



REPUBLIC OF TURKEY
MINISTRY OF TRANSPORT
AND INFRASTRUCTURE



TÜRKİYE EMERGENCY ROAD REHABILITATION AND RECONSTRUCTION PROJECT



ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE
HATAY PROVINCE ROADS (İSLAHİYE-HASSA-KIRIKHAN ROAD,
ANTAKYA-REYHANLI ROAD AND HATAY AIRPORT ROAD) SUB-
PROJECT (P2)

CNR-KGM-TERRRP-ESMP-002

Final

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ABBREVIATIONS AND ACRONYMS

AIIB	Asian Infrastructure Investment Bank
Aol	Area of Influence
CEIU	Complaints-resolution, Evaluation, and Integrity Unit
C-ESMP	Contractor's Environmental and Social Management Plan
CHS	Community Health and Safety
ÇINAR	Çınar Engineering Consultancy Inc.
E&S	Environmental and Social
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EPRP	Emergency Preparedness Response and Plan
ESDD	Environmental and Social Due Diligence
ESEL	Environmental and Social Exclusion List
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESP	Environmental and Social Policy
ESS	Environmental and Social Standard
GAP	Gender Action Plan
GBV	Gender-based violence
GBVH	Gender Based Violence and Harassment
GHG	Greenhouse gas
GRM	Grievance Redress Mechanism
HSE	Health, Safety, Environment
ILO	International Labor Organization
KGM	General Directorate of Highways
Main Project	Türkiye Emergency Road Rehabilitation and Reconstruction Project
MCP	Management of Change Process
MoEUCC	Ministry of Environment, Urbanization and Climate Change
MoTAT	Mobile Waste Tracking System
MoTI	Ministry of Transport and Infrastructure
OHS	Occupational Health and Safety
PAP	Project Affected People
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
PPM	Project-affected People's Mechanism
PPQ	Project Processing Query
RCA	Root Cause Analysis
RCR	Request for Compliance Review
RDR	Requests for Dispute Resolution
RIU	Regional Implementation Unit
RP	Resettlement Plan
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment



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SEP	Stakeholder Engagement Plan
Sub-project	Hatay Province Roads (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road)
TAG	Tarsus-Adana-Gaziantep
WBG	World Bank Group
WWTP	Wastewater Treatment Plant



1 INTRODUCTION

The Türkiye Emergency Road Rehabilitation and Reconstruction Project (the Main Project) has been planned to be prepared and implemented by General Directorate of Highways (KGM) under the Ministry of Transport and Infrastructure (MoTI) to ensure efficient execution and compliance with national legislation and Asian Infrastructure Investment Bank (AIIB) environmental and social framework.

The Project will rehabilitate and reconstruct roads, tunnels, and bridges damaged by the 6 February 2023 earthquakes that occurred in the southeast of Türkiye. The Project activities will be implemented through five (5) sub-projects which will entail rehabilitation and enhancement of transportation infrastructure to meet required safety and capacity standards, as well as integration of climate-resilient measures to mitigate and withstand the impacts of seismic events in the future. The sub-projects are located within the jurisdictions of the 5th Regional Directorate of Highways (Mersin) and 8th Regional Directorate of Highways (Elazığ).

The phased approach on environmental and social (E&S) assessment will be utilized for the proposed Project given the urgent need of assistance because of the earthquakes. In this context, a contract was signed between 5th Regional Directorate of Highways and Çınar Engineering Consultancy Inc. (ÇINAR) on 14.02.2024 for the preparation of Environmental and Social Documentation in accordance with the AIIB standards and national legislation.

This Environmental and Social Management Plan (ESMP) has been prepared for the “Hatay Province Roads (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road)”, which is one of the sub-projects under the Main Project. It should be noted at this point that separate ESMP documents are prepared for each sub-project.

1.1 Project Background

The Main Project will rehabilitate and reconstruct roads, tunnels, and bridges damaged by the February 2023 earthquakes that occurred in the southeast of Türkiye. The Project activities will be implemented through five (5) sub-projects which will entail rehabilitation and enhancement of transportation infrastructure to meet required safety and capacity standards, as well as integration of climate-resilient measures to mitigate and withstand the impacts of seismic events in the future. The sub-projects are located within the jurisdictions of the 5th Regional Directorate of Highways (Mersin) and 8th Regional Directorate of Highways (Elazığ).

The Main Project summary information is provided in Table 1 and the sub-projects that are classified according to related Regional Directorates are given in Table 2.

Table 1. Project Summary Information

Project Name	Türkiye Emergency Road Rehabilitation and Reconstruction Project
Project Number	P000848
Sector/Subsector	Transport/Roads
Status of Financing	Under Preparation
Objective	To restore connectivity and enable safe and efficient movements of goods and people by rehabilitating essential transportation infrastructure located in the earthquake affected areas of Türkiye.
Environmental and Social (E&S) Risk Category	Category B
Risk	Medium



Table 2. Classification of the Sub-projects

Responsible Regional Directorate	Subproject No.	Subproject Name	Province/District
5 th Regional Directorate (Mersin)	P1	Tarsus-Adana-Gaziantep (TAG) Highway Aslanlı Tunnel (Km:214+490)-Nurdağı Junction (Km: 223+115) Section, Repair of All Kinds of Damages and Strengthening of Viaducts Against Earthquakes in This Section Construction Work	Gaziantep/Nurdağı
	P2	Islahiye-Hassa-Kırıkhan Road (Km:24+500-84+500), Antakya-Reyhanlı Road (Km:0+000-42+500) Hot Bituminous Mixture Repair Work, Hatay Airport Road Soil Works, Art Structures and Superstructure Construction Work	Hatay
	P3	Antakya-Samandağ Road (Including Samandağ Crossing) Km: 0+000-26+850 Section Supply Construction Works	Hatay/Samandağ
8 th Regional Directorate (Elazığ)	P4	(Malatya-Akçadağ) Junction - Gölbaşı Road (Construction Works of Erkenek Tunnel Damaged in Earthquake and Erkenek Tunnel-Karanlıkdere Section Damaged in Earthquake)	Malatya/Doğanşehir Adıyaman/Gölbaşı
	P5	Repair of Technological Bridges Damaged in Earthquake (Tohma, Ağın, Beylerderesi Bridges Earthquake Damage Repair)	Malatya Elazığ

Province and district information regarding the sub-projects is summarized in Table 2. The main project encompasses Hatay, Gaziantep, Malatya, Elazığ, and Adıyaman Provinces. A map presenting the locations of all sub-projects is provided in Figure 1.

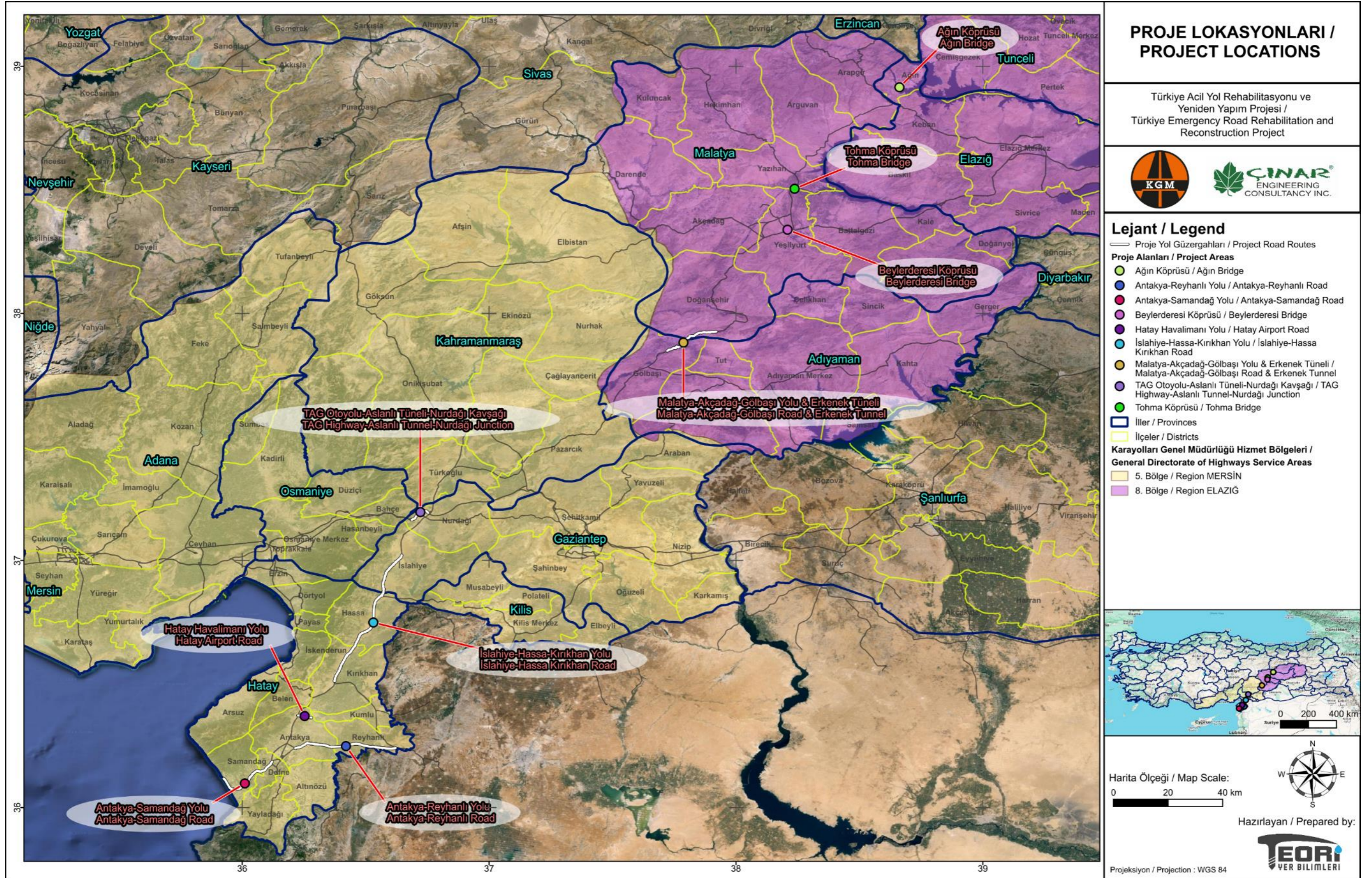


Figure 1. Project Locations Map

1.2 Description of the Sub-Project

İslahiye-Hassa-Kırıkhan Road

Scope of the sub-project: Repair works on the Fevzipaşa Junction and Sulumağara Bridges and various locations along a 20 km section of a road which was left with transverse and longitudinal cracks after the earthquake.

The sub-project location map is given in Figure 2.

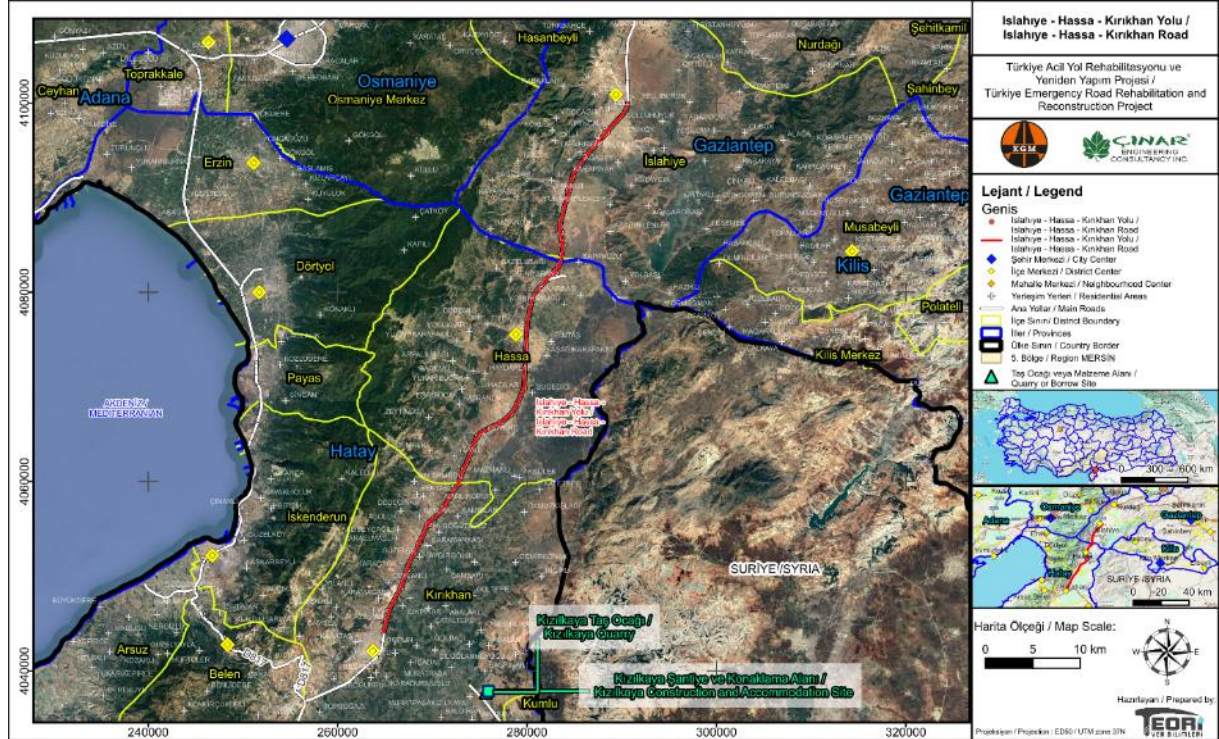


Figure 2. İslahiye-Hassa-Kırıkhan Road Sub-project Area

Antakya-Reyhanlı Road

Scope of the sub-project: Reconstruction of a 2 km section of a 4-lane road, repair of the superstructure at various locations of a 10 km section, reconstruction of a two-lane, 100-meter-long bridge at the Demirköprü location that collapsed due to the earthquake, and Bituminous Hot Mixture repair works for 1 km bridge connecting roads

The sub-project location map is given in Figure 3.

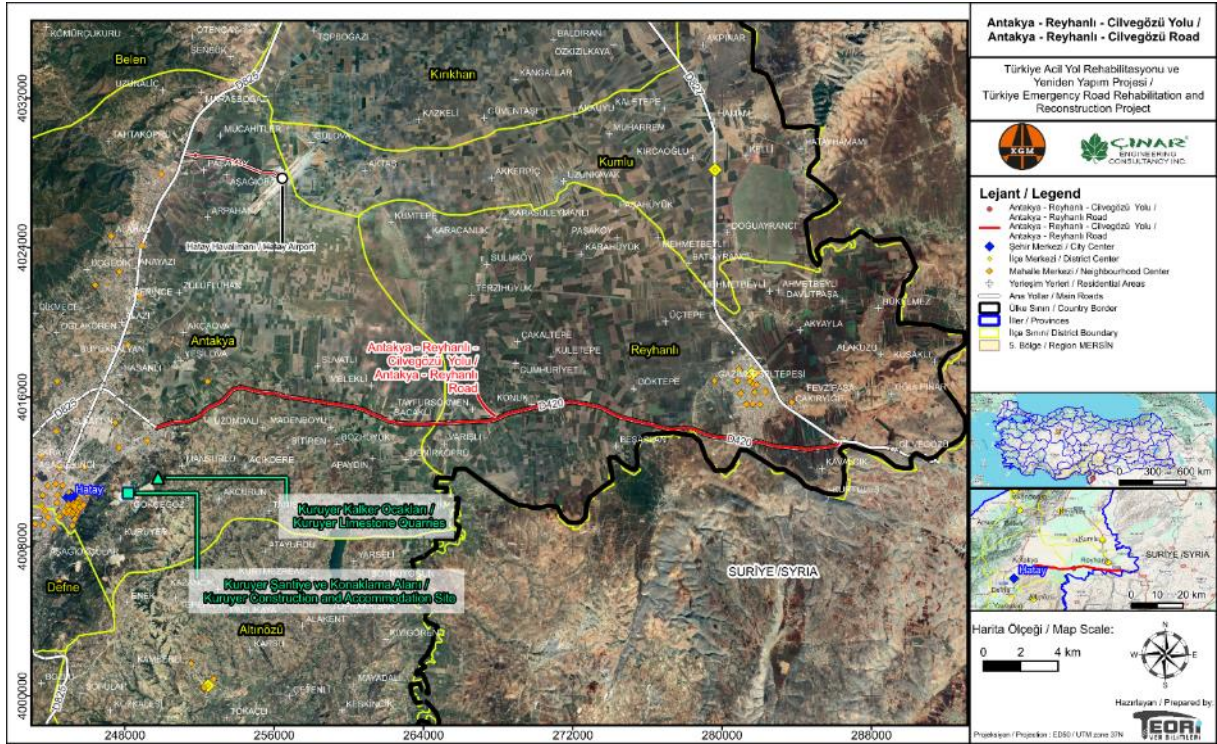


Figure 3. Antakya-Reyhanlı Road Sub-project Area

Hatay Airport Road

Scope of the sub-project: The removal of deformations with earthworks, engineering structures and superstructure construction works on the connection between Hatay Airport and D825 State Road.

The sub-project location map is given in Figure 4.



Figure 4. Hatay Airport Road Sub-project Area

Feza Taahhüt A.Ş. (FEZA) was assigned as the Contractor through a contract signed with the 5th Regional Directorate of Highways on 05.05.2023 for three sub-projects: İslahiye-Hassa-Kırıkkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road.

The related facilities including construction and accommodation sites, quarries/material borrow sites and auxiliary facilities that have been used for the reconstruction and rehabilitation works within the scope of the sub-project together with the current status of the sub-project are provided in Table 3. It is estimated that the number of workers to be employed in the sub-project is around 200. A separate Environmental and Social Due Diligence (ESDD) study (CNR-KGM-TERRRP-ESDD-001) has also been conducted for the main project including assessments related to P2 sub-project.

Table 3. Related Facilities Used in the Sub-project and Current Status of the Sub-project

Sub-project Name	Contractor Name	Contract Date	Commencement Date	Expected Completion Date	Current Construction Progress*	Auxiliary Facility**	Specifications and properties of the facility	
Hatay Province Roads Rehabilitation and Reconstruction	FEZA	05.05.2023	09.05.2023	31.01.2025	64.09 %	İslahiye-Hassa-Kırıkkhan Road	Kızilkaya Construction and Accommodation Site	Accommodation Site
							Kızilkaya Limestone Quarry	Asphalt Plant 768,000 tons/year Crusher with a capacity of 390,000 tons/year
						Antakya-Reyhanlı Road	Kuruyer Construction and Accommodation Site***	Concrete plant capacity: 95 m ³ /h Asphalt plant capacity: 240 tons/h Mechanical plant capacity: 400 ton/h (planned)
							Kızilkaya Limestone Quarry	Asphalt Plant 768,000 tons/year Crusher with a capacity of 390,000 tons/year
						Hatay Airport Road	Kızilkaya Construction and Accommodation Site	Accommodation Site
							Kızilkaya Limestone Quarry	Asphalt Plant 768,000 tons/year Crusher with a capacity of 390,000 tons/year

* This is the completion percentage of the work done as of 07.06.2024.

** Concrete plant with a capacity of 50 m³/hour for Antakya-Reyhanlı Road and Deep Soil Mixing (DSM) machines and cementitious materials preparation stations for Hatay Airport Road, which are located near the activity areas, have been also utilized.

***Kuruyer Construction and Accommodation Site has been operated by another contractor of the main Project ("Deha Altyapı A.Ş."-DEHA). The Kızilkaya Construction Site has been used in the first phase of the Antakya-Reyhanlı Road construction works. Once the Kuruyer Construction and Accommodation Site becomes active, the works will be carried out from there. It should be noted that FEZA and DEHA are affiliated companies. Each company is responsible for its own camp site and facilities. There may be common uses within the scope of the main project.



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The Area of Influence (Aol) for the subproject has been determined to include a 250-meter corridor extending each side of the roads undergoing rehabilitation and reconstruction. Furthermore, a 250-meter radius area around the boundaries of each associated and auxiliary facility has also been specified as Aol, covering the construction and accommodation sites, quarry and borrow sites, asphalt plants and concrete plants/DSM machines. At this point, it should be noted that, since the Başıpınar neighborhood is located near the Kızılkaya Limestone Quarry (approximately 1.5 km away), the Demirköprü neighborhood is located near the Antakya-Reyhanlı Road, and the Aşağıoba neighborhood and a container city in the Osmanağa neighborhood are near the Hatay Airport Road, it is of great importance to prevent or minimize the impacts caused by the subproject activities.

1.3 Scope and Objectives

The primary objective of the ESMP is to establish a comprehensive plan for the Environmental and Social Management System (ESMS) that is intended to be put into effect as a part of the sub-project. Additionally, it serves as a means to equip project management with the essential tools required to ensure adherence to the Project's standards while striving to attain the environmental and social goals outlined within the Environmental and Social Impact Assessment (ESIA). Furthermore, in addition to fulfilling the legal and institutional prerequisites necessary for the effective execution of pertinent management strategies, the ESMP also delineates the respective roles and responsibilities of KGM, and the contractor/sub-contractors involved in the project. The fundamental objectives of the ESMP are as follows:

- To provide an overview of the environment, health and safety (EHS), socio-economic and cultural heritage policies, standards and legal legislation that the Project is obliged to comply with,
- To identify all anticipated adverse E&S, OHS risks and impacts throughout the lifecycle of the sub-project,
- To provide guidance on how to manage EHS risks in the construction and operation phases of the sub-project in compliance with EHS policies, standards, and legal regulations and to ensure that Project commitments are fulfilled,
- To determine the roles and responsibilities of KGM and contractors to ensure compliance with EHS requirements during the construction and operation phases of the sub-project,
- To establish a framework for capacity building and training to ensure effective implementation of the EHS requirements throughout the lifecycle of the sub-project,
- To ensure that construction activities are properly monitored to ensure that the Project is in compliance with EHS policies, international standards and legal legislation.
- Ensure reporting systems are developed and streamlined to deliver EHS compliance performance,
- Enabling ongoing development and EHS compliance coverage.

ESMP sets out the approach planned by the Project, including KGM and its consultants and contractors, to prevent or mitigate the identified environmental and social impacts.



1.4 Environmental and Social Management Plan Structure

Subjects covered within the scope of the ESMP are presented in Table 4.

Table 4. Structure and Content of the ESMP

1. Introduction
Summary information about project background and the sub-project description along with the scope and objectives of the ESMP.
2. Legal Framework
Description of the national legislation, international standards (AIIB ESF and other E&S guidance documents) and gap analysis.
3. Institutional Arrangements
Organizational structures, roles and responsibilities for the implementation of the plan along with capacity building and training requirements.
4. Potential E&S Risks and Impacts
Identification of all anticipated adverse E&S related risks and impacts.
5. Implementation of the Environmental and Social Management Plan
Covers management of change process, stakeholder engagement, grievance redress mechanism and monitoring, reporting and evaluation requirements.
6. Environmental and Social Management and Monitoring Plan
Management and monitoring plan for the ESMP, including mitigation measures to address the environmental and social risks of the sub-project, along with monitoring and reporting requirements for relevant E&S components.

2 LEGAL FRAMEWORK

2.1 National Legislation

Turkish Environmental Law No. 2872, which was issued in the Official Gazette No. 18132 on August 11, 1983, describes the fundamental principles required to protect the environment in accordance with sustainable development and sustainable environmental goals. The Environmental Law provides a legal framework for the development of environmental regulations in accordance with national and international standards.

In addition to Environmental Law and associated regulations, several laws in relation with environmental protection, pollution prevention and control, the human rights and safety are listed in Table 5.

Table 5. Highlighted Laws Covered by National Legislation

Law	Law Number
Agricultural Reform Law on Land Rearrangement in Irrigated Areas	3083
Electricity Market Law	6446
Energy Efficiency Law	5627
Expropriation Law	2942
Forestry Law	6831
Groundwater Law	167
Highway Traffic Law	2918
Labor Law	4857
Law on Conservation of Cultural and Natural Assets	2863
Law on Measures to be taken and Aids to be provided for the Disasters Effective in Public Life	7269
Law on Right to Information	4982
Law on Soil Conservation and Land Use	5403
Mining Law	3213
Municipality Law	5393
National Parks Law	2873
Occupational Health and Safety Law	6331
Pasture Law	4342
Public Health Law	1593
Resettlement Law	5543

Environmental and social regulations (including occupational health and safety) that are valid within the above-mentioned laws are listed in Table 6.

