

Name	Designation/Organization
Ms. Pamela Adamba	KISIP Coordinator-Kakamega County
Mr. Stanley Adeya	County Engineer
Ms. Zenah Abubakar	KISIP Official-Kakamega County
Ms. Wilfred Makomere	KISIP Official-Kakamega County
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

In attendance

Joachim Oketch

Member of County Assembly Manyatta A

Min/MA/01/10/2017 Introduction

The meeting started off with a word of prayer from the chairperson of the Settlement Executive Committee (SEC). He made a brief remark and welcomed all participants to the meeting. The chairperson went ahead, introduced all the SEC officials present, and welcomed the KISIP coordinator to introduce the consultant and the area MCA. The KISIP coordinator and consultant's team leader introduced their respective teams present.

Min/MA/02/10/2017 KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*

The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/MA/03/10/2017 Area MCA

The MCA welcomed all participants to the meeting and gave a brief history of the area. He requested everyone present to participate fully and give their views on what infrastructure projects can be implemented to improve the lives of the residents.

The MCA also highlighted the problems associated with Manyatta A settlement. The biggest problem was bad drainage. This resulted to flooding of the resident's houses during rainy seasons. In addition, a problem of bad roads is experienced in a majority of the areas and was worse during the rainy season. He also raised the issues of security that was a result of lack of security lighting in most of the areas.

Min/MA/04/10/2017 Consultant's Brief/Remarks

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/MA/05/10/2017 Problems facing the Settlement

- Peter, a SEC member informed the meeting that drainage was the single most important infrastructure development required in the area. Most of the houses get flooded and roads are virtually impassable once it rains. Schoolchildren are affected by this flooding in their studies.
- Asedi, a resident stated that the area experiences transportation issues because of bad roads. Residents are forced to walk long distances to get public transport to travel to town. They also incur high costs to use motor cycle since the public transport cannot access the settlement because of bad roads. He also emphasized the need of security lighting along the roads and floodlights in different parts of the settlement to combat insecurity.
- John, a participant informed the meeting that there was need for a public health facility in the area since most of those present were private and expensive. The public facility nearby was very far and posed a problem in case of emergencies.
- The village elder stated that there was need of enhanced security lighting in all parts of the settlement to fight crime. The residents did not feel safe walking at night since most parts were dark and lacked security lighting and were prone to crime.
- Idah Okello stated that the settlement lacked sewerage system. This resulted to residents using pit latrines that get flooded during rainy season leading to environmental and health hazard. There was only no public toilet in the area and residents do not have an alternative once their pit latrines get flooded.

- John, a special needs person requested that all infrastructure be equipped with disability friendly facilities. He also emphasized the need for drainage problem to be solved.
- Rehema Rajab insisted that the area had numerous insecurity problems occasioned by some areas being dark. This resulted to residents being mugged at those dark spots as they walk home in the evening.
- Caleb a resident of Manyatta A stated that there was need for a public secondary school in the area. This will enable parents afford to take their children to school at affordable rate because they will be day scholars. There was also need for a vocational center to combat the high school dropout witnessed in the area. The youth can be trained in skills like carpentry or masonry and be economically independent.
- Mohamed Ali emphasized the need of good tarmacked roads in all parts of the settlement. These roads should have security lighting.
- Peter Otoo stated that the security lighting and floodlights installed should be solar powered. This was because when county government does not pay electricity bills where there is existing security lights, they are switched off.
- Participants also stated that solid waste management is challenging and rapid open dumping being the main disposal method is a health hazard as it causes air pollution.

Min/MA/06/10/2017 Proposed solutions (projects) to the problems

Roads

- There was need for a well-planned road system in Manyatta A solve the transport issues present. This will enable public transport access the settlement and residents reach their premises faster and hassle free. This will also bring down their transport costs.
- It was agreed that these roads should have streetlights and drainage channels.
- Participants suggested tarmacked roads, especially the main roads.

Sewerage System & Sanitation

- The participants wanted a sewerage system implemented in the area. This will solve the problem of residents pit latrines flooding and overflowing on the roads and causing health problems.
- The Chairman stated that the sanitation issue would also benefit from having public toilets strategically positioned in different parts of the settlement to be used by residents when they could not use toilet facilities in their homes.

Drainage

- To solve the drainage problem and manage rainwater run-off, residents suggested that a drainage system be set up to direct all floodwater to the nearby river in the lower parts of the settlement. This will solve the problems of flooding in residents homes.
- Participants also suggested that all roads constructed to have adequate drainage channels to direct run-off away from people's houses.

Security Lighting

- Participants suggested extra floodlights at marked hotspots and streetlights on main roads to sufficiently light up the settlement.

Min/MA/07/10/2017 Proposed Projects

The community with the help of the chairperson of the SEC deliberated and proposed the following projects (in that order);

- Tarmacked roads with drainage channels
- Drainage system
- Sewerage system
- Security lighting
- Health facility
- Public toilets (with bathrooms) to solve sanitation problem
- Vocational training center
- Public secondary school

Min/MA/08/10/2017 Closing Remarks

There being no other business, the meeting ended at 1:30pm with a word of prayer.

MANYATTA B

**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN
DEVELOPMENT**

KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP)

**CONSULTANCY FOR SOCIO-ECONOMIC SURVEYS, INFRASTRUCTURE
UPGRADING PLAN AND ENGINEERING DESIGNS OF INFRASTRUCTURE
IN INFORMAL SETTLEMENTS**

**Minutes of a Baraza Meeting held in Manyatta B settlement in Kisumu, on Tuesday 10th
October 2017 at 10.00am.**

Present:

Name	Designation/Organization
Ms Pamela	MCA-Manyatta B Ward
Mr Andrew O. Odhiambo	Ward Administrator
Ms. Dorothy Onong'no	KISIP Coordinator-Kisumu County
Mr. George Obiny	County Surveyor
Ms. Titus Ochieng	County Planner
Ms. Judith Okore	County Roads Engineer
Mr. William Njeru	Bhundia Associates (BA)
Ms. Grace Wambui	Bhundia Associates (BA)
Mr. Michael Wangonya	Bhundia Associates (BA)
Mr. Simon Gatheru	Bhundia Associates (BA)
Mr. Lynn Obare	Bhundia Associates (BA)
Mr. Mary Rapando	Bhundia Associates (BA)
SEC and Community Members	Signed List of attendance attached

Min/MB/01/10/2017 Introduction

The meeting started off with a word of prayer from the area MCA Ms. Pamela who later made her opening remarks and welcomed all present to the meeting. The KISIP coordinator Ms. Dorothy Onong'no and consultant's team leader were also given a chance to introduce their teams present. The chairman of the SEC also made a few remarks and introduced all the SEC officials present

Min/MB/02/10/2017 KISIP Program

The KISIP coordinator took time to brief participants on the KISIP program, the progress so far and details of *Component 3 (Investing in Infrastructure and Service Delivery)*

The Coordinator urged all participants to be fully involved and contribute in solving problems facing their settlement.

Min/MB/03/10/2017 Consultant's Brief/Remarks

The consultant explained the purpose of the meeting and the method to be used. He urged the participants to speak truthfully and confidently whenever an opportunity was given to them. Among the reasons for the meeting was to identify the major problems facing the settlement and propose solutions and suggestions on how to address each of them.

The consultant further explained the role they are playing under **Component 3 (Investing in Infrastructure and Service Delivery)**, and most importantly the contributions expected from the participants during the meeting.

The RAP Expert from Bhundia Associates briefed the participants on social safeguards. He informed the residents that infrastructure upgrading will result to some of their structures being affected due to the need for road wayleaves and spots to set up high mast floodlights. He explained that ESIA and RAP reports would be prepared, noting that an ARAP report documenting the impacts on structures and the details of the affected persons will be submitted to the World Bank to alleviate the negative impacts and facilitate the removal of the affected structures before implementation of the projects.

Min/MB/04/10/2017 Problems facing the Settlement

- The MCA, Ms. Pamella stated that the main problems facing Manyatta B include Uncontrollable floodwaters, Accessibility and Insecurity. She added that during the rainy season, Awuji Rivers breaks its banks and given the terrain of the area, water floods almost every part of the settlement making it impassable for a few hours.
- Ms. Pamela added that roads within the settlement are earth and not well defined. During the rainy season this roads are challenging to use especially at night because it is dark. She further added that bad roads with no security lights are contributing factors to criminal activities in the area.
- The MCA's sentiments were encored by Antony Oyugi who said there are residents who can't leave their houses when it rains until floods subsides, some residential houses are adversely affected by flood waters.
- Sarah Atieno stated that sanitation is another problem facing the settlement. Pit Latrines are not sustainable due to floods and limited space.
- Another resident emphasized that lack of floodlights and security lights is another problem. This causes insecurity and people cannot go about their businesses comfortably immediately it is dark. Criminal activities take place as early as 9pm and the situation is getting worse.
- Other problems facing the settlement according to a participant is water supply and solid wastes. There is tap water system within the settlement and water kiosks and most residents have access but the water supply is sometimes unreliable.

Min/MB/05/10/2017 Proposed solutions (projects) to the problems

Drainage and Accessibility

- On drainage, residents proposed repaired embankments along river Awuji and dykes to control overflow when it rains.
- Roads with walk paths and streetlights should be paved and a proper drainage system put in place. This will ease accessibility within Manyatta B even when it rains.

Water supply

- Residents proposed individual extension of the existing water supply system and sinking boreholes to complement it.

Sanitation

- Residents of proposed individual connection to sewer line and public toilets.

Security

- Residents suggested floodlights at the following areas Kasawino dispensary, Kuoyo dispensary, Komber Market, Kaego, Carwash, Gesako, St. Bridget, Judea Private School, Pawremo, Mama Moraa, Behind Church of God-Oyango, and Otina.
- Residents also proposed a social hall/empowerment center to occupy youth. This they believe can reduce idleness among youth and hence insecurity and harness talent.
- Residents also proposed a modern ECD for their children. The ones available are temporally structures and lack key facilities for children development.

