REPUBLIC OF IRAQ

MINISTRY OF PLANNING

Iraq Social Fund for Development
SFD
(P163108)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

FOR THE

REHABILITATING THE ELECTRICITY NETWORK IN VILLAGES (AL-ALEMIEN, AL-SHOUFA, AL-OWAILEEN)

IN
THI-QAR GOVERNORATE

7TH DECEMBER 2023

Contents

IRAQ: Social Fund for Development Project

PART A: **GENERAL PROJECT AND SITE INFORMATION**

INSTITUTIONAL & ADMINISTRATIVE	
Country	**IRAQ**
Project Title	**REHABILITATING THE ELECTRICITY NETWORK IN VILLAGES (AL-ALEMIEN, AL-SHOUFA, AL-OWAILEEN) IN THI-QAR GOVERNORATE**
Introduction	Iraq faces a historic opportunity for national reconciliation through the effective delivery of critical social services, economic growth and recovery programs. The reinstatement of trust between the State and its citizens is highly dependent on the Government of Iraq (GOI) demonstrating its capacity to deliver security, jobs and economic growth to all Iraqis, with a focus on the poor, the vulnerable and the millions of Internally Displaced People (IDP). The GOI, represented by the Ministry of Planning (MOP), requested the World Bank's support in the design and financing of a Social Fund for Development (SFD) project to support locally driven initiatives to improve the living conditions and opportunities of the poor and most vulnerable in Iraq. The GOI has demonstrated its commitment and support to the design of this operation and established a high-level national team to guide and coordinate the development and institutionalization of the SFD, as well as five technical teams to work on the different aspects of the fund. The Project Development Objectives (PDOs) are to: (1) Improve access to basic services and; (2) Increase short-term employment opportunities, in targeted communities. This environmental and social management checklist reflects the main issues (project description and activities, baseline conditions, impact analyses, mitigation measures and monitoring arrangements). The main objective of this document is to examine the environmental and socio-economic impacts of the project (both construction and operation phases), and to propose mitigation measures. The project is expected to result in significant socio-economic benefits for the local communities and surrounding areas in addition to developing social awareness and group responsibility.
PROJECT LOCATION & SITE DESCRIPTION	

Project Location

According to the Environmental and Social Management Framework (ESMF) which was prepared for the Iraq Social Fund for Development Project disclosed locally in Iraq and on the World Bank's website[1]. Environmental and Social Management plan (ESMP)/ Environmental and Social Management should be prepared, cleared, publicly consulted and disclosed prior to the commencement of any rehabilitation activity. The World Bank Operational Policy 4.01 on Environmental Assessment was triggered as the proposed Subprojects has some potential negative environmental and social impacts. Accordingly, this Environmental and Social Management is required to implement the Sub-project following the requirements of the World Bank's Operational Procedures and applicable Iraqi national legislation.

The subproject is located in the governorate of Thi-Qar that is situated in South part of Iraq, Thi-Qar shares internal boundaries with the governorates of Al-Diwaniyah, Al-Muthana, Wasit, Missan and Basra (as shown in figure below). The length of each network, coordinates, and the population in each village are shown in the table below:

Table 1: Information about the villages

No.	Village	Length (Km)	Project Duration (day)	Population	Coordinates
1	AL-ALEMIEN	17.5	180	786	31.03871, 46.18257
2	AL-SHOUFA	5.0	180	2994	31.13445, 46.23247
3	AL-OWAILEEN	12.0	180	294	31.21408, 45.54324
Total		32.5		4104	

[1] https://documents1.worldbank.org/curated/en/221731554372651925/pdf/Environmental-and-Social-Management-Framework.pdf

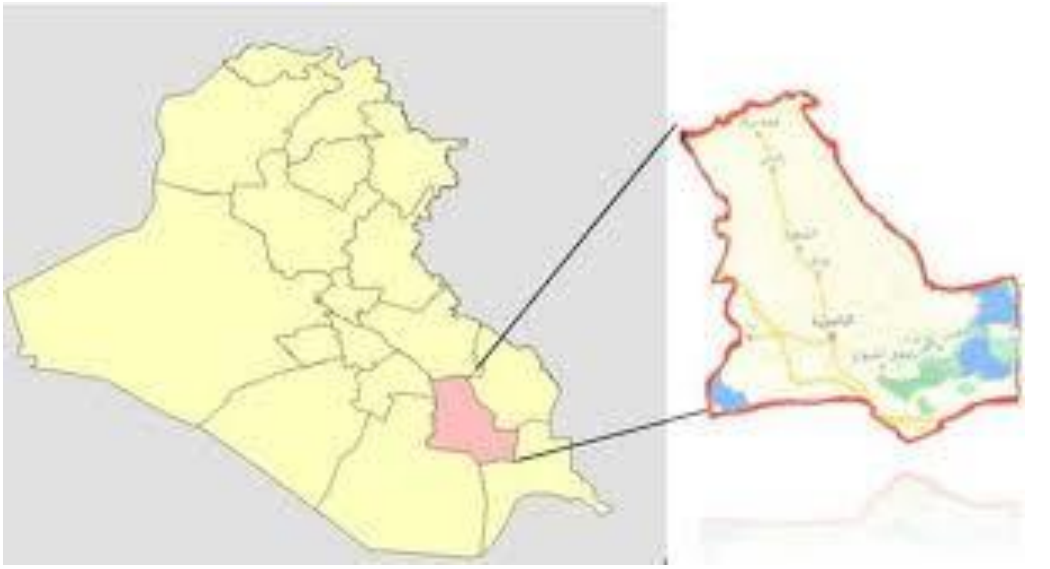

Figure 1: Project Location

The area adjacent to the subprojects site are characterized as rural residential and semi desertic in some areas.

There are no protected areas or endangered species (there are no critical or high biodiversity values that might be affected) in the vicinity of the site. There are no close sensitive receptors located to the subprojects site.

The subprojects will improve the electricity distribution networks, increase the flexibility of providing electricity and therefore providing

electricity to schools and other simple daily activities, and will support mitigating the effects of war to attract displaced citizens to their villages.

AL-ALEMIEN

AL-SHOUFA

AL-OWAILEEN

Figure 2: Current Situation at these Villages

Project Duration	The anticipated duration of all works is around 180 days for all electrical distribution grid lines including mobilization and demobilization of contractors in these villages.
Proposed Project Activities	Works for rehabilitation of the grid lines in these villages will include removing the old and damaged cables and all other fittings and moving them into the store that belongs to the ministry of electricity. Then the work will include installing oil type pole-mounted distribution transformers, cables and circuit breakers. The work will also comprise of some civil work (on vacant state-owned lands) such as shallow excavation for poles, lifting the soils and other waste produced during the excavation, and casting to prepare the foundations for the poles. The anticipated duration of rehabilitation works in these villages is about 6 months with about 20-25 workers per day per site and most of them are local workers and the rest are engineers and technicians. Workers from other villages will need to have their accommodation facilities in the camp, during the rehabilitation phase. Setup of a camp in the area near each electrical gridline will be on vacant state-owned lands. Also, storage of equipment and construction materials will be on vacant state-owned lands. Workers' facilities will be established within the subproject boundaries, as the contractor will use the state-owned lands Additionally, a dedicated septic tank will be available at the camp and removed once the subproject activities are completed. The site will be used for workers accommodation, administration, workers' rest, a place to eat, and include restroom facilities The rehabilitation is expected to take place by carrying the pole materials to each pole base by lorry and assembling the poles (9-11m in height) on site. Work is expected to take place at several rehabilitation locations at the same time. The rehabilitation teams at each location would consist of crews, working one after another, with each crew responsible for one of the following: preparing the foundations for the poles, erecting of the poles and installing the wires and its accessories.
Land Use and Acquisition	The area adjacent to the project site is characterized as a rural residential to agricultural area. However, rehabilitation activities will not cause an impact on agricultural areas or cause any crop damage. The electrical grid will be constructed on state land and hence there are no issues related to land acquisition. The implementation activities will not cause relocation of people, vendors, or any individuals.
Contactor's	The rehabilitation of the electrical grid will need about 20-25 workers

Camp	per day. Workers are expected to be hired locally, however, if a construction camp is deemed necessary, it will be installed on vacant state-owned land. Portable holding tanks will be installed in the subproject, wastes liquid and solid will be collected and disposed in an authorized waste treatment plant/authorized disposing site to be determined later by the local municipality. The contractor will establish his storage on vacant state-owned land for equipment and material within the area close to the rehabilitation activities. The construction camp should have independent sources of water and electricity, and an adequate septic tank for sanitary effluent disposal. Due to its geographical location, an influx of workers to the subprojects areas is not expected. Most of the workers will be locals from the surrounding areas and will return to their homes.
PROJECT BASELIN CONDITIONS	
Geographic Conditions	The terrain is characterized as flat. In the project area, the elevation is about 13m asl. No natural land obstacles are presented in the subproject areas. The subprojects areas are free of mountains, cliffs, and valleys.
Climate, Air Quality and noise	Thi-Qar governorate is located in the South part of Iraq. The city of Nasiriyah is located in the southern part of Iraq, about 350 km south of Baghdad. The Euphrates River crosses the governorate and feeds into the Hammar marshes. The climate is the most important factor affecting the quality of surface water, groundwater and the hydrological cycle in the study area. The prevailing climate is the continental climate, characterized by the area of study, the summer is hot and dry, and the winter is cool with little rainfall. It is characterized by high rates of air temperature and high-temperature differences between daytime and night as well as between winter and summer. It is also characterized by varying relative humidity. The year is divided into two influential seasons. A long warn dry summer, a short cold rainy winter cold season and sunny weather often year-round. Thi-Qar has a dry desert climate typical of the region. The summers are hot and dry, with average high temperatures reaching above 40°C while the winters are mild. Rainfall is limited to the months of November-April and averages 100 mm annually. These subprojects sites are located in open areas, so the expected

	concentration of air pollutants is low. Air pollutants in the village are caused mainly from movement of vehicles and trucks. Therefore, the ambient air quality is expected to be within the WHO ambient air quality standards (Annex3). Currently, there is no traffic congestion and consequently the existed noise level is within the normal levels.
Hydrogeology Conditions	Flooding of the area near the project has not been reported in the past years. The depth of ground water in the area ranges of about 20 meters.
Ecology Conditions	There are no Nature Reserves or other legally protected areas in the vicinity of the project or a proximity. The project areas do not contain any globally important habitats or ecosystems.
Heritage Environment	There are no sites of historical or cultural importance in the area. There are no cemeteries, historical-cultural monuments, churches, mosques near the project that need to be removed or will be impacted due to the rehabilitation activities.
Socio-economic Aspects	The population of the subproject area are approximately 4104. The suggested area of the electrical grids will be on state land, where no land or property expropriation will be necessary and is free from encroachers or squatters. All the areas around the sites remain clear of any settlement or economic use and are ready for rehabilitation works, no interference is registered from the local community which is eager for the works to be completed. It is important to mention that the rehabilitation of the electricity grids, it is not expected to cause restriction of access or livelihood impacts.
LEGISLATION & POLICIES	
National & Local Legislation and World Bank Policies that Apply to the Project	▪ Labor Law No. 37 of 2015; ▪ Regulation for the Protection of Rivers No. 25, 1967; ▪ The Law for the Protection and Improvement of Environment No. 27, 2009; ▪ Instructions No. 2 of 2014 on Environmental Protection from Municipal Waste; ▪ Law for Ministry of Electricity No.53 for 2017. ▪ Public Roads Law No. (35) of 2002. ▪ Ministry of Water Resources Law No. 50 of 2008; ▪ Public Health Law No. 89 of 1981, amended by Resolution No.54 of 2001; ▪ Law no. 37 of 2008 regarding to Ministry of Environments (MoE) roles and responsibilities. ▪ Law No.3,1997 regarding to Environment protection ▪ Regulation for the Provision of Water Resources, No. 2, 2001;