Table 6. Prominent Regulations Covered by National Legislation

Regulation Name	Official Gazette Date	Issue
Environmental Permits and Licenses (General)		
Regulation on Environmental Impact Assessment	29.07.2022	31907
Regulation on Environmental Permits and Licenses	10.09.2014	29115
Regulation on Environmental Audit	12.06.2021	31509
Regulation Concerning Environmental Management Services	01.11.2022	32000
Climate Change		
Regulation on Minimization of Ozone Depleting Substances	07.04.2017	30031



Regulation Name	Official Gazette Date	Issue
Regulation on Monitoring of Greenhouse Gas Emissions	17.05.2014	29003
Land Use and Soils		
Regulation on Control of Soil Pollution and Point Source Contaminated Sites	08.06.2010	27605
Regulation on Protection, Use and Planning of Agricultural Lands	09.12.2017	30265
Regulation on the Implementation of Articles 17 and 18 of the Forest Law No. 6831	30.11.2021	31675
Regulation on Land Consolidation and On-farm Development Services Implementation	07.02.2019	30679
Regulation Concerning the Rehabilitation of the Lands Disturbed by Mining Activities	23.01.2010	27471
Regulation on Pastures	31.07.1998	23419
Water		
Regulation on Surface Water Quality	30.11.2012	28483
Regulation on Water Pollution Control	31.12.2004	25687
Regulation Concerned Water Intended for Human Consumption	17.02.2005	25730
Regulation Concerning Protection of Groundwater against Pollution and Deterioration	07.04.2012	28257
Monitoring of Surface and Groundwater Regulation	11.02.2014	28910
Regulation on Control of Pollution Caused by Hazardous Substances in and around the Water Bodies	26.11.2005	26005
Communique on Sampling of Surface Water, Ground Water and Sediment and Biological Sampling	21.02.2015	29274
Waste Management		
Regulation on Control of Packaging Wastes	26.06.2021	31523
Regulation on Waste Management	02.04.2015	29314
Regulation on the Control of Excavation Soil, Construction and Demolition Wastes	18.03.2004	25406
Regulation on the Control of Medical Wastes	25.01.2017	29959
Regulation on the Management of Waste Oils	21.12.2019	30985
Regulation on the Control of Vegetable Waste Oils	06.06.2015	29378
Regulation on the Control of Waste Batteries and Accumulators	31.08.2004	25569
Regulation on the Control of End-of-Life Tires	25.11.2006	26357
Regulation on Mining Wastes	15.07.2015	29417
Regulation on the Landfill of Wastes	26.03.2010	27533
Regulation on the Control of Waste Electrical and Electronic Equipment	26.12.2022	32055
Regulation on the Control of End-of-Life Vehicles	30.12.2009	27448
Regulation on Zero Waste	12.07.2019	30829
Air Quality and Greenhouse Gas Emissions		
Regulation on the Control of Industrial Air Pollution	03.07.2009	27277
Regulation on the Assessment and Management of Air Quality	06.06.2008	26898
Regulation on the Control of Exhaust Gas Emissions	11.03.2017	30004
Regulation on Monitoring of Greenhouse Gas Emissions	17.05.2014	29003
Regulation on Increasing Efficiency in the Use of Energy Resources and Energy	27.10.2011	28097
Management of Chemicals		
Regulation on Classification, Labelling and Package of Materials and Mixtures	11.12.2013	28848
Regulation on Safety Information Forms on Hazardous Substances and Mixtures	13.12.2014	29204
Regulation Regarding Prevention of Major Industrial Accidents and Mitigation of Their Effects ("BEKRA")	02.03.2019	30702
Regulation Regarding Transport of Hazardous Materials on Highways	18.06.2022	31870



Regulation Name	Official Gazette Date	Issue
Community and Occupational Health and Safety and Labor and Working Conditions		
Regulation on Occupational Health and Safety Risk Assessment	29.12.2012	28512
Regulation on Occupational Health and Safety Services	29.12.2012	28512
Regulation on Duties, Authority, Responsibilities and Trainings of Occupational Health and Safety Specialists	29.12.2012	28512
Regulation on Procedures and Principles of Occupational Health and Safety Training of Employees	15.05.2013	28648
Regulation on the Occupational Health and Safety Committees	18.01.2013	28532
Regulation on the Health and Safety Measures to be taken in Workplace Buildings and Additions	17.07.2013	28710
Regulation on Protection of Buildings from Fire	19.12.2007	26735
Regulation on the Emergency Cases in Workplaces	18.06.2013	28681
First Aid Regulation	29.07.2015	29429
Regulation on Protection of Workers from Dangers of Explosive Environments	30.04.2013	28633
Communique on Hazard Classes List related to Occupational Health and Safety	26.12.2012	28509
Regulation Concerning the Protection of Workers from Risks Associated with Noise	28.07.2013	28721
Regulation Concerning the Protection of Workers from Risks Associated with Vibration	22.08.2013	28743
Regulation on Health and Safety Conditions in the Use of Work Equipment	25.04.2013	28628
Regulation on Occupational Health and Safety in Construction Works	05.10.2013	28786
Regulation on Health and Safety Regarding Temporary and Time Limited Works	23.08.2013	28744
Regulation on Health and Safety Precautions Regarding Working with Chemicals	12.08.2013	28733
Regulation on Health and Safety Signs	11.09.2013	28762
Regulation on Dust Management	05.11.2013	28812
Regulation on Safety Information Forms Regarding Hazardous Materials and Mixtures	13.12.2014	29204
Regulation on Personal Protection Equipment	01.05.2019	30761
Regulation on Usage of Personal Protective Equipment in Workplaces	02.07.2013	28695
Regulation on Vocational Training of the Employees Working in Dangerous and Highly Dangerous Workplaces	13.07.2013	28706
Regulation on Transportation of Explosives via Highways	24.04.2019	30754
Act on the Procedures and Principles on Manufacture, Import, Transportation, Storing, Sales, Usage, Disposal and Control of Explosive Materials, Hunting Equipment and Similar Exempted from Monopoly	29.09.1987	19589
Regulation on the Implementation of Law Concerning Private Security Services	07.10.2004	25606
Noise		
Regulation on Environmental Noise Control	30.11.2022	32029
Regulation on Environmental Noise Emission Caused by Equipment Used Outdoors	30.12.2006	26392
Social		
Regulation on Implementation of Resettlement Law	02.12.2007	26718
Regulation on the Implementation of Law Concerning Private Security Services	07.10.2004	25606
Biodiversity		
Regulation on the Protection of Wetlands	04.04.2014	28962
Regulation on Wildlife Preservation and Wildlife Development Areas	08.11.2004	25637
Others		
Regulation on Traffic in Highway	18.07.1997	23053
Regulation on Opening a Business and Working Licenses	10.08.2005	25902
Regulation on Permits for Mining Activities	21.06.2005	25852



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2.2 International Standards

2.2.1 AIIB's Environmental and Social Framework

AIIB is a multilateral financial institution, whose purpose, as set out in its Articles of Agreement (Articles), is to: (a) foster sustainable economic development, create wealth and improve infrastructure connectivity in Asia, by investing in infrastructure and other productive sectors; and (b) promote regional cooperation and partnership in addressing development challenges by working in close collaboration with other multilateral and bilateral development institutions.

The Articles require the AIIB's operations to comply with policies addressing environmental and social impacts, among other policies. The Environmental and Social Framework (ESF) incorporates AIIB's policy addressing environmental and social impacts. The ESF amended in November 2022, replaces the May 2021 ESF and entered into effect on November 22, 2022.

The Environmental and Social Policy (ESP) of AIIB comprises mandatory environmental and social requirements for each Project and is accompanied by (a) three associated mandatory Environmental and Social Standards (ESSs) setting out requirements applicable to Clients on; and (b) an Environmental and Social Exclusion List (ESEL) which sets forth activities and items that are excluded from financing by AIIB and that the Client is required to exclude from the Project.

The ESSs cover the following:

- ESS 1: Environmental and Social Assessment and Management,
- ESS 2: Involuntary Resettlement, and
- ESS 3: Indigenous Peoples.

ESS 1 (Environmental and Social Assessment and Management): When the Bank, AIIB, has determined, in consultation with the Client, that the Project is likely to have adverse environmental and/or social risks and impacts, it requires the Client to conduct an environmental and social assessment relating to these risks and impacts, and design appropriate measures to avoid, minimize, mitigate, offset or compensate for them, all as required under ESS 1.

The objective of ESS 1 is to achieve the environmental and social soundness and sustainability of Projects and to support the integration of environmental and social considerations into the Project decision-making process and implementation.

ESS 1 applies if the Project is likely to have adverse environmental risks and impacts or social risks and impacts (or both). The scope of the environmental and social assessment and management measures are proportional to the risks and impacts of the Project. ESS 1 provides both for quality environmental and social assessment and for management of risks and impacts through effective mitigation and monitoring measures during the course of Project implementation.

ESS 2 (Involuntary Resettlement): If the Project is likely to involve Involuntary Resettlement the Bank requires the Client to address this in the social section of the assessment report, complemented by more in-depth coverage, as required under ESS 2. The Client covers this in a plan or framework, as applicable, which may be called a land acquisition and resettlement plan, land acquisition plan or resettlement plan (LARP/LAP/RP) or, in the case of a framework, a land acquisition and resettlement planning framework, land acquisition planning framework or resettlement planning framework (LARP/LAPF/RPF). This plan or framework is provided to the Bank as a freestanding document, an annex to the assessment report, or incorporated as a recognizable element of the report.



The objectives of ESS 2 are: (a) to avoid Involuntary Resettlement wherever feasible; (b) to minimize Involuntary Resettlement by exploring Project alternatives; (c) where avoidance of Involuntary Resettlement is not feasible, to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-Project levels and to provide resettlement assistance; (d) to understand and address gender-related risks and differential impacts of Involuntary Resettlement; (e) to improve the overall socioeconomic status of the displaced poor and other vulnerable groups; and (f) to conceive and implement resettlement activities as sustainable development programs, providing sufficient resources to enable the persons displaced by the Project to share in Project benefits.

ESS 2 applies if the Project would or may involve Involuntary Resettlement (including Involuntary Resettlement of the past or foreseeable future that the Bank determines is directly linked to the Project).

ESS 3 (Indigenous Peoples): If the Project would involve Indigenous Peoples the Bank requires the Client to address this in the social section of the assessment report, complemented by more in-depth coverage, as required under ESS 3. The Client covers impacts on Indigenous Peoples in an Indigenous Peoples Plan or Indigenous Peoples planning framework, which is provided to the Bank as a freestanding document, an annex to the assessment report, or incorporated as a recognizable element of the report.

ESS 3 is not applicable for the Projects in Türkiye, since there is no communities or groups of people which can be identified/defined as indigenous peoples in the country.

2.2.2 Other E&S Guidelines

Following E&S Guidelines are also applicable for the sub-project:

- World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines,
- WBG EHS Guidelines for Construction Materials Extraction.

2.2.3 International Environmental and Social Conventions

Türkiye has joined several conventions and protocols aimed at managing global and regional environmental resources, biodiversity, and cultural heritage. These agreements, which encompass environmental, biodiversity, archaeology, cultural heritage, and labor-related matters, are outlined in Table 7. Türkiye's involvement in these global treaties will be considered when formulating suitable management strategies for safeguarding the aforementioned issues.

Table 7. International Agreements, Conventions and Protocols

International Agreements, Conventions and Protocols	Entry Into Force Date	Date of Approval/ Entry into Force by Türkiye
Environmental Protection		
The Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)	1978	2002
The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND)	18.12.1971	18.12.1971
International Convention on Civil Liability for Oil Pollution Damage	29.11.1969	29.11.1976



International Agreements, Conventions and Protocols	Entry Into Force Date	Date of Approval/ Entry into Force by Türkiye
Convention for the Protection of the Black Sea Against Pollution (Bucharest) and its protocols including the Protocol for the Protection of Biological and Landscape Diversity in the Black Sea	21.04.1992	14.12.1992
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	22.03.1989	28.12.1993
Stockholm Convention on Persistent Organic Pollutant (POPs)	22.05.2001	23.05.2001
Air Quality and Climate Change		
Convention on Long Range Transboundary Air Pollution (CLRTAP)	13.11.1979	23.03.1983
Vienna Convention for the Protection of the Ozone Layer	22.03.1985	08.09.1990
Montreal Protocol on Substances Depleting the Ozone Layer (1990)	16.09.1987	19.01.1991
United Nations Framework Convention on Climate Change (UNFCCC)	09.05.1992	24.05.2004
Kyoto Protocol	11.12.1997	26.08.2009
United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa	26.12.1996	31.08.1998
Biodiversity		
International Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR Convention)	02.02.1971	13.11.1994
Convention for the Conservation of European Wildlife and Natural Habitats (BERN)	19.09.1979	01.09.1984
UN Convention on Biological Diversity and the Cartagena Protocol on Biosafety	24.05.2000	17.06.2003
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	01.07.1975	27.12.2001
Mediterranean Sea Protocol Concerning Specially Protected Areas and Biodiversity (1988)	23.03.1986	29.09.1986
Convention on the Conservation of Migratory Species of Wild Animals (CMS)	23.06.1979	01.03.1982
Agreement on the Conservation of Populations of European Bats (EUROBATS)	04.12.1991	04.10.1994
Convention to Combat Desertification (CCD)	14.10.1994	14.10.1994
Convention (International Treaty) on Plant Genetic Resources for Food and Agriculture	03.11.2001	17.07.2006
European Landscape Convention	20.10.2000	10.06.2003
Cultural Heritage		
Convention on the Protection of the World Cultural and Natural Heritage	16.11.1972	14.02.1983
European Charter of the Architectural Heritage	26.09.1975	12.03.1985
European Convention on the Protection of the Archaeological Heritage	06.05.1969	29.11.1999
European Cultural Convention	19.12.1954	10.10.1957
Convention for the Protection of the Architectural Heritage of Europe	03.10.1985	16.05.1994
Convention for the Protection of Human Rights and Fundamental Freedoms (ETS No. 5) (the European Convention on Human Rights) and its protocols	04.11.1950	04.11.1950
UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property	14.11.1970	25.12.1979
UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage	17.11.2003	17.10.2006



International Agreements, Conventions and Protocols	Entry Into Force Date	Date of Approval/ Entry into Force by Türkiye
UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions	20.10.2005	20.10.2005
UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage	16.11.1972	16.01.1983
Labor, Safety and Health		
ILO Safety and Health in Construction Convention	20.06.1988*	11.01.1991
ILO Occupational Safety and Health Convention	22.06.1981*	22.04.2005
ILO Worst Forms of Child Labor Convention	17.06.1999*	17.01.2001
ILO Forced Labor Convention	28.06.1930*	23.06.1998
ILO Minimum Age Convention	26.06.1973*	26.06.1997
ILO Freedom of Association and Protection of the Right to Organize Convention	09.07.1948*	03.07.1951
ILO Worker's Representatives Convention	23.06.1971*	12.07.1993
ILO Human Resources Development Convention	24.06.1975*	29.09.1977
ILO Employment Policy Convention	09.06.1964*	27.11.1967
ILO Social Security Convention	28.06.1952*	29.01.1975
ILO Equal Remuneration Convention	29.06.1951*	19.07.1967
ILO Discrimination (Employment and Occupation) Convention	25.06.1958*	19.07.1967
ILO Abolition of Forced Labor Convention	25.06.1957*	29.03.1961
ILO Right to Organize and Collective Bargaining Convention	01.06.1949*	23.01.1952

*The dates of entry into force are provided.

2.3 Gap Analysis

Major gaps between national legislation and AIIB ESSs together with the instruments prepared and/or additional studies conducted to fill/address the gaps identified for the project are summarized in Table 8.



Table 8. Comparison Between National Legislation and AIIB ESSs

ESS	Scope / Aim of the ESS	Gaps between the Turkish Legislation and AIIB ESSs	E&S instruments/additional studies to be performed for addressing the gaps identified for the sub-project
ESS1 Environmental and Social Assessment and Management	<p>Environmental and Social Standard (ESS) 1 applies if the Project is likely to have adverse environmental risks and impacts or social risks and impacts (or both). The scope of the environmental and social assessment and management measures are proportional to the risks and impacts of the Project. ESS 1 provides both for quality environmental and social assessment and for management of risks and impacts through effective mitigation and monitoring measures during the course of Project implementation.</p>	<p>The main gaps between the national EIA and the ESS1 are as follows:</p> <ul style="list-style-type: none"> ▪ The process of integrating social impact assessment into the Turkish EIA has started in recent years. Especially with the EIA Regulation published in the Official Gazette dated 29.07.2022 and numbered 31907, social impact assessment has started to be included in Turkish EIA. Turkish EIA process is currently open for improvement but requires a fully integrated process to reach ESS1. ▪ In addition, the requirement to address cumulative impacts of other concurrent other projects is limited in Turkish EIA legislation. Under ESS1, cumulative impact assessment is in a more important position. Additionally, where the project involves specifically identified physical elements, aspects, and (associated) facilities that are likely to generate impacts, environmental and social risks and impacts have to be identified in the context of the project's area of influence under ESS1. ▪ The preparation of Environmental and Social Management Plans together with the Stakeholder Engagement Plan (during the EIA application process) has been included in Turkish legislation with the latest regulation. However, the management plans prepared are less comprehensive than the ones required under ESS1. ▪ In addition, ESS1 supports the use of an effective grievance redress mechanism that can facilitate early indication and prompt remediation for those who believe that they have been harmed by a client's actions. ▪ Supply chain management is also highlighted in ESS1. <p><u>Labor and Working Conditions</u></p> <p>Turkish national laws and regulations are generally close to the requirements of ESS1 in labor and working conditions. The grievance redress mechanism for workers is the most important gap between the national legislative requirements and ESS1. There are no specific requirements for the establishment and implementation of a grievance redress mechanism in Turkish national legislation.</p> <p>Türkiye is party to a multitude of ILO conventions, including but not limited to conventions on equal treatment of employees, gender equality, child labor, forced labor, Occupational Health and Safety (OHS), right of association and minimum wage. Accordingly, the current Turkish Labor Law (No.4857) is to large extent consistent with international requirements.</p>	<p>According to national EIA Regulation projects are classified into two categories as Annex I and Annex II projects, which is mainly based on magnitude or capacity of planned investment, rather than associated risks and impacts. Therefore, Projects are screened with respect to Annex I and Annex II of the EIA Regulation. However, in ESS1, projects are categorized into one of four categories as Category A, Category B, Category C or Category FI by taking into consideration the type, nature, location, sensitivity and scale of the Project, proportional to the significance of the Project's potential environmental and social risks and impacts. Projects are screened on a case-by-case basis.</p> <p>In this respect, this project (sub-projects) (except related facilities such as concrete plant, quarries, etc.) is exempt from the national EIA Regulation, but it is categorized as Category B under the AIIB's ESP.</p> <p>In order to address/bridge this gap, ESIA report (along with ESDD report and ESMP, specific for five sub-projects, including mitigation measures and monitoring requirements for each E&S issues in the subjects of land use and soil; noise and vibration; air quality; water resources, water quality and wastewater; resource and waste; cultural heritage; biodiversity; social issues; labor and working conditions; occupational health and safety; community health, safety and security; hazardous and chemical materials) is being prepared. Besides, the relevant requirements of the WBG EHS Guidelines will be applied to the Project in accordance with the ESS1. In cases where the Turkish requirements differ from the levels and measures presented in the WBG EHS</p>



ESS	Scope / Aim of the ESS	Gaps between the Turkish Legislation and AIIB ESSs	E&S instruments/additional studies to be performed for addressing the gaps identified for the sub-project
		<p>At the project level, in order to ensure that camp site arrangements, accommodation and working conditions meet ILO standards, national studies are carried out, including gender equality and anti-discrimination, Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), child labor, forced labor, labor rights and freedom of association.</p> <p><u>Resource Efficiency and Pollution Prevention</u></p> <p>Most Turkish national laws and regulations are in line with European Union (EU) directives. There is no major gap between ESS1 and Turkish national legislation. National EIA process is quite successful in identifying impacts but does not require provision of a detailed overview of mitigation methods and monitoring. However, within the scope of ESS1, the client needs to consider alternatives and implement technically and financially feasible and cost-effective options to reduce project related GHG emissions during the design and operation of the project.</p> <p>Sub-management plans and monitoring programs have started to be integrated into Turkish legislation with the recent EIA Regulation. Furthermore, there are no major gaps between the impacts and mitigation methods in the national legislation and ESS1 on major environmental issues such as waste, air pollution, water resources, wastewater, noise level. On the other hand, ESS1 requires application of pollution prevention and control technologies and practices under the Project consistent with international good practice, as reflected in internationally recognized standards, such as the World Bank Group (WBG) Environmental, Health and Safety (EHS) Guidelines.</p> <p><u>Community Health and Safety</u></p> <p>In Turkish national legislation, the general principles of community health, safety and security are fragmented under different regulations. The general principles are like ESS1. However, social issues such as labor influx, gender impacts and violence-based risks are more prominent under the ESS1 along with cumulative assessment and communication mechanism with external stakeholders.</p> <p><u>Biodiversity Management</u></p> <p>There is no gap in terms of policy level but internationally recognized areas of high biodiversity value including key biodiversity areas, important nature areas, important bird areas and important plant areas are not fully assessed/considered under national legislation.</p> <p>There is no clear requirement for habitat assessment in national legislation as well.</p> <p><u>Cultural Management</u></p>	<p>Guidelines, the more stringent one (such as the most stringent discharge and emission standards) will be applied in the project specifications.</p> <p>In terms of biodiversity management, biodiversity assessments made within the scope of the ESIA will cover internationally recognized areas of high biodiversity value and habitat assessment and biodiversity management plan (BMP) will be prepared, when necessary, in this respect.</p> <p>In terms of cultural management, intangible cultural heritage will be considered within the scope of the ESIA and Chance Find Procedure will be given as an appendix in each ESMP document.</p> <p>KGM website includes "Complaint Notification Form for Real Persons" and "Complaint Notification Form for Legal Entities" (https://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Root/SikayetGeriBildirim.aspx).</p> <p>SEP (including GRM) will be prepared to develop a gender-sensitive grievance redress mechanism procedure that includes these and also includes employee complaints, where anonymous complaints can be reported, and to eliminate/close this gap. KGM does not have a stakeholder engagement plan and grievance redress mechanism that will meet the project needs and AIIB standards. SEP/GRM will also be disclosed to stakeholders within the scope of AIIB requirements.</p> <p>In terms of gender equality, site accommodation and working conditions were evaluated with a gender sensitive approach. According to ESDD evaluations regarding accommodation and working conditions, the Project does not cause a discriminatory or negative impact in terms of gender and does not include conditions that will lead to gender inequality. However, in order to</p>



ESS	Scope / Aim of the ESS	Gaps between the Turkish Legislation and AIIB ESSs	E&S instruments/additional studies to be performed for addressing the gaps identified for the sub-project
		<p>The national legislation covers most of the requirements of the ESS1 in cultural management. However, as ESS1 defines the cultural heritage covering both tangible and intangible heritage, and Law No. 2863 covers only the movable and immovable tangible cultural and natural assets.</p> <p>Under ESS1, the preparation and use of the Chance Find Procedure is primarily expected during construction activities, especially for the protection of tangible cultural heritage. In contrast, for intangible forms such as socio-cultural aspects, the implementation of a code of conduct and providing training to all employees become prominent compared to the national legislation.</p> <p><u>Stakeholder Engagement and Information Disclosure</u></p> <p>In the Turkish EIA legislation, EIA Report for the projects in the list of Annex-I will be made available to the public opinion at the headquarters of MoEUCC or provincial directorates. Following MoEUCC's final assessment of the EIA report, the Governor's Office will disclose its reasoned decision publicly. For the projects in the list of Annex-II, the final Project Introduction File (PIF) will be disclosed publicly at the Provincial Directorates. Similarly, public information and consultation meetings are held only the projects listed in Annex-I of the Turkish EIA Regulation.</p> <p><u>Gender Equality</u></p> <p>There is no national legislation to identify potential gender-specific adverse risks and effects.</p> <p>However, analyzes should be carried out in accordance with AIIB requirements, plans and procedures should be developed with gender sensitive analyzes and should include equality of opportunity and socioeconomic empowerment of women.</p>	<p>improve the project management system in this direction, a gender sensitive approach must be included in all the requirements and the system to be developed. Moreover, Gender Action Plan (GAP) will be prepared and implemented in five sub-projects in accordance with international standards.</p>
ESS2 Involuntary Resettlement	<p>This Environmental and Social Standard (ESS) 2 addresses impacts of Project-related land acquisition, including restrictions on land use and access to assets and natural resources, which may cause physical displacement (relocation, loss of</p>	<p>Turkish legislation on land acquisition basically corresponds to the requirements envisaged by ESS 2. However, some gaps include Resettlement Plan (RP) preparation, the implementation of the plan, impact assessment on vulnerable groups, restoration of land-based livelihoods and the lack of recognition of informal land users and squatters.</p> <p>There are the following gaps between Turkish national legislation and international standards on land acquisition:</p> <ul style="list-style-type: none"> ▪ Buildings and structures are compensated with depreciations; therefore, full replacement cost is not provided. ▪ According to the Resettlement Law (Law No. 5543), compensation in kind cannot be made except resettlement by the state. ▪ Disclosure and stakeholder engagement, Project level grievance redress 	<p>Within the scope of the ESS2 Involuntary Resettlement, the Project includes a Project-specific ESIA report with mitigation measures on eliminating the negative impacts that may occur on the fixed assets, agriculture and livestock livelihoods of the local people during the construction or transportation process, and a risk assessment regarding the loss of livelihood and economic displacement of the local people in accordance with the AIIB requirements.</p> <p>No land acquisition is required within the scope of project activities. P2 sub-project construction sites</p>



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ESS	Scope / Aim of the ESS	Gaps between the Turkish Legislation and AIIB ESSs	E&S instruments/additional studies to be performed for addressing the gaps identified for the sub-project
	land or shelter), and/or economic displacement (loss of land or assets, or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood)	<p>mechanism are not defined as a part of the land acquisition process,</p> <ul style="list-style-type: none"> ▪ Entitlement defining are limited to the legal title holders of the assets or lands for National Legislation; informal, users, tenants, common land users are not defined as beneficiary and the PAPs without recognizable claims are not eligible for expropriation compensation. ▪ In Turkish Resettlement Law, the cut-off date is defined a three-year residence time limit for non-owners. ▪ Restoration of livelihoods of PAPs are not covered in national legislation and no requirements are defined for the displaced poor or other vulnerable groups to improve their socioeconomic situation. 	are established construction areas and have been used for other projects before. In this context, Project activities and campsites will not trigger any land acquisition.

* ESS 3: Indigenous Peoples is not applicable for the Projects in Türkiye, since there is no communities or groups of people which can be identified/defined as indigenous peoples in the country.



