



# EASTERN NAIROBI WATER AND SANITATION PROJECT

## UPDATED ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

SEPTEMBER 2026



in Joint-Venture with



DOCUMENT INFORMATION

GENERAL INFORMATION

|                               |                                                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROJECT                       | Eastern Nairobi Water & Sewerage Network Intensification Project                                                                                                                       |
| CONTRACT NO                   | AWWDA/AFD/NWSP/W-01/2022                                                                                                                                                               |
| CONTRACT NAME                 | Detailed Design, Design Review, Tender Documentation, ESIA/<br>RAP Implementation and Construction Supervision for Eastern<br>Nairobi Water & Sewerage Network Intensification Project |
| COMPONENT                     | Monthly Environmental, Social, Health and Social Implementation<br>Report                                                                                                              |
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|          |          |              |                               |
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|          |          |              |                               |

RECIPIENTS

| Name              | Entity                              |
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|                                                                                            |           |
|--------------------------------------------------------------------------------------------|-----------|
| <b>LIST OF FIGURES.....</b>                                                                | <b>2</b>  |
| <b>LIST OF ANNEXES.....</b>                                                                | <b>2</b>  |
| <b>EXECUTIVE SUMMARY .....</b>                                                             | <b>4</b>  |
| 1.1 Purpose and Scope .....                                                                | 4         |
| 1.1.1 Project safeguard documents.....                                                     | 4         |
| 1.1.2 Legislation and Institutional Frameworks for environmental and social matters.....   | 5         |
| 1.1.3 Scope .....                                                                          | 6         |
| 1.1.4 Stakeholder engagement and information disclosure process.....                       | 7         |
| <b>2. AN ANALYSIS OF ENVIRONMENTAL AND SOCIAL RISKS TO APPLICABLE ACTIVITIES</b>           | <b>10</b> |
| 2.1 Location of targeted additional interventions .....                                    | 10        |
| 2.2 Environmental/social risks and mitigation measures for the targeted interventions..... | 12        |
| <b>3. IMPLEMENTATION AND OPERATION .....</b>                                               | <b>16</b> |
| 3.1 Responsibilities of stakeholders.....                                                  | 16        |
| 3.2 Monitoring, evaluation and reporting .....                                             | 16        |
| 3.2.1 Monitoring and reporting.....                                                        | 16        |
| <b>4. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP).....</b>                             | <b>17</b> |
| 4.1 Objectives of the ESMP .....                                                           | 17        |
| 4.2 Resources, roles, responsibilities and authority .....                                 | 17        |
| 4.2.1 AWWDA.....                                                                           | 17        |
| 4.2.2 Supervision Environmental Representative.....                                        | 17        |
| 4.2.3 The Project Manager.....                                                             | 18        |
| 4.2.4 Construction Manager.....                                                            | 19        |
| 4.2.5 Construction Superintendent.....                                                     | 19        |
| 4.2.6 Contractor Environment Manager.....                                                  | 19        |
| 4.2.7 Contractor sociologist .....                                                         | 20        |
| 4.3 Competence, Training and Awareness .....                                               | 20        |
| 4.3.1 Environmental induction.....                                                         | 20        |
| 4.3.2 Toolbox talks, training and awareness.....                                           | 21        |
| <b>5. COMMUNICATION .....</b>                                                              | <b>22</b> |
| 5.1 Internal communication .....                                                           | 22        |
| 5.2 External and government authority consultation.....                                    | 22        |
| <b>6. STAKEHOLDER AND COMMUNITY COMMUNICATION .....</b>                                    | <b>23</b> |
| 6.1 Community Engagement Strategy.....                                                     | 23        |
| 6.2 Grievance Redress Mechanism:.....                                                      | 24        |
| 6.3 Complaints and enquires protocol.....                                                  | 24        |
| 6.4 Incidents and emergencies .....                                                        | 25        |
| 6.5 Reporting .....                                                                        | 26        |
| <b>ANNEXES .....</b>                                                                       | <b>27</b> |

## LIST OF TABLES

|                                                                                   |    |
|-----------------------------------------------------------------------------------|----|
| Table 2-1: Summary of environmental impacts and proposed mitigation measures..... | 12 |
|-----------------------------------------------------------------------------------|----|

## LIST OF FIGURES

|                                                |                                     |
|------------------------------------------------|-------------------------------------|
| Figure 1-1: Map showing the Project area ..... | <b>Error! Bookmark not defined.</b> |
| Figure 2-1: Kamulu Mavoko Layout.....          | 11                                  |
| Figure 2-2: Layout Joska to Malaa .....        | 11                                  |
| Figure 2-3: Proposed Mwalimu Farm Line.....    | <b>Error! Bookmark not defined.</b> |

## LIST OF ANNEXES

|                                                         |                                     |
|---------------------------------------------------------|-------------------------------------|
| Annex 1:Project ESIA Report.....                        | 27                                  |
| Annex 2: Project ESIA Addendum.....                     | 27                                  |
| Annex 3:Project ESIA License .....                      | 27                                  |
| Annex 4: DOSHS Workplace Registration Certificate ..... | <b>Error! Bookmark not defined.</b> |
| Annex 5: County Business Permit.....                    | <b>Error! Bookmark not defined.</b> |
| Annex 6: Minutes of the meeting held.....               | 27                                  |

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## ABBREVIATIONS /ACRONYMS

|                   |                                                       |
|-------------------|-------------------------------------------------------|
| <b>AFD</b>        | Agence Française de Développement - <b>Financier</b>  |
| <b>AWWDA</b>      | Athi Water Works Development Agency - <b>Client</b>   |
| <b>CESMP</b>      | Contractor's Environmental and Social Management Plan |
| <b>DOSH</b>       | Directorate of Occupational Safety and Health         |
| <b>EGIS/LOSAI</b> | Egis/Losai Management Limited - <b>Consultant</b>     |
| <b>EHS</b>        | Environment health and safety                         |
| <b>EPRP</b>       | Emergency Preparedness and Response Plan              |
| <b>ESIA</b>       | Environmental social impact assessment                |
| <b>ESMP</b>       | Environmental social management plan                  |
| <b>NWSP</b>       | Nairobi Water and Sanitation Projects                 |
| <b>NEMA</b>       | National Environment Management Agency                |
| <b>OSH</b>        | Occupational Safety and Health                        |
| <b>PAP</b>        | Project affected persons                              |
| <b>PMU'S</b>      | Project Management Units                              |
| <b>PPE</b>        | Personal Protective Equipment                         |
| <b>SER</b>        | Supervision Environmental Representative              |
| <b>SES</b>        | Stakeholders Engagement Strategy                      |
| <b>RE</b>         | Resident Engineer                                     |
| <b>RMS</b>        | Record Management System                              |