	▪ Instructions no. 3 of 2015 on Hazardous Waste Management; ▪ Law No. 6 of 1988 concerning the National Commission for Occupational Hygiene and Safety; ▪ Instructions No. 12 of the year 2016: Occupational Health and Safety; ▪ Law no. 89 of the year 1981, amended by Decree No.54 of 2001: Public Health; ▪ Law No. 41 for the year of 2015: Noise Protection and Control; ▪ Public Roads Law No. 35 of 2002; ▪ Instructions No.3 of 2012: National Emissions' Determinants for Activities and Businesses by the Ministry of Health and Environment; ▪ Regulation No. 4 for the year of 2012: Ambient Air Quality; ▪ The main WB safeguard policies applicable for SFD are: ▪ OP 4.01 Environmental Assessment ▪ OP 4.12 Involuntary Resettlement. ▪ OP 4.11 Physical and Cultural Resources (The proposed rehabilitation activities are not expected to pose risks of damaging cultural property). ▪ Grievance Redress Service ▪ labor influx guidance note (2016). ▪ WB General Environmental, Health, and Safety guideline[2] ▪ WBG EHS Guidelines for Electric Power Transmission and Distribution[3] ▪ The EHS guidelines entails the effective methods for managing environmental, health and safety issues in accordance with WBG requirements. This includes understanding the likelihood, magnitude and priority of the EHS risks. The EHS guidelines includes 4 primary sections and respective sub sections (applicable segments from the EHS guidelines for the sub-project are highlighted in **Red**): ▪ Environmental Guidelines ○ **Ambient Air Quality** – Limits and Guidelines ○ **Energy Conservation** – Energy Conservation and Efficiency Methods ○ **Wastewater and Ambient Water Quality** – Effluent water quality and indicators for water discharge and treatment

[2] https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM
[3] https://www.ifc.org/EHSguidelines

	○ **Water Conservation** – Methods for ensuring reduction in water consumption ○ **Hazardous Material Management** – The appropriate Methods for managing hazardous waste and instructions on community and worker protection ○ **Waste Management** – Instructions on waste management and planning, waste prevention and safe waste disposal ○ **Noise** – Methods for prevention and control of Noise, and the applicable noise limits for different activities and exposure period ○ **Contaminated Land** – Management approaches for contaminated land due to different hazardous substances or waste or oil. Includes Risk Reduction measures 1. Occupational Health and Safety Guidelines[4] ○ **General Facility Design and Operation** – ensuring appropriate facility integration of H&S, that integrates safety measures in design for different physical hazards ○ **Communication and Training** – Ensuring there is an appropriate level of communication between workers and management, and that there is sufficient training for all workers prior to operations ○ **Physical Hazards** – Methods for prevention of accidents or injuries that can occur due to exposure to mechanical or other physical works, including Noise and Vibrations ○ **Chemical Hazards** – Injuries and accidents that could occur due to usage of chemicals and methods of protection and prevention. Includes management of fires and explosions ○ **Biological Hazards** – Protection and Management of different biological agents ○ Radiological Hazards – Management and Limits for Radiation Exposure

[4] https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxyx

	○ **PPE** – Guidance on usage of PPE and clearly highlighting that it should be considered the last resort ○ Special Hazards Environments – Guidance on Managing different environments that can present a risk to workers such as confined spaces. ○ **Monitoring** – Efficient monitoring of occupational health and safety programs and mitigation measures. This includes the Occupational Accident Reporting frequency ▪ Community Health and Safety Guidelines[5] ○ **Water Quality and Availability** – Ensuring the protection of nearby water resources such as groundwater and surface water sources. ○ **Structural Safety of the Project** – Potential Hazards that could occur due to poor design and methodology for dealing with those hazards. Includes the general approach that architects/structural engineers must follow to ensure community safety is considered during design ○ **Life and Fire Safety (L&FS)** – Ensuring that building design is in accordance with local regulations and requirements, and that it integrates Fire safety standards (more focused on buildings rather than infrastructure) ○ **Traffic Safety** – Includes the potential risks and impacts on traffic and from traffic that occurs due to the project. Includes recommend measures to deal with traffic risk ○ **Transport of Hazardous Material** – Approach and Guidelines for transporting hazardous material, including a hazard assessment and emergency response plan. ○ **Disease Prevention** – Includes the recommended interventions and methods to protect the community from communicable diseases and vector borne diseases ○ **Emergency Response and Preparedness** – This

[5] https://www.ifc.org/wps/wcm/connect/eeb82b4a-e9a8-4ad1-9472-f1c766eb67c8/3%2BCommunity%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxTd

	sub section requires a plan and response system in place to respond to any potential emergency that could occur due to the works or operation ▪ Construction and Decommissioning Guidelines[6] o **Environment** – covers the different environmental factors that could be affected by the construction activities including soil erosion, disturbance to water bodies, disturbance to air quality, wastewater discharges etc. o **Occupational Health and Safety** – Different OHS risks due to construction or decommissioning works o **Community Health and Safety** – Different Hazards that can occur due to the project and affect the surrounding community.
PUBLIC CONSULTATION & GRIEVANCE REDRESS MECHANISMS	
Public Consultation Process	The consultations were carried out in the village for the rehabilitation of the electricity grids on October 2023. One on one interviews were conducted. Accordingly, a questionnaire was formatted to cover the key environmental and social aspects related to the subproject. The purpose of conducting the consultation activities is to achieve the below: 1. Introduce the rehabilitation subproject of the electricity grids. 2. Disclose information regarding the Grievance Mechanism resources in place. 3. Discuss anticipated environmental and social impacts associated with the project. 4. Propose extensive mitigation measures to address potential environmental and social risks associated with the project activities. The formatted questionnaire was then addressed to 9 women and 24 men in the surrounding community randomly to have their opinions and thoughts regarding the rehabilitation activities. **Consultation Results:** All interviewees expressed their hope that the completion of the project

[6] https://www.ifc.org/wps/wcm/connect/7d708218-2a9e-4fcc-879d-9d5051746e7d/4%2BConstruction%2Band%2BDecommissioning.pdf?MOD=AJPERES&CVID=nPtgy6x

	will lead to more goods moving through their areas. All those interviewed expressed their support to the project. Therefore, they link the project with improving their living conditions and the development of the area economically. They also stressed the importance of providing a timetable for the completion of the project because they heard of many planned projects in their district but have not seen them being completed. The participants emphasized that they know that the project's benefits are far greater than its negative impacts and confirmed their willingness to cooperate with the project. All participants in the villages expressed that the rehabilitation of the electrical grids will have a positive impact on their social daily life. Please refer to Annex 1 and Annex 2 for sample of the consultations for both men and women in these villages. The full list of participants for public consultations and individual interviews are attached in standalone document to reduce the size of the instrument. As per the questionnaire prepared for individual interview, the below are the main findings: 1) All interviewed locals agreed that the rehabilitation activities of electrical distribution grid lines will serve all the people in the villages and have a strong positive impact from the social perspectives on the locals. 2) They welcomed that there will be a hotline to express their suggestions or concerns that might happen during the rehabilitation phase. 3) No vegetation covers, crops, plants, trees…etc. will be removed in order to execute the rehabilitation activities of the electrical grid lines. 4) The rehabilitation of the project will enhance the social relationship among the locals; improve their achievements and performance via the availability of electricity. 5) No claims from any locals were recorded or alleged regarding the ownership of the land where the electrical grid lines are constructed; all agreed that is governmental land property. 6) The project will contribute to strength the health awareness by avoiding the purchase of cold water which might be not be disinfected in the summer, and keeping food and medicine in cool places to prevent the damage of these materials. 7) The project will contribute to increase the cultural and scientific awareness of the village residents by creating an opportunity for village students to perform their homework regularly and well.
GRM Process	The Grievance Redress Mechanism is a procedure that aims to facilitate the most satisfactory solution and/or guidance to stakeholders seeking to submit their comments or complaints.

Before the start of the project, local community members will be informed about the GRM via communication channels. For example, they will be informed verbally by their community leader or through social media online. Visible sign boards, hard copies of the GRM brochures, and online platforms will also be made available posting GRM-relevant contact information and an explanation of the grievance process.

The SFD established a central free hotline, and it is functioning properly in addition to the email and WhatsApp application. The digital system with multi-channels for receiving complaints, inquiries, feedback or comments like WhatsApp, Facebook, email and complain boxes for each subproject. Additionally, GRM focal points will be assigned at local level and central level to be in charge of handling complaints. The focal point will maintain a log and report on grievance management, which includes minutes of meetings, resolutions and recommendations as part of an annual project progress report.

The information for the central office is:

#	Name	Job Title	Phone Number	E-mail
1	Husam A. Shaael	GRM Team leader	07833344263 07733344263	Sfd.grm.iraq@gmail.com

Meanwhile, in order to comply with the WB requirements, SFD has assigned staffs as focal points with their cell phone numbers to be disseminated at each subproject level for receiving calls and handling complaints. The contact details will be posted on subproject signboard and the complaint boxes will be installed in each location as shown in the below table.

Contact Information for GRM

#	Name	Job Title	Phone Number	E-mail
1	Yaqeen K. Jumaa	SFD Team leader	07805483679	atona230@gmail.com
2	Azhar H. Ressan	Environmental Officer	0782750378	azherffvvffvv@gmail.com
3	Ahmed A. Shamkhi	GRM Officer	0781234484	ahemd.shamkhi84@gmail.com

	The process of managing complaints will be as follows: The grievance note should be signed and dated by the aggrieved person. Where the affected person is unable to write, s/he should obtain assistance from the community to write the note and mark the letter with his/her thumbprint. Individuals who submit their comments or grievances have the right to request that their name be kept confidential, though this may mean that the social officer in charge of the GRM is unable to provide feedback on how the grievance is to be addressed. However, an anonymous complaint can receive a code and should be investigated appropriately and treated courteously. After receiving the comments and complaints, they will be summarized and listed in a Complaints/Comments LogBook, containing the name/group of commenter/complainant, date the comment was received, brief description of issue, information on proposed corrective actions to be implemented (if appropriate), and the date of response sent to the commenter/complainant. Complaints should be sorted out according to complexity; Significantly, the GRM classifies feedback in two categories, high-level and standard, each has its own procedure as explained further below. **High-Level Feedback** Feedback received to be categorized as 'high' level instances will include issues that meet the following criteria: • Incidents that caused or may potentially cause significant or great harm to the environment, workers, communities, or natural resources; • Incidents which entail failure to implement environmental and social measures with significant impacts or repeated non-compliance with E&S policies; • Incidents for which failure to address may potentially cause significant impacts that are complex and/or costly to reverse; and • Incidents that may result in a fatality or some level of lasting damage or injury. This type of feedback will be acknowledged, and an investigation will be launched by the PCU/PMO and any other relevant stakeholders with 24 hours during work days and within 48 hours if the feedback was received over the weekend. It should be noted that some types of incidents, including accidents and fatalities need to be reported to the World Bank. This guidance is provided in the Environment & Social Incident Response Procedures. **Standard-Level Feedback**

