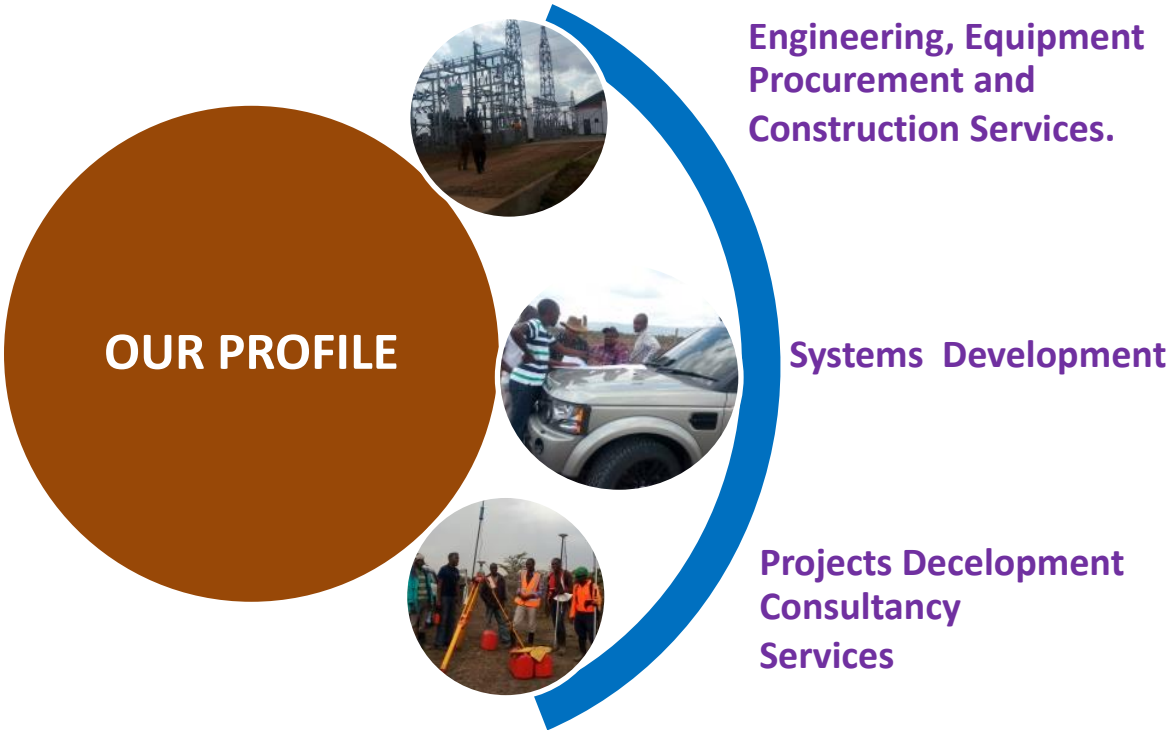
AMANDA ENGINEERING SERVICES LTD (K)



2021

COMPANY PROFILE

NAIROBI OFFICE:

AMANDA ENGINEERING SERVICES
Professional Centre Off Ngong Road,
P. o Box 13327-00200, Nairobi Kenya,
Phone: +254728367885/+254770650309,
Email: amandaengineering1@gmail.com

SERVICES OFFERED:

Engineering, Equipment Procurement and Construction Services
Engineering Consultancy Services,
Engineering Systems development

CORE VALUES

The backbone of our company operations

- Cognisance
- Diligence
- Integrity
- Honestry
- Obedience
- Trust
- Proffessionalism

1.0 ABOUT US

Amanda Engineering Services Limited (Amanda Engineering) is a firm of Engineers, Technologists, Consultants, and Managers incorporated in the Republic of Kenya as a firm of Experts. The firm has broad experience in Provision of **Engineering services, Projects Construction, Equipment procurement, Projects Management, Monitoring and Evaluation.**

The firm offers multidisciplinary services in the areas of projects development, which include but not limited to; Feasibility Studies, Environmental and Social Performance Management, Topographical and Hydro-Geotechnical Studies, Projects designs and B.O.Q development, Project's land acquisition, Implementation of Relocation action plans, Policy Analysis, Organisation Review and Analysis, Systems Analysis and Design, Technical Analysis and Assessments, Projects Economics (Financial Modelling).

Amanda Engineering has fully equipped state-of-the-art offices in Nairobi. The firm boasts of highly qualified and dedicated team of experts with internationally recognized expertise in the areas of service offering and places great emphasis in the qualification, training and accreditation of her staff, majority who have Graduate and postgraduate qualifications and are duly registered with appropriate professional institutions. The firm is founded on **integrity, service, excellence, teamwork, and organisation learning.**

We have strong collaborative and networking linkages with local and international firms of repute and distinguished experts to expand our skill base and satisfy our clients' needs. Some of the Firms we locally collaborate include Naconsult Engineering Engineers, Lilac Engineering Ltd, EcoTrunk International Limited, Lartech Africa Limited and Voltalia Services Kenya. Our local, regional, and global affiliations are the basis upon which we benchmark our service standards thereby offering you **superior, tested, and holistic** solutions.

2.0 EXPERIECE PROFILE

Amanda Engineering has broad resource of technical expertise and experience in Engineering service Provision. Subsections below provide a narrated summary of the projects the firm, its Directors and its associates have planned, implemented, and successfully executed.

2.1 CIVIL ENGINEERING WORKS SUMMARY

PERIOD	PROJECT TITLE	CLIENT	LOCATION	COST (KES.)
RELEVANT COMPLETED PROJECTS.				
2018	Drainage System Construction along Etibu SDA-Etira-Kiongongi Road.	Kisii County Government	Kisii County	891,271.50
2018	Construction of Geteri Market.	Kisii County Government	Kisii County	3,047,620.00
2017-2018	50 MW Solar Plant: -Civil works on 132kV transmission Line -Civil works on 132kV Sub-station -Construction of Residential and staff Houses. -Construction of Paved Roads.	Rural Electrification Authority (Government of Kenya)	Garissa County	35,980,000
2019	Construction of Modern Toilets and Office for the Ministry of Tourism, Youth, Culture and Sports.	Machakos County Government	Machakos County	3,350,480.00
RELEVANT PROPOSED PROJECTS;				
2021	Construction of a ten (10) Kilometer Tunnel at Konza City and Installation of Sewer pipes and electrical hardware. Procurement of electrical hardware.	(Maltauro Construction Company)	Machakos County, Kenya.	882,175,041.84
2021	Construction of A campsite for Kopere 40MW Solar Plant, By Voltalia Kenya	Voltalia Kenya	Nandi County	28,421,630.88
2021	Main Civil Works within the 50MW Kopere Solar Plant.	Voltalia Kenya	Nandi County	228,124,604.46

2.2 FEASIBILITY STUDIES.

1) **Prefeasibility Study, Feasibility Study and Detailed Design for Small Hydro Power Plant Ever Seasons Ltd; (Ongoing),** The main objective of this study was to carry out a feasibility study to assess the technical, social and environmental, economic and financial viability of setting up a mini-hydropower plant. This is achieved through technical analysis; economic and financial modeling; risk assessment and sensitivity analysis; environmental and social impact assessment; and support studies such as geotechnical, topographical, and hydrological surveys

2) **Feasibility study for the 30.5 MW Muhoroni Solar Farms; Inowind Kenya Limited; 2015/2016.** The main two objectives of this study were to acquire land for the project, secondly; to carry out a feasibility study to assess the technical, social and environmental, economic and financial viability of setting up a solar plant. The actual services provided were.
    - *Facilitation of land acquisition exercise.*
    - *Assessment of the proposed project to determine whether or not the project and its associated activities had any adverse impacts on the environment, taking into account the environmental, social, cultural, economic and legal considerations.*
    - *Overhead transmission line (OTL) trace/wayleave optimisation study.*
    - *Identification and assessment of the anticipated environmental and social impacts of the proposed project both positive and negative;*
    - *Identified and analysed alternatives to the proposed project;*
    - *Proposed mitigation measures for negative impacts and enhancement measures for positive impacts to be undertaken during and after the implementation of the proposed project;*
    - *Verified compliance with national environmental regulations and policies and international best practices and standards.*

3) **Feasibility study for the proposed 60 MW Embobut Hydro-Plant, Sosian Energy, 2015:** This project is located along River Embobut in Elgeyo Marakwet County. The main objective of this study was to carry out a feasibility study to

assess the technical, social, and environmental, legal, economic, and financial viability of setting up a mini-hydropower plant. This study entailed but not limited to technical analysis; economic and financial modeling; legal viability study; risk assessment and sensitivity analysis; environmental and social impact assessment; and support studies such as geotechnical, terrestrial, and hydrological surveys.

4) **Pre-feasibility and detailed feasibility study for the proposed 20 MW Hydro-power plant in Sidikho Kakamega County, (On-going) , 2017 up-to date:**

   On this project, the main objective of the study is to assess the technical, legal, social, and environmental, economic and financial viability of setting up a mini-hydropower plant along River Nzoia.

5) **Pre-feasibility and detailed feasibility study for the proposed Pumped storage hydro-plant in Elgeyo Marakwet.**

   The objective of this study is to assess the land availability, legal, social economic and environmental viability of the project in the region.

2.3 PROJECT DEVELOPMENT SERVICES (LAND IDENTIFICATION TO FINANCIAL CLOSE)

With a wide spectrum of its experts, Amanda Engineering is involved in the development of Renewable Energy green field projects (Solar projects, Hydro-power projects and Wind projects). In partnership with development partners, we are currently progressing one solar PV project and one wind energy project.

- Our company helps in identifying appropriate land for either solar energy or wind energy of site for Hydro-power projects.
- We offer local support required during the entire energy project development phase. These entails but not limited to, local technical expertise required in developing the project to a bankable status, liaison services with the relevant lead agencies, Stakeholder engagements, Training services, Project land acquisition, the renewable energy site related studies.

2.4 Environmental and Social Management Studies

2.4.1 Environmental Studies

1) **Environmental Impact Assessment for the 30MW Muhoroni and 40MW Mamboleo Solar Farms; Innowind Kenya Limited; 2015/2016.** The objective of the study was to carry out an assessment of the proposed project to determine whether the project and associated activities would have any adverse impacts on the environment, considering environmental, social, cultural, economic, and legal considerations.

2) **Environmental Impact and Social Assessment Scoping Plan for the proposed Embobut Hydro-Plant, Sosian Energy, 2015:** The objective of the study was to carry out a comprehensive Environmental Scoping Analysis for the proposed project. Information on socio-economic livelihood derived from River Embobut, the environmental concerns, and other related developments was collected.

2.4.2 Social Performance Management

1) **Social Management, Kipeto Wind Farm Project (In Association with Intersocial); International Finance Cooperation, 2015-2016.** The objective of the study includes the management and coordination of all community interaction in support of the establishment of a Community Trust (the establishment of the Trust has already been awarded to another consultant), Coordination of all stakeholder engagements by means of the establishment of a comprehensive Community Liaison function on site.

   Therefore, the actual services we provided during this exercise include.

   - *Establishing a clear understanding of what exists prior to project impacts as a basis for sound planning;*
   - *Utilization of international good practice, including the IFC's Policy and Performance Standards on Social and Environmental Sustainability;*

- *Open, transparent and ongoing engagement with affected communities, households and other stakeholders, tailored to the appropriate level for the stage that the project is at;*
- *Holistic integrated planning of social issues, fully imbedded in overall project planning;*
- *Making sure work plans, budgets and social management plans are appropriate and realistic for the site in question;*

2) **Land Securing Activities for the 30MW Muhoroni and 40MW Mamboleo Solar Farms, Kenya, Innowind Kenya Limited 2015-2016.** We guided the investor in land acquisition for the Solar Sites in Ombei and Muhoroni Areas.

3) **61MW Safety Relocation Plan, Kinangop Wind Park 2014-2015.** The objectives of the assignment is achieve compliance with the relevant Kenyan laws and regulations; achieve compliance with the spirit of the IFC Performance Standards (PS 5 in particular); achieve consistent, equitable and fair compensation for the affected parties; complete the relocation process in an efficient and timely manner; document the relocation process appropriately, to demonstrate best practice compliance to current and future KWP financiers; ensure that the reputations of KWP and Iberdrola are upheld, due to the ongoing relationship that both parties will have with the local communities. This this is to be realized through assisting in the development and management of the SRP, provision of relocation implementation team members (9 individuals comprising three teams of three) experienced in community engagement, attendance at Chief and Sub-Chief Information Sessions – informing local chiefs and subchiefs of the SRP process, coordination of focus group discussions with landowners with whom KWP have existing leases – discussions with 38 landowners on amendment of dimensions of leased land, easement and relocation of housing; management and administration of 38 barazas, being the key communication forum with PAPs, Review of valuation process – undertaking a sense check, delivery of letters of offer to PAPs and management of signing thereof, signing off of milestone payments for resettled households (phased payments) and submission to SRP financial manager for payment; management of surveying works and development

planning of services (water, electricity as relevant) to new land parcels, and management of completion audit

4) **12KM 132Kv Transmission Line Way Leave Activities, Kinangop Wind Park, 2014-2015**. The scope of the assignment involved presentation of the letters of offers to the affected persons, valuation of all the affected structures along the transmission line and compilation of study report.

2.4.3 RESETTLEMENT PLANNING

1) **Safety Relocation Plan for 61MW Kinangop Wind park (KWP) 2014/2015**

The objectives of the assignment was to achieve compliance with the relevant Kenyan laws and regulations; achieve compliance with the spirit of the IFC Performance Standards (PS 5 in particular); achieve consistent, equitable and fair compensation for the affected parties.

