



HORN OF AFRICA GROUNDWATER FOR RESILIENCE PROJECT (HOAGW4RP)

PROJECT ID NO: P174867 CREDIT NO. IDA-7082-KE

ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMoP)

1.0. Introduction

1.1. Background Information

The Government of Kenya (GoK), through the Ministry of Water, Sanitation, and Irrigation (MoWS&I), received a grant from the International Development Association (IDA) of the World Bank Group to implement the Horn of Africa Groundwater for Resilience Project (HoAGW4RP). The project aims at improving groundwater knowledge, access, and long-term management. Groundwater supports nearly all rural water supply in northern Kenya, yet its availability, quality, and vulnerability remain poorly understood. Climate pressure, recurring drought, and limited data on aquifer systems have made groundwater management difficult, placing communities at continued risk of water shortages. The project builds on the Horn of Africa Initiative, which brought together countries in the region to address shared development challenges and strengthen resilience. Kenya's participation focuses on closing groundwater information gaps, securing reliable water points, and improving governance systems that support long term use.

Sub-component 2B: Groundwater and Drought Information Enhancement, targets the generation of high-quality data through aquifer assessments, exploratory drilling, and expansion of the national groundwater monitoring network. This component provides the technical foundation for sustainable groundwater development by identifying aquifer characteristics, quantifying groundwater availability, and improving access to reliable information for planning. The Water Resources Authority (WRA) is responsible for implementing Sub-component 2B.

Nomad Link Solutions Ltd was commissioned by the Water Resources Authority (WRA) under this Sub-component 2B to site three exploratory boreholes within the Mandera West Aquifer Area, to inform the ongoing comprehensive aquifer assessments and preparation of development & management plans for the Aquifer Systems. Drilling of the exploratory borehole will occur at the Ayan site, which is one of the three selected sites within the aquifer.

This ESMMP has been prepared to highlight site specific anticipated impacts and mitigation measures to be addressed during pre-construction, construction and post-construction phases of the infrastructure. This is therefore a working document, which should be used as a basis for formulating more site-specific Environmental and social Action Plans.

1.2. Objectives of the ESMMP

The ESMMP describes the range of environmental and social issues associated with the Project and outlines corresponding management strategies that will be employed to mitigate potential adverse impacts:

- To ensure the project complies with applicable national environmental and social legal requirements, as well as World Bank Environmental and Social Framework, as highlighted in the ESIA document.
- To outline the mitigating/enhancing, monitoring, consultative, and institutional measures required to prevent, minimize, mitigate or compensate for adverse environmental and social impacts, or to enhance the project's beneficial impacts.

1.3. Location

The proposed site for the establishment and drilling of the exploratory borehole is located in Ayan Village, Ayan South Location, Takaba Sub-county within Mandera County, Kenya. The proposed borehole site is bounded by GPS coordinates of the site lie within the location defined by latitude **3°13'46.26"N** and longitude **40°13'18.27"E**. The proposed site is accessible via an all-weather road which is about 32 km from Takaba Town along the Takaba-Burmoyo-Mansa Road.

This section provides basic information on the proposed sub-project, including its location, administrative boundaries, project components, and estimated project cost. The information serves as a reference for planning, implementation, and environmental and social management of the project.

Table 1: Sub-Project and Site Information

i. Name of the Sub-project	Proposed Drilling of an Exploratory Borehole in Ayan Village, Ayan Location, Takaba Sub-county within Mandera County			
ii. Name of County, Sub-county, Ward, and Village	County: Mandera	Sub-county: Takaba	Ward: Ayan	Village: Ayan
iii. Name of the aquifer	Mandera West Aquifer			
iv. Component	2B			

1.4 Construction (Drilling and Well Development) Phase

The construction phase of the exploratory borehole covers activities such as clearing and preparing the site, drilling and test pumping, managing drilling waste, setting up temporary workers' camps, and increased movement of vehicles, equipment, and personnel. These activities can affect the surrounding environment, workers, and nearby communities if not well managed. As a result, careful attention is required to control environmental, social, health, and safety risks, protect natural resources, ensure safe working conditions, and minimize disturbances to local communities throughout the construction period.

