

REPUBLIC OF IRAQ KURDISTAN REGIONAL GOVERNMENT

MINISTRY OF CONSTRUCTION AND HOUSING DIRECTORATE OF ROADS AND BRIDGES IN DUHOK

TRANSPORT CORRIDOR PROJECT – ROAD 2 – SEGMENT 3 GHERSHEEN-SUHAILA INTERCHANGE

ADDENDUM AND UPDATE OF THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE REMAINING WORKS

January 2021

Introduction

An Environmental and Social Impacts Assessment (ESIA) report was prepared for Ghersheen – Suhaila Interchange (Segment 3), issued by the Duhok General Directorate of Roads and Bridges (GDRB) and approved by the World Bank (WB). The implementation works on the road started in 2017. Due to shortage in the budget, some works were cancelled at the time of execution.

GDRB has the intention to relaunch the works that were temporary cancelled. The present report is an update of the ESIA dated back to 2015 and covers the works that are being relaunched only.

Description of the Ghersheen -Suhaila intersection Road and remaining works

Ghersheen – Suhaila Interchange Road is 22 km in length. The carriageway that consists of 2-lane in each direction was completed in 2019.

The Project remaining works are to be relaunched. These works, subject to this addendum consist of the following main activities:

- One stone mastic layer
- Four layers of subase for the shoulders
- Drainage works
- Precast concrete curb stone
- Guardrail
- Electrical works

The materials required for the execution of the remaining works are mainly: Aggregates (fine and coarse), Liquid Asphalt, Concrete Mix, Water, Fuel, Paint, Steel Guardrails, Stones, Soil, Electrical Lighting, Steel and Traffic Signals.

The equipment required for the execution of the remaining works consist mainly of: Steel-Wheeled Rollers, Pneumatic-Tyred Rollers, Concrete Mixing Trucks, Excavators, Loaders, Steel Rollers, Motor Graders, Dumper, Asphalt Plant, Concrete Batching Plant, Asphalt Paver, Fuel Truck, Water Truck, Crane Truck, Dump Truck and Asphalt Dump Truck.

The Project facilities include a main camp, construction yards, satellite camps and temporary camps. It is a common practice in the area for the contractor to rent a land for the necessary period and provide adequate water and sanitation connections. The locations of the Project's facilities are not defined yet.

The number of administrative and technical staff and workers is 75 persons and the anticipated duration of the remaining construction activities is estimated at 240 days. Thus a total of 18,000 Man-days will be needed.

In total of $55,857,500.00 \text{ m}^2$ of land were acquired permanently for the project. They include a 100-m width Right of Way (ROW). All the remaining activities will take place within this ROW. No further land acquisition is needed.

Legal and Institutional Framework

The Legal and Institutional Framework detailed in the original ESIA still apply.

Environmental and Social Baseline Conditions

<u>Physical Environment</u>

The project is located in an area characterized as sub-humid upland and mountain region with semi-arid Mediterranean climatic conditions. The main annual rainfall ranges between 400 mm and 1100 mm. The mean minimum in July is about 22°C. In winter the mean monthly minimum in January is 10°C and the lowest minimum is -11°C.

The prevailing wind direction at the project area is North-West. Wind speed is generally of light to moderate value with wind speeds between 0.74 m/sec at times in November and 1.20 m/sec at other times April to July.

The groundwater resources are identified as a shallow aquifer belonging to the Zakho Basin. Surface water resources comprise seasonal runoff valleys. Generally, all the seasonal streams drain towards the Tigris River. The drainage area is characterized as undeveloped cultivated land with the catchment slopes ranging from 0.09 to 0.15 %.

The prevalent land use in the project area is agricultural, composed of the rain-fed cultivation of cereals and livestock grazing. There are no residential settlements in the project area.

<u>Biological Environment</u>

The area has been subjected to diverse human induced impacts over the millennia such as rain-fed cultivation. Therefore, natural habitats have suffered the significant level of degradation over the past several hundred years. The terrestrial ecosystem is characterized as Middle East Steppe ecosystem.

The project area does not contain any globally important habitats or ecosystems. There are no Nature Reserves or other legally protected areas in the vicinity of the project or in its close proximity.

<u>Social Settings</u>

The total population of Duhok Governorate is about 1.2 million residents. Recently, due to the political situation in the region, the area witnessed the influx of refugees and Internally Displaced Persons (IDPs) and the current population of Duhok is estimated at over 1.3 million persons. The influx of IDPs and refugees is putting great stress on the local economy.

Around 5% of the population in Duhok lives below the poverty line which is below the national average estimated at 11.5%. The literacy in estimated at 70%. The number of people with access to an improved water source (96,2%) or improved sanitation facilities (97,3%) in Duhok are both above the national average, but the public electricity network fails to deliver a consistent source of power to the governorate's inhabitants. Limited transport options and financial means hamper access to health facilities.

Environmental and Social Management Plan

In order to manage the Environmental & Social impacts, an Environmental and Social Management Plan (ESMP) has been prepared. The ESMP contains management measures avoidance and mitigation that would be implemented during the construction and operation/maintenance phase of the project and a monitoring plan.

The ESMP covers the measures on and near the highway right-of-way and also in the constructionrelated sites such as camps, asphalt mixing plants, equipment workshops, etc.

	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Water Resources	Potential contamination of surface water (at locations of remaining works)	 Leakage of hazardous fluids from construction machinery; Accidental spills of oils and petrol; Wash off of construction materials during rain events; Inadequate storage of construction materials; Inadequate disposal of liquid and solid waste at construction camp site. 	 Maintaining vehicles used during construction phase to reduce emissions. They should be free of leaking fluids and be covered to reduce/prevent spills; Removing or minimizing side casts; Applying upgraded surfacing; Allowing time restrictions during rain events; Locating heaps and stockpiles of aggregate, filling and spoiling at sites that do not permit direct runoff into watercourses and are on land sloping at less than 1.5 %. Avoiding storage of surplus materials on site and providing for timely and adequate disposal of all surplus materials; Developing and implementing emergency response plan for accidental spills of hazardous materials. 	 Inspection of: debris accumulation in water drainage areas; •Alteration of water courses; •Signs of spillage of hazardous materials. 	•Bi-weekly during the rainy season, and after sporadic rains •Once a month during the dry periods	Contractor Internal monitoring; GDRB - supervision	No extra cost	No extra cost

Table i: ESMP - Construction Phase

	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Soils	Soil Contamination (mostly in the vicinity and adjacent to construction camp)	 Accidental spills of hazardous materials; Leakage from construction machinery and stored construction materials; Inadequate disposal of liquid and solid waste at construction camp. 	 Same measures as for prevention of surface water contamination; In case of accidental spills, disposal of contaminated soil by truck to nearest authorized dumping areas. 	Inspection: signs of soil erosion, evidence of spills of fuel and lubricants	 Inspection: bi-weekly; In case of the accidental spills, soil testing might be required 	Contractor Internal monitoring; GDRB	No extra costs	No extra Cost Testing done by accredited laboratories. Additional cost 3000 US \$

	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring	Cost of	Cost of
Ambient Air Quality	Dust generation Air pollution from emissions	 Movement of vehicles on unpaved surfaces; Excavation; Transporting of cut materials and aggregate materials. Inadequate condition of construction machinery and vehicles; Burning of combustible materials; Burning of the vegetation 	 Spraying of sites and unpaved access roads; Watering entry and exit points to prevent carryover of dust emissions from sites; Establishing speed restrictions for all vehicles; Covering all vehicles transporting materials likely to give off excessive dust. Maintaining the vehicles and equipment properly to ensure there are no excessive exhaust emissions; Prohibiting burning of materials from clearance; Ensuring the machinery operating intermittently is shut down during idle periods. 	Visual Inspection of compliance with mitigation measures.	Weekly and in case of complaints.	Responsibility Contractor Internal monitoring; GDRB - supervision	Mitigation Cost of regular vehicles maintenance Cost of water spraying of unpaved surfaces	Monitoring No extra cost
Noise and Vibration	Increased noise levels that are potentially detrimental to human health	• Operating of construction machinery and equipment.	 Ensuring all the equipment is fitted with noise muffing devices; Ensuring machinery is shut down or throttled down during idle periods; Applying time restrictions of activities to the day-time working hours; Providing PPE to the workers; Performing additional health check-ups for personnel handling the vibrating and noisy equipment. 	Visual Inspection of compliance with mitigation measures	Weekly and in case of complaints	Contractor Internal monitoring; GDRB - supervision	 Cost of PPE Cost of additional check-ups 	No extra cost

	Impacts	Activities	Mitigation Measures	• Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Waste Management	Potential soil contaminati on and consequent contaminati on of shallow aquifer	 Liquid waste: Effluent from construction camp; Oils, industrial effluents, grease and de-greasing solvents. Solid Waste: Construction debris. Discarded and surplus construction activities. 	 Ensuring the camp is well connected to the municipal sewer system or wastewater from the camp is collected in a tank and discharged in approved location; Keeping the site clean and tidy; Ensuring solid waste is properly collected and disposed of; Prohibiting burning of waste; Checking vehicles regularly checked for cleanliness and leakage. 	 Storage conditions of hazardous materials; Disposal at designated sites Contracts with approved waste disposal contractors Receipts form disposal sites (if available) Photo documentatio n 	Bi-Weekly	Contractor Internal monitoring; GDRB supervision	Cost of transporting the waste	Within the cost of environmenta l auditing visits
Public Health and Safety	Increased risk of accidents	 Movement of construction machinery; Movement of transporting vehicles 	 Ensuring all construction vehicles are appropriately marked and carry adequate visual and audio warning systems; Limiting the speed on the working stretches; Providing adequate signage for motorists and pedestrians; Providing barriers at construction sites Prohibiting works and transportation outside specified, supervised hours. Providing safe crossings for pedestrians and livestock 	Site surveillance for the presence of fencing/barriers and warning signs, and traffic speed limitations	Bi-weekly	Contractor Internal monitoring; GDRB supervision Traffic	Cost of provision of warning signs and fencing	Within the cost of environmenta l auditing visits

	Impacts	Activities	Mitigation Measures	Monitoring	Monitoring	Monitoring	Cost of	Cost of
				Parameters	Frequency	Responsibility	Mitigation	Monitoring
Health and Safety of the Workers	 Inhaling of hazardous substance s and extended exposure to dust; Extended exposure to noise and vibration; Accidents involving constructi on vehicles and equipment Physical hazards from maintenan ce work and waste disposal; Fire hazards; Slipping, tripping and falling; Falling while working at heights; 	 Operating the equipment; Noise and dust generation from construction equipment; Vehicles movement. 	 Providing 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 locations of the first aid kits will be provided to all workers and training on First Aid Procedures; Providing training on potential risks and hazards of construction; Providing the PPE and enforce its use; Providing warning signs; Posting contact info indicating the nearest police station and hospital; Taking reasonable steps to prevent unauthorized people accessing the site; Providing straining on handling of UXO/ERW; Providing smoking in construction sites and close to storage areas; Providing site boundaries by installing suitable physical boundaries; Marking excavation holes with physical boundaries Storing building materials so that they cannot topple or roll over; 	 Complaints raised from the workers Number of accidents/ injuries and occupational diseases, incl. presence of communicabl e diseases (e.g. COVID 19) and pathogenic agents OHS Plans Trainings performed and recorded PPE used by workers Fire prevention equipment in place 	Daily	Contractor Internal monitoring; GDRB supervision	 Cost of PPE Cost of dust abatement measures Regular cost of vehicles and equipment maintenan ce 	Within the cost of environmenta l auditing visits