The actual services provided were:

- *To complete the relocation process in an efficient and timely manner;*
- *Document the relocation process appropriately,*
- *To demonstrate best practice compliance to current and future KWP financiers;*
- *Ensure that the reputations of KWP and Iberdrola are upheld, due to the ongoing relationship that both parties will have with the local communities. This this is to be realized through assisting in the development and management of the SRP,*
- *Provision of relocation implementation team members (9 individuals comprising three teams of three) experienced in community engagement,*
- *Attendance at Chief and Sub-Chief Information Sessions – informing local chiefs and subchiefs of the SRP process,*
- *Coordination of focus group discussions with landowners with whom KWP have existing leases – discussions with 38 landowners on amendment of dimensions of leased land, easement and relocation of housing.*
- *management and administration of 38 barazas, being the key communication forum with PAPs, Review of valuation process – undertaking a sense check,*
- *delivery of letters of offer to PAPs and management of signing thereof,*
- *signing off of milestone payments for resettled households (phased payments) and submission to SRP financial manager for payment.*
- *management of surveying works and development planning of services (water, electricity as relevant) to new land parcels, and management of completion audit.*

2) **Resettlement action plan for 12KM, of 132Kv wayleave activities , Kinangop wind park , 2014**

The scope of the assignment involved Valuation of all the affected structures along the transmission line and compilation of study report and presentation of the letters of offers to the affected persons

3) **Resettlement Action Plan for the Loiyangalani-Suswa 400 kV Transmission Line, KETRACO, 2015.** The study provided an update to the findings of the Addendum Report of May 2013 and set out the appropriate procedures to be followed and the actions to be taken to ensure relocation/resettlement and compensation of all the affected people and communities along the proposed Loiyangalani-Suswa 400 kV Transmission Line are compensated in compliance with requirements, policies and procedures.

4) **Addendum Report for the 428KM Loiyangalani – Suswa 400kV Transmission Line, KETRACO, 2013.** Updating the 2011 RAP Report to align the same to the African Development Policy Requirements for Resettlement Action Plans. The actual service provided included:

- *Carried out a detailed description of: Valuation Methodologies, Type and nature of compensation, Preferred method of valuation and justification for choice of this method,*
- *Compensation framework including legal framework, country laws and regulation;*
- *Carried out a detailed valuation of the amount of land to be affected by the project;*
- *Carried out a detailed survey on the structures to be affected by the proposed line;*
- *Prepared an inventory of losses and a detailed Entitlement Matrix to be used for compensation.*

5) **Development of Resettlement Action Plan for the Olaragwi – Kipipiri Section of the Proposed Loiyangalani Suswa 400 kV Transmission Line, LTWP, 2012**. This assignment was executed in partnership with other lead members. Specific tasks we performed included carrying out a detailed socio-economic survey on the actual

number of people to be affected by the proposed line between Olaragwi and Kipipiri, carrying out a detailed valuation of the affected assets by the project between Olaragwi and Kipipiri, reaching out to community members not reached during the initial survey with the view of incorporating their details and opinions about the project in the RAP report

6) **Detailed Resettlement Action Plan (RAP) for the 428 Km for Loiyangalani-Suswa 400Kv Transmission line, KETRACO, 2011:** With the synergy from competent lead team members, this assignment was executed to plan. The objectives of the study included: Carrying out a detailed survey on the actual number of people to be affected by the proposed line; Detailed description of: Valuation Methodologies, Type and nature of compensation, Preferred method of valuation and justification for choice of this method, Compensation framework including legal framework, country laws and regulation; Carrying out a detailed valuation of the amount of land to be affected by the project; Carrying out a detailed survey on the structures to be affected by the proposed line; Preparing an inventory of losses and a detailed Entitlement Matrix that will be used for compensation.

3.0 CURRICULUM VITAE FOR THE COMPANY'S PROFESSIONAL STAFF

3.1 SAMWELI BOSIRE

Position Title	Project Coordinator
Name of Expert	Samwel Bonuke Bosire
Country of Citizenship/ Residence	Kenya

Education details:

Educational Qualification / Degree	College / University / Educational Institution	Year of Completion	Specialization
Secondary Education	Iterio High School	1997	Grade C
Primary Education	Kisii Primary School	-	-

Practical Knowledge

Buildings (construction; waterproofing), Sewerage (waste water treatment works – septic tanks; ponds), Roads (tarmac; gravel/marram; concrete; paving blocks; pavements; highways; bridges), Storm Drainage (open drains; piped drains; culverts), Water Supply (sourcing – boreholes; rivers; seas; lakes; dams; treatment; pipe network; pumps; storage tanks), Dams and Dykes (earth dams; R.C. dams – coastal and land protection), River Navigation, Swimming pools, Stadiums (fields; pitches; tracks), Survey and Landscaping.

Employment Record

Period	Employing Organization	Country
July 2016-to-Date	Amanda Engineering Ltd	Kenya
Jan 2008-Feb 2016	Jalcon Construction Limited	Kenya

Working Experience

Period	Employing Organization and your title/ position.	Country	Summary of Activities performed relevant to the assignment
PROJECTS			
2021	Matibo Girls Boarding School **Position:** Project Coordinator	Kenya (Kisii County)	• Construction of 3- storey laboratories and classrooms funded by the Community Development Fund.
2020	Kisii County Government **Position:** Project Coordinator	Kenya (Kisii County)	• Construction of a one-kilometer cabro paved service road funded by the World Bank.
2012-2017	**Caltex Petroleum Dealers** **Position:** Project Coordinator	Kenya	• Rehabilitation of the Caltex petrol stations in Nairobi, Kisumu, Kisii and Sotik.
2017-2019	Kitui Level 5 Hospital **Position:** Project Coordinator	Kenya Kitui County)	• Construction of an eye clinic funded by the Germany Government.

2013-2015	Kisii Level 5 Hospital **Position:** Project Coordinator	Kenya (Kisii County)	• Construction of an eye clinic funded by the Germany Government.
2010-2012	Kibarani Primary School **Position:** Project Coordinator	Kenya	• Construction of 12 classrooms
2008-2010	**Position:** Project Coordinator	Kenya	• Construction of two-block four storied executive apartments in Mtwapa.

Language Skills:

	Speak	Read	Write
English	Excellent	Excellent	Excellent
Kiswahili	Excellent	Excellent	Excellent

Adequacy of the Assignment:

Detailed Tasks Assigned on Consultants Team of experts:	**Reference to Prior Work/Assignments that best Illustrates Capability to Handle the assigned Tasks**

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by my professional body.

Mr. Samwel Bonuke Bosire		**26-06-2021**
Name of Expert	**Signature**	**Date**

3.2 ENG. LAWRENCE ATERA

Proposed Position:	**Senior Civil Engineer**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	**Laurence Atera**		
Date of Birth	**20th October 1962**		
Years with Firm	**11**	**Nationality**	**Kenyan**

Membership in Professional Societies

- Member of Institution of Engineers of Kenya
- Member at IEK (Institute of Engineers of Kenya).

Countries of Work; Kenya, Southern Sudan, Tanzania, Rwanda

Key Qualifications

Lawrence Atera holds a BSc in Civil Engineering degree from the University of Nairobi. He is a Registered Engineer with the Engineers registration Board (ERB).

Lawrence has over 32 years of practice and has Twenty three years of experience in all aspects of Civil Engineering from feasibility studies, through design, supervision of construction and post construction supervision. He has also worked with Government Institutions such as Ministry of Public Works being in charge of design, contract management and Supervision of various projects successfully. He also worked at other consulting firms such as Samez Consultants, Winconsult Associates on part time basis. Mr. Lawrence Atera was involves in the actualization of the 55MW solar Farm in Garrisa Kenya, where he widely participated in the Civil engineering work streams.

Relevant Experience

1. ***Name of the Assignment or Project:*** Design, Supply and Construction of Grid Connected 50mw Solar Plant at Garissa

Year:	2018
Location:	Garissa Kenya
Client:	Kenya; Kenya Rural Electrification Authority
Main Project Features:	Design and supervision
Position Held:	**Lead Consultant**

Activities Performed:

- ✓ **Solar works: 206,272** units of 265watt solar panels, 8 strings per invertor (1 string is connecting **22** solar panels). And **1172 Nos.** invertors (176 panels to each invertor) which generated three phase power at 480Volts.
- ✓ **Transmission Works:** Included Construction of 14 Kilometers of 132kV line using steel pylons to connect the solar power at 132kV to the national grid at Garrisa 132/33kV substation
- ✓ **Structural Works:** Involved construction of staff houses (9No.), monitor Centre, 33KV House/Switch room and 132KV substation.
- ✓ **Civil Works:** Involved construction of Perimeter Wall, Main Entrance gate and Secondary gate, Watch Towers, Septic tanks, Underground Concrete tanks, Basketball pitch, Storm Drainage, Gravel and Concrete roads and Transmission line.

Name of the Assignment : MINISTRY OF PUBLIC WORKS-Kenya

Year: 1987-1996

Location: Republic of Kenya

Client: Government of Kenya

Main Project Features: Projects Planning Execution

Position Held: **Senior Superintendent Engineer**

Activities Performed:

- ✓ At the Ministry of Public Works at the Structural Section Engineer Atera rose from an Assistant Engineer to Superintending Engineer to Senior Superintending Engineer.
- ✓ At the Structural Section Engineer Atera was involved in the overall execution of several projects which include:-

Mombasa Municipal Stadium

- ✓ Design and detailing of Storey R.C. framed structure main stand with steel roof canopy.

Expansion of the open sitting terraces with embankments.

Kenya Registered Community Nurses Project for Mombasa Kilifi and Malindi

- ✓ Project consisted of Hostels, Offices, Lecture Theatre, Classrooms, Conference Centre, and Kitchen/Dining Hall. Initially, carried out a preliminary site survey for the project. Designed the Lecture Theatre 21m x 15m single Storey building.

Multi – Purpose Utility; National Youth Service – Gilgil

- ✓ Designed and detailed the project as a whole double Storey building mainly consisted of R.C. bases, columns seating terrace.

Proposed Double Steel Deck for ECK

- ✓ Design and detailed the project as a whole. It is a double Storey steel deck for storage purpose.

2. ***Name of the Assignment or Project:*** Office Block for Stima Sacco Society Limited at Parklands, Nairobi

Year:	2013
Location:	Parkland s Nairobi
Client:	Stima Sacco Society Limited
Main Project Features:	Project construction supervision
Position Held:	**Project Supervisor**
Activities Performed:	a) Basement Parking b) Banking Halls c) Office Block up to 5th floor External works Designing, documenting and supervising of the project implementation to completion

Name of the Assignment or Project: Development for KTDC next to Hilton Hotel	
Year:	2016
Location:	Nairobi Kenya
Client:	KTDC
Main Project Features:	Designing and construction Management
Position Held:	**Lead Consultant**
Activities Performed:	This consisted of a Ten – Storey two block tier hotel accommodation with a four-basement parking and shopping malls. i) The structure consisted of reinforced columns beams and slabs framed structure. Perimeter Wall, Main Entrance gate and Secondary gate. ii) Watch Towers iii) Septic tanks iv) Underground Concrete tanks v) Basketball pitch vi) Storm Drainage vii) Gravel and Concrete roads viii) Transmission line The basements were waterproofed and had also underground storage tank and a pumping foul drainage system connecting into the main Nairobi City Council Sewer line.

Education

Qualification	Institution	Year
BSC Civil Engineering.	University of Nairobi	1987

Employment Record

Date	Organization	Position
2017 to Date;	Mawako Endeavors Limited	A consultant
2010-Date	Amanda Engineering S. Ltd	Managing Director
1987-1996	Ministry of Public Works	Senior Superintendent Engineer

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. Lawrence Atera**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Managing Director // Eng. Lawrence Atera**

3.3 ENG. JOHN ROBERT OTIENO

Proposed Position:	**Project Civil Engineer**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	John Robert Otieno		
Years with Firm	Four (4)	Nationality	Kenyan

Countries of Work;

- Kenya
- Somalia

Key Qualifications

Robert has over seven (8) years of post-qualification experience in planning and supervision of civil engineering works with special emphasis on geotechnical and foundation engineering in particular. Has been involved in the geotechnical assignments involving a broad diversity of civil engineering works including foundations for bridges, dams and roads including alignments soils investigations, pavement and road structures.

Through associations Robert has worked with an Italian International **NGO CESVI** under **Sobocon Associates Consulting Engineers in Somalia Mogadishu** in a UN funded project aimed at conducting Training to Graduate Engineers from Benadir Region Administration (BRA) under the framework of Swedish funded project.

Detailed Task assignment:

- ✓ Providing direction to technical team in the field for inspection activities
- ✓ Performing geotechnical analysis and study to assess construction site condition
- ✓ Planning and conducting geotechnical exploration effectively
- ✓ Complete field and environmental investigations for construction projects
- ✓ Overseeing geotechnical investigations (directing driller personnel, overseeing drilling of test borings and excavation of test pits, supervise the collecting and classification of soil and rock samples and prepare test boring logs.
- ✓ Developing proposals and determine cost and schedule for investigations.
- ✓ Implementing of quality control and assurance system as established in the specifications for each project undertaken.
- ✓ Analyzing geotechnical findings perform appropriate calculations from laboratory tests and prepare factual geotechnical reports to Director

Relevant Experience

Current Firm: Lilac Engineering Ltd - Position: Engineering Technologist

Assorted Projects Handled to date:

- ✓ Geotechnical investigation of Arror & Kimwarer Dam projects: Dam site, Intake tower, Tunnel, Spillway, Penstock, Tail race and water conveyancing channel.
- ✓ Geotechnical investigations of Itare Dam Site/Water abstractions points/Fill material for embankments, gravel for access roads, alignments soils etc. –CMC Ravenna
- ✓ Consultancy Services for the Construction Supervision of grade separated interchanges at Njoro turnoff – Nkr junction C56 & Mau Summit junction A104 & B1, client – China rd 10 engineering group – CAS Consultants /China Rd 10
- ✓ Construction of HVDC Converter station, Suswa Kenya. Ethiopia – Kenya Power Systems Interconnection, client – Isolux Corsan
- ✓ Loyangalani – Suswa Transmission Line, client – Isolux Corsan, Tamani ,Africon
- ✓ Plate load tests on the Proposed Construction of Khalaba Bridge, client – Affa Sugar Directorate
- ✓ Detailed geotechnical investigations and foundation design for the Proposed Construction of 34 storey building at Westlands – AVIC Intl
- ✓ Construction of sewerage system for Juja urban areas Contract: **MOLH&UD/NMED/N&NaMSIP/WKS 32/2014-2015**, client – Gibb Africa Consultants

Activities undertaken:

Carried out In-situ non-destructive tests e.g. Plate Load Tests, Nuclear Tests, Schmidt hammer test, Insitu – CBR test, DCP tests, Sampling for various laboratory test analysis and preparation of tests results and reports respectively.

