SUMMARY PROJECT REPORT

PROPOSED CONSTRUCTION OF GORGOR WATER TANK AT ABOSI LOCATION, NDANAI/ABOSI WARD IN SOTIK SUB COUNTY, BOMET COUNTY

GPS LOCATION: LATITUDE 0.898850 S; LONGITUDE 35.085905

PROPONENT:
GORGOR WATER TANK CONSTRUCTION PROJECT MANAGEMENT COMMITTEE

THE WORLD BANK

KCSAP
Kenya Climate Smart Agriculture Project

APRIL 2021

CERTIFICATION

This Summary Project Report is submitted on behalf of the Gorgor water tank construction sub-project for the proposed construction of Gorgor Water tank in Ndanai/Abosi Ward, Sotik Sub-County, within Bomet County. To my knowledge, all information contained in this report is accurate and a true representation of all the findings relating to the project.

LEAD EXPERT

MR. PAUL K. MARITIM

SIGNATURE……

DATE…….

DESIGNATION: EIA/EA LEAD EXPERT REG. NO. 2405

ASSOCIATE EXPERT

MR. GILBERT K. KORIR

SIGNATURE……

DATE…….

DESIGNATION: EIA/EA ASSOCIATE EXPERT REG. NO. 9191

PROJECT PROPONENT

SIGNATURE.....

DATE……..

NAME: ……

POSITION: .....

FOR AND ON BEHALF OF GORGOR WATER TANK CONSTRUCTION SUB-PROJECT

ACKNOWLEDGEMENT

The Kenya Climate Smart Agriculture Project Bomet County Project Coordinating Unit (CPCU) acknowledges the work of many individuals and institutions that provided the content and analysis for this Summary Project Report for the proposed construction of Gorgor Water Tank Sub-project.

The Unit is thankful to the World Bank Group and the Government of Kenya for considering Bomet County to be one of the implementing counties and for reviewing the report to ensure that it meets the standards. The unit is also grateful to the National Project Coordinating Unit for their guidance in the Summary Project Report preparation process. Our gratitude goes more specifically to Dr. Gilbert Muthee, and Ms. Jane Ngugi, NPCU -ESS Specialists for their role in review and invaluable input into the draft report.

I also thank the County Panel of Experts (CPOE) led by Eng. Leonard Tonui, Water Engineer for their tireless effort in ensuring that the report captures all the issues relating to the water project.

Our gratitude also goes to Mr. Paul K. Maritim and Mr. Gilbert Korir, the registered NEMA experts who helped to put the report together.

I cannot forget the members of the community including VMGs who took part in the public participation and gave comments without which it would not have been possible to compile this report.

MR STEPHEN MUTAI
CESSCO-BOMET

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ABBREVIATIONS AND ACRONYMS

BOMWASCO	Bomet water and sanitation company
CESSCO	County Environment and Social Safeguards Compliance Officer
CSESMMP	Contractor-Specific Environmental and Social Management Plan
CGB	County Government of Bomet
CIDP	County Integrated Development Plan
COVID-19	Coronavirus disease of 2019
CPC	County Project Coordinator
CPCU	County Project Coordinating Unit
CPOE	County Panel of Experts
CSA	Climate Smart Agriculture
CTAC	County Technical Advisory Committee
EHS	Environmental Health and Safety
EMCA	Environmental Management and Coordination Act
ESMMP	Environmental and Social Management and monitoring Plan
ESS	Environment and Social Safeguards
FDG	Focused Group Discussion
GBV	Gender Based Violence
GPS	Global Positioning System
KCSAP	Kenya Climate Smart Agriculture Project
KII	Key informant interviews
LULUCF	Land Use and Land Use Change and Forestry
M^3	Cubic meters
NEMA	National Environment Management Authority
NPCU	National Project Coordinating Unit
OHS	Occupational Health and Safety
OP	Operational Policies
PCR	Physical Cultural Resources
PDO	Project Development Objective
PPEs	Personal Protective Equipment
PMC	Project Management Committee
ROW	Public Right of Way
SAIC	Social Accountability and Integrity Committee
SEA	Sexual Exploitation and Abuse
SPR	Summary Project Report
STDs	Sexually transmitted diseases
TIMPs	Technologies, Innovations and Management Practices
VMG	Vulnerable and Marginalized Group
WBG	World Bank Group
WRMA	Water Resource Management Authority
WRUA	Water Resource Users Association

EXECUTIVE SUMMARY

The proposed Gorgor water tank construction sub-project is a community-initiated water sub-project meant to improve the livelihood of the people living in Gorgor sub-location, Abosi Location, Ndanai/Abosi ward, in Sotik Sub County, Bomet County. The main community in the area is the Kipsigis. The proposed sub-project entails **construction of a 100m^3 capacity masonry water tank,** laying of a 6 km pipeline for irrigation and spring protection. The project is **to benefit 1,355 farmers comprising of 407 males and 868 females**. The GPS coordinates of the proposed project are latitude **S 0°53'58.1679, E 35°5'0.86568 and 1841m** above sea level.

The sub-project specific site is **LR NO; KERICHO/ABOSI/725** under public interest land **(see Annex 1: Certificate of Official Search).** A proprietor is County Council of Kipsigis, reserved for Gorgor water reservoirs and administered through the Land Act 2012 and the National Land Commission Act 2012. . The spring covers an area of **0.09 hectares**.

The Kenya Climate Smart Agriculture Project (KCSAP) is a World Bank Group funded project. The overall objective of the project is "to increase agricultural productivity and build resilience to climate change risks in targeted smallholder farming and pastoral communities in the county, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response" through utilization of Climate-Smart Agriculture (CSA) technologies, innovations and management practices (TIMPs).

Legal Notice No. 31 on the Environmental Management and Coordination Act No. 8 of 1999 (Amendment to the Second Schedule) part 1 (c) categorises water pans as low risk projects which under Legal Notice No. 32 requires that for such projects, a proponent shall submit to the Authority a summary project report of the likely environmental effects of the project.

The World Bank Group as the lending institution also has policy requirements and procedures for various categories of environmental and social assessment referred to as World Bank Operational Policies which need to be complied with a funded project is commenced. In light of these therefore, the project proponent approached and contracted registered NEMA experts to carry out a Summary Project Report (SPR) for the project in accordance with the requirements of the Act and the World Bank Group conditions.

An environmental and social screening identified the sub-project as among those requiring a summary project report under schedule 2 of EMCA, No. 8 of 1999 (Revised, 2015) and World

Bank Group Operational policies. This was followed by environmental and social scoping that provided the key environmental and social components that are likely to be affected during the implementation of the project. The undertaking of the SPR involved data collection and desk-top review of existing documents to identify the nature of the proposed activities. The data collection was done through discussions with managers and design engineers as well as interviews with neighbors alongside field observations, administration of questionnaires and interviews. This process finally culminated in the preparation of this report.

This report covers the nature of the project; location of the project including proof of land ownership, any environmentally sensitive area to be affected; availability of supportive environmental management infrastructure; conformity to land use plan or zonation plan; potential environmental and social impacts of the project and mitigation measures.

Public and stakeholder consultations entailed people likely to be affected by the project who included women and Vulnerable and Marginalized Groups (VMGs). Physical inspection of the site and surrounding areas was also undertaken. Public participation by the use of FGD, administration of individual questionnaires and barazas was carried out. The following key stakeholders were consulted; Public Health, NEMA, Public Works, Water Resources Authority, Water Resource Users Association, County Department of Water, Sanitation and Environment, Administration and Lands Department. Their main concerns were captured and addressed in the SPR.

The positive impacts identified include; increased availability and access to water supply, wealth creation, reduced distances travelled in search of water, increase in government revenue, boost in business for construction materials, creation of employment opportunities, increased value of land, technology transfer, reduced water use conflicts, spiral economic effects and improved environmental health and sanitation. The negative impacts were identified as a generation of solid wastes; impacts on air quality, loss of biodiversity, soil erosion, noise pollution, spread of STDs/HIV/AIDS, workers accidents, insecurity and project management conflicts among others. All the impacts are of low significance, temporary and reversible.

An Environmental and Social Management and Monitoring Plan (ESMMP) detailing the mitigation measures and monitoring plan for implementation of the measures has been prepared. The identified implementers of the ESMMP are the community and the contractor who will be awarded the contract.

This ESMMP will form part of the contract for the contractor who will be awarded the works and it is estimated that its implementation and monitoring will take up to 6% (approximately KES. 488,500/=) of the project cost which is estimated at Kshs. 8.8 million. A specific contractor ESMMP will be prepared as part of contract documents. There is need for capacity building in implementation and monitoring of the ESMMP especially for the community members.

In conclusion, the construction and operation of the water tank will bring positive impacts in the project area including mitigating climate change impact in terms of increased accessibility to water during periods of drought, poverty alleviation and creation of temporary employment. However, the negative impacts will need to be mitigated as indicated in ESMMP. Our recommendation is that the project be allowed to proceed on condition that the mitigation measures outlined in the ESMMP are adhered to and the project be licensed by NEMA after going through the necessary processes.

1. INTRODUCTION

1.1. BACKGROUND INFORMATION

The County Project Coordinating Unit herein referred to as the proponent is implementing the 'Kenya Climate Smart Agriculture Project' (KCSAP), with support from the World Bank, to address drought related vulnerabilities in the agriculture sector in Bomet County. The KCSAP Project Development Objective is to "to increase agricultural productivity and build resilience to climate change risks in targeted smallholder farming and pastoral communities in the county, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response" through utilization of Climate-Smart Agriculture (CSA) Technologies, Innovations and Management Practices (TIMPs).

The project has five key components: Up scaling climate-smart agricultural practices; Strengthening climate-smart agricultural research and seed systems; Supporting agro-weather, market, climate, and advisory services; Project coordination and management; and Contingency emergency response.

Bomet County covers an area of 2037.4 km2 and lies between latitudes 0º 29' and 1º 03' South and between longitudes 35º 05' and 35º 35' East. It is bordered by four counties, namely: Kericho to the North, Nyamira to the West, Narok to the East and South East and Nakuru to the North-East.

The project is being implemented in three sub-counties in the County i.e. Bomet East, Sotik and Konoin (Figure 1). The Proposed Gorgor Water tank location site is in Ndanai/Abosi Ward of Sotik Sub-County. The proposed sub-project entails construction of a 100m^3 masonry water tank, laying of a 6 km pipeline for irrigation and spring protection. The project is to benefit 1,355 farmers comprising of 407 males and 868 females. The GPS coordinates of the proposed site are latitude S 0°53'58.1679, E 35°5'0.86568. The spring covers an area of 0.09 hectares.

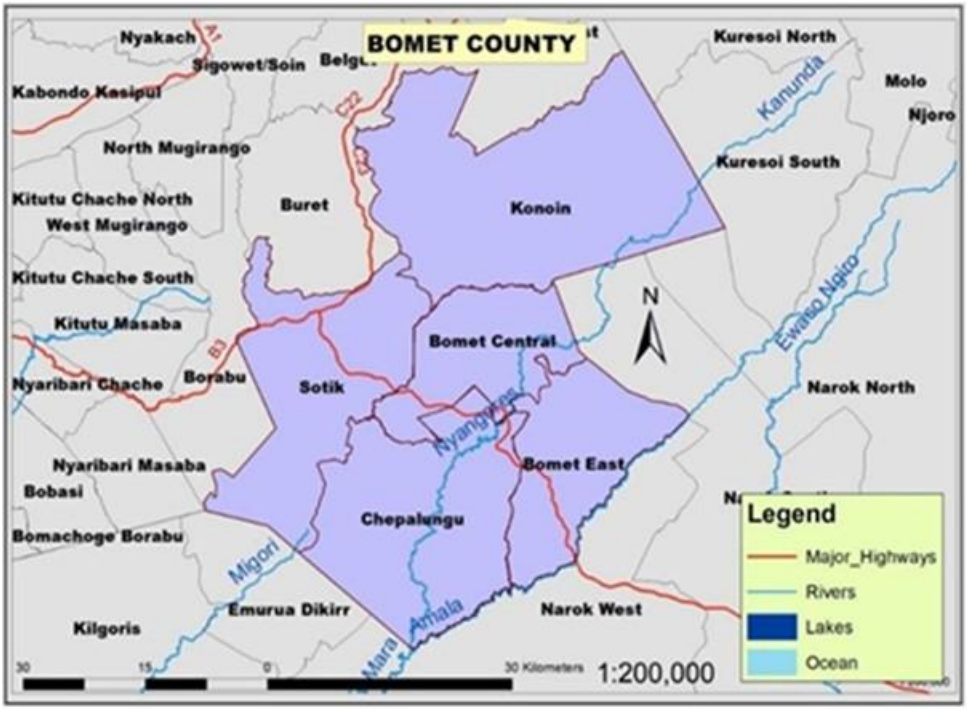

Figure 1: Map of Bomet County showing the Sub-Counties

1.2. JUSTIFICATION OF THE PROJECT

The proponent proposes to construct the Gorgor Water Tank in Ndanai/Abosi ward so as reduce the persistent water shortage problems in the community. The frequent shortage of water is also a major health risk. The main source of water for the community is Gorgor spring and roof water harvesting. However these sources are unreliable due to prevailing climatic variations.