Min/MB/06/10/2017 Proposed Projects

The community with the help of the chairperson of the SEC deliberated and proposed the following projects (in that order);

- Paved Roads with properly planned drainage system
- Foot Bridges at strategic places along Awuji Rivers
- Floodlights and Security lights
- Sewerage and Water supply
- Upgrade Kuoyo Health Center
- Provide a modern market
- Dumpsite/waste collection center
- Modern ECD
- Public toilet
- Social hall and vocational training center
- Upgrade houses

Min/MB/07/10/2017 Closing Remarks

There being no other business, the area MCA made closing remarks and the meeting ended at 2:00pm with a word of prayer.

- Water supply and sanitation in the market and other residential area
- Roads and Drainage
- Sewerage and Water supply
- Solar powered security lights
- Upgraded the dispensary
- Upgrade the slaughterhouse
- Put up a resource center
- Upgrade the ECD center
- Foot bridge along Kisumu-Kakamega road
- Resource center

Min/KIB/07/10/2017 Closing Remarks

There being no other business, the area MCA made the closing remarks and the meeting ended at 2:00pm with a word of prayer.

**ANNEX VI: Minutes of public consultation
meetings during review and update**

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPACKAGING
OF DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT
DOCUMENTS, UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE
PROPOSED INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED
INFORMAL SETTLEMENTS IN THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF KISIP 2 SETTLEMENTS WORKS SCOPING MEETING WITH THE
COUNTY KISIP TEAM, 6TH FEB, 2023 AT THE KISIP SECRETARIAT LOCATED AT THE
FORODHA HOUSE**

PARTICIPANTS:

Disclosure Copy

Abbreviations:

KISIP – Kenya Informal Settlement Improvement Project

CGK- County Government of Kisumu

NG – National Government

LVSWWDA – Lake Victoria South Water Works Development Agency

RT & PW – Road, Transport and Public Works (Ministry at County Level)

LVBC – Lake Victoria Basin Commission

KPLC – Kenya Power and Lighting Company

VAT – Value Added Tax

CPCT – County Project Coordinating Team

AfD – French Development Agency

IDA – International Development Agency


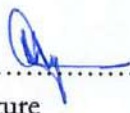
KIWASCO – Kisumu Water and Sanitation Company

Minute	Details of Discussion	Action
<u>Min 1.0</u> Agenda	<ol style="list-style-type: none">1. Introduction and opening remarks2. Project Brief/ Presentation by the consultants3. Matters arising from the presentation4. Closing remarks	Info
<u>Min 1.1</u> Introductions	<p>The KISIP Kisumu CPCT Chairman called the meeting to order at 9.30 am followed by an opening prayer. The Chair then welcomed the participants to the meeting and opened the floor for rounds of self-introductions.</p> <p>The Chair called for collaboration between KISIP-CPCT and the Consultant.</p> <p>The Consultant was tasked with guiding the community in prioritization of the works while taking keen consideration of the available allocations.</p> <p>The KISIP Chairman emphasized the need for the teams involved to work within the timeline as they had earlier indicated to the County Secretary during the courtesy call. He acknowledged that the prioritization process should ensure equitable distribution of resources to ensure each settlement benefits and is greatly impacted by the planned programs.</p>	Info Info Info

<u>Min 1.2</u> Presentation by the Consultant	The Project Team Leader informed the meeting that the main objective of KISIP is to uplift the livelihood of the community in informal settlements by providing support to various socio-economic interventions.	Info
	The Project Team Leader mentioned that the main purpose of the meeting was to brainstorm ideas on prioritization as this would make community engagement easier.	Info
	He assured the meeting that the Consultant would expedite the process and ensure everything goes according to the intended timeline (3months for design review and repackaging of works)	Info
	The Project Team Leader requested for the KISIP-CPCT support in ensuring the smooth running of the process.	Info
	The TL emphasized on the need for review to check for the feasibility of the designs and the prioritized works.	Info
	The Project TL further advised that the road networks to be prioritized within the various settlements should ensure there's continuity and linkage to already existing paved roads or public institutions	Info
	The consultant then made a detailed power point presentation explaining the projects proposed for each settlement in the original design, the estimated cost of implementing those projects at the current market rates, and the funds that have been allocated to each settlement.	Info
<u>Min 1.2</u> Matters arising from the presentation	The Consultant promised to seek clarification on the separation of AFD and the IDA funding components and indicated that there would be possible increase in scope in case there was VAT exemption.	Info
	The consultant was advised to ensure ease of comparison between various project items and the expected costs during future presentation.	Info
	Comments and Proposition made for each settlement after the presentation included: <ul style="list-style-type: none"> • <u>Bandani</u> <ul style="list-style-type: none"> • Auji – Pundo road was proposed as it had a larger impact on the community and it also served a larger population • Pamjos – Kanyamedha School to allow for easy access to the school • Road 5 was proposed as it will link Auji- Pundo Road to the Kisumu-Busia Road thereby providing easy access to the settlement from the NITA roundabout. 	Info

	<ul style="list-style-type: none"> • Road 3 was left out because it was noted that there was a major pipeline that would require relocation hence taking a larger portion of the project money. The Engineer in charge of KIWASCO indicated that a budget should be set aside to cater for its relocation. • Road 4 which connected Kanyamedha School to Pundo Market was not considered as it had a lot of RAP issues that would attract more funding and also affects the project timeline. • Construction of a solid waste management system and last-mile sewer connectivity to the already existing lines was proposed as part of the socio-economic issues within the settlement. • The meeting noted the need for relocation of an existing KIWASCO waterline along the road corridor within the settlement. <p style="text-align: center;">• <u>Manyatta A</u></p> <ul style="list-style-type: none"> • It was indicated that various agencies such as LVSWWDA and LVBC were already doing projects such as building ablution blocks and installation of sewers within the settlement, hence the consultant was asked to engage the agencies and compare what was being done by the agencies against what the consultant was expected to do to identify the gaps to work on. • The meeting proposed the issuance of a cost estimate and management procedures for both solar and electric lighting before the decision on which one to adopt is made. This is to include the probability of vandalism of the facility. • The meeting also proposed last-mile connectivity to individual households. • Some roads within the settlement were also identified to have a massive impact. These include: <ol style="list-style-type: none"> 1. Konambuta- Mosque Road 2. Pinky Road 3. Mezani – Lovebar road + link to Busia Road 4. Part of Konambaya – white House (Busia Road) <p style="text-align: center;">• <u>Manyatta B</u></p> <ul style="list-style-type: none"> • The proposed scope majored mainly on Roads and Floodlights considering a greater proportion of the works undertaken by LVSWWDA and LVBC i.e Sewers and Sanitation are within the settlement. • The roads proposed include; <ol style="list-style-type: none"> 1. Kaego Junction- Kaego Bridge 2. Transformer – Daraja Mbili 3. Kaombe -Kasawino Road 4. Wandiege -Walgudha Road <p style="text-align: center;">• <u>Nyawita/Migosi</u></p>	
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	<ul style="list-style-type: none"> • It was also noted that Nyawita had more than enough floodlights. • The KISIP- CPCT indicated that most roads in Nyawita had RAP issues hence proposed the construction of Koyoo-Koyuga road that connects the settlement to the Kisumu-Busia Road and the Kisumu-Kakamega Highway on the lower and upper parts respectively. • The meeting proposed mainly sewer connectivity and rehabilitation of the drainage system within the Migosi settlement as other originally scoped works had been undertaken by various agencies. • The meeting was informed of the existence of waterlines within Nyawita settlement and therefore proposed a relocation plan should the need arise. <p style="text-align: center;">• <u>Kibuye</u></p> <ul style="list-style-type: none"> • The meeting suggested the construction of a Solid Waste Management unit and water reticulation system within the market area. • Access roads were also proposed for ease of movement of goods and services within the market and settlement at large namely; <ol style="list-style-type: none"> 1. Highway Secondary School Road 2. Kibuye Market Road <p style="text-align: center;">• <u>Muhoroni</u></p> <ul style="list-style-type: none"> • The consultant was urged to ensure equal allocation for each sub-settlement. • It was noted that Bondeni sub-settlement had RAP issues which would affect the project in terms of implementation period and cost of project. • The meeting proposed the following works for each sub-settlement based on the present prevailing conditions as some of the previously scoped works had been overtaken by events; • Proposed works included: <ol style="list-style-type: none"> 1. Bondeni – Ablution block and floodlights 2. Swahili/ Sangoro – Ablution Block 3. Shauri Moyo – Ablution Block and Floodlight 4. Shauri Yako – Road <p><i>NB: Several comments from participants were cleared after adequately being explained/ clarified</i></p>	
<u>Min 1.5</u> Closing Remarks	<p>The Project team leader expressed gratitude to the County Coordinator, KISIP-CPCT members, and other stakeholders for their efforts in ensuring a successful consultative meeting.</p> <p>The KISIP chairman together with the KISIP Coordinator pledged their support and cooperation to the project team.</p>	<p>Info</p> <p>Info</p>

	The meeting was closed at 3.30 pm by word of prayer.	All
Signed:		
<i>KISIP County Coordinator – Kisumu County</i>		
<u>Tom Mbugo O.</u> Name	 Signature	<u>21/03/23</u> Date
<i>Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)</i>		
<u>Eng M. OGOLA</u> Name	 Signature	<u>06/02/2023</u> Date