• Manual	Keeping walkways and	
handling	stairways free of tripping	
and	hazards such as trailing	
lifting;	cables, building materials,	
• Electrocut	and debris;	
ion while	• Providing workers with	
working	enough access to toilet and	
on	washing facilities, a place for	
handrails	preparing and consuming	
and	refreshments, and an area for	
lighting;	storing and drying clothing	
• Contact	and personal protective	
with live	equipment (PPE);	
power	• Ensuring scaffolding for work	
lines;	in elevated areas such as	
• Heat	lighting poles comply with	
exhaustio	the OSHA;	
n;	• Implementing an Emergency	
 Increased 	Response Plan to manage	
risk of	major incidents if they should	
spread of	occur in the vicinity of the	
communic	construction site;	
able	• Ensuring proper insurance	
diseases	coverage for all the types of	
in general	workers;	
and in	Maintaining daily attendance	
specific	sheets in order to verify the	
COVID-	attendance of workers in case	
19;	of accidents;	
• Undiscov	• Adopting and implementing a	
ered	health management system	
UXO/ER	for the workers, to ensure	
W may	through medical check-ups,	
present	they are fit for work and that	
additional	they will not introduce	
risks to	disease into local	
public and	communities;	
to	Adopting an Occupational	
employee	Health and Safety Plan and	
s.	job hazard analysis during the	

			 construction phase. The plan will include measures to protect workers from COVID-19 infection, and all national health regulations will be followed. According to WBG EHS Guidelines and OHSA standards; Developing COVID-19 risk- based procedures tailored to site conditions and workers' characteristics, and based on guidance issued by relevant authorities, both national and international (e.g. WHO); Prohibiting Child labor. All of the contractor workers should be registered and age verified by the Social officers and the PMTs. Children below 18 will not be recruited. 					
Construction Camp	Potential soil contaminati on and consequent contaminati on of shallow aquifer	 Storage of construction materials; Inadequate disposal of discarded materials; Inadequate disposal of construction debris; Spillage of machinery oils; Leakage of domestic effluent from septic tank. 	 Locating the camp outside known aquifer recharge zones; Providing adequate infrastructure for effluent collection; Disposing effluent timely and properly; Disposing solid waste timely and properly; Providing collection pits for collection of used machinery oils; Maintaining vehicle adequately; Transporting wastes to the designated disposal sites. 	• Inspection of the camp	Bi-weekly auditing	Contractor Internal monitoring; GDRB - supervision	No extra costs	Within the cost of environmenta l auditing visits

	Impacts	Activities	Mitigation Measures	Monitoring	Monitoring	Monitoring	Cost of	Cost of
				Parameters	Frequency	Responsibility	Mitigation	Monitoring
Disruption of Local Social Setting	Social Life and community- workforce integration	• All activities	 Recruiting local workers and contractors when possible; Ensuring the GRM is operational; Implementing COVID-19 prevention methods; Engaging with community and neighbors; Developing work procedures, defining a Code of Conduct (CoC) for all workers, including acceptable behavior with respect to community interactions and train workers on its content; Ensuring the provision of information regarding Worker CoC in local language; Training all workers on GBV and SEA/SH risks and related sanctions. 	 Site inspection GRM reports Training reports 	Monthly	Contractor Internal monitoring; GDRB supervision	No extra cost	No extra cost

Para mete	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Handling Complaints		All activities	• Compliance with GRM for one year following completion of works 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	 Record keeping on received complaints, No. of complaints received 	Quarterly	GDRB - supervision	No extra cost	No extra cost

Table ii: ESMP – Operational Phase

accidentsmovementand enforce its use;inspection and checking of mitigation measuresmaintenanceTraffic Policemaintenanceroad maintenanceFroviding warning signs.Providing warning signs.mitigation measuresmaintenanceTraffic Police worksmaintenance	ice costs		GDRB	During	• Regular site	• Providing the PPE	• Traffic	Risk of	
ite site; Providing site boundaries and marking excavation holes by installing physical boundaries; Ensuring work in elevated areas such as lighting poles complies with the OSHA; Ensuring proper insurance coverage for all the types of workers; Adopting and implementing a health management system for the workers Developing COVID-19 risk- based procedures tailored to site conditions and workers'		maintenance		maintenance	checking of mitigation	 use; Providing warning signs. Taking reasonable steps to prevent unauthorized people accessing the site; Providing site boundaries and marking excavation holes by installing physical boundaries; Ensuring work in elevated areas such as lighting poles complies with the OSHA; Ensuring proper insurance coverage for all the types of workers; Adopting and implementing a health management system for the workers Developing COVID-19 risk-based procedures tailored to site conditions and 		accidents related to road	Workers and Public Health and safety

Public Consultations relevant to remaining works

Public participation in the ESIA process has an important role in integrating economic, social and environmental objectives. Public participation makes a positive contribution to the project in terms of minimizing and avoiding potential public controversy and in identification of priorities of assessment.

Previous Consultations

Public participation took place for the integral works under Ghersheen-Suhaila intersection Road through 2 scoping sessions, more than 10 structured consultations with stakeholders and many interviews with the individual PAPs along the road alignment.

Consultations for the remaining works

In accordance with WB policies, stakeholder's consultation was conducted for Ghersheen-Suhaila intersection remaining works in line with the WB's directives regarding COVID-19 pandemic.

Consultation with 5 PAPs were conducted on November 19, 2020. A brief explanation of the remaining works, their impacts and the mitigation and monitoring plans were presented to the attendees. A brief of the GRM in place under the Project was also explained to the attendees. Then, the attendees were asked to fill in a questionnaire and express their comments (See Annex B).

Unanimity of the participants approved the remaining works under the Ghersheen-Suhaila intersection Road but insisted on employing local workers and small contractors for the Project.

Grievance Redress Mechanism

The GRM established for the Project will be used during the construction works and made operational one year after completion of the Defects Notification Period.

Conclusion

The ESMP concludes that the proposed construction of the Ghersheen – Suhaila interchange remaining works will have an overall significant beneficial impact on the affected population. The implementation of the recommended mitigation measures especially during the construction phase will ensure that potential negative environmental impacts are addressed.

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ABBREVIATIONS

CoC	Code of Conduct
COVID-19	Corona Virus Disease
ERW	Explosive Remnants of War
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GBV	Gender Based Violence
GDRB	General Directorate of Roads and Bridges
GRM	Grievance Redress Mechanism
Ha	Hectare
IDP	Internally Displaced Person
IOM	International Organization for Migration
IS	Islamic State
KRG	Kurdistan Regional Government
NGO	Non-Governmental Organization
OHS	Occupational Health and Safety
OSHA	Occupational Health and Safety Organization
PAP	Project Affected Person
РСР	Polychlorinated Biphenyls
РМТ	Project Management Team
PPE	Personal Protective Equipment
ROW	Right Of Way
SEA	Sexual Exploitation and Abuse
UXO	Un-Exploded Ordnance
WHO	World Health Organization
WB	World Bank

1. Introduction

An Environmental and Social Impacts Assessment (ESIA) report was prepared for two segments of Road No. 2 in Kurdistan, Iraq: Batil – Ghersheen (Segment 2) and Ghersheen – Suhaila (Segment 3), issued by the Duhok General Directorate of Roads and Bridges (GDRB) and approved by the World Bank (WB). A Resettlement plan was prepared and expropriation completed. The implementation works on the road started in 2017. Due to shortage in the budget, some works were cancelled at the time of execution.

GDRB has the intention to relaunch the works that were temporary cancelled. The present report is an update of the ESIA dated back to 2015 and covers the works that are being relaunched only.

2. Project Description

2.1 Description of the Ghersheen -Suhaila intersection Road

Ghersheen – Suhaila Interchange Road is 22 km in length (see Figures below). The carriageway that consists of 2-lane in each direction was completed in 2019. Part of the works were partially completed and some other were cancelled at that time due to shortage in the budget at the time of execution.



Figure 1: General location of Ghersheen-Suhaila intersection Road



Figure 2: General view of the newly constructed Ghersheen-Suhaila intersection Road

The main features of the Ghersheen-Suhaila intersection Road are summarized in the following table.

Feature	Value	Unit
Width of median	3	m
Width of the median inner marginal strip	1.20	m
Width of traffic lane	3,75	m
Shoulder width	3	m
Design Speed	100	Km/h
Max Longitudinal slop	6% for mountainous areas	
	4% for rolling area	
Min. horizontal curb radius	440	m
Road pavement layers	61	cm
A.C wearing course using polymer (Modified		
Bitumen)	5	cm
A.C Binder course & tack coat	7	cm
A.C Binder course & prime coat	9	cm

Table 1: Main	Features of	f Ghersheen-	Suhaila	intersection	Road

2.2 Description of the Remaining Works on Ghersheen -Suhaila Intersection

The Project remaining works are to be relaunched. These works, subject to this addendum, consist of the following main activities

1 Carriageway and lanes 2 Asphalt Layers 4 layers including stone mastic asphalt 3 Shoulders Asphalt	3 layers without stone mastic asphalt Sub-Base	present Project None Stone mastic (394,000 m ²) 4 Layers :(2-binder, 1- wearing course & 1- stone mastic) (132,000 m ² each)
2 Asphalt Layers 4 layers including stone mastic asphalt	stone mastic asphalt	Stone mastic (394,000 m ²) 4 Layers :(2-binder, 1- wearing course & 1- stone mastic)
stone mastic asphalt	stone mastic asphalt	(394,000 m ²) 4 Layers :(2-binder, 1- wearing course & 1- stone mastic)
1	=	4 Layers :(2-binder, 1- wearing course & 1- stone mastic)
5 Shoulders Asphan	Sub-Dase	wearing course & 1- stone mastic)
		mastic)
		/
		(152,000 m cach)
4 Drainage works		
4.1 Side Ditch 17,050 m ³	10,417 m ³	6,633 m ³
4.2Stepped Channels2,560 ml	560 ml	2,000 ml
4.3 Cut Slope Protection		30,000 ml
4.4 Loose stone riprap for side		546 m ³
slope		
4.5 Loose stone riprap for		8,245 m ³
culverts protection		
4.6 Under Drain ditch		31,500 ml
4.7 Drop inlet		10 No.
5 Precast Concrete Curb		11,226 ml
Stone		
6 Guardrail		23,770 ml
7 Electrical Works		
7.1 Power Substation		6 No.
7.2 Street lighting 12 m high		170 No.
7.3 Tunnel lighting luminaire		63 No.
7.4 Mast with sodium flood		12 No.
lights 30 m high		

Table 2: Remaining Works on Ghersheen-Suhaila intersection Road

2.3 Materials and Equipment

The materials required for the execution of the remaining works are mainly: Aggregates (fine and coarse), Liquid Asphalt, Concrete Mix, Water, Fuel, Paint, Steel Guardrails, Stones, Soil, Electrical Lighting, Steel and Traffic Signals.

The equipment required for the execution of the remaining works consist mainly of: Steel-Wheeled Rollers, Pneumatic-Tyred Rollers, Concrete Mixing Trucks, Excavators, Loaders, Steel Rollers, Motor Graders, Dumper, Asphalt Plant, Concrete Batching Plant, Asphalt Paver, Fuel Truck, Water Truck, Crane Truck, Dump Truck and Asphalt Dump Truck.

2.4 Project Facilities

The Project facilities include a main camp, construction yards, satellite camps and temporary camps. It is a common practice in the area for the contractor to rent a land for the necessary period and provide all necessary water and sanitation connections. The locations of the Project's facilities are not defined yet.