	If the identity of the aggrieved person is known and the grievance is classified as 'standard', the acknowledgement of grievance will be within 3 working-days and the response will be within 20 working-days (depending on the type of grievance i.e. high or standard). The GRM Social Officer will keep a grievance log and report on grievance management (i.e. minutes of meeting, recommendations, and resolutions made) as part of annual project progress reports. At the 20 business-day mark, if a complaint/question is still pending, the GRM focal point will provide an update to the aggrieved person and inform them of the reason of delay in resolving their case, and provide the date for which a response will be provided. Aggrieved people who are dissatisfied with the outcome of their complaint can appeal the decision by resubmitting their complaint to the GRM Social Officer within 30 working days of receiving a response to the original submitted grievance. Subsequently, the GRM Social Officer and other relevant personnel have 30 working days to investigate and address the issue. Additionally, the GRM Social Officer has 10 working days to prepare a comprehensive response, including the findings of the investigation and the rationale of the determination. Accordingly, within a maximum of 40 working days, the appeal case should be closed. Lastly, if the aggrieved person is still not satisfied with the solution provided, s/he has the option to go to court. Individuals who submit their comments or grievances have the right to request that their name be kept confidential. An anonymous complaint will receive a code and should be investigated appropriately and treated courteously. Ensuring confidentiality when dealing with cases of sexual harassment, sexual exploitation and sexual abuse. In order to mitigate those issues/ complaints, assigning female GRM officer in case of facing any SEA/SH incidents, in addition, all GRM officers/ focal points must be trained on how to handle SEA/SH related grievances. In addition to PMO, the MOP, project offices in governorates, and Community Development Groups (CDGs), the World Bank's Grievance Redress System (GRS) can also be approached for reporting and resolving issues. **<u>Disclosure activities</u>** As soon as the site-specific ESMP gets clearance from the World Bank and approval from the Ministry of planning, the following disclosure procedures will be adapted. A final report, in English and in local language, will be published on the WB, SFD and Ministry of Planning

	websites and also will be available locally (such as at local SFD office.
INSTITUTIONAL CAPACITY BUILDING	
Will there be any capacity building?	[ ] N or [x]Y It is recommended to provide safety trainings and induction sessions to the workers and engineers who will be employed throughout the construction phase. Moreover, there needs to be more training on GRM implementation in order to ensure its proper functioning in the future.

PART B: **SAFEGUARDS SCREENING AND TRIGGERS**

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS			
	Activity / Typology	**Status**	**Triggered Actions**
Will the site activity include/involve any of the following ?	1. Re/construction of public buildings, or facilities and installations for public services (e.g., substations, water treatment plants, pumping stations or similar)	[X] Yes [ ] No	These subprojects are rehabilitation of electrical grids
	2. Reconstruction of / impacts on surface drainage system	[ ] Yes [X] No	The subproject doesn't have an impact on Surface drainage system
	3. Activities in Historic building(s) and districts	[ ] Yes [X] No	The rehabilitation activities do not take place anywhere near historic buildings or districts and
	4. Required acquisition of land or temporary / permanent impacts on livelihoods	[ ] Yes [X] No	No land acquisition is required for these subprojects as the activities will be constructed on state owned land.
	5. Handling or presence of hazardous or toxic materials	[ ] Yes [X] No	There are no toxic or hazardous materials generated by the project.
	6. Impacts on forests and/or protected areas	[ ] Yes [X] No	There are no forests or protected areas surrounding the subproject area.
	7. Risk of unexploded ordinance (UXO)	[ ] Yes [X] No	
	8. Traffic and Pedestrian Safety	[X] Yes [ ] No	If "Yes", see Part C

PART C: MITIGATION MEASURES/ CONSTRUCTION PHASE

No.	**Potential Impacts**	**Mitigation Measures**
1	General Conditions	1) The local construction and environment inspectorates and communities have been notified of upcoming activities. 2) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works). 3) The contractor must take reasonable steps to prevent unauthorized people accessing the site. 4) All legally required permits have been acquired for construction and/or

No.	Potential Impacts	Mitigation Measures
		rehabilitation. 5) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) 6) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighbouring residents and environment. 7) There is posted material indicating the nearest police station and hospital (with accident and emergency facilities). 8) Prohibit the burning of waste on site. 9) Provide a first aid kits in different places of the work site with the appropriate number of materials given the number of workers on site. The workers will be noted about the locations of the first aid kits and trained how to use it. 10) There are fire extinguishers which should be distributed within the working area. 11) If work involving the use of flammable materials is being carried out or any other material that might make any danger, stop people smoking and do not allow other work activities involving potential ignition sources to take place nearby. 12) Providing site boundaries (if any) by installing suitable physical boundaries (barriers, tape or fence). 13) Marking excavation holes (if any) with physical boundaries (barriers, tape or fence). 14) The contractor should put up barriers or covers in the area of openings and excavations if any. 15) Clearance letter of explosive remnants of War (ERW) Unexploded Ordnance (UXO) should be obtained before commencing the work in the site area. 16) Everyone who works on any site must have access to adequate toilet and washing facilities, a place for preparing and consuming refreshments, and an area for storing and drying clothing and personal protective equipment (PPE). 17) Contractor to ensure PPE (personal protective equipment) is used by all workers on site. 18) Materials and equipment are tidily stacked, protected and covered where necessary. Additionally, there is adequate space for new materials to be stored in secured covered areas to avoid damage, theft, and to protect these items from weather conditions. 19) Appropriate signposting of the sites will inform workers of key rules and regulations to follow. 20) The contractor should provide full insurance coverage schema of all type of workers. The insurance should cover work related accidents (Injuries and fatalities) as well as insurance for third party. 21) Rigid obligations and penalties will be added to the contractor/subcontractors' contractual agreements in order to guarantee child labor is prohibited in the project. Penalties to be applied in cases where workers under the age of 18 are hired. 22) The contractor must clean up and rehabilitate all sites prior to handing over. 23) Actions to make the school more energy efficient, such as use of natural light and ventilation which may also reduce the reliance on generators and other sources for energy should be considered. 24) The new building shall be designed, constructed, and operated in full compliance with local building codes, local fire department regulations,

No.	Potential Impacts	Mitigation Measures
		local legal/insurance requirements, and in accordance with an internationally accepted L&FS standard. A suitably qualified L&FS professional acceptable to the Bank and hired by the Borrower shall prepare and submit a L&FS Master Plan, including preliminary drawings and specifications, and certify that the design meets the requirements of WBG General EHS guidelines. This professional should conduct a review of L&FS systems as part of the commissioning tests for new and renovated buildings and certifies that construction of the L&FS systems has been carried out in accordance with the accepted design.
2	Generation, storage, disposal of construction, hazard, and domestic waste[7]	1) Waste collection and disposal pathways and sites will be identified for all major waste types expected from construction activities. 2) Construction and demolition waste, if any, will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. 3) Construction waste will be collected and disposed properly by licensed collectors to authorized area. 4) The records of waste disposal will be maintained as proof for proper management as designed. 5) Whenever feasible Contractor will reuse and recycle appropriate and viable materials 6) Simple waste management plan for specific waste streams must be developed. 7) General waste must be collected and transported to the approved disposal sites. 8) Food wastes must be collected, where practicable, considering health and hygiene issues, for disposal off-site through licensed contractors. 9) Waste containers must be located at each worksite with sufficient numbers.
3	Hazardous wastes and materials [8] include insulating oils / gases (Polychlorinated Biphenyls [PCB] and sulfur hexafluoride [SF6], and fuels, in addition to chemicals or products for woodpreservation for poles and associated wood construction material	1) Hydrocarbons, including lubricants, which will be very limited and resulted just from machines/truck shall be collected for safe transport outside the site for recycling, transport or disposal at approved sites to be nominated by the Municipality and the Ministry of Health and Environment 2) The site will be cleaned from all wastes frequently and wastes will be stored in safe containers until transported 3) The waste shall be transported by specially licensed Transporters and disposed of in the special areas to be determined by the authority. 4) Empty containers of treatment chemicals shall be returned to suppliers. 5) Replacing existing transformers and other electrical equipment containing PCB, and ensuring appropriate storage, decontamination, and disposal of contaminated units.

[7] https://www.ifc.org/wps/wcm/connect/456bbb17-b961-45b3-b0a7-c1bd1c7163e0/1-6%2BWaste%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwEW

[8] https://www.ifc.org/wps/wcm/connect/90231ba8-5bb3-40f4-9255-eaf723d89c32/1-5%2BHazardous%2BMaterials%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwml

No.	Potential Impacts	Mitigation Measures
4	Air quality[9]	1) Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust when necessary 2) There will be no open burning of construction / waste material at the site. 3) All machinery will comply with Iraqi emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites
5	Noise[10]	1) Construction noise will be limited to restricted times agreed to in the permit 2) All the workers will be supplied with fully safety measures including earmuffs.
6	Runoff water and drainage systems	1) Procedures will be put in place for rapid response to accidental spills of fuels, lubricants and other toxic or noxious substances, and for their recovery and appropriate disposal 2) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies 3) There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or the water resource.
7	Groundwater quality	4) Sewage from construction offices and rest areas will be collected in septic tanks and transferred by trucks to the nearest sewage treatment plant by authorized contractors. 5) Providing some indigenous species of vegetation, which will also reduce dust level
8	Traffic	1) In compliance with national regulations, the Contractor will ensure that the construction site is properly secured and construction related traffic regulated. 2) The site will be clearly visible and the public warned of all potential hazards by signposting and barriers / fencing 3) Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement 4) If required, active traffic management by trained and visible staff at the site for safe passage for the public 5) Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction
9	Occupational and community health & safety conditions	1) Provide adequate signage to prevent accidental falling into open areas 2) The contractor should develop and implement "EHS Procedures". 3) Include Construction OHS Plan (submitted and approved by the Resident Engineer) prior to the start of construction. It will address all the risks anticipated including, but not limited to: Working in confined space (inside sheet piles), Risk of sinking, Electrocution, and Safety of equipment. 4) Deployment of HSE procedures for the construction personnel. 5) During the loading and unloading of debris specific measures should be

[9] https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgvbS

[10] https://www.ifc.org/wps/wcm/connect/4a4db1c5-ee97-43ba-99dd-8b120b22ea32/1-7%2BNoise.pdf?MOD=AJPERES&CVID=nPtgwZY

No.	Potential Impacts	Mitigation Measures
		applied: a. Covering the trucks using polyethylene sheets to avoid the falling of debris b. Trucks should use unpopulated routes as much as possible 6) For proper implementation of Community Health and Safety mitigation measures during construction, it is essential to establish and sustain an open and transparent dialogue between MoP/contractor and the affected communities in full compliance with the WB standards related to stakeholder engagement activities. 7) Apply the concept of universal access to the design and construction of buildings or any structures where technically and financially feasible (i.e. access to all users, including persons with disabilities such as wheelchair users). 8) The contractor should maintain records of accidents and work-related injuries log with cause and location. 9) WBG EHS Guidelines for Electric Power Transmission and Distribution[11] should be followed and also guidance for working at heights and specific guidance for working with electricity systems for both putting up the new system and dismantling of the old power system. 10) Site management and material and waste storage systems as a part of the ESMP. 11) workers amenities during working hours should be provided. 1) A grievance mechanism should be made available to community people. 2) Rigid obligations and penalties will be added to the contractor/subcontractors' contractual agreements in order to have the contractors adhere to all World Bank policies and regulation and is in compliance with measures listed in the ESMP.
10	Social Impacts	1) Reducing impacts on the community through community and neighbour engagement. 2) Provide the proper GRM for handling complaints
11	Child labor	1) Rigid obligations and penalties will be added to the contractor contracts in order to warrantee no child labor exists in the subproject 2) The PMO will oblige the contractor to keep a copy of IDs of laborers in order to monitor the hired staff (Chapter 11 of the 2015 Labor Law of Iraq sets the age for hazardous works 18 years old). 3) The contractor also will be obliged to maintain daily attendance sheets in order to verify the attendance of workers in case of accidents and provide the injured persons with proper health insurance 4) The code of conduct for workers/contractors should be introduced to prevent misconducts, including prevention of sexual harassment and also training and awareness rising for workers should be continued, through daily toolbox talks and other training opportunities. 5) Implement all facets of the established grievance mechanism, ensuring anonymous channels are available.