ANNEX 1: ATENDANCE REGISTER

ANNEX 2: SELECTED PHOTOGRAPHS

PHOTOS: MEETING WITH KISUMU COUNTY KISIP TEAM



Meeting KISIP County Team in Kisumu



Courtesy call with County secretary Kisumu



Meeting KISIP County Team in Kisumu



Meeting KISIP County Team in Kisumu

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPACKAGING OF
DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT DOCUMENTS,
UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE PROPOSED
INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN
THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF SCOPING MEETING WITH THE BANDANI SEC MEMBERS ON 7TH FEB, 2023,
HELD AT BANDANI BRIGHTLITE HALL.**

PARTICIPANTS:

Disclosure Copy

Abbreviations:

KISIP – Kenya Informal Settlement Improvement Project

CGK- County Government of Kisumu

NG – National Government

RAP - Resettlement Action Plan

Minute	Details of Discussion	Action
<u>Min 1.0</u> Agenda	<ol style="list-style-type: none">1. Introduction2. Consultant presentation3. Matters arising from the presentation4. Closing remarks	Info
<u>Min 1.1</u> Introduction	<p>The meeting was called to order by the facilitator at 9:45 am. Thereafter a prayer was offered followed by introductions from the SEC members, County CPCT, and Consultants.</p> <p>The facilitator stated that the purpose of the meeting was to allow the SEC members (community representatives) to budget for scoped works in order of priority in line with the needs of the community with the funds currently allocated. He emphasized that KISIP had adopted a new system whereby the budgeting for respective projects within a settlement was a sole mandate of the community with the consultant and the client only providing guidance.</p> <p>The KISIP Coordinator urged the SEC members to choose works that would impact greatly the whole community.</p>	All Info Info
<u>Min 1.2</u> Presentation by the Consultant	<p>The Project Team Leader gave a brief history of the KISIP projects, with particular emphasis on KISIP 2, stating that the main objective of KISIP is to uplift the livelihood of the community in informal settlements by providing support to various socio-economic interventions.</p>	Info

	<p>The Project Team Leader explained that the purpose of the meeting was to repackage works in line with the Bandani community priorities within the available budget. He informed the meeting that the funds allocated for Bandani were about 50 percent of the appraised cost of the original scope of works.</p> <p>He explained that the consultant would compare the allocated cost against the prioritized works and do cost estimates against the current market prices.</p> <p>He advised that the prioritized roads within the settlement should provide continuity and linkage within the settlement. He also mentioned that the chosen works should have maximum impact on the population within the settlement and where possible minimal RAP issues. He cited that all RAP issues had been given to the county government to sort out.</p> <p>The consultant then made a detailed power point presentation explaining the projects proposed in the original design, the estimated cost of implementing those projects at the current market rates, and the funds that have been allocated to the settlement.</p> <p>The consultant explained further that the purpose of the presentation was to guide the SEC and GRC members in choosing and prioritizing infrastructure to be implemented within the available budget, taking into account the impact of the same in the community.</p>	<p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p>
<p><u>Min 1.3</u> Matters arising from the presentation</p>	<p>Issues and concerns by the SEC members included:</p> <ul style="list-style-type: none"> ➤ The GRC Chair indicated that Auji Pundo road would be a first priority since it would serve most of the residents ➤ SEC Chair suggested that the Pamjos Kanyamedha would serve the pupils heading to school. ➤ Bandani SEC member suggested that Road 5 be done to allow for access to the settlement without going towards the airport roundabout which was tedious and far. <p>Consensus was reached and the SEC members agreed on the following as prioritized works to be undertaken under the current budget allocated;</p> <ol style="list-style-type: none"> 1. Roads and Drainages namely; <ul style="list-style-type: none"> • Pamjos- Kanyamedha School-(Part of Road 3) at a cost of approx. Ksh 97 million to improve accessibility to the school. • Auji- Pundo Road at an approximate cost of Ksh 69,511,617.00 to open up the settlement for more development. 	<p>SEC/GRC</p>

	<ul style="list-style-type: none"> Pundo -Nita Road (Road 5) at a cost of approx. Ksh 30,068,208.93 to allow access to the NITA roundabout from Pundo and provide alternative access to the settlement. 	
Min 1.4 Closing remarks	<p>The Project TL recommended to the SEC that the decision made should be disseminated to the other members of the settlement.</p> <p>The SEC chair assured the consultant of the committee's full cooperation during review and implementation.</p> <p>The meeting was closed by a word of prayer at 12:45 pm.</p>	Info

Signed:

Settlement Executive Committee (SEC) Chairman – Bandani Settlement

David Odhiambo

Name

[Signature]

Signature

GRC Chairman
28/3/23

Date

KISIP County Coordinator – Kisumu County

Tom Mboya O.

Name

[Signature]

Signature

22/03/23

Date

Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)

Eng M. OGBLA

Name

[Signature]

Signature

07/02/2023

Date

ANNEX 1: ATENDANCE REGISTER

ANNEX 2: SELECTED PHOTOGRAPHS

SELECTED PHOTOGRAPHS FROM THE MEETING WITH BANDANI SEC



Group Photo with SEC members at Bandani



Opening remarks by the Consultant



Presentation of scope of works by the Consultant



Remarks by KISIP Coordinator at Bandani

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPACKAGING OF
DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT DOCUMENTS,
UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE PROPOSED
INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF SCOPING MEETING WITH THE KIBUYE SEC MEMBERS ON 7TH FEB, 2023,
HELD AT MAMA NGINA HALL.**

PARTICIPANTS:

Disclosure Copy

KISIP – Kenya Informal Settlement Improvement Project
CGK- County Government of Kisumu
SEC- Settlement Executive Committee
MCA- Member of County Assembly

CGK- County Government of Kisumu

SEC- Settlement Executive Committee

MCA- Member of County Assembly

[illegible]

	<p>those projects at the current market rates, and the funds that have been allocated to the settlement.</p> <p>The consultant explained further that the purpose of the presentation was to guide the SEC and GRC members in choosing and prioritizing infrastructure to be implemented within the available budget, taking into account the impact of the same in the community.</p>	Info
<p><u>Min 1.3</u> Matters arising from the presentation</p>	<p>Issues and concerns raised by the SEC members included:</p> <ul style="list-style-type: none"> ➤ The GRC Chair indicated that during the rainy season the roads become impassable since the available roads were not tarmacked. ➤ SEC member representing the JuaKali Sector mentioned that there were no ablution blocks at Katheptheop area and requested that an ablution block be done to cater for the area. ➤ SEC member indicated that the available water supply was not enough to sustain the Kibuye market population and suggested that additional water supply would be required. <p>Consensus was reached and the SEC team agreed on the following as prioritized works to be undertaken under the current budget allocated;</p> <ol style="list-style-type: none"> 1. Roads and Drainages namely; <ul style="list-style-type: none"> • Mama Ngina- Highway Secondary School Road at an approximate cost of Kshs. 21,182,089.39. • SDA- Thep Thep Road at an approximate cost of Kshs. 32,208,896.02. 2. A modern ablution block at an approximate cost of Kshs. 3,890,152.47 at Kathep Thep area. It was noted that the whole area did not have any ablution block and as such they had serious sanitation issues in the area. 3. Water supply at an approximate cost of Kshs. 4,310,829.36 	SEC/GRC
<p><u>Min 1.4</u> Closing remarks</p>	<p>The Project TL recommended to the SEC that the decision made should be disseminated to the other members of the settlement.</p> <p>The SEC chair encouraged the consultant to ensure all prioritized works are implemented as promised and within the stipulated time.</p> <p>The meeting was closed by a word of prayer at 3:45 pm.</p>	Info

Signed:

Settlement Executive Committee (SEC) Chairman – Kibuye Settlement

JAMES ODUOR

Name



Signature

26-3-2023

Date

KISIP County Coordinator – Kisumu County

Tom Mboya

Name



Signature

22/03/23

Date

Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)

Eng M. OGOLA

Name



Signature

07/02/2023

Date

ANNEX 2: SELECTED PHOTOGRAPHS

APPENDIX-II: SELECTED PHOTOGRAPHS FROM THE MEETING WITH KIBUYE SEC MEMBERS



Group Photo with SEC Members for Kibuye Settlement



Moderation by KISIP CPCT Member During Consultations with Kibuye SEC



Consultations with Kibuye SEC Members



Presentation by the Consultant to Kibuye SEC Members

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPAKAGING
OF DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT
DOCUMENTS, UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE
PROPOSED INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED
INFORMAL SETTLEMENTS IN THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF SCOPING MEETING WITH MIGOSI AND NYAWITA SEC MEMBERS ON
8TH FEB, 2023 AT EZRA GUMBE SOCIAL HALL**

PARTICIPANTS:

Disclosure Copy

Abbreviations:

KISIP – Kenya Informal Settlement Improvement Project

CGK- County Government of Kisumu

NG – National Government

MCA- Member of County Assembly

CPCT- County Project Coordinating Team

Minute	Details of Discussion	Action
<u>Min 1.0</u> Agenda	<ol style="list-style-type: none">1. Introduction2. Consultant presentation3. Matters arising from the presentation4. Closing remarks	Info
<u>Min 1.1</u> Introduction	The meeting was called to order by the facilitator at 10:00 am. Thereafter a prayer was offered followed by self-introductions from the SEC members, County CPCT, and Consultants.	All