1.3. JUSTIFICATION OF CONDUCTING SPR

The persistent water scarcity for irrigation and livestock watering occasioned by frequent droughts in Gorgor area compelled the community to sit together and develop a proposal for construction of the water tank to augment the existing one and increase access to by the community. This will also help in preserving the spring which is the source of water for the water tank. The area is ideal for commercialization of dairy production and high value horticultural crops. In 2018-2019 CIDP the project was identified as a priority by the community during a public participation session which was done at Ndanai town in Ndanai/Abosi ward.

The proposal was received, reviewed and approved by the KCSAP Bomet County Technical Advisory Committee (CTAC). Upon approval, the project was subjected to screening as per the

World Bank Group's environmental safeguard policies. The screening necessitated the development of this SPR report.

The main objective of carrying out the SPR is to evaluate the project's likely impacts on the environment and the social well-being of the community and proposed possible mitigation measures. One of the key purposes of the SPR is to assist in ensuring environmentally and socially sound management of the project during its entire lifecycle.

1.4. TERMS OF REFERENCE

The terms of reference for the SPR was as follows;

i. To collect and collate baseline information on the proposed project;
ii. To conduct public barazas through community participatory processes and seek out information from opinion leaders and stakeholders in the area;
iii. To identify and assess positive and negative social and environmental impacts of the proposed project;
iv. To develop mitigation measures for the identified negative impacts; and
v. To design an environmental and Social Management and Monitoring plan for the project.

1.5. SPR APPROACH AND METHODOLOGY

The methodology used in conducting this SPR consisted of the following:

1.5.1. Environmental and social Screening

Environmental and social screening that was carried out to determine whether environmental and social impact assessment was necessary for this project and the type of instrument to be used. This took into consideration the requirements of the Environmental Management and Coordination Act (EMCA), 1999 (Revised 2015) and specifically amended the second schedule of the Act. From the screening process, it was identified that this project will cause significant but reversible negative environmental and social impacts (Refer to Annex 2; Screening Checklist). The SPR was as a result of the recommendation of the County Director Environment (CDE) based on the screening report.

1.5.2. Consultation meeting with the proponent

A consultation meeting between the proponent and NEMA registered experts was held on 23 December, 2019. The purpose of the meeting was to gather information, to present the Terms of Reference (TOR) to the experts and for the proponent to furnish the expert with the required documents for desktop review (Refer to Annex 3: Expert Consultation with proponent Minutes and Annex 4: SPR Terms of Reference).

1.5.3. Environmental and social Scoping

The scoping focus was on the significant environmental and social components that were likely to be affected. These components were categorized into physical, biological and social-economic aspects.

1.5.4. Desktop Study

This involved review of the existing documents which included the water tank design and drawings. Documents containing climatic, demographic and hydro geological data for the project area were also relied upon.

1.5.5. Field site visits

These were meant for physical, biological and social inspection of the site characteristics of the site and the surrounding areas so as to determine the anticipated impacts. The purpose of the field site visits was to obtain available and relevant information and data from the local public offices including Agriculture, Livestock, Water, Environment, Public Health, Social Development and the Local Administration; evaluate the environmental setting around the proposed project site; carry out observations focused on topography, land cover, flora and fauna, climate and hydrology of the area and public amenities among others; evaluate social, economic and cultural setting in the entire project area and undertake a comprehensive consultative public participation exercise to the affected persons as well as stakeholders.

1.5.6. Public participation

Public consultation was held on 29/01/2020 at the proposed site. Publicity for public participation was done through local administration and posters which were placed at strategic places (Annex 5: Public Baraza Notification Poster). The purpose of public participation was to ensure public involvement, consultation and to foster project ownership. The process helped to disclose the project components to the community for them to understand what the project

entailed which formed a useful component for information gathering, understanding and establishing likely environmental and social impacts of the sub-project as required by law. The beneficiary community had a chance to give their views in terms of potential benefits and adverse effect which have been incorporated in this report (Refer to Annex 6: Public Baraza Minutes and attendance list). A total of 22 participants attended the baraza comprising of 15 males and 7 females.

1.5.7. Individual Questionnaires

This involved the use of a list of questions filled in by the local stakeholders and the beneficiary community members in the project area. The purpose was to get their views on the project in terms of benefits, potential positive and negative impacts and possible mitigation measures and whether they felt the project should be implemented or not. A total of 30 questionnaires were distributed out of which 20 were filled and returned (refer to Annex 7: SPR filled in individual questionnaires).

1.5.8. Stakeholder consultation

A stakeholder meeting of all those people and institutions who have an interest in the successful design, implementation and sustainability of the project was held on 23/09/2020. The objective of the stakeholder consultation was to enable the project proponent to better respond to different stakeholders' needs. The identified stakeholders included Water Resources Authority (WRA), County Department of Water, Water Resources Users Association, County Department of Environment, Department of Lands, Department of Livestock and Department of Public Health. (Refer to Annex 8: Stakeholder Minutes and the Attendance list).

1.5.9. Key informant interviews

In order get in-depth issues concerning the proposed project, Key Informant Interview was conducted. The following were contacted:- Water Officer, Agriculture Officer, Livestock Officer, and Veterinary Officer for Ndanai/Abosi Ward, the Area Chief for Abosi Location; Ward Administrator, 1 members of Gorgor Water tank sub project management committee, KCSAP CESSCO and CPC. A total of 10 key informant interviews were administered; 9 government officers and 1 from the beneficiary community. The aim of the interviews was to; understand the implementation of Gorgor water pan subproject in the area and to collect views on the potential

impacts of the project and ways of addressing the adverse effects. (See Annex 9: Key informant Interview Questionnaires).

1.5.10. Reporting

The reporting and documentation followed the format provided by NEMA through both EMCA, 1999 (Revised 2015) and the Environmental Social Impact Assessment and Audit regulations (legal Notice No.101 of 2003) and legal Notice No. 31 of 2019 on amendment to the Second Schedule to the EMCA Act and No. 32 on catregorisation of EIA reports into summary project reports and comprehensive reports. The proponent was continually informed throughout the period of report preparation to ensure that they were aware of the issues raised and the recommendations that were likely to be made regarding the best practices to mitigate environmental impacts.

1.6. ORGANISATION OF REPORT CHAPTERS

Chapter one of the report gives the project background focusing on background information which entails details of the project, its objectives, and how it fits in the broader KCSAP PDO, justification of the project, and justification of conducting the SPR, Terms of Reference and the SPR methodology.

Chapter two presents the nature of the project including the project description. The project description include project design and drawings.

Chapter three describes the location of the project which include location site description, proof of land ownership, any environmentally sensitive area to be affected, availability of supportive environmental management infrastructure and conformity to land use plan or zonation plan.

Chapter four dwells on the public participation structured into introduction, objectives of public participation, the categorization of participants and stakeholders, public participation methodology used, summary of issues raised and the response(s) to each. The ultimate ‘yes’ or ‘no’ verdict of the community was also sought.

Chapter five is on the potential impacts and mitigation measures which include anticipated positive environmental and social impacts, anticipated environmental and social impacts and their mitigation measures during the planning phase, anticipated positive environmental and social impacts and their mitigation measures during the construction phase, anticipated positive environmental and social impacts and their mitigation measures during the operational phase and

anticipated positive environmental and social impacts and their mitigation measures during the decommissioning phase of the project.

Chapter six deals with the proposed environmental and social management and monitoring plan (ESMMP) presenting the ESMMP matrix itself, monitoring and evaluation of the ESMMP, water quality monitoring, the key roles and responsibilities of the contractor, the Supervising Engineer and the CESSCO.

Chapter seven finally presents the conclusion of the SPR and makes the necessary recommendations pertaining to the proposed development.

2. NATURE OF THE PROJECT

2.1. INTRODUCTION

The proposed project is a community water project which falls under the category of low risk projects as per the risk-based catregorisation of projects as outlined in the amended second schedule of the Environmental Management and Coordination Act, No. 8 of 1999 part 1(c)).

2.2. PROJECT DESCRIPTION

The proposed project involves the construction of a 100m^3 masonry water tank, laying a total of 6km gravity lines, construction of a standard cattle trough and four (4 No.) community water points. Additionally, there will be construction of a bathroom and a toilet for community use. The spring which is the source of water will also be protected and the entire PI land will be fenced. This will augment the existing water tank which the community is currently utilizing as source of water for domestic and livestock use. The project will cost approximately eight million eight hundred thousand shillings (Refer to Annex 10: Drawings and designs and Annex 11: Bill of Quantities).

3. THE LOCATION OF THE PROJECT

3.1. INTRODUCTION

The proposed project is located at approximately 300 metres from Gorgor market centre in Abosi Location, Ndanai/Abosi Ward in Sotik sub-county.

3.2. LOCATION DESCRIPTION

The GPS coordinates of the proposed site are S 0°53’58.1679, E 35°5'0.86568 (see figure 2 below). The site is characterized by sloping topography with the proposed site few metres below Gorgor spring. The spring is well conserved and permanent. Apart from Gorgor market, other surrounding institutions include Gorgor Primary School, Gorgor Secondary School and Gorgor Dispensary. The surrounding community are farmers growing crops and keeping livestock.

Figure 2: The proposed project site (Blue placemark)

3.3. PROOF OF LAND OWNERSHIP

According to the Certificate of Official Search, the proposed project site is community land which is reserved for water supply project because of the available spring and is registered as

KERICHO/ABOSI/725 with nil inhibitions, cautions and restrictions as at 08.12.2020 (See Annex 1: Certificate of Official Search).

3.4. ENVIRONMENTALLY SENSITIVE AREAS TO BE AFFECTED

There are no environmentally sensitive areas to be affected within the proximity of the sub-project site.

3.5. AVAILABILITY OF SUPPORTIVE ENVIRONMENTAL MANAGEMENT INFRASTRUCTURE

The only available environmental management facility at the site is a toilet which the community have been using .The construction workers will use it during the construction work (see Plate 1 below).

Plate 1: Existing toilet

3.6. CONFORMITY TO LAND USE OR ZONATION PLAN

The proposed project conforms to the land use plan as the site is reserved for water supply project as per the Certificate of Official Search document.

4. PUBLIC PARTICIPATION AND STAKEHOLDER CONSULTATIONS

4.1. INTRODUCTION

Public participation is a very important aspect of the SPR process because it is aimed at ensuring the sustainability of the ecosystem in which the project is to be located. The Kenya constitution 2010 highlights the need for public participation in all development processes. The importance of the exercise is reflected in law by being made part of the environmental and social impact assessment process. Public participation helps to bring out the likely environmental and social impacts and gives a chance to those who may be affected by the proposed sub-project to give their views. In compliance with this principle, the community was involved in the following stages; sub-project identification, topographical surveys, designs, and the SPR process. This was important in ensuring that the concerns of the public were addressed early in the initial stages of sub- project planning and design.

4.2. OBJECTIVE OF COMMUNITY AND STAKEHOLDERS CONSULTATION

The main objective of the public consultation was to engage the community and key stakeholder groups to provide their inputs into the planned development and especially on those impacts that directly affect the Gorgor community. The specific objectives of the public participation and consultation in this SPR process was to:- Build up confidence between the stakeholders and the proponent to minimize the risk of delays in the implementation of the Gorgor water sub project; Help the project proponent to make informed assessment of public opinion about the project, and the nature and extent of opposition likely to occur during the implementation stage; Bring out the contentious issues and give a chance to those who may be affected by the proposed project to give their views; Have a fair interaction with affected groups and ensure them that every attempt would be made to minimize the negative impacts of the Gorgor sub project; and Get No Objection from the members of the public and the affected community on the implementation of the project.

4.3. CATEGORIZATION OF COMMUNITY PARTICIPANTS AND STAKEHOLDERS

The first consultation was with the proponent on 23/12/2019 and was attended by CASO, CESSCO, M&E Officer, CPIA, CPC, NEMA experts and the Water Engineer. Consultations with the beneficiary community was held on 21/01/2020 and was attended by 22 participants; 15

male and 7 females. The community members who attended the consultative barazas were from the neighbouring villages of Abosi A, Abosi B, Kapkwen, Kaptobok and Ngonye. The consultant was informed that the proposed site is public land and was provided with a land search document attached in Annex 1.

The consultant identified the stakeholders to the proposed water tank site. Consultation with the stakeholders took place on 23/09/2020. Stakeholders' consultation involved people who have an interest in the sub project either as individuals or as representatives of a group. The key stakeholders comprised CPCU team (4), Gorgor PMC representative (1), the Departments of Water (1), Water Resources Authority (1), WRUA (1), VMG Rep (1), Water PMC Rep (1), Lands (1), Department of Livestock (1) and Public Health (1) and the Consultant team (2).