2.5 Estimate of the Staffing Requirements

The number of administrative and technical staff and workers is estimated at 75 persons over a duration of 240 days, thus 18,000 man-days.

2.6 Duration of Construction Activities

The anticipated duration of the remaining construction activities is estimated at 240 days.

2.7 Land Acquisition

In total of 55,8.6 ha of land were acquired permanently for the project. They include a 100-m width Right of Way (ROW). All the remaining activities will take place within this ROW. No further land acquisition is needed.



Figure 2: General View of the Newly Constructed Ghersheen-Suhaila Intersection Road

3. Legal and Institutional Framework

The Legal and Institutional Framework detailed in the original ESIA still apply.

4. Environmental and Social Baseline Conditions

4.1 Physical Environment

The project is located in an area characterized as sub-humid upland and mountain region with semi-arid Mediterranean climatic conditions. The main annual rainfall ranges between 400 mm and 1100 mm. The mean minimum in July is about 22°C. In winter the mean monthly minimum in January is 10°C and the lowest minimum is -11°C.

The prevailing wind direction at the project area is North-West. Wind speed is generally of light to moderate value with wind speeds between 0.74 m/sec at times in November and 1.20 m/sec at other times April to July.

A regional stratigraphic column shows the presence of a thick Jurassic and Cretaceous succession composed of carbonates, shale and anhydrates. At its type locality within Iraqi Kurdistan, the formation is composed of thin-bedded, black bituminous limestone, dolomitic limestone and black papery shale with streaks of thin black chert in the upper part.

The groundwater resources are identified as a shallow aquifer belonging to the Zakho Basin. The Zakho Basin stretches across the border between Iraq and Turkey. In Iraq, the Zakho Basin has a catchment area of about 1,107 km². In the early 1980s an estimated total of 24.3 MCM of good-quality (<700 mg/L TDS) water had been abstracted (9.5 MCM from deep wells and 12.3 MCM as spring discharge).

Surface water resources comprise seasonal runoff valleys. Generally, all the seasonal streams drain towards the Tigris River. The drainage area is characterized as undeveloped cultivated land with the catchment slopes ranging from 0.09 to 0.15 %. The catchment area is estimated as ranging from 1, 7 to 2.1 km². The peak runoff for 25-year period is evaluated as approximately $1.8 - 4.3 \text{ m}^3$ /sec.

The prevalent land use in the project area is agricultural, composed of the rain-fed cultivation of cereals and livestock grazing. There are no residential settlements in the project area.

4.2 Biological Environment

The area has been subjected to diverse human induced impacts over the millennia such as rain-fed cultivation. Therefore, natural habitats have suffered the significant level of degradation over the past several hundred years. The terrestrial ecosystem is characterized as Middle East Steppe ecosystem.

Vegetation reflects the Mesopotamian province of the Irano-Turanian eco-region and is characterized by the dominance of the drought-tolerant low shrubs with a variety of grasses and legumes.

The area of the project is located in a general area identified as a fly-way route for migratory birds from Eastern Europe and West Siberia to Mesopotamia and Africa.

The project area does not contain any globally important habitats or ecosystems. There are no Nature Reserves or other legally protected areas in the vicinity of the project or in a close proximity.

4.3 Social Settings

The total population of Duhok Governorate is about 1.2 million residents. However, due to the political situation in the region the area witnessed the influx of refugees and Internally Displaced Persons (IDPs). The current population of Duhok is estimated at over 1.3 million persons. The influx of IDPs and refugees is putting great stress on the local economy.

The governorate of Duhok is part of the Kurdistan Region of Iraq and includes the districts of Duhok, Amedi, Sumel and Zakho. Kurds are the dominant ethnic group, with small minorities of Turkmen and Arabs living across the governorate.

Around 5% of the population in Duhok lives below the poverty line which is below the national average estimated at 11.5%. The literacy in estimated at 70%.

The number of people with access to an improved water source (96,2%) or improved sanitation facilities (97,3%) in Duhok are both above the national average, but the public electricity network fails to deliver a consistent source of power to the governorate's inhabitants. Limited transport options and financial means hamper access to health facilities.

5. Anticipated Impacts Assessment

The environmental and social impacts of a road are not limited to the pavement and subgrade but also includes its several components and accessories. Although the impacts of the Ghersheen-Suhaila Intersection Road Project including all the road components were assessed in the previous ESIA that was approved by the WB, the WB requested an update of the impacts for the remaining works (the shoulders, the drainage component, the guardrails and the electrical and lighting works).

This chapter of the addendum to the previous ESIA discusses the potential impacts related to the remaining components only.

5.1 Anticipated Adverse Impacts during Construction Phase

During construction phase the anticipated impacts are essentially of two types: On-Site impacts arising from the physical construction activities within the ROW and Off-Site impacts arising from the related activities undertaken elsewhere, such as construction camps.

5.2 Impacts of Land Acquisition

Permanent land acquisition for the expansion of the ROW, construction of interchanges, lay-bys, culverts and underpasses has been tackled in the original ESIA and land-owners were compensated for their crops and lands losses before the start of the road construction works. No further land acquisition is needed as the expropriation process was completed before the start of the road works. All the remaining works will take place within the road ROW.

5.3 Anticipated Impacts on Water Resources

Water contamination is relatively minor and generally limited to areas around bitumen coating plants, fuel storage tanks and similar facilities. The potential for spillages of chemicals and hydrocarbon products can pollute watercourses and eventually infiltrate into the underlying aquifers, thus causing pollution of the groundwater resources.

Another potential source of pollution is disposal of the raw sewage (Fecal column and ammonia) from the construction camp directly into the water courses. Disposal of generated solid waste from the construction camp and construction debris on ad hoc basis may potentially be the source of groundwater contamination due to leaching of contaminants into the soil and eventually infiltrating into the aquifer.

5.4 Anticipated Impacts on Soil

The most relevant impact of the remaining works can be caused by accidental spillages of chemicals and hydrocarbon products and around the auxiliary facilities.

5.5 Anticipated Impacts on Air Quality

Dust has a minor impact as the remaining works will not entitle large volumes of excavation and earth moving. The dust generating construction activities are limited to handling and storage of

sand and aggregates, some concrete mixing and due to the movement of aggregates. The impacts of dust are mostly concentrated on the construction sites.

Another factor that has an impact on the air quality is the **exhaust emissions** of the construction machinery and auxiliary vehicles movement. During the construction stage, negative impacts on air quality are considered temporary and might affect the health of construction workers

5.6 Noise Impacts

During the construction phase there is unavoidable noise and vibration generation due to the operation of various types of equipment. However, since the remaining works are limited and temporary, this impact is considered minor.

5.7 Waste Generation

During construction phase the main sources of liquid waste generation are:

- Sewage from offices, accommodation blocks and canteens;
- Wastewater containing high suspended solids;
- Oil residues and industrial fluids from washing of plant and vehicles;
- Waste oil, grease and de-greasing solvents from vehicle and plant servicing.

The main sources of solid waste are:

- Paper, discarded packaging and crates, redundant plant, used tires and broken or failed concrete products;
- Construction debris such as unused excavated aggregate materials;
- Residential containing organic waste from construction camps (approximately 1.5 kg/person/day).

The main impact of the inadequate waste disposal is potential contamination of soil and surface water resources, eventually infiltrating to groundwater resources.

5.8 Construction Camp Impacts

The construction camp has a number of facilities that if not adequately managed might potentially be detrimental to the environment. The impacts of the construction camp are considered as moderate and limited in magnitude and duration. The construction camp activities which can cause an impact are:

- Housing of construction crew and canteen. It is expected that the number of people residing in the camp will be limited to the non-local personnel, maximum 15 people, including the guards. However, the camp will be used for resting during the day if needed.
- Storage of construction materials;
- Parking lot and maintenance area for the construction machinery and equipment;
- Septic tank for the housing and canteen and disposal of effluent;

- Accidental spillage of hazardous materials;
- Accumulation of discarded and excessive materials;
- Accumulation of construction debris and residential solid waste.

The most significant impact of the construction camp is potential soil contamination and consequent contamination of shallow aquifer.

5.9 Resources Use

The remaining works do not involve significant use of resources. They are limited to minor quantities of granular material and water for the provision of the water supply to the construction camp and yards as well as for the concrete and to reduce the generation of dust.

5.10 Public Safety

During construction, the Contractor is expected to establish detours and diversions, in coordination with concerned authorities. However, risk of traffic accidents is expected on road users, as well as pedestrians of the nearby localities. In addition to traffic accidents, public safety would be at risk if transportation from and to the construction site, as well as unauthorized access to construction site are not controlled. The risk to public safety is considered moderate. Areas of most danger to public include:

- Detours and diversion points;
- Where heavy equipment is moving in and out of construction area;
- The sites of loading of the debris;
- At storage areas for construction materials, fuel and surplus spoil.

5.11 Occupational Health and Safety

All construction sites are inherently unsafe. The substantial risks to public safety as discussed above are limited by occasional and casual acquaintance the public with the proposed construction activity. For those employed on the project the risks are more varied and omnipresent. These are:

- Inhaling of hazardous substances and extended exposure to dust;
- Health risk due to the extended exposure to noise and vibration;
- Accidents involving construction vehicles and equipment;
- Physical hazards from maintenance work and waste disposal;
- Fire hazards;
- Slipping, tripping and falling;
- Falling while working at heights;
- Manual handling and lifting;
- Electrocution while working on handrails and lighting;
- Contact with live power lines;
- Heat exhaustion;
- Increased risk of spread of communicable diseases in general and in specific COVID-19;

• Undiscovered Un-Exploded Ordnance/ Explosive Remnants of War (UXO/ERW) may present additional risks to public and to employees therefore the extreme caution should be exercised while moving the debris despite the fact that the area have received clearance from the armed forces.

However, the risks to workers on construction sites are well understood and documented and providing normal, internationally accepted Health and Safety procedures are followed, they can be minimized.

According to SEA/SH risk assessment the risks associated with the project was identified to be Moderate. Further assessment will continue to be done during the preparation of other safeguards instruments and throughout the life of the project

5.12 Disturbance to Local Social Settings

During the construction phase it is anticipated that there would be some disturbance to local settings, such as difficulties and extended time to travel to access urban centers and medical centers. However, this impact is considered minor.

Recruitment of local workers, which is mostly planned from local labor market, is unlikely to cause social tensions, or disturbance to residential areas in the vicinity of the project. Further, no foreign labor influx is expected in the project. However, some impacts may arise as a result of establishing working camps in the area, such as disturbances to movement and daily lives of nearby communities, or issues related to Sexual Exploitation and Abuse (SEA) or Sexual Harassment (SH).

At the time of relaunching of the remaining works, the COVID-19 outbreak is still affecting community health across the country, as the case with the rest of the world. Workers gathering at the construction site if not abiding to social distancing instructions or lacking proper protective gear may lead to increased infection rates. Impacts in this context is expected moderate.

According to SEA/SH risk assessment the risks associated with the project was identified to be Moderate. Further assessment will continue to be done during the preparation of other safeguards instruments and throughout the life of the project.

There are no existing utilities in the project area that would be affected by the execution of works. The existing electrical power lines were relocated during the construction of the road.

For underpasses were provided for the road crossing by the livestock in the area and if needed by the pedestrians.

5.13 Anticipated Adverse Impacts during Operational Phase

This section of the report discusses the potential impacts that may occur during the operation and maintenance of the road.