Table 2: ESMP for the Construction (Drilling and Well Development) Phase

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring Measurement	and Responsible Entity	Supervising Agency
Construction Phase				
Loss of Vegetation (Flora) Sources -Clearing of vegetation to give way for drilling activities	Ensure clearance of vegetation is restricted to drilling site only	Appropriate siting of the borehole	Contractor	WRA E&S PIU, Consulting supervisor
	Revegetate the cleared sections with indigenous species of vegetation upon completion of drilling works	Type and species of vegetation replanted	Contractor	WRA E&S PIU, Consulting supervisor
	To the extent possible, retain some vegetative stands or avoid cutting/interfering with shrubs and trees that grow near the borehole	Restored vegetation	Contractor	WRA E&S PIU, Consulting supervisor
	Specify locations for vehicles and equipment, and areas of the site which should be kept free of traffic, equipment, and storage	Inspection of vehicles and equipment stationed within designated areas	Contractor	WRA E&S PIU, Consulting supervisor

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	Designate access routes and parking within the site	Inspection of clearly marked access routes and parking areas established before drilling begins	Contractor	WRA E&S PIU, Consulting supervisor
	Restrict vegetation clearance to the exact footprint for positioning drilling infrastructure and other required spaces	Proportion of vegetation cleared within the approved project footprint	Contractor	WRA E&S PIU, Consulting supervisor
Air pollution Sources Dust emissions, emissions from the construction vehicles, burning of solid waste	- Prohibit unnecessary idling of construction related vehicles, - Limit vehicle speeds to a maximum of 30km/h, - Maintain periodically all the drilling equipment and machinery in good working condition to ensure minimum emissions, - Provide appropriate PPE (dust mask) to Workers.	- Grievances raised and status on resolution. - Maintenance records of Vehicles/ machinery. - Maintenance records of Vehicles/ machinery. - Provision of PPE to workers	Contractor	WRA E&S PIU, Supervision Consultant
Potential soil contamination Source Fueling on site	Designate a fuel handling and equipment maintenance zone, at least 100 meters from the borehole, with an impermeable containment	Establishment of designated zone for fuel handling and equipment servicing	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
Servicing of vehicles and equipment	Store oil, lubricants, and fuel in labelled, leak-proof containers, in shaded and ventilated locations with secondary containment bunds	Inspection to confirm presence of containment bunds onsite	Contractor	WRA E&S PIU, Supervision Consultant
	Collect used oil and lubricants in sealed, labelled drums and store them in a covered hazardous waste area until collected by NEMA-registered waste handler	Documentary evidence of engagement of a NEMA-approved waste handler	Contractor	WRA E&S PIU, Supervision Consultant
	Limit vehicle speeds on-site and along access roads to a maximum of 30 km/h to reduce dust emissions	Compliance check to ensure observance to recommended speed limit	Contractor	WRA E&S PIU, Supervision Consultant
	Provide masks or respirators to all workers exposed to dust and conduct regular training respiratory protection	No. of workers with appropriate dust masks and no. of toolbox meetings held	Contractor	WRA E&S PIU, Supervision Consultant
Noise and vibration impacts Source Drilling site Moving vehicles and equipment	Provide earmuffs to the rig operators during drilling	No. of drillers with earmuffs	Contractor	WRA E&S PIU, Supervision Consultant
	Limit vehicle speeds on-site and along access roads to a maximum of 30 km/h	Compliance check to ensure observance to	Contractor	WRA E&S PIU,