4.4. METHODOLOGY OF PUBLIC PARTICIPATION AND CONSULTATION

A Notice, which aimed at inviting the members of the public to a baraza on the proposed sub project was posted at the chief's Office. The venue of the public baraza was the proposed site. The public meeting (community baraza) for the Gorgor community was attended by 22 people where 15 were males and 7 females. Questionnaires were used as a tool to collect information from members of the public in which 30 were distributed out of which 20 were returned. Plates 2 and 3 below shows the participants following the public participation proceedings.

In-depth information pertaining to the project was obtained through Key Informant Interviews as discussed in sub section 1.5.9 under chapter 1.

Plate 2: CESSCO addressing the participants during the public participation baraza

Plate 3: A section of the participants following the proceedings

4.5. SUMMARY OF ISSUES RAISED BY THE COMMUNITY AND STAKEHOLDERS AND THE RESPONSEs

The issues raised during Community and other stakeholders consultative meetings are as highlighted in Table 1 below.

Table 1: Summary of issues raised and mitigation measures

	ASPECT/CONCERN RAISED	**SUGGESTED MITIGATION MEASURE AND RESPONSE TOTHE CONCERNS**
1.	There was a concern of encroachment on the PI land	The scope of works include fencing of the Water tank. The residents knows the boundaries and thus fencing the site will not be a problem although the residents requested proper land demarcations to establish the correct boundaries. The actual size of the water tank land was known by the residents to be 0.09 hectares. However, the request to determine the actual size was made by the residents.
2.	There was concern of increased generation of solid wastes	To address this, the proponent will reduce, reuse and recycle the recyclable wastes. The used cement bags will be used for potting tree seedlings while the excavated earth will be used to landscape the area in consultation with a qualified landscape architect.
3.	There was a concern of moral decay in the society that would arise if the	Designing and conducting of HIV/AIDS and STDs awareness, sensitization and prevention

	ASPECT/CONCERN RAISED	SUGGESTED MITIGATION MEASURE AND RESPONSE TOTHE CONCERNS
	contracted person will not be a local. Residents thought that there would be spread of diseases since most of the imported manpower will spend many days at the work station and hence not visit their homes frequently and this would lead to sexual activity at the camp and this would most likely lead to the spread of diseases such as HIV/AIDS and STDS.	program for the project with the entire community. The contractor will also source for unskilled labour from the local community.
4.	There was a concern that this being a major project in a rural setup would trigger lots of migration into the area as the water is available for livestock use and irrigation.	The proponent to prepare a specific influx management plan to deal with environmental and social impacts occasioned by the influx of people to the area.
5.	The machinery undertaking construction works may produce noise and vibration levels that will affect the residents of the neighboring homes.	This will be mitigated by ensuring that the earth movers are serviced regularly, machine manufactures' manual specifications are adhered to, and ear muffs are provided to the personnel involved.

NB: In general, the concerns raised by the community were addressed by the relevant departmental heads and Government administrators present in the meeting. Furthermore, the engineer explained how most of the concerns are captured in the design and BQs while any new concern will be considered in the SPR and made to be part of the contract assignment.

No objections to the sub-project were raised during the public participation process with the community and the stakeholders through the questionnaires and orally.

5. PONTENTIAL IMPACTS AND MITIGATION MEASURES

5.1. INTRODUCTION

This chapter identifies and evaluates the possible positive and negative environmental and social impacts of the proposed water tank construction. The potential impacts predicted from the project are varied and are both positive and negative. Some impacts will occur only during certain phases of the project life cycle while some will persist all through. Impacts are also expected to be of different severity irrespective of their longevity, and as such, though some may be long term, their severity might be low and vice versa.

5.2. ANTICIPATED POSITIVE ENVIRONMENTAL AND SOCIAL IMPACTS

a) Increased availability and access to water

Increase in the water supply represent the most important positive impacts of the project. The significance of this impact is ***very high.***

b) Wealth creation

As the farmers exploit the increased farming potential due to availability of hygienically safe and clean water, there will be increased wealth and improved standard of living.

c) Reduced distances travelled in search of water

Time which would otherwise have been spend in walking long distances in search of water will be utilized in doing other productive activities.

d) Increase in government revenue generation

The government is poised to gain in revenue collection in form of taxes as most of the materials that will be procured for construction of the water tank and laying of pipelines are taxable.

e) Boost in business of construction materials and consumables especially during construction phase.

There will be increase in business during construction as a lot of goods will be procured for construction of the water tank and laying of the pipeline.

f) Creation of employment opportunities

The entire process of tank's construction will provide temporary employment to consultants, skilled and casual labourers.

The project is expected to employ about 30 people. This will increase the purchasing capacity of those employed. The significance of this impact is **high.**

g) ***Increased value of land and property in the project area and environs***

With the availability of water in the project area, the resultant effect is the appreciation of land value. The land value will automatically rise as a result of the anticipated benefits that will accrue from the tank. The significance is of this impact is ***high.***

h) Technology transfer

During tank Construction, there will be transfer of technology from water engineers, WRMA and hydrogeologists, consulting agents and contractors to all those involved in the exercise. The technological skills obtained in the process are likely to be disseminated and applied to similar activities elsewhere.

This is of ***high*** significance.

i) Reduced Water use Conflicts

The increase in water supply will reduce the scrambling for water which has been a source of potential conflicts among the community members. This will reduce water use conflicts experienced amongst farmers and community at large. The significance of this impact is ***high.***

j) Ripple effects

Temporally small-scale business opportunities will be realized during the tank construction and the associated structures e.g. selling food and drinks to workers at the proposed site will flourish.

k) Improved environmental health and sanitation

The project is anticipated to increase hygiene and sanitation in the area because water used for domestic and sanitation purposes will be readily available. The water will be improved in its quality and accessibility.

5.3. ANTICIPATED NEGATIVE IMPACTS AND MITIGATION MEASURES IN THE PREPARATORY PHASE

a) Failure to verify land ownership

This can affect the project negatively if the proponent does not take the necessary procedures to ensure that the proposed project site is indeed a public land and is reserved for the a water project.

Mitigation measure

The proponent to undertake due diligence in verification of the ownership of the proposed site.

b) Lack of information and awareness raising among the local population

Public consultation and stakeholder engagement is essential for successful implementation of the project. If the proponent fails to undertake this in a proper manner, then this will impact the project negatively.

Mitigation measure

The proponent together with environmental experts to undertake comprehensive public and stakeholder engagement and ensure that all the issues raised are addressed and documented.

c) Failure to choose ideal location site for the water tank and pipework

Failure to carry out proper survey in identification of the most suitable sites for constructing the water tank and for laying the pipelines can negatively impact the project.

Mitigation measure

Use qualified personnel in designs and survey works.

d) Failure to prepare site workers

It is important to prepare the site workers in order for them to understand what they are going to expect as they get involved in the implementation of the project. If this is not done, then the success of the project might be compromised.

Mitigation measure

Development of the procedures for coaching and training site workers on environmental, social and safety measures; preparation of an emergency response plan; and acquisition of personal protection equipment (PPEs) for the site workers adapted to the nature of the planned construction works.

5.4. ANTICIPATED NEGATIVE IMPACTS AND MITIGATION MEASURES DURING CONSTRUCTION PHASE

a) Generation of Solid wastes

Excavated material, empty cement bags, small amounts of unused ballast and sand, waste pieces of steel bars, pieces of wastes from plastic and metal pipe fittings generated during the resizing of the pipes for fixing in both the tank and the pipework are all potential solid wastes likely to be generated during the tank construction.

Mitigation measure

The waste should be sorted for recyclables e.g. metals, plastics and paper for sale to recyclers before transportation for disposal at the designated site. The remaining amounts of sand and ballast should be collected and transported for use in other projects. The empty cement bags could be used for potting of tree seedlings to enhance conservation activities.

b) Impacts on air Quality

Dust emission during site preparation and construction could significantly affect air quality due to dust and gaseous emissions from the earth movers though not for a significant period of time. The impact on air will be localized. This impact is of ***low*** significance.

Mitigation measure

All the workers involved in tank construction should be provided with dust masks and the contractor should adhere to machine/rig manufactures' manual specifications.

c) Loss of biodiversity

Clearing of the site for construction of the tank and paths to pave way for digging of the trenches using machinery or manual labour may lead to loss of biodiversity.

This is of ***low*** **s**ignificance and should allow for migration of animals and insects and transfer plants to new unoccupied regions.

Mitigation measure

The tank will take up only a small space and hence the loss may not be significant. For the trenches, once they are backfilled, appropriate vegetation can be replanted.

d) Soil erosion

Soil removed from pipeline trenches, reservoirs and water works foundation excavation may be transported down the valley during rainy season.

This is of ***moderat***e significance.

Mitigation measure

The excavated soil should be re-used in filling back the voids and compacted properly to avoid any chances of being transported down the valley during the rainy season. Where necessary the appropriate vegetative cover should be planted to reduce chances of future soil erosion.

e) Noise pollution

The noise levels in the area will increase during the excavation works, however, this will be for a short period of time. The significance is ***moderate.***

Mitigation measures

Ensure that the earth movers are serviced regularly; adhere to machine manufactures' manual specifications; and provide ear muffs to the personnel involved.

f) Spread of STDs/HIV/AIDS

There was a concern of moral decay in the society that would arise if the contracted person is not a local. Residents thought there would be spread of diseases since most of the imported manpower will spend many days at the work station and hence not visit their homes frequently and this might lead to sexual activities which would most likely lead to the spread of diseases such as the STDS.

Mitigation measures

Undertake sensitization of the workers and the community on STDs including imploring upon them to adhere to work ethics. Equip condom dispensers at the local dispensary. Have educative literature e.g. posters that educate the workers how to practice safe sex.

g) Workers accidents

Since this is a construction site, the workers are at risk of falling, being cut or pricked, exposure to noise and dust etc. and they may get injured or fall sick. This also applies to the members of the public.

Mitigation measure

To prevent accidents caused by slipping into the dug foundation of the tank or the dug trenches or stumbling into heap of trenched out materials, warning tapes should be put along the construction site or the trench line to alert the workers and members of the public on the dangers. Additionally before the start of construction in the area, the residents should be warned of possible accidents to prevent idling around the sites. The workers should be provided with personal protection gear to avoid cuts on the feet, hands and head during the course of duty. This include helmets, gloves, and safety boots, overalls, face masks and ear plugs in dusty and noise activities, goggles for welders etc. The foreman should train the workers on procedures to prevent accidents while on site. The workers or their representatives should be trained on first aid and provided with first aid kits. The workers should be provided with emergency telephone numbers to request for assistance at any time of accident. In areas of poor cell phone network there should be a stand by means of transmitting information. The workers should be insured against accidents and workmanship compensation.

5.5. ANTICIPATED NEGATIVE IMPACTS AND MITIGATION MEASURES ON OPERATIONAL PHASE

a) Generation of Solid wastes

Solid wastes are likely to be generated from wastes pieces of PVC and metallic materials during replacements from repair and maintenance work.

Mitigation measure

These types of waste should be sorted for recyclables e.g. metals, plastics and paper for sale to recyclers before transportation for disposal at the designated site.

b) Disease hazards

Frequent leakages without proper drainage system may lead to accumulation of stagnant water thereby creating conducive habitat for breeding of mosquitoes.

Mitigation Measure

Drain pools of stagnant to avoid breeding of mosquitoes.

c) Insecurity

Availability of clean water will attract investors and start of small scale businesses especially within the market centre. The result will be a rapid population increase in the project area with consequent benefits and associated problems. The migration may lead to insecurity problems that may be difficult to handle using the existing set-up.

Mitigation measure

Involve the local administration and leadership in careful integration of the incoming migrants into the society.

d) Project management conflicts

The project management committee may engaged in squabbles due to parochial interests and this may affect the smooth operation of the project.

Mitigation measure

Train the Project Management Committee and adopt the Grievance Redress Mechanism procedure provided in the project ESMF and use it to as a tool to address any grievances.

e) Loss of water due to pipe bursts

Due to wear and tear, pipes can occasionally burst leading to loss of water.

Mitigation measure

Undertake regular inspection and repair and maintenance work on the pipeline.

f) Loss of water from leakage from storage tank

Weak points on the walls of the water tank can leak after sometime which can lead to loss of water.

Mitigation measure

Undertake regular inspection and do repair and maintenance work on the water tank.

5.6. ANTICIPATED IMPACTS DURING THE DECOMMISSIONING PHASE

a) Solid waste generation

If decommissioning will involve the demolition of the water tank and removal of the laid pipelines then this will result in generation of an assortment of solid wastes at the site.

Mitigation measure

Sorting for sale to recyclers for recyclable wastes. Demolition wastes from the water tank can be used in repair of feeder roads around. Transport the rest of the wastes to waste disposal sites. The decommissioned water can be repurpose for other uses.

b) Noise pollution

The machinery which will be deployed in demolition works and removal of the laid pipelines will emit noise. The workers will also make noise during the demolition works.

Mitigation measure

Ensure that the earth movers are serviced regularly, the machine manufactures' manual specifications are adhered to and ear muffs are provided to the personnel involved. Also restrict the demolition work to daytime.

c) Air pollution

The demolition will result in emission of fugitive dust which will pose health risks to workers and the residents alike.