	<p>The facilitator stated that the purpose of the meeting was to allow the SEC members to budget for the scoped works in order of priority in line with the needs of the community with the funds currently allocated.</p> <p>He indicated that a new system had been adopted whereby the budgeting for respective projects within a settlement was the responsibility of the community through the SEC with the consultant and the client only providing guidance.</p> <p>The KISIP facilitator advised the SEC members to choose works that would have a great impact on the settlement and encouraged them to ensure that information disseminated to the other members is not distorted in any way.</p>	<p>Info</p> <p>Info</p> <p>Info</p>
<p><u>Min 1.2</u> Presentation by the Consultant</p>	<p>The Project Team Leader gave a brief history of the KISIP projects, with particular emphasis on KISIP 2, stating that the main objective of KISIP is to uplift the livelihood of the community in informal settlements by providing support to various socio-economic interventions.</p> <p>The Project Team Leader mentioned that the purpose of the meeting was to repackaging works in line with the needs of Nyawita and Migosi settlements priorities with the funds allocated.</p> <p>The Project TL advised that prioritized roads within the settlements should provide continuity and linkage within the settlement; tarmac-to-tarmac connection or tarmac-to-public institution connection.</p> <p>The consultant then made a detailed power point presentation explaining the projects proposed in the original design, the estimated cost of implementing those projects at the current market rates, and the funds that have been allocated to the settlements.</p> <p>The consultant explained further that the purpose of the presentation was to guide the SEC and GRC members in choosing and prioritizing infrastructure to be implemented within the available budget, taking into account the impact of the same in the community.</p>	<p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p>
<p><u>Min 1.3</u> Matters arising from the presentation</p>	<p>Issues and Concerns raised by the SEC members included:</p> <ul style="list-style-type: none"> ➤ GRC member indicated that Migosi was prone to insecurity and therefore there was need for more floodlights within the settlement. 	<p>SEC/GRC</p>

	<ul style="list-style-type: none"> ➤ Migosi SEC member indicated that during the rainy season the area is prone to flooding and requested that sewer and drainage be a priority item. ➤ Migosi SEC member mentioned that most household were not connected to sewer and suggested that last mile connectivity be done as it would have the greatest impact. <p>The SEC teams retreated for discussion and agreed on the following as prioritized works to be done under the current funds allocated;</p> <p>Nyawita:</p> <ol style="list-style-type: none"> 1. Roads and Drainages namely; <ul style="list-style-type: none"> • Koyoo-Koyuga Road at an approximate cost of Kshs.60M (The road would be done within the budget allocated) <p>Migosi</p> <ol style="list-style-type: none"> 1. Floodlights (3 No) at a budget of approximately Kshs. 17,307,270. It was indicated that the area was marred with insecurity hence the need for floodlight installation in public areas. 2. Sewer last-mile connectivity at a cost of Kshs. 29,368,714. It was noted that the LVSWWDA was currently undertaking a project to connect the settlement with sewers. Hence the consultant would undertake last-mile connectivity to individual households. 3. Drainage works at a cost of Kshs. 11,747,485. It was indicated that during rainy seasons the roads and households are impassable due to the existing blocked drainages and also inadequate drainage required to serve the settlement. 	
<p><u>Min 1.4</u> Closing remarks</p>	<p>The Project TL recommended to the SEC that the decision made should reach the other members of the settlement.</p> <p>He cited that the measure of success for the project would be based on the impact it has on the settlements. He thanked the SEC members for being open-minded and embracing projects that will uplift the face of the settlements.</p> <p>The meeting was closed by word of prayer at 2:35 pm.</p>	<p>Info</p>
<p><u>Signed:</u></p> <p><i>Settlement Executive Committee (SEC) Chairman – Migosi Settlement</i></p>		

JOSEPHAT OLALE

Name



Signature

26/03/23

Date

Settlement Executive Committee (SEC) Chairman – Nyawita Settlement

RICHARD OJIKI

Name



Signature

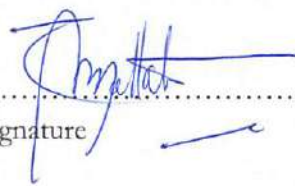
26/8/23

Date

KISIP County Coordinator – Kisumu County

Tom Mboya

Name



Signature

22/03/23

Date

Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)

Eng M. OGOLA

Name



Signature

08/02/2023

Date

ANNEX 1: ATENDANCE REGISTER

ANNEX 2: SELECTED PHOTOGRAPHS

SELECTED PHOTOGRAPHS FROM THE MEETING WITH MIGOSI/NYAWITA SEC MEMBERS



Group Photo with Migosi SEC Members



Migosi Members Presenting their Prioritized Projects



KISIP Project Brief and Presentation by the Consultant to SEC Members



Moderation and Presentation by the KISIP CPCT Team



Group Photo with Nyavita SEC Members



Presentation of Prioritized Projects by the Nyavita SEC Members

Disclosure

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPACKAGING OF
DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT DOCUMENTS,
UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE PROPOSED
INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN
THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF SCOPING MEETING WITH THE (MANYATTA A) SEC MEMBERS ON 9TH FEB,
2023, HELD AT KOSAWO HALL.**

PARTICIPANTS:

Disclosure Copy

Abbreviations:

KISIP – Kenya Informal Settlement Improvement Project

CGK- County Government of Kisumu

SEC- Settlement Executive Committee

MCA- Member of County Assembly


CBO – Community-Based Organization

GRC- Grievances Redress Committee

Minute	Details of Discussion	Action
<u>Min 1.0</u> Agenda	<ol style="list-style-type: none">1. Introduction2. Consultant presentation3. Matters arising from the presentation4. Closing remarks	Info
<u>Min 1.1</u> Introduction	<p>The meeting was called to order by the facilitator at 2:45 pm. Thereafter a prayer was offered followed by introductions from the participants (The Consultant, SEC members, MCA's team, and the KISIP County team)</p> <p>The facilitator then gave a brief project background leading to the subject meeting.</p> <p>He stated that the main aim of the meeting was to give SEC members who represented the entire Manyatta A settlement an opportunity to budget for scoped works in order of priority in line with the needs of the community with the budget allocated.</p> <p>He indicated that KISIP had introduced a system whereby the budgeting for projects within a given settlement was the responsibility of the community. The Consultant and the Client were to guide throughout the decision-making process.</p>	All Info Info Info
<u>Min 1.2</u> Presentation by the Consultant	The Project Team Leader gave a brief history of the KISIP projects, with particular emphasis on KISIP 2, stating that the main objective of KISIP is to	Info

	<p>uplift the livelihood of the community in informal settlements by providing support to various socio-economic interventions.</p> <p>He explained that the purpose of the meeting was to go back to the community and repackage the works in line with the needs of Manyatta A settlement within the available budget.</p> <p>He advised that the prioritized works should have a great impact on the Manyatta A settlement.</p> <p>The consultant then made a detailed power point presentation explaining the projects proposed in the original design, the estimated cost of implementing those projects at the current market rates, and the funds that have been allocated to the settlement.</p> <p>The consultant explained further that the purpose of the presentation was to guide the SEC and GRC members in choosing and prioritizing infrastructure to be implemented within the available budget, taking into account the impact of the same in the community.</p>	<p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p>
<p><u>Min 1.3</u> Matters arising from the presentation</p>	<p>The SEC members reached a consensus and agreed on the following as prioritized works to be undertaken under the current budget allocated (229,586,436.21 after VAT);</p> <ol style="list-style-type: none"> 1. Roads and Drainages namely; <ul style="list-style-type: none"> • Konambuta- Mosque Road at an approximated cost of 53,110,290.23 • Mezani- Lovebar Road which would approximately cost 78,738,639.42 • Kajanta- Konambaya Road at an approximated cost of 38,792,894.99 • Konambuta- Kaego Road at an approximated cost of 24,611,940.55 2. Floodlights (6 No). It was indicated that there was insecurity in the area hence each of the 6 units would have its floodlight. 	<p>SEC/GRC</p>
<p><u>Min 1.4</u> Closing remarks</p>	<p>The Project TL recommended to the SEC that the decision made should be disseminated to the other members of the settlement.</p> <p>He further called for cooperation between the SEC members and his team during the implementation of the works.</p> <p>The meeting was closed by a word of prayer at 1:25 pm.</p>	<p>Info</p>
<p><u>Signed:</u></p>		

Settlement Executive Committee (SEC) Chairman – Manyatta A Settlement

GEORGE ANATO 

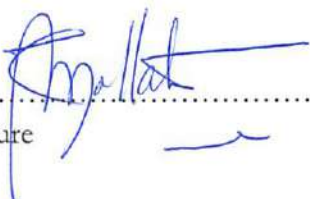
Name

Signature

26/03/23

Date

KISIP County Coordinator – Kisumu County

Tom Mboya O. 

Name

Signature

22/03/23

Date

Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)

Eng M. OGOLA 

Name

Signature

09/02/2023

Date

ANNEX 1: ATENDANCE REGISTER

ANNEX 2: SELECTED PHOTOGRAPHS

SELECTED PHOTOGRAPHS FROM THE MEETING WITH MANYATTA A SEC MEMBERS



Group Photo with SEC Members at Manyatta A



Presentation of Prioritized Projects by the SEC Chair



Presentation of Scope of Works by the Consultant



Consultation with the SEC Members

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPAKAGING OF
DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT DOCUMENTS,
UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE PROPOSED
INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN
THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF SCOPING MEETING WITH THE (MANYATTA B) SEC MEMBERS ON 9TH FEB,
2023, HELD AT KASAWINO HALL.**

PARTICIPANTS:

Disclosure Copy

Abbreviations:

KISIP – Kenya Informal Settlement Improvement Project

CGK- County Government of Kisumu

SEC- Settlement Executive Committee

GRC- Grievance Redress Committee

Minute	Details of Discussion	Action
<u>Min 1.0</u> Agenda	<ol style="list-style-type: none">1. Introduction2. Consultant presentation3. Matters arising from the presentation4. Closing remarks	Info
<u>Min 1.1</u> Introduction	<p>The meeting was called to order by the facilitator at 2:45 pm. Thereafter a prayer was offered followed by introductions from the participants (The Consultant, SEC members, MCA's team, and the KISIP County team)</p> <p>The facilitator stated that the main purpose of the meeting was to allow members of Manyatta B settlement to budget for prioritized works in line with the needs of the community within the budget allocated.</p> <p>He indicated that the Consultant and the Client would provide guidance throughout the prioritization process but would not in any way influence the decision made by the SEC members.</p>	All Info Info
<u>Min 1.2</u> Presentation by the Consultant	The Project Team Leader gave a brief history of the KISIP projects, with particular emphasis on KISIP 2, stating that the main objective of KISIP is to	Info