5.14 Workers and Public Safety during maintenance

Two primary sources of accidents involving maintenance workers and/or traffic flow modifications during road maintenance.

The risk of accidents can be greatly reduced by effective planning of activities, including adequate use of warning signs and site supervision.

5.15 Utilities and Infrastructure:

Energy will be consumed during the operation phase for lighting purposes thus slightly contributing to the depletion of natural resources if the new lighting infrastructure was not based on renewable energy.

6. Mitigation Measures

6.1 Mitigation of Impacts during Construction

The majority of construction-related impacts are temporary. They can be mitigated through adequate construction practices and effective site supervision.

Mitigation of Impacts on Water resources

Several mitigation measures can prevent the contamination of water from chemical pollutant, sewage and solid waste. These can be summarized as follows:

- Maintaining vehicle used during construction phase to reduce emissions. They should be free of leaking fluids and be covered to reduce/prevent spills;
- Removing or minimizing side casts;
- Applying upgraded surfacing;
- Allowing time restrictions during rain events;
- Locating heaps and stockpiles of aggregate, filling and spoiling at sites that do not permit direct runoff into watercourses and are on land sloping at less than 1.5 %;
- Avoiding storage of surplus materials on site and providing for timely and adequate disposal of all surplus materials;
- Developing and implementing emergency response plan for accidental spills of hazardous materials.

Mitigation of Impacts on Soil

Same measures as for prevention of surface water contamination can also be applied to mitigate the impacts on soil. In addition, if accident occidental spill occurs, the contaminated soil shall be disposed by truck to the nearest authorized dumping site.

Mitigation of impacts on Air Quality

The dust generating activities can be mitigated by adopting the following measures:

- Spraying of sites and unpaved access roads;
- Watering entry and exit points to prevent carryover of dust emissions from sites;
- Establishing speed restrictions for all vehicles;
- Covering all vehicles transporting materials likely to give off excessive dust.

The impacts of emissions can be mitigated by:

- Maintaining the vehicles and equipment properly to ensure there are no excessive exhaust emissions;
- Prohibiting burning of materials from clearance of trees, bushes and other combustible matter;
- Ensuring the machinery operating intermittently is shut down during idle periods.

Abatement of Noise

During the construction phase, the noises can be reduced and mitigated by:

- Ensuring all the equipment is fitted with noise muffing devices;
- Ensuring machinery is shut down or throttled down during idle periods;
- Applying time restrictions of activities to the day-time working hours;
- Providing PPE to the workers;
- Performing additional health check-ups for personnel handling the vibrating and noisy equipment.

Waste Management

During construction phase the liquid and solid waste shall be well managed to prevent potential contamination of soil and water resources. This can be achieved by the implementation of the following mitigation measures:

- Ensuring the camp is well connected to the municipal sewer system or wastewater from the camp is collected in a tank and discharged in approved location;
- Keeping the site clean and tidy;
- Ensuring solid waste is properly collected and disposed of;
- Prohibiting burning of waste;
- Checking vehicles regularly checked for cleanliness and leakage.

Public Safety

The risk to public safety can be reduced if the following mitigation measures are implemented:

- Ensuring all construction vehicles are appropriately marked and carry adequate visual and audio warning systems;
- Limiting the speed on the working stretches;
- Providing adequate signage for motorists and pedestrians;
- Providing barriers at construction sites
- Prohibiting works and transportation outside specified, supervised hours.
- Providing safe crossings for pedestrians and livestock

OHS of Workers

in order to provide a safe construction sites and reduce the risks on the health and safety of the workers, the following mitigation measures shall be applied:

• Providing 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 locations of the first aid kits will be provided to all workers and training on First Aid Procedures;

- Providing training on potential risks and hazards of construction;
- Providing the PPE and enforce its use;
- Providing warning signs;
- Posting contact info indicating the nearest police station and hospital (with accident and emergency facilities);
- Taking reasonable steps to prevent unauthorized people accessing the site;
- Providing training on handling of UXO/ERW;
- Providing extinguishers on work site;
- Prohibiting smoking in construction sites and close to storage areas;
- Providing site boundaries by installing suitable physical boundaries (barriers, tape or fence);
- Marking excavation holes with physical boundaries (barriers, tape or fence);
- Storing building materials (such as pipes, manhole rings, and cement bags) so that they cannot topple or roll over;
- Keeping walkways and stairways free of tripping hazards such as trailing cables, building materials, and debris;
- Providing workers with enough access to toilet and washing facilities, a place for preparing and consuming refreshments, and an area for storing and drying clothing and personal protective equipment (PPE);
- Ensuring work in elevated areas such as lighting poles comply with the OSHA;
- Implementing an Emergency Response Plan to manage major incidents if they should occur in the vicinity of the construction site;
- Ensuring proper insurance coverage for all the types of workers. (work related accidents, injuries and fatalities, as well as insurance for third party);
- Maintaining daily attendance sheets in order to verify the attendance of workers in case of accidents.
- Adopting and implementing a health management system for the workers, to ensure through medical check-ups, they are fit for work and that they will not introduce disease into local communities;
- Adopting an Occupational Health and Safety Plan and job hazard analysis during the construction phase. The plan will include measures to protect workers from COVID-19 infection, and all national health regulations will be followed. According to WBG EHS Guidelines and OSHA standards;
- Developing COVID-19 risk-based procedures tailored to site conditions and worker's characteristics, and based on guidance issued by relevant authorities, both national and international (e.g. WHO);
- Prohibiting Child labor. All of the contractor workers should be registered and age verified by the Social officers and the Project Management Team (PMT). Children below 18 will not be recruited.

Construction Camp Impacts

The construction camp shall be managed properly to minimize its impacts. The following measures shall be adopted:

- Locating the camp outside known aquifer recharge zones;
- Providing adequate infrastructure for effluent collection;
- Disposing effluent timely and properly;
- Disposing solid waste timely and properly;
- Providing collection pits for collection of used machinery oils;
- Maintaining vehicle adequately;
- Transporting wastes to the designated disposal sites.
- Provision of regular medical check-ups for the crews, adherence to mandatory use of the face mask, social distancing, spacing between the people in the canteen and prohibition of gatherings in the view of preventive measures during the COVID-19 pandemic.

Disturbance to Local Social Settings

The following mitigation measures shall be implemented in order to minimize disturbance to local social settings.

- Recruiting local workers and contractors when possible;
- Ensuring the GRM is operational;
- Implementing COVID-19 prevention methods;
- Engaging with community and neighbors;
- Ensuring the provision of information regarding Worker Code of Conduct in local language;
- Training all workers on GBV and SEA/SH risks and related sanctions. Prepare, apply and adhere to a code of conduct for all staff involved in the project,
- As needed, carry out training/awareness-raising of SEA/SH,
- Ensure anonymous GRM channels are in place to deal with the potential SEA/SH grievances and report case through the GRM as appropriate, Follow a survivor centric approach by keeping survivor information confidential and anonymous.
- Ensure that the risk related to SEA/SH is assessed on ongoing basis and that this scope is included in the ToRs of the social officer of the project.
- Sensitization of local populations to project-related SEA/SH risks; mechanisms for reporting/redress and engagement with women, as well as actors with appropriate expertise to engage with communities.

6.2 Mitigation of Impacts during Operation and Maintenance

Handling Complaints

The GRM established for the Project can ensure that local community members have an accessible, fair and transparent means of reporting any emerging adverse impacts, and a means of obtaining mitigation. It shall be relaunched and be operational for one year following completion of all the works within the present Project.

Workers and Public Safety during Maintenance

Two primary sources of accidents involving maintenance workers and/or traffic flow modifications during road maintenance.

The risk of accidents can be greatly reduced by the implementation of the following mitigation measures:

- Implementing the Health and Safety regulations;
- Providing directional and warning road signage;
- Enforcement of proper driver's behavior;
- Providing the PPE and enforce its use;
- Providing warning signs;
- Taking reasonable steps to prevent unauthorized people accessing the site;
- Providing site boundaries by installing suitable physical boundaries;
- Marking excavation holes with physical boundaries;
- Ensuring scaffolding for work in elevated areas such as lighting poles comply with the OSHA;
- Ensuring proper insurance coverage for all the types of workers;
- Adopting and implementing a health management system for the workers, to ensure through medical check-ups, they are fit for work and that they will not introduce disease into local communities;
- Developing COVID-19 risk-based procedures tailored to site conditions and workers' characteristics, and based on guidance issued by relevant authorities, both national and international (e.g. WHO).

7. Environmental and Social Management Plan

In order to manage the Environmental & Social impacts, an Environmental and Social Management Plan (ESMP) has been prepared. The ESMP contains management measures avoidance, mitigation, as well as enhancements that would be implemented during the construction and operation/maintenance phase of the project.

It covers the measures on and near the highway right-of-way and also in the construction-related sites such as camps, asphalt mixing plants, equipment workshops, etc.

Implementation arrangements and monitoring and evaluation remain the same with the original ESIA.

	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Water Resources	Potential contamination of surface water (at locations of remaining works)	 Leakage of hazardous fluids from construction machinery; Accidental spills of oils and petrol; Wash off of construction materials during rain events; Inadequate storage of construction materials; Inadequate disposal of liquid and solid waste at construction camp site. 	 Maintaining vehicle used during construction phase to reduce emissions. They should be free of leaking fluids and be covered to reduce/prevent spills; Removing or minimizing side casts; Applying upgraded surfacing; Allowing time restrictions during rain events; Locating heaps and stockpiles of aggregate, filling and spoiling at sites that do not permit direct runoff into watercourses and are on land sloping at less than 1.5 %. Avoiding storage of surplus materials on site and providing for timely and adequate disposal of all surplus materials; Developing and implementing emergency response plan for accidental spills of hazardous materials. 	 Inspection of: debris accumulation in water drainage areas; •Alteration of water courses; •Signs of spillage of hazardous materials. 	•Bi-weekly during the rainy season, and after sporadic rains •Once a month during the dry periods	Contractor Internal monitoring; GDRB - supervision	No extra cost	No extra cost

Table 3: ESMP - Construction Phase

	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Ambient Air Quality Soils	Air pollution from emissions	 Vehicakage fro. ungaxstruction suffactimery a Excavation; Transportiution of fulterials; watsridgate aggregated of materialsand so Inatlasfate condition construction machinery and vehicles; Burning of combustible 	 Water Tog the provided soft points and to prevent carry average soft points on the prevent carry average of dust emission of the prevent carry average of dust emission of the prevent of the pr	Visualence of Inspirition afel compliant features mitigation measures.		in Conflactor monitoring; GDRB monitoring; GDRB - supervision	Cost of regular vehicles maintenance Cost of water spraying of unpaved surfaces	No extra cost Testing done by accredited laboratories. Additional cost 3000 US \$
Noise and Vibration	Increased noise levels that are potentially detrimental to human health	 materials; Burning of the vegetation Operating of construction machinery and equipment. 	 operating intermittently is shut down during idle periods. Ensuring all the equipment is fitted with noise muffing devices; Ensuring machinery is shut down or throttled down during idle periods; Applying time restrictions of activities to the day-time working hours; Providing PPE to the workers; Performing additional health 	Visual Inspection of compliance with mitigation measures	Weekly and in case of complaints	Contractor Internal monitoring; GDRB - supervision	 Cost of PPE Cost of additional check-ups 	No extra cost
			check-ups for personnel handling the vibrating and noisy equipment.					