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring Measurement	and Responsible Entity	Supervising Agency
		recommended speed limit		Supervision Consultant
	Avoid careless hooting particularly near sensitive receptor such as Elle bor settlement including schools and hospitals around the settlement and Turbi trade centre	Records of toolbox meetings showing sensitization of workers to avoid careless hooting	Contractor	WRA E&S PIU, Supervision Consultant
	Scheduled servicing of vehicles and equipment	Records of servicing and inspection of vehicle conditions	Contractor	WRA E&S PIU, Supervision Consultant
	Restrict drilling to daylight hours (7:00am – 6:00pm) to avoid night time disturbance	Daily drilling activity log	Contractor	WRA E&S PIU, Supervision Consultant
Impact of waste generation Sources Site clearance Drilling Contractor's camp site	Restrict vegetation clearance to the project footprint	Proportion of vegetation cleared within the approved project footprint	Contractor	WRA E&S PIU, Supervision Consultant
	Construct- within 50metres of the borehole- a lined waste pit to collect drilling mud, cuttings	- A lined waste pit of adequate capacity constructed - Waste management log to show disposal of drilling mud and cuttings in the liner	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	Contract a NEMA registered waste handler who will dispose the waste particularly hazardous waste at designated site in Sololo town	Documentary evidence of engagement of a NEMA-approved waste handler	Contractor	WRA E&S PIU, Supervision Consultant
	Provide a mobile toilet with handwashing facilities onsite	Presence of mobile toilet and handwashing facility	Contractor	WRA E&S PIU, Supervision Consultant
	Designate a fuel handling and equipment maintenance zone, at least 100 meters from the borehole, with an impermeable containment	Establishment of designated zone for fuel handling and equipment servicing	Contractor	WRA E&S PIU, Supervision Consultant
	Store oil, lubricants, and fuel in labelled, leak-proof containers, in shaded and ventilated locations with secondary containment bunds	Inspection to confirm presence of containment bunds onsite	Contractor	WRA E&S PIU, Supervision Consultant
	Provide waste collection bins at the campsite and other active sites	No. of provided waste bins	Contractor	WRA E&S PIU, Supervision Consultant
Groundwater contamination Sources Drilling activities	Ensure controlled site access to prevent livestock and community residents.	Inspection to confirm hoarding/fencing of the project site	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	Water sampling for full chemical and bacteriological analysis upon completion of drilling	Records showing lab results certificate	Contractor	WRA E&S PIU, Supervision Consultant
	Employ efficient drilling techniques such as ensuring drilling bit selection is properly done as well as optimized drilling speed	Drilling techniques employed	Contractor	WRA E&S PIU, Supervision Consultant
Increased water demand Sources Drilling activities Worker's campsite	Purchase water from water bowzers	- Volume of water purchased and delivered - Records of bowser receipts and costs	Contractor	WRA E&S PIU, Supervision Consultant
	Promote recycling and reuse of water as much as possible	Inspection to confirm water recycling and reuse initiatives	Contractor	WRA E&S PIU, Supervision Consultant
	Sensitize workers on water conservation measures	Records of toolbox meetings showing workers' sensitization on water conservation	Contractor	WRA E&S PIU, Supervision Consultant
Occupational health and safety risks Source Drilling activities Worker's campsite Unsafe equipment and tools	Undertake regular safety toolbox briefings with workers	Records of toolbox meetings, accompanied with attendance registers	Contractor	WRA E&S PIU, Supervision Consultant
	Provide emergency medical services, and insurance, if possible, to workers	Documentary evidence of work-related injury insurance and	Contractor	WRA E&S PIU,