[11] https://www.ifc.org/EHSguidelines

No.	Potential Impacts	Mitigation Measures
12	SEA/SH[12]	1) Providing workers with the necessary training and awareness raising session on issues regarding SEA/SH and Verifying that GRM is adequately implemented to record complaints from the surrounding communities to find adequate resolutions and implement corrective actions including but not limited to concerns for privacy, particularly, among women 2) Apply the full requirements related to operating the grievance mechanism including anonymous channels

[12] Good Practice Note - Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) in Investment Project Financing - 2020

MITIGATION MEASURES DURING OPERATIONAL PHASE

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
1	• Air quality	• The net impact of the Project on air quality is not significant and temporary, and will be limited to Construction Period.	Not Applicable	Not Applicable	Not Applicable
2	• Noise	• Vibration or humming noise can be noticeable and is most often associated with older electrical grid lines. It is usually the result of conductor mounting hardware that has loosened slightly over the years and can be easily repaired by the local authority, especially near residential areas or other sensitive receptors such as schools and hospitals	Local authorities	Local authorities	No Cost
3	**Water resources**	Not applicable	Not applicable	Not applicable	Not applicable
4	**Soil**	Not applicable	Not applicable	Not applicable	Not applicable

5	**Solid & hazardous wastes**	• During the operational period, some littering and waste generation resulting from the repair activities will occur (Oil from transformer). Littering may occur due to wind action.
		• Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids,
		• Using impervious surfaces for refueling areas and other fluid transfer areas
		  • Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they be spilled or leaked.
		  • Disposal of PCB contaminated materials should follow the GIIP described in the WBG EHS Guidelines for Electric Power Transmission and Distribution and involve contractors and facilities capable of safely transporting and disposing of hazardous waste containing PCB.
			Local Authority (Municipality)	Local authority (Municipality)	Within municipal budget

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
		• Surrounding soil exposed to PCB leakage from equipment should be assessed, and appropriate removal and / or remediation measures should be implemented.			
6	**Flora & Fauna**	Not Applicable	Not Applicable	Not Applicable	Not Applicable
7	**Topography and landforms**	Not Applicable	Not Applicable	Not Applicable	Not Applicable
8	**Handling Complains**	The continued operation of a GRM for one year following opening of the electrical grid lines for use will ensure that local community members have an accessible, fair and transparent means of reporting any emerging adverse impacts, and a means of obtaining mitigation.	Local authorities	Local authorities	No cost
9	**Health and Safety**	• Only allowing trained and certified workers to install, maintain, or repair electrical equipment • Deactivating and properly grounding live power distribution lines before work is performed on, or in close proximity, to the lines • Ensuring that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards. Qualified or trained employees working on transmission or distribution systems should be able to achieve the following: 1- Distinguish live parts from other parts of the electrical system 2- Determine the voltage of live parts 3- Understand the minimum approach distances outlined for specific live line voltages 4- Ensure proper use of special safety equipment and procedures when working near or on exposed energized parts of an electrical system. • Workers should not approach an exposed energized or conductive part even if properly trained unless: 1- The worker is properly insulated from the energized part with gloves or other approved insulation; or, 2- The energized part is properly insulated from the worker and any other conductive object; or, 3- The worker is properly isolated and insulated from any other conductive object (live-line work). • Where maintenance and operation is required within minimum setback distances, specific training, safety measures, personal safety devices, and	Local authorities	Local authorities	No cost

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
		other precautions should be defined in a health and safety plan • Workers not directly associated with power transmission and distribution activities who are operating around power lines or power substations should adhere to local legislation, standards, and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning, and other activities; • Minimum hot stick distances may only be reduced provided that the distance remaining is greater than the distance between the energized part and a grounded surface. • · Testing structures for integrity prior to undertaking work; • Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others; • Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters above the working surface, but sometimes extended to 7 meters, depending on the activity). The fall protection system should be appropriate for the tower structure and necessary movements, including ascent, descent, and moving from point to point; • Installation of fixtures on tower components to facilitate the use of fall protection systems; • Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached; • Hoisting equipment should be properly rated and maintained and hoist operators properly trained; • Safety belts should be of not less than 16 millimeters (mm) (5/8 inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibers become evident; • When operating power tools at height, workers should use a second (backup) safety strap; · Signs and other obstructions should be removed			

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
		from poles or structures prior to undertaking work; • An approved tool bag should be used for raising or lowering tools or materials to workers on structures. • Identification of potential exposure levels in the workplace, including surveys of exposure levels in new projects and the use of personal monitors during working activities; • Training of workers in the identification of occupational EMF levels and hazards; • Establishment and identification of safety zones to differentiate between work areas with expected elevated EMF levels compared to those acceptable for public exposure, limiting access to properly trained workers; • Implementation of action plans to address potential or confirmed exposure levels that exceed reference occupational exposure levels developed by international organizations such as the International Commission on Non-Ionizing Radiation Protection (ICNIRP), and the Institute of Electrical and Electronics Engineers (IEEE). • Use of signs, barriers (e.g. locks on doors, use of gates, use of steel posts surrounding transmission towers, particularly in urban areas), and education / public outreach to prevent public contact with potentially dangerous equipment; • Grounding conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock.			
10	Child labor	• Rigid obligations and penalties will be added to the contractor contracts in order to warrantee no child labor exists in the subproject • The PMO will oblige the contractor to keep a copy of IDs of laborers in order to monitor the hired staff (Chapter 11 of the 2015 Labor Law of Iraq sets the age for hazardous works 18 years old). • The contractor also will be obliged to maintain daily attendance sheets in order to verify the attendance of workers in case of accidents and provide the injured persons with proper health insurance • The code of conduct for workers/contractors should be introduced to prevent misconducts, including prevention of sexual harassment and also training and awareness rising for workers should be continued, through daily toolbox talks and other training opportunities.	Local authorities	Local authorities	No Cost

Receptor		Mitigation Measures	Responsibility	Supervision	Total estimated
		• Implement all facets of the established grievance mechanism, ensuring anonymous channels are available.			
Total cost US$ (Operation phase)					**No Cost**

PART D: MONITORING PLAN/ CONSTRUCTION PHASE

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
1	General Conditions	1) The local construction and environment inspectorates and communities have been notified of upcoming activities. 2) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works). 3) The contractor must take reasonable steps to prevent unauthorized people accessing the site. 4) All legally required permits have been acquired for construction and/or rehabilitation. 5) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) 6) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to	Bi-monthly: record of all the licenses and permits obtained; Compliance with the HSE requirements	Contractor	PMO E&S specialist Resident Engineer	No additional cost	No additional cost

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		minimize impacts on neighbouring residents and environment. 7) There is posted material indicating the nearest police station and hospital (with accident and emergency facilities). 8) Prohibit the burning of waste on site. 9) Provide a first aid kits in different places of the work site with the appropriate number of materials given the number of workers on site. The workers will be noted about the locations of the first aid kits and trained how to use it. 10) There are fire extinguishers which should be distributed within the working area. 11) If work involving the use of flammable materials is being carried out or any other material that might make any danger, stop people smoking and do not allow other work activities involving potential ignition sources to take place nearby. 12) Providing site boundaries (if any) by installing suitable physical boundaries (barriers, tape or fence). 13) Marking excavation holes (if any) with physical boundaries (barriers, tape or fence). 14) The contractor should put up barriers or covers in the area of openings and excavations if any. 15) Clearance letter of explosive remnants of War (ERW) Unexploded Ordnance (UXO) should be obtained before commencing the work in the					

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		site area. 16) Everyone who works on any site must have access to adequate toilet and washing facilities, a place for preparing and consuming refreshments, and an area for storing and drying clothing and personal protective equipment (PPE). 17) Contractor to ensure PPE (personal protective equipment) is used by all workers on site. 18) Materials and equipment are tidily stacked, protected and covered where necessary. Additionally, there is adequate space for new materials to be stored in secured covered areas to avoid damage, theft, and to protect these items from weather conditions. 19) Appropriate signposting of the sites will inform workers of key rules and regulations to follow. 20) The contractor should provide full insurance coverage schema of all type of workers. The insurance should cover work related accidents (Injuries and fatalities) as well as insurance for third party. 21) Rigid obligations and penalties will be added to the contractor/subcontractors' contractual agreements in order to guarantee child labor is prohibited in the project. Penalties to be applied in cases where workers under the age of 18 are hired. 22) The contractor must clean up and rehabilitate all sites prior to handing over.					

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		23) Actions to make the school more energy efficient, such as use of natural light and ventilation which may also reduce the reliance on generators and other sources for energy should be considered. 24) The new building shall be designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements, and in accordance with an internationally accepted L&FS standard. A suitably qualified L&FS professional acceptable to the Bank and hired by the Borrower shall prepare and submit a L&FS Master Plan, including preliminary drawings and specifications, and certify that the design meets the requirements of WBG General EHS guidelines. This professional should conduct a review of L&FS systems as part of the commissioning tests for new and renovated buildings and certifies that construction of the L&FS systems has been carried out in accordance with the accepted design.					
2	Generatio, storage, disposal of construction, hazard, and domestic waste	1) Waste collection and disposal pathways and sites will be identified for all major waste types expected from construction activities. 2) Construction and demolition waste, if any, will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers.	Weekly site inspections and verifying the records on waste disposal	Contractor	PMO E&S specialist Resident Engineer	No additional cost	No additional cost

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		3) Construction waste will be collected and disposed properly by licensed collectors to authorized area. 4) The records of waste disposal will be maintained as proof for proper management as designed. 5) Whenever feasible Contractor will reuse and recycle appropriate and viable materials 6) Simple waste management plan for specific waste streams must be developed. 7) General waste must be collected and transported to local council approved disposal sites. 8) Food wastes must be collected, where practicable, considering health and hygiene issues, for disposal off-site through licensed contractors. 9) Waste containers must be located at each worksite with sufficient numbers. 10) Storage, transport and handling of all chemicals must be conducted in accordance with all legislative requirements, through licensed contractors and in coordination with the local authority.					
3	Handling of hazardous wastes and materials	1) Hydrocarbons, including lubricants, which will be very limited and resulted just from machines/truck shall be collected for safe transport outside the site for recycling, transport or disposal at approved sites to be nominated by the Municipality and the Ministry of Health and Environment	Weekly site inspections and verifying the records on waste disposal	Contractor	Resident Engineer	No additional cost	No additional cost

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		2) The site will be cleaned from all wastes frequently and wastes will be stored in safe containers until transported 3) The waste shall be transported by specially licensed tankers and disposed of in the special areas away from the city to be determined by the paddies. 4) Paints containing solvents, solvents or lead-based paints shall not be used as per requirements, instructions and coordination with the Ministry of Science and Technology. 5) Hazardous materials in this sector include insulating oils / gases (e.g. Polychlorinated Biphenyls [PCB] and sulfur hexafluoride [SF6], and fuels, in addition to chemicals or products for wood preservation for poles and associated wood construction material. The use of herbicides for right-of-way vegetation maintenance is discussed in the above section on 'Right-of–Way Maintenance'.					
4	Deterioration of air quality[13]	1) Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust 2) During pneumatic drilling or breaking of pavement and foundations dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at	Ambient air quality test, 1 time prior to construction to obtain the baseline Air quality parameters: PM_{10}, $PM_{2.5}$, SO_2, NOx, CO,	Contractor	PMO E&S specialist Resident	Additional cost of water 500	Testing done by accredited Laboratories.