## EXECUTIVE SUMMARY

### E1. Introduction

This report is an updated Environmental & Social Management Plan (ESMP) for additional works under The Eastern Nairobi Water and Sewerage Network Intensification Project hereunder referred as “The Project”. The project is within Nairobi Metropolitan with Nairobi City being the capital center of the Republic of Kenya, located about 140Km south of the Equator and approximately 500Km west of the Indian Ocean City of Mombasa. It is one of the 3No. Cities in the country. It borders Kajiado County to the South, Kiambu County to the North & West and Machakos to the East. It occupies a total area of about 703.9Km<sup>2</sup> between longitudes 36° 45’ East and latitudes 1° 18’ South. Nairobi County is one among the five counties (Kiambu, Kajiado, Machakos and Muranga) under the Nairobi Metropolitan region and considered as an important regional center for trade, commerce, integration and economic development.

The project is in Pressure Zone 10S which consists of the following sub-locations of Nairobi County and one sub location in Machakos County

- a. Mihango
- b. Ruai
- c. Utawala
- d. Joska
- e. Kamulu

### 1.1 Purpose and Scope

#### 1.1.1 Project safeguard documents

This ESMP is part of the approved ESIA (Annex 1), ESIA addendum and part of statutory documents that address safeguards on the project ensuring that the project is compliant with both National and AfD safeguard standards. The project safeguard documents include:

- a) Environment & social management plan
- b) Health & safety management plan
- c) Labour Management plan
- d) Waste management plan
- e) Traffic management plan
- f) Stakeholder management plan
- g) Security Plan
- h) Incident report form
- i) Harassment complaint form
- j) Grievance logbook
- k) Emergency Response Plan
- l) Code of conduct
- m) GBV
- n) Whistle blowers’ policy

The whole set of project safeguard documents are live, including this ESMP, and are revised and updated on need basis.

## **1.1.2 Legislation and Institutional Frameworks for environmental and social matters**

### **1.1.2.1 National Legislation, Policies and Regulations**

The main legislation that governs environmental management in Kenya is the Environmental Management & Coordination (Amendment) Act, 2015 typically referred to as EMCA. EMCA calls for environmental impact assessment (EIA) (under Section 58) to guide the implementation of environmentally sound decisions and empowers stakeholders to participate in sustainable management of the natural resources. Part V from Sections 42 – 57 deals with Protection and Conservation of the Environment while Part VI deals with Integrated Environmental Impact Assessment. Projects likely to cause environmental impacts require that an environmental and social impact assessment study to be carried out. It is under this provision that the current study has been undertaken because Legal Notice No, 32 and 34 of April 19, 2019 places the proposed interventions under the Medium-Risk Category requiring the preparation of a summary project report.

The other relevant legislation applied during this assessment are the regulations borne of EMCA Cap 387 namely the Environmental Impact Assessment and Audit Regulations (Amendment) 2025, the Environmental Management and Co-ordination (Water Quality) Regulations 2024, the Environmental Management Co-ordination Act (Wetlands, River Banks, Lake Shore and Sea Shore Management) Regulations 2021; the Environmental Management Coordination (Noise and Excessive Vibration Pollution Control) Regulations 2009; and the Environmental Management and Co-ordination (Conservation of Biological Diversity Resource Access to Genetic Resource and Benefit Sharing I) Regulations 2025, Air quality Regulations 2024 among others.

The other sectorial legislation applicable to this project includes the Constitution of Kenya 2010, Constitution of Kenya 2010, Kenya Vision 2030, National Environment Policy (NEP) 2013, National Climate Change Response Strategy, 2010, The National Environment Policy, 2013, Kenya National Youth Policy 2006, The National Environmental Sanitation and Hygiene Policy-July 2007, Sustainable Waste Management Act, 2022, The Physical and Land Use Planning Act, 2019, Land Act, 2012, Water Act, (Amendment) 2024, Water Rules 2007, County Government Act No. 17 of 2012, Occupational Health and Safety Act (OSHA 2007), The Public Health Act (CAP.242), Employment Act, HIV and AIDS Prevention and Control Act 2011, Sexual Offences Act 2006, Child Rights Act 2022, Work Injury Benefits Act (WIBA), Labor Relations Act 2012, National Gender and Equality Commission Act 2011.

### **1.1.2.2 AFD Environmental and Social Standards**

Projects funded by Agence Française de Développement (AFD) contribute to France's ODA strategy, the implementation of the 2030 global agenda and the 17 Sustainable Development Goals (SDGs), as well as the 2015 Paris Climate Agreement. In the context of the follow-up to the 2005 Paris Declaration on Aid Effectiveness and in line with the 2014 Law on the Orientation and Programming Development Policy and International Solidarity, AFD has decided to harmonize the principles of the current Environmental and Social Risk Management Policy and to coordinate

its actions with the environmental and social framework of multilateral donors. AFD has therefore aligned its Policy with the World Bank's environmental and social standards for projects with High or Substantial environmental and social impacts.

The following ESS are applicable to the project.

- a. Environmental and Social Standard 1: Assessment and Management of Environmental and Social Risks and Impacts;
- b. Environmental and Social Standard 2: Labor and Working Conditions;
- c. Environmental and Social Standard 3: Resource Efficiency and Pollution Prevention and Management;
- d. Environmental and Social Standard 4: Community Health and Safety;
- e. Environmental and Social Standard 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
- f. Environmental and Social Standard 10: Stake holder Engagement and Information Disclosure

### 1.1.3 Scope

Screening process was undertaken to decide whether the proposed project needed to be subjected to an ESIA study or not. The Environmental Management and Coordination (Amendment) Act, 2015 specifies the projects for which should be subjected to an Environmental and Impact Assessment (EIA) before commencement of project activities. In this this schedule water supply and distribution infrastructure are classified under medium risk projects requiring preparation of ESIA comprehensive Project Report. The project belongs to the activities listed in Schedule 3 (c) water supply and distribution infrastructures.