	Impacts	Activities	• Mitigation Measures	• Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Waste Management	Potential soil contaminati on and consequent contaminati on of shallow aquifer	 Liquid waste: Effluent from construction camp; Oils, industrial effluents, grease and de-greasing solvents. Solid Waste: Construction debris. Discarded and surplus construction activities. 	 Ensuring the camp is well connected to the municipal sewer system or wastewater from the camp is collected in a tank and discharged in approved location; Keeping the site clean and tidy; Ensuring solid waste is properly collected and disposed of; Prohibiting burning of waste; Checking vehicles regularly checked for cleanliness and leakage. 	 Storage conditions of hazardous materials; Disposal at designated sites Contracts with approved waste disposal contractors Receipts form disposal sites (if available) Photo documentatio n 	Bi-Weekly	Contractor Internal monitoring; GDRB supervision	Cost of transporting the waste	Within the cost of environmenta l auditing visits
Public Health and Safety	Increased risk of accidents	 Movement of construction machinery; Movement of transporting vehicles 	 Ensuring all construction vehicles are appropriately marked and carry adequate visual and audio warning systems; Limiting the speed on the working stretches; Providing adequate signage for motorists and pedestrians; Providing barriers at construction sites Prohibiting works and transportation outside specified, supervised hours. Providing safe crossings for pedestrians and livestock 	Site surveillance for the presence of fencing/barriers and warning signs, and traffic speed limitations	Bi-weekly	Contractor Internal monitoring; GDRB supervision Traffic	Cost of provision of warning signs and fencing	Within the cost of environmenta l auditing visits

	Impacts	Activities	Mitigation Measures	Monitoring	Monitoring	Monitoring	Cost of	Cost of
				Parameters	Frequency	Responsibility	Mitigation	Monitoring
Health and Safety of the Workers	 Inhaling of hazardous substance s and extended exposure to dust; Extended exposure to noise and vibration; Accidents involving constructi on vehicles and equipment Physical hazards from maintenan ce work and waste disposal; Fire hazards; Slipping, tripping and falling; Falling while working at heights; 	 Operating the equipment; Noise and dust generation from construction equipment; Vehicles movement. 	 Providing 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 locations of the first aid kits will be provided to all workers and training on First Aid Procedures; Providing training on potential risks and hazards of construction; Providing the PPE and enforce its use; Providing warning signs; Posting contact info indicating the nearest police station and hospital; Taking reasonable steps to prevent unauthorized people accessing the site; Providing extinguishers on work site; Providing smoking in construction sites and close to storage areas; Providing site boundaries by installing suitable physical boundaries; Marking excavation holes with physical boundaries Storing building materials so that they cannot topple or roll over; 	 Complaints raised from the workers Number of accidents/ injuries and occupational diseases, incl. presence of communicabl e diseases (e.g. COVID 19) and pathogenic agents OHS Plans Trainings performed and recorded PPE used by workers Fire prevention equipment in place 	Daily	Contractor Internal monitoring; GDRB supervision	 Cost of PPE Cost of dust abatement measures Regular cost of vehicles and equipment maintenan ce 	Within the cost of environmenta l auditing visits

• Manual	Keeping walkways and	
handling	stairways free of tripping	
and	hazards such as trailing	
lifting;	cables, building materials,	
• Electrocut	and debris;	
ion while	• Providing workers with	
working	enough access to toilet and	
on	washing facilities, a place for	
handrails	preparing and consuming	
and	refreshments, and an area for	
lighting;	storing and drying clothing	
Contact	and personal protective	
with live	equipment (PPE);	
power	• Ensuring scaffolding for work	
lines;	in elevated areas such as	
• Heat	lighting poles comply with	
exhaustio	the OSHA;	
n;	• Implementing an Emergency	
• Increased	Response Plan to manage	
risk of	major incidents if they should	
spread of	occur in the vicinity of the	
communic	construction site;	
able	• Ensuring proper insurance	
diseases	coverage for all the types of	
in general	workers;	
and in	Maintaining daily attendance	
specific	sheets in order to verify the	
COVID-	attendance of workers in case	
19;	of accidents;	
• Undiscov	• Adopting and implementing a	
ered	health management system	
UXO/ER	for the workers, to ensure	
W may	through medical check-ups,	
present	they are fit for work and that	
additional	they will not introduce	
risks to	disease into local	
public and	communities;	
to	Adopting an Occupational	
employee	Health and Safety Plan and	
s.	job hazard analysis during the	

			 construction phase. The plan will include measures to protect workers from COVID-19 infection, and all national health regulations will be followed. According to WBG EHS Guidelines and OHSA standards; Developing COVID-19 riskbased procedures tailored to site conditions and workers' characteristics, and based on guidance issued by relevant authorities, both national and international (e.g. WHO); Prohibiting Child labor. All of the contractor workers should be registered and age verified by the Social officers and the PMTs. Children below 18 will not be recruited. 					
Construction Camp	Potential soil contaminati on and consequent contaminati on of shallow aquifer	 Storage of construction materials; Inadequate disposal of discarded materials; Inadequate disposal of construction debris; Spillage of machinery oils; Leakage of domestic effluent from septic tank. 	 Locating the camp outside known aquifer recharge zones; Providing adequate infrastructure for effluent collection; Disposing effluent timely and properly; Disposing solid waste timely and properly; Providing collection pits for collection of used machinery oils; Maintaining vehicle adequately; Transporting wastes to the designated disposal sites. 	• Inspection of the camp	Bi-weekly auditing	Contractor Internal monitoring; GDRB - supervision	No extra costs	Within the cost of environmenta l auditing visits

	Impacts	Activities	Mitigation Measures	Monitoring	Monitoring	Monitoring	Cost of	Cost of
				Parameters	Frequency	Responsibility	Mitigation	Monitoring
Disruption of Local Social Setting	Social Life and community- workforce integration	• All activities	 Recruiting local workers and contractors when possible; Ensuring the GRM is operational; Implementing COVID-19 prevention methods; Engaging with community and neighbors; Developing work procedures, defining a Code of Conduct (CoC) for all workers, including acceptable behavior with respect to community interactions and train workers on its content; Ensuring the provision of information regarding Worker CoC in local language; Training all workers on GBV and SEA/SH risks and related sanctions. 	 Site inspection GRM reports Training reports 	Monthly	Contractor Internal monitoring; GDRB supervision	No extra cost	No extra cost

Para mete	Impacts	Activities	Mitigation Measures	Monitoring Parameters	Monitoring Frequency	Monitoring Responsibility	Cost of Mitigation	Cost of Monitoring
Handling Complaints		All activities	• Compliance with GRM for one year following completion of works 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	 Record keeping on received complaints, No. of complaints received 	Quarterly	GDRB - supervision	No extra cost	No extra cost

Table 4: ESMP – Operational Phase

ao re ro	isk of ccidents elated to bad naintenance	• Traffic movement	 Providing the PPE and enforce its use; Providing warning signs. Taking reasonable steps to prevent 	• Regular site inspection and checking of mitigation measures	During maintenance works	GDRB Traffic Police	Cost of maintenance	No extra costs
Workers and Public Health and safety			 unauthorized people accessing the site; Providing site boundaries and marking excavation holes by installing physical boundaries; Ensuring work in elevated areas such as lighting poles complies with the OSHA; Ensuring proper insurance coverage for all the types of workers; Adopting and implementing a health management system for the workers Developing COVID-19 risk- based procedures tailored to site conditions and workers' characteristics. 					

8. Implementation Arrangements and Monitoring

The ESMP will be shared with the contractor who will be contractually obligated to abide by it, with financial clauses associated to this obligation. Impacts are mitigated by detailed mitigation measures. Those measures are presented as a set of checklists that the contractor will follow. Site engineers will ensure that mitigation measures are properly taken.

PMT will provide briefings to all contractors on their environmental responsibilities and contractual requirements, and ensure adherence to oversight and reporting from the site engineers. The management team will also spot check sites, to ensure compliance.

8.1 ESMP Institutional Arrangements

In order to ensure full compliance with the environmental and social requirements which are described above, GDRB PMT will nominate a consultant to act as the focal point for environmental and social affairs at the central level. On the field level, GDRB PMT will nominate two engineers to act as environmental and social officers. Those engineers will be trained on monitoring and reporting of environmental and social impacts and how to fill the checklist to be used during field visits before implementation starts. GDRB Resident Engineer will be the officially responsible staff member for ensuring environmental and social compliance. S/He will be assisted by the designated environmental and social field officers.

In addition, a qualified consultant will be recruited by the PMT to provide technical assistance and capacity building to the environmental and social team both at the central level and at the field level.

8.2 Reporting Requirements

To ensure that the mitigation and monitoring measures are being carried out effectively with the required frequency, a clearly defined and regular (monthly) reporting and response system must be established.

All inspection and audit reports of environmental performance should be stored in the Audit and Inspection Manager (AIM) system. The AIM is an electronic database that is used to enable corrective actions identified during the inspection \ auditing process to be recorded, tracked and closed out. The information will be made available to the relevant regulatory authorities as required. In addition to the monitoring and reporting requirements documented in the relevant sections of the ESMP, the following reporting regime will be implemented:

- All incidents or accidents during construction should be reported immediately to relevant authorities.
- All corrective measures must be discussed to ensure compliance with laws and regulations.

- Reports for personnel training on environmental issues or emergency practices must be produced.
- Progress reports, environmental monitoring report and other inspections reports must be produced periodically.

The GDRB PMT engineers will provide the Resident Engineer with a weekly report briefing their observations and recommendations for action. Whereas the Resident Engineer shall prepare an environmental and social management progress report on monthly basis to GDRB PMT. The environmental and social consultant will prepare a monthly environmental and social supervision report after conducting monthly site supervision visits. GDRB PMT shall prepare a quarterly environmental and social progress report which will be submitted to the WB for review and disclosure.

8.3 Capacity Development and Resources Requirements

Capacity Development

GDRB PMT dedicated sufficient human resources to undertake the environmental and social management requirements as explained above. The assigned GDRB staff at the central and field levels are competent in the field of engineering and have variable practical experience. For GDRB staff who will be responsible for undertaking the environmental and social tasks, they will require some capacity development.

All construction personnel and contractors are required to undertake appropriate environmental and social training and induction programs including, importantly, on GRM procedures.

All managers and supervisors will be responsible for ensuring that personnel under their control have the requisite competencies, skills and training to carry out their assigned tasks in accordance with the requirements of the ESMP. They will also be responsible for identifying additional training and competency requirements.

Required Resources

In order to ensure full compliance of the environmental and social requirements, regular site visits should be conducted. Dedicated office spaces, office equipment and supplies in addition to adequate means of transportation should be made available for the environmental and social management team at the central level and most importantly on the field level. GDRB PMT should ensure the allocation of sufficient budget resources to ensure availing the required resources to achieve the required tasks.