[13] https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgvbS

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		site 3) The surrounding environment (sidewalks, roads) shall be kept free of soil and debris to minimize dust 4) There will be no open burning of construction / waste material at the site. 5) All machinery will comply with Iraqi emission regulations, shall well maintained and serviced and there will be no excessive idling of construction vehicles at sites	Ozone and HC Compliance with dust abatement measures (Annex 3)		Engineer		Additional cost 750 US
5	Increased level of noise[14]	1) Construction noise will be limited to restricted times agreed to in the permit 2) All the workers will be supplied with fully safety measures including earmuffs. 3) Compliance with the time limitations; 4) Switching off the equipment not in use; 5) Use of protective gear	Weekly site inspection (Annex 3)	Contractor	PMO E&S specialist Resident Engineer	No additional cost	No additional cost
6	Disruption of the runoff water and drainage systems	1) Procedures will be put in place for rapid response to accidental spills of fuels, lubricants and other toxic or noxious substances, and for their recovery and appropriate disposal 2) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies 3) There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process	Weekly site inspection during rainy season; Bi-weekly site inspection during dry seasons: Signs of spillage of hazardous	Contractor	PMO E&S specialist Resident Engineer	additional cost: contingency for removal of accidental hazardous	No additional cost

[14] https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgvbS

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers;	materials Testing in case of accidental spills of hazardous materials			spills 1000 US $	
7	Deterioration of groundwater quality	1) Sewage from construction offices and rest areas will be collected in septic tanks and transferred by trucks to the nearest sewage treatment plant (Annex 3)	Weekly site inspection during rainy season; Bi-weekly site inspection during dry seasons Water testing: in case of accidental spills of hazardous materials: pH, Turbidity, (EC), Color, Total Suspended Solids (TSS), (TDS), (COD), (BOD),	Contractor	Resident Engineer	No additional cost	Testing done by Accredited Laboratories. Additional cost 500 US $
8	Disruption of traffic	1) In compliance with national regulations the Contractor will ensure that the construction site is properly secured and construction related traffic regulated. 2) The site will be clearly visible and the public warned of all potential hazards by signposting and barriers / fencing 3) Traffic management system and staff	Monthly site surveillance for the presence of fencing/barriers and warning signs, and traffic speed limitations	Contractor	Resident engineer PMO	No additional cost	No additional cost

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. 4) Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement 5) Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction. 6) Conduct a traffic assessment study and develop and implement a traffic plan, including safety measures, 7) Signage should be installed in the access roads 8) Assigning a traffic man to arrange traffic in the vicinity of sub-project site 9) Review any complaints related to traffic impact on socio-economic and accidents 10) Speed limit should be monitored, particularly, in the vicinity of sensitive receptors located close to the route (if any). 11) The contractor should adopt an emergency plan for construction-related incidents.					
9	Deterioration of health & safety conditions[15]	1) Provide adequate signage to prevent accidental falling into open areas 2) Fencing of the work areas. 3) The contractor should develop and implement "EHS Procedures".	Inspection and photo evidence Maintaining records of	Contractor	PMO E&S specialist	No additional cost	No additional cost

[15] https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxyx

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
		4) Include Construction OHS Plan (submitted and approved by the Resident Engineer) prior to the start of construction. It will address all the risks anticipated including, but not limited to: Working in confined space (inside sheet piles), Risk of sinking, Electrocution, and Safety of equipment. 5) To ensure worker safety, health insurance must be provided to all type of workers 6) Deployment of HSE procedures for the construction personnel. 7) used for right–of-way maintenance, and exposure to PCB in transformers and other electrical components according to UNEP.	injuries and accidents with cause and location		Resident engineer		
10	Social Impacts	1) Reducing impacts on the community through community and neighbour engagement. 2) Ensuring confidentiality when dealing with cases of sexual harassment, sexual exploitation, and sexual abuse. In order to mitigate those issues/ complaints, assigning female GRM officer in case of facing any SEA/SH incidents, in addition, all GRM officers/ focal points must be trained on how to handle SEA/SH related grievances. 3) Ensure that the Worker's Code of Conduct and corresponding training concerning the commitment of Labour towards the community and the different behaviour that should be avoided i.e., sexual harassment, sexual exploitation and sexual abuse.	Weekly monitoringof response tocomplaints Training on GRM + attendance sheet	Contractor	PMO E&S specialist Resident Engineer	No additional cost	Purchasing of the required equipment $750 UD

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
11	Child labor	1) Rigid obligations and penalties will be added to the contractor contracts in order to warrantee no child labor exist in the subproject 2) The PMO will oblige the contractor to keep a copy of IDs of laborers in order to monitor the hired staff (Chapter 11 of the 2015 Labor Law of Iraq sets the age for hazardous works 18 years old). 3) The contractor also will be obliged to maintain daily attendance sheets in order to verify the attendance of workers in case of accidents and provide the injured persons with proper health insurance 4) The code of conduct for workers/contractors should be introduced to prevent misconduct, including prevention of sexual harassment, and also training and awareness raising for workers should be continued, through daily toolbox talks and other training opportunities. 5) The monitoring of workers' compliance with the Code of Conduct when interacting with the surrounding communities. 6) Implement all facets of the established grievance mechanism, ensuring anonymous channels are available.	Inspection and Bi-weekly monitoring Signed Worker's Code of Conduct Trainings on Code of Conduct + attendance sheet GRM	Contractor	PMO E&S specialist Resident Engineer	No additional cost	No additional cost
Expected additional mitigation costs:						USD 1500	

	Potential Impacts	Mitigation Measures	Monitoring	Responsibility		Additional Cost in USD	
				Implementation	Monitoring	Mitigation measures	Monitoring
Expected monitoring costs:							USD 2250

ANNEXES
Annex 1: Consultations Photos

Public Consultations at AL-ALEMIEN Village

Public Consultations at AL-SHOUFA Village

Public Consultations at AL-OWAILEEN Village

Annex (2): Sample individual interviews for both men and women in these villages

استبيان الصندوق الاجتماعي للتنمية لمحافظة جنين

عزيزي المواطن... عزيزي المواطن...

تجري (وزارة التخطيط / الصندوق الاجتماعي للتنمية) مسح ميداني لغرض التشاور المجتمعي مع أبناء القرية حول الاجراءات البيئية والاجتماعية التي سيتم اتخاذها بخصوص تنفيذ المشاريع في القرية ومدى اثرها على المجتمع المحلي والبيئة المحيطة. راجين الإجابة بصدق وحيادية عن الاستبيان التالي دون الحاجة لذكر الاسم او وسيلة الاتصال .

اسم المشروع : تأهيل شوارع

القضاء ..... الناحية ..... القرية الطيبة

الجنس: ☐ ذكر ☒ انثى

العمر: ٣٠ سنة

المهنة: ☐ موظف ☐ متقاعد ☐ كاسب ☐ طالب ☒ ربة بيت

١. هل هناك ادعاءات او مطالبات من قبل السكان المحليين بملكية الارض المقام عليها المشروع؟
☐ نعم ☒ كلا ☐ ملاحظات

٢. هل سيكون هناك ضرر على النشاطات و المصالح اليومية للأهالي بسبب الاعمال الانشائية للمشروع؟
☐ نعم ☒ كلا ☐ ملاحظات

٣. هل هناك اي بنى تحتية ستتأثر بسبب الاعمال الانشائية للمشروع ؟
☐ نعم ☒ كلا ☐ ملاحظات

٤. هل هناك اعادة توطين لشخص او لعدة اشخاص بسبب اقامة المشروع في القرية؟
☐ نعم ☒ كلا ☐ ملاحظات

٥. هل سوف يتأثر المجتمع المحلي بصورة سلبية لنتيجة المشاريع المقامة؟
☐ نعم ☒ كلا ☐ ملاحظات

٦. هل اعمال انشاء او اعادة تأهيل المشروع ستؤثر بشكل سلبي على المجاميع الاكثر ضعفا والاكثر هشاشة (النساء والمعاقين) ؟
☐ نعم ☒ كلا ☐ ملاحظات

٧. هل تتوقع ازالة محاصيل زراعية او اشجار او اية خطاء نباتي تعود حاليته لمواطنين او سكان محليين بسبب الاعمال الانشائية للمشروع؟
☐ نعم ☒ كلا ☐ ملاحظات

٨. هل سيؤثر المشروع في الكثافة السكانية (امكانية قدوم مواطنين من مناطق اخرى الى القرية بسبب المشاريع التي ستنفذ)؟
☒ نعم ☐ كلا ☐ ملاحظات

٩. هل تعتقد ان عملية انشاء او اعادة تأهيل المشروع لها اثر ايجابية من الناحية الاجتماعية بالنسبة لسكان القاطنين في المناطق القريبة من المشروع؟
☒ نعم ☐ كلا ☐ ملاحظات

شكراً على وقتكم ....

استبيان الصندوق الاجتماعي للتنمية لمحافظة جنين

عزيزي المواطن... عزيزي المواطن...

تجري (وزارة التخطيط / الصندوق الاجتماعي للتنمية) مسح ميداني لغرض التشاور المجتمعي مع أبناء القرية حول الاجراءات البيئية والاجتماعية التي سيتم اتخاذها بخصوص تنفيذ المشاريع في القرية ومدى اثرها على المجتمع المحلي والبيئة المحيطة. راجين الإجابة بصدق وحيادية عن الاستبيان التالي دون الحاجة لذكر الاسم او وسيلة الاتصال .

اسم المشروع : تأهيل شوارع

القضاء ..... الناحية ..... القرية الطيبة

الجنس: ☒ ذكر ☐ انثى

العمر: ٥٨ سنة

المهنة: ☐ موظف ☐ متقاعد ☒ كاسب ☐ طالب ☐ ربة بيت

١. هل هناك ادعاءات او مطالبات من قبل السكان المحليين بملكية الارض المقام عليها المشروع؟
☐ نعم ☒ كلا ☐ ملاحظات

٢. هل سيكون هناك ضرر على النشاطات و المصالح اليومية للأهالي بسبب الاعمال الانشائية للمشروع؟
☐ نعم ☒ كلا ☐ ملاحظات

٣. هل هناك اي بنى تحتية ستتأثر بسبب الاعمال الانشائية للمشروع ؟
☐ نعم ☒ كلا ☐ ملاحظات

٤. هل هناك اعادة توطين لشخص او لعدة اشخاص بسبب اقامة المشروع في القرية؟
☐ نعم ☒ كلا ☐ ملاحظات

٥. هل سوف يتأثر المجتمع المحلي بصورة سلبية لنتيجة المشاريع المقامة؟
☐ نعم ☒ كلا ☐ ملاحظات

٦. هل اعمال انشاء او اعادة تأهيل المشروع ستؤثر بشكل سلبي على المجاميع الاكثر ضعفا والاكثر هشاشة (النساء والمعاقين) ؟
☐ نعم ☒ كلا ☐ ملاحظات

٧. هل تتوقع ازالة محاصيل زراعية او اشجار او اية خطاء نباتي تعود حاليته لمواطنين او سكان محليين بسبب الاعمال الانشائية للمشروع؟
☐ نعم ☒ كلا ☐ ملاحظات

٨. هل سيؤثر المشروع في الكثافة السكانية (امكانية قدوم مواطنين من مناطق اخرى الى القرية بسبب المشاريع التي ستنفذ)؟
☐ نعم ☒ كلا ☐ ملاحظات

٩. هل تعتقد ان عملية انشاء او اعادة تأهيل المشروع لها اثر ايجابية من الناحية الاجتماعية بالنسبة لسكان القاطنين في المناطق القريبة من المشروع؟
☒ نعم ☐ كلا ☐ ملاحظات

شكراً على وقتكم ....