Name of Project:	Training Graduate Engineers from Benadir University in Construction Materials and Testing of various materials in Benadir Region Administration (BRA), Somalia.
Year:	August 2015
Location:	Mogadishu Benadir, Somalia
Client:	CESVI / UN HABITAT
Consultant:	Sobocon Associates Consulting Engineers.
Main Project Features:	Training in Construction Materials and Testing to Graduate Engineers from Benadir Region Administration (BRA), Somalia
Positions Held:	Ass. Team Leader / Materials Technologist
Detailed Current Tasks assigned:	Assist the Materials Engineer in practical activities to carry out Training in Construction Materials and Testing to Graduate Engineers from Benadir Region Administration (BRA), Somalia in order to equip them with the necessary technical knowledge, practical skills and management to ensure successful Testing of Materials and Management of Aquaddoto Centre, (Construction Materials Laboratory).

Name of Project:	Construction Supervision of Modika –Nuno rd. (C81) and completion of outstanding works on Garissa – Modika rd. (A3) KeNHA/RD/D&C/528/2011
Year:	May 2013 to date
Location:	Garissa County, Kenya
Client:	Director General, KeNHA
Consultant:	Multiscope Consulting Engineers
Main Project Features:	Upgrading to bitumen standard of the Modika-Nuno Road and isolated pavement repairs and resealing of the Garissa-Modika road.
Positions Held:	Materials Technologist.

Detailed Current Tasks assigned:	• Assist the Resident Engineer in Implementing the Quality Control and Assurance Systems established in the specifications. • In charge of material sampling, testing, analysis and reporting • Responsible for identifying suitable sites for construction materials • Supervision of works to ensure quality is maintained • Ensuring the Contractor abides by the Specifications and any non-conformity is brought to the attention of the Resident / Materials Engineer. • Overseeing all the material testing for control and compliance carried out in the Laboratory and site • Preparation of monthly materials testing report.
Name of Project:	Consultancy services to the Construction of Loruk – Barpelo Road - 65Km.
Year:	May 2012
Location:	Baringo County
Client:	Kenya National Highways Authority, KeNHA
Consultant:	Otieno Odongo Consulting Engineers, Now COOPA Africa Consultants
Main Project Features:	Construction of Loruk – Barpelo Road 65Km &Nginyang' 100m bridge
Positions Held:	Snr Materials Technician
Detailed Current Tasks assigned:	• Carrying out testing in the Field and Laboratory and issuance of instructions to the Laboratory Assistant Technicians • Testing soils on all parameters • Testing hard stone Sources for LAA, AIV, ACV, SSS, FI and Bitumen Affinity. • Operating the Nuclear gauge Humboldt E50001Hz for insitu densities
Name of Project:	Preliminary Engineering detailed design of Kiserian – Isinya road 38kms
Year:	April 2012 – May 2012
Location:	Kajiado County

Client:	KeNHA
Consultant:	CM Kamau& Associates Consulting Engineers
Main Project Features:	Preliminary Engineering detailed design of Kiserian – Isinya road 38km
Positions Held:	Materials Technician
Detailed Current Tasks assigned:	• Carrying out DCP Tests, Field density tests,CBR ,Concrete tests, Location of materials sites using GPS System • Carrying out sand replacement tests on Base ,Sub Base , Sub grade surfaces • Assisted the Materials Engineer in preparation of the Inception report, Initial report, Midterm report, Final report, the monthly progress report, accident reports, claims and extension reports and minutes of site meetings.
Name of Project:	Geoff Griffiths & Associates, Independent Material Testing & Inspection Laboratory ICD Rd Nairobi.
Year:	Jan 2012 April 2012
Location:	Mombasa Rd, Nairobi
Client:	Independent Laboratory serving multi-purpose companies, both consultants & Consultants
Main Project Features:	Geotechnical Testing of Alignment soils, Triaxial tests, MDDs, PI, Concrete design
Positions Held:	Senior Materials Technician
Activities Performed:	Geotechnical Testing of Alignment soils, shear box tests, vane tests triaxial tests, MDDs, PI, Concrete design etc. • Testing and Alignment Gravel Soils for T180,OMC,CBR and sieve analysis • Testing hard stone Sources for LAA, AIV, ACV, SSS, FI and Bitumen Affinity. • Checking and Compiling of finished test results for approval by the Materials Engineer • Receiving and booking of samples as brought by clients
Name of Project:	Geotechnical Investigation and testing of Ahero-Sondu-MukuyuC34-Preliminary detailed Engineering design
Engineer:	CAS Consulting Engineers

Year:	August 2010 – Jan 2011
Location:	Kisumu County
Client:	Ministry of Roads and Public Works
Position Held:	Materials Technician
Activities Performed:	• Compiling & Summary of finished test results against. • General liaison with the Materials Engineer on Matters arising. • Carrying out Random Control Testing as directed by the Technologist. • Monthly test results summaries.
Name of Project:	Geotechnical investigation and testing of Mamboleo – Chemelil - Muhoroni C34 rd.
Engineer:	MECE /ITEC Consulting Engineers
Year:	March 2010
Location:	Nyanza Province Kenya
Client:	Ministry of Roads and Public Works
Position Held:	Materials Technician
Activities Performed:	• Carrying out Field density tests • Carrying out MDD, PI, Grading of gravels etc. • Compiling of tests reports
Name of Project:	Upgrading facilities at Kisumu Airport, Runway, Taxiway, Apron and new Terminal building
Year:	Dec 2009
Location:	Kisumu, Kenya
Client:	Ministry of Roads and Public Works
Contractor:	COVEC
Engineer:	Netherlands Airport Consultants, NACO
Main Project Features:	Airport, Runway, Taxiway, Apron and new Terminal building
Positions Held:	Trainee Technician / Inspector of Works

Detailed Current Tasks assigned:	• Testing Alignment and Gravel Soils on all parameters • Testing Hard stone Sources for LAA, AIV, ACV, SSS, FI and Bitumen Affinity.

Languages:

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Swahili	Excellent	Excellent	Excellent
Luo	Excellent	Excellent	Excellent

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. John Robert Otieno**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Engineer Lawrence Atera**

3.4 ENG. HOWARD ASHIUNDU

Current Employer	:	**Amanda Engineering Services Ltd**
Profession	:	Civil Engineering
Current Position	:	Civil Foundations Engineer
Date of Birth	:	1980
Years with the firm	:	5 years
Nationality	:	Kenyan

Membership to Professional Societies:

- Member of The Institution of Engineers of Kenya (MIEK)
- Professional Engineer - Engineers Board of Kenya (PEng)
- Member of The Chartered Institute of Arbitrators UK (MCIArb)
- Project Management Professional; PMI-USA (PMP®)
- Member of The American Society for Quality (MASQ)

Key Qualifications

Eng. Howard hold a **Bachelor of Science degree in Civil Engineering** covering the areas of Highways, Structures, Water and Public Health Engineering with further training in Project Management, Oracle Primavera Project management software, Contract management and Arbitration. I hold an **LLM in Construction Law and Arbitration** at The Robert Gordon University – Aberdeen Business School UK and I'm currently completing an **MSc in Construction Engineering and Management** at Jomo Kenyatta University of Agriculture & Technology.

I have over 10 years of experience in Civil Engineering practice, covering the areas of Soils & Materials investigation, Geometric and Pavement design for roads, Implementation of Community water and Sanitation Projects, geotechnical investigations for structural projects, project planning, feasibility studies, tender documentation and evaluation, construction management and site supervision.

This is coupled with membership to professional bodies including The Engineers Registration Board of Kenya, The Institution of Engineers of Kenya, The Chartered Institute of Arbitrators, The Project Management Institute USA, and currently pursuing registration with The Royal Institute of Chartered Surveyors.

I have worked as a Materials/Geotechnical Engineer with Norken International Ltd, Engineering and management Consultants for 5 years, where I also doubled up as The Company appointed **Staff Training Coordinator**. This saw me deeply involved in training issues both by transferring knowledge by

impartation and by encouraging and sponsoring staff to obtain and further their skills through formal and informal training.

I have also worked with The Kenya National Highways Authority as a Quality Assurance Engineer, overseeing issues of Quality Assurance for Design and construction of National Highways and bridges, Foundation investigation for assorted infrastructure projects and Contract administration. This intensively covers the area of Pavement design and construction including the related Materials testing, approvals and General application of Quality protocol on roads projects.

I currently work with Lilac Engineering Ltd as a Foundations and Geotechnical expert largely handling foundations works on assorted energy transmission lines by KETRACO, KENGEN, and KPLC.

Education Background:

2010 – 2014: LLM in Construction Law and Arbitration, The Robert Gordon University UK.

2010 – 2016: MSc in Construction Engineering and Management, Jomo Kenyatta University of Agriculture and Technology - Ongoing

2010: Project Management Professional, Project Management Institute, USA

2006: BSc. in Civil Engineering, Jomo Kenyatta University of Agriculture and Technology

Work Experience:

Aug 2012 to date Lilac Engineering Ltd	
	Successful Projects list: • Geotechnical investigation of the proposed multipurpose dam • Geotechnical investigation of the proposed power transmission lines in various locations as listed below. o Nairobi-Mombasa o Olkaria-Suswa o Kindaruma-Mwingi-Garissa o Kisii-Awendo o Eldoret-Kitale o Kenya – Ethiopia interconnection lot 2 o Kenya Ethiopia Interconnection lot 3 o Kenya Ethiopia Interconnection lot 4 o 2000 MW Converter Power Substation at Suswa on The Kenya Ethiopia Interconnection

	• Foundation investigation of proposed buildings as listed below: o Proposed 22 Storey office block in Hurlingham Nairobi o Proposed resource center at Catholic University of Eastern Africa in Karen Nairobi o Proposed Community center and clinc at Kibra Nairobi – Medicines Sans Frontiers
	Position: Director **Responsibilities:** • Prepare plans for site investigation • Coordinate site investigation field activities • Provide leadership and guidance in carrying out field work ranging from drilling, trial pitting, insitu testing, sampling, lab testing and data recording • Carrying out test data analysis • Applying analyzed data in developing working designs to meet Engineering requirements • Prepare and submit factual engineering reports A.
2011-2013	**Kenya National Highways Authority**
	Successful projects list: • Vision 2030 Flagship projects (3 No. Construction Projects totaling to a value of $ 262,065,542.00) • Construction projects (6 No Road construction projects totaling to the value of about $ 660,000,000.00) • Rehabilitation projects (5 No. Road rehabilitation projects totaling to the value of about $ 170,000,000.00) • Periodic maintenance and Routine maintenance projects (Over 15 No Road Maintenance projects scattered across the country – Kenya)
	Position: Engineer-: Quality Assurance (Roads) **Responsibilities:** • Prepare a Quality Assurance Plan for the Authority • Formulate Quality Assurance Procedures for roadwork programs

	• Ensure conformity to Standards for Road pavement designs and construction works • Monitoring and Evaluation of works activities under the Authority • Carry out Technical Audits for works and services implemented by the Authority • Identify areas of technical weaknesses and suggest remedial measures • Follow-ups to confirm compliance with prior quality assurance recommendations • Prepare and present Quality Assurance findings, recommendations and conclusions to the Director General • Prepare and submit periodic reports to the Authority • Pioneer research and development for the Authority with regard to road construction materials • Other duties assigned by Head of Quality Assurance or The Director General from time to time
Client:	**Kenya Government through (Athi-water Services Board, Ministry of Roads & Public Works and Kenya Wildlife Services).**
	Position: Assistant Engineer **Responsibilities:** • Feasibility study, Preliminary and detailed design and tender documentation for assorted projects. • Geotechnical investigation including site investigation, sampling and testing of soil and rock materials • Engineering design of road pavement structure and geometric design. • Identification of damage to the drainage system and pavements, • Carrying out of Road inventory and condition surveys • Prospecting and Investigation for material sites • Road alignment soils sampling and testing • Preparation of Factual Materials Reports
	Projects: • Proposed Resource center (CUEA) • Proposed Community Health center (MSF)

Client	**Catholic University of Eastern Africa (CUEA) Medicine Sans Frontiers (MSF)**
	Position: Geotechnical/Foundation Engineer **Responsibilities included:** • Mapping of ground points for investigation • Trial pitting and collection of undisturbed samples by use of a Universal core drill. • Borehole drilling using PAT Drill for deeper geological exploration • Testing of collected samples • Test results analysis and computation of safe bearing pressures and settlement indications • Production of factual geotechnical report.
2006 - 2007	**World Vision International - Kenya**
	Projects : **Community Water and Sanitation projects in Mwingi-Tseikuru.**
	Sponsor : World Vision USA Office. **Position: WATSAN Engineer** **Responsibilities:** • Facilitate community development water project implementation ranging from Drilling and installing boreholes, shallow wells, earth dams and other rain harvesting interventions like roof and rock catchments. • Facilitate and advice the Program on construction of latrines for community. • Construction of social amenities including classrooms and dispensary blocks. • Facilitate feasibility study and preliminary design for the Usueni irrigation project, which is gravity-fed. • Preparation of project reports • Project monitoring and evaluation
2005	**Norken Ltd/C M Kamau and Associates Joint Venture**

	Project : Design of Makutano -Kikima-Tawa road project. **Client : Kenya Government (Ministry of Roads).** **Position: Trainee Engineer** **Responsibilities Included:** • Draughting • Road inventory and condition surveys data collection • Preparation of tender/proposal documents
2004	**N K Brothers Ltd Builders and General Contractors**
	Projects : Cconstruction of Simba Colt Motors Phase II (Office, showroom and go-down) **Client : Simba Colt Motors** **Position : Site Agent** **Responsibilities:** • Supervision of works • Managing budget and work schedule on site • Estimation of quantities and ordering of materials • Record keeping on site.
2004	**Ministry of Roads and Public Works** Worked under Resident Engineer's office as a **Trainee Engineer** on Juja Road Construction Project. Roles carried out include; ▪ Laboratory testing of construction Material ▪ Checking of finished levels of pavement and drainage facilities ▪ Supervision of works

Computer Applications

- Experience in use of Novapoint and Civil 3D for Geometric Design
- Resource mapping using remote sensing software (erdas imagine) from landsat or quickbird images. (basic knowledge)

- Use of ArcGIS software
- MS office Suite.
- AutoCAD for draughting
- ArchiCAD
- Use of Project Tracking Database
- Use of Project Management software (MS Project, MS Visio and Primaverra)

Languages

	Speaking	**Reading**	**Writing**
Kiswahili Excellent	Excellent	Excellent	
English	Excellent	Excellent	Excellent
French	Fair	Good	Fair

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng Howard Ashiundu**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Managing Director // Eng. Lawrence Atera**

3.5 ENG. ANTONY KITUYI AMUTALLAH

Proposed Position:	**Architect**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Antony Kituyi Amutallah		
Date of Birth	24 August 1983		
Years with Firm	Five (5)	Nationality	Kenyan

Countries of Work;

- Kenya

Key Qualifications

Amutallah Antony is a holder of a BSc. Degree in Civil Engineering acquired at the Jomo Kenyatta University of Agriculture and Technology (JKUAT). He has a vast experience in implementation of field projects of various scales, all with outstanding outcomes. He has worked as a consultant and also with a number of reputable firms to deliver his various tasks to completion.