	<p>uplift the livelihood of the community in informal settlements by providing support to various socio-economic interventions.</p> <p>The Project Team Leader indicated that the purpose of the meeting was to go back to the community and repackage the works in line with the needs of Manyatta B community within the allocated budget (Kshs. 408,893,245.69 after VAT).</p> <p>The Project TL recommended to the SEC members that the prioritized works should have a great impact on the Manyatta B settlement and they should consider roads with minimal RAP issues as RAP issues directly influence cost of the project and its timeline.</p> <p>The consultant then made a detailed power point presentation explaining the projects proposed in the original design, the estimated cost of implementing those projects at the current market rates, and the funds that have been allocated to the settlement.</p> <p>The consultant explained further that the purpose of the presentation was to guide the SEC and GRC members in choosing and prioritizing infrastructure to be implemented within the available budget, taking into account the impact of the same in the community.</p>	<p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p>
<p><u>Min 1.3</u> Matters arising from the presentation</p>	<p>After the presentation, the SEC Chair suggested that they add 2No floodlights to help curb the insecurity problem within the area.</p> <p>Another SEC member emphasized that sewer was a major priority and felt that the funds allocated to the 2No floodlights be allocated to the sewer and that they would request for floodlights from the County Government.</p> <p>After further consultations they agreed on the following as prioritized works to be done under the allocated budget:</p> <ol style="list-style-type: none"> 1. Roads and Drainages namely; <ul style="list-style-type: none"> • Kaego – Nerea Bridge Road at an approximate cost of Kshs. 38,842,693.86 • Kaombe- Kasawino Road at an approximate cost of Kshs. 99,359,771.45 • Wells- Walgudha Road would cost approximately Kshs. 87,593,185.59 • Transformer- Daraja Mbili Road with a budget of approximately Kshs. 85,079,473.86 • Daraja Mbili – Koyango at an approximated cost of Kshs. 47,340,641.67 2. Water Reticulation at an approximate cost of Kshs. 4,000,000. 	<p>SEC/GRC</p>

	<p>3. Sewer and last mile connectivity at an approximate cost of Kshs. 47,340,641.67. It was noted that it would be easy for the community to lobby the county government to provide floodlights unlike sewer and last-mile connectivity.</p>	
<p><u>Min 1.4</u> Closing remarks</p>	<p>The Consultant advised the SEC that the decision made should reach the other members of the settlement.</p> <p>The project TL stated that the consultant would need the support of the SEC members during the implementation of works particularly in the supervision of the projects.</p> <p>The meeting was closed with a word of prayer at 6:00 pm.</p>	<p>Info</p>

Signed:

Settlement Executive Committee (SEC) Chairman – Manyatta B Settlement

EMOCIZ OCHIEŃ4 DJULO

Name _____

Q11

Signature

26/3/2023

Date _____

KISIP County Coordinator – Kisumu County

Tom Mboya o.

Name _____

Amal

Signature _____

22/03/22

Date _____

Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)

Eng M. OGOLA

Name _____

Signature

09/02/2023

Date _____

ANNEX 1: ATENDANCE REGISTER

ANNEX 2: SELECTED PHOTOGRAPHS

SELECTED PHOTOGRAPHS FROM THE MEETING WITH MANYATTA B SEC MEMBERS



Group Photo with Manyatta B SEC Members



Presentation of Scope of Works by the Consultant



Consultation with the SEC Members



Presentation of the Prioritized Projects by the SEC Members

**CONSULTANCY SERVICES FOR ENGINEERING DESIGN REVIEW, REPACKAGING OF
DETAILED ENGINEERING DESIGN & PREPARATION OF PROCUREMENT
DOCUMENTS, UPDATING OF RAP AND ESIA REPORTS AND SUPERVISION OF THE
PROPOSED INFRASTRUCTURES IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN THE COUNTIES OF KISUMU & KAKAMEGA**

Contract No. KE-MOTI-214793-CS-QCBS

**MINUTES OF SCOPING MEETING WITH THE (MUHORONI) SEC MEMBERS ON 10TH
FEB, 2023, HELD AT THE CHIEF'S COMPOUND.**

PARTICIPANTS:

Disclosure Copy

Abbreviations:

KISIP – Kenya Informal Settlement Improvement Project

CGK- County Government of Kisumu

SEC- Settlement Executive Committee

GRC- Grievances Redress Committee

Minute	Details of Discussion	Action
<u>Min 1.0</u> Agenda	<ol style="list-style-type: none">1. Introduction2. Consultant presentation3. Matters arising from the presentation4. Closing remarks	Info
<u>Min 1.1</u> Introduction	The meeting was called to order by the facilitator at 9:55am. Thereafter a prayer was offered followed by introductions from the participants (The Consultant, SEC members, MCA's team and the KISIP County team)	All

	<p>The facilitator stated that the reason for the meeting was to give SEC members from Bondeni, Swahili/Sangoro, Shauri Moyo and Shauri Yako settlements an opportunity to budget for prioritized works in line with the needs of the community with the budget allocated per settlement.</p> <p>He further stated that the Consultant and the Client were to only provide guidance throughout the prioritization process.</p> <p>The KISIP Coordinator thanked the Town Admin for creating rapport with the road agencies. The KISIP coordinator indicated that Bondeni had numerous RAP issues that would be too much for the county to handle. He further advised that the community avoid litigation issues as they affect both the project timeline and its cost.</p> <p>He assured the community of inclusivity during the supervision and construction phase of the project.</p>	<p>Info</p> <p>Info</p> <p>Info</p>
<p><u>Min 1.2</u> Presentation by the Consultant</p>	<p>The Project Team Leader gave a brief history of the KISIP projects, with particular emphasis on KISIP 2, stating that the main objective of KISIP is to uplift the livelihood of the community in informal settlements by providing support to various socio-economic interventions.</p> <p>The Project Team Leader informed the meeting that the purpose of the meeting was to go back to the community and repackage the works in line with the needs of Muhoroni settlements within the allocated budget. He indicated that the prioritization process was solely the role of the community through the SEC members present.</p> <p>The Project TL advised that the prioritized works should have a great impact to the Muhoroni settlements. He further assured that the Consultant would do the works within the stipulated time frame.</p> <p>The consultant then made a detailed power point presentation explaining the projects proposed in the original design, the estimated cost of implementing those projects at the current market rates, and the funds that have been allocated to the settlements.</p> <p>The consultant explained further that the purpose of the presentation was to guide the SEC and GRC members in choosing and prioritizing infrastructure to be implemented within the available budget, taking into account the impact of the same in the community.</p>	<p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p> <p>Info</p>

<p><u>Min 1.3</u> Matters arising from the presentation</p>	<p>Concerns raised by the SEC members included:</p> <ul style="list-style-type: none"> ➤ SEC member from Bondeni indicated that the area was prone to flooding and therefore suggested that the Consultant construct for them an independent drainage. ➤ SEC member from Swahili suggested that they allocate funds for floodlights but due to lack of public land the Swahili SEC members opted for water supply. ➤ Shauri Yako SEC members opted for two roads that would serve a majority in the settlement. ➤ Shauri Moyo SEC member requested for an access road within the settlement since the whole settlement does not have an access road, and due to inadequate he further requested if it would be an all weather road. ➤ Shauri Moyo SEC chair suggested that water kiosks be done instead for piped water to individual homesteads as this would make a greater impact to the settlement. <p>After further consultations, the SEC members from each of the 4 settlements agreed on the following as prioritized works to be undertaken under the current budget allocated;</p> <ul style="list-style-type: none"> - Shauri Yako <ol style="list-style-type: none"> 1. Roads and Drainages namely; <ul style="list-style-type: none"> • Caleb – Wings of change at an approximated cost of Kshs. 19,633,709.51 • Nairobi Road -chief- Wing Road (Part of chief Caleb catholic road and major wings of change road) at an approximated cost of Kshs. 76,811,637.05. <p>The allocated roads were indicated to be suitable as it would serve Shauri Yako which has the largest population among the 4 settlements and it would also allow for expansion of the town.</p> - Swahili/ Sang'oro <ul style="list-style-type: none"> • The SEC members prioritised water reticulation works at an approximated cost of Kshs. 5,096,000.15 - Shauri Moyo <ul style="list-style-type: none"> • Floodlight (1 No) at a cost of approximately Kshs. 5,769,090 • Water supply to serve the 207 plots at an approximated cost of Kshs. 5,000,000 - Bondeni <ul style="list-style-type: none"> • Floodlight (1 No) at a cost of approximately Kshs. 5,769,090. 	<p>SEC/GRC</p>
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	<ul style="list-style-type: none"> Construction of independent drainages within the settlement at an approximated cost of Kshs. 5,000,000 	
Min 1.4 Closing remarks	<p>The Project TL recommended to the SEC that the decision made should be disseminated to the other members of the settlement.</p> <p>The Project Team Leader mentioned that there would be a validation process before the implementation of works to ensure what they had chosen is what the Consultant had designed. He indicated that the SEC and GRC are part of the whole process till the end of the supervision phase.</p> <p>The KISIP Coordinator guaranteed the SEC members of his support in ensuring that the chosen prioritized works would be implemented as per their wishes.</p> <p>The meeting was closed by a word of prayer at 1:35pm.</p>	<p>Info</p> <p>Info</p> <p>Info</p>

Signed:

Settlement Executive Committee (SEC) Chairman – Shauri Yako Settlement

Harry D. Olango [Signature] 26/3/2023
 Name Signature Date

Settlement Executive Committee (SEC) Chairman – Shauri Moyo Settlement

JAMES OMORI AKILI [Signature] 28/3/2023
 Name Signature Date

Settlement Executive Committee (SEC) Chairman – Swabili/Sangoro Settlement

WILBERT O. MUGDA [Signature] 28/3/2023
 Name Signature Date

Settlement Executive Committee (SEC) Chairman – Bondeni Settlement

Moses Oso [Signature] 28/3/2023
 Name Signature Date

KISIP County Coordinator – Kisumu County

Tom Mboya

Name

Signature



Date

22/03/23

Team Leader – Consultant (Batch Associates Ltd/Rhines Engineering Services Ltd)

Eng M. OGOLA

Name

Signature



Date

10/04/2023

ANNEX 1: ATENDANCE REGISTER

ANNEX 2: SELECTED PHOTOGRAPHS

SELECTED PHOTOGRAPHS FROM THE MEETING WITH MUHORONI SEC MEMBERS



Group photo with Muhoroni SEC Members (Swabili/ Sangoro Settlement)



Presentation of the Scope of Works by the Consultant



Presentation of Prioritized Projects by SEC Chairlady (Swabili/ Sangoro Settlement)



Consultation with Muhoroni SEC Members



Group Photo with Shauri Yako SEC Members



Group Photo with Shauri Moyo SEC Members



Presentation of Prioritized Projects by Bondeni SEC Members



Group photo with Bondeni SEC Members

**MINUTES OF ESIA AND RAP DISCLOSURE FOR KISUMU SETTLEMENTS HELD
ON 21st JUNE 2023 AT EZRA GUMBE SOCIAL HALL**

MEETING AGENDA

1. Introduction
2. ESIA and RAP Disclosure by the consultant
3. Fears and concerns about the project from the community
4. AOB

ITEM	DESCRIPTION	ACTION
1.0	<p>Introduction</p> <p>The meeting started at 1015hrs with a word of prayer. Migosi ward administrator thanked all the members for attending the meeting and asked them to introduce themselves.</p> <p>Kisumu KISIP Coordinator stated that the main agenda for the public participation meeting was for ESIA and RAP disclosure and to provide opportunity for the community members to air their views on fears and concerns about the project. The KSIP Coordinator invited the consultant to give their presentation.</p>	Information
2.0	<p>ESIA and RAP Disclosure by the consultant</p> <p>Eng. Paul Agwaro- stated that the process of rescoping in regard to community priorities had been completed and designs towards the proposed project had been approved.</p> <p>He mentioned that the aim of the meeting was to disclose the approved design, Identified Impacts and Mitigation measures and Possible area for RAP and the RAP processes.</p> <p>Eng. Agwaro took the participants through the following scope of works for the proposed project:</p> <p>Bandani Settlement</p> <p>Roads:</p> <ol style="list-style-type: none"> 1. Pamjos- Kanyamedha School (Part of Road 3) 2. Auji- Pundo Road 3. Pundo -Nita Road <p>Manyatta A</p> <p>Roads:</p> <ol style="list-style-type: none"> 1. Konambuta- Mosque Road 2. Mezani- Lovebar 3. Kajanta- Kona Mbaya Road 4. Kona Mbuta -Kaego Road <p>-Floodlights (6 No)</p> <p>Manyatta B</p>	



	<p>Roads:</p> <ol style="list-style-type: none"> 1. Kaego – Nerea Bridge 2. Kaombe – Kasawino 3. Wells – Walgudha 4. Transformer – Daraja Mbili 5. Daraja Mbili – Koyango <p>-Sewer and last mile connectivity -Water Supply</p> <p>Nyawita/ Migosi Settlement</p> <p>Nyawita Koyoo- Koyuga Road</p> <p>Migosi</p> <ol style="list-style-type: none"> 1. Floodlights 2. Sewerage (Last mile connectivity) 3. Drainage <p>Kibuye Settlement</p> <p>Roads:</p> <ol style="list-style-type: none"> 1. Mama Ngina- Highway Secondary 2. SDA- Theptheop Road <p>-Ablution Block: (At Katheptheop area) -Water Supply</p> <p>He further explained that for any infrastructural project there is expected positive and negative impacts that will clearly be elaborated by the ESIA team, and the mitigation measures proposed to minimise these adverse effects.</p> <p>The Environmental expert to the project, Ms Cynthia Achieng, took the participants through the ESIA processes and the methodologies that were used in identification and preparation of the ESIA report.</p> <p>She stated that the process of ESIA was largely guided by the EMCA 2019. The following Impacts and the mitigation measures were highlighted:</p> <p>Positive Impacts</p> <ul style="list-style-type: none"> ➤ Improved road accessibility ➤ Frequent water supply ➤ Reduction on insecurity issues ➤ Reduced flooding due to better drainages ➤ Creation of employment opportunities ➤ Improved business ➤ Lighting project will help businesses to operate for long hours hence increase in return. <p>Negative Impacts</p>	
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- Air and Noise pollution causing eye and respiratory problems.
- Excessive Vibrations from heavy machines that may cause cracks on houses and structures on the road side.
- Increase in traffic accidents.
- Gender based violence, sexual exploitation and harassment.
- Increase in spread of HIV/AIDs.
- Child protection Issues
- Loss of businesses and structures along the road corridor
- Lack of access to business premises during construction works leading to low sales.
- Increase in alcohol consumption.

The environmentalist indicated that the contractor is expected to develop an Environmental and Social Management Plan that will be guided by the ESIA and other sub management plan which will be used to ensure that the negative impacts highlighted are mitigated through the construction Phase of the project. She urged the community members to report environmental and social issues immediately they happen through the Grievance Redress Committee

Grievance Redress Mechanism (GRM)

The sociologist-Ms Florence- took the participants through the process of Grievance Redress committee. She mentioned that the Grievance redress mechanism had been adopted from the functions of KISIP 1 and the KISIP 2 Operating Procedure.

Ms. Florence took the participants through the functions of GRM, Guiding principles, Grievance Redress committees and their functions and the processes of Grievance Redress mechanism.

She mentioned that the GRM levels will be four tiers with the settlement GRC being the first level of Grievance Redress mechanism.

She reported that the project will introduce Grievance Redress forms that will assist in collection Grievances with the GRC members assisting in collection of Grievances from the settlements.

Resettlement Action Plan (RAP)

The sociologist mentioned that in the rescoping processes the SEC and GRC members made sure that the priority projects chosen had minimal to No RAP issues. The proposed project may affect individuals businesses or structures partially and hence the need of Resettlement Action plan to guide the facilitation and entitlement of those who will be affected by the project.

She stated that since the RAP exercise is an update from the ARAP

	<p>exercises conducted by the previous Consultant in 2018, The set cut-off date will apply. The verification exercise will be conducted jointly with the SEC and GRC chair and ensure a participatory methodology in ensuring the PAPs entitlements are rightly captured.</p> <p>The sociologist took the participants through the RAP process and what forms eligibility and to what extent the PAPs are entitled to.</p>													
3.0	<p>Issues and concerns from the community The following are some of the issues raised by the community members in relation to the project;</p> <table><tr><th>Issue/concern</th><th>Response</th></tr><tr><td>Corruption may interfere with how grievances will be handled</td><td>The Sociologist stated that handling of grievances will be done in a transparent and fair manner jointly with the Grievance Redress Committees.</td></tr><tr><td>Allocate a budget to build waste disposal facilities to avoid dumping waste in the drainages to be constructed</td><td>KISIP County CGRC Chairperson said that due to limited funds KISIP2 will not be able to go beyond the selected scope of work however the county government will include in its budget construction of waste disposal facilities to avoid clogging of the drainages.</td></tr><tr><td>Community members to be provided with hard copies of the agreed scope of work per settlement</td><td>KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected</td></tr><tr><td>The engineers to consider community members opinions when designing drainages and culverts</td><td>Consultant's engineer assured the community members that they will be involved during decision making</td></tr><tr><td>Relocation of PAPS should be done in an orderly manner</td><td>The sociologist stated that relocation of PAPs will not be forceful and the SEC, GRC, sociologist ,valuer and Surveyor will be involved in the RAP process</td></tr></table>	Issue/concern	Response	Corruption may interfere with how grievances will be handled	The Sociologist stated that handling of grievances will be done in a transparent and fair manner jointly with the Grievance Redress Committees.	Allocate a budget to build waste disposal facilities to avoid dumping waste in the drainages to be constructed	KISIP County CGRC Chairperson said that due to limited funds KISIP2 will not be able to go beyond the selected scope of work however the county government will include in its budget construction of waste disposal facilities to avoid clogging of the drainages.	Community members to be provided with hard copies of the agreed scope of work per settlement	KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected	The engineers to consider community members opinions when designing drainages and culverts	Consultant's engineer assured the community members that they will be involved during decision making	Relocation of PAPS should be done in an orderly manner	The sociologist stated that relocation of PAPs will not be forceful and the SEC, GRC, sociologist ,valuer and Surveyor will be involved in the RAP process	
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4.0	AOB													

	<p>There being no any other business, the community agreed to fully support the project and ensure its implementation is successful.</p> <p>The meeting ended at 1300hrs with a word of prayer.</p>	
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KISIP GRC OFFICER:

Name: JOEL OROH
Date: 5/7/23

Signature: [Signature]

KISIP COORDINATOR:

Name: Tom Moya Ogallah
Date: 05/07/23

Signature: [Signature]

CONSULTANT'S REPRESENTATIVE

Name: Paul Agworo
Date: 05/07/2023

Signature: [Signature]



Bandani settlement members raising hands to
show that they support the project

**MINUTES OF ESIA AND RAP DISCLOSURE FOR MUHORONI SETTLEMENTS
HELD ON 21st JUNE 2023 AT MUHORONI CHIEF CAMP**

MEETING AGENDA

1. Introduction
2. ESIA and RAP Disclosure by the consultant
3. Fears and concerns about the project from the community
4. AOB