استبيان الصندوق الاجتماعي للتنمية لمحافظة [illegible]

عزيزتي المواطنة... عزيزي المواطن...

تُجري (وزارة التخطيط / الصندوق الاجتماعي للتنمية) مسح ميداني لغرض التشاور المجتمعي مع أبناء القرية حول الإجراءات البيئية والاجتماعية التي سيتم اتخاذها بخصوص تنفيذ المشاريع في القرية ومدى اثارها على المجتمع المحلي والبيئة المحيطة. راجين الإجابة بصدق وحيادية عن الاستبيان التالي دون الحاجة لذكر الاسم او وسيلة الاتصال .

أسم المشروع : [illegible]

القضاء .... الناحية .... القرية [illegible]

الجنس: ☑ ذكر ☐ أنثى

العمر: [illegible] سنة

المهنة: ☐ موظف ☐ متقاعد ☑ كاسب ☐ طالب ☐ ربة بيت

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١. هل هناك ادعاءات او مطالبات من قبل السكان المحليين بعائدية الارض المقام عليها المشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات.

٢. هل سيكون هناك ضرر على النشاطات و المصالح اليومية للأهالي بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٣. هل هناك اي بنى تحتية ستتأثر بسبب الاعمال الانشائية للمشروع ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٤. هل هناك اعادة توطين لشخص او لعدة اشخاص بسبب اقامة المشروع في القرية؟.
☐ نعم ☑ كلا ☐ ملاحظات

٥. هل سوف يتأثر المجتمع المحلي بصورة سلبية نتيجة المشاريع المقامة؟.
☐ نعم ☑ كلا ☐ ملاحظات

٦. هل اعمال انشاء او اعادة تاهيل المشروع ستؤثر بشكل سلبي على المجاميع الاكثر ضعفا والاكثر هشاشة (النساء والمعاقين) ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٧. هل تتوقع ازالة محاصيل زراعية او اشجار او اية غطاء نباتي تعود عائديته لمواطنين او سكان محليين بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٨. هل سيؤثر المشروع في الكثافة السكانية (امكانية قدوم مواطنين من مناطق اخرى الى القرية بسبب المشاريع التي ستنفذ)؟
☑ نعم ☐ كلا ☐ ملاحظات

٩. هل تعتقد ان عملية أنشاء او اعادة تأهيل المشروع لها اثار ايجابية من الناحية الاجتماعية بالنسبة للسكان القاطنين في المناطق القريبة من المشروع؟.
☑ نعم ☐ كلا ☐ ملاحظات

شكراً على وقتكم ....

استبيان الصندوق الاجتماعي للتنمية لمحافظة [illegible]

عزيزتي المواطنة... عزيزي المواطن...

تُجري (وزارة التخطيط / الصندوق الاجتماعي للتنمية) مسح ميداني لغرض التشاور المجتمعي مع أبناء القرية حول الإجراءات البيئية والاجتماعية التي سيتم اتخاذها بخصوص تنفيذ المشاريع في القرية ومدى اثارها على المجتمع المحلي والبيئة المحيطة. راجين الإجابة بصدق وحيادية عن الاستبيان التالي دون الحاجة لذكر الاسم او وسيلة الاتصال .

أسم المشروع : [illegible]

القضاء .... الناحية .... القرية [illegible]

الجنس: ☐ ذكر ☑ أنثى

العمر: [illegible] سنة

المهنة: ☐ موظف ☐ متقاعد ☐ كاسب ☐ طالب ☑ ربة بيت

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١. هل هناك ادعاءات او مطالبات من قبل السكان المحليين بعائدية الارض المقام عليها المشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات.

٢. هل سيكون هناك ضرر على النشاطات و المصالح اليومية للأهالي بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٣. هل هناك اي بنى تحتية ستتأثر بسبب الاعمال الانشائية للمشروع ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٤. هل هناك اعادة توطين لشخص او لعدة اشخاص بسبب اقامة المشروع في القرية؟.
☐ نعم ☑ كلا ☐ ملاحظات

٥. هل سوف يتأثر المجتمع المحلي بصورة سلبية نتيجة المشاريع المقامة؟.
☐ نعم ☑ كلا ☐ ملاحظات

٦. هل اعمال انشاء او اعادة تاهيل المشروع ستؤثر بشكل سلبي على المجاميع الاكثر ضعفا والاكثر هشاشة (النساء والمعاقين) ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٧. هل تتوقع ازالة محاصيل زراعية او اشجار او اية غطاء نباتي تعود عائديته لمواطنين او سكان محليين بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٨. هل سيؤثر المشروع في الكثافة السكانية (امكانية قدوم مواطنين من مناطق اخرى الى القرية بسبب المشاريع التي ستنفذ)؟
☑ نعم ☐ كلا ☐ ملاحظات

٩. هل تعتقد ان عملية أنشاء او اعادة تأهيل المشروع لها اثار ايجابية من الناحية الاجتماعية بالنسبة للسكان القاطنين في المناطق القريبة من المشروع؟.
☑ نعم ☐ كلا ☐ ملاحظات

شكراً على وقتكم ....

استبيان الصندوق الاجتماعي للتنمية لمحافظة ذي قار

عزيزتي المواطنة... عزيزي المواطن...
تُجري[وزارة التخطيط / الصندوق الاجتماعي للتنمية] مسح ميداني لغرض التشاور المجتمعي مع أبناء القرية حول الإجراءات البيئية والاجتماعية التي سيتم اتخاذها بخصوص تنفيذ المشاريع في القرية ومدى آثارها على المجتمع المحلي والبيئة المحيطة، راجين الإجابة بصدق وحيادية عن الاستبيان التالي دون الحاجة لذكر الاسم أو وسيلة الاتصال .

اسم المشروع : تأهيل شبكة الكهرباء في القرية

القضاء .... الناحية .... القرية [illegible]

الجنس: ☐ ذكر ☑ أنثى

العمر: ....٤٣.... سنة

المهنة: ☐ موظف ☐ متقاعد ☐ كاسب ☐ طالب ☐ ربة بيت

- -

١. هل هناك ادعاءات او مطالبات من قبل السكان المحليين بعائدية الارض المقام عليها المشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٢. هل سيكون هناك ضرر على النشاطات و المصالح اليومية للأهالي بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٣. هل هناك اي بنى تحتية ستتأثر بسبب الاعمال الانشائية للمشروع ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٤. هل هناك اعادة توطين لشخص او لعدة اشخاص بسبب اقامة المشروع في القرية؟.
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٥. هل سوف يتأثر المجتمع المحلي بصورة سلبية نتيجة المشاريع المقامة؟.
☐ نعم ☑ كلا ☐ ملاحظات

٦. هل اعمال انشاء او اعادة تاهيل المشروع ستؤثر بشكل سلبي على المجاميع الاكثر ضعفا والاكثر هشاشة (النساء والمعاقين) ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٧. هل تتوقع ازالة محاصيل زراعية او اشجار او اية غطاء نباتي تعود عائديته لمواطنين او سكان محليين بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٨. هل سيؤثر المشروع في الكثافة السكانية (امكانية قدوم مواطنين من مناطق اخرى الى القرية بسبب المشاريع التي ستنفذ)؟
☑ نعم ☐ كلا ☐ ملاحظات

٩. هل تعتقد ان عملية انشاء او اعادة تاهيل المشروع لها اثار ايجابية من الناحية الاجتماعية بالنسبة للسكان القاطنين في المناطق القريبة من المشروع؟.
☑ نعم ☐ كلا ☐ ملاحظات

شكراً على وقتكم ....

استبيان الصندوق الاجتماعي للتنمية لمحافظة ذي قار

عزيزتي المواطنة... عزيزي المواطن...
تُجري[وزارة التخطيط / الصندوق الاجتماعي للتنمية] مسح ميداني لغرض التشاور المجتمعي مع أبناء القرية حول الإجراءات البيئية والاجتماعية التي سيتم اتخاذها بخصوص تنفيذ المشاريع في القرية ومدى آثارها على المجتمع المحلي والبيئة المحيطة، راجين الإجابة بصدق وحيادية عن الاستبيان التالي دون الحاجة لذكر الاسم أو وسيلة الاتصال .

اسم المشروع : تأهيل شبكة الكهرباء في القرية

القضاء .... الناحية .... القرية [illegible]

الجنس: ☑ ذكر ☐ أنثى

العمر: ....٥٢.... سنة

المهنة: ☐ موظف ☐ متقاعد ☑ كاسب ☐ طالب ☐ ربة بيت

- -

١. هل هناك ادعاءات او مطالبات من قبل السكان المحليين بعائدية الارض المقام عليها المشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٢. هل سيكون هناك ضرر على النشاطات و المصالح اليومية للأهالي بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٣. هل هناك اي بنى تحتية ستتأثر بسبب الاعمال الانشائية للمشروع ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٤. هل هناك اعادة توطين لشخص او لعدة اشخاص بسبب اقامة المشروع في القرية؟.
☐ نعم ☑ كلا ☐ ملاحظات

٥. هل سوف يتأثر المجتمع المحلي بصورة سلبية نتيجة المشاريع المقامة؟.
☐ نعم ☑ كلا ☐ ملاحظات

٦. هل اعمال انشاء او اعادة تاهيل المشروع ستؤثر بشكل سلبي على المجاميع الاكثر ضعفا والاكثر هشاشة (النساء والمعاقين) ؟.
☐ نعم ☑ كلا ☐ ملاحظات

٧. هل تتوقع ازالة محاصيل زراعية او اشجار او اية غطاء نباتي تعود عائديته لمواطنين او سكان محليين بسبب الاعمال الانشائية للمشروع؟.
☐ نعم ☑ كلا ☐ ملاحظات

٨. هل سيؤثر المشروع في الكثافة السكانية (امكانية قدوم مواطنين من مناطق اخرى الى القرية بسبب المشاريع التي ستنفذ)؟
☑ نعم ☐ كلا ☐ ملاحظات

٩. هل تعتقد ان عملية انشاء او اعادة تاهيل المشروع لها اثار ايجابية من الناحية الاجتماعية بالنسبة للسكان القاطنين في المناطق القريبة من المشروع؟.
☑ نعم ☐ كلا ☐ ملاحظات

شكراً على وقتكم ....