His personality characterizes a Dynamic and motivated professional with a proven record of generating and building professional relationships within work environment, managing projects from concept to completion and designing project implementation strategies... Antony is skilled in building cross-functional teams and making critical decisions during challenges. He also has the ability to foster adaptable and transformational techniques where need arises, and is with an ability to work independently, creating effective presentations, and developing opportunities that further establish institutional goals. He has the urge to discharge his technical field or office-based skills as he learns from technically advanced projects that are in line with, or that relate to his profession. The relevant experiences of the expert include;

Relevant Experience

Past and Ongoing projects:

- ✓ Construction of a three storey building in Samburu.
- ✓ Construction of Sirandafu Water Springs.
- ✓ Construction of box culvert in Musikoma
- ✓ Construction of FOUR classrooms in Maloho Primary.
- ✓ Monitoring and Evaluation of road construction Musikoma-Bungoma Road.
- ✓ Construction of box culverts Musikoma-Bungoma Road.
- ✓ Design and construction of 3 bedroomed house in Mombasa.
- ✓ Design and construction of septic tank in Kayole.

Civil Engineer, Sino Hydro Company Ltd

- ✓ **JANUARY 2018 to JULY 2019**

  Project: Isinya-Kiserian Rd (Surveying works, Removal of vegetation cover, Earth works including Cut and Fill, Occupational Health and Safety, Construction of box culverts

Field Operations Engineer, Lilac Engineering Limited

- ✓ **March 2013-December 2017**

  Preparation of site, mobilizing and managing field progress, Construction of Site Office in Karen

  Geotechnical Investigations:

  - *Itare dam; geotechnical investigations*
  - *Construction of proposed crushing plant*
  - *Geotechnical investigations Kenya-Ethiopia Interconnection Transmission line*
  - *Geotechnical investigations: Kinamba-Suswa Converter Station. KALPATARU*
  - *Geotechnical investigations: Loiyangalani Substation.: ISOLUX*
  - *Construction of Substation Lamu East Sub Station*
  - *Geotechnical investigations: Keben Dam, Nandi County-National Irrigation Board*

  Supervision and implementation of various geotechnical projects, Planning, organization an geotechnical instructions of field operations, Monitoring and Evaluation of Geotechnical Work Report to the Geotechnical Engineer or Consultant

Site Agent, Somers Engineering Limited

- ✓ **2012-March 2013**

Monitoring and supervision of the actual ground works to tally with structural engineers, Civil and Construction works of site offices, To report to the Architect on the daily progress, To keep an inventory of site development/ Programme of works, Quality control and Quality assurance

Education

Qualification	Institution	Year
BSc. Civil Engineering **2nd Class Hons**	Jomo Kenyatta University	2012

Employment Record

Date	Organization	Position
2018-2019	Sino Hydro Company Ltd	Civil Engineer
2019-2021	Amanda Engineering	Civil Engineer
2013-2017	Lilac Eng. Ltd	Field Operations Engineer
2012-2013	Somers Eng. Ltd	Site Agent

Personal Attributes

Communication

- I am a good communicator and team player

Leadership

- Head of field Operations team, Coordination and planning, Monitoring and Evaluation, Quality Control.

References

Toili Moses	Techno Crank Company Ltd P.O. BOX 15, Bungoma 0700317279
Howard MManyi Ashihundu	Lilac Engineering +254 720 738180 Amhoward7@yahoo.com
Eliud Kemboi	Pillartech Consult Limited +254 724 29 37 72 designereliud@gmail.com

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. Antony Kituyi Amutallah**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Engineer Lawrence Atera**

3.6 MS NAOMY JEMUTAI KURUI- OHS EXPERT

Proposed Position:	**Senior Occupation Health and Safety Officer;**
Name of Firm:	**Amanda Engineering Services Ltd**
Name of Staff:	Naumy Jemutai Kurui
Date of Birth	25th January 1981
Years with Firm	Four (4) Nationality Kenyan

Key Qualifications

Naumy holds MSc in Occupation Safety and Health from Jomo Kenyatta University of Agriculture and Technology, and Bachelor of Technology in Chemical and Process Engineering from Moi University. Naumy has over 8 years' experience as a consultant. She has a wide experience in Occupation safety and Health work streams, Project Management, Project Appraisal, Project Impact Assessments, , Total Quality Management, analytical and reporting skills, and highly knowledgeable on the use of all computer packages.

Relevant Experience

Name of the Assignment or Project: Diverse Ecosafety Consultants Limited

Year:	2018
Location:	Nairobi
Client:	Diverse Ecosafety Consultants Limited
Main Project Features:	**Strategic Management**
Position Held:	**Associate consultant**
Activities Performed:	✓ Carrying out statutory Health, Safety and Environmental audits for various client companies and submitting reports to the relevant regulatory agencies. ✓ Conducting Statutory Safety and Health Committee Training in addition to other specialized trainings such as Confined Space Entry Safety, manual material handling and Accident/ incident

investigation, Work at Height, Chemical handling and behavioral safety excellence.

- ✓ Conducting workplace risk assessments
- ✓ Developing safety management systems for clients
- ✓ Advising clients on Safety, Health & Environmental statutory compliance and best practices matters

Name of the Assignment or Project: Unilever Tea Kenya Limited,

Year:	2015-2018
Location:	Kericho County Kenya
Client:	Unilever Tea Kenya Limited
Main Project Features:	**Management**
Position Held:	**Safety, Health and Environment (SHE) Officer**

Activities Performed:

- ✓ Supporting deployment of the global/cluster SHE strategy, policy and standards in the sites to achieve excellent sustainable results
- ✓ Assisting in the completion of safety and occupational risk assessment in the sites and in developing/implementing appropriate controls
- ✓ Developing a thorough understanding of the Unilever Behavioral Excellence (BeSafe) Program and supporting deployment in the site
- ✓ Supporting the application of Unilever guidelines and procedures for World Class Manufacturing (WCM) & Unilever Framework Standards (FWS) in the sites
- ✓ Monitoring site legal compliance and ensuring they meet all local / national regulatory requirements and Unilever standards.
- ✓ Working closely with Occupational Health personnel to identify and mitigate risks which may lead to occupational ill health

- ✓ Assisting the Country Safety Manager in leading and developing the internal crisis committees and safety committee; support site leaders in the country/cluster in serious incident investigation and analysis
- ✓ Assisting the Country Safety Manager in ensuring compliance with safe travel training and reporting requirements
- ✓ Conducting trend analysis from incidents, near misses and safety behavior observations (SBOs)
- ✓ Participating in the community of practice of SHE professionals to ensure sharing of best practice and effective communication to and from Group.
- ✓ Overseeing Occupational Safety (OS) /Environmental Performance Review (EPR) / SHE Positive Assurance Review (PAR) reporting in non-manufacturing within the cluster for accuracy and timeliness.

Name of the Assignment or Project: Acceler Global Logistics Ltd

Year:	2014- 2015
Location:	Nairobi
Client:	Acceler Global Logistics Ltd
Main Project Features:	Operations Management
Position Held:	**Safety, Health and Environment (SHE) Officer**

Activities Performed*:*

- ✓ Monitoring and promotion of safe work practices within the organization,
- ✓ Ensuring compliance with statutory obligations,
- ✓ Conducting accident/ incident investigation
- ✓ Safety awareness creation within the organization's sites and premises,
- ✓ Enforcement of company safety rules.

Name of the Assignment or Project: Kat Systems Consultants Limited

Year:	2010-2014
Location:	Nairobi
Client:	Kat Systems Consultants Limited
Main Project Features:	Operation Management
Position Held:	**Safety, Health and Environment (SHE) Consultant**

Activities Performed:

- ✓ Conducting Statutory Safety and Health Committee Training in addition to other specialized trainings such as Confined Space Entry Safety, manual material handling and Accident/ incident investigation
- ✓ Carrying out statutory Health, Safety and Environmental audits for various client companies and submitting reports to the relevant regulatory agencies.
- ✓ Conducting workplace risk assessments
- ✓ Performing additional duties as assigned to me by the company

Name of the Assignment or Project*:* Davna Company Limited

Year:	2008-2009
Location:	Nairobi
Client:	Davna Company Limited
Main Project Features:	Supervisory work
Position Held:	**Operations Supervisor**

Activities Performed:

- ✓ Coordination of proper utilization of company resources
- ✓ Coordination of company activities and ensuring that proper targets are set and achieved.
- ✓ Monitoring productivity
- ✓ Maintaining safety standards and inspection of equipment
- ✓ Human resources and administrative issues

***Name of the Assignment or Project**:* Kenya Bureau Of Standards, Nairobi	
Year:	2004
Location:	Nairobi
Client:	Kenya Bureau Of Standards, Nairobi
Main Project Features:	Operations
Position Held:	**Quality control intern at the Chemistry and Polymer Laboratories**
Name of the Project: East African Portland Cement co. Ltd (E.A.P.C.C)	
Year:	2003
Location:	Nairobi
Client:	East African Portland Cement co. Ltd (E.A.P.C.C)
Main Project Features:	Operations
Position Held:	**Production intern**

Education

Qualification	Institution	Year
MSc. Occupation safety and health.	Jomo Kenyatta University of Agriculture and Technology	2010-2013
Bachelor of Technology in Chemical and Process Engineering.	Moi University	2000-2002

Employment Record

Date	Organization	Position
2018-Date	Mawako Endavours Plc	OSH Consultant
2018 to date	Diverse Ecosafety Consultants Limited	SHE Office
2014-2015	Acceler Global Logistics Ltd	SHE Officer
200-2014	Kat Systems Consultants Limited	SHE officer
2008-2009	Davna Company Limited	SHE Officer

Certification:

I, the undersigned certify that these data correctly describe my qualification and my experience.

Date: 27 June 2021

Full name of staff member: **Naomy Jemutai Kurui**

Date: 27 June 2021

Managing Director of the firm; **Managing Director // Eng. Lawrence Atera**

3.7 MR. BARASA MICHAEL KISIANGANI

Proposed Position:	**Environmental Safety and Health Officer**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Barasa Michael Kisiangani		
Date of Birth	22nd January 1976		
Years with Firm	Five (5)	Nationality	Kenyan

Membership in Professional Societies

- Environment Institute of Kenya - Lead Environmental Expert, Reg. No. 1525
- Member, Population-Environment Research Network (PERN)-Environment
- Member of Kenyatta University Alumni

Countries of Work;

- Kenya

Key Qualifications

Michael is a seasoned specialist in Ecology and Natural Resources Management with experience of over 17 years working for various organizations and consultancies. His field of experience in Kenya has varied between scopes of Project Planning and Development, Indigenous Knowledge, Community Driven Development, Analyzing Change in Water Catchment Areas, Biodiversity Analysis, industrial and social ecology among others. He has worked with NGOs, Government Ministries and various local Communities, as well as with the National Lead Environmental Coordinating Institution - National Environment Management Authority (NEMA) as a County Environmental Officer. While with NEMA, he participated in the review of the full scope of the countries projects delivered to the institution as part of his mandate. Other institutions he has delivered outstanding professional services include Rift Valley Railways (RVR) as the country Environmental Coordinator, Kipya Africa Drilling Solutions (an upstream extractive consultancy firm) as the head Environmental Safety and Health Officer, TAI Limited which was a lead civil engineering company for Tullow Oil plc. as an Environmental Officer at Lokichar Kenya and the Water Resources Management Authority as a project consultant for the Western Kenya Community Driven Development and Flood Mitigation Project (world bank facilitated).

While with TAI, Michael handled lead environmental Safety and Health management duties in green field projects such as Oil and Gas Well Pad development, access roads, water services infrastructure and camps among many other related tasks. At Kipya Africa, one of Michael's key achievement was development and implementation of an International Standards Organization (ISO) System 9001. He

has been involved in Environmental Health and Safety (Systems Set-up), Project planning and management, Environmental Impact, Social and Scientific Research based tasks, Environmental Audits, various scopes of Research and documentation among many other fields. During his work period, Michael has gained professional experience through intermediate trainings, field and office based experiences and from the very clients he has served.

He is a skilled creative problem solver who has consistently completed projects on time and within budget. He has the ability to operate software programs that are required for specific tasks. He has been complemented as a proficient trainer in hi field as well as in fields related to his work. Travelling to new places is his passion and is a compatible factor in his profession. He has the necessary skills to develop and document a project process or output in customized formats and in a manner that targets the potential stakeholders. Relevant Experience of the Expert includes.

Relevant Experience

Name of the Assignment or Project: Secondary Education Quality Improvement Project (SEQIP)

Year:	2018-2019
Location:	Nairobi, Kenya (Country Based)
Client:	Ministry of Education (MoE)
Main Project Features:	Infrastructure Development
Position Held:	Environmental Safeguards Specialist (Consultant)
Activities Performed:	SEQIP is A World Bank Project objected at improving Quality of Education and transition from primary to secondary. My tasks are to provide the Directorate of Projects Coordination and Delivery with Environmental Safeguards consultancy services for the infrastructure component.

Name of the Assignment or Company: Kipya Africa Drilling Solutions

Year:	April 2014-Sept 2015
Location:	Kenyan projects
Client:	Various
Main Project Features:	Upstream gas, oil, Geothermal, water and Mining extractive industry
Position Held:	Lead Researcher and Safety Health Environment and Quality (SHEQ) Specialist

Activities Performed: Safety, Health, Environment and Quality services for Kipya and clients, participation in the Upstream Extractives consultancy, research and training services.