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
		emergency services provision		Supervision Consultant
	Ensure registration of the site as a workplace	Valid certificate of workplace registration	Contractor	Directorate of Occupational Safety and Health (DOSHS)
	Ensure that hoisting equipment, cables and ropes are inspected	Valid certificate of inspection	Contractor	Supervising Consultant
	On-site training of workers on the operations and maintenance of new machinery and health and safety procedures.	Records showing training of workers on equipment operation and OHS	Contractor	WRA E&S PIU, Supervision Consultant
	Provision of appropriate PPE for workers.	PPE compliance rate through daily inspection checklist	Contractor	WRA E&S PIU, Supervision Consultant
	Provide adequate First Aid facilities and ensure availability of trained first aiders on each works site	- First aid inventory checklist - Records showing training of first aiders	Contractor	WRA E&S PIU, Supervision Consultant
	Designate a trained and qualified EHS officer at the site to oversee EHS operations	Signed contract and letter of employment for the engaged EHS officer	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	Provide an accident/incident register onsite	Incident/accident register updated within 24 hours of any incident	Contractor	WRA E&S PIU, Supervision Consultant
	Implement the workers grievance redress mechanism so that workers can access to submit their complaints regarding the project	GRM logbook documenting no. of complaints/grievances raised by workers and those that have been successfully resolved	Contractor	WRA E&S PIU, Supervision Consultant
Community health and safety risks Sources Drilling site Access routes	Hoard the site to restrict access by community members	Site inspection to confirm site hoarding	Contractor	WRA E&S PIU, Supervision Consultant
	Limit vehicle speeds on-site and along access roads to a maximum of 30 km/h to reduce dust emissions	Compliance check to ensure observance to recommended speed limit	Contractor	WRA E&S PIU, Supervision Consultant
	Ensure proper off-site disposal of human waste and hazardous waste at licensed facilities in Sololo town	Documentary evidence to authenticate engagement of a licensed waste handler	Contractor	WRA E&S PIU, Supervision Consultant
	Restrict drilling to daylight hours (7:00am – 6:00pm)	Daily drilling activity log	Contractor	WRA E&S PIU, Supervision Consultant
	Continuous community engagement to ensure to	Minutes and attendance registers of these meetings	Contractor	WRA E&S PIU,

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	communicate risks and safety measures			Supervision Consultant
	Implement the project's grievance redress mechanism for the project that communities can access to submit their complaints regarding the project	GRM logbook documenting no. of complaints/grievances raised and those that have been successfully resolved	Contractor	WRA E&S PIU, Supervision Consultant
Gender based violence and sexual, abuse and harassment Sources Worker's campsite Drilling site	Implement GBV-sensitive complaint resolution mechanism	Inspection to confirm availability of a clearly defined GBV complaint resolution mechanism	Contractor	WRA E&S PIU, Supervision Consultant
	Clearly define the GBV/SEA-SH requirements and expectations in the bid documents	GBV/SEA-SH prevention incorporated in the bid document	Contractor	WRA E&S PIU, Supervision Consultant
	Clearly explain and define the requirements of the CoC to bidders before submission of the bids	Contractor's Code of Conduct	Contractor	WRA E&S PIU, Supervision Consultant
	Implement the GBV referral pathway jointly with workers and community members	Inspection to confirm availability of clearly defined GBV referral pathway	Contractor	WRA E&S PIU, Supervision Consultant
	Conduct GBV and SEA-SH induction for the contractor and their personnel, as well	Minutes of induction and sensitization on GBV/SEA-SH,	Contractor	WRA E&S PIU,

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring Measurement	and Responsible Entity	Supervising Agency
	as sensitization of the community on GBV/SEA-SH	accompanied with attendance register		Supervision Consultant
	Undertake regular M&E of progress on GBV initiatives	M&E progress report	Contractor	WRA E&S PIU, Supervision Consultant
Limited safeguarding Sources Limited availability/inaccessibility of GBV service providers	Establish confidential GBV focal points and integrating them into the project GRM.	- Record showing engaged focal points on GBV - Record of partnership engagement with county and national GBV actors	Contractor	WRA E&S PIU, Supervision Consultant
	Partner with county and national GBV service providers to ensure timely referral and survivor support		Contractor	WRA E&S PIU, Supervision Consultant
	Conduct mandatory GBV/SEA-SH awareness and prevention training for all project workers	Record of training of workers on GBV/SEA-SH	Contractor	WRA E&S PIU, Supervision Consultant
Lack of GBV/SEA-SH compliance and weak monitoring systems Source Limited human resource capacity and service providers on GBV/SEA-SH	Deploy trained SEA-SH focal points at community, contractor, and PIU levels to provide continuous monitoring and follow-up on all SEA-SH-related commitments.	Inspection to confirm availability of SEA-SH focal point	Contractor	WRA E&S PIU, Supervision Consultant
	Integrate SEA-SH performance indicators into routine site supervision,	Monitoring reports with clear SEA-SH indicators	Contractor	WRA E&S PIU,