Based on this classification the proposed project was therefore subjected to an Environmental and social impact Assessment (ESIA). An ESIA for Embakasi- Utawala – Mihango-Ruai Water Distribution Network was undertaken and submitted to NEMA for approval and licensing. On January 24,2018 a license (NEMA/EIA/PSR/5665) (Annex 3) was granted. The project did not commence within the 2 year of license validity due to lack of funds. The funds were availed in 2022 and an application to vary the license through submission of an addendum for construction of the scope under Eastern Nairobi Water & Sewerage Network Intensification Project was done and approved. The scope included:

- a) Primary distribution line along Eastern Bypass to Kangundo Junction and onwards to Kamulu of sizes DN800, DN630, DN500 and DN400 in PN16 Steel of total length 12,250m and sizes DN 315 and DN200 in PE100 SDR11 of length 7,065m.
- b) Secondary Distribution line to Mihango Sub location off Primary Main along Eastern Bypass, OD 250/200/110. Total length is 15,970m.
- c) Secondary Distribution line to Mihango Sub location along Kibiku Rd HDPE OD 200/160/90 to connect to Kangundo Rd existing DN300 near Hurlingham Stage. Total length is 4,160m.
- d) Secondary Distribution line to Utawala Sub location HDPE OD 315/250/200/110/90. Total length is 9,000m.

- e) Secondary Distribution lines in Njiru area of HDPE OD 200/110/90 size. Total length is 13,150m.
- f) Secondary Distribution lines in Saika, Mwengenyi and Obama areas of HDPE OD 200/110/90 size. Total length is 14,450m.
- g) Secondary Distribution lines in Donholm area of HDPE OD 250/200 size. Total length is 7,150m.
- h) Secondary Distribution lines off Mwiki Road of HDPE OD 160 size. Total length is 16,500m.
- i) Secondary Distribution lines in Lucky Summer area of HDPE OD 160 size. Total length is 1,350m.
- j) Secondary Distribution lines in Umoja III area of HDPE OD 110. Total length is 5,850m.
- k) Secondary Distribution lines off Kamiti Road of HDPE OD 160. Total length is 5,600m.

The project commenced in the year 2022.

Under the approved works for Eastern Nairobi Water & Sewerage Network Intensification Project by the client. The updating of this ESMP is therefore to include the anticipated risks/impacts based on the types of activities that are expected to be implemented under the proposed additional works in Joska, Kamulu and Utawala.

#### 1.1.4 Stakeholder engagement and information disclosure process

##### 1.1.4.1 Assessment activities supporting the updating of the ESMP

In addition to observation and site inspection for the proposed additional works in Joska, Kamulu and Mwalimu Farm environmental and social risks and potential impacts have been further identified through consultation (Annex 4, Minute of the meeting) , as well as support from the project's safeguard specialist.

Below is a summary of the concerns the community had and the responses:

| Concern                                                                                                                                                             | Responses                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resident-George Masinde <ul style="list-style-type: none"> <li>Inquired about job creation and materials and equipment sourcing from the local community</li> </ul> | The contractor acknowledged the concern raised and reaffirmed the projects commitment to promoting local employment and community participation. They clarified that a significant proportion of the workforce will be sourced directly from the surrounding community in accordance with labour engagement guidelines and social safeguards. The project will work closely with the chief to |
| Market Representative- Lazarus Njoroge <ul style="list-style-type: none"> <li>Inquired about the expected timeline to receive water.</li> </ul>                     | The supervising consultant provided clarification on the overall project timeline, noting that the project will officially commence in December 2025 following completion of the preliminary surveys, design validation, and mobilization of construction teams. Based on the current work schedule, resource allocation, and projected                                                       |

|                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                 | construction sequencing, the consultant confirmed that the project is expected to reach substantial completion by February 2026.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>Isaac Ndirangu</p> <ul style="list-style-type: none"> <li>Inquired if the project will lay the main pipes and also the laterals for distribution in the estates</li> </ul>                                                                                   | The supervising consultant clarified that the project scope only covers the installation of the main line. Last mile connections will be done by MAVWASCO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Susan-PLWD<br/>Representative in Joska</p> <ul style="list-style-type: none"> <li>Requested the project consider the PWDs in job creation.</li> <li>She also raised concern about flooding that happens in Joska which can affect the pipes laid.</li> </ul> | <p><b>Inclusion of Persons with Disabilities (PWDs) in Employment</b></p> <p>Consultant confirmed that the project will actively incorporate Persons with Disabilities (PLWDs) within its employment framework. This will be done in alignment with national labour policies and social safeguard standards that promote inclusive participation. The contractor and supervising team will ensure that recruitment procedures accommodate PWDs by identifying roles suited to varying physical abilities, providing reasonable workplace adjustments where necessary, and ensuring that no discrimination occurs during hiring or task allocation.</p> <p><b>Technical Clarification on Flooding</b></p> <p>In response to the concern regarding flooding within the Joska area and its potential impact on pipeline stability, the supervising consultant explained that the project will utilize anchor blocks to secure the pipes. The anchor blocks, are structural concrete supports installed at critical points such as bends, tees, reducers, and valves.</p> |
| <p>Martin Kamau</p> <ul style="list-style-type: none"> <li>When will the census of the RAP begin?</li> </ul>                                                                                                                                                    | The consultant clarified that the census for all the project affected persons will begin immediately in 2 days. The cutoff date will be the first date of enumeration. All the affected assets that includes structures, trees, flower beds, live fences, livelihood disturbances etc. will be noted .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>Francis Seme</p> <ul style="list-style-type: none"> <li>He appreciated the project and acknowledged the big impact it will have on the locals.</li> <li>He recommended a feasibility study of</li> </ul>                                                     | The consultant noted the recommendations and assured the community that they will be forwarded to the client for consideration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                                                                                                                                  |  |
|----------------------------------------------------------------------------------------------------------------------------------|--|
| <p>the area to be redone to consider the Mavoko and Matungulu locations residents. The population is high and require water.</p> |  |
|----------------------------------------------------------------------------------------------------------------------------------|--|