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3 INSTITUTIONAL ARRANGEMENTS

The ESMP will be implemented with an adaptive management approach to respond to changes occurring at different stages of the Project and, as a living document, will be updated to reflect the current status of the Project and site features and management requirements when necessary.

KGM and the contractor is obliged to implement the ESMP with adequate and qualified personnel working under an appropriate organizational structure, in line with Project standards, in line with stakeholder participation and information sharing requirements, and to ensure that contractor/subcontractor(s) adopt management controls.

3.1 Organizational Structure

KGM is a public institution affiliated to the MoTI with a special budget for finance. KGM has a range of responsibilities related to the planning, construction, maintenance, and management of the country's road infrastructure KGM's duties are summarized below.

- **Planning and development of highways:** KGM is responsible for developing plans and strategies for the construction and expansion of Türkiye's highway network.
- **Construction and maintenance of highways:** KGM oversees the construction, maintenance, and repair of highways throughout Türkiye, including both urban and rural areas.
- **Traffic management:** KGM is involved in managing traffic flow, implementing safety measures, and improving transportation efficiency on highways.
- **Road safety:** KGM works to improve road safety by implementing measures such as signage, speed limits, and traffic enforcement.
- **Environmental protection:** KGM considers environmental factors in road/highway construction and maintenance projects to minimize their impact on the environment.
- **Coordination with other agencies:** KGM collaborates with other government agencies, local authorities, and private sector entities involved in transportation and infrastructure development.

Headquartered in Ankara, KGM operates through a network of 18 Regional Directorates strategically located throughout the country. KGM serves as the implementing agency for the Project, operating through its central offices in Ankara and two of its Regional Directorates (5th and 8th). Subprojects are being implemented and supervised by the Regional Directorate responsible for the area where they are located.

The project will have one Project Implementation Unit (PIU) in Ankara and two Regional Implementation Units (RIUs) within Regional Directorates 5 and 8. The PIU will primarily coordinate project preparation and implementation, while the RIUs will manage day-to-day activities, procurement, supervision, and monitoring specific to their respective subprojects. The PIU established within KGM consists of the Project Director, PIU Head, Environmental and Social Specialist(s), a Procurement Specialist, a Financial Management (FM) Specialist, a Technical Specialist and a Monitoring and Evaluation (M&E) Specialist along with two RIUs. The PIU and each RIU have E&S staff to be able to manage effective implementation of the project. Within the scope of this sub-project, the key local authority is 5th Regional Directorate of KGM (Mersin) which operates under the KGM as a regional organization.

The Contractor carrying out the execution of the rehabilitation and reconstruction works within the scope of the sub-project will be responsible for all of its staff (including subcontractor staff, if any) to have E&S responsibility awareness to ensure that E&S requirements are implemented smoothly on site. The ESMS structure to be executed by KGM and the Contractor will be managed with the organizational structure defined in Figure 5.



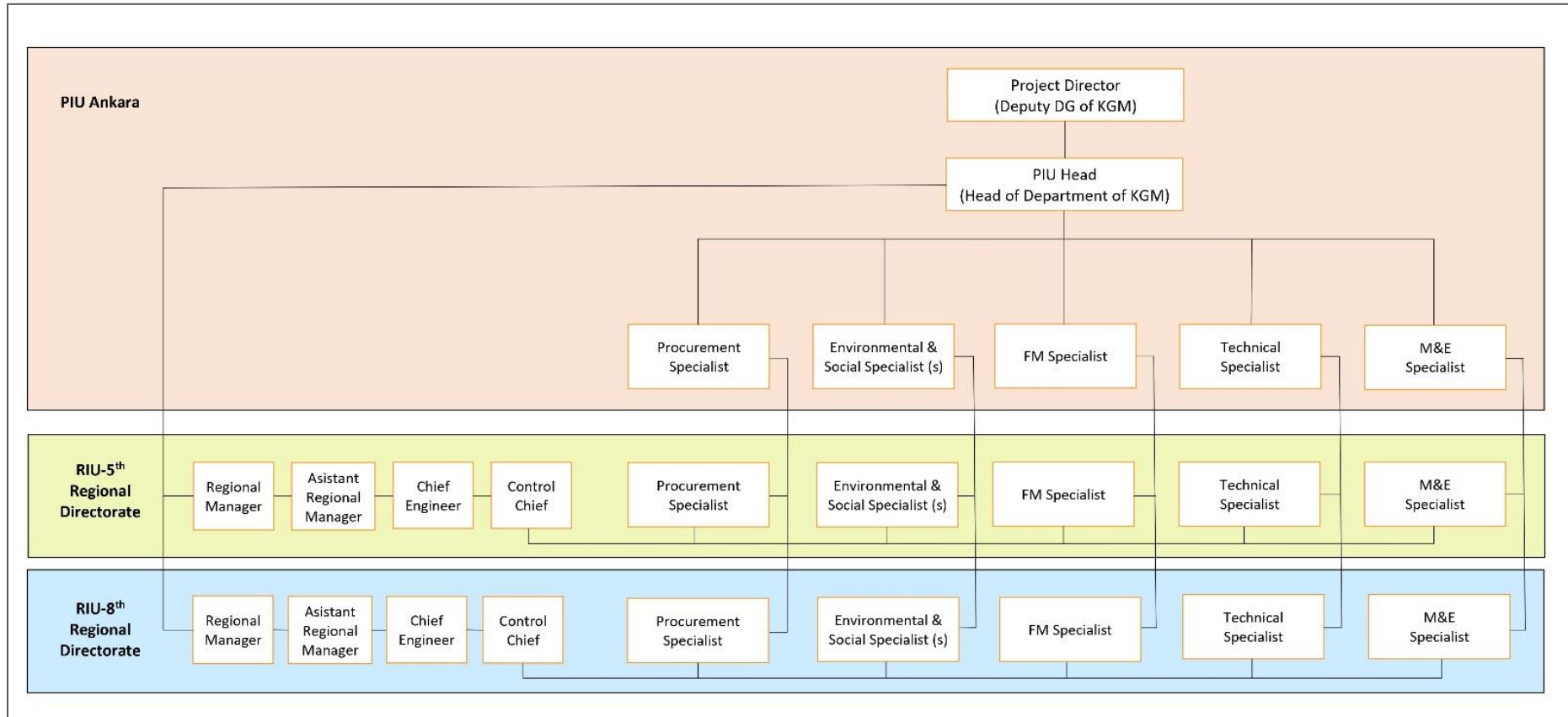


Figure 5. ESMS Organizational Structure



3.2 Roles and Responsibilities

As the project owner, it is the responsibility of KGM to manage the environmental and social issues of the project and to ensure that the necessary mechanisms are developed and implemented by the Contractor. A framework regarding the roles and responsibilities of KGM PIU/RIU, Supervision Consultant and the Contractor is presented in Table 9.

Table 9. Roles and Responsibilities Regarding the Implementation of the ESMP

KGM PIU
<p><u>Project Director and PIU Head</u></p> <ul style="list-style-type: none"> ▪ Responsible for the overall coordination and management of the project or program at the central level. ▪ Ensuring the effective implementation of the ESMP and related environmental and social sub-management plans by the KGM Regional Implementation Unit (RIU), and the fulfillment of all commitments under the ESMP. ▪ Ensuring the incorporation of the ESMP into the Contractors' civil work contract and sharing the ESMP with the Contractor by the RIU. ▪ Ensuring coordination with the RIU in sharing the updated ESMP, as revised by the RIU when necessary, along with additional commitments with the Contractor. ▪ Ensuring the submission of the periodic (semi-annual) reports to the Bank by the RIU regarding the implementation of the ESMP. ▪ Ensuring the employment of competent EHS personnel and external experts by the RIU for the project by coordinating the RIU, if necessary. ▪ Coordinating actions and assessments made by the RIU in the event of changes due to engineering/design modifications, route/location alterations, changes in applicable environmental and social regulations, amendments to authority provisions, introduction of new environmental/social data (considering impacts of the project on stakeholders), changes in construction/operation strategies. <p><u>Environmental, Social and M&E Specialists</u></p> <ul style="list-style-type: none"> ▪ Coordinating with the RIU to provide EHS training (including ESMP training) to relevant project personnel, if necessary. ▪ To ensure coordination in the conduct of environmental and social investigations, monitoring and inspections and evaluation of results regarding ESMP applications by the RIU. ▪ To review and analyze environmental, social, and occupational health and safety accidents in coordination with the RIU for the purpose of tracking and analysis. ▪ Ensuring stakeholder participation in coordination with the RIU, implementing the grievance redress mechanism, and facilitating continuous information sharing through transparent communication channels. ▪ Ensuring immediate reporting to the Bank by the RIU of any incident or accident related to the Project that has or may have significant adverse effects on the environment, the affected communities, the public or workers including but not limited to; incidents and accidents encountered during construction works, environmental spills, etc. ▪ Coordinating with the RIU to ensure the provision of sufficient details regarding incidents or accidents and Root Cause Analysis (RCA) findings; specifying emergency measures or corrective actions taken or planned to resolve the issue, compensation paid, and any information provided by contractors and supervisors, as appropriate. Furthermore, upon request from the Bank, ensuring the preparation of a report by the RIU on the incident or accident and proposing necessary measures to prevent recurrence. <p><u>Financial Management (FM) Specialist</u></p> <ul style="list-style-type: none"> ▪ Assuming leadership in financial management duties pertaining to the project, with oversight provided by the PIU situated in KGM Ankara. ▪ Supervising day-to-day financial operations, delegating tasks to the RIUs. ▪ Undertaking key tasks including budget planning, financial reporting, approval of payments, and preparation of withdrawal applications. ▪ Coordinating closely with RIUs, the Ministry of Transport and Infrastructure (MoTI), KGM's Accounting Department, and other relevant entities to secure necessary approvals for payment processing. ▪ Ensuring accurate accounting of project activities, with regional Accounting Departments responsible for this aspect. ▪ Oversee the consolidation of accounting data by the Accounting Department at KGM Ankara, utilizing it to prepare project financial statements and other pertinent financial records.



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- Collaborating with the Bank to establish templates for both unaudited and audited project financial statements.
- Submitting quarterly Interim Unaudited Financial Reports (IUFRRs) to the Bank within 45 days following each calendar quarter.
- Preparing and deliver annual external audit reports to the Bank within 6 months following the financial year-end.

Technical Specialist

- Contributing to project planning, design, and implementation by offering technical insights and recommendations.
- Analyzing complex technical challenges and propose innovative solutions to overcome them.
- Ensuring the quality of project deliverables by conducting reviews, inspections, and tests to verify compliance with technical standards and specifications.
- Assessing technical risks associated with project activities and develop risk mitigation strategies to prevent potential issues from impacting project objectives.
- Collaborating with cross-functional teams, including project managers, engineers, technicians, and subject matter experts, to coordinate technical activities and align project objectives.

Procurement Specialist

- Ensuring strict adherence to the specific procurement provisions delineated in Section II of the Interim Operational Directive on Procurement Instructions to Recipients (PIR) (2016), governing the procurement processes for the project.
- Supervising the financial aspects concerning civil works contracts awarded through the Negotiated Procedure stipulated in Article 21b of Türkiye's Public Procurement Law No. 4734, particularly addressing urgent situations necessitating the utilization of such procurement methods.
- Participating actively in the procurement process for additional contracts by meticulously adhering to the procedures outlined in the Country Procurement Systems, while ensuring alignment with the financing considerations of the AIIB.
- Collaborating closely with the PIU and RIUs to orchestrate and oversee procurement activities, ensuring stringent compliance with pertinent regulations and guidelines.
- Contributing significantly to the development of a comprehensive Project Delivery Strategy (PDS) through effective negotiation strategies, aimed at optimizing project outcomes and ensuring strategic alignment.
- Assisting in the formulation and refinement of a detailed Procurement Plan (PP), articulating intricate procurement arrangements such as contract packaging, financial allocations, procurement methodologies, and timelines, thereby establishing a robust framework for project procurement activities.
- Facilitating the seamless submission of any updates or revisions to the Project Delivery Strategy (PDS) and Procurement Plan (PP) to the Bank for meticulous review and subsequent approval, thereby upholding principles of transparency and ensuring alignment with overarching project objectives.

RIU

- Responsible for the implementation of project activities at the regional or local level according to the guidelines and instructions provided by the KGM PIU.
- Ensuring the implementation of ESMP and related sub-management plans and fulfilling all commitments within the scope of ESMP.
- Stopping the work in any situation that threatens the environment, human health, and safety, and when encountering an accidental circumstance.
- Ensuring the follow-up and analysis of environmental, social, and occupational health and safety accidents.
- Incorporating the ESMP into the civil work contract, sharing the ESMP with the Contractor, guiding the Contractor in preparing the implementation plans, approving these plans.
- Ensuring the effective implementation of the project and address local concerns through interaction with local stakeholders, including communities, government officials, and civil society organizations.
- Carrying out the purchasing processes and contract management of the goods, services and works required for the implementation of the project in their region.
- Identification and addressing of implementation challenges and bottlenecks at the regional level, collaborating with KGM PIU and other stakeholders to find solutions.
- Monitoring of contractor activities in accordance with the ESMP requirements.
- Informing AIIB of progress and updates through Environmental and Social Monitoring Reports on a semi-annual basis.
- Ensuring compliance with project standards and requiring the contractor to make necessary emergency corrections in case of non-compliance.



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Supervision Consultant
<ul style="list-style-type: none"> ▪ Supervision of construction and/or rehabilitation works and installation of equipment, ▪ Monitoring and evaluating the performance of the services provided by the Contractor, ▪ Ensuring initiation of corrective actions where necessary, ensuring implementation of mitigation measures by the Contractor, ▪ Follow up and audit the Contractor's activities periodically in line with the measures and commitments given in this ESMP, ▪ Monitoring and semiannually reporting to the KGM RIU regarding the implementation of the ESMP.
Contractor
<ul style="list-style-type: none"> ▪ Fulfillment of all requirements of the ESMP and related E&S sub-management plans. ▪ Implementation of additional commitments determined by KGM RIU and/or AIIB. ▪ Developing its own site-specific Contractor's ESMP (C-ESMP) including relevant E&S sub-management plans and implementing this C-ESMP throughout the construction works after obtaining approval before the commencement of the construction works. ▪ Ensuring compliance with project standards, obtaining all relevant permits and licenses. ▪ Monitoring construction activities (including subcontractor activities, if any) and taking measures within the scope of the ESMP. ▪ Development of implementation and monitoring plans/procedures in line with the ESMP structure, implementation after the approval of the KGM RIU. ▪ Employment of competent EHS staff (at least one environmental and social expert, one full-time OHS expert and/or obtaining consultancy services) within the scope of the project. ▪ Providing the necessary trainings to all project staff including sub-contractor staff on environmental, social and occupational health and safety issues. ▪ Providing follow-up and analysis of environmental, social occupational health and safety accidents. ▪ E&S inspections, monitoring and audits related to ESMP practices, at least monthly reporting to KGM RIU and PIU. ▪ Prompt notification of accident and incidents and keeping an incident register at construction site throughout the Project life. ▪ Carrying out the management of change process via filling the Management of Change Process (MCP) Form (Appendix-1) and informing the KGM RIU/PIU and AIIB about the details and the results of the process including at the final design stage.

3.3 Capacity Building and Training

The Project Owner is set to implement an ESMP training and awareness program that will focus on the identified social and environmental risks, along with the measures in place to prevent, minimize, and mitigate any adverse impacts.

The training program/modules for the sub-project will encompass a comprehensive range of topics to ensure that all project participants are well-informed and equipped to handle their roles effectively and responsibly. The curriculum will include, but is not limited to, the following subjects:

- **Purpose of the Environmental and Social Management Plan (ESMP):** Understanding the role and importance of the ESMP in relation to the project activities.
- **Management Plan Requirements and Monitoring Activities:** Details on the requirements specified in management plans and the monitoring activities to be conducted within the scope of these plans.
- **Environmental and Social Sensitivities:** Recognizing and understanding the sensitive environmental and social receptors within and around the project area.
- **Awareness of Potential Risks and Impacts:** Raising awareness about the possible risks and impacts associated with the project activities.
- **Grievance Redress Mechanism:** Information on the grievance redress mechanism developed for the project, including its process, procedures, service standards, contact channels, and employee rights.



- **Occupational Health and Safety, First Aid, and Emergency Preparedness:** Training in health and safety at the workplace, first aid techniques, and preparedness for emergencies.
- **Code of Conduct:** Instructions on the professional code of conduct.
- **Community Communication:** Techniques and principles for effective communication with the local community.
- **Training on Gender-Based Violence and Harassment:** Training that includes aspects of gender-based violence (GBV), sexual exploitation and abuse/sexual harassment (SEA/SH).
- **Traffic and Road Safety Principles:** Training on principles of traffic and road safety, particularly relevant to the project area.
- **Waste Management Training:** Instruction aimed at the sorting, storage, and environmental planning of waste.
- **Training on Pollution Prevention and Resource Efficiency:** Understanding pollution sources and types and the importance of pollution prevention in environmental protection along with concepts of resource efficiency and sustainability.
- **Training on Biodiversity:** The value of biodiversity for ecosystems, economies, and human well-being and the role of biodiversity in maintaining ecosystem health and function.
- **Training on Cultural Management:** The importance of cultural heritage and contemporary culture and conservation/preservation techniques for tangible and intangible cultural heritage.

This training program is designed to cover a wide array of critical topics, ensuring that all project participants are well-prepared to contribute to the project's success while adhering to the highest standards of safety, ethics, and environmental stewardship.

Details of the trainings prepared for the Contractor and the RIU within the scope of requirements of this ESMP are also presented in Table 10.

Table 10. Consolidated Training Program

Training Items	Specific Training Topics	Responsible Party	Target Group	Period	Budget
Induction Training	<ul style="list-style-type: none"> ▪ Introduction to the organization ▪ Workplace Culture and Environment ▪ Role specific training ▪ Compliance and legal requirements ▪ Introduction to teams and departments 	<ul style="list-style-type: none"> ▪ Contractor 	<ul style="list-style-type: none"> ▪ Newly recruited Personnel ▪ Personnel of newly contracted subcontractor-service provider 	Whenever needed	No additional cost
Environmental Management	<ul style="list-style-type: none"> ▪ Pollution Prevention and Resource Efficiency ▪ Waste Management ▪ Requirements of the National Legislation and Project Standards along with the ESMP 	<ul style="list-style-type: none"> ▪ Contractor ▪ KGM RIU ▪ Supervision Consultant 	Project all personnel	Once before the commencement of construction activities and quarterly throughout the lifecycle of the sub-project	No additional cost
OHS Management	<ul style="list-style-type: none"> ▪ Introduction to Occupational Health and Safety ▪ Workplace Hazards and Risk Assessment ▪ Emergency Procedures ▪ Personal Protective Equipment (PPE) ▪ Construction and Site-Specific Safety 	<ul style="list-style-type: none"> ▪ Contractor ▪ KGM RIU ▪ Supervision Consultant 	Project all personnel	Once before the commencement of construction activities and whenever needed	No additional cost



Training Items	Specific Training Topics	Responsible Party	Target Group	Period	Budget
	<ul style="list-style-type: none"> ▪ Incident Reporting, Root Cause Analysis and Investigation 				
Biodiversity Management	<ul style="list-style-type: none"> ▪ Introduction to biodiversity ▪ Threats to Biodiversity ▪ Sustainable Practices 	<ul style="list-style-type: none"> ▪ Contractor ▪ KGM RIU ▪ Supervision Consultant 	Project all personnel	Once before the commencement of construction activities and quarterly throughout the lifecycle of the sub-project	No additional cost
Cultural Heritage Management	<ul style="list-style-type: none"> ▪ Introduction to cultural heritage ▪ Conservation/preservation techniques for tangible and intangible cultural heritage 	<ul style="list-style-type: none"> ▪ Contractor ▪ KGM RIU ▪ Supervision Consultant 	Project all personnel	Once before the commencement of construction activities and quarterly throughout the lifecycle of the sub-project	No additional cost
Labor Management	<ul style="list-style-type: none"> ▪ Code of Conduct ▪ Gender-based violence (GBV), sexual exploitation and abuse/sexual harassment (SEA/SH) ▪ Worker's GRM ▪ SEP requirements 	<ul style="list-style-type: none"> ▪ Contractor ▪ KGM RIU ▪ Supervision Consultant 	Project all personnel	Once before the commencement of construction activities and quarterly throughout the lifecycle of the sub-project	No additional cost
Community Health, Safety Management	<ul style="list-style-type: none"> ▪ Traffic and Road Safety Principles ▪ Environmental and Social Sensitivities ▪ SEP and GRM ▪ Community Communication 	<ul style="list-style-type: none"> ▪ Contractor ▪ KGM RIU ▪ Supervision Consultant 	Project all personnel	Once before the commencement of construction activities and quarterly throughout the lifecycle of the sub-project	No additional cost



4 POTENTIAL E&S RISKS AND IMPACTS

This chapter summarizes all identified/anticipated adverse E&S risks and impacts during the construction and operation phases in terms of following issues:

- Land Use and Soil Management,
- Noise and Vibration Management,
- Air Quality and GHG Management,
- Water Resources, Water Quality and Wastewater Management,
- Resource and Waste Management,
- Cultural Heritage Management,
- Biodiversity Management,
- Social Impact Management,
- Labor and Working Conditions Management,
- Occupational Health and Safety Management,
- Community Health, Safety and Security Management.

In general, the potential E&S impacts related to subproject activities (see Section 1.2) will be managed based on the mitigation hierarchy as shown in Figure 6 by prioritizing avoidance and minimization over mitigation and offset.

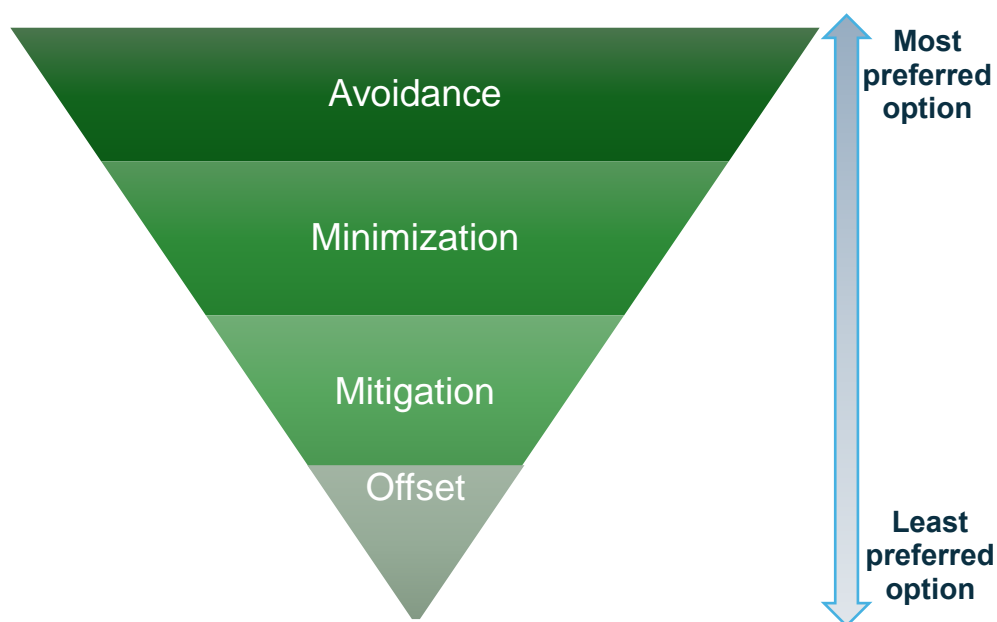


Figure 6. Mitigation Hierarchy

E&S management and monitoring plans both for the construction and operation phases are provided in Chapter 6 (in Table 11 and Table 12, respectively). Moreover, project-level Emergency Preparedness and Response Plan (CNR-KGM-TERRRP-EPRP-001) prepared within the scope of the main project is presented in Appendix-3.

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4.1 Land Use and Soil Management

The potential adverse impacts and/or risks on land use and soil during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

For the construction phase:

- Change in land use due to the establishment of associated and auxiliary facilities,
- Fragmentation of agricultural and pasture lands due to the subproject activities regarding associated and auxiliary facilities established or to be established along with corresponding potential impacts on restrictions to access to the lands,
- Loss of vegetative soil (in terms of quantity and/or vegetative quality),
- Soil disturbance and erosion, due to earthworks: excavation and filling operations
- Soil erosion risk in the absence of proper erosion control measures and sedimentation,
- Soil contamination risk originated from accidental spill/leakage and improper management of hazardous materials and waste, and
- Landslide and seismicity related risks.

For the operation phase:

- Landslide, seismicity and geotechnic related risks,
- Soil contamination risk due to spill/leakage resulting from traffic accidents and during the repair/maintenance works and housekeeping of the road pavement and other highway components, and
- Soil disturbance and erosion risk due to extreme weather conditions and improperly functioning erosion and sediment control structures.

4.2 Noise and Vibration Management

The potential adverse impacts and/or risks on noise and vibration during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

For the construction phase:

- Increase in noise levels and vibration due to the subproject activities regarding both reconstruction and rehabilitation of the highways and operation of the quarry/material borrow site and other associated and auxiliary facilities.

For the operation phase:

- Increase in noise levels and vibration due to highway traffic and especially in case of insufficient maintenance and repair works of the highways.

4.3 Air Quality and GHG Management

The potential adverse impacts and/or risks on air quality and GHG during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

For the construction phase:

- Decrease in air quality due to the emissions originated from the subproject activities regarding both reconstruction and rehabilitation of the highways, movement of the construction vehicles and operation of the quarry/material borrow site and other associated and auxiliary facilities, and



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- Greenhouse gas emissions due to construction traffic and operation of the quarry/material borrow site and other associated and auxiliary facilities.