Annex (3): IRAQI STANDARDS FOR AIR, NOISE, and Water

Ambient Air Quality Guidelines

Pollutant	Iraqi Standards		WHO Standards
	Concentration	Average Time	Concentration
CO	10 ppm	8 hours	N/A
	35 ppm	1 hour	N/A
SO_2	0.1 ppm	1 hour	500 $\mu g/m^3$
	0.04 ppm	24 hours	20 $\mu g/m^3$
	0.018 ppm	1 year	N/A
NO_2	0.05 ppm	24 hours	200 $\mu g/m^3$
	0.04 ppm	1 year	40 $\mu g/m^3$
Ozone (O_3)	0.06 ppm	1 hour	100 $\mu g/m^3$
PM_{10}	150 $\mu g/m^3$	24 hours	50 $\mu g/m^3$
$PM_{2.5}$	65 $\mu g/m^3$	24 hours	50 $\mu g/m^3$
	15 $\mu g/m^3$	1 year	15 $\mu g/m^3$
Total Suspended Particles	350 $\mu g/m^3$	24 hours	N/A
	150 $\mu g/m^3$	1 year	N/A
Falling Dust	10 t/Km^2/month (Residential Zone)	30 days	N/A
	20 t/Km^2/month (Industrial Zone)	30 days	N/A
Hydrocarbons	0.24 ppm	3 hours	N/A
Pb	2 $\mu g/m^3$	24 hours	N/A
	1.5 $\mu g/m^3$	3 months	N/A
	1 $\mu g/m^3$	1 year	N/A
Benzene	0.003 $\mu g/m^3$	1 year	N/A
Dioxin	0.6 pico g/m^3	1 year	N/A

Noise:

Law no. 41 of the year 2015: Noise Protection and Control / Noise Limits for Different Working Zones

Type	Allowable (dB)
Industrial	70
Commercial	70
Residential	55

Water:

The table below shows the limits defined for discharges to both natural waters (water resources) and sewers (which generally have higher permissible discharge limits).

Pollutant	Limits for discharge to water resources	Limits for discharge to public sewers
Color	-	-
Temperature	Less than 35°C	45°C
Suspended solids	60	750
pH	6 – 9.5	6 – 9.5
Dissolved Oxygen (DO)	-	-
Biochemical Oxygen Demand (BOD)	Less than 40	1,000
Chemical Oxygen Demand (COD)	Less than 100	-
Cyanide (CN^-)	0.05	0.5
Fluoride (F^-)	5.0	10
Free Chlorine (Cl_2)	Traces	100
Chloride (Cl^-)	A. If the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the chloride concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B. If the ratio of the amount of water discharged to the amount of source water is more than	600

Pollutant	Limits for discharge to water resources	Limits for discharge to public sewers
	1000:1 the wastewater discharge must not exceed a chloride concentration of greater than 600 mg/L. C. If the concentration of chloride in the source water is less than 200 mg/L then the permitted discharge limit must be established on a case by case basis	
Phenol	0.01 – 0.05	5 – 10
Sulfate (SO_4^{2-})	A. If the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the sulfate concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B. If the ratio of the amount of water discharged to the amount of source water is more than 1000:1 the wastewater discharge must not exceed a sulfate concentration of greater than 400 mg/L. C. If the concentration of sulfate in the source water is less than 200 mg/L then the permitted discharge limit must be established on a case by case basis	300
Nitrate (NO_3^-)	50	-
Phosphate (PO_4^{3-})	3	-
Ammonium (NH_4^+)	-	-
DDT	Nil	-
Lead (Pb)	0.1	0.1
Arsenic (As)	0.05	0.05
Cupper (Cu)	0.2	-
Nickel (Ni)	0.2	0.1
Selenium (Se)	0.05	-
Mercury (Hg)	0.005	0.001
Cadmium	0.01	0.1
Zinc (Zn)	2.0	0.1

Pollutant	Limits for discharge to water resources	Limits for discharge to public sewers
Chromium (Cr)	0.1	0.1
Aluminum (Al)	5.0	20
Barium (Ba)	4.0	0.1
Boron (B)	1.0	1.0
Cobalt (Co)	0.5	0.5
Iron (Fe)	2.0	15
Manganese (Mn)	0.5	-
Silver (Ag)	0.05	0.1
Total Hydrocarbons & Derivatives	Allows discharge of total hydrocarbons to water sources and A1 and A2 according to the concentrations and limitations set forth in the tables below; the concentration of hydrocarbons must be measured discharging to the water source. Hydrocarbons shall not be discharged to water sources A3 and A4. For rivers in continuous flow 10 mg/l according to the ratio of the amount of wastewater discharged to the amount of the water source should not be less than 1000:1. For a river in a continuous flow 3 mg/L and in accordance with the ratio of the amount of the wastewater discharged to the amount of water source should not be 300:1 or less.	-
Sulfide (S^{2-})	Nil	3.0
Ammonia (NH_3)	Nil	10
Ammonia gas (free NH_3)	Nil	6.0
Sulfur dioxide SO_2	Nil	7.0
Calcium Carbide CaC	Nil	Not allowed
Organic solvents	Nil	Not allowed
Benzene	Nil	0.5
Chlorobenzene	Nil	0.1
TNT	Nil	0.5
Bromine (Br_2)	Nil	1 – 3

Annex (4): Contractor's Responsibilities (Arabic) مسئوليات المقاول

يجب على مقاول الإنشاء الالتزام بالإجراءات التالية:

جودة الهواء

- الترطيب المنتظم للطرق بالماء لمنع الغبار
- التحكم في نواتج الحفر والتسوية للحد من إنتشار الغبار.
- أي مواد بناء قابلة للتطاير (أسمنت جاف وخلافه) يتم تخزينها في أكياس محكمة الغلق وتغطيتها لمنع تولد الغبار.
- الاحتفاظ بالمازوت والزيوت والطلاء والمواد الكيميائية الأخرى المستخدمة في الموقع بأقل كميات ممكنة وتخزينها في حاويات محكمة الغلق للحد من الأبخرة ؛
- لا يتم تشغيل محركات المركبات والآلات الأخرى إلا عند الضرورة لتجنب الانبعاثات غير الضرورية ؛
- يتم الحفاظ على جميع المعدات والآلات والمركبات المستخدمة في الموقع في حالة عمل جيدة في جميع الأوقات لضمان الحد الأدنى من استهلاك الوقود وعوادم الدخان. ينطبق هذا على الحافلات المستخدمة لنقل العمال من وإلى الموقع.
- منع الحرق المكشوف للمخلفات.
- يتم تغطية الشاحنة الناقلة لمواد/مخلفات البناء أو المواد المتربة الأخرى وذلك بعد التأكد من الاحتفاظ بمسافة ٠.٣ متر تحت الحافة العلوية لجدران الشاحنة ، بالقماش المشمع للتحكم في الغبار؛
- تغطية درم الحفر المخزن بصفة مؤقتة في الموقع بالمواد المناسبة ، مثل البولي إيثيلين أو ألواح النسيج لتجنب تشتت التربة.
- تحديد سرعة قصوى للمركبات والمعدات التابعة للمشروع بحيث ألا تتجاوز السرعة القصوى داخل حدود الموقع عن ١٠-١٥ كم/ساعة.
- توفير خط ساخن لتلقي الشكاوي ٧/٢٤

الضوضاء

- تطبيق جدول زمني مناسب لتجنب أي أعمال قد تسبب ضوضاء واهتزازات خلال الفترة من ١٠ مساءا إلى ٦ صباحا.

- إقتصار تشغيل المعدات المستخدمة في أعمال البناء على أوقات محدودة خلال النهار حيث أنها ليست آمنة للعمل أثناء الليل. سيؤدي ذلك إلى تقليل اضطراب الضوضاء إلى حد كبير للمجتمعات القريبة من مواقع العمل ؛
- تقييد استخدام الآلات التي تصدر ضوضاء بالقرب من المستقبلات الحساسة ، واستخدام وسائل الحد من الضوضاء لآلات البناء ، إذا لزم الأمر ؛
- استخدام المركبات والمعدات المطابقة للمعايير الوطنية للضوضاء والاهتزاز ؛
- أثناء العمل ، يجب إغلاق أغطية المحرك للمولدات وضواغط الهواء وغيرها من المعدات الميكانيكية التي تعمل بالطاقة ، ووضع المعدات بعيدًا عن المناطق السكنية قدر الإمكان ؛
- يجب توفير أغطية للأذنين / معدات حماية السمع لجميع العمال
- لا يتم تشغيل محركات المركبات والآلات الأخرى إلا عند الضرورة للتحكم في الضوضاء الناتجة ؛
- تطبيق نظام الشكاوى لتلقي الشكاوى المتعلقة بالضوضاء.

إدارة المخلفات الصلبة والخطرة

التقليل من المخلفات:

- شراء المواد بالكمية الدقيقة المطلوبة ، لتقليل الاستخدامات المتبقية غير المستخدمة.
- تقليل تولد النفايات في الموقع.
- وضع خطة إدارة بسيطة للنفايات.
- يجب جمع النفايات العامة ونقلها إلى المكان المخصص لذلك من قبل البلدية.
- يجب جمع نفايات الطعام ، حيثما أمكن ، مع مراعاة النظافة الشخصية ، للتخلص منها خارج الموقع من خلال مقاولين مرخصين.
- يجب وضع حاويات لتجميع النفايات في كل موقع عمل.
- يجب جمع النفايات الكيميائية في براميل (أو حاويات محكومة مماثلة) ، معنونة بشكل مناسب ، وم ثم يتم إرجاعها إلى المورد أو نقلها بأمان إلى المكان المخصص من قبل البلدية. يحتوي مكب النفايات هذا على مكان مخصص لاستقبال النفايات الخطرة والطبية على حد سواء ، ويجب إجراء عمليات التخزين والنقل والتعامل مع جميع المواد الكيميائية وفقًا لجميع المتطلبات التشريعية ، من خلال المقاولين المرخصين وبالتنسيق مع البلدية.
- يجب تخزين جميع النفايات الخطرة بشكل ملائم في مناطق محدودة ويجب تحديدها بوضوح على أنها "خطرة".

- يجب أن يتم نقل النفايات الخطرة والتخلص منها من خلال مقاولين مرخصين وبالتنسيق الوثيق مع البلدية ذات الصلة ووفقًا للمتطلبات والتعليمات القانونية.
- يجب إدارة السوائل الخطرة ، مثل المذيبات وعوامل مقاومة الصدأ طبقاً لمتطلبات التشريعات ذات الصلة.
- يجب إعداد جرد للمواد الخطرة لفترة البناء.
- يجب توفير أصحيفة بيانات سلامة المواد (MSDS) للمواد الخطرة في الموقع أثناء البناء وإتاحتها وشرحها للعمال.
- يجب جمع نفايات المواد الهيدروكربونية ، بما في ذلك زيوت التشحيم ، للنقل الآمن خارج الموقع لإعادة استخدامها أو إعادة تدويرها أو نقلها أو التخلص منها في مكب معين من قبل البلدية.

إعادة استخدام النفايات وإعادة التدوير

- كلما أمكن ، سيعيد المقاول استخدام المواد القابلة للتدوير وإعادة تدويرها.
- يتم إعادة تدوير المخلفات التالية: الورق المقوى ، والمعادن ، وخردة المعادن مثل علب المشروبات الغازية ، وزيت مستهلك ، والورق ، والبلاستيك ، والخرسانة النظيفة ، وكذلك الغطاء النباتي المنزوع .