Mitigation measure

Reduce dust generation by wetting using water. Where diesel mechanical equipment are used, ensure the engines are in good working condition and properly maintained. Enclose the works and orient exhaust away from the nearby residential areas.

d) Workers accidents

There is potential risk of exposure of workers exposure to occupational health and safety hazards during the demolition work.

Mitigation measure

Alert the residents on the planned demolition works. Put warning tapes along the construction site or the trench line to alert the workers and members of the public on the dangers. Warn the residents of possible accidents to prevent idling around the sites. Provide workers with personal protection gear to avoid cuts on the feet, hands and head during the course of duty. This include helmets, gloves, safety boots, and overalls, face masks and ear plugs in dusty and noise activities. The foreman should train the workers on procedures to prevent accidents while on site. Train

workers on first aid and provide with first aid kits. Emergencies: the workers should be provided with emergency telephone numbers to request for assistance at any time of accident. In areas of poor cell phone network there should be a stand by means of transmitting information. The workers should be insured against accidental medical requirements and workmanship compensation.

e) Loss of a sustainable source of water

Decommissioning of the water supply will result in a loss of a sustainable source of water supply for the community.

Mitigation measure

Provide alternative water supply sources.

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT& MONITORING PLAN (ESM&MP)

6.1. INTRODUCTION

The ESMMP presented in table 2 below is a matrix for the identified negative impacts merged with the proposed mitigation measure for each and tied together with the specific indicators, means of verification, frequency in terms of monitoring and the cost. The ESMMP shall be modified at the first environmental and social audit to accommodate any unforeseen impacts.

The importance of monitoring is to ensure that the ESMMP has been effectively implemented, information on the progress provided and final results of mitigation established.

Environmental and social monitoring system starts from the preparation phase of the sub project and will continue through to the mitigation phase in order to abate the negative impacts of the project and observe the effectiveness of mitigation measures.

The monitoring system will provide technical assistance and supervision when needed, early detection of conditions related to mitigation measures, follow up on mitigation results, and provides information of the project progress.

The estimated total cost of implementing the ESMMP is Kshs. 488,500/- which is approximately 6% of the total project cost.

6.2. ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN MATRIX

Table 2 below gives the environmental and social management and monitoring plan matrix for the proposed project.

Table 2: Environmental and Social Management and Monitoring Plan

Environmental and Social impact	**Proposed mitigation Measure**	**Indicator**	**Responsibility**	**Means of verification**	**Time frame/frequency**	**Estimated cost**
Preparatory phase						
Failure to proof land ownership	Obtain certificate of Search from the Land Registrar	Search for documents at Land Registrar's Office	Project proponent	Record of the search, Payment receipt, Certificate of Official search	Once, before commencement of the project	1000
Lack of information and awareness raising about the project	Carry out comprehensive public and stakeholder engagement	Public and stakeholder meetings	CESSCO Lead Expert	Public notice, minutes, attendance list, pictures of public proceedings	During the preparatory phase of the project	20,000
Failure to identify the most ideal site during survey for constructing the water tank and laying of the pipes	Use qualified personnel while carrying out the surveys and designs. The designs should be approved by a registered engineer.	Survey and design work	Proponent	Approved drawings and designs	During the preparatory phase of the project	20,000
Failure to prepare site workers in	Train site workers before the commencement of the construction work.	Training sessions	Contractor	Training reports, list of attendance	After the award of contract	15,000

Environmental and Social impact	Proposed mitigation Measure	Indicator	Responsibility	Means of verification	Time frame/frequency	Estimated cost
advance						
Construction phase						
Generation of solid wastes	The waste should be sorted for recyclables e.g. metals, plastics and paper for sale to recyclers before transportation for disposal at designated site. The remaining amounts of sand and ballast should be collected and transported for use in other projects. The empty cement bags could be used for potting of tree seedlings to enhance conservation activities.	Heaps of various types solid wastes generated	Contractor	Quantities of solid wastes generated	During construction phase	15,000
Impacts on air quality	All the workers involved in tank construction should be provided with dust masks. The contractor should adhere to machine manufactures' manual specifications.	Measurement of air quality parameters	Main contractor for civil works	Records of measurements	Daily during construction phase	7,500
Loss of biodiversity	Appropriate vegetation can be planted once the trenches are backfilled.	Vegetation replanted	Contractor	No. of trees planted	Once during construction phase	10,000
Soil erosion	The excavated soil should be re-used in filling back the voids and compacted properly to avoid any chances of transport down the valley during the rainy season. Where necessary	Voids filled back and replanted vegetation	Project proponent	Visual inspection	During construction and operation phase	10,000

Environmental and Social impact	Proposed mitigation Measure	Indicator	Responsibility	Means of verification	Time frame/frequency	Estimated cost
	the appropriate vegetative cover should be planted (e.g. vetiver grass) to reduce chances of future soil erosion.					
Noise pollution	Ensure that the earth movers are serviced regularly. Adhere to machine manufactures' manual specifications Provide ear muffs to the personnel involved.	Level of compliance with noise levels	Contractor	Records of measurements	Daily	5,000
Spread of STDs//HIV AIDS)	Enhance education and sensitization of workers and the local communities on the dangers and prevalence of disease; conduct regular sensitization campaigns and monitoring of the diseases; develop brochures and other materials on the diseases and infections; regular provision of adequate prevention measures such as condoms; and provision of drugs such as anti-retroviral drugs (ARVs).	STDs/HIV &AIDS infections	Contractor	No. of infections Reports	Quarterly	50,000
Workers accidents	Put warning tapes along the construction site or the trench line to alert the workers and members of the public on the	Welfare of workers	Contractor	No. of accidents recorded	Daily	10,000

Environmental and Social impact	Proposed mitigation Measure	Indicator	Responsibility	Means of verification	Time frame/frequency	Estimated cost
	dangers. Warn the residents of possible accidents to prevent idling around the sites. Provide workers with personal protection gear to avoid cuts on the feet, hands and head during the course of duty. This include helmets, gloves, safety boots, overalls, face masks and ear plugs in dusty and noise activities. The foreman should train the workers on procedures to prevent accidents while on site. Train workers on first aid and provide with first aid kits Emergencies: the workers should be provided with emergency telephone numbers to request for assistance at any time of accident. In areas of poor cell phone network there should be a stand by means of transmitting information The workers should be insured against accidental medical requirements and workmanship compensation					
Risk of	Maintain a physical distance of no	Level of	Contractor	No. of cases	Quarterly	15,000

Environmental and Social impact	Proposed mitigation Measure	Indicator	Responsibility	Means of verification	Time frame/frequency	Estimated cost
contracting COVID-19	less than one meter from the next person; use a proper face mask that must cover the person's mouth and nose; provide at the construction site a handwashing station with soap and water or an alcohol-based sanitizer approved for use by the Kenya Bureau of Standards; and regularly sanitize the construction camp site, provide appropriate PPEs.	compliance with the Ministry of Health Covid-19 protocol		detected		
Operational phase						
Solid waste generation	Sort for recyclables e.g. metals, plastics and paper for sale to recyclers before transportation for disposal at the designated site.	Heaps of various types solid wastes generated	Contractor	Quantities of solid wastes generated	During construction phase	20,000
Disease hazards	Drain pools of stagnant to avoid breeding of mosquitoes.	Diseases contracted	Contractor	Health records	During the operational phase of the project	25,000
Insecurity	Involve the local administration and leadership in careful integration of the incoming migrants into the beneficiary community.	Crime incidences	Contractor Proponent	No. of incidences reported	During the entire operational phase of the project	40,000
Project leadership management conflicts	Adopt the Grievance Redress Mechanism procedure provided in the project ESMF.	Harmonious relationship among the	Project Coordinating Unit	No. of cases of conflicts reported	During the entire operational phase of the project	50,000

Environmental and Social impact	Proposed mitigation Measure	Indicator	Responsibility	Means of verification	Time frame/frequency	Estimated cost
		leadership				
Loss of water due to pipe bursts	Undertake regular inspection and repair and maintenance work on the pipeline.	Quantities of water conserved	Project proponent	Water supply records	During the operational phase	50,000
Loss of water from leakage of the storage tank	Undertake regular inspection and do repair and maintenance work on the water tank.	Quantities of water conserved	Project proponent	Water supply records	During the operational phase	50,000
Decommissioning phase						
Solid waste generation	Sorting for sale to recyclers for recyclable wastes Demolition wastes from the water tank can be used in repair of feeder roads around. Transport the rest of the wastes to waste disposal sites.	Solid wastes managed	Contractor	Quantities of solid wastes managed	During construction phase	15,000
Noise pollution	The demolition works should be restricted to day time hours only.	Level of compliance with the required noise emission limits	Contractor	Measurement of noise levels emitted	Daily	25,000
Air pollution	Reduce dust generation by wetting using water.	Level of compliance with the air	Contractor	Records of measurements	Daily	5,000

Environmental and Social impact	Proposed mitigation Measure	Indicator	Responsibility	Means of verification	Time frame/frequency	Estimated cost
	Where diesel mechanical equipment are used, ensure the engines are in good working condition and properly maintained Enclose the works and orient exhaust away from the nearby residences	quality standards				
Workers accidents	Use of physical barriers and labeled icons to prevent and warn the public on dangers of demolition activities. Provision of protective gears to the workers. Training and provision of first aid kits to the workers. Training workers on environmental health and safety procedures and emergency preparedness. Insuring the workers on medical and workman compensation.	Compliance with Occupational safety and health standards	Contractor	No. of accidents recorded	Daily	10,000
Loss of sustainable source of water	Provide alternative water supply sources	Alternative water supply sources provided	Project proponent	No. of people accessing water from alternative water supply sources provided	Once	20,000
TOTAL						**488,500/=**

6.3. ESMMP MONITORING AND EVALUATION

The environmental and social issues included within the mitigation measures will be monitored and supervised by the project beneficiaries, chosen contractor, engineering team and the KCSAP County Environment and Social Safeguards Compliance Officer (CESSCO) and the Project's Monitoring and Evaluation Officer.

The KCSAP Project Coordinating Unit in Bomet will comply with the provisions of any other environmental and safeguard requirement provided by legislation and conditions of the main funding agency (WBG).

6.4. AUDITS AND REVIEWS

Annual environmental, social, health and safety audits and reviews as required by NEMA will be conducted to assess the performance of the environmental, health and safety policies and operational procedures implemented.

6.5. WATER QUALITY MONITORING

Periodic quality assessment of drinking water sources is necessary to guarantee the quality and security of water supply from the spring to the people. The proponent will therefore take the responsibility of assessing the drinking water quality of the spring water to ensure that it meets the standards set out in the First Schedule of Environmental Management and Coordination (Water Quality) Regulations, 2006.

6.6. KEY ROLES AND RESPONSIBILITIES IN M & E

6.6.1. The Contractor

The Contractor will have the overall responsibility of adherence to the ESMMP. He/she will work closely with the KCSAP CESSCO to identify necessary improvement to the implementation of the ESMMP.

6.6.2. The Supervising Engineer

The works Supervising Engineer will ensure adherence to the mitigation measures identified in the ESMMP within the respective areas. He/she will be responsible for the day to day execution of the mitigation measures described under this ESMMP during the construction phase.

The Supervising Engineer will be required to produce monthly reports during the construction period of the water pan. This will include summary of activities and mitigation measures undertaken during the reporting period, any deviation of non-compliance to the ESMMP, unexpected occurrence that could have occurred affecting the project implementation during the period, environmental monitoring records and any other issue of concern.

6.6.3. The CESSCO

This will have the responsibility to support the Contractor in meeting the planning requirements, training and the implementation of monitoring requirements.

The CPCU/CESSCO will also undertake the planning and coordinating with NPCU on GBV/SEA issues with subject specialist or consultant for meeting the measures proposed in the ESMMP. The CESSCO is expected to carry out quarterly reporting of the sub project together with the M & E officer. These quarterly reports will form the basis for effective auditing and review of the ESMMP of the proposed sub project.

7. CONCLUSION AND RECOMMENDATION

7.1. CONCLUSION

From the study conducted, the implementation of the water tank project has the potential to generate both positive and negative environmental and social impacts.

However, these impacts are reversible and the proposed environmental and social management plans give possible mitigation measures.

7.2. RECOMMENDATION

It is thus recommended that the proposed project proponent be allowed to go ahead provided the outlined mitigation measures are implemented as outlined in the ESMMP. The ESMMP should be shared with the Contractor who should translate this ESMMP into Contractor-Specific Environmental and Social Management Plan (CESMMP). The contractor will also be required to employ a qualified Environmental and Social Safeguards specialist as well as Safety and Health officer to oversee implementation of the ESMMP.