## **2. AN ANALYSIS OF ENVIRONMENTAL AND SOCIAL RISKS TO APPLICABLE ACTIVITIES**

### **2.1 Location of targeted additional interventions**

The proposed additional works are in Nairobi Kiambu and Machakos Counties. The additional works are specifically within Joska, Kamulu and Mwalimu Farm. The project area 'Joska' is in Matungulu West located along Nairobi Kangundo Road that borders the neighborhood of Kamulu in Nairobi's Ruai ward. Kamulu is primarily located in Nairobi County within the Kasarani Constituency and Ruai Ward while Mwalimu Farm is located in Ruiru East, Kiambu County, specifically in the Gatong'ora Ward. The layouts below presents proposed distribution networks in the project area

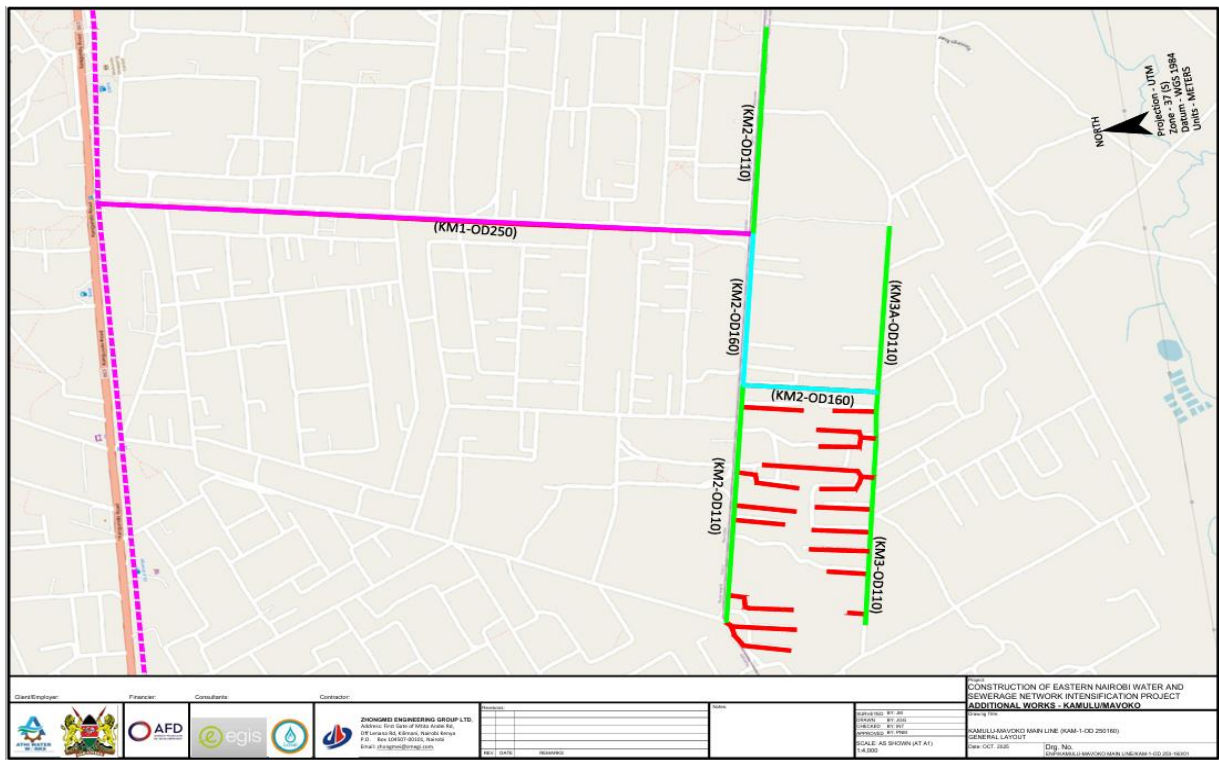


Figure 2-1: Kamulu Mavoka Layout

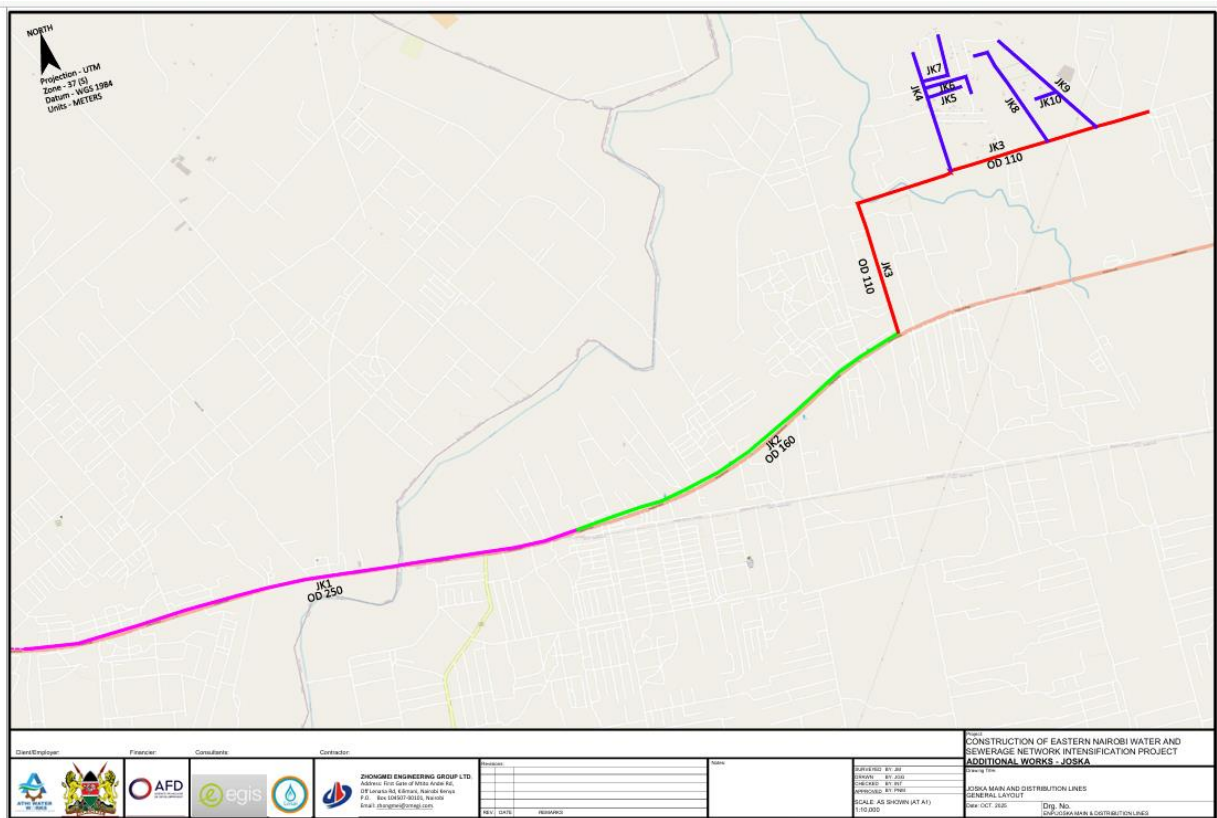


Figure 2-2: Layout Joska to Malaa

## 2.2 Environmental/social risks and mitigation measures for the targeted interventions

The proposed Network Intensification in Kamulu Joska additional works do not pose significant environmental and social concerns if implemented in the framework provided for in the ESIA report and Environment and Management Plan and the Environment License Conditions issued to the Project. The impacts as summarized in table 2-1 below are captured in the ESIA report together with the proposed mitigation measures.

It is therefore recommended that the Project proponent implements the additional works and ensure recommended mitigation measures as highlighted in the ESIA report are implemented and adherence to the conditions issued under the project ESIA license are observed.

**Table 2-1: Summary of environmental impacts and proposed mitigation measures**

| Environmental Issues | Anticipated Impact                                                                                                                             | Management and Mitigation /enhancement measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Community welfare    | <ul style="list-style-type: none"> <li>Traffic and pedestrian inconveniences.</li> <li>Disruption of routine activities in the area</li> </ul> | <ul style="list-style-type: none"> <li>Construction should be implemented in stages, providing adequate notice of construction activities to community members through the chief's office and by use of public notices via appropriate means such as radio announcements.</li> <li>The traffic flow should be regulated, if required, including set-up of road signs, safety tapes, temporary safety foot bridges as alternative walk ways and deployment of traffic marshals</li> <li>Deploy micro-tunnelling method to the extent possible for small diameter pipes to reduce disruption to the community, reduced liability for personal injury and property damage and increased worker safety</li> </ul> |
| Soil                 | <ul style="list-style-type: none"> <li>Soil erosion and soil eroding processes</li> </ul>                                                      | <ul style="list-style-type: none"> <li>Schedule the works such that trenching is immediately followed by pipe laying such that heaped soil does not take too long before being used for backfilling.</li> <li>All excavated earth should be used for backfilling and any remnants collected and carted away to a designated dump site</li> </ul>                                                                                                                                                                                                                                                                                                                                                              |

| Environmental Issues        | Anticipated Impact                                                                                                                                | Management and Mitigation /enhancement measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Soil should not be heaped to a height of more than 5m.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Environmental contamination | <ul style="list-style-type: none"> <li>• Potential soil contamination from fuels, lubricants, chlorine &amp; other hazardous materials</li> </ul> | <ul style="list-style-type: none"> <li>• Direct the chlorinated water discharged from pipe flushing to the existing drainage</li> <li>• Fuels and lubricants must be stored on a sealed surface, away from water resources. Equipment should be serviced at designated and controlled areas as required to avoid oil spills</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| Safety and health           | <ul style="list-style-type: none"> <li>• Impacts relating to safety and hazards to workers and the population</li> </ul>                          | <ul style="list-style-type: none"> <li>• Ensure that all workers have appropriate PPEs at all stages of construction</li> <li>• Hoarding active construction sites at times</li> <li>• Control unauthorized persons' access to the site</li> <li>• Place warning signs in active work areas</li> <li>• Carry out regular inspection of equipment by qualified staff and make regular safety audits</li> <li>• Provide first aid services and safety training to construction team.</li> <li>• Develop a grievance response mechanism for community participation in project construction, which will minimize disruption to community social activities.</li> <li>• Strictly comply with OSHA rules</li> </ul> |