Tasks achieved:

- ✓ Study on Technical Skills for the oil and gas sector in Kenya
- ✓ Study on Technical Skills for the water drilling sector in Kenya
- ✓ EHS services for outsources staffs in the oil and gas sector
- ✓ Development of the company Quality Management Manual

Name of the Assignment or Company: TAI Engineering Limited

Year: Sep 2013-Dec 2014

Location: Eldoret and Turkana

Client: Tullow Oil Plc.

Main Project Features: Infrastructure Development for Oil and Gas Industry

Position Held: Health Safety and Environment (HSE) Adviser

Activities Performed: Implemented Gas and Oil industry specific HSE Management System at contractor level to complement the operators Oil exploration works at Turkana (Civil Works including Construction of green field Oil and Gas Well Pads).

Some major projects:

- ✓ Monitoring construction of Greenfield roads projects connecting Oil and Gas Camps
- ✓ Development of Ekunyuk well pad and Camp from green field
- ✓ Development of Emong Well pad from green field

Name of the Assignment or Company: GIBB Africa Ltd

Year: Feb 2013 - Aug 2013

Location: Kenya

Client: Various Projects

Main Project Features: Civil Engineering (Roads, Agriculture, Water development, etc)

Position Held: Senior Environment Officer

Activities Performed: Managed large scale projects which required integrated studies prior implementation, or during implementation. Some of the concluded ecology related projects include:

- ✓ Ecological Feasibility Study for Red Coral townhouse project

- ✓ Monitoring and Environmental auditing of the Green Field Lower Kuja Irrigation Scheme
- ✓ Environmental and Social Impact assessment and Environmental Monitoring for Turbi Moyale Highway construction project

Name of the Assignment or Company: National Environment Management Authority (NEMA)

Year: Jul 2010 - Feb 2013

Location: Kenya

Client: Government of Kenya and the General Public

Main Project Features: NEMA is the lead statutory institution mandated with implementing environmental Management policy at a National Level in Kenya.

Position Held: District (Teso) and County (Kisumu) Environment Officer

Activities Performed: I was in charge of administering NEMA's mandate at district and county level.

As a statutory gazzeted Environmental Inspector, I was tasked to perform the following:

- ✓ Implement Environmental Management and Coordination Act (EMCA) 1999 and its regulations
- ✓ Take care of NEMA office at District and later County Level
- ✓ Review all levels of submitted Environmental Impact Assessment and Environmental Audit reports as part of the licensing process
- ✓ Inspect the spatial environment for regulatory breaches and compliance levels in line with instituted Environmental guidelines and regulations
- ✓ Coordinate my mandates with lead institutions such as Forest department, water resources management authority, civil engineering department, learning institutions, etc.

Name of the Assignment or Company: National Museums of Kenya (NMK)

Year: Jan 2005 - Jun 2006

Location: Kenya

Client: National Museums of Kenya and collaborating institutions

Main Project Features: Environmental Conservation

Position Held: Researcher and Documentation Assistant

Activities Performed: Participated in field research of the **Community Driven Conservation of Traditional Medicinal Plants Project.**

Duties:

- ✓ Literature review
- ✓ Field surveys and reporting
- ✓ Documentation of project reports

Projects

Name of the Assignment or Company: OR Power Geothermal Development

Year:	Oct – Nov 2018
Location:	Naivasha, Kenya
Client:	OR Power Geothermal Development
Main Project Features:	Environmental, Health and Safety (ESH) Audit
Position Held:	Safety and Health Expert
Activities Performed:	Environment, Safety And Health Risk Assessment **Scope:** The assignment entailed familiarization of the project cycle and development through field studies, meetings, studies of project documents, and then assessing the associated EHS risks and development of a general Risk Matrix. The task was successfully accomplished

Name of the Assignment or Company: Athi Water Services Board

Year:	Dec 2017-Feb 2018
Location:	Ndakaini Dam
Client:	Athi Water Services Board
Main Project Features:	Environment Health and Safety (EHS) Compliance Audit of the Northern Collector Tunnel Phase 1. The project covers two upper Water catchment areas at Aberdare hills, and entails tunneling to connect water systems from Tana water catchment to the Athi Water Catchment in order to increase water supply for Nairobi City and its environs.
Position Held:	Environmental Consultant
Activities Performed:	**Scope:** Environmental audit for the project development and to review compliance mechanisms and project impacts on the Aberdare hills ecosystem as well as on the direct project environment and on downstream users

Name of the Assignment or Company: Gallant Technologies Limited

Year:	Nov 2016-Dec 2016
Location:	Nairobi
Client:	Tullow Oil Kenya BV
Main Project Features:	commissioned a study titled "Review of Licensing and Permitting Requirement for the Successful Execution of the Early Oil Pilot Scheme (EOPS) in the Republic of Kenya"
Position Held:	Environmental consultant
Activities Performed:	To establish: ✓ What activities can be done under the existing license conditions additional and, ✓ If not adequate, what licenses and or permits are required to produce oil at the EFP and truck it from field to port My input was to advise on the application and relevance of EMCA 1999 (Rev 2015) Component

Name of the Assignment or Company: Earth Resources and Exploration Limited

Year:	Feb 2016 – Nov 2017
Location:	Nairobi
Client:	Bamburi Cement Limited
Main Project Features:	Baseline surveys and Environmental and Social Impact assessment Studies
Position Held:	Lead Environmentalist
Activities Performed:	1) Socio Economic and Environmental Baseline Survey and, 2) Environmental and Social Impact Assessment for Bamburi Cement Limited: (Proposed Prospecting of Limestone and Other Industrial Minerals). **Project Coverage** ✓ KMQ, Purko, Ngatataek and Bisil Locations of Kajiado County, ✓ Mbiriakani and Matuga areas of Kwale County and ✓ Kisumu county, Ahero area

Name of the Assignment or Company: Strathmore University and HAMK University

Year:	Jul 2016-Sep 2016
Location:	Marsabit Town
Client:	County Government of Marsabit,

Main Project Features: The Proposed Construction of Low Carbon, Low Cost Houses in Marsabit Town, South of Mt. Marsabit, Marsabit County.

Position Held: Environmental and Social Consultant

Activities Performed: Environmental and Social Baseline Assessment

Tasks involved:

- ✓ Environmental Surveys
- ✓ Community Surveys
- ✓ Study of the Mt. Marsabit Ecosystem
- ✓ Planning of the layout for 100 proposed housing units at the study area
- ✓ Documentation and submission of report for development of ESIA process

Name of the Assignment or Company: Rift Valley railways (RVR)

Year: Sep 2015 – Mar 2016

Location: Nairobi

Client: RVR

Main Project Features: Environmental Management of country railway system and associated structures

Position Held: Environmental Manager (contract)

Activities Performed: **Some project tasks achieved:**

- ✓ Recovery of 80,000 tons of environmental spillage of bitumen at Webuye
- ✓ Recovery of accident spillage of 60,000 tones Aluminum Sulfate compound into River Kamara, at Maji Mazuri
- ✓ Recovery of approximately 40,000 tones spillage of diesel at Turbo Station
- ✓ Environmental Incident Investigation at Makadara (accidental release of fugitive used oil)
- ✓ Implementation of the Integrated Environmental Management System to manage RVR facilities

Name of the Assignment or Company: Lake Victoria North Water Resources Management Authority

Year: Jul 2008 - Jul 2010

Location: Western Kenya, Kakamega

Client: Western Kenya Community Driven and Floods Mitigation Program (WKCDD&FMP)

Main Project Features: A World bank Funded program which initiated a number of Lake Victoria North Water Catchment Projects to mitigate flooding at Budalangi area (lower Nzoia)

Position Held: Environmental development documentation

Activities Performed:

- ✓ Development of Water Resources Users Association within Lake Victoria North Water Catchment Area
- ✓ Field Data collection on status of the catchment
- ✓ Analysis and report writing of the status
- ✓ Preparation of Micro Catchment Action Plans with the community
- ✓ Community training on Environmental conservation
- ✓ Initiation of community based conservation projects

Name of the Assignment or Company: National Museums of Kenya

Year: May 2003 – May 2004

Location: Nairobi and Kakamega Forest

Client: Biodiversity Transect Analysis (BIOTA)

Main Project Features: BIOTA is a German Initiative affiliated to the National Museums of Kenya and other Eastern, Central and Western Africa Countries, studying the Ecology of the Congo Forest and the furthest Eastern extent of the forest's related remnant micro-environment (Kakamega Forest in Kenya).

Position Held: Field Based Research Assistant

Activities Performed: Assisting in data collection for a research component dealing with monitoring and assessment of growth and regeneration of certain forest species across the equatorial belt

Education

Qualification	Institution	Year

MSc. Environmental Science.	Kenyatta University (KU)	2009
BSc. Ecology and Natural Resources Management	Russian Peoples Friendship University (Patrice Lumumba University), Moscow, Russia	2001

Languages

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Swahili	Excellent	Excellent	Excellent
Luhiya	Good	Good	Good
Russian	Good	Good	Good

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Barasa Michael Kisiangani**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Engineer Lawrence Atera**

3.8 MICHAEL SANGALO ONYAIT

Proposed Position:	**Data Analysis and Report Development**
Name of Staff:	**Michael Sangalo Onyait**
Date of Birth	**15 March 1978**
Years with the firm	**11**
Nationality	**Kenyan**

1. Membership in Professional Societies

- Environmental institute of Kenya (EIK)
- National Environment Management Authority (NEMA)

2. Key Qualifications:

Michael holds Master of Science in Renewable Energy, MA in Environmental Policy degree from the University of Nairobi and a bachelor's degree in Environmental Engineering from Makerere University. He is registered with National Environmental Management Authority as an expert and is member of the Environmental Institute of Kenya. His core competencies are in the areas of Renewable Energy, Project Development, Environmental Systems Development,; Strategic Management, Database Management Systems (DMS), Finance, Economics, Project Appraisal, Project Impact Assessments, System Thinking and Total Quality Management, Marketing, Decision Support Systems (DSS), Expert Systems (ES), System Dynamics and Artificial Intelligence (AI). Most of which I got after associating with a wide range of Projects, experts and companies. I am an excellent team worker with excellent cognitive skills. I a wide exposure with diverse people locally and internationally and I communicate very well with individuals and groups. I have excellent analytical and reporting skills, both verbal and written. I am an adept user of computers with excellent knowledge of

JAVA, HTML, Delphi, Visual Basic, AutoCAD, ArcGIS, SPSS, Minitab, PHStat, Global Mapper, MS Project and basic application packages such as Word, Excel, Access, Dreamweaver, and PowerPoint.

3. Countries of Work Experience (last 10 years)

Kenya, Zanzibar, Zambia, Mozambique, Zimbabwe and Eswatini

4. Education:

Qualification	Institution
Msc. Renewable Energy	Kenyatta University
MA Environmental policy	University of Nairobi
Environmental Engineering	Makerere University

5. Other Training:

QMS and EMS	KenGen Olkaria (In-house)	2012
Computer Applications	KenGen Olkaria (In-house)	2011

6. Employment Record:

Date	Organization	Position
2014-Upto Date	Amanda Engineering S. Ltd	Managing Director
April. 2014-Date	Lartech Africa Limited	Technical Director (Nairobi)
2012-2014	Aldwitch International	RAP Technical Officer (Nairobi)
2009-Nov. 2012	KenGen	Environmental Expert (Olkaria Geothermal Plant)
2007-2008	Kenya Ports Authority	Assistant Safety Officer (Mombasa)
Jan- Dec 2007-	E.Africa Env.Mgt Company	Safety Officer (Mombasa)

7. Languages:

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Kiswahili	Excellent	Excellent	Excellent

Ateso	Excellent	Excellent	Excellent

EXPERIENCE PROFILE

RELEVANT ONGOING ASSIGNMENTS

Assignment Name: *Feasibility study and provision of related technical development services for*	**Country:** Kenya
Location within Kenya: Kericho County	**Position Held: Project Development Manager**
Address: P.O. Box 2352 – 00606, Nairobi	**Duration of Assignment**: 48
Start Date: (Month/ Year) January 2016	**Completion Date:** (Month/ Year) Feb
Name of Senior Staff (Project Director /Coordinator and Team Leader) involved and functions performed: Prof. Ogara – Team Leader: Michael Sangalo Onyait – Project	



Narrative Description of Project:

The purpose of this assignment is developing all the feasibility study related documents (Bankable project documents), Obtain all the legally required approvals from the relevant Authorities, and Manage all the activities for the project during the pre-construction period

Description of Actual Services Provided by our Staff:

- Reviewed policy documents on energy; Facilitate Land acquisition, Develop ESIA, Oversee the development of Grid connectivity study, Topographical study, Geotechnical Study, Analyze Site resource Study using NASA generated data, Participate in project Financial Modeling, Acquisition of relevant projects approvals , Management of all

Firm worked/ing for:	**Amanda Engineering Services Limited**
Name/Title of Signatory:	**Michael Sangalo/Managing Director**

Assignment Name: Pre-feasibility study and provision of related technical development services for the 40MW ac Nguu Ranch, Makueni County	**Country: Kenya**
Location within Kenya: Makueni County	**Position Held:** Project Development

Address: P.O. Box 3144 – 00100,Nairobi	**Duration of Assignment: 2**
Start Date: (Month/ Year) January 2016	**Completion Date: (Month/ Year) Feb 2020**

Name of Senior Staff (Project Director /Coordinator and Team Leader) involved and functions performed: Prof. Ogara – Team Leader : Michael Sangalo Onyait – Project

	Narrative Description of Project: *The purpose of this assignment is developing all the feasibility study related documents (Bankable project documents), Obtain all the legally required approvals*

Description of Actual Services Provided by our Staff:

- Topographical study, Analyze Site resource Study using NASA generated data, Participate in project Financial Modeling, Acquisition of relevant projects approvals , Management of all activities related to the project during pre-construction stage. Upon Approval by the Ministry of Energy, Detailed Feasibility Study to commence

Firm worked/ing for:	**Amanda Engineering Limited**
Name/Title of Signatory:	**Michael Sangalo/Managing Director**