On approval, it is recommended that the proponent should implement the proposed project based on the proposed plans and if alterations are necessary, advice should be sought from the CESSCO and supervising engineer; share the ESMMP with the Contractor and other responsible stakeholders and that the ESMMP form part and parcel of the Contractor's contract to ensure that their obligations as outlined in the ESMMP are executed; undertake annual environmental audit pursuant to the provisions of EMCA; and in consultation with other related parties ensure compliance with the water quality standards as outlined in EMCA water quality regulations 2006 as per the proposed water use. In this regard the proponent should ensure that water testing for the necessary parameters is undertaken regularly. In case of any find of any material of archaeological, paleontological, historical, architectural, and religious (including graveyards and burial sites), aesthetic or other cultural significance, the chance find procedure in annex 10 will be applied.

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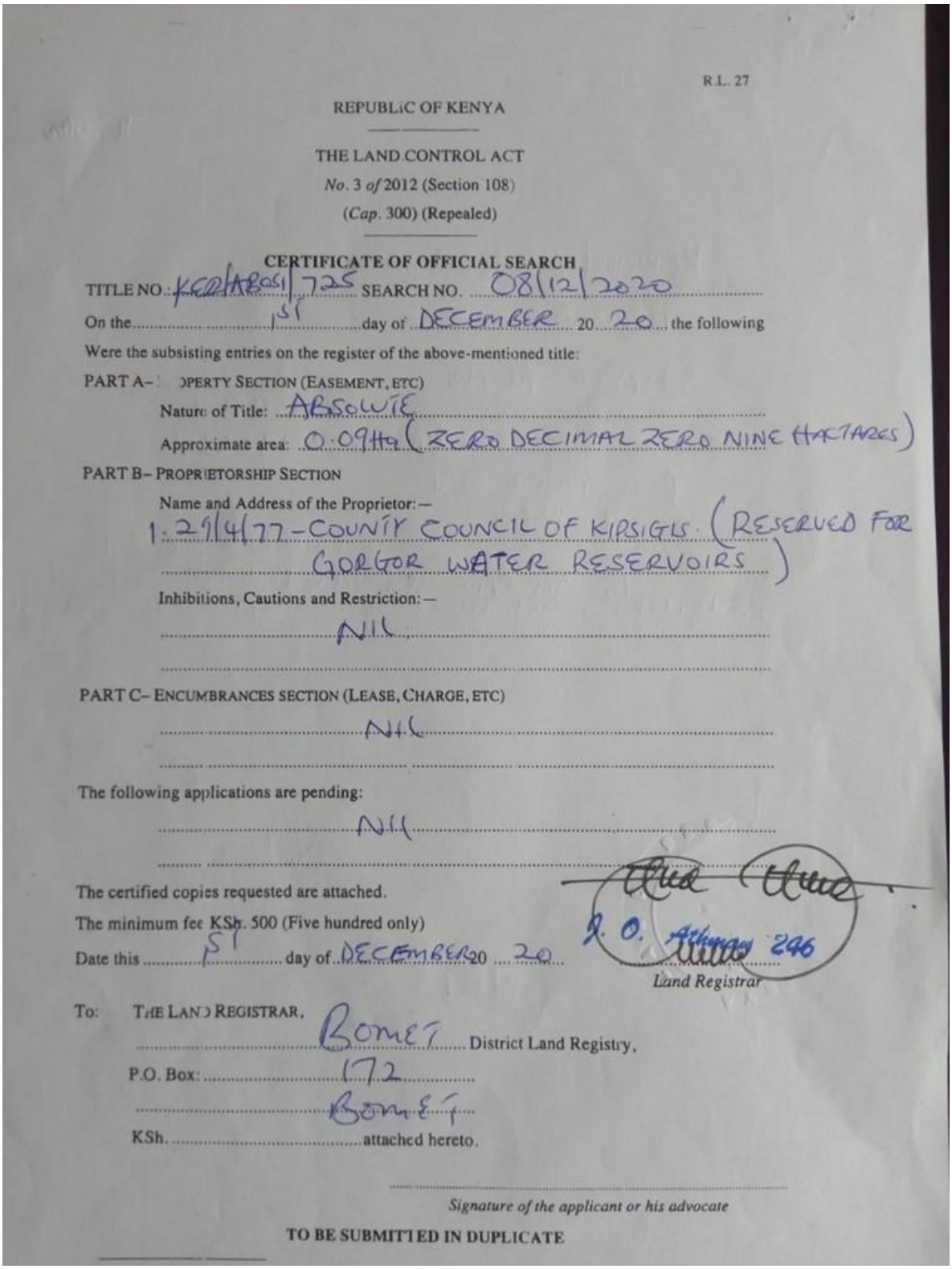
ANNEXES

ANNEX 1. PROOF OF LAND OWNERSHIP



R.L. 27

REPUBLIC OF KENYA

THE LAND CONTROL ACT

No. 3 *of* 2012 (Section 108)

(*Cap.* 300) (Repealed)

CERTIFICATE OF OFFICIAL SEARCH

TITLE NO. KERICHO/KIPSIGIS/725 SEARCH NO. 08/12/2020

On the 1st day of DECEMBER 20 20 the following

Were the subsisting entries on the register of the above-mentioned title:

PART A– PROPERTY SECTION (EASEMENT, ETC)

Nature of Title: ABSOLUTE

Approximate area: 0.09Ha (ZERO DECIMAL ZERO NINE HACTARES)

PART B– PROPRIETORSHIP SECTION

Name and Address of the Proprietor:–

1. 29/4/77 - COUNTY COUNCIL OF KIPSIGIS (RESERVED FOR GORGOR WATER RESERVOIRS)

Inhibitions, Cautions and Restriction:–

NIL

PART C– ENCUMBRANCES SECTION (LEASE, CHARGE, ETC)

NIL

The following applications are pending:

NIL

The certified copies requested are attached.

The minimum fee KSh. 500 (Five hundred only)

Date this 1st day of DECEMBER 20 20

P. O. Arthur 246

Land Registrar

To: THE LAND REGISTRAR, BOMET District Land Registry,

P.O. Box: 172

BOMET

KSh. attached hereto.

Signature of the applicant or his advocate

TO BE SUBMITTED IN DUPLICATE

ANNEX 2. SCREENING CHECKLIST

Annex 1: Environmental and Social Screening Checklist
ESM Sub-projects Screening Checklist (Prototype)
(Sub-projects screening process by benefitting communities/Agencies)
Section A: Background information

Name of County…Bomet……	
Name of CSU/Monitoring Officer/Researcher/CESSCO ……	
Sub-project location…Mogogosiek…Sotik…Sub County Name of CBO/Institution….Community…….. Postal Address:…201…Mogogosiek…… Contact Person…Samson Cheruiyot Cell phone:…0722158011…….. Sub-project name….Borgor…Water…tank…Construction	
Estimated cost (KShs.)……	
Approximate size of land area available for the sub-project…… Objectives of the subproject…… …Domestic…use…… …Per Irrigation…… ….Livestock…watering……	
Activities/enterprises undertaken…Farming……	
How was the sub-project chosen?…During…CDP…… Expected subproject duration:…One…year……	

Section B: Environmental Issues

Will the sub-project:	Yes	No
Create a risk of increased soil erosion?	☐	☑
Create a risk of increased deforestation?	☐	☑
Create a risk of increasing any other soil degradation	☐	☑
Affect soil salinity and alkalinity?	☐	☑
Divert the water resource from its natural course/location?	☐	☑
Cause pollution of aquatic ecosystems by sedimentation and agro-chemicals, oil spillage, effluents, etc.?	☐	☑
Introduce exotic plants or animals?	☐	☑
Involve drainage of wetlands or other permanently flooded areas?	☐	☑

Cause poor water drainage and increase the risk of water-related diseases such as malaria?	☐	☑
Reduce the quantity of water for the downstream users?	☐	☑
Result in the lowering of groundwater level or depletion of groundwater?	☐	☑
Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater?	☐	☑
Reduce various types of livestock production?	☐	☑
Affect any watershed?	☐	☑
Focus on biomass/bio-fuel energy generation?	☐	☑

If the answers to any of the above is 'yes', please include an ESMP with sub-project application.

Section C: Socio-economic Issues

Will the sub-project:	Yes	No
Displace people from their current settlement?	☐	☑
Interfere with the normal health and safety of the worker/employee?	☐	☑
Reduce the employment opportunities for the surrounding communities?	☐	☑
Reduce settlement (no further area allocated to settlements)?	☐	☑
Reduce income for the local communities?	☐	☑
Increase insecurity due to introduction of the project?	☐	☑
Increase exposure of the community to communicable diseases such as HIV/AIDS?	☐	☑
Induce conflict?	☐	☑
Have machinery and/or equipment installed for value addition?	☐	☑
Introduce new practices and habits?	☐	☑
Lead to child delinquency (school drop-outs, child abuse, child labour, etc.?	☐	☑
Lead to gender disparity?	☐	☑
Lead to poor diets?	☐	☑
Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?	☐	☑

Section D: Natural Habitats

Will the sub-project:		
Be located within or near environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species? *NB: If the answer is yes, the sub-project should not proceed.*	☐	☑
Adversely affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, protected areas including national parks, reserves or local sanctuaries, etc.)? *NB: If the answer is yes, the sub-project should not proceed.*	☐	☑
Affect the indigenous biodiversity (flora and fauna)?	☐	☑

NB: If the answer is yes, the sub-project should not proceed.		
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly? *NB: If the answer is yes, the sub-project should not proceed.*	☐	☑
Affect the aesthetic quality of the landscape?	☐	☑
Reduce people's access to the pasture, water, public services or other resources that they depend on?	☐	☑
Increase human-wildlife conflicts?	☐	☑
Use irrigation system in its implementation? *NB: If the answers to any of the above is 'yes', please include an ESMP with sub-project application.* **SECTION E: Pesticides and Agriculture Chemicals**	☐	☑
Will the sub-project:		
Involve the use of pesticides or other agricultural chemicals, or increase existing use?		NO
Cause contamination of watercourses by chemicals and pesticides?		NO
Cause contamination of soil by agrochemicals and pesticides?		NO
Experience effluent and/or emissions discharge?		NO
Export produce? Involve annual inspections of the producers and unannounced inspections?		NO
Require scheduled chemical applications?		NO
Require chemical application even to areas distant away from the focus?		NO
Require chemical application to be done by vulnerable group (pregnant mothers, chemically allergic persons, elderly, etc.)?		NO

If the answer to the above is 'yes', please consult the IPM that has been prepared for the project.

Section F: Vulnerable and Marginalized Groups meeting requirements for OP 4.10

Are there:		
People who meet requirements for OP 4.10 living within the boundaries of, or near the project?	☐	☑
Members of these VMGs in the area who could benefit from the project?	☐	☑
VMGs livelihoods to be affected by the subproject?	☐	☑

If the answer to any of the above is 'yes', please consult the VMGF that has been prepared for the project.

Section G: Land Acquisition and Access to Resources

Will the sub-project:	Yes	No
Require that land (public or private) be acquired (temporarily or permanently) for its development?	☐	☑
Use land that is currently occupied or regularly used for productive purposes (e.g. gardening, farming, pasture, fishing locations, forests)	☐	☑
Displace individuals, families or businesses?	☐	☑
Result in temporary or permanent loss of crops, fruit trees and pasture land?	☐	☑
Adversely affect small communal cultural property such as funeral and burial sites, or sacred groves?	☐	☑
Result in involuntary restriction of access by people to legally designated parks and protected areas?	☐	☑
Be on monoculture cropping?	☐	☑

If the answer to any of the above is 'yes', please consult the mitigation measures in the ESMF, and if needed prepare a (Resettlement Action Plan) RAP.

Section H: Proposed action

(i) Summarize the above:	(ii) Guidance
☑ All the above answers are 'No'	• If all the above answers are 'No', there is no need for further action;
☐ There is at least one 'Yes'	• If there is at least one 'Yes', please describe your recommended course of action (see below).

ANNEX 3. EXPERT CONSULTATION WITH PROPONENT MINUTES

MINUTES OF CONSULTATION MEETING HELD BETWEEN THE EIA EXPERT AND THE PROPONENT ON 23/12/2019 AT TWIGGS ANNEX, BOMET COUNTY

Members present

1. Erick Ngenoh	CASO
2. Stephen Mutai	CESSCO
3. Nicholas Ruto	M&E
4. Hilda Chepkwony	CPIA
5. Julius Kenduiywa	CPC
6. Paul K. Maritim	Lead Expert
7. Gilbert Korir	Associate Expert
8. Leonard Tonui	Chief Superintendent Water

Preliminaries

The meeting begun at 10:00 am with prayer from Gilbert Korir and was chaired by the CPC. The chair welcomed members to the meeting welcomed members to the meeting and urged them to participate openly.

AGENDA

1. Required documentations
2. Site visit and public participation
3. TOR

MIN1/06/01/2021: REQUIRED DOCUMENTATIONS

The ESIA expert Mr. Paul K. Maritim Reg. No. 2405 took members through a brief of what the SPR process entails. He informed the meeting that the process begins with screening which was done by NEMA which recommended for SPR. The second process is scoping which entails determining the components of the environment which are likely to be impacted by the project. He pointed out the key areas to be covered ranging from background information, justification for

the project, SPR objectives, SPR methodology, nature of the project, project location, public participation, project's potential impacts and mitigation measures, Environmental and Social Management and Monitoring Plan among others. Scoping process is followed by the actual SPR which involves desktop review, interviews, field visits, public participation, and reporting. He pointed out the key sources of information that he will require. Among the documents needed as information sources were: KCSAP PICD Reports, sub project proposal, KCSAP project appraisal documents, CIDP reports among others. Documents needed for attachment include: land ownership, designs and BQs. The KCSAP team assured the experts that the documents will be availed.