| Air Pollution               | <ul style="list-style-type: none"> <li>• Dust generation</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>• Apply construction best practices that restrict excavation / trenching activities to the project footprint to limit generated loose soil.</li> <li>• In the event dust generation at a particular site is anticipated to be higher than acceptable due to high speed winds then the work sites should be watered and kept wet to dampen loose soil</li> </ul>                                                                                                                                                                                                                                                                                                         |

| <b>Environmental Issues</b> | <b>Anticipated Impact</b>                                                                                                                                              | <b>Management and Mitigation /enhancement measures</b>                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                                                                                                                        | <ul style="list-style-type: none"> <li>The workers shall be provided with protective dust masks</li> </ul>                                                                                                                                                                                                                                                                                                                                                        |
| Water Quality               | <ul style="list-style-type: none"> <li>Pollution by discharged chlorinated water used for pipe flushing</li> <li>Pollution by Fuel, Lubricants and Chlorine</li> </ul> | <ul style="list-style-type: none"> <li>Direct the chlorinated water discharged to the existing road drainage</li> <li>Fuels and lubricants must be stored on a sealed surface, away from water resources. Equipment should be serviced at designated and controlled areas as required to avoid oil spills</li> </ul>                                                                                                                                              |
| Noise and vibration         | <ul style="list-style-type: none"> <li>Impact of increased noise levels on general human health and productivity</li> </ul>                                            | <ul style="list-style-type: none"> <li>Night construction works in residential to be avoided together, with usage of noisy machines/equipment</li> <li>The construction equipment is to be examined on a regular basis so as not to exceed the legal limits.</li> <li>Workers operating equipment shall be provided with protective ear muffs.</li> <li>All equipment's to be serviced on time to suppress noise generated from worn out of components</li> </ul> |
| Waste management disposal   | <ul style="list-style-type: none"> <li>Water Resources</li> <li>Pollution by Construction and Household Waste</li> </ul>                                               | <ul style="list-style-type: none"> <li>Construction waste should be sorted, removed from site and transported by a licensed waste handler to a designated site.</li> <li>Excess soil after backfilling should be carted away to a designated area</li> </ul>                                                                                                                                                                                                      |
| Local demography            | <ul style="list-style-type: none"> <li>Improvement in water supply will attract immigrants in the area placing strain on social facilities</li> </ul>                  | <ul style="list-style-type: none"> <li>Pro-active planning by Nairobi, Kiambu and Machakos county government to introduce controlled development.</li> </ul>                                                                                                                                                                                                                                                                                                      |
| Sanitation                  | <ul style="list-style-type: none"> <li>Improved water supply will lead to additional waste water generation.</li> </ul>                                                | <ul style="list-style-type: none"> <li>Consider developing a parallel sewer system</li> <li>Nairobi, Kiambu and Machakos county Governments Planning departments should demand a well-developed on-site sanitation system during approval of building plans</li> </ul>                                                                                                                                                                                            |