Assignment Name: *Prefeasibility Study, Feasibility Study and Detailed Design for Small Hydro Power Plant*	**Country**: Kenya
Location within country: Kericho	**Position Held: Project Manager**
Name of Client: Ever Seasons Ltd	
Address: P.O. Box 2105 -20200 Kericho, Kenya	**Duration of Assignment (Months): 24 Months**
Start Date: (Month/ Year) May 2014	**Completion Date:** (Month/ Year) Ongoing

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	**Narrative Description of Project:** *The main objective of this study is to carry out a feasibility study to assess the technical, social and environmental, economic and financial viability of setting up a mini-hydropower plant along Yurith River and Obtain Relevant Approvals from Relevant Authorities* **Approaches:** *Participatory, Systems, Qualitative and Quantitative Approaches*

Description of Actual Services Provided by our Staff:

- Prefeasibility studies,
- Feasibility Studies (Technical, Financial, Environmental and Social)
- Geotechnical and hydrogeological Studies (Soil analysis and river flow)
- Topographical Surveys (Ground control, cross-sectional survey)
- Detailed designs (intake works)
- Financial Modeling
- Site Resource Analysis
- Acquisition of all Relevant approvals from relevant Authorities

Firm worked/ing for:	**Lartech Africa Limited / EcoTrunk International Limited**
Name/Title of Signatory:	**Michael Sangalo Onyait / Managing Director**

Assignment Name: *Prefeasibility Study, Feasibility Study and Detailed Design for Small Hydro Power Plant along River Nzoia*	**Country**: Kenya
Location within country: Kakamega County	**Position Held: Project Manager**
Name of Client: Sidikho Hydro-Plant	Contact Person: Eng. Salleh Munganga
Address: P.O. Box 19008 -00100 Nairobi, Kenya	**Duration of Assignment (Months): 36Months**
Start Date: (Month/ Year) May 2016	**Completion Date:** (Month/ Year) Ongoing

<table>
<tr><td></td><td>Narrative Description of Project:

The main objective of this study is to carry out a pre- feasibility study to assess the technical, social and environmental, economic and financial viability of setting up a mini-hydropower plant along Nzoia River and Obtain Relevant Approvals from Relevant Authorities

Approaches: Participatory, Systems, Qualitative and Quantitative Approaches</td></tr>
<tr><td colspan="2">Description of Actual Services Provided by our Staff:

• Pre-feasibility studies,
• Feasibility Studies (Technical, Financial, Environmental Social Impact Assessment)
• Geotechnical and hydrogeological Studies (Soil analysis and river flow)
• Topographical Surveys (Ground control, cross-sectional survey)
• Detailed designs (intake works)
• Financial Modeling
• Site Resource Analysis
• Acquisition of all Relevant approvals from relevant Authorities</td></tr>
<tr><td>Firm worked/ing for:</td><td>EcoTrunk International Limited</td></tr>
<tr><td>Name/Title of Signatory:</td><td>Michael Sangalo Onyait / Managing Director</td></tr>
</table>

Assignment Name *Land securing Activities and Site resource analysis for the 60MW ac Karafuu Solar Farm in*	**Country:** Revolutionary Government of Zanzibar
Location within country: *Fumba and Makunduchi in Zanzibar*	**Position Held: Project technical Manager**
Name of Client: Green Energy Solution Limited	**Clients contact person for the assignment;**
Address: Green Energy Solutions Ltd Reg. Z0000023812 P.O.Box 1407 Zanzibar.	**Duration of Assignment (Months): 16**
Start Date: (Month/ Year) July 2018	**Completion Date: (Month/ Year)** *Ongoing*



Narrative Description of Project:

The objective of the assignment is to efficiently and successfully advise the Revolutionary Government of Zanzibar through Green Energy Limited on Solar Site Resourcefulness, Environmental management, Social Safeguards in relation to land securing activities and to guide the process to reach

Description of Actual Services Provided by our Staff:

- Execute site resource analysis for Solar Harnessing, Advice to the supervisory committee on land securing strategy, to plan, budget, manage and monitor the implementation of land securing activities in the most cost effective and time efficient manners to achieve targets set by the supervisory committee; manage the land team staff; oversight the surveying, mapping and valuation activities; oversight the management of data quality insurance and compliance with IFC/Equator principle requirements;

Firm worked/ing for:	**EcoTrunk International Limited**
Name/Title of Signatory:	**Michael Sangalo Onyait/Managing Director**

COMPLETED ASSIGNMENTS

Assignment Name: *Feasibility Study for the Proposed Development of 30.5MW Muhoroni Solar Farm; 2016*	**Country**: Kenya
Location within country: ***Kisumu & Kericho County***	**Position Held: Project Manager**
Name of Client: InnoWind Kenya Ltd	
Address: P.O. Box 52809-00100 Nairobi Kenya	**Duration of Assignment (Months): 16 Months**
Start Date: (Month/ Year) November 2014	**Completion Date:** (Month/ Year) March 2017



Narrative Description of Project:

The main objective of this project is to set up a 30.5MW Solar Farm at the border of Kericho and Kisumu Counties.

Approaches: *Participatory, Systems, Qualitative and Quantitative*

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Description of Actual Services Provided by our Staff:

- Assessed of the proposed project to determine whether or not the project and its associated activities had any adverse impacts on the environment, taking into account the environmental, social, cultural, economic and legal considerations.
- Identified and assessed the anticipated environmental and social impacts of the proposed project both positive and negative;
- Identified and analyzed alternatives to the proposed project; Guidance on Land Acquisition;
- Proposed mitigation measures for negative impacts and enhancement measures for positive impacts to be undertaken during and after the implementation of the proposed project;

Firm worked/ing for:	**EcoTrunk International Limited**
Name/Title of Signatory:	**Eng. Larmack Oyath and Michael Sangalo Onyait**

Assignment Name: *Environmental and Social Impact Assessment (ESIA) for the Proposed Development of 40 MW l*	**Country**: Kenya
Location within country: *Elgeyo Marakwet*	**Position Held: Project technical Manager**
Name of Client: Sossian Energy Ltd	
Address: P.O. Box 2548-00606 Nairobi Kenya	**Duration of Assignment (Months):** 3
Start Date: (Month/ Year) Jun 2015	**Completion Date:** (Month/ Year) Aug 2015

Narrative Description of Project:

The main objective of this project was setting up of a hydropower plant on the Embobut River in Elgeyo Marakwet East

Approaches: *Participatory, Systems, Qualitative and Quantitative*

Description of Actual Services Provided by our Staff:

- The objective of the study was to carry out an assessment of the proposed project to determine whether or not the project and associated activities will have any adverse impacts on the environment, taking into

Firm worked/ing for:	**EcoTrunk International Limited**
Name/Title of Signatory:	**Eng. Larmack Oyath and Michael Sangalo Onyait**

Assignment Name *Safety Relocation Plan for the 60 MW Kinangop Wind Park*	**Country**: Kenya

Location within country: *Kinangop Nyandarua*	**Position Held:** Project Development Manager
Name of Client: Kinangop Wind Park	**Clients contact person for the assignment;** **Managing Director: James Wakaba**
Address: P.O Box 66162-00800, Nairobi Kenya	**Duration of Assignment (Months): 16**
Start Date: (Month/ Year) July 2013	**Completion Date: (Month/ Year) 22nd December 2015**
	**Narrative Description of Project:** *The objectives of the assignment is achieve compliance with the relevant Kenyan laws and regulations; achieve compliance with the spirit of the IFC Performance Standards (PS 5 in particular); achieve consistent, equitable and fair compensation for the affected parties*

Description of Actual Services Provided by our Staff:

- To complete the relocation process in an efficient and timely manner; document the relocation process appropriately, to demonstrate best practice compliance to current and future KWP financiers; ensure that the reputations of KWP and Iberdrola are upheld, due to the ongoing relationship that both parties will have with the local communities. This this is to be realized through assisting in the development and management of the SRP, provision of relocation implementation team members (9 individuals comprising three teams of three) experienced in community engagement, attendance at Chief and Sub-Chief Information Sessions – informing local chiefs and subchiefs of the SRP process,

Firm worked/ing for:	**Lartech Africa Limited**
Name/Title of Signatory:	**Lamarck Oyath/Managing Director**

Assignment Name: *12KM 132Kv Transmission*	**Country**: Kenya
Location within country: *Kinangop , Nyandarua County*	**Position Held: Project Manager**
Name of Client: *Kinangop Wind Park*	**Clients contact person for the assignment;** **Managing Director: James Wakaba**
Address: P.O Box 66162-00800 , Riverside Drive, Nairobi Kenya	**Duration of Assignment**
Start Date: 2014	**Completion Date:** 2014

	**Narrative Description of Project:** *The scope of the assignment involved designing and presentation of the letters of offers to the affected persons* **Approaches:** *Participatory And Collaborative* **Methodology:** *Literature review, personal interviews and consultative meetings.*

Description of Actual Services Provided by our Staff:

- Valuation of all the affected structures along the transmission line and compilation of study report.

Firm worked/ing for:	**Lartech Africa Limited**
Name/Title of Signatory:	**Lamarck Oyath/Managing Director**

Assignment Name: *Preparing Addendum Report for Resettlement Action Plan for the for the 428 Km for Loiyangalani- Suswa 400Kv Transmission line, KETRACO 2015*	**Country**: Kenya
Location within country:	**Position Held: Project Manager**
Name of Client: *KETRACO*	**Clients contact person for the assignment**
Address:	**No. Staff Months of the Assignment:**
Start Date: (Month/ Year) March 2015	**Completion Date:** (Month/ Year) April 2015
	**Narrative Description of Project:** *The objectives of the study included: Carrying out a detailed survey on the actual number of people to be affected by the proposed line* **Approaches:** *Participatory And Collaborative* **Methodology:** *Literature review, personal interviews and*

Description of Actual Services Provided by our Staff:

- Carried out a detailed description of: Valuation Methodologies, Type and nature of compensation, Preferred method of valuation and justification for choice of this method, Compensation framework including legal framework, country laws and regulation; Carried out a detailed valuation of the amount

Firm worked/ing for:	**Lartech Africa Limited**
Name/Title of Signatory:	**Lamarck Oyath/Managing Director**

Assignment Name *Social Management performance for Kipeto Wind Project: 2015-2017*	**Country**: Kenya
Location within country: Kajiado County	**Position Held: Project Manager**
Name of Client: Intersocial	
Address: Intr-Social Consulting Ltd Suite 1, Lonestar County, Lonestar Street, Post	**Duration of Assignment (Months): 34**
Start Date: (Month/ Year) March 2015	**Completion Date:** (Month/ Year) Ongoing
Name of associated Firm(s) if any:N/A	**No. of Months of Professional Staff Provided by Associated Firm(s):** N/A



Narrative Description of Project:

The objective of the study included;

a) The management and coordination of all community interaction in support of the establishment of a Community Trust (the establishment of the Trust has already been awarded to another consultant).
b) The coordination of all stakeholder engagements by means of the establishment of a comprehensive Community Liaison *Function on site.*

Approaches:

Description of Actual Services Provided by our Staff:

- Establishing a clear understanding of what exists prior to project impacts as a basis for sound planning;
- Utilization of international good practice, including the IFC's Policy and Performance Standards on Social and Environmental Sustainability;

Firm worked/ing for:	**By this year, I worked for Lartech Africa Limited**
Name/Title of Signatory:	**Michael /Managing Director**

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Michael Sangalo Onyait**

Date: 27 June 2021

Managing Director of the firm; **Managing Director // Eng. Lawrence Atera**

3.9 SNR QS LINNAEUS KOMBO

Proposed Position:	**Senior Quantity Surveyor**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Linnaeus Kombo		
Married Status:	Married		
Years with Firm	Four (4)	Nationality	Kenyan

Membership in Professional Societies

- Member Board of registration of Architects and Quantity surveyors of Kenya (BORAQS)

Countries of Work; Kenya

Key Qualifications

Linnaeus Kombo holds B.A. (Building Economics) from the University of Nairobi and CPA Part 11 from Graffins College in Nairobi.

Kombo has over 11 years' experience as a Consultant. He has a wide experience in Project Feasibility Studies, Project Cost Planning, Cost Estimates, Cost Check, Bill of Quantities, Cost Analysis, Tender Documents, Cost Controls, Interim Valuations, Financial Appraisal, Variation Orders, Final Accounts, Project Management, Value Engineering and management, Project Planning and CPM Scheduling then finally Delay Claims and Forensic Analysis. He participated in the Famous 55MW solar Farm in Garissa Kenya.

Relevant Experience

Name of the Assignment or Project: QUANTITY SURVEYOR: Garissa Solar Power Station (50MW)

Year:	2018
Location:	Nairobi, Mombasa, Nakuru, Kisumu, Eldoret
Client:	Garissa Kenya

Main Project Features: Strategic Management

Position Held: **Lead Consultant**

Activities Performed: The project entailed the installation of the following:-

- 206,272 units of 265watt solar panels, 8 strings per invertor (1 string is connecting 22 solar panels)
- 1172 Nos. invertors (176 panels to each invertor) which generated three phase power at 480Volts
- Two invertors connected in parallel to one combiner box which had three breakers two incoming and one out going to step up Transformer.
- 25sq. mm 3/phase cables from Combiner box to step up Transformer. Each Transformer is connected to 18 number combiner boxes via 25sq.mm. 3/phase cables terminated at 160Amp breakers.
- Installation of 32 Nos 1.6MVA and 1x 1.0MVA 0.480/33kV Step up Transformers.
- Laying of 7 x 185sq.mm. 3/Core Coppers 33kV cables from Step Up Transformers to a central 33kV Bus Bar switch room(1 x 185sq.mm. cable connecting in parallel a maximum of 7 step up Transformers)
- Establishment of a 33kV bus bar panel with 8 x 33kV Circuit Breakers.
- Installation of a Sub Station consisting of 50MVA 33/132kV Step Up Transformer and its associated 33kV and 132kV Circuit Breakers, 132kV Current and Voltage Transformers, 1 x 10MVA SVG {Stationary Vars(reactive power) Generator} 33/11kV Transformer and connected to the 33kV Bus Bars via 1 x 33kV Cable, 1 x Earthing Transformer with an Auxiliary 315KVA 33/0.433kV Transformer, 132kV Earth Switch, 132kV Lightening Arrestors, 1 x 315KVA 11/0.433kV Local Transformer.
- Constructed 14 Kilometres of 132kV line using steel pylons to connect the solar power at 132kV to the national grid at Garissa 132/33kV substation.
- Performing and certifying Factory Acceptance Tests at

Manufacturers' Factory for all equipment involved in the project.