MIN2/06/01/2021: SITE VISIT AND PUBLIC PARTICIPATION

The ESIA team informed members that field visit and public participation is key in the SPR process. The process is important to enable the community to understand the project and also to participate in the development process in terms of airing their views. It is also an element for information sourcing. Site meetings were planned to be undertaken on 29/01/2020. The ESIA team requested the CPCU to do publicity for the public participation meeting. The team also guided in the participants' categorization which was to compromise of the local administration, technical departments and partners working in the region. Emphasis was given to the beneficiary community and the sub-project management committee.

MIN1/06/01/2021: TERMS OF REFERENCE (TOR)

The proponent and the ESIA experts discussed the terms of reference and agreed on the following;

i. To provide background information of the project area;
ii. Document SPR methodology;
iii. Describe the nature of the project;
iv. Describe the location of the project;
v. Undertake a comprehensive public participation;
vi. Identify and analyze the potential environmental impacts of the sub-project;
vii. Propose mitigation measures for the significant negative impacts of the sub-project on the environment;

viii. Develop a Social and Environmental Management and Monitoring Plan: and produce an Environmental and Social Impact Assessment report and submit it to NEMA.

The meeting ended at 12:30 pm with a prayer from Mr. Nicholas Ruto.

Chairperson Leonard Tarus **Signature** ..... **Date** 30/9/2020

Secretary Stephen Mate **Signature** ..... **Date** 30/9/2020

ANNEX 4. SPR TERMS OF REFERENCE

SUMMARY PROJECT REPORT TERMS OF REFERENCE

The following was the agreed Terms of Reference between the proponent and the NEMA registered Experts;

i. To provide background information of the project area;
ii. Document SPR methodology;
iii. Describe the nature of the project;
iv. Describe the location of the project;
v. Undertake a comprehensive public participation;
vi. Identify and analyze the potential environmental impacts of the sub-project;
vii. Propose mitigation measures for the significant negative impacts of the sub-project on the environment;
viii. Develop a Social and Environmental Management and Monitoring Plan; and produce an Environmental and Social Impact Assessment report and submit it to NEMA.

ANNEX 5. PUBLIC BARAZA NOTIFICATION POSTER

KENYA CLIMATE SMART AGRICULTURE PROJECT

PROPOSED GORGOR WATER TANK CONSTRUCTION SUB-PROJECT

BARAZA! BARAZA! BARAZA!

This is to inform you that there will be a public baraza for the proposed Gorgor Water Tank Construction project on 29/01/2020 at proposed site. The EIA experts and technical officers will be visiting the area on public participation before the project is allowed to proceed as required by EMCA 1999 and Environmental management and Coordination Act, Cap 387.

All are INVITED to attend. Thanking you in advance.

Yours faithfully

Mr. Stephen Mutai

CESSCO

For the coordinator

DATE: 20/01/2020

THE COUNTY COORDINATOR BOMET COUNTY 20 JAN 2020 P. O. Box 27 - 20400, BOMET KENYA CLIMATE SMART AGRICULTURE PROJECT

cc

1. **CPC BOMET COUNTY**
2. **CHIEF**
3. **PROJECT CHAIRMAN**

ANNEX 6. PUBLIC PARTICIPATION MINUTES AND ATENDANCE LIST

MINUTES OF THE SPR PUBLIC PARTICIPATION ON THE PROPOSED GORGOR WATER TANK CONSTRUCTION SUB-PROJECT HELD AT THE SUB-PROJECT SITE ON 29/01/2020

Attendance (see attached signed list)

AGENDA

1. Opening prayers and introductions
2. A brief overview of the SPR process and public participation
3. Public participation in the proposed water tank construction sub-project
4. Way forward

MIN1/29/01/2020: PRELIMINARIES

The meeting started with prayers from a Mrs Mercy bett. The chief thanked all and invited the ESIA team. The lead consultant introduced his team. Technical officers from the county government and the KCSAP team also made introductions.

MIN 2/29/01/2020: BRIEF OVERVIEW OF THE ESIA PROCESS AND PUBLIC PARTICIPATION

The community was enlightened on the technical aspects of the sub-project by the Water Engineer. The consultant was then called upon to give an overview of the SPR process and the importance of public participation. He began by asking the community if they understood the reason for the meeting. One community member responded by stating that they had gotten information through the sub-location assistant chief that there would be a meeting about the water tank construction sub-project on EIA which is required by NEMA. The consultant then explained to the community on the EIA process and why it was necessary for the public to participate. He invited a team member to take the community through the public participation process.

MIN3/29/01/2020: THE PUBLIC PARTICIPATION PROCESS

The public was told that the process would involve filling in questionnaires that had been prepared to capture all the required information for the EIA. These includes the effect on the physical and biological environment, expected social and economic benefits, proposed mitigation measures for the negative impacts and any objection to the implementation of the sub-project. The community members were further informed after filling in the questionnaires that a Focus

Group Discussion would be conducted for more detailed information to be captured. The community was taken through these whole processes by the consultant.

MIN4/29/01/2020: WAY FORWARD

On the question of whether there was an objection to the implementation of the sub-project as proposed and designed, the community members present said they had no objection. They emphasized that they had proposed the sub-project because of the capacity of the existing water tank was not enough to meet the needs of the community. They further explained that the sub-project would be significant in contributing to access to water for livestock watering and micro-irrigation. There being no other business the meeting ended at 2:55pm with a closing prayer from Mrs. Judith Bore.

Minutes confirmed by;

Chairman Samson Chepkwony Date. 5/2/2020

Secretary Alfred Bett Date. 5/2/2020

Republic of Kenya

Kenya Climate Smart Agriculture Project
(KCSAP)
BOMET COUNTY

Kenya Climate Smart Agriculture Project

ATTENDANCE LIST

TYPE OF MEETING/ACTIVITY Community Consultation

VENUE Gobor **DATE** 29/1/2020

S/ No	NAME	ID/P/No.	GENDER		ORGANISATION	DESIGNATION	CONTACT	EMAIL	SIGNATURE
			M	F					
1	Christopher Rotich	2310957	✓		Kipsobok	C-Member	0714219747		
2	Simion Yebei	1744956	✓		Kipsobok	V Chair	0714334656		
3	Samson Cheptwony	24742804	✓		Kiptobok	Member	0722158011		
4	Alvin Kirui		✓		Gorgor	Member			
5	Hilary Chemiyot	36249494	✓		Kiptobok	Member	0762851477		
6	David Bor	761109	✓		Kiptobok	Member	0714760989		
7	Lilian Rotich			✓	Kiptobok	Member	0705175275		
8	Alfred Bett	2343103	✓		Kiptobok	Secretary	0702982239		
9	Lilian Rotich			✓	Kiptobok	Member	-		
10	Jane Rotich			✓	Kiptobok	Member	-		
11	Esther Rotich			✓	Kiptobok	Member	-		

Republic of Kenya

Kenya Climate Smart Agriculture Project
(KCSAP)
BOMET COUNTY

Kenya Climate Smart Agriculture Project

ATTENDANCE LIST

TYPE OF MEETING/ACTIVITY Community Consultations

VENUE Gorgor **DATE** 29/1/2020

S/ No	NAME	ID/P/No.	GENDER		ORGANISATION	DESIGNATION	CONTACT	EMAIL	SIGNATURE
			M	F					
1	Mercy Bett	28975474		✓	Kiptobok	member	0710985365		
2	Christine Bor	–		✓	Kiptobok	member	–	–	
3	Joseph Rutoh	34912601	✓		Kiptobok	member	0790801888		
4	Leonard Chepkwony	30276199	✓		Kiptobok	member	0722 635316		
5	Eric Kirui	34354172	✓		Kiptobok	member	0758487852		
6	Joel Sigom	–	✓		Kiptobok	member	0795727 4		
7	Edward Tonui	22310530	✓		Kiptobok	member	–		
8	Langat Hillary		✓		Kiptobok	member	0727094444		
9	Geoffrey Bomet	–	✓		Kiptobok	member	0797069822		
10	Shadrack Kirui	10847340	✓		Kapchumbe	member	0723695790		
11	Philester Bii	10248627		✓	Gorgor Comm	member	0719268971		

ANNEX 7. SAMPLE INDIVIDUAL QUESTIONNAIRE ADMINISTERED

ENVIRONMENTAL AND SOCIAL IMPACT ASSSESSMENT PROJECT REPORT FOR THE PROPOSED GORGOR WATER TANK CONSTRUCTION IN NDANAI/ABOSI WARD, BOMET COUNTY

PUBLIC CONSULTATION QUESTIONNAIRE

The County Government under the Kenya Climate Smart Agriculture Project (KCSAP) through the Department of Agriculture has received funds for implementation of identified projects. Under the county investment sub-projects, the department intends to use part of the proceeds to construct a water tank in Gorgor, Ndanai/Abosi ward, Sotik sub county.

Regulation 17(1) of the Environmental (Impact Assessment and Audit) Regulations, 2003 states that *"during the process of conducting an environmental impact assessment under these regulations, the proponent shall in consultation with the Authority, seek the views of persons who may be affected by the project"*.

As an identified neighbour to the proposed project site, you are required to document your views, opinions and concerns regarding the proposed Construction of a Water tank.

RESPONDENT'S DETAILS

NAME OF RESPONDENT	LILIAN ROTICH
CONTACT ADDRESS	192 NDANAI
TELEPHONE NUMBER	-
ID NUMBER	-
APPROX. DISTANCE FROM THE WATER PAN	500 M
SIGNATURE AND/OR STAMP	
DATE	29/01/2020

RESPONDENT'S VIEWS

Do you have any comments (positive/negative) on the proposed Water Tank Construction?

Positive:

1. Provision of enough water throughout the year
2. Improved agriculture in the region
3. .....
4. .....
5. .....

Negative:

1. .....
2. .....
3. .....
4. .....
5. .....

Do you find the proposed Water tank constrction beneficial in the overall? Tick appropriately

Yes: ✓

No: _____

ANNEX 8. STAKEHOLDER CONSULTATION MINUTES

MINUTES FOR GORGOR WATER TANK CONSTRUCTION STAKEHOLDERS CONSULTATION MEETING HELD ON 23/9/2020 AT TWIGS ANNEX HOTEL.

IN ATTENDANCE:

S/No	Name	Organization	Contact
1.	Leonard Tonui	Water POE Lead person	0745927447
2.	Julius Kenduiwa	KCSAP	0721403241
3.	Lilian Rotich	VMG	0705175275
4.	Priscah Ajiki	WRA	0728580699
5.	Ronoh Paul	WRUA	0720952482
6.	Osiemo Ngira	NEMA	0726477635
7.	Paul Maritim	Green Options E.C	0724737683
8.	Gilbert K.Korir	Environment	0717644844
9.	Simion Yebei	PMC Rep	0714334656
10.	Vincent Langat	Lands	0729385183
11.	Erick Ngeno	KCSAP	0724985067
12.	Dr.Ngeno Geoffrey	MOALF	0713784951
13.	Stephen Mutai	KCSAP	0724683639
14.	Chelangat Gladys	MOH-Public Health	0718615616
15.	Nicholas Ruto	KCSAP	0724339977

AGENDA

1. Preliminaries
2. Brief on SPRProcess for proposed Gorgor water pan
3. Stakeholders views
4. A.O.B

MIN.1/23/9/2020: PRELIMINARIES

The meeting was called to order by the lead person Mr. Stephen Mutai at 10.05am. Lilian Rotich opened the meeting with a word of prayer. The participants were welcome to the consultative meeting. Appreciation was given on the foregoing on a proposed Gorgor water tank construction project.

MIN.2/23/9/2020: BRIEF ON SPR PROCESS FOR PROPOSED GORGOR WATER TANK CONSTRUCTION SUB PROJECT

CESSCO informed the meeting that stakeholder consultation helps the EIA address relevant issues, including those perceived as being important by other sectoral agencies, public bodies, local communities, affected groups, and others, improving information flows between proponents and different stakeholder groups, improving the understanding and 'ownership' of a project, enabling project proponents to better respond to different stakeholders' needs, identifying important environmental characteristics or mitigation opportunities that might be overlooked, ensuring that the magnitude and significance of impacts has been properly assessed and improving the acceptability and quality of mitigation and monitoring processes.