For the operation phase:

- Decrease in air quality due to the emission of gaseous pollutants (NO_x, SO_x, CO, unburned hydrocarbons etc.) resulting from highway traffic, and
- Greenhouse gas emissions due to highway traffic.

4.4 Water Resources, Water Quality and Wastewater Management

The potential adverse impacts and/or risks on water resources during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

For the construction phase:

- Impacts on the water resources (surface waters and/or groundwater, depending on the resources to be used) due to water use for construction activities including associated and auxiliary facilities and due to operation of the quarries/borrow sites depending on the location of these sites and the groundwater level,
- Degradation impacts on surface water quality due to improper management of the wastewater, waste and chemicals/hazardous substances along with surface runoff resulting in sediment accumulation on the waterbody,
- Impacts on surface water flow and flood risk due to poor management of surface runoff, and
- Impacts on groundwater resources due to accidental spill/leakage and improper management of hazardous materials and waste (including wastewater).

For the operation phase:

- Increased surface runoff due to impermeable road, and
- Contamination of surface waters due to the repair/maintenance/housekeeping operations; accidental spillage of chemicals resulting from traffic/transportation; surface runoff containing routine deposits and spills from the highways.

4.5 Resource and Waste Management

The potential adverse impacts and/or risks on resource and waste during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

For the construction phase:

- Raw material and energy usage due to the construction and rehabilitation activities together with operation of the quarry/material borrow site and other associated and auxiliary facilities,
- Possible impacts from storage of excavation surplus materials in case excavated materials are not reused/recycled, resulting in additional land occupation,
- Potential impacts of hazardous and non-hazardous solid wastes due to poor waste management, resulting in environmental pollution and occupational and community related health and safety risks, and
- Additional load on the waste management facilities around the subproject area in the absence of best management practices and effective waste management.



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For the operation phase:

- Potential impacts of hazardous and non-hazardous solid wastes generated from maintenance, repair and housekeeping of the highways due to poor waste management, resulting in environmental pollution and occupational and community related health and safety risks, and
- Additional load on the waste management facilities around the subproject area in the absence of best management practices and effective waste management.

4.6 Cultural Heritage Management

The main potential adverse impact or risk on cultural heritage during the construction phase, which needs to be managed within the scope of the subproject, is the physical disturbance of tangible cultural heritage (chance finds that might be encountered) during land preparation and construction activities. In this context, a “Chance Find Procedure” was prepared for the project (see Appendix-2).

4.7 Biodiversity Management

This section for “Islahiye-Hassa-Kırıkhan Road (Km:24+500-84+500), Antakya-Reyhanlı Road (Km:0+000-42+500) Hot Bituminous Mixture Repair Work, Hatay Airport Road Soil Works, Art Structures and Superstructure Construction Work” was prepared based on the site surveys conducted by Ph.D. Levent Biler and M.Sc.c. Gamze Kaya in March 2024. All areas were examined, and potential risks and impacts were determined and are summarized below for the construction and operation phases.

For the construction phase:

- In existing structures and facilities, dust formation poses a risk.
- For newly established structures and facilities, in addition to dust formation, there will be concerns regarding vegetation and soil losses, biodiversity losses, disturbance/ destruction of flora and fauna habitat (ecosystem) and displacement/destruction of fauna due to site clearing and storage, introduction of invasive alien species, pollution of aquatic habitats, and the impact on these habitats. Measures to be taken in this context are provided in Table 11.

For the operation phase:

- During the operational phase, the risks to biodiversity will be limited. Waste management should be implemented, invasive alien species spread should be monitored, speed limits should be strictly enforced to avoid wildlife accidents, and dust formation should be controlled. Table 12 summarizes the measures to be put in place to minimize the risks and mitigate the impacts.

4.8 Social Impact Management

Potential risks and impacts for the Construction Phase were evaluated within the scope of the following social components.

- Population Change
- Vulnerable Groups
- Community Health and Safety (presented under the section: 4.11)
- Resettlement and Land Acquisition
- Loss of Livelihood
- Infrastructure and Services
- Labour Issues (presented under the section: 4.9)



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It is expected that these social risks, which are evaluated during the construction phase will be eliminated at the operation phase of the Project. For this reason, only potential risks regarding Community Health and Safety impacts were included during the operation phase.

4.8.1 Potential Risks and Impacts for the Construction Phase

4.8.1.1 Population Change

Kırıkhan-Kızılkaya Construction Site, located next to Kızılkaya Quarry in Kızılkaya Village, is used for the İslahiye-Hassa-Kırıkhan Road and Hatay Airport Road sub-projects. 80 workers and 25 technical personnel work at the Camp Site. All of the site construction workers are male. Approximately 5 female employees work in service and cleaning jobs within the scope of the Project. In addition, there are female OHS specialist as technical personnel who carry out OHS checks in the field.

Most of the workers accommodating in the Kırıkhan-Kızılkaya Construction Site is male. Only 1 earthquake victim woman is accommodating in the camp site with her family who are also working in the food service business within the scope of the project with her husband.

The nearest settlement is Muratpaşakızılkaya and is approximately 1000 meters away from the camping area. Antakya Kuruyer Construction and Accommodation Site will be used for the Antakya-Reyhanlı Road construction activities. There will be accommodation for a maximum of 150 people. Nearest resident is approximately 1250 m from the Kuruyer Construction Site.

Since the majority of those working in the project and staying at the Camp Sites are men, interaction between workers and local people will be minimized and all needs will be met within the camp site in order to prevent negative communication with the surrounding settlements and conflicts arising from social and cultural disagreements.

4.8.1.2 Vulnerable Groups

Along the Antakya-Reyhanlı Road, there are temporary shelter areas in Üzümdalı location between Alaattin and Üzümdalı settlements. In addition, there is a container camp area in the Project area of influence of the road passing through Ardıçlı Town and temporary shelter areas. Earthquake impacted households are intense in the temporary camp sites in the Sub-Project Aol.

Since its geographical location, Hatay is among the areas with the highest number of Syrian refugees. Therefore, Syrian population is high in the Project Aol, the construction site is not expected to have a direct negative impact on vulnerable groups or gender issues.

The Sub-Project is not expected to have a direct negative impact on vulnerable groups or gender issues. Since there is no settlement directly affected by the project activities, there will be no negative impact on the local population and communities.

In addition, within the scope of the Sub-Project, consultation activities for vulnerable groups defined in the SEP will be carried out as required throughout the entire Project, and vulnerable groups will be informed about the GRM of the Project through the Mukhtars of nearby settlements. The consultation process will also be carried out for businesses operating in areas close to the Sub-Project activities.

4.8.1.3 Resettlement and Land Acquisition

No land acquisition is required within the scope of project activities. P2 sub-project construction sites are established construction areas and have been used for other projects before. In this context, Project activities and camp sites will not trigger any land acquisition.



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4.8.1.4 Loss of Livelihood

Potential economic displacement will not be occurred.

Dust impact on the agriculture and livestock livelihoods:

Hatay Airport Road is approximately 6 km line passing through agricultural areas. Therefore, the sub-project should be managed and monitored with the traffic safety measures especially on the agricultural and husbandry intense season from April to October.

It was observed that, some shepherds are using the Kuruyer access roads of the Construction Site with their animals living in the surrounding settlements. Therefore, on the access roads of the Kuruyer Construction Site, due to the heavy vehicle traffic, traffic accident risk and dust formation may increase and local people who are engaged in the husbandry activities may be adversely impacted.

Heavy vehicle traffic and excavation works continue on the Kırıkhan-Kızılkaya construction site access roads. Therefore, dust effects may occur on agriculture/livestock farming carried out near construction activities and transportation routes.

In the context of not restricting access to lands where livelihoods are maintained, it is important not to close the passageways and livestock access roads used by the local people, and to determine the needs of the local people in this regard.

Considering the impacts of this Project, its impacts on livelihoods should be determined through consultation. The works will be conducted with wet dust suppression (with water), which will prevent the effects of dust that may occur due to construction works and also the use of material storage areas, limestone quarries and gravel-sand borrow areas, on agriculture and livestock livelihoods.

During Project activities, temporary potential impacts livelihoods that may arise from dust or traffic will be managed through contractor site observations, regular stakeholder notifications, E&S monitoring studies and the project-level GRM.

4.8.1.5 Infrastructure and Services

For the Kırıkhan-Kızılkaya Construction Site, it is learned that domestic wastes have been collected by Kırıkhan Municipality and have been sent to licensed waste management facilities. Construction and excavation wastes have been sent to storage areas designated by KGM or transferred to be used in other projects.

Drinking water is provided from ready-bottled water, and, for personnel usage, groundwater has been utilizing. There are two storage tanks of 20 m³ each available with water booster system. Electrical infrastructure is available and there is also an emergency generator.

No sewerage infrastructure exists on the construction site. Septic tanks are being utilized, with sewage truck services provided by Kırıkhan Municipality.

4.8.2 Potential Risks and Impacts for the Operation Phase

It is expected that social risks that may arise during the construction phase will be eliminated during the operation phase. For this reason, only potential risks related to Community Health and Safety impacts are included in the operation phase (presented under the section 4.11).



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4.9 Labor and Working Condition Management

Labor and working conditions must be planned and carried out in accordance with AIB standards and national legislation.

In this context, labor management, OHS, GAP mitigation measures should be implemented to monitor employee conditions, social compliance issues, include a code of conduct in contracts, and keep accommodation conditions at ILO standards.

4.9.1 Potential Risks and Impacts for the Construction Phase

Kırıkhan-Kızılkaya Construction Site, located next to Kızılkaya Quarry in Kızılkaya Village, is used for the Sub-Project. 80 workers and 25 technical personnel work at Camp Site. Approximately 5 female employees work in service and cleaning jobs within the scope of the Project. In addition, there are female employees in the field who provide OHS controls and technical expertise. This number was 2 people during the Project fieldwork period.

The nearest settlement is Muratpaşakızılkaya and is approximately 1000 meters away from the camping area. Since the majority of those working in the project and staying at the Camp Site are men, interaction between workers and local people will be minimized and all needs will be met within the camp site in order to prevent negative communication with the surrounding settlements and conflicts arising from social and cultural disagreements.

Training should be provided for the workers, security personnel and drivers on community health and safety (CHS), traffic safety, Sexual exploitation and abuse (SEA) of the population and sexual harassment (SH) (SEA/SA), communication with the local population Compliance with the measures taken in these matters within the scope of contracts in the camping area will also be included in the codes of conduct.

Construction and accommodation sites using for the Sub-Project will be isolated from the outside to protect its boundaries for the stabilization of accommodation conditions, drinking water, health facilities, washing-bathroom conditions, changing rooms, food and beverage facilities, accommodation areas, rest areas, worker health and safety conditions.

Two-way security measures should be taken to ensure the safety of the local people against the risks arising from the project activities, to prevent the construction activities from creating risks and to prevent the entrance to the construction site from the outside, and to ensure the health and safety of the workers.

Project activities that may pose a risk to the health and safety of the public include unauthorized entry into the construction site of the Project, unauthorized passage from the construction site, bringing uncontrolled materials to the construction site or removing materials from the construction site without permission (food materials, building materials, chemical materials, construction equipment and tools, medical materials etc.).

Construction site area will be fenced off, and provided security to prevent the visitors uncontrolled entrance which may create security issues for both outside visitors and workers. For providing visitors health and safety, local community health and safety and workers health and safety, isolation and entrance safety measures need to be taken.

Social Compliance and Gender Based Violence and Harassment (GBVH) Risks: The majority of sub-project blue-collar workers are expected to be male employees. In addition, a small number of female employees will take part in the sub-project. Approximately 5 female employees work in service and cleaning jobs within the scope of the Project. In addition, there are female employees in the field who provide OHS controls and technical expertise. This number was 2 people during the Project fieldwork period. Based on these data, training and



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code of conduct awareness activities have been defined for Project employees and construction workers.

Since a temporary construction and accommodation site will be established for the Sub-Project, it is important to provide the following training to workers and security personnel staying in the camping areas.

- SEA/SH
- GBVH
- Workers' rights
- Project standards and human rights
- Community relations with local people
- Use of power (for security)
- CHS
- Social and cultural induction

Since KGM is an official institution, it is subject to the relevant laws, regulations¹ and conventions. In this context, KGM and all contractors working under it are subject to Labor Law and ILO conventions to which Türkiye is a party².

All contractors within the scope of the project are obliged to prohibit child labor, forced labor, and ensure equal treatment and gender equality for employees, including the ILO conventions listed below under the following headings: freedom of association, child labor, forced labor, equal treatment of employees, and gender equality.

In this context, KGM will ensure that the following actions are taken to ensure that all these laws, procedures and agreements are implemented throughout the Project, regulating the management of working conditions and labor relations, including the prevention of Child Labor and Forced Labor.

- Notifying the main contractor and all subcontractors of the contracts, policies and procedures to which they are parties and which they are obliged to comply with,
- Including the contract, policies and procedures and their determined main headings in the training given before starting work and making contractor employee training a part of the induction training.
- Incorporating policies and procedures within the scope of all employee agreements into contracts, either as part of these agreements or by transferring them to codes of conduct.
- Making prohibitions, ethical principles and responsibilities visible in work areas (camp sites, work areas).
- Establishing a grievance redress mechanism that is accessible to all employees of the Project, including subcontractor employees, and allowing anonymous complaints, and disclosing it to employees.

4.9.2 Potential Risks and Impacts for the Operation Phase

Workers and employees in the operation phase will be given training on the updated ESMP and sub-plans and will be informed about the Project standards.

In accordance with the standards within the scope of the project, social compliance, GBVH, OHS trainings will be updated and renewed during the operation phase.

Employees will be aware of the Project's employee grievance redress mechanism and will be encouraged to use this mechanism.

1 <https://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Kurumsal/KanunMevzuat.aspx>

2 https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@europe/@ro-geneva/@ilo-ankara/documents/genericdocument/wcms_645630.pdf



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KGM will monitor working conditions, training and labor issues and workers complaints through the Grievance Redress Mechanism records once a year during the operation phase and report them to the Bank.

4.10 Occupational Health and Safety

The implementation of OHS regulations in projects depends on the type of the project; the nature and severity of hazards, risks, and impacts; and the types of workers involved. Appropriate OHS measures should be integrated into the project design and implementation to aim at protecting workers from occupational injuries and illnesses. OHS measures will be designed and implemented with a focus on the following aspects:

- Identification of potential hazards for project workers,
- Provision of preventive and protective measures,
- Training of project workers and maintenance of training records,
- Documentation and reporting of occupational accidents, diseases, and incidents,
- Prevention of emergencies and preparedness.

The contractor will ensure the conduct/availability of an appropriate job-specific risk assessment in the project. While conducting the risk assessment, potential hazards that may arise within the scope of Hatay Province Roads Rehabilitation and Reconstruction Construction will be considered, including the İslahiye-Hassa-Kırıkhan Road, Hatay Airport Road, Kızılkaya Construction and Accommodation Site, Kızılkaya Limestone Quarry, Antakya-Reyhanlı Road, and Kuruyer Construction and Accommodation Site. Risk analysis should be renewed in necessary cases as specified in the Regulation on Occupational Health and Safety Risk Assessment.

It is recommended to include a balanced representation of women on OHS unit to help design policies and practices responding to the needs of female project workers.

All parties who employ or engage project workers will develop and implement procedures to establish and maintain a safe working environment, including that workplaces, machinery, equipment, and processes under their control are safe and without risk to health, including by use of appropriate measures relating to chemical, physical, and biological substances and agents. Such parties will actively collaborate and consult with project workers in promoting understanding, and methods for, implementation of OHS requirements, as well as in providing information to project workers, training on occupational safety and health, and provision of personal protective equipment without expense to the project workers.

Project workers will establish workplace processes to report work situations they believe are unsafe or unhealthy and to remove themselves from a work situation they have reasonable justification to believe presents an imminent and serious danger to their life or health. Project workers who remove themselves from such situations will not be required to return to work until necessary corrective action to address the situation has been taken. Project workers will not face retaliation or other negative actions for such reporting or removal.

Project workers will be provided with facilities appropriate to the circumstances of their work, including access to cafeterias, hygiene facilities, and rest areas. If accommodation services are provided to project workers, policies will be established and implemented for the management and quality of accommodation to protect and promote the health, safety, and well-being of project workers. These policies will provide access to or provision of services that accommodate the physical, social, and cultural needs of project workers.

The completion of a risk assessment does not exempt the employer from the obligation to ensure occupational health and safety in the workplace. Furthermore, the employer provides the individuals tasked with risk assessment with any necessary information and documents related to risk assessment.



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Events encountered during an accident or near miss will be evaluated, and if necessary, the effectiveness of risk assessments and environmental impact assessments will be discussed, and revisions will be made.

After every workplace accident, Root Cause Analyses are conducted. The behavior or condition that caused the accident is identified.

If the "Condition" is the cause of the accident, improvement measures are implemented within the company to eliminate the hazard. If the cause of the accident is "Behavior," training sessions are reiterated to prevent the recurrence of incorrect behaviors.

The potential adverse impacts and/or risks on OHS during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

4.10.1 Potential Risks and Impacts for the Construction Phase

- Risk of falling due to open trenches and pits.
- Accidents and injuries (e.g., overturning, crushing).
- Repetitive movements and heavy lifting.
- Risk of collision and crushing due to vehicle traffic near the work area.
- Risk of landslides and collapses.
- Working difficulties and health risks due to extreme hot, cold, or rainy weather conditions.
- Accidents that may occur during the use of heavy machinery such as excavators, trucks, and crushers.
- Poisoning, skin irritations, and respiratory problems.
- Animal bites and insect stings.
- Accidents due to workers not receiving adequate training.
- Risks arising from the lack or improper use of personal protective equipment.
- Health problems caused by vibration from machinery.
- Risk of dehydration, heatstroke, or hypothermia.
- Risk of respiratory problems due to dust exposure.
- Risk of slipping and falling due to slippery surfaces or uneven ground.
- Risk of explosions and flying debris during blasting operations.
- Hearing loss due to loud machinery and blasting operations.
- Risk of falling from height throughout the construction works.
- Risks and impacts originated from poor management of hazardous and chemical materials.
- Risk of electric shock when working with electricity.
- Risk of electric shock caused by construction machinery coming into contact with power lines.

4.10.2 Potential Risks and Impacts for the Operation Phase

- Risks during maintenance and repair.
- Accidents due to workers not receiving adequate training.
- Risks arising from the lack or improper use of personal protective equipment.
- Health problems caused by vibration from machinery.
- Working difficulties and health risks due to extreme hot, cold, or rainy weather conditions.
- Poisoning, skin irritations, and respiratory problems.
- Animal bites and insect stings.
- Chemical and biological risks that may occur during road cleaning after accidents.
- Risk of slipping and falling due to slippery surfaces or uneven ground.



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- Risk of collision and crushing due to vehicle traffic near the work area.

4.11 Community Health, Safety and Security

The potential adverse impacts and/or risks on community health, safety and security during the construction and operation phases, which are required to be managed within the scope of the subproject, are listed below.

For the construction phase:

- Increase of traffic accident risk due to the subproject related activities, resulting in adverse impacts on daily life flow,
- Raising GBVH and SEA/SH due to the increase in regional workforce influx,
- Increased frequency of emergencies due to the subproject related activities,
- Increased risk of exposure to disease due to the increase in regional workforce influx,
- Risks arising from the security personnel attitudes, and
- Risk related to explosive use and blasting in the quarries/material borrow sites.

For the operation phase:

- Communication issues with the stakeholders in case of poor management of stakeholder engagement,
- Risk on traffic, operation safety and pedestrian safety due to highway traffic, and
- Increased frequency of emergencies due to highway traffic related issues.



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5 IMPLEMENTATION OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

5.1 Management of Change Process

The sub-project changes and the changes in key control documents which impact the conditions and commitments stated in technical documents are subject to the management of change process.

This management of change process is applied when:

- Engineering/Design changes,
- Route/location changes,
- Applicable legislation changes related to environmental and social issues,
- Authority provision changes,
- Any new environmental/social data is introduced,
- Construction/operation strategy changes,
- Stakeholders influenced by the project.

The Facilitator of the Change who is any person within the PIU at KGM, which shall be responsible for the coordination of the actions and assessments of a deviation from scope of works ensures that the Environmental & Social Specialist in the PIU is informed of any change, as specified above, which could have a potential environmental and social impacts.

The Management of Change Process Form (MCP Form) given in Appendix-1, is used to describe potential environmental and social issues associated with the proposed change. If the potential environmental and social issues are identified from this process, the Project Director shall be notified by delivering the MCP data for evaluation.

The Project Director reviews progress against implementation of the proposed change, as required, to verify that the environmental considerations have been fully addressed and environmental and social assessment studies, public consultation, permitting processes are completed as necessary and necessary revisions are performed in the ESMP and other sub-management plans.

5.2 Stakeholder Engagement

A project level Stakeholder Engagement Plan (SEP) including GRM was prepared in order to minimize the social and environmental negative impacts of the Project and to increase project benefits, to conduct stakeholder relations in accordance with AIIB standards. SEP will be implemented in all sub-projects and will be prepared at the early stages of the sub-project and will be implemented.

SEP including GRM will be disclosed on KGM's website³.

The SEP outlines how the project team can communicate with stakeholders and includes a mechanism through which stakeholders can raise concerns, provide feedback or lodge complaints about project activities or any project-related activities.

This SEP establishes a systematic approach to stakeholder engagement that will help the Project identify stakeholders and establish and maintain constructive relationships with stakeholders in accordance with AIIB Environmental and Social Standard 1 (ESS1).

³ <https://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Projeler/DisKrediliProjeler.aspx>



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Throughout the project lifecycle, the stakeholder engagement process will follow the key strategies listed below to successfully manage social and environmental impacts.

- Within the scope of an open consultation approach with public participation, all notifications, verbal or written requests, complaints and suggestions from stakeholders will be carefully evaluated and necessary consultations will be held, without intervention, coercion or intimidation.
- Information regarding the project will be presented and explained to all stakeholders and parties in a format suitable for socio-cultural communication opportunities.
- The SEP, which was developed to define an effective stakeholder management approach appropriate to the characteristics and needs of sub-project activities and to identify stakeholders, also includes a GRM procedure.
- The SEP will support maintaining an inclusive approach throughout both stakeholder consultations and for the Project specific GRM. In line with this purpose, SEP defines the tools that will enable the participation of all stakeholder groups and Project-affected people (PAPs)⁴. These efforts will include the development of alternative actions and communication tools, especially for the inclusion of women, persons with disabilities, the elderly, immigrant/refugee PAPs, workers and local communities. A proactive and functional communication approach will be adopted against the risk of exclusion of vulnerable groups from project opportunities, Grievance Redress Mechanism and stakeholder consultation processes.

In the SEP, stakeholder analysis was carried out taking into account the dynamics between stakeholders and the risks and opportunities of their participation in the Project.

Stakeholders of the proposed project can be divided into the following core categories:

- Affected Parties are persons, groups and other entities within the Project Area of Influence (AoI) that are directly influenced (actually or potentially) by the project and/or have been identified as most susceptible to change associated with the project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures;
- Other Interested Parties are individuals/groups/entities that may not experience direct impacts from the Project but who consider or perceive their interests as being affected by the project and/or who could affect the project and the process of its implementation in some way; and
- Vulnerable Groups who may be disproportionately impacted or further disadvantaged by the Project as compared with any other groups due to their vulnerable status and that may require special engagement efforts to ensure their equal representation in the consultation and decision-making process associated with the project.

These stakeholders will be included to the Project through the appropriate tools and strategy defined in the SEP of the Project.

5.3 Grievance Redress Mechanism

Project level GRM has been developed in the SEP document of the Project.

The main purpose of the GRM is to help resolve project-related notifications and complaints in a timely, effective and efficient manner to the satisfaction of all stakeholders.

GRM is also one of the most important tools of the stakeholder participation management process, which enables stakeholders to convey their problems, complaints and concerns about

⁴ People who may be beneficially or adversely affected by an AIIB-financed Project
<https://www.aiib.org/en/about-aiib/who-we-are/project-affected-peoples-mechanism/how-we-assist-you/rules/index.html>



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the project to the relevant units of the project, and to resolve the complaints with correct methods and healthy communication.

The Grievance Redress Mechanism Procedure aims to effectively address and finalize the problems, complaints or concerns submitted by stakeholders, without expiration of time, and to maintain healthy, trust-based stakeholder participation. The grievance redress mechanism procedure aims to manage complaints in accordance with the AIIB ESF requirements.

This Grievance Redress Mechanism Procedure explains the functioning of the Project complaint mechanism, complaint management steps, tools, how the system will be managed, and how stakeholders can access the complaint mechanism.

GRM sets standards and principles to establish safe and constructive effective stakeholder communication.

The complaint mechanism developed in this context;

- Clearly disclosed and informed to all stakeholders,
- Complaints from stakeholders are recorded,
- Complaints are evaluated and concluded within the framework and time period determined by the procedure,

GRM is designed as a completely free, accessible and secure system in internal and external GRM will be explained separately in the project-level GRM. Project level GRM will allow anonymity. The GRM will also explain and cover the establishment and implementation of the appeal committee and the evaluation of grievance regarding SEA/SH to the extent applicable.

GRM will be accessible and inclusive of all these grievances and help resolve grievances in a timely, effective and efficient manner to the satisfaction of all parties involved in accordance with the national legislation and AIIB ESFs. The sub-project contractor will ensure that the GRM established at the Project level is disclosed to the local community and local stakeholders in the area of influence of the sub-project. The sub-project contractor will also provide support to the Project owner in the implementation of the GRM. The GRM procedure will also define this workflow and role-responsibility distributions.