Name of the Assignment or Project: Kapsowar Renewable energy plant (10MW)

Year:	2017
Location:	Kapsowar, Kenya
Client:	Pine Care Limited.
Main Project Features:	Design & installation of Diesel Power Stations in hybrid with wind and solar power systems.
Position Held:	Lead Consultant
Activities Performed:	✓ Construction of 9 No. executive villas consisting of lower ground floor, ground and first floors and roof terrace including Roads and parking, gates, surface water drainage, boundary wall and associated mechanical and electrical works.

Name of the Assignment or Project: Proposed Moke Gardens Estate, Lukenya Machakos County

Year:	2013
Location:	Lukenya, Machakos County
Client:	Moke gardens Ltd
Main Project Features:	Quantity Surveying and Project Management
Position Held:	**Project Manager/ QS**
Activities Performed:	Brief Narrative and Description of project: ✓ Construction of First class gated community with and including residential blocks with lifts, shops, health ✓ Centre, primary school, playgrounds, swimming pool and associated external works.

Name of the Assignment or Project: Proposed Mwiki Gardens Estate.

Year:	2015
Location:	Kiambu, County Kenya
Client:	La Nyavu gardens Ltd.
Main Project Features:	Land Securing
Position Held:	**Lead Consultant**
Activities Performed:	Brief Narrative and Description of project: ✓ Construction of First class gated community with and including residential blocks with lifts, shops, health ✓ Centre, primary school, playgrounds, swimming pool and associated external works.

Education

Qualification	Institution	Year
B.A.(Building Economics)	University of Nairobi	2005
CPA Part II	Graffins College	2002

Employment Record

Jan 2012; BORAQS	Appointed committee member; Post Graduate Diploma
July 2011;	Facilitator; Contractors Sensitization Programme for IQSK
May 2011;	Appointed into the committee to formulate "The construction Handbook2011" for The Ministry of Housing.
April 2010;	Nominated professional observer, The Tender Committee, Ministry of Medical Services

July 2009;	Consultant, the technical committee reviewing the Building code, planning and building laws and regulations by the Ministry of Housing

- Facilitator; the African Association of Quantity Surveyors (AAQS) regional Conference in Kenya – White Sands Hotel Mombasa - August 2011
- Participated in the AAQS Eastern Africa Regional Seminar at Safari park Hotel Nairobi – 17th – 19th August 2006
- Participated in various Continuous Professional Development Programme seminars on various titles as organized by the Board of Registration of Architects and Quantity Surveyors of Kenya (BORAQS)
- Participated in a one day seminar titled “The Quantity Surveyor in practice” at the Laico Regency Hotel – March 2010 by IQSK.
- Participated in the “Unlock your full potential” seminar at the hotel intercontinental Nairobi – May 23rd 2008 by AAK (Qs. Chapter)
- Participated in the AAQS Eastern Africa Regional Seminar at Safari park Hotel Nairobi – 17th – 19th August 2006
- The AAQS Eastern Africa Regional Seminar at Safari park Hotel Nairobi – 17th – 19th August 2006
- Ambassador for peace for the interreligious and international federation for world peace and interreligious and international piece council
- Participated in the various seminars and meetings to discuss various matters of National Importance e.g. the role of professionals in the implementation of the new constitution etc. as organized by the Association of Professional Societies in East Africa (APSEA)
- Member of the Institute of Quantity Surveyors of Kenya since 1990.

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Snr QS Linnaeus Kombo**

Date: 27 June 2021

Managing Director of the firm; **Managing Director // Eng. Lawrence Atera**

3.10 ENGINEER DAVID ROGONCHO

Proposed Position:	**Lead Electrical Engineer;**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Eng. David Rogoncho		
Date of Birth	1959		
Years with Firm	Four (4)	Nationality	Kenyan

Key Qualifications

Eng. David Rogoncho holds Bachelor of Science degree from the University of Nairobi, and Master of Business Administration from Management University of Africa. Eng. David has over 35 years of experience and 15 years' as a consultant. He has a wide experience in electrical design work streams, Project Management, Project Appraisal, Project Impact Assessments, System Thinking, Total Quality Management, analytical and reporting skills, and highly knowledgeable on the use of all computer packages and AutoCAD (ESRI software)

Relevant Experience

Name of the Assignment or Project: 50MW Solar Power Project at Garrisa.

Year:	2018
Location:	Garrisa Kenya
Client:	Kenya Rural Electrification Project (Kenya)
Main Project Features:	Construction management
Position Held:	**Project Manager**
Activities Performed:	✓ 206,272 units of 265watt solar panels, 8 strings per invertor (1 string is connecting 22 solar panels)

- ✓ 1172 Nos. invertors (176 panels to each invertor) which generated three phase power at 480Volts
- ✓ Two invertors connected in parallel to one combiner box which had three breakers two incoming and one out going to step up Transformer.
- ✓ 25sq. mm 3/phase cables from Combiner box to step up Transformer. Each Transformer is connected to 18 number combiner boxes via 25sq.mm. 3/phase cables terminated at 160Amp breakers.
- ✓ Installation of 32 Nos 1.6MVA and 1x 1.0MVA 0.480/33kV Step up Transformers.
- ✓ Laying of 7 x 185sq.mm. 3/Core Coppers 33kV cables from Step Up Transformers to a central 33kV Bus Bar switch room(1 x 185sq.mm. cable connecting in parallel a maximum of 7 step up Transformers)
- ✓ Establishment of a 33kV bus bar panel with 8 x 33kV Circuit Breakers.
- ✓ Installation of a Sub Station consisting of 50MVA 33/132kV Step Up Transformer and its associated 33kV and 132kV Circuit Breakers, 132kV Current and Voltage Transformers, 1 x 10MVA SVG {Stationary Vars(reactive power) Generator} 33/11kV Transformer and connected to the 33kV Bus Bars via 1 x 33kV Cable, 1 x Earthling Transformer with an
- ✓ Auxiliary 315KVA 33/0.433kV Transformer, 132kV Earth Switch, 132kV Lightening Arrestors, 1 x 315KVA 11/0.433kV Local Transformer.
- ✓ Constructed 14 Kilometres of 132kV line using steel pylons to connect the solar power at 132kV to the national grid at Garissa 132/33kV substation.
- ✓ Performing and certifying Factory Acceptance Tests at Manufacturers' Factory for all equipment involved in the project.

Name of the Assignment or Project: **Project Manager for the design, and installation of 132kV line (62Km Chemosit to Kisii and 122Km**

Kamburu to Meru, 60Km Rabai to Galu)), respective 23MVA 132/33kV sub stations at Meru, Kisii and Galu,

Year:	2013-2016
Location:	Kenya
Client:	Kenya rural Electrification authority (Kenya)
Main Project Features:	Project design and construction management
Position Held:	**Project Manager**
Activities Performed:	✓ Supervised the Design of all aspects of the transmission lines from Chemosit to Kisii, Kamburu to Meru and Rabai to Galu; and ✓ Designed the 33kV reticulations beyond all the 132/33kV sub stations. ✓ Ensured that all contracts we signed with the contractor met KPLC as well as International standards. ✓ Ensured the installation on site were done as per Design ✓ Performed and certified Factory Acceptance Tests at Manufacturers Factory for all equipment involved in the project. ✓ Fully involved from start to commissioning in the above projects worth approximately US Dollars 19 million (Kshs. 1.63Billion) each which were successfully installed under his management and rate among the best Kenya Power installations with minimum interruptions.

Name of the Assignment or Project*:* Electrification of Lokichar and Kalimungorok Towns in Turkana.

Year:	2012
Location:	Turukana Kenya
Client:	Kenya rural Electrification Authority
Main Project Features:	Design and construction management

Position Held: **Project Manager**

***Activities Performed**:*

- ✓ Supervised the Design and Construction of all aspects of the transmission/Distribution lines from Turkwel Power station to Salmaj 23MVA 220/66kV substation, the 66kV lines and its associated 66/33kVsub stations and 33kV reticulation thereafter.
- ✓ Designed the 33kV reticulations beyond all the 132/33kV sub stations.
- ✓ Ensured that all contracts we signed with the contractor met KPLC requirements as well as International standards.
- ✓ Ensured the installation on site were done as per Design
- ✓ Performed and certified Factory Acceptance Tests at Manufacturers premises for all equipment involved in the project.

Completed projects under my Leadership at REA

Year	*Assignment*	*Specs of the assignment*	*Responsibility*
2008 - DATE	✓ Supply to 18 number off grid Towns in Kenya	✓ Each project involved the Design & installation of Diesel Power Stations in hybrid with wind and solar power systems. i.e. ✓ 1 x 300KW & 1 x500KW diesel Power generators, 1 x 1MVA 0.415/33kV Transformers, 1 x 33kV Circuit Breaker, 33kV reticulation, several 33/0.415kV step down distribution Transformers and low voltage reticulation to customers premises	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager. ✓ Performed and certified Factory Acceptance Tests at Manufacturers Factory for all equipment involved in the project.

	✓ Rural Electrification of all Towns in Kenya, all Primary and Secondary schools plus all public facilities	✓ Design & installation of power lines, Transformers, control switchgear to these public facilities, use of solar power plant or wind in hybrid with solar installations for off grid facilities. ✓ Budget yearly for this has been Kshs. 20Billion each year since 2008 to date.	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager.
2004 - 2007	✓ Chemosit – Kisii 132kV line and substation at Kisii	✓ Design & installation of 62Km 132kV line, 1 x 23MVA 132/33kV substation at Kisii plus the 33kV reticulation beyond the substation.	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager.
	✓ Kamburu – Meru 132kV line & substation at Meru	✓ Design & installation of 122Km 132kV line, 1 x 23MVA 132/33kV substation at Meru plus the 33kV reticulation beyond the substation. ✓ Plus the 33kV reticulation beyond the substation.	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager.
	✓ Rabai – Galu 132kV line & substation at Galu	✓ Design & installation of 58 Km 132kV line, 1 x 23MVA 132/33kV substation at Galu ✓ Plus the 33kV reticulation beyond the substation.	✓ -Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager.
	✓ Rabai – Malindi –	✓ Design & installation of Rabai	✓ Supervised & approved the

	Garsen 220kV line ✓ Garsen –Lamu 132kV line & associated sub stations	– Malindi – Garsen 220kV line , 1x23MVA 220/33kV substation at Malindi at Malindi plus 33kV reticulation beyond the substation, and 1 x 23MVA 220/132/33kV step down at Garsen and 1 x 132/11kV substation at Lamu plus 11kV reticulation beyond the sub station	design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager.
1992 - 2003	✓ 100MW emergency power plant at Ruaraka	✓ Design, installation and commissioning of 100MW emergency Power Plant at Ruaraka Nairobi using 1325KVA diesel Power Generators	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager
	✓ Design and Construction of major schemes Countrywide (Kenya).	✓ Design of major sub stations, feeders and system reinforcements ranging in voltages from 415V up to 220kV and did some 33/11kV, 66/33/11kV, 132/66kV and 220/132kV sub stations sub stations	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager
1992 - 2003	✓ Underground supply to Grand Regency KPLC sub station	✓ Design & installation of 3 x single core XLPE 66kV cables from Nairobi West to Grand Regency KPLC sub Station, installation of 1 x 23MVA 66/11kV Transformer plus 8 x 11kV Vacuum circuit Breakers.	✓ Supervised & approved the design ✓ Ensured the installation was done as per the Design ✓ Commissioned the whole project as Project Manager
1985 -1991	✓ Maintenance and	✓ Switchgear and Transformers	✓

repair of grid networks in Nairobi & its environs	repair & maintenance for ground mounted sub stations both outdoor and indoor plus overhead lines for voltages ranging from 415V up to and including 132kV ✓ Repair and maintenance of the underground cable network for Nairobi and environs for voltages ranging from 240V to 132kV

Education

Qualification	Institution	Year
BSc Science	University of Nairobi	1979-1983
Masters of business administration	Management University of Africa	2013-2014

Employment Record

Date	Organization	Position
2016-Date	Amanda Engineering	Projects Electrical Eng. Contract basis
2008-2019	REA (Kenya)	Senior Design Engineer

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. David Rogoncho**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Managing Director // Eng. Lawrence Atera**

3.11 ENG. HILLARY ODHIAMBO ABUOGA

Proposed Position:	**Electrical Eng. SCADA Expert**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Hillary Odhiambo Abuoga		
Date of Birth	8th Nov 1955		
Years with Firm	Four (4)	Nationality	Kenyan

Membership in Professional Societies

- Member of Institution of Engineers board of Kenya

Countries of Work; Kenya

Key Qualifications

Hillary holds a BSc in Electrical and Electronic Engineering degree from the University of Greenwich UK (1988-89), Higher national Diploma in Electronic, (1981-83), Electrical Engineering Technician; 1977-1979 both from Mombasa Polytechnic. Eng. Hillary Holds Masters of business administration from the University of Nairobi (UON) and is currently pursuing his Doctorate in business management from UON. He is a Registered Engineer with the Engineers registration Board (ERB).