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring Measurement	and Responsible Entity	Supervising Agency
	monthly contractor reports, and quarterly safeguard audits			Supervision Consultant
	Require the contractor to implement a Code of Conduct with SEA-SH provisions and conduct regular compliance checks	- Incorporation of SEA-SH in contract documents - Signed code of conduct	Contractor	WRA E&S PIU, Supervision Consultant
Spread of STIs, HIV/AIDS, and other communicable diseases Sources Engaged workers	Carry out HIV/AIDS awareness training for workers and during community sensitization meetings for the beneficiary community.	Records of forums and sessions on HIV/AIDS sensitization & awareness and training	Contractor	WRA E&S PIU, Supervision Consultant
	Distribution of condoms to workers and beneficiary communities.	No. of distributed condoms	Contractor	WRA E&S PIU, Supervision Consultant
	Carryout voluntary HIV/AIDS testing for workers	Positive cases recorded	Contractor	WRA E&S PIU, Supervision Consultant
	If tested positive, further guidance will be offered and directed to the nearest public hospital for management	Referrals made	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
Child and forced labour Sources Recruitment of local labour	Ensure all persons seeking employment to provide a national identity card.	Workers registry with verified IDs	Contractor	WRA E&S PIU, Supervision Consultant
	Prepare and implement a Labour Management Plan (LMP) in accordance with the provisions of ESS 2 and Employment Act of 2007	Inspection to confirm compliance with LMP	Contractor	WRA E&S PIU, Supervision Consultant
	Community sensitization on labour laws requirements and have access to a grievance redress mechanism that they will use to channel complaints on the project including forced labour	GRM logbook documenting no. of complaints recorded and resolved with regards to child/forced labour	Contractor	WRA E&S PIU, Supervision Consultant
	The contract shall have contractual provisions to comply with the minimum age requirements including penalties for non-compliance in-line with the relevant national laws	Documentary review to confirm contractual obligations on labour management	Contractor	WRA E&S PIU, Supervision Consultant
	The contractor to maintain labour registry of all workers with age verification	Worker's registry audit	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	Ensure all persons seeking employment to provide a national identity card.	Workers registry with verified IDs	Contractor	WRA E&S PIU, Supervision Consultant
Increased vehicular traffic Source Movement of project-related machinery, equipment, and personnel to and from the site	Observe speed limits along the unpaved access routes (not exceeding 30km/hour)	Compliance check to ensure observance to recommended speed limit	Contractor	WRA E&S PIU, Supervision Consultant
	Use road worthy vehicles and trucks should be used to avoid frequent breakdowns on the roads	Inventory of well serviced vehicles owned by the contractor	Contractor	WRA E&S PIU, Supervision Consultant
	Only experienced and duly licensed drivers should be employed. All drivers and equipment operators to be trained on defensive and considerate driving	Records showing verification of driving licenses as well as no. of drivers with defensive driving skills	Contractor	WRA E&S PIU, Supervision Consultant
	Enforce safe driving and take disciplinary action against repeat offenders	No. of drivers who have gone through disciplinary action	Contractor	WRA E&S PIU, Supervision Consultant
Insecurity Sources Establishment of worker's campsite Movement of drilling equipment	Inform the local administration particularly the area chief and ward administrator a week prior to commencement of drilling works.	Documentary evidence showing prior notice to chief and ward administrator	Contractor	WRA E&S PIU, Supervision Consultant