ESMP Implementation and Reporting

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The proposed structure of supervision of implementation of the project is presented in Figure 3: Environmental and Social Monitoring during Construction Phase

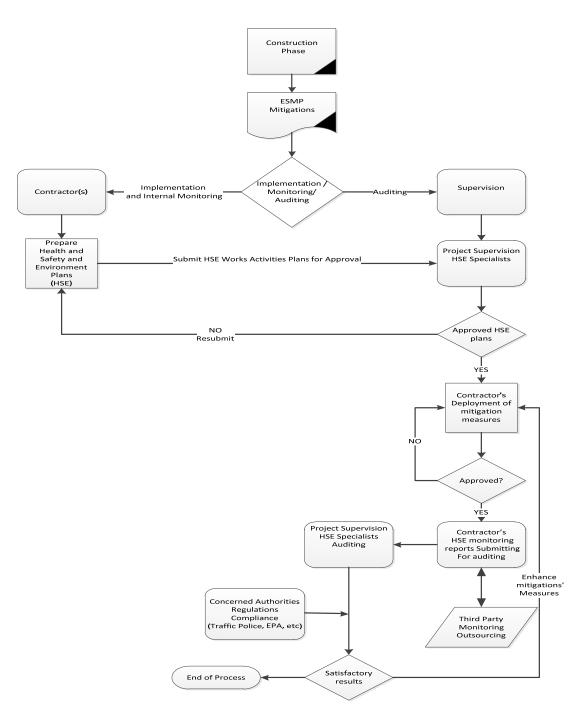


Figure 3: Environmental and Social Monitoring during Construction Phase

9. Public Consultations relevant to Remaining Works

Public participation in the ESIA process has an important role in integrating economic, social and environmental objectives. Public participation makes a positive contribution to the project in terms of minimizing and avoiding potential public controversy and in identification of priorities of assessment.

9.1 Previous Consultations

Public participation took place for the integral works under Ghersheen-Suhaila intersection Road through the following:

- A scoping session was conducted on July 17th, 2013 at Jiyan Hotel in Duhok. Approximately 40 people attended the Scoping Session including representatives of governmental institutions, NGOs and CBOs and PAP;
- The second scoping session was conducted at the Jiyan Hotel, Duhok on 29th of April, 2014. The main purpose of this Scoping Session is to inform the concerned stakeholders about the findings;
- More than 10 structured consultations with different levels of stakeholders took place between November 4, 2013 and January 25, 2014;
- Many interviews with the individual PAPs along the road alignment. The interviews were conducted during the period of 12 25 of March, 2014. They were held in the village of Kolli. The Kurdish translator was employed. Due to the fact, that the most of population is mostly illiterate; the interviews were conducted orally, and the recommendations recorded by the consultants.

9.2 Consultations for the Remaining Works

In accordance with WB policies, stakeholder's consultation should be conducted for Ghersheen-Suhaila intersection remaining works.

In line with the recently-available resources for carrying out stakeholder engagement in the context of COVID-19 and the WB's "Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings" (March 20, 2020), the project avoided public gatherings and minimized physical interaction between people.

Consultation with 5 PAPs were conducted on November 19, 2020 (see Photo below). The PAPs included the District Governor, a representative of the Farmer's Association of Batil, two local residents, previously affected by land acquisition for the road construction. A brief explanation of the remaining works, their impacts and the mitigation and monitoring plans were presented to the attendees. The GRM in place under the Project was also explained to the attendees. Then, the attendees were asked to fill in a questionnaire and express their comments. (see Annex B including the questionnaire in English).

There are no PAPs expected to be affected by the project, since the remaining works will be executed within the existing ROW. The land acquisition and compensation were completed prior to the start of the main road construction. The participants of the consultations have not expressed any comments in regards to the land acquisition.

Unanimity of the participants approved the remaining works under the Ghersheen-Suhaila intersection Road but insisted on employing local workers and small contractors for the Project



Figure 4: Attendance during the consultation on November 19, 2020

10. Grievance Redress Mechanism

The GRM established for the Project will be used during the construction works and made operational one year after completion of the Defects Notification Period.

The community GRM will be developed at the General Road and Bridges Directorate/Project Management Team with dedicated personnel and made accessible to all.

The following types of grievances are anticipated:

- Damage to existing infrastructure
- Traffic and access-related impacts
- Road accidents related to project's traffic impacts
- Community health & safety
- GBV, SEA and SH
- Impacts associated with generated waste
- Noise and air quality impacts

As a minimum, the project will establish the following channels through which citizens/beneficiaries/PAPs can make complaints regarding project-funded activities:

- a) A dedicated phone line¹
- b) A dedicated address² to send written letters
- c) Feedback boxes located at project sites
- d) Verbal or written complaints to community leaders, or to a dedicated local focal point, or project staff directly or through project meetings. If project stakeholders provide verbal feedback/complaint, project staff will lodge the complaint on their behalf, and it will be processed through the same channels.
- e) Periodic project meetings, each of which shall include a fair representation of all project's stakeholders including women and the elderly.

The GRM will comprise of a set of operating procedures to ensure successful implementation. The procedures will include the following set of measures as a minimum:

• Receipt, acknowledgment and registration

¹ Phone lines on the focal social and environmental focal points at the GDRB of the Duhok governorates will be shared as soon as they are assigned.

² For each sub-project , the address of the nearest GDRB will be identified and shared with the community.

- Grievance verification and assessment
- Conduct field inspections in order to verify and confirm the authenticity and eligibility of the reported grievance. The field inspection could include interviews with different parties involved.
- Response and Feedback including Referring cases to other GRMs, if necessary and/or to the courts and/or to a third party
- Agreement and implementation of the response
- Track, and evaluate the process and results

In case an agreement could not be reached, the borrower could play the role of a mediator via welltrained voluntary mediators following a pre-set time frame.

11.Conclusion

The ESMP concludes that the proposed construction of the Ghersheen – Suhaila interchange remaining works will have an overall significant beneficial impact on the affected population. The implementation of the recommended mitigation measures especially during the construction phase will ensure that potential negative environmental impacts are addressed.

12. Annexes

Annex A: Technical Note: Public Consultations and Stakeholder Engagement in WBsupported operations when there are constraints on conducting public meetings

Annex B: Consultations

Annex A: Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings

With the outbreak and spread of COVID-19, people have been advised, or may be mandated by national or local law, to exercise social distancing, and specifically to avoid public gatherings to prevent and reduce the risk of the virus transmission. Countries have taken various restrictive measures, some imposing strict restrictions on public gatherings, meetings and people's movement, and others advising against public group events. At the same time, the general public has become increasingly aware and concerned about the risks of transmission, particularly through social interactions at large gatherings.

These restrictions have implications for World Bank-supported operations. In particular, they will affect Bank requirements for public consultation and stakeholder engagement in projects, both under implementation and preparation. WHO has issued technical guidance in dealing with COVID-19, including: (i) **Risk Communication and Community Engagement (RCCE) Action Plan Guidance Preparedness and Response; (ii)** Risk Communication and Community engagement (RCCE) readiness and response; (iii) COVID-19 risk communication package for healthcare facilities; (iv) Getting your workplace ready for COVID-19; and (v) a guide to preventing and addressing social stigma associated with COVID-19. All these documents are available on the WHO website through the following link:

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance.

This Note offers suggestions to World Bank task teams for advising counterpart agencies on managing public consultation and stakeholder engagement in their projects, with the recognition that the situation is developing rapidly and careful regard needs to be given to national requirements and any updated guidance issued by WHO. It is important that the alternative ways of managing consultation and stakeholder engagement discussed with clients are in accordance with the local applicable laws and policies, especially those related to media and communication. The suggestions set out below are subject to confirmation that they are in accordance with existing laws and regulations applying to the project.

Investment projects under implementation. All projects under implementation are likely to have public consultation and stakeholder engagement activities planned and committed as part of project design. These activities may be described in different project documents, and will involve a variety of stakeholders. Commonly planned avenues of such engagement are public hearings, community meetings, focus group discussions, field surveys and individual interviews. With growing concern about the risk of virus spread, there is an urgent need to adjust the approach and methodology for continuing stakeholder consultation and engagement. Taking into account the importance of confirming compliance with national law requirements, below are some suggestions for task teams' consideration while advising their clients:

Task teams will need to review their project, jointly with the PMUs, and should:

- Identify and review planned activities under the project requiring stakeholder engagement and public consultations.
- Assess the level of proposed direct engagement with stakeholders, including location and size of proposed gatherings, frequency of engagement, categories of stakeholders (international, national, local) etc.
- Assess the level of risks of the virus transmission for these engagements, and how restrictions that are in effect in the country / project area would affect these engagements.
- Identify project activities for which consultation/engagement is critical and cannot be postponed without having significant impact on project timelines. For example, selection of resettlement options by affected people during project implementation. Reflecting the specific activity, consider viable means of achieving the necessary input from stakeholders (see further below).
- Assess the level of ICT penetration among key stakeholder groups, to identify the type of communication channels that can be effectively used in the project context.

Based on the above, task teams should discuss and agree with PMUs the specific channels of communication that should be used while conducting stakeholder consultation and engagement activities. The following are some considerations while selecting channels of communication, in light of the current COVID-19 situation:

- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings If not permitted, make all reasonable efforts to conduct meetings through online channels, including WebEx, zoom and skype;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chat groups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) when stakeholders to do not have access to online channels or do not use them frequently. Traditional channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;
- Where direct engagement with project affected people or beneficiaries is necessary, such as would be the case for Resettlement Action Plans or Indigenous Peoples Plans preparation and implementation, identify channels for direct communication with each affected household via a context specific combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators;
- Each of the proposed channels of engagement should clearly specify how feedback and suggestions can be provided by stakeholders;

• An appropriate approach to conducting stakeholder engagement can be developed in most contexts and situations. However, in situations where none of the above means of communication are considered adequate for required consultations with stakeholders, the team should discuss with the PMU whether the project activity can be rescheduled to a later time, when meaningful stakeholder engagement is possible. Where it is not possible to postpone the activity (such as in the case of ongoing resettlement) or where the postponement is likely to be for more than a few weeks, the task team should consult with the OESRC to obtain advice and guidance.

Investment projects under preparation. Where projects are under preparation and stakeholder engagement is about to commence or is ongoing, such as in the project E&S planning process, stakeholder consultation and engagement activities should not be deferred, but rather designed to be fit for purpose to ensure effective and meaningful consultations to meet project and stakeholder needs. Some suggestions for advising clients on stakeholder engagement in such situations are given below. These suggestions are subject to the coronavirus situation in country, and restrictions put in place by governments. The task team and the PMU should:

- Review the country COVID-19 spread situation in the project area, and the restrictions put in place by the government to contain virus spread;
- Review the draft Stakeholder Engagement Plan (SEP, if it exists) or other agreed stakeholder engagement arrangements, particularly the approach, methods and forms of engagement proposed, and assess the associated potential risks of virus transmission in conducting various engagement activities;
- Be sure that all task team and PIU members articulate and express their understandings on social behavior and good hygiene practices, and that any stakeholder engagement events be preceded with the procedure of articulating such hygienic practices.
- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings, and minimize direct interaction between project agencies and beneficiaries / affected people;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings. If not permitted, make all reasonable efforts to conduct meetings through online channels, including WebEx, zoom and skype meetings;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chat groups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, public announcements and mail) when stakeholders do not have access to online channels or do not use them frequently. Such channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;
- Employ online communication tools to design virtual workshops in situations where large meetings and workshops are essential, given the preparatory stage of the project. WebEx, Skype, and in low ICT capacity situations, audio meetings, can be effective tools to design virtual workshops. The format of such workshops could include the following steps:

- *Virtual registration of participants*: Participants can register online through a dedicated platform.
- Distribution of workshop materials to participants, including agenda, project documents, presentations, questionnaires and discussion topics: These can be distributed online to participants.
- *Review of distributed information materials*: Participants are given a scheduled duration for this, prior to scheduling a discussion on the information provided.
- Discussion, feedback collection and sharing:
 - ✓ Participants can be organized and assigned to different topic groups, teams or virtual "tables" provided they agree to this.
 - ✓ Group, team and table discussions can be organized through social media means, such as WebEx, skype or zoom, or through written feedback in the form of an electronic questionnaire or feedback forms that can be emailed back.
- *Conclusion and summary:* The chair of the workshop will summarize the virtual workshop discussion, formulate conclusions and share electronically with all participants.
- In situations where online interaction is challenging, information can be disseminated through digital platform (where available) like Facebook, Twitter, WhatsApp groups, Project web links/ websites, and traditional means of communications (TV, newspaper, radio, phone calls and mails with clear description of mechanisms for providing feedback via mail and / or dedicated telephone lines. All channels of communication need to clearly specify how stakeholders can provide their feedback and suggestions.
- Engagement with direct stakeholders for household surveys: There may be planning activities that require direct stakeholder engagement, particularly in the field. One example is resettlement planning where surveys need to be conducted to ascertain socioeconomic status of affected people, take inventory of their affected assets, and facilitate discussions related to relocation and livelihood planning. Such survey activities require active participation of local stakeholders, particularly the potentially adversely affected communities. However, there may be situations involving indigenous communities, or other communities that may not have access to the digital platforms or means of communication, teams should develop specially tailored stakeholder engagement approaches that will be appropriate in the specific setting. The teams should reach out to the regional PMs for ENB and Social Development or to the ESSA for the respective region, in case they need additional support to develop such tailored approaches.
- In situations where it is determined that meaningful consultations that are critical to the conduct of a specific project activity cannot be conducted in spite of all reasonable efforts on the part of the client supported by the Bank, the task team should discuss with the client whether the proposed project activities can be postponed by a few weeks in view of the virus spread risks. This would depend on the COVID-19 situation in the country, and the government policy requirements to contain the virus spread. Where it is not possible to postpone the activity (such as in the case of ongoing resettlement) or where the postponement is likely to be for more than a few weeks, the task team should consult with the OESRC to obtain advice and guidance.

Annex B: Consultations

Questionnaire Form in English

The puros of this consultation is to present the project and expected benefits and potential environmental and social impacts and mitigation measures to reduce the negative impacts.

The main goals are:

- 1. Inform those related and public in general about the project
- 2. Explain the information about GRM and response
- 3. Specify special interests and/or environmental and social impacts

Kindly fill in the questionnaire: 5 – agree, 1 – disagree

#	Question	1	2	3	4	5
1	The extra finance for TCP is going to					
	have positive impacts on the residents					
	of the area					
2	The project will assist in generating					
	job opportunities for local communities					
3	The project will assist in development					
	of entrepreneurship and small					
	businesses in the area					
4	The project will improve the road					
	conditions and hence improve the					
	road safety and accessibility of the					
	area					
5	All members of the local community					
	will benefit from the project					
6	The environmental impacts expected					
	including noise, dust generation,					
	emissions, solid waste generation can					
	be easily mitigated by simple					
	maintenance measures					
7	The S&H impact is minor and can be					
	easily reduced					
8	Socio-economic impacts are minor					
	and can be easily reduced					

#	Question	1	2	3	4	5
9	Dealing with grievances is important					
	and is necessary both for the workers					
	and public					
10	There are no permanent of temporary					
	negative impacts that would affect					
	livelihood of the population or cause					
	the loss of income due to the project					
	activities					
11	From your understanding of the					
	nature of the works to what degree					
	would you agree that the project will					
	not include any land acquisition					
12	From your understanding of the					
	nature of the works to what degree					
	would you agree that the project will					
	not result in population displacement					
13	The local residents are not using the					
	land of the project for any purposes					
14	The project will not cause any social					
	conflict or changes in the population					
	structure in the project area					
15	The project will not cause any					
	damages to the facilities, utilities or					
	houses in the project area					
16	During additional works the					
	directional and warning signs are					
	required					

Date: November 19, 2020 Name: Masoud Abdelwafek Ajar (Mokhtar)

مشروع ممرات الثقل في العراق - التمويل إضافي (TCP - AF)

الغرض من جلسة التشاور هذه هو تقديم المشروع والفواند الناتجه عنه ، فضلاً عن الأثار البينية والاجتماعية السلبية المتوقعة إلى جانب تداييز التخفيف الوقائية على وجه التحديد ، أهداف جلسة التشاور هي: مسعد عبد الوزيز دي

إطلاع ذوو العلاقة والعامة على المشروع.

1. است عدد العلم الية معالجة التظلم (GRM) والمصول على ردود الفعل. مو حَمَار مر ب في مرفو ر

تحديد الاهتمامات الخاصة و / أو المخاطر والآثار البينية والاجتماعية غير المحددة

				مطلوية	التردود ال	
5 موافق	4	3	2	1 غير موافق		
V					سيكون التمويل الاضافي لترض ممرات النقل - تأثيرات إيجابية متعددة على سكان المنطقة؟	T
V					سيساعد التمويل الاضافي لقرض ممرات النقل - الاثر الكبير في توفير فرص عمل للمجتمعات المحلية	
V					سيساعد التمويل الأضافي لقرض ممرات النقل - الاثر على تعزيز روح المبادرة وإنشاء المشاريع الصغيرة	3
6					سيعمل التمويل الإضافي لقرض ممرات النقل - على تحسين ظروف الطرق ، وبالتالي تحسين إمكانية الوصول وتحسين السلامة على الطرق.	4
16					سيستفيد جميع أعضاء المجتمعات المحلية من المشروع	5
-					تشمل الآثار البيلية المتوقعة المشروع الضوضاء وتوليد الغبار والانبعثات في الهواء وتوليد النفايات الصلبة. لا يمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لإعمال الصيانة المتوقعة	6
0					الآثار المتوقعة على الصحة والسلامة المهنية للمشروع ضئيلة ويمكن تخليلها بسهولة بسبب الطبيعة البسيطة لإعمال الصيالة المتوقعة	7
16					الأثار الاجتماعية والاقتصادية المتوقعة للمشروع ضئيلة ويمكن تخفيفها بسهولة	8
6					يعد إنشاء ألية معالجة التظلم للمشروع أمرًا ضروريًا لكل من المجتمع والعاملين	9

يرجى ملء الاستبيان التالي ، مع الإشارة إلى الموافقة (أعط درجة 5) أو عدم الموافقة (أعط درجة 1)

				المطلوبة	4	
5 موافق	4	3	2	ا غیر موافق		
/					لن تكون هناك اضرار سواء كانت دائمة او مؤقتة من شانها ان تؤثر على معيشة السكان او تتسبب في خسارة الدخل بسبب نشاطات اعادة التأهيل؟	10
1					من فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن يتضمن أي استملاكات للأرض؟	11
V					من خلال فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن ينطوي على أي نزوح للسكان؟	12
X				V	هل هذاك أي استخدام من قبل السكان المحليين للمنشأت أو الارضي ؟	13
V					لن يتسبب المشروع في أي صراعات اجتماعية " أو تغييرات في التركيبة السكانية أو البنية الإجتماعية في منطقة المشروع." إلى أي مدى توافق؟	14
0					لن يتسبب المشروع في أي أضرار بالمنشات أو المنازل	15
16					هل هناك حاجة للعلامات التحذيرية والتوجيهية أثناء أنشطة إعادة التأهيل؟	16

يرجى تدوين اي ملاحظات او مقترحات ان وجدت:

11

(أ) اذا محافات الممكن عد العمل ى المشروع ان مقوم المقاول بشتغلل العمال دا ممادى من العرى المعرورة لمشروع .

للتواصل واعادة الاستبيان:

البريد الاكتروني pmtmanager2016@gmail.com

الهاتف: 9647704445357

Date: November 19, 2020 Name: Mehsen Drouch Akdi (Local Resident, previously affected by land acquisition)

مشروع ممرات النقل في العراق - التمويل إضافي (TCP - AF)

الغرض من جلسة التشاور هذه هو تقديم المشروع والفواند الناتجه عنه ، فضلاً عن الآثار البينية والاجتماعية السلبية المتوقعة إلى جانب تدابير التخفيف الوقانية . على وجه التحديد ، أهداف جلسة التشاور هي:

إطلاع ذوو العلاقة والعامة على المشروع.

2

د. لنشر المعلومات حول نظام الية معالجة التظلم (GRM) والحصول على ردود الفعل.

3. تحديد الاهتمامات الخاصة و / أو المخاطر والأثار البيئية والاجتماعية غير المحددة

يرجى ملء الاستبيان التالي ، مع الإشارة إلى الموافقة (أعط درجة 5) أو عدم الموافقة (أعط درجة 1)

				المطلوبة	الردود	
5 موافق	4	3	2	1 غير موافق		
V					سيكون التمويل الاضافي لقرض ممرات النقل ۔ تأثيرات إيجابية متعددة على سكان المنطقة؟	1
V					سيساعد التمويل الاضافي لقرض ممرات النقل - الاثر الكبير في توفير فرص عمل للمجتمعات المحلية	2
6					سيساعد التمويل الاضافي لقرض ممرات النقل - الاثر على تعزيز روح المبادرة وإنشاء المشاريع الصغيرة	3
6					سيعمل التمويل الإضافي لقرض ممرات النقل - على تحسين ظروف الطرق ، وبالتالي تحسين إمكانية الوصول وتحسين السلامة على الطرق.	4
1					سيستفيد جميع أعضاء المجتمعات المحلية من المشروع	5
V					تشمل الأثار البيئية المتوقعة للمشروع الضوضاء وتوليد الغبار والانبعثات في الهواء وتوليد النفايات الصلبة. لا يمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لأعمال الصيانة المتوقعة	6
6					الأثار المتوقعة على الصحة والسلامة المهنية للمشروع ضنيلة ويمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لأعمال الصيانة المتوقعة	7
vó					الآثار الاجتماعية والاقتصادية المتوقعة للمشروع ضئيلة ويمكن تخفيفها بسهولة	8
6					يعد إنشاء الية معالجة التظلم للمشروع أمرًا ضروريًا لكل من المجتمع والعاملين	9

cies and

Ale

د المطاوية										
5 موافق	4	3	2	1 غیر موافق						
V					لن تكون هناك اضرار سواء كانت دائمة او مؤقتة من شانها ان تؤثر على معيشة السكان او تتسبب في خسارة الدخل بسبب نشاطات اعادة التأهيل؟	10				
V					من فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن يتضمن أي استملاكات للأرض؟	11				
V					من خلال فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن ينطوي على أي نزوح للسكان؟	12				
Ø				v	هل هناك أي استخدام من قبل السكان المحليين للمنشآت أو الارضي ؟	13				
6					لن يتسبب المشروع في أي صراعات اجتماعية " أو تغييرات في التركيبة السكانية أو البنية الاجتماعية في منطقة المشروع." إلى أي مدى توافق؟	14				
V					لن يتسبب المشروع في أي أضرار بالمنشآت أو المنازل	15				
4					هل هناك حاجة للعلامات التحذيرية والتوجيهية أثناء أنشطة إعادة التأهيل؟	16				

يرجى تدوين اي ملاحظات او مقترحات ان وجدت:

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البريد الاكتروني pmtmanager2016@gmail.com

الهاتف: 9647704445357 +

Date: November 19, 2020 Name: Walid Arab Sleiman (Local Resident, previously affected by land acquisition)

مشروع ممرات النقل في العراق - التمويل إضافي (TCP - AF)

الغرض من جلسة التشاور هذه هو تقديم المشروع والفوائد الذاتجه عنه ، فضلاً عن الأثار البينية والاجتماعية السلبية المتوقعة إلى جانب تدابير التخفيف الوقائية . على وجه التحديد ، أهداف جلسة التشاور هي:

إطلاع ذوو العلاقة والعامة على المشروع.