MIN.3/23/9/2020: STAKEHOLDERS VIEWS

The views of the eleven (15 No.) stakeholders are as summarized below;

S/No.	Stakeholder	Views
1.	WRA	Control water pollution and improve the quality by integrating good land use practices that promote sustainability.
2.	WRUA	To be involved during monitoring of the water tank construction sub project. PMC to ensure fair and efficient use of water by all the beneficiaries in order to minimize water use conflicts.
3.	NEMA	Emphasized on mitigation measures for negative impacts on environment including soil erosion control and catchment conservation.
4.	VMG Rep	Requested for inclusion of the VMG groups and faster implementation of the project
5.	PMC Rep	Requested for faster implementation of the project in order to boost livestock watering and small scale irrigation
6.	Lands Survey	Informed the meeting that survey and beaconing of the public land had been done.
7.	MOH-Public Health	Water availability during COVID 19 containment measures is vital. The water pan will improve water availability to the residents of Gorgor area.

MIN.4/23/9/2020: A.O.B

Issues that arose included;

- The proponent to liaise with the County flagship programme of promotion of fruit trees to promote conservation and increase income for the community.

Adjournment

There being no other business, the meeting was adjourned at 2.40pm. The closing prayer was given by Mr.William Chelule.

Minutes signed by;

Name	Designation	Signature	Date
1. Lenoard Tonui	Water Engineer		25/3/2020
2. Stephen Mutai	CESSCO		25/3/2020

Republic of Kenya

Kenya Climate Smart Agriculture Project
(KCSAP)
BOMET COUNTY

Kenya Climate Smart Agriculture Project

ATTENDANCE LIST

TYPE OF MEETING/ACTIVITY STAKEHOLDERS MEETING

VENUE TWIGS ANNEX HOTEL DATE 22/9/2020

S/ No	NAME	ID/P/No.	GENDER M	GENDER F	ORGANISATION	DESIGNATION	CONTACT	EMAIL	SIGNATURE
1	Leonard Tuwei	4743116	✓		Water	CO W	0725927881	Leokloca @gmail.com	
2	Priscah Ajiei	28869060		✓	WRA	CDA	0728580699	priscadangor	
3	Dominic Dawa	22679007	✓		WRUA	CHAIRMAN	0720752482	ppawa.rowa.y	
4	OSIENO NGIRA	22854670	✓		NEMA	EO	0726477685	hosieno @nema.go.ke	
5	Gilbert K. Kir	29215678	✓		CGB-Environment	E.O	0715644844	kirikg@gmail.com	
6	Vincent Langat	22844809	✓		CGOB-LHUP	Ag.Dir	0729385183	waivinvolangats @gmail	
7	ERICK NGENOH	20110080	✓		KCSAP	CASD	0723915067		
8	Dr. NGENO GEOFFREY	11298724	✓		MOALF	SCVO	0713784951	ngegeo@yahoo.com	
9	Stephen Mutai	20080807	✓		KCSAP	CESSCO	0724683639	stephenmutai 2013 @gmail.com	
10	CHELANGAT GLADYS	28100800		✓	MOH-PUBLIC HEALTH	ADPH	0718-615616	chelangatg@gmail.com	
11	Nicholas Ruto	21793256	✓		KCSAP	M&E	0724239977	rutonico	
12.	Paul Maritim	11369949	✓		ENVIRONMENT	DIRECTOR	0723737683	Email pkmaritim@gmail.com	

ANNEX 9. KEY IFORMANT INTERVIEW SAMPLE QUESTIONNAIRE

KEY INFORMANT MATRIX

PREPARATION OF SPR REPORT FOR PROPOSED CONSTRUCTION OF GORGOR WATER TANK SUB PROJECT, GORGOR SUB-LOCATION, NDANAI/ABOSI WARD, SOTIK SUB-COUNTY, BOMET COUNTY.

Summary Project Report for Gorgor Water pan construction sub-Project

These types of projects are subject to the rules and regulations of EMCA, 1999, as it is anticipated that there might be effects on the physical, biological and socio-economic environment of the surrounding area and the community during project implementation. Public consultation is therefore a basic requirement during the Environmental and Social Impact Assessment process. The objectives of consultation and public participation are to:

1. Gather comments, concerns and suggestions of the interested and affected parties.
2. Establish a communication channel between the public and proponent and the Government and
3. Incorporate the information collected in the study by EIA specialists.

This is to request your participation by answering the questions in this questionnaire.

Name of Respondent....Leonard Tanui.....**Sex**.Male..... **Date**.30/1/2020**Signature**.....

Designation/Occupation.....

SCORING GUIDE

No impacts	Major impacts	Minor impacts
None	Major	Minor

QUESTION: What would be the magnitude of the impacts of the above project on the following aspects at the specified phases? Mark a tick (√) in the appropriate box. If the perceived impact is NEGATIVE, please indicate possible remedial measures and person/institution responsible in the appropriate box.

~ 1 ~

i) **At construction phase**

ASPECT/NARRATIVE	Positive impacts			Negative impacts			Proposed mitigation for negative impacts
	None	Major	Minor	None	Major	Minor	
1.1 Noise and vibration						✓	Well maintained Machinery
1.2 Air and water quality		✓				✓	Soil erosion Conservation measures eg Tree Planting
1.3 Soil erosion				✓			
1.4 Soil degradation				✓			
1.5 Soil acidity & alkalinity				✓		✓	- Water drainage. - Mosquito nets
1.6 Disease incidences							Water drainage, Mosquito net use
1.7 divert the water resources from its natural course or location				✓			
1.8 Cultural erosion				✓			
1.9 Moral decay				✓			
1.10 Vegetation cover and biodiversity						✓	Minimal disturbance of Vegetation Cover
1.11 Wildlife and wildlife habitat				✓			
1.12 Environmentally sensitive areas				✓			
1.13 Human wildlife conflict				✓			
1.14 Accumulation of solid waste						✓	Proper disposal
1.15 Proliferation of invasive species				✓			
1.16 Crop production		✓					

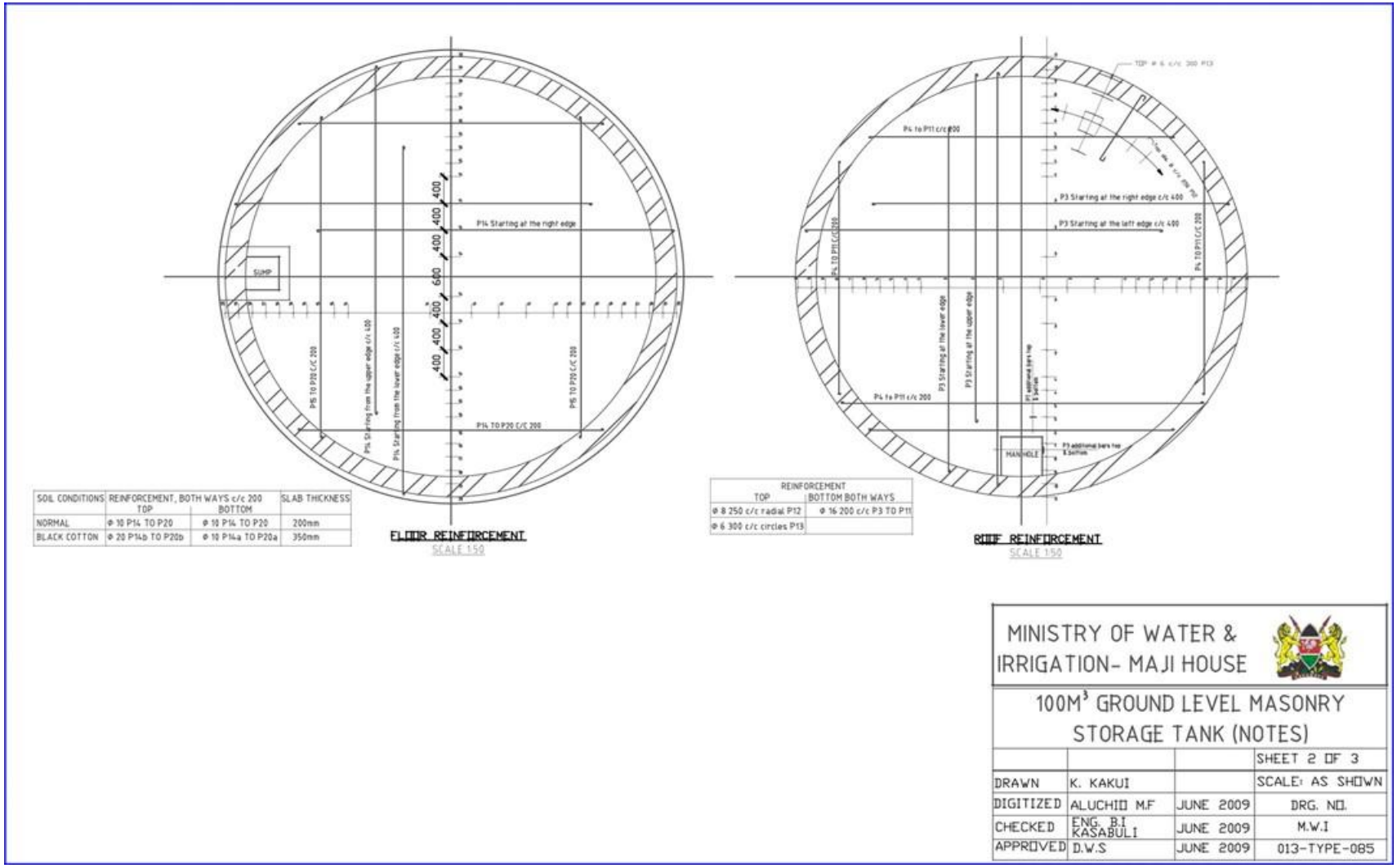
	Positive None	Major	Minor	Negative None	Major	Minor	
1.17 Livestock production		✓					
1.18 Fish production	✓						
1.19 Education standards	✓						
1.20 Human settlement				✓			
1.21 Indigenous people				✓			
1.22 Child delinquency				✓			
1.23 Gender disparity			✓	✓			
1.24 Employment opportunities and income generation			✓				
1.25 Economic growth		✓					
1.26 Living standards		✓					
1.27 Business and market opportunities			✓				

ii) **At operation phase**

ASPECT/NARRATIVE	Positive impacts			Negative impacts			Proposed mitigation for negative impacts
	none	major	minor	none	major	minor	
1.1 Noise and vibration						✓	Well maintained Mallinery
1.2 Air and water quality						✓	Minimal distribance of Water
1.3 Soil erosion						✓	Tree Planting
1.4 Soil degradation				✓			
1.5 Soil acidity & alkalinity				✓			
1.6 Disease incidences						✓	use Mosquito nets

	Positive			Negative			
	None	Major	Minor	None	Major	Minor	
1.7 Divert the water resources from its natural course or location				✓			
1.8 Cultural erosion				✓			
1.9 Moral decay				✓			
1.10 Vegetation cover and biodiversity						✓	Minimal disturbance of vegetation cover
1.11 Wildlife and wildlife habitat				✓			
1.12 Environmentally sensitive areas				✓			
1.13 Human wildlife conflict				✓			
1.14 Accumulation of solid waste						✓	proper disturbance
1.15 Proliferation of invasive species				✓			
1.16 Crop production	✓		✓				
1.17 Livestock production	✓	✓					
1.18 Fish production	✓						
1.19 Education standards	✓						
1.20 Human settlement				✓			
1.21 Indigenous people				✓			
1.22 Child delinquency				✓			
1.23 Gender disparity				✓			
1.24 Employment opportunities and income generation		✓					

ANNEX 10. DRAWINGS AND DESIGNS



SOIL CONDITIONS	REINFORCEMENT, BOTH WAYS c/c 200 TOP	BOTTOM	SLAB THICKNESS
NORMAL	Φ 10 P14 TO P20	Φ 10 P14 TO P20	200mm
BLACK COTTON	Φ 20 P14b TO P20b	Φ 10 P14a TO P20a	350mm

REINFORCEMENT TOP	BOTTOM BOTH WAYS
Φ 8 250 c/c radial P12	Φ 16 200 c/c P3 TO P11
Φ 6 300 c/c circles P13	

BAR BENDING SCHEDULE

LOCATION	BAR MARK	BAR DIA. mm	TOTAL No	LENGTH A (mm)	LENGTH B(mm)	CUT LENGTH (mm)	TOTAL LENGTH (m)	TYPE OF	SKETCH OF BAR SHAPE
WALL	1	10	77	11800		12000	924.0	A	
	2	8	59	11800		12000	708.0	A	
ROOF	3	16	28	5700		6000	168.0	B	
	4	"	8	5650		5950	47.6	B	
	5	"	8	5150		5450	43.6	B	
	6	"	4	4820		5120	20.5	B	
	7	"	8	4450		4750	38.0	B	
	8	"	4	3990		4290	17.2	B	
	9	"	4	3430		3730	15.0	B	
	10	"	4	2730		3030	12.0	B	
	11	"	4	1580		1880	7.6	B	
	12	8	80	1000		1200	96.0	B	
	13	6	6	11800		12000	72.0	A	
FLOOR	14	10	72	5800		6000	432.0	B	
	15	10	16	5440		5440	87.1	B	
	16	"	16	4690		4690	75.1	B	
	17	"	8	4200		4200	33.6	B	
	18	"	8	3590		3590	28.8	B	
	19	"	8	2790		2790	22.4	B	
	20	"	8	1460		1460	11.7	B	
FLOOR REINFOR-CEMENT	14a	10	36	5800		6000	216.0	B	
	15a	10	8	5240		5440	43.6	B	
	16a	"	8	4490		4690	37.6	B	
	17a	"	4	4000		4200	16.8	B	
	18a	"	4	3390		3590	14.4	B	
	19a	"	4	2590		2760	11.2	B	
	20a	"	4	1260		1460	5.9	B	
	14b	20	36	5640		6000	216.0	B	
	15b	20	8	5240		5600	44.8	B	
	16b	"	8	4490		4850	38.8	B	
	17b	"	4	4000		4360	17.5	B	
	18b	"	4	3390		3750	15.0	B	
	19b	"	4	2590		2950	11.8	B	
	20b	"	4	1260		1620	6.5	B	
SUMP	21	8	5	820	370	1760	8.8	C	
	22	8	4	1080	360	2000	8.0	C	
	23	8	2	800	1080	3160	6.4	C	