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
Migrant workers Drilling activities	Develop and implement a clear and site-specific Security Management Plan	Documentary evidence of the Security Management Plan	Contractor	WRA E&S PIU, Supervision Consultant
	Continuous stakeholders' engagement throughout the project cycle to ensure project ownership, and mitigate the risk of insecurity.	Minutes and attendance registers of these meetings	Contractor	WRA E&S PIU, Supervision Consultant
	Create synergies on security arrangements between community through community liaison officers, community policy team, local administration leaders and area police officer in charge.	Records showing security coordination meetings including attendance register	Contractor	WRA E&S PIU, Supervision Consultant
	Avoid interference with local's access to natural resources particularly water and grazing lands	Recorded cases of conflict between community and contractor	Contractor	WRA E&S PIU, Supervision Consultant
Water resource-based conflicts Source Access to water points Test pumping Access to the established exploratory borehole	Purchase water from water bowzers	- Volume of water purchased and delivered - Records of bowser receipts and costs	Contractor	WRA E&S PIU, Supervision Consultant
	Implement the grievance redress mechanism to	GRM logbook documenting no. of complaints lodged with	Contractor	WRA E&S PIU,

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring Measurement	and Responsible Entity	Supervising Agency
	address complaints raised by community members with regards to water sharing	regards to water accessibility and provisioning		Supervision Consultant
	Leverage existing local peace building committee to create harmony community members	Records showing engagement meetings with the peace committee including attendance register	Contractor	WRA E&S PIU, Supervision Consultant
	Continuous stakeholder consultations and community sensitization will be conducted to generate support of all stakeholders for the project ownership	Minutes and attendance register	Contractor	WRA E&S PIU, Supervision Consultant

Table 3: ESMP Monitoring, Reporting, and Audit at the Drilling and Well Development Phase

Key Performance Indicator (based on the above table)	Frequency of Monitoring/Inspection and Audits	Required Reporting
Percentage of vegetation cleared within the approved project footprint	Continuous during site clearance	Weekly site inspection reports with photo
Soil conservation strategy	Monthly	Monthly ESMP compliance report
Ambient air quality levels (dust/particulate matter)	Monthly	Monthly ESMP compliance report
Noise Management measures	Weekly	Health and Safety Report
Evidence of waste segregation	Monthly	Environmental compliance audit report
Work plans	Weekly	Weekly
Project site layout	Once-off	Project Drawings
Workers training/ Orientation Records	Monthly	Training Report
Equipment maintenance records/ schedules	Monthly	Maintenance Reports

Key Performance Indicator (based on the above table)	Frequency of Monitoring/Inspection and Audits	Required Reporting
Groundwater quality parameter	Weekly	Monthly ESMP compliance report
Water abstraction	Monthly	Monthly ESMP compliance report
Health and Safety Management Plan (HSMP)	Monthly	Health and Safety Monthly Progress Monthly Report
PPE Records	Biweekly	Health and Safety Report
Signed contract with relevant GBV/SEAH clauses	Inspection of the tender documents by the GBV experts before award of tender	Compliance report from the consultant
Site-specific GRM and grievance logs	Monthly	GRM Report including closed grievances
Site specific GBV/SEAH prevention and response action plan	Monthly	To be part E&S Monthly Report
Trained workers, signed CoCs (GBV/SEAH)	Monthly	Training records, signed CoCs
Displayed GBV reporting contacts	Weekly	Site inspection checklist
Sensitization of GBV referral pathways	Monthly	Sensitization and outreach report
Health and Safety Plan Implementation	Weekly inspections	Monthly health & safety progress reports
Filled registration sensitization report (community safety awareness)	Bimonthly	Sensitization reports
No under-18 workers	Weekly	LMP
Signage prohibiting child labour	Weekly	Visual inspection checklist
Speed limit Signage/ Contravention warnings	Daily	Visual inspection checklist/ Contravention Issuance Records
SEP implementation (community engagement)	Monthly	Stakeholder engagement log
Site Enclosure	Weekly compliance checks	Monthly ESMP compliance report
Personal Protective Equipment	Weekly inspection	PPE issuance logs, supervision report
Signage	Weekly	Visual inspection checklist
Work Method Statement	Monthly	Work Methodology
Labour Management Procedures (LMP) implementation	Monthly	Labour management compliance report