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د. لنشر المعلومات حول نظام آلية معالجة التظلم (GRM) والحصول على ردود الفعل.

3. تحديد الاهتمامات الخاصة و / أو المخاطر والأثار البيئية والاجتماعية غير المحددة

اعط درجة 1)	يرجى ملء الاستبيان التالي ، مع الإشارة إلى الموافقة (أعط درجة 5) أو عدم الموافقة
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	الردود المطلوبة							
5 موافق	4	3	2	1 غير موافق				
1					سيكون التمويل الاضافي لقرض ممرات النقل - تأثيرات إيجابية متعددة على سكان المنطقة؟	1		
V					سيساعد التمويل الاضافي لترض ممرات النقل - الاثر الكبير في توفير فرص عمل للمجتمعات المحلية	2		
Ø					سيساعد التمويل الاضافي لقرض ممرات النقل - الاثر على تعزيز روح المبادرة وإنشاء المشاريع الصغيرة	3		
d					سيعمل التمويل الإضافي لقرض ممرات النقل - على تحسين ظروف الطرق ، وبالتالي تحسين إمكانية الوصول وتحسين السلامة على الطرق.	4		
D					سيستفيد جميع أعضاء المجتمعات المحلية من المشروع	5		
					تشمل الأثار البيئية المتوقعة للمشروع الضوضاء وتوليد الغبار والانبعثات في الهواء وتوليد النفايات الصلبة. لا يمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لأعمال الصيانة المتوقعة	6		
					الآثار المتوقعة على الصحة والسلامة المهنية للمشروع ضئيلة ويمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لأعمال الصيانة المتوقعة	7		
Ø					الأثار الاجتماعية والاقتصادية المتوقعة للمشروع ضئيلة ويمكن تخفيفها بسهولة	8		
d					يعد إنشاء ألية معالجة التظلم للمشروع أمرًا ضروريًا لكل من المجتمع والعاملين	9		

	د المطلوبة										
5 موافق	4	3	2	1 غير موافق							
J					لن تكون هناك اضرار سواء كانت دائمة او مؤقتة من شانها ان تؤثر على معيشة السكان او تتسبب في خسارة الدخل بسبب نشاطات اعادة التأهيل؟	10					
V					من فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن يتضمن أي استملاكات للأرض؟	11					
V					من خلال فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن ينطوي على أي نزوح للسكان؟	12					
5/				1	هل هناك أي استخدام من قبل السكان المحليين للمنشأت أو الارضي ؟	13					
\checkmark					لَن يتسبب المشروع في أي صراعات اجتماعية " أو تغييرات في التركيبة السكانية أو البنية الاجتماعية في منطقة المشروع." إلى أي مدى توافق؟	14					
J					لن يتسبب المشروع في أي أضرار بالمنشآت أو المنازل	15					
					هل هناك حاجة للعلامات التحذيرية والتوجيهية أثناء أنشطة إعادة التأهيل؟	16					

يرجى تدوين اى ملاحظات او مقترحات ان وجدت:

منى به تە وكارىنى دىكى دارا كەمپالىك كارى مىكى دىكى دىك بو دىكە ى كە كە كە دوان كەندا كە كەر دىشيارىنى وارا دا بىق و لدىپ رىنىلى دا نە قەللە مەدەرى مەك برىخ يىينى . <u>التواصل واعادة الاستېيان:</u> البريد الاكتروني <u>pmtmanager2016@gmail.com</u> بەربرى مۇ دىكى كىلىكى الهاتف: 5647704445357

Date: November 19, 2020 Name: Abdallah Ismail Salou (Representative of the Association of Farmers in Bateel, Kurdistan)

مشروع ممرات النقل في العراق - التمويل إضافي (TCP - AF)

الغرض من جلسة التشاور هذه هو تقديم المشروع والفواند الناتجه عنه ، فضلاً عن الأثار البيئية والاجتماعية السلبية المتوقعة إلى جانب تدابير التخفيف الوقائية . على وجه التحديد ، أهداف جلسة التشاور هي:

إطلاع ذوو العلاقة والعامة على المشروع.

د لنشر المعلومات حول نظام آلية معالجة التظلم (GRM) والحصول على ردود الفعل.

3. تحديد الاهتمامات الخاصة و / أو المخاطر والأثار البينية والاجتماعية غير المحددة

يرجى ملء الاستبيان التالي ، مع الإشارة إلى الموافقة (أعط درجة 5) أو عدم الموافقة (أعط درجة 1)

				لمطلوبة	الردود ا	
5 موافق	4	3	2	1 غير موافق		
V					سيكون التمويل الاضافي لقرض ممرات النقل - تأثيرات إيجابية متعددة على سكان المنطقة؟	1
\checkmark					سيساعد التمويل الإضافي لقرض ممرات الفقل - الاثر الكبير في توفير فرص عمل للمجتمعات المحلية	2
Ø					سيساعد التمويل الاضافي لقرض ممرات النقل - الائر على تعزيز روح المبادرة وإنشاء المثناريع الصغيرة	3
					سيعمل التمويل الإضافي لقرض ممرات النقل - على تحسين ظروف الطرق ، وبالتالي تحسين إمكانية الوصول وتحسين السلامة على الطرق.	4
Ø					سيستفيد جميع أعضاء المجتمعات المحلية من المشروع	5
	b				تشمل الاثار البينية المتوقعة للمشروع الضوضاء وتوليد الغبار والانبعثات في الهواء وتوليد النفايات الصلبة. لا يمكن تخفيفها بسهولة بسبب الطبيعة البمبيطة لأعمال الصيانة المتوقعة	6
ø					الأثار المتوقعة على الصحة والسلامة المهنية للمشروع ضئيلة ويمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لأعمال الصيانة المتوقعة	7
IN					الأثار الاجتماعية والاقتصادية المتوقعة للمشروع ضئيلة ويمكن تخفيفها بسهولة	8
12					يعد انشاء ألية معالجة التظلم للمشروع أمرًا ضروريًا لكل من المجتمع والعاملين	9

د المطلوبة								
	5 موافق	4	3	2	1 غیر موافق			
	1					لن تكون هناك اضرار سواء كانت دائمة او مؤقّتة من شانها ان تؤثر على معيشة السكان او تتسبب في خسارة الدخل بسبب نشاطات اعادة التأهيل؟	10	
	V					من فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن يتضمن أي استملاكات للأرض؟	11	
	V					من خلال فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن ينطوي على أي نزوح للسكان؟	12	
					V	هل هناك أي استخدام من قبل السكان المحليين للمنشآت أو الارضي ؟	13	
	V					لن يتسبب المشروع في أي صراعات اجتماعية " أو تغييرات في التركيبة السكانية أو البنية الاجتماعية في منطقة المشروع." إلى أي مدى توافق؟	14	
	1					لن يتسبب المشروع في أي أضرار بالمنشات أو المنازل	15	
	U					هل هناك حاجة للعلامات التحذيرية والتوجيهية أثناء أنشطة إعادة التأهيل؟	16	

برجی تدوین ای ملاحظات او مقترحات ان وجدت: مُعْمَرِح أَن سِاً حَدْ محمال و آلبات أُجل العَرك كم كَعْسَبَ

ىبىرى ساعىل بى مىلى اتحا د مىل حى كرد شان apl' co 246176

للتواصل واعادة الاستبيان:

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البريد الاكتروني pmtmanager2016@gmail.com

الهاتف: 9647704445357

مشروع ممرات النقل في العراق - التمويل إضافي (TCP - AF)

الغرض من جلسة التشاور هذه هو تقديم المشروع والفواند الناتجه عنه ، فضلاً عن الآثار البينية والاجتماعية السلبية المتوقعة إلى جانب تدابير التخفيف الوقائية . على وجه التحديد ، أهداف جلسة التشاور هي:

إطلاع ذوو العلاقة والعامة على المشروع.

د. لنشر المعلومات حول نظام آلية معالجة التظلم (GRM) والحصول على ردود الفعل.

3. تحديد الاهتمامات الخاصة و / أو المخاطر والآثار البيئية والاجتماعية غير المحددة

يرجى ملء الاستبيان التالي ، مع الإشارة إلى الموافقة (أعط درجة 5) أو عدم الموافقة (أعط درجة 1)

				لمطلوبة	الردود ا	
5 موافق	4	3	2	1 غیر موافق		
1					سيكون التمويل الاضافي لقرض ممرات النقل - تأثيرات إيجابية متعددة على سكان المنطقة؟	
V					سيساعد التمويل الاضافي لقرض ممرات النقل - الاثر الكبير في توفير فرص عمل للمجتمعات المحلية	T
					سيساعد التمويل الإضافي لقرض ممرات النقل - الاثر على تعزيز روح المبادرة وإنشاء المشاريع الصغيرة	11
					سيعمل التمويل الإضافي لقرض ممرات النقل - على تحسين ظروف الطرق ، وبالتالي تحسين إمكانية الوصول وتحسين السلامة على الطرق.	4
D					سيستفيد جميع أعضاء المجتمعات المحلية من المشروع	5
0					تشمل الأثار البيئية المتوقعة للمشروع الضوضاء وتوليد الغبار والانبعثات في الهواء وتوليد النفايات الصلبة. لا يمكن تخفيفها بسهولة بسبب الطبيعة البسبطة لأعمال الصيانة المتوقعة	6
6					الأثار المتوقعة على الصحة والسلامة المهنية للمشروع ضئيلة ويمكن تخفيفها بسهولة بسبب الطبيعة البسيطة لأعمال الصيانة المتوقعة	7
Ø					الأثار الاجتماعية والاقتصادية المتوقعة للمشروع ضئيلة ويمكن تخفيفها بسهولة	8
					يعد إنشاء الية معالجة التظلم للمشروع أمرًا ضروريًا لكل من المجتمع والعاملين	9

د المطلوبة									
5 موافق	4	3	2	1 غير موافق					
/					لَن تَكُون هَنَاكَ اضر ار سواء كانت دائمة او مؤقّتة من شانها ان تؤثر على معيشة السكان او تتسبب في خسارة الدخل بسبب نشاطات اعادة التأهيل؟	10			
V					من فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن يتضمن أي استملاكات للأرض؟	11			
V					من خلال فهمك لطبيعة العمل ، إلى أي مدى توافق على أن المشروع لن ينطوي على أي نزوح للسكان؟	12			
action				0	هل هناك أي استخدام من قبل السكان المحليين للمنشآت أو الارضي ؟	13			
					لن يتسبب المشروع في أي صراعات اجتماعية " أو تغييرات في التركيبة السكانية أو البنية الاجتماعية في منطقة المشروع." إلى أي مدى توافق؟	14			
V	9				لن يتسبب المشروع في أي أضرار بالمنشآت أو المنازل	15			
					هل هناك حاجة للعلامات التحذيرية والتوجيهية أثناء أنشطة إعادة التأهيل؟	16			

يرجى تدوين اى ملاحظات او مقترحات ان وجدت:

القراما فحاز المتردع من العزوري الاحتكام اوالا همام مفالي السكان المحلين من تنقبل آلباتهم وتشقيل السكان ى تك الترك اللغ عد , ما الد ، عرف النسبة للعالة تغل الالبات فقط دون المعل المست والعنه للتواصل واعادة الاستبيان: البريد الاكتروني pmtmanager2016@gmail.com الهاتف: 9647704445357