| Environmental Issues       | Anticipated Impact                                                                                | Management and Mitigation /enhancement measures                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            |                                                                                                   | <ul style="list-style-type: none"> <li>Workers to be provided with onsite or alternative sanitation facilities.</li> </ul>                                                                                    |
| Operation phase livelihood | <ul style="list-style-type: none"> <li>Local water Vendors will lose their livelihoods</li> </ul> | <ul style="list-style-type: none"> <li>Preferably the current water vendors with tankers should convert them to septic tank exhausters or other uses such as provision of transportation services.</li> </ul> |

### **3. IMPLEMENTATION AND OPERATION**

#### **3.1 Responsibilities of stakeholders**

The project management unit's (PMUs) or implementation team has and will continue being responsible for monitoring the overall implementation, including environmental compliance of the proposed interventions. PMUs have the final responsibility for ESMP implementation and environmental performance of these targeted interventions. Specifically, as below:

- a) The community outreach consultant will closely coordinate with local authorities in the participation of the community during preparation and implementation.
- b) Implement, monitor and supervise ESMP implementation
- c) Ensure that an environmental management system is set up and functions properly.
- d) In charge of reporting on social and environmental issues to relevant authorities
- e) Obtain environmental permission if required in accordance with national laws and regulations.
- f) Contractors and consultants/experts will be responsible for providing oversight of local communities in co-implementation activities as follows

#### **3.2 Monitoring, evaluation and reporting**

##### **3.2.1 Monitoring and reporting**

The following monitoring regarding this ESMP is presented as below:

##### **3.2.1.1 Environmental incident reporting**

Any incidents, including non-conformances to the procedures of the ESMP are to be recorded using an Incident Record and the details entered into a register. Any incidents that cause or have the potential to cause material or serious environmental harm, should be notified to the Project Manager as soon as possible. The Contractor must cease work until the remediation measures have been completed as per the approval of the PMUs. Corrective actions should be taken immediately.

## **4. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)**

This refers to plan or program that seeks to achieve a required end state and describes how activities, which have or could, have an adverse impact on the environment, will be mitigated, controlled, and monitored during the commissioning, mobilization, construction, operation, maintenance and decommissioning of a project; and that the positive benefits of the projects are enhanced.

The contactor and the consultant in charge of supervision in consultation with the Client may revise the ESMP in the course of the project life cycle to accommodate the changes that may occur when the project is implemented.

### **4.1 Objectives of the ESMP**

- Encourage good management practices through planning and commitment to environmental issues concerning any project
- To provide rational and practical environmental guidelines that will assist in minimizing the potential environmental impact of activities;
- Comply and adhere to all applicable laws, regulations, standards and guidelines for the protection of the environment
- Train and bring awareness to employees and contractors with regard to environmental obligations and compliance.
- Increase efficiency through minimum consumption and conservation of energy deplete-able resources
- The ESMP also serves to highlight specific requirements that will be monitored during the development and should the environmental impacts not have been satisfactorily prevented or mitigated, corrective action will have to be taken.
- Reduce environmental risk and provide better Health, Safety and Environment (HS&E)

### **4.2 Resources, roles, responsibilities and authority**

#### **4.2.1 AWWDA**

The AWWDA will be the employer and will have the following roles

- Overall supervision of the project
- Approve the Environmental and Social Management Plans
- Ensure the works are conducted according to the Agency sustainability principles
- Conduct periodic inspections or audits of the project to ensure compliance to Kenyan laws and regulations and the AFD standards are upheld

#### **4.2.2 Supervision Environmental Representative**

The Supervision Environmental Representative (SER) will be part of the Resident Engineer's (RE) staff. The SER will be suitably qualified and experienced and independent of the client and the contractor.

The responsibilities of the Supervision Environmental Representative (SER) include:

- Be the principal point of advice in relation to the environmental performance of the project
- Be consulted in responding to the community concerning the environmental performance of the project where the resolution of points of conflict between the project and the community is required
- Monitor the implementation of environmental management plans and monitoring programs required under the project approval
- Monitor the outcome of environmental management plans
- Have responsibility for considering and advising the client on matters specified in the conditions of NEMA approval, and other licenses and approvals related to the environmental performance and impacts of the project
- Ensure that environmental auditing is undertaken in accordance with the requirements of NEMA and the project's environmental management system
- Be given the agency to approve / reject minor amendments to the contractor's Construction Environmental Management Plan (CEMP), and
- Having the authority and independence to require reasonable steps be taken to avoid or minimize unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.
- Review and approve environmental management plans and related documents prepared for the Project
- Review minor Project refinements that are consistent with the Project environmental assessment and approval documentation and recommend they be approved by the Client
- Monitor the environmental performance of the Project in relation to NEMA license conditions and the ESIA recommendations
- Evaluate and advise on compliance with Record Management System (RMS) environmental requirements, and

#### **4.2.3 The Project Manager**

The environmental responsibilities of the Project Manager include:

- Ensure all works comply with relevant regulatory and Project requirements
- Ensure the requirements of this CEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements
- Endorse and support the Project environmental policy
- Liaise with other government authorities as required
- Participate and provide guidance in the regular review of this CEMP and supporting documentation
- Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of the ESMP

- Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements
- Ensure that complaints are investigated and issues raised resolved in accordance with Complaints and Enquiries Procedure
- Stop work immediately where there is an actual or potential risk of harm to the environment.