Eng. Hillary has special skills in SCADA systems management. He has over 30 years of practice in most aspects of electrical Engineering from SCADA systems, power storage systems, Optical fiber systems and trunking Road systems. He has also worked with Government Institutions such as Kenya power and Lighting as A senior ICT Engineer among other titles. Eng. Hillary has Successfully planned, controlled, supervised, organized the operations and running of the IT and Telecoms Divisional duties in Coast Area for the years 1999 arid 2000

Relevant Experience

2. ***Name of the Assignment or Project:*** Kenya Power and Lighting Company

Year:	1990-2015
Location:	Kenya
Client:	Kenya Power and Lighting Company

Main Project Features: Design, Installation and Maintenance

Position Held: **ICT Engineer**

Activities Performed:

- ✓ Maintenance of the SCADA System, Tenders and purchases.
- ✓ Participated in the Upgrade of the NEW KPLC SCADA System
- ✓ Design and Installation and Re-commissioning of Kiboko RTU Substation.
- ✓ Upgrading from the ABB SINDAC system to the ABB Network Manager SCADA Maintenance of the SCADA system Nationally, Tenders and purchases.
- ✓ In charge of the KPLC SCADA system maintenance before and during upgrading of the New SCADA Hardware System **At the Kenya Power and Company Ltd.**
- ✓ Monitoring of the Olkaria III (OR (OR Power) plants using FOX 560 and Olkaria II RTU.
- ✓ Rehabilitation of the second Mainframe SCADA standby Computer at National Control Centre.
- ✓ Overseeing all the IT, Data and Power System Telecommunications operations/functions in Nyanza, Western, and West Rift valley provinces.
- ✓ Addition of Tele-command Functionalities And the additional TX2 transformer at the Musaga RTU in West Kenya.
- ✓ 2004 Addition of Data points for the Migori, Kericho, Sotik and Bungoma Depots to be used for revenue collection, D&C and OM operations.
- ✓ Optical Fibre FOX 515 and PAX ECS FD exchanges training in Switzerland for two weeks in 2002.
- ✓ Participation in the Nairobi North and Olkaria II RTU commissioning.
- ✓ Addition on SCADA System for RTU and TX2 at Kilifi

Substation. Installation and commissioning of the Kipevu Diesel Plants' RTUs.

- ✓ Local training on SCADA operations and maintenance for two weeks.
- ✓ Participated in the Installation and commissioning of Bamburi, Steel billets and Magadi RTUs.
- ✓ Maintenance of the VHF UHF Radio Receivers and Transmitters, Switching and Data processing computers.
- ✓ Designing the specification of the standby supply generator requirement and system for Met Department.
- ✓ Maintenance of Aerodromes Electrical and Electronic Systems Runways Terminal Buildings and apron.
- ✓ Participated in the installation of Runway lighting system and the 75 KVA standby Generator at Moi International Airport Mombasa.

Education

Qualification	Institution	Year
Doc. Business management,	University of Nairobi	2013
Masters of Business admin.	University of Nairobi	2012
BSC. Electronic and Electrical Engineering	University of Greenwich	1988-1989
Higher Dip. Electronics	Mombasa Polytechnic	1981-1983
Electrical Engineering : Tech part 111	Mombasa Polytechnic	1977-1979

Employment Record

Date	Organization	Position
1990 to Date;	Amanda Engineering Limited	A consultant

1990 to 2015-Date	Kenya power and lighting Company	ICT Senior Engineer
1987-1996	Ministry of Public Works	Senior Superintendent Engineer

SPECIAL TASKS;

- Ensuring that the SCADA system is operational country wide especially Coast Area which has now become a major Energy Generating Region.
- Training and imparting knowledge to my juniors on SCADA, PLCs, Radios, Ripple and Exchanges.
- Ensuring that the IT Division Servers, GPO Data lines and PCs are fully operational throughout.
- Expanding the LANs and WAN so that the Zones are fully catered for.
- Training personnel operating the computers with the modern application programs and encourages them also to pursue private tuition in computing.
- Ensuring that there is continual communication for operational purposes i.e. the Trunking Radio system and the Power line Carriers are all working.
- Ensuring safety of company's information through' the mail and also of company assets.

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. Hillary Odhiambo Abuoga**

Date: 27 June 2021

Managing Director of the firm; **Managing Director // Eng. Lawrence Atera**

3.12 ENG. HUMPHREY KIBET KIMUTAI

Proposed Position:	**System control and Protection Engineer**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Humphrey Kibet Kimutai		
Date of Birth	17th January 1990		
Years with Firm	Four (4)	Nationality	Kenyan

Key Qualifications

Kimutai holds BSc in Electrical and electronic Engineering from Jomo Kenyatta University. Kimutai has exceptional knowledge as a protection/commissioning engineer, scadar systems and its related software, Project Management, Project Appraisal, Project Impact Assessments, , Total Quality Management, analytical and reporting skills, and highly knowledgeable on the use of all computer packages.

The Relevant Experience of the Expert includes;

Relevant Experience

Name of the Assignment or Project: Protection Engineer

Years:	2015 -2019
Location:	Different location within Kenya , Uganda and Kigali
Client:	Ketraco , Kenya Power, UMEME Uganda, Rwanda
Main Project Features:	Operations Management
Position Held:	**System control and Protection engineer**.
Activities Performed:	✓ System study, Protection setting calculation and coordination, testing and commissioning of 50 MW Garissa solar plant and respective inter-connection bay at KETRACO 132 KV Garissa substation for REREC und CJIC. This entailed calculation of protection setting parameter, coordination with the national grid network and site acceptance testing and commissioning of the 132 KV line, 33/132 KV ,50 MVA power transformer,33 KV feeders from solar farm, compact transformers, AC combiners and

inverters.

- ✓ Testing of ABB relays for 132/33kv Mwingi substation (KETRACO) under ABB Switzerland Limited. Included ABB's EF615's,REF630's,REL650's,REB 670,REC650's,RET 615,RET 650,REU 650,REQ650 and Micom P543.
- ✓ Installation, testing and commissioning of Kenya power 33/11Kv Mwea substation. This included installation and primary testing of all switchyard equipment and the transformer.
- ✓ Testing and commissioning of Kenya power 132/33Kv Maungu substation. This involved primary tests for all switchyard equipment including circuit breakers, capacitive voltage transformers, current transformers, isolators, earth switches, surge arresters, 40MVA132/33Kv power transformer and the Auxiliary transformer, LV cables, AC/DC system and carrying out earth resistivity testing.
- ✓ Testing and commissioning of 132/220 Kv Bujagali hydro-power station in Uganda under National Contracting Company Limited, for Uganda Electricity Transmission Co. Ltd(UETCL).This involved all primary tests on switchyard equipment, station transformer ,Two 175/250MVA 132/220/33 Kv Auto transformers,110VDC battery banks and battery chargers,33Kv GIS switchgear.
- ✓ Scheme checks and the necessary design modification on the equipment to interface the existing 132Kv to the new 220Kv Bujagali hydro-power substation under Bujagali interconnection project-bujagali switchyard upgrade to 220kv.
- ✓ Relays calibration and verification for generators and transformers protection system for Natural Gas Fernosa, Iberafrica, Nairobi south power plant. This included testing of VAMP 210 relays for generator protection, VAMP 265 for differential protection, General Electric GE 489 series for

generator management, ABB SPAG 332C for generator management, ABB SPAD 346 C3 for generator differential protection and ABB SPAJ 140 C for transformer protection.

- ✓ Testing and commissioning of 33/11Kv Moniko GIS substion for UMEME Uganda under ABB Uganda, this involved testing of 2X 20MVA power transformers, auxiliary transformers, GIS system and protection relays.

- ✓ Testing and commissioning of 132/33 KV awendo substation under ABB ZA, part of132 KV Sondu - Ndhiwa- Awendo transmission project for KETRACO under ABB South Africa. This entailed all the primary test and protection relays testing.
- ✓ Testing and commission of ol karia 5 substaion primary equipment and protection relays for Kengen under Sieyuan Electric Corporation. This entailed testing and commissioning of all 220 KV switchgear and NR protection relays for line, feeders and bus bar.

Education

Qualification	Institution	Year
BSc. Electrical and Electronics Engineering	Kenyatta University	2010-2015

Employment Record

Date	Organization	Position
2017-Date	Amanda Engineering S. Limited	Electrical protection Engineer: (Consultant)
2015-2016	ARM Engineering Co. Ltd.	Protection/commissioning Engineer
2019-Date	International Energy Technik Ltd.	Senior Commissioning Engineer.

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. Humphrey Kibet Kimutai**

Date: 27 June 2021

Signature of the Managing Director of the firm;

Full name of authorized representative: **Managing Director // Eng. Lawrence Atera**

3.13 ENG. ANTHONY CHESANG

Proposed Position:	**Electrical Engineer**		
Name of Firm:	**Amanda Engineering Services Ltd**		
Name of Staff:	Chesang Anthony		
Date of Birth	27th Nov 1986		
Years with Firm	Four (4)	Nationality	Kenyan

Membership in Professional Societies

- Institute of Electrical and Electronic Engineers (IEEE)
- Engineers Registration Board
- Member Kenya Renewable Energy Association (KEREA)

Countries of Work;

- Kenya and
- Mozambique

Key Qualifications

Chesang Anthony holds Master of Science (Energy and Environment Engineering) degree from the University of Leeds United Kingdom, a Bachelor of Science in Electrical and Electronic Engineering from University of Nairobi. In 2018 he published a conference paper titled "Triplet Irradiance Measurements" at 14th Photovoltaic Science, Applications and Technology (PVSAT-14) conference, London, UK.
Anthony has been trained by Jinko solar, Huawei, ABB, SAC, Schneider in Nanchang, China on; Solar resource assessment, Solar plant design, installation and optimization, Solar plant grid stability controls using Static Var Generator (SVG) and Automatic Generation Control (AGC), Solar plant on-site weather station management., Development and analysis of a bankable solar resource dataset, Details and working principle of various components in a solar plant (inverters, combiner boxes and transformers)., Solar plant feasibility studies using Solargis, Meteonorm, PVsyst and Retscreen. Additionally, he is trained in Quality Management System (QMS) and Environmental Management System (EMS) ISO certification and auditing by **Bureau Veritas**. Last in the list, Chesang is trained on Energy Management skills by **Kenya Association of Manufacturers (KAM).** He is a Registered Engineer with the Engineers registration Board (ERB)

Eng. Chesang has over 3 years' experience as a Consultant. He has a wide experience in Renewable Energy, Installation and management of the Solar farm, Project Management, Project Appraisal, Project Impact Assessments, System Thinking and Total Quality Management, System Dynamics and Artificial Intelligence (AI).

Eng. Chesang has excellent analytical and reporting skills, and highly knowledgeable on the use of Mechanical and Electrical drawings design using AutoCAD, Project planning using MS project, Power plant automation using programmable logic controllers (PLC), Electrical design, installation and commissioning, besides troubleshooting, Modeling air quality impact of existing and proposed industrial installations using ADMS 5, ISO audit and certification, SPSS, EPi Info, among other third generation software. Relevant Experience of the Expert includes;

Relevant Experience

Name of the Assignment or Project: Station Engineer at Kenya Electricity Generating Company (KenGen) 50MW solar plant (Garrisa). The largest grid connected solar plant in East and Central of Africa.

Year:	2018
Location:	Garrisa Kenya
Client:	Kenya Electricity Generating Company (KenGen)
Main Project Features:	Operations Management
Position Held:	**Station Engineer**
Activities Performed:	✓ Leading maintenance team and providing guidance and direction, Providing technical advice regarding solar photovoltaic design and related equipment, Reviewing field reports and establishing work plans, Overseeing overall performance and continuous improvement of the plant, Ensuring policies, procedures, and processes are effectively implemented.

Name of the Assignment or Project*:* Working as Electrical Engineer II at Kenya Electricity Generating Company KenGen)

Year:	2013-18
Location:	Kenyan projects
Client:	Kenya Electricity Generating Company

Main Project Features: Plant Operations and maintenance

Position Held: **Electrical Engineer**

Activities Performed:

- ✓ Maintaining reliability of the utility generating machines by achieving both availability and maintainability. Contributed largely in achieving a consistent generator availability of 97% exceeding the contractual target of 90% in a hydropower plant with installed capacity of 106MW.
- ✓ Ensuring compliance to Environmental Management System (EMS) and Quality Management System (QMS) in the power station. KenGen is ISO: 9001 & 14001 Certified.
- ✓ Carrying out planned and breakdown maintenance on generators, transformers, switch-gears and motors.
- ✓ Implementing the usage of Condition Based Maintenance through monitoring of operating parameters alongside preventive maintenance. Implement and report this using SAP which is enterprise resource planning software.
- ✓ Assisting in Preparation and administration of annual Capital and Recurrent Budget.

Name of the Assignment or Project*:* Electrical Engineer at Kenya Delta Trading Equipment Limited

Year: 2012-2013

Location: Nairobi

Client: Kenya Delta Trading Equipment Limited

Main Project Features: Operations and maintenance

Position Held: **Project Manager/Data Analyst**

Activities Performed*:*

- ✓ Installing, commissioning, troubleshooting and maintaining Perkins diesel generators and its automatic changeover control system.
- ✓ Carrying out pre-delivery inspection and testing of the diesel generators before delivering them to customers.
- ✓ Carrying out generator sizing, developing electrical drawings for connections and site layouts of standby and prime diesel generators.
- ✓ Commissioning and maintaining Metso crushers.

Name of the Assignment or Project: Projects Engineer at Aggreko International Power Projects

Year:	2011-2012
Location:	Kenya
Client:	Aggreko International Power Projects
Main Project Features:	Plant design, commissioning and operations
Position Held:	**Projects Engineer**
Activities Performed:	✓ Developing single line diagrams and site layouts of new power plants using AutoCAD. Designed 110MW Aggreko thermal power plant in Ressano Garcia, Mozambique. ✓ Commissioning new power plants. Commissioned 30MW Aggreko thermal power plant at Muhoroni, Kenya. ✓ Designing and installing PLC, HMI and SCADA monitoring and control system. Automated 60MW Aggreko thermal power plant at Embakasi Nairobi, Kenya using Allen Bradley programmable logic controller (PLC). ✓ Installing, troubleshooting and maintaining 1250 KVA diesel generators, high voltage transformers and switch-gears. ✓ Calibration, maintenance, troubleshooting and repair of electrical equipment ✓ Voltage and frequency monitoring and regulation at central control room to ensure grid stability.

Education

Qualification	Institution	Year
MSc. Energy and env. Engineering.	University of Leeds, UK	2015-16

BSc. Electrical and Electronic Engineering	University of Nairobi	2006-2011

Employment Record

Date	Organization	Position
2016-Date	Amanda Engineering Ltd	Projects Engineer; **Contractual basis**
2013-2018	KenGen	Electrical Engineer
2012-2013	Kenya Delta Trading	Electrical Engineer
2011-2012	Aggreko power	Project Engineer

Certification:

I, the undersigned certify that these data correctly describe my qualification, my experience and me.

Date: 27 June 2021

Full name of staff member: **Eng. Anthony Chesang**

Date: 27 June 2021

Managing Director of the firm;

Full name of authorized representative: **Managing Director // Eng. Lawrence Atera**

APPENDICES

- Certificate of Incorporation
- Pin certificate
- Tax compliance certificates