AIIB's Project-affected People's Mechanism

AIIB has established a Project-affected People's Mechanism (PPM) to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement the ESP when the complaints cannot be addressed satisfactorily through Project-level GRM or AIIB Management's processes. AIIB Policy on the Project-affected People's Mechanism and Rules of Procedure of the PPM guide the PPM. The Complaints-resolution, Evaluation, and Integrity Unit (CEIU) is responsible for the functioning of the PPM.

The PPM's submission-handling functions include:

(1) Project Processing Queries

A Project Processing Query (PPQ) is designed to enable PAP to rapidly resolve their concerns about simple matters that arise during AIIB's environmental and social due diligence of a Project and do not require dispute resolution. The due diligence includes screening, categorization, and assessment of the environmental or social impacts of the Project. PPQ can include inquiries about the consultation process related to a Project or requests to address environmental nuisances such as dust, noise, or mobility restrictions experienced during Project preparation.

(2) Requests for Dispute Resolution

Requests for Dispute Resolution (RDR) allow the PPM to seek to facilitate and coordinate the resolution of a dispute that has arisen over measures required to mitigate known and



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quantifiable potential or actual material adverse environment and social impacts that occur during AIIB's due diligence of a Project or Project implementation. The parties to the dispute typically include the Client and the Requestors. Still, they may also involve Management and contractors, or other parties involved in the Project processing or implementation. This process aims to reach a time-bound and monitorable dispute resolution agreement between the parties concerned on actions to mitigate these impacts. Under this process, the PPM explores the PAP's mutually acceptable dispute resolution methods. This process may include consultative dialogue, information sharing, joint fact-finding, and creating a mediation mechanism or other methods.

(3) Requests for Compliance Review

The process under a Request for Compliance Review (RCR) involves an investigation by the PPM of allegations by Project-affected people that AIIB has failed to comply with its obligations under the ESP in its environmental and social due diligence of a Project during Project preparation or its oversight of the Project during implementation, thereby causing or being likely to cause material adverse ecological or social impacts on the Project-affected people. If the allegations are substantiated, the process includes reviewing any action plan proposed by Management to address these impacts.

Internal GRM

The Worker Grievance Redress Mechanism is defined as the mechanism that receives complaints from Project employees (including both direct and indirect employees) in accordance with the AIIB ESS 1.

Each sub-project main Contractors will establish and implement a Grievance Redress Mechanism for the workforce, including subcontractors, in the early stages of the construction process.

The Internal Grievance Redress Mechanism will be accessible for all type of the workers'/ sub-contractor's workers.

Employee complaints will be kept in the records of the main contractors of the Project, in the data recording log presented in the SEP of the Project.

5.4 Environmental and Social Monitoring Activities

The ESMP of the sub-project includes a series of mitigation measures on E&S issues to minimize the potential adverse impacts in the pre-construction, construction and operation phases of the sub-project. Contractor is also responsible for the implementation of the mitigation measures provided in this ESMP and internal monitoring of construction activities (including subcontractor activities, if any) in compliance with the national legislation and AIIB standards. KGM RIU is the main responsible party for monitoring, supervising and ensuring the implementation of the ESMP and the other sub-management plans during lifecycle of the project.

The Supervision Consultant, consisting of Environmental and Social Specialists within KGM RIUs, will provide environmental and social monitoring services to KGM. Their role is to ensure that all site construction activities are efficiently monitored, non-conformities as per the ESMP obligations are detected, and managerial decisions are developed adequately to mitigate these deficiencies. Additionally, they will provide recommendations to overcome any identified deficiencies.

Environmental and social monitoring is an important part in verifying whether the mitigation measures are implemented as planned and the expected results are achieved. It enables the project management to check the efficiency of the suggested mitigation measures and allows identification of further mitigation measures to prevent environmental pollution if need be.



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The documents outlined in the ESMP will serve as the primary reference materials for the Environmental and Social Specialists and/or Supervision Consultant during the periodic monitoring studies. However, they may also utilize additional documents beyond those provided in the ESMP. As part of their responsibilities, they will provide semi-annual reports to the AIIB's team.

5.5 Monitoring, Reporting and Evaluation

The 5th RIU and the Contractor are obliged to carry out the relevant reporting by conducting the monitoring/audit activities required by the Project. Regular internal audits and environmental and social monitoring (see Table 11 and Table 12) will be carried out by the Contractor. The contractor will prepare and submit monthly E&S Progress Reports covering the status of the construction activities and relevant E&S issues to the Supervision Consultant. Afterwards, Supervision Consultant will prepare and submit monthly Environmental and Social Monitoring Report including monthly E&S Progress Report prepared by the Contractor to the 5th RIU. The AIIB team will be informed by the RIU semi-annually on the progress and updates via Environmental and Social Monitoring Reports.

In line with the general framework of audits and monitoring, the following issues should be controlled in order to evaluate the performance of the ESMP:

- Implementation of the ESMP and Contractor's implementation plans by all personnel,
- Ensuring compliance with the national legislation, the AIIB ESF and relevant WBG EHS Guidelines, which constitutes the project standards,
- Resolving non-compliances with national legislation and international standards through E&S monitoring studies and reporting,
- Project activities are carried out in a way that meets ESMP objectives.

The framework of the environmental and social management and monitoring program, which will be detailed for the construction and operation phases, is provided in Chapter 6.



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6 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

Environmental and social management and monitoring plans both for the construction and operation phases are indicated in Table 11 and Table 12, respectively.



Table 11. Mitigation and Monitoring Plan – Construction Phase

Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
LAND USE, SOIL AND GEOLOGY									
Land Use	<ul style="list-style-type: none"> Land preparation and construction works will be conducted at designated sites that will be visibly and appropriately marked. Accordingly, training will be provided to the construction personnel to ensure they maintain the pre-established construction boundaries. Subproject-based activities will aim to reduce/minimize the fragmentation of agricultural and pasture lands. The Grievance Redress Mechanism will be implemented to ensure that any complaints or comments regarding the Project are received and responded to in a timely manner, with solutions provided and corrective measures taken as appropriate. KGM will ensure that necessary corrective measures are taken by the Contractor from its own budget, in case of direct or indirect damage to adjacent properties that are state-owned or private property due to project-related activities. Regular information sharing will be conducted with community members using pasture and/or arable land during the land preparation phase before construction by considering all associated and auxiliary facilities. 	<p>Land cover changes</p> <p>Protective and corrective actions taken</p> <p>Correspondence with the relevant stakeholders</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p> <p>Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)</p>	<p>On-site visual observations/inspections</p> <p>Grievance records</p>	Daily	<p>Regulation on Protection, Use and Planning of Agricultural Lands</p> <p>Regulation on Pastures</p> <p>SEP including GRM</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	<p>No works conducted outside the designated areas</p> <p>Nonexistence of land fragmentation</p> <p>Number of relevant grievance records</p> <p>All damages to adjacent properties compensated</p>	Contractor	Included in construction costs
Loss of Vegetative Soil	<ul style="list-style-type: none"> Contractor's ESMP (C-ESMP) will be prepared and implemented by the Contractor by covering relevant E&S issues. Strip fertile topsoil from the Project area at a sufficient depth suitable for local soil conditions prior to construction activities. Store topsoil separately from subsoil at designated topsoil storage areas at suitable conditions to preserve its vegetative properties. Do not carry out stripping when soil is wet, so that soil compaction is avoided. Provide drainage at topsoil storage areas by open channels. If storage of topsoil will last longer than three months, plant upper part of fertile soil temporarily so that the organic content is conserved. Select proper species and seed mixture ratios. Apply organic or inorganic materials on the topsoil to improve quality and avoid erosion, desiccation or invasion of wild species. Reuse topsoil stored at suitable conditions for the rehabilitation of temporary construction sites after the completion of construction activities, and in landscape activities. Loosen topsoil to a depth of 15 cm before reinstatement (Increase depth of loosening up to 40-50 cm for compact heavy clay soils) It will be ensured that the place where the topsoil will be stored does not have a slope of more than 5%. Average height of topsoil stacks should be 1.5 meters. Keep depth of topsoil for areas to be planted suitable for side slopes, shrub plantation areas, tree roots etc. Conduct grading operation in line with the natural slope and drainage conditions following the reinstatement of topsoil. 	<p>Topsoil management including stripping, separate storage and reuse</p> <p>Rehabilitation success after reuse</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Temporary roads and facilities to be constructed</p> <p>Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)</p>	<p>On-site visual observations/inspections</p>	Daily	<p>Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources</p> <p>Regulation on the Control of Excavation Soil, Construction and Demolition Wastes</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	<p>Amount of stripped topsoil</p> <p>Number of temporary topsoil storage areas</p> <p>Topsoil adequately stripped, temporarily stored at designated areas and appropriately reused</p>	Contractor	Included in construction costs
Soil Disturbance and Erosion	<ul style="list-style-type: none"> Before the onset of land preparation and construction works, erosion control measures like drainage channels, settling structures, etc. will be implemented. To eliminate the risk of erosion in periods of excessive rainfall, the waters from the project surroundings and slopes will be separated from surface run-off by directing through temporary channels and soil embankments. Erosion control measures will be implemented following the completion of excavation works, also at the culvert outlets, and slopes will be improved. Around the excavated material stored at designated storage sites, dikes will be established to prevent loss of soil. All the disturbed sites will be restored to the most possible extent in a timely manner following the completion of stripping and excavation works. 	<p>Topography changes</p> <p>Existence of sediment control structures</p> <p>Effectiveness of erosion control measures</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p> <p>Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)</p>	<p>On-site visual observations/inspections</p>	Daily	<p>Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources</p> <p>Regulation on the Control of Excavation Soil, Construction and Demolition Wastes</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	<p>Interception and drainage channels constructed and maintained</p> <p>Area of successful vegetative growth achieved at revegetated sites and ratio to total area designated for revegetation</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
Soil Contamination	<ul style="list-style-type: none"> Discharge of materials into soil that would cause contamination will be prohibited. After each construction site is decommissioned, all debris and waste shall be cleared. Employees will be trained regarding spills and leaks. Accidental spills and leakages will be managed through implementation of the Emergency Preparedness and Response Plan. Maintenance and repairs will be carried out on the impermeable grounds with secondary containment structure/drip trays. Solid wastes, hazardous wastes and wastewater to be generated as a result of project activities and hazardous and chemical materials to be used in construction and repair works will be further managed through C-ESMP and WBG EHS Guidelines. In case of a location to be suspected of contamination before or during construction works, a sampling and analysis study will be carried out. 	Existence of soil contamination Parameters as specified in the Annex-2 (Table 1: List of Pollution Indicator Parameters) of Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources	Kızılkaya Construction and Accommodation Site Kızılkaya Limestone Quarry Kuruyer Construction and Accommodation Site Temporary roads and facilities to be constructed Material storage sites to be used for the sub-project that are already used by KGM Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)	On-site visual observations/inspections Documentation: Training records, incident reports Soil sampling and analysis (by an accredited laboratory) in case of leakage/spill incident	Daily In case of leakage/spill	Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources Regulation on the Control of Excavation Soil, Construction and Demolition Wastes AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	Number of leakages/spill incidents Number of the non-compliances with the applicable standards (Target: Zero non-compliance) Amount of contaminated soil Number and percent of the personnel trained regarding emergency response to spills and leaks	Contractor	Included in construction costs
Landslide and Seismicity Related Risks	<ul style="list-style-type: none"> All engineering structures to be established within the scope of the project will be designed and constructed taking into account the earthquake resistant design parameters and criteria. Slopes will be designed with gentle gradients to reduce the risk of landslides. Retaining walls, rock bolts, and anchors will be used to stabilize steep slopes, when necessary. Rockfall protection systems like catch fences, netting, and barriers will be utilized where there is a risk of falling rocks. In the structures to be constructed within the scope of the project, provisions of "Regulations for the Structures to be Built in Disaster Areas" published in the Official Gazette No. 26582 dated 14.07.2007 and "Türkiye Building Earthquake Code" of Disaster and Emergency Management Administration published in the Official Gazette No.30364 and dated 18.03.2018 that came into force in 01.01.2019 will be strictly followed. Emergency Preparedness and Response Plan prepared for the sub-project will be implemented in the event of an earthquake. 	Slope stability Rockfall protection systems Design of engineering structures	The sub-project areas	On-site visual observations/inspections Visual check of all project components following large seismic events conducted Documentation: Building permits and certificates	Weekly	Regulations for the Structures to be Built in Disaster Areas Türkiye Building Earthquake Code AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	Number of related OHS accidents/incidents recorded during and after natural disaster Effective implementation of the Emergency Preparedness and Response Plan Damage situation after the earthquake and landslide	Contractor	Included in construction costs
NOISE AND VIBRATION									
Increase in noise levels and vibration	<ul style="list-style-type: none"> The missing environmental permit process for Kızılkaya Limestone Quarry and concrete plant at Antakya-Reyhanlı Road Construction Area will be completed to cover all components. If new associated and auxiliary facilities such as quarry, borrow sites, asphalt plant, concrete plant, crusher, mechanical plant, etc. are planned to be established within the scope of the sub-project, EIA opinions and relevant environmental permits will be obtained All construction activities will be carried out in compliance with the noise limit values specified in the ENCR and WBG EHS Guidelines. Construction activities will be carried out between 10.00-22.00 in line with the requirements specified in Regulation on Environmental Noise Control (see Annex-2, Table 2 of the regulation). In addition, it should be taken into consideration that the working hours of projects such as dams, bridges, tunnels, highways, urban highways, and mass housing that require public benefit, as well as construction activities that will prevent daytime traffic in the city, will be determined by the decision of the Provincial Local Environmental Board by taking noise reduction measures for high noise propagating equipment. C-ESMP will be developed and implemented by the Contractor by covering relevant E&S issues, and all personnel will receive the necessary training on noise management. Project Grievance Redress Mechanism will be implemented. If any complaint related with noise or vibration is received, the complaint will be evaluated, and the necessary corrective preventive actions will be implemented. 	Relevant EIA opinions and environmental permits Grievance records on noise and vibration Preventive and corrective measures taken Noise and/or vibration measurements (according to WBG EHS Guidelines and the Annex-2 of Regulation on Environmental Noise Control)	Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs) Kızılkaya Construction and Accommodation Site Kızılkaya Limestone Quarry Kuruyer Construction and Accommodation Site Material storage areas to be used for the sub-project that are already used by KGM Settlements and facilities near the project area and quarry/borrow site Demirköprü, Osmanağa, Aşağıoba and Başpınar neighborhoods (for noise and/or vibration measurements)	On-site visual observations/inspections Noise monitoring at the settlements around the subproject activity area and construction and accommodation site in case of grievances using noise measuring devices (at least 48 hours of uninterrupted noise measurements) (by an accredited laboratory) Periodic noise and/or vibration measurements at	Daily (on-site visual observations) In case of noise/vibration related grievance Quarterly (noise measurements at Demirköprü, Osmanağa, Aşağıoba and Başpınar neighborhoods) Quarterly (vibration measurements at Aşağıoba and Başpınar neighborhoods)	Environmental Noise Control Regulation (ENCR) AIIB ESS 1 WBG EHS Guidelines	No exceedance of noise/vibration limit values observed in the noise/vibration measurements Number of noise/vibration-related grievances Number and percent of the personnel trained on noise management	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> ▪ Portable barriers and acoustic enclosures will be established around equipment where necessary. Natural topography will be utilized to create barriers against noise during construction activities as much as possible. Ancillary components at camp sites and other stationary plants will be positioned with consideration for noise-sensitive receptors. ▪ Machinery, equipment and vehicles with lower sound power levels and sound reduced models will be preferred, using newer and electrically driven models. ▪ Maintenance of construction vehicles will be conducted regularly by means of a regular vehicle maintenance and repair program which is also recommended by the manufacturer. ▪ Speed limitations for construction vehicles will be defined and obeyed. Relevant trainings will be conducted and instructions on the driving speed limits will be provided to drivers/operators of construction vehicles. ▪ Driving of construction vehicles through settlements will be avoided where possible. ▪ Keeping the vehicles running will be prohibited while waiting on the construction site. ▪ Noise and/or vibration monitoring will be carried out by means of noise measurements in accordance with both national legislation and the WBG EHS Guidelines (quarterly for the construction phase at the nearby settlements and upon grievance). ▪ Site personnel with necessary environmental training will be provided that aims at reducing noise caused by Project activities. ▪ When necessary, to protect the employees from the noise and vibration caused by machinery and equipment; work will be carried out in accordance with the provisions of the "Occupational Health and Safety Law No. 6331" and necessary measures (such as providing ear protection PPE) will be taken to protect workers from risks that may arise from health and safety, especially hearing risks, as a result of exposure to noise/vibration. ▪ Engagement with local communities will be performed to understand their concerns and gather feedback on noise and vibration related issues. ▪ Collaboration will be made with regulatory authorities to address noise and vibration related concerns and seek approval for noise and vibration mitigation measures. ▪ Notification of communities/settlements about the noise and vibration levels that may be created during construction phase due to heavy machinery use and blasting operations at the quarries/borrow sites. ▪ Sensitivity of nearby settlements/buildings will be assessed against vibration prior to blasting operations. ▪ Construction and blasting activities will be scheduled by aiming to minimize potential vibration-related impacts. ▪ The number of holes to be blasted in one shot and the total charge amounts per shot will be optimized by applying modern blasting techniques. ▪ Blasting with millisecond delays and low charge weight will be carried out by considering the geological formation and characteristics of the area. ▪ Relevant records should be kept during blasting operations, and blasting-related impacts should be monitored. Vibrometers should be placed at suitable locations, and records should be kept of charge amounts, delays, and other relevant parameters. ▪ In order to mitigate the specific impacts resulting from the auxiliary facilities including quarry/borrow sites, asphalt plant, concrete plant, crusher and mechanical plant, following items will be considered: <ul style="list-style-type: none"> - Design adequately foundations for the facilities to sufficiently limit vibrations. - Erecting barriers such as walls or fences around the perimeter of the auxiliary facilities to reduce the propagation of noise towards surrounding areas. - Placing noisy machines within soundproof enclosures or buildings to control noise emissions. - Use of rubber-lined or soundproof surfaces on processing equipment (e.g. screens, chutes, transfer points, and buckets). - Use of rubber-belt transport and conveyors. 	<p>Correspondence with the relevant stakeholders</p> <p>Maintenance activities</p> <p>Blasting activities</p>		<p>nearest locations in Demirköprü, Osmanağa, Aşağıoba and Başpınar neighborhoods (by an accredited laboratory)</p> <p>Documentation: Vehicle and equipment maintenance records, training records, blasting/vibration records, EIA opinions and environmental permits for associated and auxiliary facilities, including the quarry, borrow sites, asphalt plant, concrete plant, crusher and mechanical facility.</p>	Monthly (document review)				