ITEM	DESCRIPTION	ACTION
1.0	<p>Introduction</p> <p>The meeting started at 1530 hrs with a word of prayer. Kisumu County KISIP GRC Chairperson thanked all the members for attending the meeting and asked them to introduce themselves.</p> <p>Kisumu County KISIP GRC Chairperson stated that the main agenda for the public participation meeting was for ESIA and RAP disclosure and to provide opportunity for the community members to air their views on fears and concerns about the project. He invited the consultant to give their presentation.</p>	Information
2.0	<p>ESIA and RAP Disclosure by the consultant</p> <p>Eng. Paul Agwaro- stated that the process of rescoping in regard to community priorities had been completed and designs towards the proposed project had been approved.</p> <p>He mentioned that the aim of the meeting was to disclose the approved design, Identified Impacts and Mitigation measures and Possible area for RAP and the RAP processes.</p> <p>Eng. Agwaro took the participants through the following scope of works for the proposed project:</p> <p>Bondeni</p> <p>1.Floodlight (1 No)</p> <p>2.Independent drainage</p> <p>Shauri Yako</p> <p>Roads:</p> <p>1. Caleb – Wings of Change</p> <p>2. Nairobi Road- Kwa Chief- Nairobi Road</p> <p>Swahili</p> <p>1.Water reticulation</p> <p>Shauri Moyo</p> <p>1.Floodlight (1 No)</p>	



	<p>2. Water reticulation to serve 207 plots</p> <p>He further explained that for any infrastructural project there is expected positive and negative impacts that will clearly be elaborated by the ESIA team, and the mitigation measures proposed to minimise these adverse effects.</p> <p>The Environmental expert to the project, Ms Cynthia Achieng, took the participants through the ESIA processes and the methodologies that were used in identification and preparation of the ESIA report.</p> <p>She stated that the process of ESIA was largely guided by the EMCA 2019. The following Impacts and the mitigation measures were highlighted:</p> <p>Positive Impacts</p> <ul style="list-style-type: none"> ➤ Improved road accessibility ➤ Frequent water supply ➤ Reduction on insecurity issues ➤ Reduced flooding due to better drainages ➤ Creation of employment opportunities ➤ Improved business ➤ Lighting project will help businesses to operate for long hours hence increase in return <p>Negative Impacts</p> <ul style="list-style-type: none"> ➤ Air and Noise pollution causing eye and respiratory problems. ➤ Excessive Vibrations from heavy machines that may cause cracks on houses and structures on the road side. ➤ Increase in traffic accidents. ➤ Gender based violence, sexual exploitation and harassment. ➤ Increase in spread of HIV/AIDs. ➤ Child protection Issues ➤ Loss of businesses and structures along the road corridor ➤ Lack of access to business premises during construction works leading to low sales ➤ Increase in alcohol consumption. <p>The environmentalist indicated that the contractor is expected to develop an Environmental and Social Management Plan that will be guided by the ESIA and other sub management plan which will be used to ensure that the negative impacts highlighted are mitigated through the construction Phase of the project. She urged the community members to report environmental and social issues immediately they happen through the Grievance Redress Committee</p>	
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	<p>Grievance Redress Mechanism (GRM) The sociologist-Ms Florence- took the participants through the process of Grievance Redress committee. She mentioned that the Grievance redress mechanism had been adopted from the functions of KISIP 1 and the KISIP 2 Operating Procedure.</p> <p>Ms. Florence took the participants through the functions of GRM, Guiding principles, Grievance Redress committees and their functions and the processes of Grievance Redress mechanism.</p> <p>She mentioned that the GRM levels will be four tiers with the settlement GRC being the first level of Grievance Redress mechanism.</p> <p>She reported that the project will introduce Grievance Redress forms that will assist in collection Grievances with the GRC members assisting in collection of Grievances from the settlements.</p> <p>Resettlement Action Plan (RAP) The sociologist reported that the ARAP reports had been disclosed and the RAP implemented in all Muhoroni settlement apart from Bondeni. She mentioned that in the rescoping processes the SEC and GRC members made sure that the priority projects chosen had minimal to No RAP issues. In Bondeni the proposed projects will not affect structures or encroach private property.</p>											
3.0	<p>Issues and concerns from the community The following are some of the issues raised by the community members in relation to the project;</p> <table><tr><th>Issue/concern</th><th>Response</th></tr><tr><td>GRC and SEC should be included in the payroll</td><td>KISIP County GRC Chairperson stated that GRC and SEC positions are considered as volunteers.</td></tr><tr><td>Community members to be provided with hard copies of the agreed scope of work per settlement</td><td>KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected</td></tr><tr><td>A follow up to be done on the few PAPS who have not yet been facilitated from the last ARAP implementation due to bank detail issues</td><td>KISIP County GRC Chairperson assured the few PAPS who were yet to be facilitated that the issue will be addressed, and matters closed</td></tr><tr><td>The engineers to consider community members opinions when designing drainages</td><td>Consultant's engineer assured the community members that they will be involved during</td></tr></table>	Issue/concern	Response	GRC and SEC should be included in the payroll	KISIP County GRC Chairperson stated that GRC and SEC positions are considered as volunteers.	Community members to be provided with hard copies of the agreed scope of work per settlement	KISIP County GRC Chairperson assured community members that they will be provided with hard copies of the projects they selected	A follow up to be done on the few PAPS who have not yet been facilitated from the last ARAP implementation due to bank detail issues	KISIP County GRC Chairperson assured the few PAPS who were yet to be facilitated that the issue will be addressed, and matters closed	The engineers to consider community members opinions when designing drainages	Consultant's engineer assured the community members that they will be involved during	
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		decision making and implementation process of the project.	
	A road should be constructed in Shauri Moyo in future project to improve access in the area	KISIP County GRC Chairperson stated that road project could not be undertaken in the settlement under KISIP2 project due to limited funds but when funds are available in future the project will be implemented	
4.0	AOB There being no any other business, the meeting ended at 1655hrs with a word of prayer.		



Sociologist addressing community members



Environmentalism addressing community members



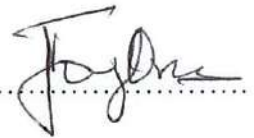
Consultant's engineer addressing community



Shauri Moyo community raising hands to show that they support the project

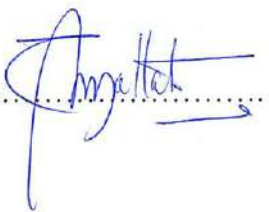
KISIP HEAD OF GRC :

Name: JOEL Omon
Date: 17/7/23

Signature: 

KISIP COORDINATOR:

Name: TOM Mboya Ogollah
Date: 05/07/23

Signature: 

CONSULTANT'S REPRESENTATIVE

Name: Paul Agwaro
Date: 05/07/2023

Signature: 

ANNEX VII: Initial Photographs taken during stakeholders' consultations

APPENDIX VII: PHOTOGRAPHS TAKEN DURING INITIAL STAKEHOLDERS' CONSULTATION



Public Consultation in Manyatta A Settlement



Public Participation in Manyatta B Settlement



Public Participation in Sangoro Settlement



Public Participation in Bondeni Settlement



Public Participation in Shauri Moyo Settlement



Public Participation in Shauri Yako Settlement



Public Participation in Nyawita Settlement

Disclosure Copy

ANNEX VIII: Photographs taken during ESIA update stakeholders' consultations



Group photo with Bandani SEC



Presentation by the Project team leader



Presentation of scope of works by the Consultant



Deliberations with Bandani SEC

KIBUYE SAMPLE PHOTOS



Group photo with Kibuye SEC



Presentation by the Project Team Leader



Deliberations with the Kibuye SEC



KISIP Coordinator addressing the SEC

MANYATTA A SAMPLE PHOTOS



Group photo with Manyatta A SEC



Presentation of priority of works by the SEC Chair



Presentation by the Project Team Leader



Presentation of scope of works and budget allocation by the Consultant

MANYATTA B SAMPLE PHOTOS



Group photo with Manyatta B SEC



Presentation of scope of works by the Consultant



Presentation by the Project Team Leader



KISIP Coordinator addressing the SEC members

MUHORONI SAMPLE PHOTOS



Group photo with Swahili/Sangoro SEC



Group photo with Bondeni SEC



Group photo with Shauri Moyo SEC



Group photo with Shauri Yako SEC

NYAWITA – MIGOSI SAMPLE PHOTOS



Group photo with Migosi SEC



Group photo with Nyavita SEC



Presentation of scope of works and budget allocation by the Consultant



Discussion with Nyavita- Migosi SEC

ANNEX IX: Initial Terms of Reference for the Resettlement Action Plan

APPENDIX IX: TERMS OF REFERENCE FOR A RESETTLEMENT ACTION PLAN

The scope and level of detail of the resettlement plan vary with the magnitude and complexity of resettlement. The plan is based on up-to-date and reliable information about (a) the proposed resettlement and its impacts on the displaced persons and other adversely affected groups, and (b) the legal issues involved in resettlement. The resettlement plan covers the elements below, as relevant. When any element is not relevant to project circumstances, it should be noted in the resettlement plan.