NOTES
HOOK ALLOWANCES
Φ 6,8,10 2X100mm
Φ 16 2X150mm
Φ 20 2X180mm
MINIMUM OVERLAP
Φ 6,8,10 400mm
LAPS IN CIRCUMFERENCIAL BARS ARE TO BE STAGGERED

SUMMARY (TOTAL LENGTH IN METERS)	BAR DIAMETER	6	8	10	16	20
		72	828	1615	370	
		72	828	1270	370	351

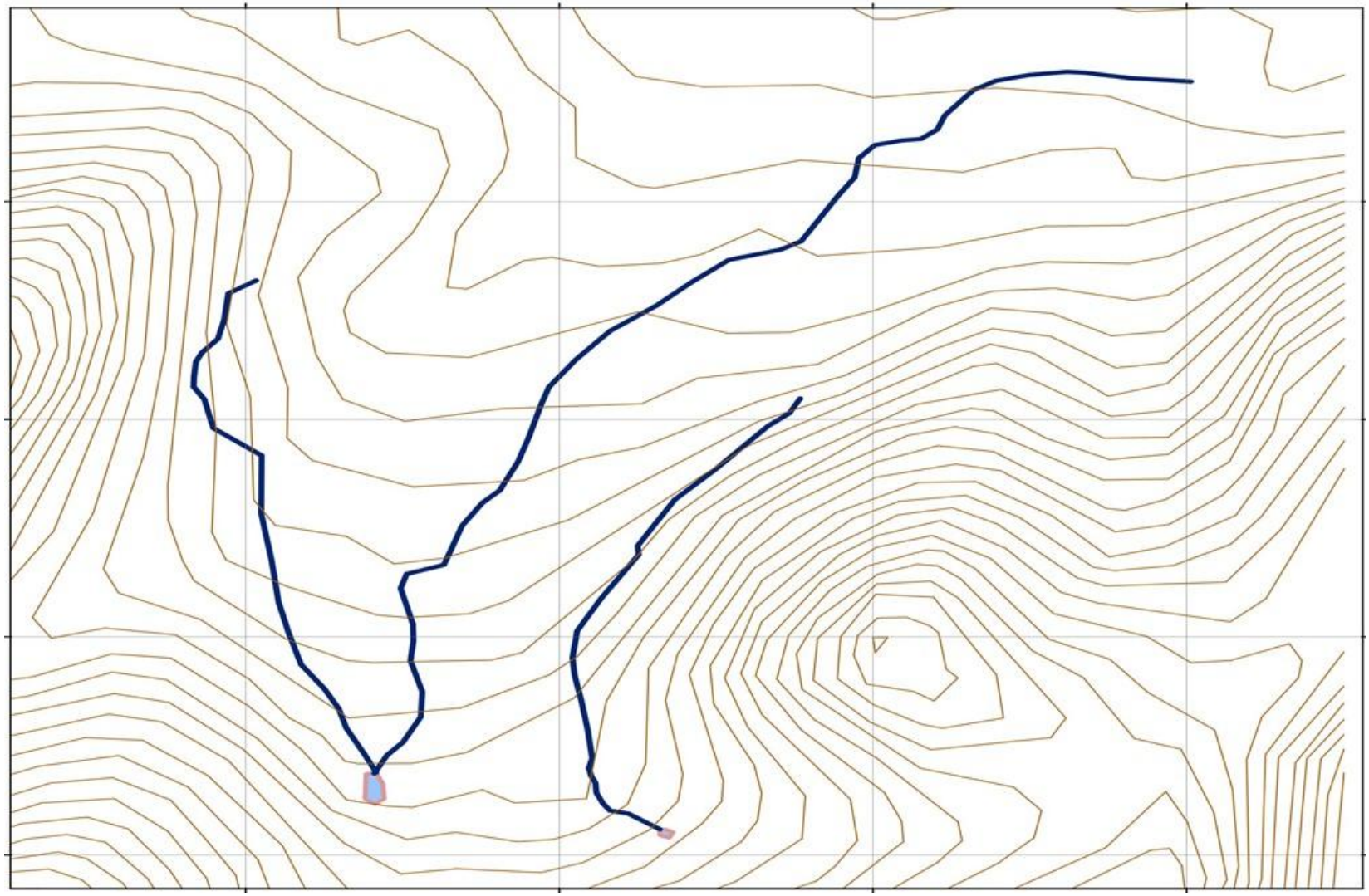
NOTES
1.HARD-CORE
LAYER THICKNESS SHALL BE DETERMINED BY THE ENGINEER, BUT NOT LESS THAN 200mm
2. MASONARY WALL
SHALL NOT BE CONNECTED TO EITHER THE FLOOR SLAB NOR THE ROOF SLAB THE WALL SUPPORTING AREA OF THE FLOOR SLAB AS WELL AS
THE TOP OF THE WALL SHALL BE TROWEL FINISHED AND BE PAINTED WITH THREE COATS OF BITUMINOUS PAINT.
3.THE MASONARY WALL SHALL BE BUILT OF GOOD QUALITY LOCAL BUILDING STONES OR CONCRETE BLOCKS. THE SIZE OF THE STONES SHALL BE:
WIDTH NOT LESS THAN 225MM RESP. 300mm
LENGTH BETWEEN 200 AND 300 mm
HEIGHT NOT MORE THAN 150 mm
THE STONES SHALL BE SOAKED IN WATER FOR 24HRS BEFORE BEING BUILT INTO THE WALL
. PARTICULAR CARE MUST BE TAKEN TO FILL ALL THE JOINTS COMPLETELY
WITH MOTAR (MOTAR MIXTURE 3:1, SAND: CEMENT)
4. CONCRETE
CONCRETE CLASS 20/20 (MIXTURE 1:2:4) FOR FLOOR SLAB AS WELL AS CONCRETE BLOCKS
CONCRETE CLASS Q (MIXTURE 1:3:6) FOR BLINDING
5. REINFORCEMENT
MILD STEELBARS TO BS 4449
MINIMUM CONCRETE COVER OF THE OF REINFORCEMENT 40mm
6.FLOOR SLAB
OF THE TANK MUST BE 350mm IF THE TANK IS SITED ON BLACK COTTON SOIL OR SIMILAR SOIL CONDITON. THE REINFORCEMENT MUST BE DIAM. 20mm BARS C/C 200 ON THE TOP AND DIAM. 10mm BARS C/C 200 ON THE BOTTOM (CROSSWISE) AS PER BAR BENDING SCHEDULE
7. CONSTRUCTION JOINTS.
ARE NOT PERMITTED , THE SLABS MUST BE CASTED IN ONE TIME.
8. FORMWORK
FOR THE ROOF SLAB MUST HAVE A CAMBER OF 30mm AT THE CENTRE
9. EXTERIOR SURFACE
OF THE TANK SHALL RECEIVE ONE COAT OF CEMENT WASH
10. INTERIOR SURFACE
OF THE TANK SHALL BE PLASTERED THICKNESS 15MM WITH 2 MOTAR MIXTURE 2:1(SAND:CEMENT) TO OBTAIN A WATER PROOF PLASTERING, PUDLO CEMENT SHOULD BE ADDED

MINISTRY OF WATER & IRRIGATION- MAJI HOUSE

100M³ GROUND LEVEL MASONRY STORAGE TANK (NOTES)

			SHEET 3 OF 3
DRAWN	K. KAKUI		SCALE: AS SHOWN
DIGITIZED	ALUCHIO M.F	JUNE 2009	DRG. NO.
CHECKED	ENG. B.I KASABULI	JUNE 2009	M.W.I
APPROVED	D.W.S	JUNE 2009	013-TYPE-085

PIPE NETWORK DISTRIBUTION LAYOUT



ANNEX 11. BILL OF QUANTITIES

	SUMMARY	**AMOUNT**	
S.No.	BILL NO.	KSHS.	CTS
A.	BILL NO. 01 Preliminaries and general items	690,000	00
B.	BILL NO. 02 Excavation and construction of the tank	2,600,010	00
C.	BILL NO. 03 Laying of pipeline	2,800,000	00
D.	BILL NO. 04 Cattle troughs	1,308,000	00
E.	BILL NO. 05 Communal water points (4 No.)	200,000	00
F.	BILL NO. 06 Spring protection	188,400	00
G.	BILL NO. 07 Perimeter fence	604,000	00
H.	BILL NO. 07 Gate	195,010	00
	Add contingencies 20%	214,635	25
	GRAND TOTAL	**8,800,055**	**25**

ANNEX 12. CHANCE FIND PROCEDURE

CHANCE FIND PROCEDURE

Historical and Archaeological Sites

1. If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:
   - i. Stop the construction activities in the area of the chance find.
   - ii. Delineate the discovered site or area.
   - iii. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Sports, Culture and the Arts take over.
   - iv. Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Sports, Culture and the Arts immediately (less than 24 hours).
   - v. Contact the responsible local authorities and the Ministry of Sports, Culture and the Arts who would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the relevant Ministry of Sports, Culture and the Arts (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, including the aesthetic, historic, scientific or research, social and economic values.
   - vi. Ensure that decisions on how to handle the finding be taken by the responsible authorities and the Ministry of Sports, Culture and the Arts. This could include changes in the layout (such as when the finding is an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage.
   - vii. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Sports, Culture and the Arts; and
   - viii. Construction work will resume only after authorization is given by the responsible local authorities and the Ministry of Sports, Culture and the Arts concerning the safeguard of the heritage.

ANNEX 13. EXPERT'S REGISTRATION LICENSES

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Tel: (254-020)-6005522 / 3 / 6 / 7, 6001945, 6008767
Mobile line: 0724 253 398, 0723 363 010, 0735 013 046, 0735 010 237
Telkom Wireless: 020-2101370
Fax: (254-020)-6008997
Hotline: 020-8077233, 020-6006041

P. O. Box 67839 - 00200
Popo Road, Nairobi, Kenya
E-mail: dgnema@nema.go.ke
website: www.nema.go.ke

Ref: *NEMA/5/3/Vol. III* ***Date:*** *25th September, 2020*

TO WHOM IT MAY CONCERN

This is to confirm that **Mr. Paul Kiprono Maritim** NEMA Expert **Reg. No. 2405** has renewed his license to practice as a Lead Expert for the year 2020. His license application reference number is **17771.**

The Practicing License is being processed and will be ready in due course.

NEMA therefore recognizes the Expert as duly eligible to practice in accordance with the provisions of the Environmental Management and Coordination Act (EMCA 1999) and the Environmental (Impact Assessment and Audit) Regulations of 2003.

ANNE MACHARIA

For: DIRECTOR GENERAL

Gmail

Paul Maritim <pkmaritim@gmail.com>

EIK ANNUAL MEMBERSHIP FEE FOR PAUL K.MARITIM - 2405

2 messages

Ronald Kimtai <eikenya2013@gmail.com>
To: Paul Maritim <pkmaritim@gmail.com>

21 January 2020 at 07:40

Dear Paul ,

Thank you for subscribing for EIK membership.

Your receipt number is 13206.

Kindly attach this correspondence which will act as a proof for EIK subscription as you apply for your 2020 practicing license on the NEMA licensing portal.

New applicants are also required to submit online membership application under the EIK website (www.eik.co.ke) at the registration portal. Kindly create an account and log in to access the online registration form. Fill the relevant fields (Basic information, Intro statement, Training, Professional certification, Work experience & Attachments) and submit your application by requesting for printing online certificate to generate your e-Certificate.

Existing members are required to make request for printing their current membership certificate. This is by clicking on the "Make Certificate Print Request" option.

Also, remember to pick the hard copy receipt from the EIK office at Highway Mall opposite Nyayo Stadium, 4th Floor, and Room No. 10 at your convenience.

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Kind Regards,

Ronald K. Kimtai, MEIK
Chief Executive Officer
Environment Institute of Kenya.
P.O Box 5087-00506, Nairobi
Tel. No. : +254 774 239 594
info@eik.co.ke/ronald@eik.co.ke

Paul Maritim <pkmaritim@gmail.com>
To: kisumu@nema.go.ke

9 June 2020 at 10:07

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