#### **4.2.4 Construction Manager**

The environmental responsibilities of the Construction Manager include:

- Plan construction works in a manner that avoids or minimizes impact to environment
- Ensure the requirements of this ESMP are fully implemented
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements
- Ensure environmental management procedures and protection measures are implemented
- Ensure all project personnel attend an induction prior to commencing works
- Liaise with SER as required, and
- Stop work immediately where there is an actual or potential risk of harm to the environment.

#### **4.2.5 Construction Superintendent**

The environmental responsibilities of the superintendent include:

- Communicate with all personnel and sub-contractors regarding compliance with the ESMP and site-specific environmental issues
- Ensure all site workers attend an environmental induction prior to the commencement of works
- Co-ordinate the implementation of the ESMP
- Co-ordinate the implementation and maintenance of pollution control measures
- Identify resources required for implementation of the ESMP
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Environmental Manager / Environmental Officers
- Co-ordinate action in emergency situations and allocate required resources, and
- Stop activities where there is an actual or potential risk of harm to the environment and advise the Construction Manager and Environmental Manager.

#### **4.2.6 Contractor Environment Manager**

The environmental responsibilities of the Contractor Environmental Manager include:

- Overall responsibility for the management of environmental aspects of the Project
- Development, implementation, monitoring and updating of the CEMP and sub plans
- Report to Project Manager on the performance and implementation of the CEMP
- Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented

- Ensure environmental risks of the Project are identified and appropriate mitigation measures implemented
- Identify where environmental measures are not meeting the set targets and where improvement can be achieved
- Ensure environmental protocols are in place and managed
- Ensure environmental compliance
- Obtain and update all environmental licenses, approvals and permits as required;
- Manage environmental document control, reporting, inductions and training
- Manage environmental reporting within the Project team and regulatory authorities
- Prepare reports on a monthly basis outlining the Project Works undertaken, achievements and areas where improvements were made
- Oversee site environmental monitoring, inspections and internal audits
- Manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and environmental documents
- Prepare and/or distribute environment awareness notes
- Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel
- Notify relevant authorities in the event of an environmental incident and manage close-out of these
- Stop activities where there is actual or potential risk of harm to the environment or to prevent an environmental non-conformance and advise the Project Manager, Construction Manager and Superintendent, and
- Resolve environment-related complaints.

#### **4.2.7 Contractor sociologist**

The responsibilities of the sociologist will include:

- Managing stakeholder engagements throughout the construction period
- Managing labour relations and compliance with labour laws
- To play a central role in grievance redress process
- Acting as a link with the communities
- The focal point of complaints or comments relating to project activities

### **4.3 Competence, Training and Awareness**

To ensure that the information highlighted under ESMP section is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The Environmental Manager will coordinate environmental training in conjunction with other training and development activities.

#### **4.3.1 Environmental induction**

All personnel, including sub-contractors, are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site. The Environmental Manager (or delegate) will conduct the environmental component of the site induction. The environmental component will include an overview of:

- Relevant details of the ESMP including purpose and objectives
- Key environmental issues, i.e. Protection of the sensitive areas, dust and noise management
- Conditions of environmental licenses, permits and approvals
- Specific environmental management requirements and responsibilities
- Mitigation measures for the control of environmental issues
- Incident response and reporting requirements, and
- Information relating to the location of environmental constraints.

A record of all environment inductions will be maintained and kept on-site. The Environmental Manager may authorize amendments to the induction where required to address Project modifications, legislative changes or amendments to this ESMP or related documentation.

The Supervision Environmental Representative will review and endorse the induction program and monitor its implementation.

#### **4.3.2 Toolbox talks, training and awareness**

Toolbox talks will be used to raise awareness and educate personnel on construction related environmental issues. The toolbox talks will be used to ensure environmental awareness continues during construction.

Toolbox talks will be tailored to specific environmental issues including:

- Erosion and sedimentation control
- Hours of work
- Emergency response
- Noise
- Dewatering
- Project and clearing limits
- Dust control.

Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact such as across wetlands.

Awareness notes, in the form of posters, booklets or similar may be developed and distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. Awareness notes may also be distributed to the broader workforce at daily pre- start meetings. The Supervision Environmental Representative will review and endorse the training program and monitor its implementation.

## 5. COMMUNICATION

### 5.1 Internal communication

Clear lines of communication throughout all levels and functions (e.g. management, staff and sub- contracted service providers), is key to minimizing environmental impacts and achieving continual improvements in environmental performance.

The environmental team will meet regularly to discuss on-site environmental management, amendments to plans, changes to construction activities etc.

Regular meetings may also be scheduled with the Supervision Environmental Representative to communicate ongoing environmental performance and to discuss issues to be addressed.

The environment team members will participate regularly in toolbox talks to communicate to the wider project personnel on environmental performance, to advice on sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

### 5.2 External and government authority consultation

The Environmental Manager will be the main point of contact regarding specific environmental issues. The Environmental Manager has the responsibility to report on the ongoing environmental performance to the Supervision Environmental Representative.

Each relevant authority will be notified immediately via the appropriate telephone number should a pollution incident occur or injuries/harm that causes or threatens material harm to the environment or human life.

The relevant authorities to be notified are:

- NEMA
- DOSH
- the Ministry of Health via the local Public Health Unit
- County Environment Secretary

## 6. STAKEHOLDER AND COMMUNITY COMMUNICATION

### 6.1 Community Engagement Strategy

A Community Engagement Strategy will need to be updated by the contractor that describes the processes to follow for all community and stakeholder consultation in relation to the proposed interventions in Joska, Mwalimu Farm and Kamulu areas.

The purpose of the CES is to ensure that a consistent, comprehensive, coordinated and culturally appropriate approach to engagement is undertaken to avoid or mitigate potential social and environmental impacts. The approach should fulfil all relevant legal and regulatory requirements and should align to internationally recognized good practice. To this end the CES:

- Outlines the approach and activities to be adopted and implemented for engagement, presenting how the engagement process will be integrated in the construction process;
- Identifies potential stakeholders and mechanisms through which they will be included in the engagement process; and
- Serves as a record of the engagement process followed for all phases of the project.

The overall objectives of the stakeholder engagement process are threefold:

- to inform stakeholders of the project;
- to obtain stakeholder views and opinions on how best to execute the project; and
- to formulate actions necessary to avoid or lessen any impacts the project could have on the communities within the project area.