1. *Description of the project.* General description of the project and identification of the project area.
2. *Potential impacts.* Identification of
 - (a) the project component or activities that give rise to resettlement;
 - (b) the zone of impact of such component or activities;
 - (c) the alternatives considered to avoid or minimize resettlement; and
 - (d) the mechanisms established to minimize resettlement, to the extent possible, during project implementation.
3. *Objectives.* The main objectives of the resettlement program.
4. *Census Survey.* The findings of the census survey to be conducted in the early stages of project preparation and with the involvement of potentially displaced people, including
 - (i) current occupants of the affected area to establish a basis for the design of the resettlement program and to exclude subsequent inflows of people from eligibility for compensation and resettlement assistance;
 - (ii) standard characteristics of displaced households, including a description of production systems, labor, and household organization; and baseline information on livelihoods (including, as relevant, production levels and income derived from both formal and informal economic activities) and standards of living (including health status) of the displaced population;
 - (iii) the magnitude of the expected loss--total or partial--of assets, and the extent of displacement, physical or economic;
 - (iv) information on vulnerable groups or persons for whom special provisions may have to be made; and
 - (v) provisions to update information on the displaced people's livelihoods and standards of living at regular intervals so that the latest information is available at the time of their displacement.
5. *Institutional Framework.* The findings of an analysis of the institutional framework covering
 - (a) the identification of agencies responsible for resettlement activities and NGOs that may have a role in project implementation;
 - (b) an assessment of the institutional capacity of such agencies and NGOs; and
 - (c) any steps that are proposed to enhance the institutional capacity of agencies and NGOs responsible for resettlement implementation.
6. *Eligibility.* Definition of displaced persons and criteria for determining their eligibility for compensation and other resettlement assistance, including relevant cut-off dates.

7. *Valuation of and compensation for losses.* The methodology to be used in valuing losses to determine their replacement cost; and a description of the proposed types and levels of compensation under local law and such supplementary measures as are necessary to achieve replacement cost for lost assets.

8. *Resettlement measures.* A description of the packages of compensation and other resettlement measures that will assist each category of eligible displaced persons. In addition to being technically and economically feasible, the resettlement packages should be compatible with the cultural preferences of the displaced persons, and prepared in consultation with them.

9. *Site selection, site preparation, and relocation.* Alternative relocation sites considered and explanation of those selected, covering

- (a) institutional and technical arrangements for identifying and preparing relocation sites, whether rural or urban, for which a combination of productive potential, locational advantages, and other factors is at least comparable to the advantages of the old sites, with an estimate of the time needed to acquire and transfer land and ancillary resources;
- (b) Any measures necessary to prevent land speculation or influx of ineligible persons at the selected sites;
- (c) Procedures for physical relocation under the project, including timetables for site preparation and transfer; and
- (d) Legal arrangements for regularizing tenure and transferring titles to resettlers.

10. Housing, infrastructure, and social services. Plans to provide (or to finance resettlers' provision of) housing, infrastructure (e.g., water supply, feeder roads), and social services (e.g., schools, health services); plans to ensure comparable services to host populations; any necessary site development, engineering, and architectural designs for these facilities.

11. *Environmental protection and management.* A description of the boundaries of the relocation area; and an assessment of the environmental impacts of the proposed resettlement and measures to mitigate and manage these impacts (coordinated as appropriate with the environmental assessment of the main investment requiring the resettlement).

12. *Community participation.* Involvement of resettlers and host communities,

- (a) a description of the strategy for consultation with and participation of resettlers and hosts in the design and implementation of the resettlement activities;
- (b) a summary of the views expressed and how these views were taken into account in preparing the resettlement plan;
- (c) a review of the resettlement alternatives presented and the choices made by displaced persons regarding options available to them, including choices related to forms of compensation and resettlement assistance, to relocating as individuals families or as parts of preexisting communities or kinship groups, to sustaining existing patterns of group organization, and to retaining access to cultural property (e.g. places of worship, pilgrimage centers, cemeteries);and
- (d) institutionalized arrangements by which displaced people can communicate their concerns to project authorities throughout planning and implementation, and measures to ensure that such vulnerable groups as indigenous people, ethnic minorities, the landless, and women are adequately represented.

13. Integration with host populations. Measures to mitigate the impact of resettlement on any host communities, including

- (a) consultations with host communities and local governments;
- (b) arrangements for prompt tendering of any payment due the hosts for land or other assets provided to resettlers;
- (c) arrangements for addressing any conflict that may arise between resettlers and host communities; and
- (d) any measures necessary to augment services (e.g., education, water, health, and production services) in host communities to make them at least comparable to services available to resettlers.

14. *Grievance procedures.* Affordable and accessible procedures for third-party settlement of disputes arising from resettlement; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms.

15. *Organizational responsibilities.* The organizational framework for implementing resettlement, including identification of agencies responsible for delivery of resettlement measures and provision of services; arrangements to ensure appropriate coordination between agencies and jurisdictions involved in implementation; and any measures (including technical assistance) needed to strengthen the implementing agencies' capacity to design and carry out resettlement activities; provisions for the transfer to local authorities or resettlers themselves of responsibility for managing facilities and services provided under the project and for transferring other such responsibilities from the resettlement implementing agencies, when appropriate.

16. *Implementation schedule.* An implementation schedule covering all resettlement activities from preparation through implementation, including target dates for the achievement of expected benefits to resettlers and hosts and terminating the various forms of assistance. The schedule should indicate how the resettlement activities are linked to the implementation of the overall project.

17. *Costs and budget.* Tables showing itemized cost estimates for all resettlement activities, including allowances for inflation, population growth, and other contingencies; timetables for expenditures; sources of funds; and arrangements for timely flow of funds, and funding for resettlement, if any, in areas outside the jurisdiction of the implementing agencies.

18. *Monitoring and evaluation.* Arrangements for monitoring of resettlement activities by the implementing agency, supplemented by independent monitors as considered appropriate by the Bank, to ensure complete and objective information; performance monitoring indicators to measure inputs, outputs, and outcomes for resettlement activities; involvement of the displaced persons in the monitoring process; evaluation of the impact of resettlement for a reasonable period after all resettlement and related development activities have been completed; using the results of resettlement monitoring to guide subsequent implementation.

ANNEX X: Chance Find Procedure

ANNEX X: CHANCE FIND PROCEDURE

Regulatory and Other Requirements

The primary legislation on cultural heritage issues is the National Museums Heritage Act, 2006 (which updated and replaced the National Museums Act, 1983), the Antiquities Monuments Act 1983 and is enshrined in the requirements the provisions of the Environmental Management and Coordination Act (EMCA) which defines the Environmental and Social Impact Assessment (ESIA) process.

The National Museums Heritage Act sets out the overarching administrative processes for protecting and preserving cultural heritage and management by the National Museums of Kenya (NMK). As there are no designated monuments or sites within the immediate Project's area of influence, the heritage legislation only has a limited bearing on the Project's activities, however the project will take precautionary measures for handling any potentially significant chance finds through its implementation of the chance find procedure and requirement presented in subsequent sections of this procedure.

World Bank Safeguards Triggered OP/BP 4.10 and OP//BP 4.11.

Indigenous People OP/BP 4.10 ensures that the development process fosters full respect for the dignity, human rights, and cultural uniqueness of indigenous peoples; that adverse effects during the development process are avoided, or if not feasible, ensure that these are minimized, mitigated or compensated; and that indigenous peoples receive culturally appropriate and gender and intergenerationally inclusive social and economic benefits. The dominant community in the project area of influence is Borana. Borana are pastoralists and inhabit a region with relatively high poverty levels and social indicators like water, education, and others below the national average. The Government of Kenya considers them Vulnerable and Marginalized.

Physical and Cultural Resources OP/BP 4.11 objective is to assist Borrowers in avoiding or mitigating adverse impacts of development projects on physical cultural resources. For purposes of this policy, "physical cultural resources" are defined as movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, above ground, underground, or underwater. During project implementation, any chance finds encountered, a chance find procedures will be followed to avoid damage and ensure suitable preventive or mitigation measures are executed.

Generally, most of the physical and cultural sites identified along the road corridor are places of worship like Mosques and cemeteries. The public participation undertaken during Resettlement Action Plan (RAP) shows a preference by the community for the realignment of the road to avoid cultural/Graves sites. Thus, re-alignment has been done to avoid the Gravesites in Manyatta B. Despite the re-alignment, there is a possibility of chance finds along the alignment and further at material source areas like the project quarry and borrow sites.

Procedures to Address Chance Finds

To avoid damaging cultural resources during project activities, the following will be followed;

- Project personnel must take total care of any unfamiliar materials encountered during project activities. Upon establishing a discovery, the personnel must immediately report the case to their immediate supervisor
- The contractor or officer supervising the project would report the finds to the local administration such as the local chief or the Assistant County Commissioner (ACC).
- The local administration would then report the find to NMK
- The contractor must stop work immediately after discovering evidence of possible scientific, historical, prehistoric, or archaeological data and notify the Resident Engineer giving the location and nature of the finds
- The client; the County government of Kisumu through CPCT will then notify the NMK, which will have to send qualified personnel to assess the material for further steps
- NMK would temporarily stop the works to conduct an assessment and prepare a report. The period of stoppage is from 10 days to 21 days depending on the complexity of the project; Retrieve movable artifacts and preserve immovable ones;
- NMK would also map out the area to be preserved during the investigation period and arbitrate between the community and developers in the event of dispute;
- NMK to circulate the cultural impact assessment report to the developer, NEMA, relevant lead agencies and the community.

Measures for Care of Chance Finds

Upon retrieval of movable artefacts and conservation of immovable ones, NMK would proceed with segregation and dating of the artefacts and determination of their significance; Segregated artefacts would be stored in the NMK archaeological stores according to their size and dates and labelled with the geographical area where found; The artefacts may be displayed in an exhibition when required or published to enrich the cultural heritage.

Chance Find Report

Chance Find Report				
Date (DD/MM/YYYY)	Time (xx:xx)	Site Name	GPS Coordinates (Northing)	GPS Coordinates (Easting)
Description of Find				
Proximity to Contractor Activity				
Sensitivity				
Vulnerability				
Recommended Action Description				
Site Checklist		Yes / No	Comment	
Responsible persons notified				

Chance Find Report		
Coordinates verified		
Site Marked		
Site Secured		
Photograph(s)		
Impacts Assessed		
Actions Agreed		
Authorized Instruction		
National Museums Kenya Representative	Position	Signed (Name)
CPCT Representative	Position	Signed (Name)