حفظ السجلات

- سيتم الاحتفاظ بكافة سجلات إزالة النفايات والإبلاغ عنها كما هو مطلوب في تقرير الأداء البيئي الشهري ؛
- السجلات التي سيتم الاحتفاظ بها تشمل: إيصالات وفواتير من مقاول نقل النفايات ومنشأة استلام النفايات
- يتم الاحتفاظ بالسجلات السالفة الذكر في سجل النفايات ، الذي يسجل تواريخ الجمع ونوع النفايات والكميات وشركة نقل النفايات والوجهة وتوقيع الشخص المفوض

تخزين النفايات ومعالجتها

- سيتم تخزين النفايات في حاويات أو صناديق. لن يتم تخزينها مباشرة على أرض غير مبطنة ؛
- سيتم تخزين نفايات إعادة التدوير في مناطق أو حاويات منفصلة ، ولن يتم خلطها مع أنواع النفايات الأخرى ؛
- يجب تخزين جميع النفايات الخطرة بشكل ملائم في المناطق المحصورة وتحديدها بوضوح على أنها "خطرة"
- معالجة النفايات وإدارتها بشكل صحيح من خلال فصل النفايات الصلبة عن النفايات الخطرة وعدم مزجها في مكب النفايات ؛
- سيتم جدولة إزالة النفايات من الموقع ، بحيث يكون لديك دائمًا سلة للنفايات متاحة للإستخدام في الموقع ، وللتأكد من عدم الملئ الكامل للنفايات/الحاويات ؛
- أي مناطق تخزين نفايات مؤقتة (غير متضمنة في صناديق أو حاويات) سيتم تغطيتها و / أو إحاطتها بسياج شبكي لمنع هبوب الرياح منها إلي الموقع ؛ و

- يتم تخزين النفايات السائلة ، بما في ذلك نفايات الزيوت والمواد الكيميائية السائلة ، في براميل / حاويات محكمة الإغلاق على سطح خرساني.

التخلص من النفايات

- يجب أن يتم نقل النفايات الخطرة والتخلص منها من خلال المقاولين المرخص لهم وبالتنسيق الوثيق مع البلدية المختصة بذلك.
- يجب جمع النفايات العامة ونقلها إلى المكب المعين من قبل البلدية.

جودة التربة

- وضع علامات لتحديد مكان الحفر عن طريق سور ولاصقات وعلامات ارشادية.
- إتباع الأساليب السليمة للحد من الانسكابات/التسربات؛
- التداول والإدارة السليمة للمخلفات ومواد البناء والمواد الخطرة.
- يتم تخزين النفايات داخل صناديق أو حاويات، وليس على الأرض مباشرة؛
- عدم دفن و / أو حرق النفايات المنزلية في موقع المشروع.
- التخزين المؤقت للنفايات الصلبة عن طريق الاحتواء المناسب لتجنب انتشار النفايات والرائحة وتجنب الغبار ؛ احتواء ثانوي لمنع التسرب.
- ضمان أن تكون حاويات المواد السائلة الخطرة / حاويات النفايات محكمة الإغلاق بشكل صحيح دائمًا ومؤمنة من الانقلاب / السقوط / التلف / أشعة الشمس المباشرة أثناء النقل والتخزين؛
- تخزين المواد الكيميائية، مثل الزيوت ومضادات التآكل بكميات قليلة بالموقع.
- تحفظ جميع أنواع الوقود والمواد الكيميائية السائلة في أوعية أو براميل أو خزانات محكمة الإغلاق وفوق سطح الارض.
- يجب إجراء الصيانة والإصلاح الروتيني للمعدات / المركبات المتنقلة في ورشة عمل.
- يتم الاحتفاظ بمجموعات التنظيف الخاصة بالانسكابات بالقرب من المناطق المستخدمة لتخزين الوقود أو المواد الكيميائية السائلة وسيتلقى الموظفون تدريباً على استخدام أدوات تنظيف الانسكابات؛
- تخزين الزيت ومواد الطلاء في مكان مناسب له قاعدة واقية، مثل بلاطة خرسانية، لمنع أي تغلغل في الأرض؛
- التأكد من وجود البراميل والحاويات المستخدمة في تخزين الوقود أو المواد الكيميائية السائلة (بما في ذلك الزيوت المستعملة والدهانات) في حالة جيدة وخالية من الصدأ أو التلف؛

- تنظيف موقع البناء من المخلفات الصلبة قبل إغلاقه.
- تخصيص مناطق معينة لتخزين مخلفات التربة ومخلفات البناء.
- يجب أن يتم ترميم التربة السطحية والمناطق المتضررة بعد انتهاء مرحلة البناء.

جودة المياه

- يجب تنفيذ أعمال الأرض (إزالة الغطاء النباتي، والحفر، والتسوية) خلال فترات الطقس الجاف.
- يجب أن يتم تخزين التربة على مسافة آمنة بعيداً عن المجاري المائية.
- يتم تخزين النفايات داخل صناديق أو حاويات ، وليس على الأرض مباشرة لمنع التسرب ؛
- عدم إلقاء / التخلص من النفايات الصلبة (غير الخطرة أو الخطرة) ومياه الصرف في المسطحات المائية أو بالقرب منها.
- التنظيف الجيد لتقليل الانسكابات / التسريبات.
- الاستجابة السريعة للانسكابات العرضية للوقود ومواد التشحيم والمواد السامة أو الضارة الأخرى ، واستعادتها والتخلص منها بشكل مناسب (يجب على المقاول إعداد خطة استجابة للطوارئ).
- عدم غسل أو صيانة المركبات والآلات بالقرب من المسطحات المائية.

المياه الجوفية:

- سيتم تخزين النفايات داخل حاويات أو حاويات نفايات ، وليس مباشرة على الأرض لمنع التسرب ؛
- يجب إجراء الصيانة والإصلاح الروتينية للمعدات / المركبات المتنقلة في ورشة ؛
- إجراء الصيانة والتفتيش الدوريين على خزانات الصرف الصحي والسباكة ومرافق الصرف الصحي المرتبطة بها لضمان ظروف صحية جيدة

السلامة والصحة المهنية

يجب على المقاول إعداد خطة الصحة والسلامة المهنية وتحليل مخاطر العمل خلال مرحلة البناء. سيقوم المقاول أيضًا بتعيين شخص متخصص للإشراف على الخطة. فيما يلي بعض تدابير التخفيف الرئيسية التي يجب تضمينها في الخطة:

- يجب تدريب العمال على تحديد وتقييم مخاطر السقوط وأن يكونوا على دراية كاملة بكيفية التحكم في التعرض لمثل هذه المخاطر.
- يجب على العمال وموظفي الموقع دائمًا استخدام معدات الحماية الشخصية خاصة عند التعامل مع المواد السامة.
- يجب على العمال الامتثال لقاعدة إدارة الصحة والسلامة المهنية التي تخص الاستخدام الآمن للسلالم.

- لمنع مخاطر معدات البناء الثقيلة ، يجب على العمال اتباع إرشادات سلامة البناء المصممة للقضاء على التعرض لمثل هذه الإصابات والحوادث
- يجب أن تكون معدات الطوارئ (مواد تنظيف الانسكاب ، طفايات الحريق ، إلخ ..) متوفرة دائمًا في الموقع.
- يجب توفير الفحوصات الصحية الأولية والدورية للعمال.
- يجب أن تتضمن الخطة تدابير الاستجابة لـفيروس كورونا المستجد كما هو موضح في الملحق ٤.
- يجب تزويد العمال بتأمين صحي (يغطي تقديم الدعم الطبي في حالة الإصابة بالأمراض) وتأمين السلامة (الذي يغطي العمال في حالة الحوادث

السلامة المجتمعية

- يجب وضع خطط أمن وأمان كافية لمنع وصول الجمهور إلى مواقع العمل والمواد الخطرة والمخلفات
- يجب على المقاول الالتزام بخطة إدارة المخلفات لتجنب أي عوائق أو مخاطر على السلامة.
- يجب توفير آلية للتظلمات لضمان التواصل الفعال فيما يتعلق بمخاوف المجتمع.

السلامة المرورية

- يجب تثبيت لافتات أمان لإخطار المجتمع بأن مركبات البناء ستستخدم الطرق المؤدية إلى محطة المياه
- يجب على المقاول التأكد من أن النقل المرتبط بالبناء يتوافق مع حدود السرعة

عمالة الأطفال

- يجب كتابة شروط صارمة في عقد المقاول لحظر تعيين الأطفال دون سن ١٨ عامًا
- يجب أن يحتفظ المقاول بنسخة من هويات جميع العاملين

التراث الثقافي

- اتباع إجراء العثور على الآثار (مرفق رقم (٣))

تدفق العمالة و العنف القائم على النوع الإجتماعي

- إعداد مدونة سلوك مناسبة تنص على التزام العمال تجاه فئات المجتمع والسلوكيات التي يجب تجنبها
- يجب تدريب جميع العاملين على قواعد السلوك.
- يجب توقيع قواعد السلوك من قبل المقاول من الباطن
- تعريف بمدونة قواعد السلوك يتم إجراؤه كل أسبوعين للعاملين الدائمين والوافدين الجدد قبل بدء العمل.
- تطبيق المتطلبات الكاملة المتعلقة بتشغيل آلية التظلم بما في ذلك القنوات المجهولة
- زيادة وعي السكان المحليين حول التزام المشروع تجاه المجتمعات والتدابير المتخذة لذلك من خلال المشاورات العامة ومناقشات على شكل مجاميع.
- تطبيق العقوبات على العاملين المخالفين لقواعد السلوك

البنية التحتية والمرافق

- في حالة تلف أحد المرافق الموجودة تحت الأرض وأنابيب البنية التحتية ، يجب اتباع الإجراءات القياسية ، بالإضافة إلى إعداد تقرير توثيقي للحادث.
- في حالة قطع المياه، يجب إعلام المجتمع المحلي قبل القطع
- تنفيذ آلية للشكاوى

إدارة الخدمات الموقعية

- إقامة المخيم داخل أراضي محطة المياه
- ضمان إقامة كرفانات البناء الملائمة ومرافق الصرف الصحي للبناء، أي إنشاء خزان لتخزين المياه العادمة المنزلية الناتجة عن المخيم.
- اتباع أفضل ممارسات إدارة المخلفات وتدابير التخفيف الواردة في خطة الإدارة البيئية والاجتماعية.
- مراقبة ظروف العمل عن كثب ، وفرض تدابير للتحكم في انتقال الأمراض المعدية.
- الحفاظ على آلية فعالة للتظلم (تمت مناقشتها في فصل مشاركة أصحاب المصلحة). يجب أن تكون آلية معالجة المظالم هذه حساسة للنوع الاجتماعي وتضمن السرية
- انخراط محدد مع النساء والفتيات يتضمن التوعية بالعنف القائم على النوع الاجتماعي والوصول إلى قنوات مجهولة للإبلاغ عن الحالات.

العقوبات وإلغاء التعاقد

إذا فشل المقاول في الوفاء بأي من الالتزامات المذكورة أعلاه بموجب العقد ، فسيتم تطبيق العقوبات التالية:

المراحل	الإجراء	التفاصيل
المرحلة الأولي	التحذير	يجب أن يتلقى المقاول بيان تحذير يتضمن الإجراء التصحيحي المقترح. يجب أن تبدأ جميع الإجراءات التصحيحية في مدة لا تزيد عن أسبوعين. يجب على المقاول اتخاذ الإجراء التصحيحي بشكل سريع.
المرحلة الثانية	الدفعات النقدية	في حالة عدم التزام المقاول بخطة الإدارة البيئية والاجتماعية ، لا يحق للمقاول الحصول على الدفعات النقدية بموجب شروط هذا العقد. لن يتم صرف المدفوعات حتى يتم وضع خطة عمل واضحة ويبدأ المقاول في تنفيذ الإجراءات المتفق عليها.
المرحلة الثالثة	إلغاء التعاقد	لن يتم إنهاء العقد بسبب عدم الوفاء بالتزامات خطة الإدارة البيئية والاجتماعية. ومع ذلك ، سيخصم مالك المشروع تكلفة تنفيذ خطة الإدارة البيئية والاجتماعية من العقد. وفي هذه الحالة يجب إرفاق دليل واضح على فشل المقاول في تنفيذ خطة الإدارة البيئية والاجتماعية