Key Performance Indicator (based on the above table)	Frequency of Monitoring/Inspection and Audits	Required Reporting
Filled registration forms, sensitization report	Monthly	Sensitization report
Site-specific security management plan	Monthly	Site Security report

Table 4: ESMMoP for the Demobilization Phase

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
Demobilization phase				
Noise and vibration impact Sources Dismantling of the rig and other equipment Movement of the equipment out of the site	Limit vehicle speeds on-site and along access roads to a maximum of 30 km/h	- Accident/incident log showing no of reported cases of road traffic accidents/incidents - Compliance check to ensure observance of the recommended speed limit	Contractor	WRA PIU E&S Specialists
	Prepare and implement a dismantling and demobilization plan to guide the safe, orderly removal of the rig and equipment	Approved dismantling and demobilization plan		
	Avoid careless hooting, particularly near sensitive receptors such as settlements, schools, and hospitals	Records of toolbox meetings showing sensitization of workers to avoid careless hooting	Contractor	WRA PIU E&S Specialists

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
	Scheduled servicing of vehicles and equipment	Records of servicing and inspection of vehicle conditions	Contractor	WRA PIU E&S Specialists
Air pollution Sources Dismantling of the rig and other equipment	Limit vehicle speeds on-site and along access roads to a maximum of 30 km/h to reduce dust emissions	Compliance check to ensure observance to recommended speed limit	Contractor	WRA PIU E&S Specialists
Impact of waste generation Source Dismantling of the rig and other equipment dismantling and removal of the camp house	Scheduled servicing of the vehicles to maintain their road worthiness	Records of servicing and inspection of vehicle conditions	Contractor	WRA PIU E&S Specialists
	Remove all waste materials, temporary structures, and debris; backfill any pits	Presence of labelled waste containers	Contractor	WRA PIU E&S Specialists
	Ensure appropriate disposal of demobilization waste at a licensed disposal site in Sololo town	Documentary evidence showing disposal of waste at an approved site	Contractor	WRA PIU E&S Specialists
	Separate metallic scrap, reusable materials, hazardous waste (oily rags, filters), and general waste during dismantling.	All dismantling waste and debris removed from site	Contractor	WRA PIU E&S Specialists
Occupational Health and Safety Risks	Prepare and implement an approved demobilization and dismantling plan	Approved demobilization plan available and implemented	Contractor	WRA PIU E&S Specialists

E&S impacts and their Sources	Proposed Mitigation Measure	Monitoring and Measurement	Responsible Entity	Supervising Agency
Sources Injuries and accidents during dismantling, lifting, and loading of drilling equipment	Use trained and authorized personnel only.	Number of accidents or near-misses during demobilization	Contractor	WRA PIU E&S Specialists
	Enforce use of appropriate PPE and safe lifting procedures	PPE compliance rate during demobilization	Contractor	WRA PIU E&S Specialists
Visual Nuisance and Incomplete Site Restoration Sources Abandoned materials, debris, or temporary structures affecting land use and aesthetics	Remove all temporary structures, wastes, and equipment.	Availability and implementation progress of the HSAP	Contractor	WRA PIU E&S Specialists DOSH
	Restore the site to near-original condition or as agreed with the community	Post-demobilization site inspection report completed and approved	Contractor	WRA PIU E&S Specialists
Community Health and Safety Risks Sources Risk of accidents to community members and livestock from moving equipment and open work areas	Erect warning signs and barricades during demobilization	No of road appropriate safety signs provided	Contractor	WRA PIU E&S Specialists DOSH
	Restrict public access to dismantling areas and manage traffic	Area cordoned off with barricading tape	Contractor	WRA PIU E&S Specialists DOSH