The SES should focus on consultation, disclosure and engagement activities to be undertaken during construction. As a “live” document, the CES and the ensuing plan will be updated throughout the construction process when and where necessary. In any case stakeholder engagement will need to be undertaken for the lifecycle of the Project throughout the planning, construction, operation and decommissioning phases.

**Aim:** To ensure that affected communities are appropriately engaged on issues that could potentially affect them; to build and maintain a constructive relationship with communities; and to establish a grievance mechanism.

#### The Suggested Strategy

Who to Consult:

- Directly and indirectly affected communities
- Positively and negatively affected communities/individuals
- Those with influence due to local knowledge or political influence
- Elected representatives, (MCAs)
- Non-elected community officials and leaders (Chiefs, Ward representatives)
- Informal/traditional community institutions and/or elders (local business associations)

When to Consult:

As early as possible or at the latest consultation should begin prior to construction. Consultation should be an on-going process throughout the life of the Project, i.e. iterative.

Consultation should also allow for a feedback mechanism where affected people are able to present their concerns and grievances for consideration and redress.

What to Consult on:

- Disclosure of Project information (purpose, nature, scale)
- Disclosure on the Action Plan as a result of consultation, with periodic reports to
- Demonstrate implementation;
- Risks and impacts of the Project
- Updates actions and proposed mitigation measures to address negative impacts and
- Areas of concern for affected communities.

How to Consult:

- Be inclusive
- Allow for free, prior and informed participation of affected communities
- Be in the language preferred by the affected communities
- Consider the needs of disadvantaged and vulnerable groups
- Be fed into the proposed mitigation measures
- Be iterative
- Be documented;
- Be responsive to community concerns and grievances
- Be easily understood and transparent;
- Allow for differentiated means of engagement particularly for disadvantaged or vulnerable groups.

## **6.2 Grievance Redress Mechanism:**

There is potential for conflicts between the project and the communities during implementation. Such conflicts will principally be fourfold namely, labour, business disruptions, safety and relocation. The contractor should engage the community using the already existing grievance redress mechanism as it has been proven to be practicable and working effectively. As a start the contractor will be expected to form local inclusive committees, preferably in each intervention area.

## **6.3 Complaints and enquires protocol**

The suggestion box at the campsite will continue to be used for complains together with telephone number and email addresses that have been used before within other project areas. This contacts will also be displayed on site for use by members of the public.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached and whether mediation was required or used will be included in a complaints register. The information contained within the register will be made available to AWWDA on request.

The Environmental officer will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate construction staff to ensure modifications and

improvements in the management of any environmental issues which have resulted in community complaints.

#### 6.4 Incidents and emergencies

All incidents and emergencies resulting from the Road Works will be managed in accordance with the Emergency Preparedness and Response Plan (EPRP) that the contractor must prepare as part of the preliminaries. Typically, the EPRP should provide the following:

- types of incidents
- criteria for classification of environmental incidents
- processes for systematically responding to and managing emergency situations, and
- Processes and legal requirements (e.g. OSHA, NEMA Regulations) for the reporting and notification of an environmental incident.

Environmental emergency requires various authorities to address the prevention of, preparedness for, response to and recovery from environmental emergencies caused by uncontrolled, unplanned or accidental releases and to reduce any foreseeable likelihood of releases of toxic or other hazardous substances into the environment.

In the event of environmental emergency or environmental incident occurring, NEMA requires that the person reporting the incident must (i) give accurate reporting of exact occurrence of incident(s), (ii) provide necessary details to assist in locating and addressing the incident and finally (iii) provide feedback on the effectiveness of incidence response.

When providing these details, NEMA requires that *High-Risk Incidents* to be addressed within 24 hours, *Medium Risk Incidents* within 48 hours, and *Low Risk Incidents* addressed with 14 days. Acknowledged and forwarded to relevant lead agency and finally regular feedback to customers.

Although NEMA has not publicly provided guidelines on how to handle environmental emergency issues, the guidelines exist in other countries. For example, the Canadian government on their article “**Implementation Guidelines for the Environmental Emergency Regulations**” has provided the following actions to be taken in case of environmental emergency:

- Quick activation of the emergency plan
- Adequate resource mobilization
- Rapid assessment of the probable path and impacts of the emergency
- Proper notification of the emergency to first responders and affected parties, including alerting and warning the public
- Maintenance of communication systems between stakeholders
- Evacuating, confining and accounting for personnel and members of the public present at a facility’s site, if needed
- Adequate reporting
- Recovery

“Recovery” refers to the restoration of any part of the environment damaged by or during the emergency. Recovery affects both the operating entity itself and the surrounding community.

The issue of recovery is best managed through discussions among all involved parties to Implementation Guidelines for the Environmental Emergency Regulations, assess the damage and agree on a restoration plan.

Four suggested steps to assessing damage in a recovery situation are as follows:

- Determine the extent of the damage and provide appropriate communication to all relevant parties, including the public.
- Develop a system to bring in the proper resources, including people, at the right time.
- Work with outside resources to support recovery.
- Organize the community resources necessary for people recovering from an emergency situation.

## **6.5 Reporting**

The Client shall generally be notified verbally immediately and in writing within 1 hour of the occurrence of an environmental incident. Incident reports will be provided to the Client within 24 hours of the incident occurring, including lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. All efforts should be undertaken immediately to avoid and reduce impacts of incidents and suitable controls put in place. Incidents should be closed out as quickly as possible, taking all required action to resolve each environmental incident.

In accordance with the law the contractor should also notify DOSHS and other relevant central and county government agencies of any incident with actual or potential significant off -site environmental impacts on people or the bio-physical environment as soon as practicable and within 24 hours after the occurrence of the incident. The NEMA will be notified of any environmental incidents or pollution incidents on or around the site via the NEMA Emergency hotline (020 6006041 / 020 8077233).

**ANNEXES**

**Annex 1:Project ESIA Report**



ESIA Utawala-  
Embakasi Water Dlist

**Annex 2: Project ESIA Addendum**



ESIA ADDENDUM  
EMBAKASI UTAWALA

**Annex 3:Project ESIA License**



Utawala Mihango  
NEMA licence.pdf

**Annex 4: Minutes of the meeting held**



KAMULU JOSKA  
minutes oct 14th 202!