Table 5: ESMP Monitoring, Reporting and Audit at the Demobilization Phase

Key Performance Indicator (based on the above table)	Frequency of Monitoring/Inspection and Audits	Entity Responsible
Signed Contract with relevant safety management clauses	Monthly	Safety and Management Monthly Report
Health and Safety Management Plan (HSMP)	Monthly	Health and Safety Monthly Progress Monthly Report
Filled registration sensitization report (community safety awareness)	Bimonthly	Sensitization reports
Health and Safety Plan Implementation	Weekly inspections	Monthly health & safety progress reports
Personal Protective Equipment	Weekly inspection	PPE issuance logs, supervision report
Signage	Weekly	Visual inspection checklist
Speed limit Signage/ Contravention warnings	Daily	Visual inspection checklist/ Contravention Issuance Records
Work plans	Weekly	Weekly
PPE Records	Biweekly	Health and Safety Report
Noise Management measures	Weekly	Health and Safety Report
Workers training/ Orientation Records	Monthly	Training Report
Equipment maintenance records/ schedules	Monthly	Maintenance Reports
Work Method statement	Monthly	Work Methodology
Drainage Plan	Monthly	Site inspection Report

Key Performance Indicator (based on the above table)	Frequency of Monitoring/Inspection and Audits	Entity Responsible
Site specific waste management plan implementation	Weekly	Waste tracking sheets, waste logs
Evidence of waste segregation, NEMA license	Monthly	Environmental compliance audit report
Training records for waste management	Bimonthly	Training report and attendance sheets
Visual evidence of good housekeeping	Weekly	Site inspection reports
Labour management Procedures (LMP) implementation	Monthly	Labour management compliance report
Signed contract with relevant GBV/SEAH clauses	Inspection of the tender documents by the GBV experts before award of tender	Compliance report from the consultant
Site specific GBV/SEAH prevention and response action plan	Monthly	To be part E&S Monthly Report
Filled registration forms, sensitization report	Monthly	Sensitization report
Trained workers, signed CoCs (GBV/SEAH)	Monthly	Training records, signed CoCs
Established SEAH reporting and response mechanism	Monthly	SEAH mechanism performance report
Trained workers, signed CoCs (GBV/SEAH)	Monthly	Training records, signed CoCs
Established SEAH reporting and response mechanism	Monthly	SEAH mechanism performance report
Trained workers, signed CoCs (GBV/SEAH)	Monthly	Training records, signed CoCs
Established SEAH reporting and response mechanism	Monthly	SEAH mechanism performance report
Site-specific GRM and grievance logs	Monthly	GRM Report including closed grievances
Site specific security management strategy	Monthly	Site Security report
SEP implementation (community engagement)	Monthly	Stakeholder engagement log
LMP	Monthly	HR compliance report
CoC signed by contractor's project management and workers	Monthly	Signed CoC list

Key Performance Indicator (based on the above table)	Frequency of Monitoring/Inspection and Audits	Entity Responsible
No under-18 workers	Weekly	LMP
Signage prohibiting child labour	Weekly	Visual inspection checklist

3.0 Contractor Environmental, Social, Health, and Safety (ESHS) Responsibilities

The Contractor shall implement comprehensive Environmental, Social, Health, and Safety (ESHS) assessments and monitoring throughout the construction and demobilization phases of the project. This includes identifying potential and emerging ESHS risks, implementing mitigation measures in accordance with the Environmental and Social Management and Monitoring Plan (ESMMoP), and ensuring timely reporting to the supervising agency. The Contractor is also responsible for continuously addressing any ESHS issues, documenting corrective actions, and maintaining compliance with national regulations and World Bank ESF requirements.

4.0 Binding Nature of the Commitment

This commitment shall become effective upon contract award and shall remain binding throughout the project, including demobilization and site restoration. The Contractor confirms that this commitment has been reviewed, understood, and accepted as part of the bidding and contract documentation.

5.0 Contractor's Declaration and Signature

5.1 Declaration

I, the undersigned, acting on behalf of the Contractor, hereby declare that I have read, understood, and commit to comply with the requirements of this Environmental and Social Management and Monitoring Plan (ESMMoP) and all associated environmental and social obligations.

5.2 Signature block (To be included in the tender document)

For the Contractor

Name of Company: _____

Name of Authorized Representative: _____

Position / Title: _____

Signature: _____

Date: _____

Company Stamp: _____