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> - Regularly maintaining and lubricating machinery to minimize mechanical noise and vibration. - Installing silencers and mufflers on exhaust systems to reduce noise generated by equipment. - Using vibration isolation mounts or pads to reduce the transmission of vibration from machinery to nearby structures. 								
AIR QUALITY AND GREENHOUSE GAS EMISSIONS									
Decrease in air quality	<ul style="list-style-type: none"> ▪ The missing environmental permit process for Kızılkaya Limestone Quarry and concrete plant at Antakya-Reyhanlı Road Construction Area will be completed to cover all components. ▪ If new associated and auxiliary facilities such as quarry, borrow sites, asphalt plant, concrete plant, crusher, mechanical plant, etc. are planned to be established within the scope of the sub-project, EIA opinions and relevant environmental permits will be obtained ▪ C-ESMP will be developed and implemented by the Contractor by covering relevant E&S issues and all personnel will receive the necessary training on air quality management. ▪ In accordance with the "Exhaust Gas Emission Control and Gasoline and Diesel Quality Regulation" published in the Official Gazette No. 28837 dated 30.11.2013; vehicles undergoing traffic inspections will have exhaust gas emission measurements conducted. Vehicles requiring maintenance will be serviced after routine checks, while others will remain in use until maintenance is completed. ▪ Procedures to limit the drop height of falling materials will be adopted. ▪ Dust suppression methods will be applied such as watering with water trucks; applying non-toxic anti-dust chemicals etc. at construction sites, service roads, quarries/material borrow sites and material storage sites. ▪ Incineration of construction waste at worksite will be prohibited. ▪ Access roads for the construction and accommodation sites, quarries/material borrow sites, and material storage areas will be maintained and upgraded as necessary. ▪ Water suppression, pressurized distribution or spraying systems will be applied to minimize dust where and when necessary, on paved or unpaved road surfaces. ▪ Loading and unloading of materials are carried out without throwing and scattering. ▪ Excavated materials will be covered with nylon canvas or with materials with grain size larger than 10 mm during transportation. ▪ Dust generation from open areas, such as material storage sites, will be minimized through control measures such as installing covers over materials, using particles of appropriate grain size as cover, increasing moisture content, and maintaining a humidity level of around 10% in the upper layers of materials along with using wind shields or barriers around material storage sites. ▪ Driving of construction vehicles through settlements will be avoided where possible. ▪ Employees will be ensured to work in accordance with the Traffic Law, and special attention will be paid to make loading according to loading standards. ▪ The Project Grievance Redress Mechanism will be implemented. If any comment related with dust and air quality is received through the Grievance Redress Mechanism, the complaints will be evaluated, and necessary corrective preventive actions will be taken. ▪ Air quality monitoring will be carried out in accordance with both national legislation and the WBG EHS Guidelines (quarterly for the construction phase at the nearby settlements and upon grievance). ▪ Blasting operations will be carried out in quarries/material borrow sites in line with relevant legislation and good international industry practices. ▪ Alternatives to blasting such as hydraulic hammers or mechanical methods should be considered. ▪ Blasting operations will be planned in terms of diameter, depth and direction of blast holes in order to reduce potential emissions. ▪ Control of dust emissions from equipment such as crushers, grinders, screens will be ensured through dust collectors and filters. ▪ Within the scope of the Environmental Permit and License Regulation, the relevant environmental permits will be taken. Emission measurements of facilities (such as concrete plant, asphalt plant, 	<p>Relevant EIA opinions and environmental permits</p> <p>Grievance records on air quality</p> <p>Preventive and corrective measures taken</p> <p>Air quality measurements according to the subject of the grievance parameters such as PM₁₀, PM_{2.5}, settled dust, SO_x and NO_x (in accordance with WBG EHS Guidelines and the Annex-2 (Table 2.2: Air Quality Limit Values in the Facility Impact Area) of Regulation on the Control of Industrial Air Pollution)</p> <p>Blasting activities</p> <p>Vehicle emissions</p>	<p>Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kırıkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)</p> <p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Material storage areas to be used for the sub-project that are already used by KGM</p> <p>Settlements and facilities near the project area and quarry/borrow site</p> <p>Demirköprü, Osmanağa, Aşağıoba and Başpınar neighborhoods (for air quality measurements)</p>	<p>On-site visual observations/inspection</p> <p>Air quality measurements to be performed at the nearby settlements (especially Demirköprü, Osmanağa, Aşağıoba and Başpınar neighborhoods) and in case of grievance (by an accredited laboratory)</p> <p>Documentation: Vehicle and equipment maintenance records, training records, EIA opinions and environmental permits for associated and auxiliary facilities, including the quarry, borrow sites, asphalt plant, concrete plant, crusher and mechanical facility</p>	<p>Daily (on-site visual observations)</p> <p>In case of air quality related grievance</p> <p>Monthly (document review)</p>	<p>Regulation on Air Quality Assessment and Management</p> <p>Industrial Air Pollution Control Regulation</p> <p>Exhaust Gas Emission Control and Gasoline and Diesel Quality Regulation</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	<p>No exceedance of air quality limit values observed in air quality measurements</p> <p>Number of air quality related grievances</p> <p>Number and percent of the personnel trained on air quality management</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<p>crusher, mechanical facilities etc.) subject to environmental permits on air emissions will be carried out regularly and work will be carried out as long as the environmental permits are valid.</p> <ul style="list-style-type: none"> In order to mitigate the specific impacts resulting from the auxiliary facilities including quarry/borrow site, asphalt plant, concrete plant, crusher and mechanical plant, following items will be considered: <ul style="list-style-type: none"> Implement dust suppression system (pulverization) to suppress dust on roads, stockpiles, and during material handling. Enclose conveyors/bunkers/screens, dust generation units and transfer points to reduce dust emissions. Store materials in covered areas or use windbreaks to minimize wind-blown dust. Plant trees and shrubs around the facility to act as a natural barrier for dust and to improve local air quality. Regularly inspect and maintain control equipment to ensure optimal performance. Equip plants with air pollution control devices, such as scrubbers, filters, and electrostatic precipitators, to capture particulate matter and other pollutant, whenever necessary. 								
Greenhouse gas emissions due to construction traffic and operation of the facilities including concrete plant, asphalt plant, crusher and mechanical plant	<ul style="list-style-type: none"> Construction activities will be carried out in line with good international industrial practices (GIIP). Periodic trainings will be provided to operators and drivers, covering practices to reduce unnecessary equipment idling time, raising awareness on energy efficiency and best practices and avoid behaviors that increase fuel consumption, such as shifting hydraulic levers unnecessarily and using excess horsepower. Fuel efficiency of construction vehicles will be optimized by means of applications such as speed restrictions and avoidance of uphill movements as much as possible. Proper maintenance of machinery/equipment including systematic equipment inspection, detection of potential failure and prompt correction to ensure fuel savings will be ensured. Energy/fuel consumption of construction machinery, equipment and vehicles will be monitored. In order to mitigate the specific impacts resulting from the auxiliary facilities including quarry/borrow site, concrete plant, crusher and mechanical plant, following items will be considered: <ul style="list-style-type: none"> Optimize production processes to reduce energy consumption. Implement on-site recycling of waste materials to reduce the need for new raw materials. Optimize logistics and transportation routes to reduce fuel consumption and emissions from transporting raw materials and finished products. For asphalt plant, use lower-temperature asphalt production techniques and recycled materials in the production process, such as reclaimed asphalt pavement in asphalt plants and recycled concrete aggregates. 	<p>Training activities</p> <p>Energy consumption rates</p> <p>Maintenance activities</p>	Activity areas and Area of Influence	<p>On-site visual observations/ inspections</p> <p>Documentation: Training records, Vehicle maintenance records</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (document review)</p>	<p>Regulation on Monitoring of Greenhouse Gas Emissions</p> <p>Regulation on Increasing Efficiency in the Use of Energy Resources and Energy</p> <p>AIB ESS 1</p> <p>WBG EHS Guidelines</p>	<p>Energy consumption amount per vehicle</p> <p>Ratio of periodically maintained equipment to total equipment</p> <p>Number and percent of the personnel trained on energy efficiency</p>	Contractor	Included in construction costs
WATER RESOURCES, WATER QUALITY AND WASTEWATER MANAGEMENT									
Degradation Impacts on Surface Water Quality	<ul style="list-style-type: none"> C-ESMP will be developed and implemented by the Contractor by covering relevant E&S issues and all personnel will receive the necessary training on water resources, water quality and wastewater management. Domestic wastewater generated due to land preparation and construction activities at the construction and accommodation site, quarry, borrow sites and other auxiliary facilities including asphalt plant, concrete plant and crusher/mechanical facility will be deposited in septic tank(s) that will be impervious, in accordance with "Regulation on Pit Opening Where Sewer System Construction is not Applicable" being published in Official Gazette No. 13783 dated 19.03.1971. When the pits are filled, wastewater will be removed by sewage trucks, and disposal will be provided periodically within the scope of the protocol to be made with the municipalities in Hatay Province that have licensed wastewater infrastructure systems with enough capacity. Wastewater from concrete plants will be collected in sedimentation ponds and the settled water will be recycled into the production process 	<p>Wastewater disposal records</p> <p>Surface water quality measurements according to the parameters specified in Annex-5, Table-2 (Quality Criteria of Inland Surface Water Resources According to Their Classes in Terms of General Chemical and Physicochemical</p>	<p>Activity areas and Area of Influence</p> <p>Orontes River at Demirköprü location where existing bridge is to be reconstructed and Karasu Creek near the Hatay Airport Road, where baseline measurements were conducted in the ESIA process (for surface water quality measurements)</p> <p>Package WWTP (if any)</p>	<p>On-site visual observations/inspections</p> <p>Documentation: Wastewater generation and disposal records, grievance records</p> <p>Surface water quality sampling and analysis results (by an accredited laboratory)</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (document review)</p> <p>Biannual (surface water quality sampling and analysis)</p> <p>As specified in the respective environmental permit for the</p>	<p>Regulation on Pit Opening Where Sewer System Construction is not Applicable</p> <p>Surface Water Quality Regulation</p> <p>Water Pollution Control Regulation</p> <p>Regulation on Waste Management</p> <p>AIB ESS 1</p>	<p>Compliance with the surface water quality standards</p> <p>Existence of wastewater collection system (impermeable septic tanks or package WWTP)</p> <p>Number of water quality related grievances</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<p>and there will not be any wastewater discharge to a receiving environment.</p> <ul style="list-style-type: none"> If a package wastewater treatment plant (WWTP) is planned to be established, treated domestic wastewater will be discharged into nearby receiving environment in accordance with the Project Standards and environmental permits on wastewater discharge obtained from the authorities along with identity document of the WWTP. Effluent discharge will be monitored periodically. Discharge of any kinds of untreated wastewater and waste to receiving bodies (soil and surface waters), drain fields, dry wells or separate storm drainage and interception channels will be prevented. All chemical storage tanks, including those for diesel fuel and dangerous liquid waste, will be stored in secondary containment structures with a capacity of up to 110% of the volume of material stored, in compliance with construction site requirements. Additionally, spill kits or absorbent pads should be readily available near storage areas. The positioning of stockpiles near to water bodies and in the flood risk areas will be avoided. Works during high flow events and during heavy rainfall will be avoided to reduce the risk of fine sediment release into watercourses, watercourse erosion and increased flood risk. Sediment barriers will be provided between earthworks and the watercourse to avoid contamination of waterbodies with sediment. In order to monitor the water quality of the surface waters within the subproject area, considering location of the pollution sources during land preparation and construction phase, water samples should be collected and assessment of the water quality of the samples will be performed biannually. When determining the locations of temporary fuel or oil storage areas, location of surface water resources will be taken into account. Accidental spill of hazardous materials such as fuel, oil, oil, cement etc. will be taken under control immediately. To collect and reduce the flow of surface runoff originated from construction and accommodation site and other areas of impermeable surfaces; drainage systems and related strategies will be planned and implemented. Washing of vehicles/or machinery will not be permitted in surface waters. 	<p>Parameters) of the Surface Water Quality Regulation</p> <p>Training activities</p> <p>Grievance records</p> <p>Environmental permit and WWTP identity certificate for package WWTP along with periodic measurement of discharged water (in accordance with WBG EHS Guidelines and the Annex (Table 21.1: Domestic Wastewater) of Water Pollution Control Regulation) (If a package WWTP) is planned to be established)</p>		<p>Package WWTP effluent sampling and analysis results (by an accredited laboratory) (if a package WWTP is established)</p>	<p>package WWTP (if a package WWTP is established)</p>	<p>WBG EHS Guidelines</p> <p>Emergency Preparedness and Response Plan</p>	<p>Amount of domestic wastewater generated and sent to licensed wastewater treatment plant</p> <p>No exceedance of discharged limit values observed in treated wastewater measurements (if a package WWTP is established)</p>		
Impacts on Surface Water Flow and Flood Risk	<ul style="list-style-type: none"> Surface runoff or wastewater generation due to dust suppression activities will be prevented. Surface runoff management practices designed to slow peak runoff flow, reduce sediment load, and increase infiltration will be implemented in accordance with KGM Technical Specifications. Natural drainage systems flowing towards the motorway will be intercepted by means of properly designed drainage channels and diverted the intercepted flow towards the nearest river/stream beds. Appropriate design and construction methods for hydraulic structures such as bridges, culverts and viaducts for river and stream crossings will be developed and implemented in accordance with KGM design standards/specifications. 	<p>Existence of drainage systems and hydraulic structures</p>	Activity areas and Area of Influence	On-site visual observations /inspections	Weekly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Emergency Preparedness and Response Plan</p>	Number of flood incidents	Contractor	Included in construction costs
Impact on Groundwater Resources	<ul style="list-style-type: none"> Sustainable use of water resources through water use minimization and recycling should be promoted. When determining the locations of temporary fuel or oil storage areas, location of groundwater resources will be taken into account. Accidental spill of hazardous materials such as fuel oil, oil, cement etc. will be taken under control immediately. Construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. All chemical storage containers, including diesel fuel, and hazardous liquid waste drums/containers should be placed in secondary containments/drip trays so as to minimize the risk of soil, surface water and groundwater contamination during construction and land preparation phase. Spill kits should be kept on site to be deployed in the event of a spillage, and site staff trained in their use. 	<p>Spill incident reports</p> <p>Groundwater utilization permit for each well</p> <p>Groundwater usage records</p> <p>Groundwater quality measurements (parameters specified in the Annex-3 of Regulation on Water</p>	<p>Activity areas and Area of Influence</p> <p>Groundwater wells (if any and used for drinking water purposes)</p> <p>Impact area of leak/spill (if any)</p>	<p>On-site visual observations/ inspections</p> <p>Documentation: Groundwater utilization permit for the each well, incident records</p> <p>Groundwater quality sampling and analysis results (by an accredited laboratory) (if</p>	<p>Weekly</p> <p>Quarterly (groundwater quality sampling and analysis) (if groundwater is used for drinking water purposes)</p> <p>In case of leakage/spill</p>	<p>Regulation on Water Intended for Human Consumption</p> <p>Regulation on the Protection of Groundwater Against Pollution and Degradation</p> <p>WHO criteria</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	<p>Number of spill incidents</p> <p>Amount of groundwater use (if any)</p> <p>No exceedance of limit values for human consumption</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> The units of the Project that are in touch with water, wastewater and chemicals will be constructed with using concrete with appropriate cement ratio and durability in order to provide basement impermeability. Thus, no leakages to soil and groundwater will occur during the construction phase of the Project. Containers containing hazardous materials will be placed in sealed vessels to prevent spills and leaks. Hazardous wastes will be transported by licensed waste transportation companies and will be disposed of at licensed facilities. The missing groundwater utilization permits for the groundwater well at Kızılkaya Construction and Accommodation Site as well as Hatay Airport Road sub-project area and for the new wells to be drilled/needed during the construction works within the scope of the sub-project will be obtained from related authorities for the use of groundwater in construction activities". Quarry activities will be designed and implemented in such a way as to minimize drawdown, considering potential impacts to surface and groundwater resource flow and availability, including potential ecological impacts. Appropriate blasting design and procedures, including ensuring the correct burning of explosives, will be implemented. Where possible, alternatives to blasting, such as hydraulic hammers or other mechanical methods should be considered. If drinking water is supplied from wells, the contractor will perform quarterly groundwater analysis. Additionally, in case of leakage/spill, the contractor will perform the necessary sampling and analysis. 	<p>Intended for Human Consumption)</p> <p>Groundwater quality measurements (parameters to be determined based on the type of leak/spill)</p>		<p>groundwater is used for drinking water purposes)</p> <p>Groundwater quality sampling and analysis results (by an accredited laboratory) (in case of leakage/spill)</p>		Emergency Preparedness and Response Plan			
RESOURCE AND WASTE MANAGEMENT									
Material and Energy Use	<ul style="list-style-type: none"> "The missing environmental permit process for Kızılkaya Limestone Quarry and concrete plant at Antakya-Reyhanlı Road Construction Area will be completed to cover all components. If new associated and auxiliary facilities such as quarry, borrow sites, asphalt plant, concrete plant, crusher, mechanical plant, etc. are planned to be established within the scope of the sub-project, EIA opinions and relevant environmental permits will be obtained along with blasting permits and raw material production licenses for quarries and borrow sites. In case raw materials are supplied from the quarries/borrow sites operated by third parties (such as Opal quarry and Bozkayalar quarry), it will be ensured that these sites have all relevant environmental permits and EIA opinions within the scope of national legislation. Energy efficient tools and equipment will be preferred and idling of vehicles will be prohibited. In a planned manner, unnecessary energy/fuel consumption will be avoided. In line with the waste mitigation hierarchy and resource efficiency strategy, reuse/recycle/recovery steps will be followed to prevent excess use of materials. To understand fluctuations in usage, monthly usage statistics will be obtained, and the cause of the fluctuations will be analyzed and recorded in the Resource Usage Monitoring Chart. 	<p>Resource Usage Monitoring Chart</p> <p>Documents related to auxiliary facilities</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p> <p>Locations of the road construction and rehabilitation activities (Islahiye-Hassa-Kırkhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)</p>	<p>Analysis of Resource Usage Monitoring Chart</p> <p>Documentation: EIA opinions and environmental permits and/or exemption letters for the quarry and borrow site</p>	Weekly	<p>EIA Regulation</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	Reduction rate in resource and energy use	Contractor	Included in construction costs
Possible Impacts from Storage of Excavation Surplus Materials	<ul style="list-style-type: none"> Excavation material will be used as much as possible in filling works by providing separation of topsoil. Excavated material that cannot be used for filling operations will be stored in designated temporary storage areas where necessary permissions have been obtained and having sufficient capacity. The cut and fill program will be proceeded to minimize excavation wastes during excavation operations. 	<p>Excavation waste storage, reuse and disposal</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p> <p>Locations of the road construction and rehabilitation activities (Islahiye-</p>	<p>On-site visual observations/inspections</p> <p>Documentation: Records of the excavation material reuse and disposal</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (document review)</p>	<p>Regulation on the Control of Excavation Soil, Construction and Demolition Wastes</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>	Amount of excavation material and amount of excavated material reused	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
			Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)						
Potential Impacts of Hazardous and Non-Hazardous Solid Wastes	<ul style="list-style-type: none"> C-ESMP will be developed and implemented by the Contractor by covering relevant E&S issues and all personnel will receive the necessary training on waste management. The requirements of the applicable regulations related to waste management will be followed for the management of all waste generated as a result of the project activities, Separation of wastes (hazardous / non-hazardous, recyclable / non-recyclable) and temporary storage in designated storage areas will be ensured. Packaging wastes made of plastic, metal, glass, paper and board, composite and similar materials will be collected separately from other wastes and given to Packaging Waste Collection, Segregation and Recovery Facilities licensed by the Ministry of Environment, Urbanization and Climate Change (MoEUCC). After segregating the municipal solid waste by collecting recyclable materials separately, the organic portion of the municipal solid waste will be collected by the municipalities in accordance with the waste collection agreements. Vegetable waste oils will be stored separately and collected by environmental licensed recovery facilities and vegetable waste oil interim storage facilities. Ensuring that waste storage areas meet the standards set by the national legislation and international standards: <ul style="list-style-type: none"> Determining sufficient and appropriate storage areas and ensuring that conditions such as container types, labels and classifications are appropriate in these areas, Ensuring impermeability on the grounds of storage areas against possible contamination of soil and groundwater, Sufficient ventilation of the area under conditions where volatile wastes need to be stored, Establishing a suitable drainage system against leaks, Restriction of physical access to waste storage areas (through gates, fences, etc.); ensuring that only authorized persons can enter the storage areas, Placing warning signs and panels with the name and contact number of authorized personnel in storage areas, In order to be prepared for emergencies such as spillage, fire, absorbent materials, fire extinguishing equipment, etc. should be ready near the area, Quick identification of any possible spillages / leaks by periodically performing visual checks in hazardous waste areas. Existing temporary waste storage at Kızilkaya Construction and Accommodation Site will be rehabilitated in line with standards set by the national legislation and international standards (see above item) Wastes are not spilled out of areas other than those reserved for this purpose will be ensured and all necessary waste management training and periodic repetition of these trainings will be provided to all personnel. Waste oils will only be transported by licensed transportation companies and will only be delivered to licensed recycling or disposal facilities. Stripped topsoil will be separated from general trash and organic, liquid, and chemical wastes on site, and stored in designated areas. Construction wastes will be regularly collected by licensed collectors at the permitted excavation waste storage site of the Municipality. All necessary precautions will be taken to prevent contamination of land. Waste batteries and accumulators will be delivered to waste battery and accumulator disposal facilities within the Municipal borders through authorized transportation companies. In cases when tires of the vehicles to be changed during construction activities; end-of-life tires will be delivered to the companies that distributes and sells tires via the authorized transportation companies in accordance with the Regulation on Control of End-of-Life Tires. 	Temporary waste storage area conditions Waste management practices (collection, storage, recycling and disposal) Waste generation and disposal records Notifications on Integrated Environment Information System/Waste Management Application (Waste Declaration System) Training activities Contracts/protocols regarding waste shipment Incident records	Kızilkaya Construction and Accommodation Site Kızilkaya Limestone Quarry Kuruyer Construction and Accommodation Site Temporary roads and facilities to be constructed Material storage sites to be used for the sub-project that are already used by KGM Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)	On-site visual observations/inspections of the project area including temporary waste storage area Documentation: Waste generation and disposal records, training records, incident records, contracts/protocols regarding waste shipment, waste notifications	Daily (on-site visual observations) Monthly (document review)	Regulation on Waste Management Regulation on Control of Packaging Wastes Regulation on the Control of Medical Wastes Regulation on the Management of Waste Oils Regulation on the Control of Vegetable Waste Oils Regulation on the Control of Waste Batteries and Accumulators Regulation on the Control of End-of-Life Tires Regulation on the Control of Waste Electrical and Electronic Equipment Regulation on Mining Wastes Regulation on the Control of Excavation Soil, Construction and Demolition Wastes Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	Ratio of reused/recycled/recovered wastes to total wastes generated Wastes separately stored depending on their hazardous class and type All types of wastes transferred to the relevant recycling/disposal facilities Number of incidents related to soil contamination due to improper waste management Number and percent of the personnel trained on waste management	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> Medical wastes will be collected in special containers in the infirmary and given to the licensed Medical Waste Disposal Facilities. The provisions of the "Medical Waste Control Regulation" will be complied with. No waste should be disposed of any receiving environment or burned at the construction site, Waste explosives and used explosive canisters will be labeled as explosive waste and stored separately in designated storage areas. Only authorized personnel will be permitted to handle these materials. Additionally, transportation of such waste will be carried out by firms holding relevant licenses. Waste records will be recorded by means of online platform of MoEUCC on Integrated Environment Information System/Waste Management Application (Waste Declaration System). Hazardous wastes will be separated from other waste streams at the source to prevent cross-contamination. After temporarily storing hazardous wastes in designated areas with appropriate containment measures to prevent leaks or spills, they will be disposed of at licensed facilities. Hazardous waste deliveries will be made via MoTAT (Mobile Waste Tracking System) by ensuring selection of licensed recycling/recovery/disposal facilities. All personnel will receive periodic training on effective waste management, zero waste principles, and resource efficiency. 								
Additional load on the waste management facilities around the subproject area	<ul style="list-style-type: none"> In line with the waste management hierarchy and good practices, reuse and recycling practices will be preferred. Excavated material storage sites with sufficient number and capacity will be used in case the designated material storage areas are insufficient Waste disposal agreements will be made with the municipality and licensed recycling / disposal firms. 	Waste records Waste disposal agreements	Area of Influence and beyond	Documentation: Waste records, waste disposal agreements	Weekly	Regulation on Waste Management AIIB ESS 1 WBG EHS Guidelines	Increase in waste recycle/recovery rate	Contractor	Included in construction costs
CULTURAL HERITAGE									
Physical disturbance of tangible cultural heritage during the land preparation and construction activities	<ul style="list-style-type: none"> . Specifically, final approval from the Cultural Heritage Preservation Regional Board Directorates for "Hassa-Kirikhan Road" and "Antakya-Reyhanlı Road" will be obtained based on previous correspondence conducted prior to activities to be carried out in the protected areas; Necessary documents and/or additional studies requested by relevant institutions will be provided. It will be ensured that no works are carried out in these areas without receiving a final opinion letter from the relevant institution. Relevant Museum Directorate will be notified in case of any chance finds during construction works by avoiding physical intervention. Chance Find Procedure (CFP) (see Appendix-2) will be executed in the event of a discovery of a Chance Find during the land preparation and construction activities. Training on implementation of CFP will be provided to all personnel (including Contractor and Sub-contractors). Contractor will be responsible for complying with the procedure for onsite activities. Active stakeholder engagement should continue to identify any possible intangible cultural assets. Any intangible cultural heritage that may be identified will be considered and managed in line with the applicable principles of ESS 1 and UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. 	Correspondence with relevant institutions Records on any chance find Records on stakeholder engagement	Kızılkaya Construction and Accommodation Site Kızılkaya Limestone Quarry Kuruyer Construction and Accommodation Site Temporary roads and facilities to be constructed Material storage sites to be used for the sub-project that are already used by KGM Locations of the road construction and rehabilitation activities (İslahiye-Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road) (including concrete plants and DSMs)	On-site visual observations/inspections Documentation: Chance find records and reports, training records	Daily (on-site visual observations) Monthly (document review)	Law on Preservation of Cultural and Natural Assets Convention on the Protection of the World Cultural and Natural Heritage UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage AIIB ESS 1 Chance Find Procedure	Number of chance finds Number of personnel trained on chance find	Contractor	Included in construction costs
BIOLOGICAL ENVIRONMENT									
Vegetation and soil losses	<ul style="list-style-type: none"> Minimize vegetation clearing. Manage topsoil. Control soil erosion. 	Topsoil and vegetation cover	Activity areas of İslahiye-Hassa-Kirikhan Road (Km:24+500-84+500), Antakya-Reyhanlı Road (Km:0+000-42+500), Hatay Airport Road Soil Works, Art Structures and Superstructure Construction Work, also temporary roads and facilities	Direct Observation	Before and during construction Monthly	Law on Soil Conservation and Land Use Regulation on Control of Soil Pollution and Point Source Contaminated Sites Regulation on Pastures	Loss of vegetation and topsoil minimized/prevented	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
						AIIB ESS 1 WBG EHS Guidelines			
Biodiversity losses	<ul style="list-style-type: none"> Topsoil management will be carried out in order to protect the seeds and vegetative organs of the natural plants in the area for the topsoil usages in the future. Before the cleaning operation, measures such as noise should be employed to drive away the wildlife currently present or expected to be in the area. Additionally, visual inspections should be carried out to identify wildlife within the area, and they should be relocated outside the site using appropriate transportation methods. The <i>Testudo graeca</i> species, which has limited mobility, should be carefully transported out of the construction area and placed in a suitable habitat, facing away from the construction site. 	Biodiversity – topsoil management and wildlife	Activity areas of Islahiye-Hassa-Kirikhan Road (Km:24+500-84+500), Antakya-Reyhanlı Road (Km:0+000-42+500), Hatay Airport Road Soil Works, Art Structures and Superstructure Construction Work, also temporary roads and facilities	Direct Observation	Before and during construction Daily	Law on Soil Conservation and Land AIIB ESS 1 WBG EHS Guidelines	Loss of biodiversity minimized/prevented	Contractor	Included in construction costs
Disturbance/ Destruction of flora and fauna habitat (ecosystem) and displacement/destruction of fauna due to site clearing and storage	<ul style="list-style-type: none"> Limit clearing strictly to necessary areas so as to minimize the destruction of flora and fauna. Re-vegetate areas likely to be impacted with indigenous plant species immediately after the completion of respective works. Any animals discovered during vegetation clearance will be removed and relocated to an appropriate habitat. The project site's lighting will be kept to a minimum, and sensory lighting systems, rather than nightlong active lighting, will be considered. The lights will be aimed downwards. Workers will be prohibited from killing or trapping wild animals for food or trade. Throughout the project areas, signage will be installed to reinforce the hunting ban. 	Biodiversity – habitats and species	Activity areas of Islahiye-Hassa-Kirikhan Road (Km:24+500-84+500), Antakya-Reyhanlı Road (Km:0+000-42+500), Hatay Airport Road Soil Works, Art Structures and Superstructure Construction Work, also temporary roads and facilities	Visual Observation Visual Estimate of Cover Framed Quadrants	Once during site clearing and quarterly afterwards	Environmental Law AIIB ESS 1 WBG EHS Guidelines	Habitats and species not harmed	Contractor	Included in construction costs
Washing of clothes or vehicles or machinery in the rivers (also see in table "Water Resources, Water Quality and Wastewater Management" heading)	No washing of clothes or vehicles/or machinery shall be permitted in the rivers.	Surface water resources	Activity areas of Hatay Airport Road Soil Works, also temporary roads and facilities	Direct Observation	Daily	Environmental Law Regulation on Water Pollution Control Surface Water Quality Regulation AIIB ESS 1 WBG EHS Guidelines	Pollution of rivers prevented	Contractor	Included in construction costs
Introduction of Alien Invasive Species	<ul style="list-style-type: none"> Clearing of vegetation must be undertaken as the work front progresses. Mass clearing is not to be permitted unless the entire cleared area is to be rehabilitated immediately thereafter. Should revegetation not be possible immediately, the cleared areas must be protected with packed brush or appropriately battered with fascine work (fixing horizontal branches along the ground using vertical pegs to create resistance to down-slope flow of water/materials). Alternatively, jute (Soil Saver) may be pegged over the soil to stabilize it. Organic matter used to encourage regrowth of vegetation on cleared areas should not be brought onto site from foreign areas. Brush from cleared areas should be used as much as possible. Arid areas generally have low organic content in the soil and the use of manure or other soil amendments encourage invasion so should only be used as a last resort. All damaged areas shall be re-vegetated upon completion of activities. Re-vegetation with indigenous, locally occurring species should take place in disturbed areas. Reseed with locally sourced seed of indigenous grass species that were recorded on site prior to construction. Maintain alien invasive plant monitoring and removal programme for 1 year. Care must be taken to avoid the introduction of alien invasive plant species to the site. Particular attention must be paid to imported material such as building sand or dirty earth-moving equipment. 	Alien invasive species	Activity areas of Islahiye-Hassa-Kirikhan Road (Km:24+500-84+500), Antakya-Reyhanlı Road (Km:0+000-42+500), Hatay Airport Road Soil Works, Art Structures and Superstructure Construction Work, also temporary roads and facilities	Direct Observation	Yearly once	Environmental Law Regulations on the Procedures and Principles for the Protection of Hunting and Wild Animals, Their Habitats, and Pest Control AIIB ESS 1 WBG EHS Guidelines	Introduction of Alien Invasive Species prevented	Contractor	Included in construction costs

Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	Stockpiles should be checked regularly and any weeds emerging from material stockpiles should be removed. <ul style="list-style-type: none"> Alien vegetation regrowth must be controlled throughout the entire site during the construction period. The alien plant removal and control method guidelines should adhere to best practice for the species concerned. Such information can be obtained from the Working for Water website as well as herbicide guidelines. 								
Waste generation from operation of borrow areas, quarries, asphalt and concrete plants, screening and crushing facilities, site office & maintenance activities such as used containers, food scraps, and office waste	(see "Resource and Waste Management" part)								
Noise and vibration due to operation of borrow areas, quarries, asphalt and concrete plants, screening and crushing facilities, from the use of machineries and motorized equipment	(see "Noise and Vibration" part)								
Air quality deterioration from dusts generated during excavation, borrowing, filling, backfilling and compaction activities, also air emissions due to operation of borrow areas, quarries, asphalt and concrete plants, screening and crushing facilities	(see "Air Quality and Greenhouse Gas Emissions" part)								
SOCIO-ECONOMIC ENVIRONMENT									
Local employment	<ul style="list-style-type: none"> Throughout the life of the Project, workers will be recruited from the region as much as possible. The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality. Throughout the life of the Project, priority will be given to working with local suppliers and procuring services from the local employees in the service industry, as much as possible (fuel supply, vehicle maintenance/food, beverage, and spare parts supply, etc.). 	Employment records GRM records	Kuruyer Construction and Accommodation Site Kuruyer Limestone Quarries Kirikhan-Kizilkaya Construction Site	Assessment of the employment records Assessment of the Grievance Redress Mechanism records	Monthly	AIIB ESF SEP including GRM	% of local employment % of local suppliers	Contractor	Included in construction costs
Supply Chain	<ul style="list-style-type: none"> In addition to the policy or procedure of the Project Owner on the supply chain, the policies and procedures within the scope of the Project will regulate the management of working conditions and labor relations will include supply chain in line with the AIIB ESF. 	Supply chain records including contract details	Kuruyer Construction and Accommodation Site Kuruyer Limestone Quarries	Assessment of the suppliers' records	Monthly	AIIB ESF SEP including GRM	% of local suppliers	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> This document will be declared as valid for all suppliers. It is declared that supply chain requirements identified in this document have been read, signed and accepted by all suppliers to be provide service to Project or Contractor. To summarize following actions will be taken: <ul style="list-style-type: none"> The KGM PIU/RIU will ensure that the requirements specified in this ESMP are adhered to throughout the contractors' supply chain. These requirements will be explicitly incorporated into the contractors' contractual terms The Contractor will be reputable and legitimate enterprises and have an appropriate ESMS that will allow them to operate in a manner consistent with the labor conditions requirements. KGM PIU/Supervisor Consultant will monitor its primary supply chain for safety issues related to supply chain workers, and where necessary KGM PIU will introduce procedures and mitigation measures to ensure that suppliers are taking steps to prevent or to correct life-threatening situations. The performance of the Contractor will be monitored such that human rights policy and labor rights of all workers are exercised properly and non-compliance measures will be included in their contracts. The workers of Contractor will have access to the overall Grievance Redress Mechanism to be established for the Project. 	<p>Performance of the Contractor</p> <p>GRM records</p>	Kirikhan-Kizilkaya Construction Site	Assessment of the Grievance Redress Mechanism records					
Temporary and short-term potential impact on agricultural and husbandry activities due to dust impact	<ul style="list-style-type: none"> Heavy vehicles will be prevented from using village roads, and if these roads are used, sanctions such as warnings and disciplinary penalties will be imposed on contractor/subcontractors and drivers who use the roads without permission. A regular storage irrigation system will be implemented to prevent dust formation on the roads, Irrigation will be done regularly and frequently in order to reduce dust formation, especially during dry periods. Dust screening measures will be applied in places where sensitive products are located, The complaint mechanism will be strengthened and operated throughout the line, all complaints will be recorded and resolved in accordance with the GRM procedure, In case of a complaint, additional dust measurements will be made, and the results will be shared with the complainant. Necessary compensations for PAPs whose products are found to be damaged due to dust will be provided within the scope of RP including LRP. Road improvement/rehabilitation will be implemented when necessary. It should be taken into account that if unqualified dirt roads are heavy vehicle passage routes, the dust effect will be experienced not only at the construction border but also along this route. 	<p>GRM records</p> <p>Corrective preventive actions taken</p>	<p>Kuruyer Construction and Accommodation Site</p> <p>Kuruyer Limestone Quarries</p> <p>Kirikhan-Kizilkaya Construction Site</p> <p>Islahiye-Hassa-Kirikhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Hatay Airport Road</p>	<p>Direct Observation</p> <p>Assessment of the Grievance Redress Mechanism records</p>	Monthly	AIIB ESF	Prevent decrease of income of the affected business	Contractor KGM RIU	Included in construction costs
LABOR AND WORKING CONDITIONS									
Insufficient accommodation conditions	<ul style="list-style-type: none"> C-ESMP will be developed and implemented by the Contractor by covering relevant E&S issues. Prior to this, all personnel will receive the necessary training for effective management. The contractor will ensure that the accommodation area will comply with the AIIB and ILO standards. Establishing a Grievance Redress Mechanism that is accessible to all employees of the Project, including subcontractor employees, and allowing anonymous complaints, and disclosing it to employees. Workers will be provided hygienic and adequate facilities. Workers will be allowed to have access to primary healthcare on site, enabling the provision of prescriptions. 	<p>GRM records</p> <p>Employee interview records</p> <p>Corrective preventive actions taken</p>	<p>Kuruyer Construction and Accommodation Site</p> <p>Kuruyer Limestone Quarries</p> <p>Kirikhan-Kizilkaya Construction Site</p>	<p>Direct Observation</p> <p>Assessment of the Grievance Redress Mechanism records</p> <p>Employee interviews</p>	Weekly	<p>AIIB ESS 1</p> <p>SEP including GRM</p>	<p>Keep accommodation conditions at ILO standards</p> <p>Number of accommodation grievances</p> <p>Compliance rate with ILO agreements⁵</p>	Contractor	Included in construction costs
Improper Working Conditions	<ul style="list-style-type: none"> C-ESMP including Labour Management will be developed and implemented throughout the construction phase. A "Code of Conduct" will be developed. Throughout the construction period, all workers will be issued written contract containing job description, work hours, salary, rights and duties, code of conduct, and information about GRM for workers. 	<p>GRM records</p> <p>Employee interview records</p>	<p>Kuruyer Construction and Accommodation Site</p> <p>Kuruyer Limestone Quarries</p> <p>Kirikhan-Kizilkaya Construction Site</p>	<p>Assessment of the Grievance Redress Mechanism records</p>	Monthly	<p>AIIB ESS 1</p> <p>SEP including GRM</p>	<p>Number of grievances</p> <p>Compliance rate with ILO agreements¹</p>	Contractor	Included in construction costs

⁵ https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@europe/@ro-geneva/@ilo-ankara/documents/genericdocument/wcms_645630.pdf



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> Workers will be allowed to have access to the Grievance Redress Mechanism and will be required to be aware about this Mechanism. Rest Breaks, Leaves, Overtime Work, Labour disputes, Freedom of association, and Collective dismissal will be handled according to AIB ESS1 and Turkish Labour Law-4857. 	Corrective preventive actions taken		Employee interviews					
Child labour, forced labour and unregistered employment	<ul style="list-style-type: none"> KGM will notify the main contractor and all subcontractors of the contracts, policies and procedures to which they are parties and which they are obliged to comply with, Social compliance issues will be a part of the contractor employee training a part of the induction training. Policies and procedures will be included to all employee contracts, either as part of these agreements or by transferring them to codes of conduct. Making prohibitions, ethical principles and responsibilities visible in work areas (camp sites, work areas). Establishing a Grievance Redress Mechanism that is accessible to all employees of the Project, including subcontractor employees, and allowing anonymous complaints, and disclosing it to employees. All workers will be given training on discrimination and codes of conduct. The trainings given to the employees will be explanatory about the concepts of GBV and SEA/SH. At the same time, through the trainings, it will be ensured that workers learn the Grievance Redress Mechanism of the Project (explained in detail in the Project's SEP document) and the steps to be followed in exercising their legal rights. Access to the Grievance Redress Mechanism will be easy and effective. The Grievance Redress Mechanism officer designated for the Project will be announced to all employees during the trainings to be given before starting work. There will be brochures and posters containing the Grievance Redress Mechanism and the contact information of the authorized person in places such as the cafeteria, canteen and service areas used by the employees. Necessary measures will be taken by contractor to make sure that workers coming from outside the city will be given a training program on dialogue and communication with local communities, and that there are no social or cultural issues between host communities and external workers. It is the Consultant's responsibility to ensure that the contractor complies with the determined criteria. 	Contract details GRM records Corrective preventive actions taken Training records	Kuruyer Construction and Accommodation Site Kuruyer Limestone Quarries Kirikhan-Kizilkaya Construction Site	Direct Observation Assessment of the Grievance Redress Mechanism records Employee interviews	Monthly	AIB ESS 1 SEP including GRM Gender Action Plan (GAP)	Number of social compliance related grievances Compliance rate with ILO Social Compliance agreements ⁶	Contractor KGM RIU	Included in construction costs
Deficiencies on operating an effective workers Grievance Redress Mechanism	<ul style="list-style-type: none"> Ensuring the implementation of Worker's Grievance Redress Mechanisms. All developed forms are located in the common areas with complaint boxes. The Grievance Redress Mechanism will be disclosed and explained in detail to all workers. The person responsible for the workers Grievance Redress Mechanism who is the social expert of the PIU will be appointed by KGM. 	Existence of complaint boxes GRM records	Kuruyer Construction and Accommodation Site Kuruyer Limestone Quarries Kirikhan-Kizilkaya Construction Site	Assessment of the Grievance Redress Mechanism records	Monthly	SEP including GRM AIB ESS 1 GAP	Grievance record numbers % of open and closed grievances Appointed GRM responsible person	Contractor KGM RIU	Included in construction costs
OCCUPATIONAL HEALTH AND SAFETY									
Possible impact of document, training, or inspection deficiencies	<ul style="list-style-type: none"> Basic and technical OHS trainings will be tracked and completed by employees, including environmental and social trainings. Health and Safety Plans, OHS Risk Assessments, and Emergency Response Plans will be prepared and implemented. Monthly and quarterly inspections will be conducted by the OHS unit and reported accordingly. An adequate OHS organizational structure will be established as defined in local legislation, and the required number of OHS officers will be assigned to be on-site during working hours. OHS Personnel will inspect the site on a daily basis, and if any additional risks are observed, relevant plans and trainings will be renewed. Employment of individuals under the age of 18 will be prohibited during project construction. Records of occupational accidents and near-miss incidents will be 	Training activities Preventive and corrective measures taken Occupational accident records OHS implementations at site and relevant documentation	The sub-project area	On-site visual observations Internal audits (Periodic inspections) Documentation: Training records, risk assessment, incident records, OHS records	Daily (on-site visual observations) Monthly (document review and internal audit)	6331 numbered Occupational Health and Safety Law and its respective regulations AIB ESS 1 WBG EHS Guidelines Emergency Preparedness Response and Plan (EPRP)	% of scheduled Health, Safety, Environment (HSE) Inspection % of attendance at HSE meetings % of closing of Non-Compliance Reports (NCRs)	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> kept systematically, and after each incident. A root cause analysis will be conducted to take measures to prevent the recurrence of the incident. When a workplace accident occurs, an incident report must be prepared at the scene of the accident. Notification to the relevant official authority specified in local regulations must be made within three (3) days following the occurrence of the workplace accident. Following occupational accidents or significant environmental and social incidents requiring emergency response, KGM and AIIB will be informed. Until the faulty condition and faulty behavior determined through root cause analysis are eliminated, work should not be allowed to continue. Informational training should be provided after a workplace accident. The employee who experienced the accident should be re-examined by the occupational physician, and only after receiving a fitness-for-work health report, they should resume work. The OHS unit to be formed by the contractor's project team will include staff(s) (OHS expert with a Class A specialization certificate and Occupational physician). Additionally, a full-time OHS professional who will take part in full-time and effectively control the implementation of the Project should be on site. She/he shall monitor the site implementations. Emergency response trainings will be provided, and drills will be conducted. Workers involved in asphalt work should receive training on potential hazards they may encounter, measures for emergency situations, and safe working methods. Training programs should also cover information about the content of asphalt mixtures, which may vary according to their intended use and requirements, along with safety precautions related to these contents. 						Reporting safe observations Reporting unsafe observations Reporting near misses % of Toolbox attending % of Risk Assessment compliance % of Legal Requirements compliance Results of scheduled Audits HSE training carried out to training matrix 90% of all training to matrix % of attendance at scheduled trainings Engagement in HSE program by individual managers and supervisors Engagement in HSE program by contractor's		
Possible impact of incidents requiring emergency intervention	<ul style="list-style-type: none"> Develop and implement the Emergency Preparedness and Response Plan. Ensure communications equipment are available for all personnel and maintained properly. Provide related trainings and conduct drills. Ensure personnel and equipment for first aid are provided for all workers, at all work sites, during all work hours. Safe zones should be selected for emergency assembly areas, and employees should be informed about the location and boundaries of these areas. In case of emergencies on the construction site, paths for emergency vehicles such as ambulances and fire trucks to navigate within the site without causing further accidents and reach their destination should be pre-planned. During this process, the actions that workers need to take should be included in the relevant plans. 	EPRP implementation records	Kızılkaya Construction and Accommodation Site Kızılkaya Limestone Quarry İslahiye-Hassa-Kırıkhan Road Antakya-Reyhanlı Road Kuruyer Construction and Accommodation Site Hatay Airport Road Temporary roads and facilities to be constructed	On-site visual observations Internal Audit	Daily (on-site visual observations) Monthly (internal audit)	AIIB ESS 1 WBG EHS Guidelines EPRP Regulation on Emergency Situations in Workplaces Regulation on Fire Protection of Buildings	EPRP compliance ESMP compliance	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
			Material storage sites to be used for the sub-project that are already used by KGM						
Possible impact of adversities during excavation works	<ul style="list-style-type: none"> Work permits will be obtained before commencing work involving excavation. The areas designated for excavation will only be accessible to authorized personnel. Loading and unloading activities will be conducted under the supervision of personnel overseeing the operations. Excavation areas will be enclosed with barriers, marked with signs, and entry to excavated areas without implementing collapse prevention measures will be prohibited. Excavation work will be halted during windy or rainy weather. Measures for collective protection against hazards such as landslides or soil collapse (such as net and barrier systems, and stepped slope applications) should be ensured in work areas. 	<p>Work permits</p> <p>Internal audit records</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkkhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Hatay Airport Road</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	Contractor	Included in construction costs
Possible impact of noise from machinery used during the construction phase on workers	<ul style="list-style-type: none"> The contractor will ensure that the exhausts of the machinery used in excavation works are equipped with silencers (where possible). Construction vehicles and machinery will be well maintained and not kept idling when not in use. Earplugs will be provided for workers placed in high noise areas. 	<p>Internal audit records including PPE use</p> <p>Periodic maintenance records</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkkhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Hatay Airport Road</p> <p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Protection of Employees from Risks Related to Noise</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	Contractor	Included in construction costs
Possible impact of vibration from machinery used during the construction phase on workers	<ul style="list-style-type: none"> The source of vibration is the work equipment. All body vibration values of the equipment in use will be measured. If the measured value exceeds the exposure action value of 0.5m/s², preventive measures will be taken. To prevent employees from being harmed by vibration, regular maintenance of the work equipment will be conducted. Additionally, the working hours of employees will be adjusted. 	Vibration measurement results	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkkhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Hatay Airport Road</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (document review)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Protection of Employees from Risks Related to Vibration</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
			Temporary roads and facilities to be constructed Material storage sites to be used for the sub-project that are already used by KGM						
Possible impacts resulting from the overturning of machinery used during the construction phase	<ul style="list-style-type: none"> Employees will be required to use machinery, equipment, vehicles, tools, hazardous substances, transportation devices, and other production tools in accordance with regulations, correctly utilizing their safety features, and refraining from arbitrarily removing or altering them. Employees will be encouraged to immediately inform the employer or a representative upon encountering a serious and immediate health or safety hazard in machinery, equipment, vehicles, tools, facilities, or buildings in the workplace, or if they detect any deficiencies in protective measures. No one will be allowed to operate or use construction machinery unless the operator is adequately competent and reliable, informed about the risks associated with the operation, and subjected to regular medical examinations. The employee tasked with operating work equipment will need to possess a G-class driver's license, a psychotechnical report, a defensive driving certificate, and a professional competency training document (SRC (Driver) certificate). The contractor will ensure that no person is engaged in driving or operating construction machinery unless they are sufficiently competent and reliable, possess knowledge of risks involved in the operation, and undergo periodic medical examinations. Standing behind large operating plant machinery or under suspended loads will never be permitted. Individuals will be advised to avoid working close to moving objects and to be cautious of their surroundings, especially if those objects do not have lights or beepers. There will always be a requirement to ensure a flagman is present to guide plant vehicles. 	<p>Training activities</p> <p>Internal audit records</p>	<p>Kızilkaya Construction and Accommodation Site</p> <p>Kızilkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Hatay Airport Road</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	Contractor	Included in construction costs
Possible impact of contact with overhead electrical wires while using machinery	<ul style="list-style-type: none"> Work permits will be obtained before commencing work involving working with electricity. Strict compliance with work instructions will be enforced. 	<p>Work permits</p> <p>Internal audit records</p> <p>PPE use</p>	<p>Kızilkaya Construction and Accommodation Site</p> <p>Kızilkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Hatay Airport Road</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	Contractor	Included in construction costs
Possible impact of working at heights on employees	<ul style="list-style-type: none"> If possible, the necessity of working at height should be avoided. Collective measures will be implemented in situations where working at height cannot be avoided to prevent falls. For example, using equipment such as a scaffold with double guardrails or edge protection will be considered. Additionally, to minimize fall consequences, safety nets will be provided. Special precautions will be taken for working at height. Personnel without parachute-type safety harnesses or working in areas lacking a lifeline will not have their work permits approved and will not be allowed to work. Work permits will be obtained before commencing work involving working at heights. 	<p>Work permits</p> <p>Internal audit records</p> <p>PPE use</p>	<p>Kızilkaya Construction and Accommodation Site</p> <p>Kızilkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkhan Road</p> <p>Antakya-Reyhanlı Road</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
			Kuruyer Construction and Accommodation Site Hatay Airport Road						
Asphalt Fumes and Contact with Asphalt	<ul style="list-style-type: none"> Use the correct asphalt type specific to each specific application. Use pavers with exhaust ventilation systems and ensure adequate maintenance. Ensure use of PPEs, including suitable clothing, during pavement works. 	Internal audit records PPE use	Antakya-Reyhanlı Road İslahiye-Hassa-Kırıkhan Road Hatay Airport Road	On-site visual observations Internal Audit	Daily (on-site visual observations) Monthly (internal audit)	AIIB ESS 1 Regulation on the Use of Personal Protective Equipment in Workplaces	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	Contractor	Included in construction costs
Explosives Use and Blasting	<ul style="list-style-type: none"> Ensure technical supervisors oversee all blasting related work, including scheduling. Ensure only certified and competently trained blasters or explosives experts conduct blasting activities, including transport, storage, preparation of the explosives, preparation of the site, removal of materials remained unblasted, etc. Ensure blasting follow a strict schedule and all related workers are informed of the schedule. Inform workers of any change in schedule immediately and conduct blasting based on the new schedules only after the workers are notified. Establish restriction zones around all blasting areas and restrict access of unauthorized persons. Where required, install additional structures that prevent pieces from scattering. Schedule blasting only during daytime (08:00-18:00), from Monday to Saturday. Schedule blasting based on weather conditions and avoid blasting during heavy rain/ snow/ storm events. Store explosives only in proper storage areas with relevant permits. 	Blasting activities Work permits Internal audit records PPE use	Kızılkaya Limestone Quarry	On-site visual observations Internal Audit	Daily (on-site visual observations) Monthly (internal audit)	AIIB ESS 1 Occupational Health and Safety Law Regulation on Protection of Workers from Dangers of Explosive Environments Regulation on Usage of Personal Protective Equipment in Workplaces Act on the Procedures and Principles on Manufacture, Import, Transportation, Storing, Sales, Usage, Disposal and Control of Explosive Materials, Hunting Equipment and Similar Exempted from Monopoly Regulation on Environmental Noise Control	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	Contractor	Included in construction costs
Possible Risks due to Traffic	<ul style="list-style-type: none"> The work attire used in road construction, maintenance, and repair activities should be designed to be visible and noticeable by both civilian vehicle drivers in the vicinity and other work vehicles within the construction site. The entry and exit points to the construction site should be designed to be single points of access, Areas where pedestrian workers are not permitted should be designated, personnel should be informed about these areas, and these restricted areas should be physically closed off, Ensuring that construction vehicles and other auxiliary equipment are parked in appropriate areas when work is completed or paused, A flagger with the ability to identify hazardous traffic situations and alert other workers, thereby providing sufficient time to prevent accidents, should be present. Furthermore, if a flagger is to be assigned in a road construction, maintenance, or repair work, markings and warnings indicating the presence of a flagger should be placed in the advance warning zone. Working hours should be regulated and determined in accordance with national legislation to cover different job categories in road construction projects. Particularly for workers serving as flaggers or signalers on construction sites, working hours and rest intervals should be determined taking into account globally applied working hours and rest breaks (for example, at least fifteen minutes every two hours). 	Training activities Internal audit records	The sub-project area	On-site visual observations Internal Audit	Daily (on-site visual observations) Monthly (internal audit)	AIIB ESS 1 Labor Law Occupational Health and Safety Law Highways Traffic Regulation Regulation on Usage of Personal Protective Equipment in Workplaces	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	Contractor	Included in construction costs

Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
Working Environment Temperature	<ul style="list-style-type: none"> Outdoor work should monitor weather forecasts to provide early warnings of extreme weather conditions and plan activities accordingly. Work and rest periods should be adjusted based on heat stress management procedures, taking into account both temperature and workload. Temporary shelters should be provided to protect from weather conditions during work activities or for use as rest areas. Protective clothing should be worn. Easy access to sufficient fluids, such as drinking water or electrolyte drinks, should be ensured. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on Occupational Health and Safety in Construction Works</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	Number of the health issues (Target: Zero health issues)	Contractor	Included in construction costs
Potential risks associated with ergonomics, repetitive motions, and manual handling.	<ul style="list-style-type: none"> Mechanical aids should be used to eliminate or reduce the exertion required for lifting materials, holding tools, and work objects, and multi-person lifts should be implemented if weights exceed set thresholds. Tools that decrease force requirements and holding times while improving postures should be selected and designed. Rest and stretch breaks should be incorporated into work processes, and job rotation should be implemented. Quality control and maintenance programs that reduce unnecessary forces and exertions should be implemented. Additional special conditions, such as those applicable to left-handed individuals, should be considered. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p>	Number of the health issues (Target: Zero health issues)	Contractor	Included in construction costs
Possible dangers from pests	<ul style="list-style-type: none"> In rural areas, such as forest roads and agricultural lands, measures should be taken to ensure safety against diseases that can be transmitted to humans through biological agents such as water, air, animal bites, and insect stings. Personnel should be educated about biological risks such as animal bites and insect stings. Regular health check-ups should be conducted, and employees should be monitored for any effects of biological risks. Additionally, if the risk of rabies is identified, a vaccination program can be implemented. Employees should be provided with appropriate protective clothing (long-sleeved shirts, long pants) and personal protective equipment (gloves, face masks, eye protection). Insect repellent sprays and lotions should be used against insect bites. Regular environmental inspections should be conducted to control biological hazard sources such as insect nests and animal shelters. Pest control programs should be implemented. 	<p>PPE usage on site</p> <p>Training activities</p> <p>Pest control records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (internal audit)</p>	<p>AIIB ESS 1</p> <p>Regulation on Occupational Health and Safety Risk Assessment</p>	Number of the health issues (Target: Zero health issues)	Contractor	Included in construction costs
Possible risk due to improper hazardous and chemical materials management	<ul style="list-style-type: none"> Safe handling procedures will be implemented for the storage, transportation, and use of hazardous and chemical materials. Designated storage areas equipped with appropriate containment measures will be provided to prevent leaks or spills. Material Safety Datasheet (MSDS) will be available. Proper labeling and packaging of hazardous and chemical materials will be ensured to facilitate safe handling and identification. Workers will be provided with adequate personal protective equipment, such as gloves, goggles, and respirators, to minimize exposure to hazardous materials. Comprehensive training will be provided to employees on the safe handling and management of hazardous and chemical materials, including emergency response procedures. 	<p>Chemical storage area condition</p> <p>PPE usage on site</p> <p>Training activities</p> <p>BEKRA notifications</p>	<p>Kızilkaya Construction and Accommodation Site</p> <p>Kızilkaya Limestone Quarry</p> <p>İslahiye-Hassa-Kırıkhan Road</p> <p>Antakya-Reyhanlı Road</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Hatay Airport Road</p>	<p>On-site visual observations</p> <p>Internal Audit</p> <p>Documentation: PPE forms, training records, BEKRA notification</p>	<p>Daily (on-site visual observations)</p> <p>Monthly (document review and internal audit)</p>	<p>Regulation on Classification, Labelling and Package of Materials and Mixtures</p> <p>Regulation on Safety Information Forms on Hazardous Substances and Mixtures</p> <p>Regulation on Health and Safety Precautions Regarding Working with Chemicals</p>	<p>Number of personnel trained</p> <p>Ratio of chemicals with MSDS and proper labelling available to all chemicals</p> <p>Number of the health issues (Target: Zero health issues)</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> Emergency preparedness and response plan will be implemented to address spills, leaks, or other incidents involving hazardous materials, ensuring prompt containment and cleanup. Proper waste management procedures will be established for the disposal of hazardous and chemical materials, including recycling and disposal at licensed facilities. In case of storing hazardous substances included in Annex-1 Part 1 and Part 2 of the Regulation Regarding Prevention of Major Industrial Accidents and Mitigation of Their Effects, a declaration will be made to the BEKRA Notification System. 		<p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p>			<p>Regulation on Usage of Personal Protective Equipment in Workplaces</p> <p>Regulation Regarding Prevention of Major Industrial Accidents and Mitigation of Their Effects</p> <p>Emergency Preparedness and Response Plan</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p>			
COMMUNITY HEALTH, SAFETY AND SECURITY*									
Increase of the traffic accident risks	<ul style="list-style-type: none"> Investigate all construction areas and construction access routes for potential community interaction (with a particular attention to schools, children parks, etc.) with Project construction phase traffic. Based on results, develop and implement site specific measures (i.e., improve signage, visibility) and driver/operator trainings prior to initiation of any construction work. Implement access restriction at construction areas and access routes, by specifying restricted zones, (i.e. dangerous routes), fencing, barriers, etc. Avoid passage of construction traffic through the settlements, whenever alternative roads are present. Where passage through existing settlements is unavoidable, take all necessary measures (i.e. speed limits, traffic signs, driver trainings) to prevent safety risks on local communities, engage with community representatives to plan the traffic by taking the daily life of the communities into account (i.e. selection of routes, school transportation hours, market days, etc.) and inform the communities about the construction schedule, activities to be conducted and safety measures taken, through appropriate means such as meetings and leaflets, notices, signs, etc. Implement speed limits at all construction sites. Prepare a driver training plan to ensure that all drivers (including the sub-contractors' drivers) are provided with the traffic and road safety trainings Prepare driver code of conduct and the disciplinary procedures Evaluate training plan's performance and effectiveness and make the required improvements when necessary Provide regular safe driving training courses to all drivers Provide information to the local settlements and stakeholders on road safety, traffic measures and Project health and safety measures Provide health and safety information related to the Project CHS risks to children, elderly, women, non-Turkish speakers, disabled people, illiterate PAPs living in the Project Aol including pedestrian safety. Placing safety and traffic signs visibly on the access roads near and around the project site. 	<p>Existence and number of warning signs properly installed at designed location</p> <p>Training activities</p> <p>Grievance records</p> <p>Information gathered through Public Consultation</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p> <p>Temporary roads and facilities to be constructed</p> <p>Material storage sites to be used for the sub-project that are already used by KGM</p> <p>Locations of the road construction and rehabilitation activities (Islahiye-Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road)</p>	<p>On-site visual observations</p> <p>Internal Audit</p>	Weekly	<p>Highway Traffic Law</p> <p>AIIB ESS 1</p> <p>Emergency Preparedness and Response Plan</p>	<p>Grievance redress mechanism records</p> <p>Number of the CHS/ traffic safety trainings</p> <p>Number of the CHS/ traffic safety toolboxes</p> <p>Number of the training participants</p> <p>Number of the toolbox participants</p> <p>Warning signs to be installed</p> <p>Road safety, traffic measures and Project health and safety information provided to the local PAPs and vulnerable groups</p>	Contractor	Included in construction costs
Raising GBVH issues	<ul style="list-style-type: none"> Implementation of the Project Level Gender Action Plan (GAP) Establishment of the External Grievance Redress Mechanism (GRM) specific to External Stakeholders of the Project Grievance redress mechanism and complaints line to be developed in a way to track GBVH issues. GBVH focal points shall be assigned and trained to manage GBVH related complaints: 	<p>Training records</p> <p>Grievance records</p>	<p>Kızılkaya Construction and Accommodation Site</p> <p>Kızılkaya Limestone Quarry</p> <p>Kuruyer Construction and Accommodation Site</p>	<p>Assessment of the Grievance Redress Mechanism records</p>	Monthly	<p>National Legislation</p> <p>AIIB ESS 1</p> <p>GAP</p> <p>SEP including GRM</p>	<p>Number of GBVH trainings provided</p> <p>GAP tracking and monitoring reports</p> <p>GRM Records</p>	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> The necessary application forms, tracking forms and registration and tracking log for the Grievance Redress Mechanism will be developed. This log will contain all the information defined in the Grievance Redress Mechanism procedure. All external complaints will be recorded in this log and managed in accordance with the procedure, and the entire complaint management process will be recorded and closed. 								
Emergency Preparedness and Response	<ul style="list-style-type: none"> The project specific Emergency Preparedness and Response Plan will be implemented. Measures and systems for collaboration with local communities and other external parties, including local governmental agencies and media, will be implemented where necessary. Local communities will be notified using appropriate tools (e.g., telephone call lists, vehicle-mounted speakers) in case of emergencies arising from the project work or construction sites that may pose a risk to them. Where necessary, the details of the nature of the emergency, protection options, etc. will be communicated through trained personnel of the Contractor. KGM will cooperate with relevant authorities both for the prevention of emergencies and during emergency situations, where necessary. 	Emergency situation Corrective and preventive actions taken Notification/ Informative documents	Kizilkaya Construction and Accommodation Site Kizilkaya Limestone Quarry Kuruyer Construction and Accommodation Site Temporary roads and facilities to be constructed Material storage sites to be used for the sub-project that are already used by KGM Locations of the road construction and rehabilitation activities (Islahiye-Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road)	Grievance redress mechanism records Documents on emergency situation	Whenever necessary	AIIB ESS 1 SEP including GRM Emergency Preparedness and Response Plan	Number of emergency situation Number and type of appropriate means of notification for communities established and maintained Number of appropriate methods for communication with emergency services and related governmental authorities established and maintained	Contractor	Included in construction costs
Increased risk of exposure to disease	<ul style="list-style-type: none"> Training on healthcare and general hygiene practices will be provided to all personnel. Periodic medical checks will be conducted for personnel, vaccinations will be provided, and other mitigating measures will be developed as required. Health-related awareness-raising activities will be implemented, covering local communities. In terms of worker accommodation, minimum space requirements, air conditioning, and ventilation appropriate for the existing climatic conditions will be ensured to avoid the spread of disease among the project workforces. 	Grievance records Training records Records on communicable disease	Kizilkaya Construction and Accommodation Site Kizilkaya Limestone Quarry Kuruyer Construction and Accommodation Site Temporary roads and facilities to be constructed Locations of the road construction and rehabilitation activities (Islahiye-Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road)	Grievance redress mechanism records Documentation on health issues	Daily	AIIB ESS 1 SEP including GRM	Number of grievances Number of personnel trained on health issues Number of diseases occurred	Contractor	Included in construction costs
Security Personnel	<ul style="list-style-type: none"> Legal inquiries will be conducted during the hiring process of security personnel to check for competency and any history of abuse incidents. Training will be provided to security personnel. The training will ensure that force is used only for preventive and defensive purposes and in proportion to the threat. In this regard, it is important to provide the following training to workers and security personnel staying in the camping areas. <ul style="list-style-type: none"> SEA/SH Gender Based Violence and Harassment (GBVH) Workers' rights Project standards and human rights Community relations with local people Use of power (for security) CHS Social and cultural induction <ul style="list-style-type: none"> The security personnel will not be allowed to carry firearms. Any grievance from local communities regarding the inappropriate conduct of security forces will be investigated immediately. 	Grievance records Training activities	Kizilkaya Construction and Accommodation Site Kizilkaya Limestone Quarry Kuruyer Construction and Accommodation Site Temporary roads and facilities to be constructed Locations of the road construction and rehabilitation activities (Islahiye-Hassa-Kirikhan Road, Antakya-Reyhanlı Road and Hatay Airport Road)	Grievance redress mechanism records Documentation about cases	Daily	AIIB ESS 1 SEP including GRM	Number of inappropriate behaviors of security personnel Number of grievance records Number of training records for security personnel	Contractor	Included in construction costs



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
Explosive Use and Blasting	<ul style="list-style-type: none"> Blasting operations will adhere to a strict schedule, and all communities will be informed of the schedule through appropriate means, including leaflets and notices posted in public places such as Mukhtar offices, neighborhood/village noticeboards, etc. Local communities will be notified about any changes in the schedule, and blasting operations will proceed based on the new schedules only after the communities are informed. Restriction zones will be established around all blasting areas and access by unauthorized persons will be prevented. Explosives will be stored only in proper storage areas with relevant permits. Only licensed firms will be used for explosives delivery to ensure safety along the existing roads to be used for transport of explosives. In case of a grievance from local communities, potential impacts will be investigated, and corrective actions will be taken where necessary. Where required, additional structures that prevent pieces from scattering will be installed. 	<p>Schedule of the blasting operation</p> <p>Blasting activities</p> <p>Informative notes</p> <p>Grievance records</p> <p>Material storage area</p>	Kızilkaya Limestone Quarry	<p>Information notes for local communities</p> <p>Grievance redress mechanism records</p> <p>Documentation on permits and blasting schedule</p> <p>Review of the blasting records</p>	Weekly	<p>Regulation on Transportation of Explosives via Highways</p> <p>AIIB ESS 1</p> <p>SEP including GRM</p>	<p>Number of information notes for local communities</p> <p>Number of grievance records</p> <p>Number of appropriate signage and access restriction structures</p>	Contractor	Included in construction costs

*For environmental impacts, see also "Noise and Vibration", "Air Quality and Greenhouse Gas Emissions", "Water Resources, Water Quality and Wastewater Management" and "Resource and Waste Management" parts.



Table 12. Mitigation and Monitoring Plan – Operation Phase

Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
LAND USE, SOIL AND GEOLOGY									
General Geotechnical Risks Seismicity Related Risks Landslide Risk	<ul style="list-style-type: none"> Periodic checks and maintenance will be conducted and as required, additional stability and structural measures (e.g. in case potential of settlement, cracks or structural unconformities after an earthquake, etc. is observed) will be developed and implemented. Emergency Preparedness and Response Plan will be implemented. 	Maintenance records Incident records	The sub-project area	On-site visual observations/inspections Documentation: Maintenance records, incident records	Quarterly	Regulations for the Structures to be Built in Disaster Areas AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	Number of related incidents/accidents recorded Number of maintenance and repairs performed per year No significant damage observed after an earthquake or a landslide	KGM RIU	No additional cost
Soil Contamination	<ul style="list-style-type: none"> If road accidents occur that may result in spills and leakages, the Emergency Preparedness and Response Plan will be implemented to effectively manage any potential contamination. For de-icing of the road structures, more environmentally friendly products will be preferred to prevent any potential contamination to soils. 	Existence of soil contamination Incident records Grievance records	The sub-project area	On-site visual observations/inspections Documentation: Spillage/leakage records, soil-related grievances	Quarterly	Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources AIIB ESS 1 WBG EHS Guidelines	Number of leakages/spill incidents Number of soil-related grievances Amount of contaminated soil	KGM RIU	No additional cost
Soil Disturbance and Erosion	<ul style="list-style-type: none"> The road structure will be periodically maintained and strengthened, particularly after extreme weather conditions. Erosion control structures will be regularly monitored and maintained to ensure proper functioning. The embankment and cutting slopes will undergo regular inspections to identify and address any risks associated with erosion, landslides, etc. Road pavement will be conducted with appropriate erosion and sediment control measures. 	Maintenance records Conditions of the erosion and sediment control structures	The sub-project area	On-site visual observations/inspections Documentation: Maintenance records	Quarterly	AIIB ESS 1 WBG EHS Guidelines	Number of the on-site visual observations/inspections Number of maintenance and repairs	KGM RIU	No additional cost
NOISE AND VIBRATION									
Increase in Noise Levels and Vibration	<ul style="list-style-type: none"> The effectiveness of low-noise surface will be maintained by cleaning the surface to avoid clogging. Appropriate vegetation with suitable plant species should be planted between the highway and settlements to ensure a decrease in noise levels and associated impacts to acceptable levels. Project Grievance Redress Mechanism will be implemented. If any comment related with noise or vibration is received through the Grievance Redress Mechanism, the complaint will be evaluated and where necessary corrective preventive actions will be implemented. Engagement with local communities will be performed to understand their concerns and gather feedback on noise/vibration-related issues. Collaboration will be made with regulatory authorities to address noise/vibration-related concerns and seek approval for noise/vibration mitigation measures. 	Grievance records Corrective and preventive actions taken Noise/vibration measurement reports	The sub-project area Settlements and facilities near the sub-project area	On-site visual observations/inspections Documentation: Grievance records Measurements to be performed in case of grievance (by an accredited laboratory)	Quarterly In case of grievance	Environmental Noise Control Regulation AIIB ESS 1 WBG EHS Guidelines	No exceedance of noise/vibration limit values observed in noise/vibration measurements Number of noise/vibration-related grievances	KGM RIU	Negligible
AIR QUALITY AND GREENHOUSE GAS EMISSIONS									
Decrease in Air Quality due to the Emission of Gaseous Pollutants (NO _x , SO _x , CO, unburned hydrocarbons etc.)	<ul style="list-style-type: none"> Vegetation with proper plant species can be applied between the motorway and settlements to absorb the air pollution. Project Grievance Redress Mechanism will be implemented. If any comment related with air quality is received through the Grievance Redress Mechanism, the complaint will be evaluated and where necessary corrective preventive actions will be implemented. 	Grievance records Corrective and preventive actions taken	The sub-project area Settlements and facilities	Documentation: Grievance records Measurements to be performed in case of	Quarterly In case of grievance	Regulation on Air Quality Assessment and Management AIIB ESS 1	No exceedance of air quality limit values observed in air quality measurements Number of air quality related grievances	KGM RIU	Negligible



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
Resulting from Highway Traffic	<ul style="list-style-type: none"> Engagement with local communities will be performed to understand their concerns and gather feedback on air quality-related issues. Collaboration will be made with regulatory authorities to address air quality-related concerns and seek approval for the mitigation measures. 	Air quality measurement results	near the sub-project area	grievance (by an accredited laboratory)		WBG EHS Guidelines			
Greenhouse Gas Emissions due to Highway Traffic	Annual greenhouse gas (GHG) calculations, based on actual records of annual traffic volumes, should be conducted. Subsequently, GHG management strategies should be developed and implemented in collaboration with relevant authorities and stakeholders as needed.	Annual GHG reports	The sub-project area	GHG calculations and related reports	Annual	AIIB ESS 1 WBG EHS Guidelines	Annual greenhouse gas emission amounts (Target: Annual decrease)	Consultant Company assigned by KGM RIU for GHG calculations and KGM RIU for implementation of GHG management strategies	Additional cost for consultancy service
WATER RESOURCES, WATER QUALITY AND WASTEWATER MANAGEMENT									
Increased Surface Runoff due to Impermeable Road	<ul style="list-style-type: none"> Regular inspection and maintenance of permanent erosion and runoff control features will be conducted. Surface runoff along the highways should be collected using ditches and diversion channels, and the collected water should be diverted to the nearest receiving water bodies. 	Conditions of surface runoff control structures Flood incidents Maintenance records	The sub-project area	On-site visual observations/inspections Documentation: Maintenance records	Quarterly	AIIB ESS 1 WBG EHS Guidelines	Number of flood incidents Number of maintenance and repairs	KGM RIU	Negligible
Contamination of Surface Waters with Maintenance Chemicals/Agents Accidental Spillage of the Chemicals due to traffic/transportation Surface Runoff Containing Routine Deposits and Spills from the Highways	<ul style="list-style-type: none"> Appropriate and environmentally friendly anti-icing and deicing agents will be selected based on expected pavement temperatures and weather information to minimize their use. The design of drainage and site reinstatement will consider the impacts of anti-icing and deicing agent runoff on surface waters. If road accidents occur that may result in spills and leakages, the Emergency Preparedness and Response Plan will be implemented to effectively manage any potential contamination. In the event of any large-scale spill, absorbent materials from spill response kits will be used. These kits will be available at relevant centers and locations. To avoid the generation of contaminated runoff from cleaning asphalt equipment, diesel will be substituted with vegetable oil as a release and cleaning agent. Additionally, measures will be taken such as containing cleaning products and contaminated asphalt residues, scraping before cleaning, and conducting cleaning activities away from surface water features or drainage structures. 	Spill incident records Corrective and preventive actions taken Inventory of the cleaning and anti-icing/deicing agents	The sub-project area	On-site visual observations/inspections Documentation: Records on maintenance chemicals/agents, spill records	Quarterly	AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	Number of spill incident No degradation of the water quality	KGM RIU	Negligible
RESOURCE AND WASTE MANAGEMENT									
Potential Impacts of Hazardous and Non-Hazardous Solid Wastes	<ul style="list-style-type: none"> The requirements of applicable waste management regulations will be complied with for the management of all waste types generated as a result of the Project activities. Visual checks along the highway routes will be conducted to identify illegally dumped waste and litter. These wastes will be collected periodically. After collection, their characteristics (hazardous or non-hazardous) will be determined through analysis in accordance with related legislation. Based on recyclability, waste will be segregated and stored in separate containers. Finally, the wastes will be disposed of in line with relevant national waste management regulations. Recycling of road resurfacing waste should be conducted where feasible, by using the waste in reclaimed asphalt pavement, reclaimed concrete material, or as a base. Any waste caused by landscaping activities, drainage system maintenance, sediment removal, tree/shrub trimming, animal 	Waste generation and disposal records Incident records Corrective and preventive actions taken	The sub-project area	On-site visual observations/inspections Documentation: Waste generation and disposal records, incident records	Quarterly	Regulation on Waste Management Packaging Waste Control Regulation Regulation on the Control of Soil Pollution and Lands Polluted by Point Sources AIIB ESS 1 WBG EHS Guidelines	Ratio of reused/recycled/recovered wastes to total wastes generated Wastes separately stored depending on their hazardous class and type All types of wastes transferred to the relevant recycling/disposal facilities	KGM RIU	No additional cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	carcasses, waste tires, metal pieces, etc., will be removed immediately from the road surface and disposed of in accordance with the relevant national waste management regulations. <ul style="list-style-type: none"> Lead free paints will be used for maintenance activities. Herbicide and pesticide used for landscaping of the highways along with paint inventories used for maintenance operations will be managed to minimize waste generation. 						Number of incidents related to soil contamination due to improper waste management		
Additional load on the waste management facilities around the project area	It will be ensured that waste disposal agreements are established with municipalities and licensed recovery/disposal firms.	Waste generation and disposal records Waste disposal agreements	Area of Influence and beyond	Documentation: Waste records, waste disposal agreements	Quarterly	Regulation on Waste Management AIB ESS 1	Increase in waste recycle/recovery rate	KGM RIU	No additional cost
BIOLOGICAL ENVIRONMENT									
Vegetation and biodiversity losses control	Monitor and control vegetation and biodiversity after construction phase Control of topsoil and vegetation cover control in laid areas	Biodiversity and topsoil	Previous Construction Sites	Direct Observation	Once for one year	Law on Soil Conservation and Land Use Regulation on Control of Soil Pollution and Point Source Contaminated Sites Regulation on Pastures AIB ESS 1 WBG EHS Guidelines	Loss of vegetation and biodiversity minimized/prevented	KGM RIU	Additional cost for Biodiversity Expert (included in operation costs)
Introduction of Alien Invasive Species	Maintain alien invasive plant monitoring and removal program for 1 year.	Alien invasive species	Previous Construction Sites and surroundings	Direct Observation	Once for one year	Environmental Law Regulations on the Procedures and Principles for the Protection of Hunting and Wild Animals, Their Habitats, and Pest Control AIB ESS 1 WBG EHS Guidelines	Introduction of Alien Invasive Species prevented	KGM RIU	Additional cost for Biodiversity Expert (included in operation costs)
SOCIO-ECONOMIC ENVIRONMENT									
Communication issues with the stakeholders	<ul style="list-style-type: none"> Stakeholder Engagement Plan will be developed and implemented for the operation phase of the Project. Stakeholder Engagement Plan will be disclosed at the Project web site 	Minutes/records on SEP information activities GRM records	The sub-project area and surroundings	Document review Assessment of the GRM records	Once for one year	SEP including GRM AIB ESS 1	Grievance records SEP disclosure meetings Number of SEP information activities	KGM RIU	No additional cost
Weak management of Grievance Redress Mechanism	<ul style="list-style-type: none"> Grievance Redress Mechanism will be revised in accordance with the AIB ESF to all stakeholders' individuals to voice their concerns on the Project. Revised GRM will be disclosed to all stakeholders' individuals to voice their concerns on the Project in accordance with the AIB ESF. 	Minutes/records on SEP information activities GRM records	Local settlements PASs	Document review Assessment of the GRM records	Once for one year	SEP including GRM AIB ESS 1	Grievance records SEP disclosure meetings Number of SEP information activities	KGM RIU	No additional cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
LABOR AND WORKING CONDITIONS									
Weak management of workers' Grievance Redress Mechanism	<ul style="list-style-type: none"> Grievance Redress Mechanism will be revised in accordance with the AIIB ESF Revised GRM will be disclosed to all Project employees 	Minutes/records on SEP information activities GRM records	The sub-project area and surroundings	Document review Assessment of the GRM records	Once for one year	SEP including GRM AIIB ESS 1	Grievance records SEP disclosure meetings Number of SEP information activities	KGM RIU	No additional cost
OCCUPATIONAL HEALTH AND SAFETY									
Possible impact of document, training, or inspection deficiencies	<ul style="list-style-type: none"> Basic and technical OHS trainings will be tracked and completed by employees, including environmental and social trainings. OHS Risk Assessments, and Emergency Response Plans will be prepared and implemented. An adequate OHS organizational structure will be established as defined in local legislation, and the required number of OHS officers will be assigned to be on-site during working hours. OHS Personnel will inspect the site monthly, and if any additional risks are observed, relevant plans and trainings will be renewed. Records of occupational accidents and near-miss incidents will be kept systematically, and after each incident. A root cause analysis will be conducted to take measures to prevent the recurrence of the incident. When a workplace accident occurs, an incident report must be prepared at the scene of the accident. Notification to the relevant official authority specified in local regulations must be made within three (3) days following the occurrence of the workplace accident. Following occupational accidents or significant environmental and social incidents requiring emergency response, AIIB will be informed. Until the faulty condition and faulty behavior determined through root cause analysis are eliminated, work should not be allowed to continue. Informational training should be provided after a workplace accident. The employee who experienced the accident should be re-examined by the occupational physician, and only after receiving a fitness-for-work health report, they should resume work. The OHS unit will include OHS expert with a Class A specialization certificate and Occupational physician. Emergency response trainings will be provided, and drills will be conducted. Workers involved in asphalt work should receive training on potential hazards they may encounter, measures for emergency situations, and safe working methods. Training programs should also cover information about the content of asphalt mixtures, which may vary according to their intended use and requirements, along with safety precautions related to these contents. 	Training activities Preventive and corrective measures taken Internal audit records Occupational accident records OHS documents	The sub-project area	On-site visual observations/inspections Document review (Training records, risk assessment, incident records, OHS records, etc.)	Quarterly	6331 numbered Occupational Health and Safety Law and its respective regulations AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	% of scheduled HSE Inspection % of attendance at HSE meetings % of closing of Non Compliance Reports (NCRs) Reporting safe observations Reporting unsafe observations Reporting near misses % of Toolbox attending % of Risk Assessment compliance % of Legal Requirements compliance Results of scheduled Audits HSE training carried out to training matrix 90% of all training to matrix % of attendance at scheduled trainings Engagement in HSE program by individual managers and supervisors Engagement in HSE program by contractor's	KGM RIU	No additional cost
Possible impact of incidents requiring emergency intervention	<ul style="list-style-type: none"> Develop and implement the Emergency Preparedness and Response Plan. Ensure communications equipment are available for all personnel and maintained properly. Provide related trainings and conduct drills. Ensure personnel and equipment for first aid are provided for all workers, at all work sites, during all work hours. 	EPRP implementation records	The sub-project area	On-site visual observations/inspections Document review (Training records, risk assessment, incident records, OHS records, etc.)	Quarterly	6331 numbered Occupational Health and Safety Law and its respective regulations AIIB ESS 1 WBG EHS Guidelines	Number of the health issues (Target: Zero health issues) Compliance rate with OHS Performance criteria	KGM RIU	No additional cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> Safe zones should be selected for emergency assembly areas, and employees should be informed about the location and boundaries of these areas. 					Emergency Preparedness and Response Plan			
Potential hazards during road clearing for snow and ice removal	<ul style="list-style-type: none"> The snow removal vehicle carries a risk of slipping and overturning, so well-trained operators and appropriate machinery should be selected. Outdoor work in cold weather conditions can lead to hypothermia, frostbite, and other cold-related illnesses; therefore, proper protective measures should be taken. Reduced visibility due to snowfall or wind can increase the risk of accidents involving moving vehicles or machinery. Manual snow shoveling or removal can lead to fatigue and overexertion if workers are untrained or lack appropriate equipment. The correct usage of de-icing chemicals or salt is crucial due to the potential risks of causing skin irritation, respiratory problems, and environmental pollution. 	Internal audit records	The sub-project area	On-site visual observations/inspections	Quarterly	AIIB ESS 1 WBG EHS Guidelines Regulation on Occupational Health and Safety in Construction Works Regulation on the Use of Personal Protective Equipment in Workplaces	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	KGM RIU	No additional cost
Possible impact of noise from machinery used on workers	<ul style="list-style-type: none"> The maintenance of vehicles and machines to be used for repair and maintenance will be done properly, and they will not be left idling when not in use. Earplugs will be provided for workers placed in high noise areas. 	Internal audit records Maintenance records	The sub-project area	On-site visual observations/inspections	Quarterly	AIIB ESS 1 WBG EHS Guidelines Regulation on Occupational Health and Safety in Construction Works Regulation on the Use of Personal Protective Equipment in Workplaces	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	KGM RIU	No additional cost
Possible impact of vibration from machinery used on workers	<ul style="list-style-type: none"> The source of vibration is the work equipment. All body vibration values of the equipment in use will be measured. If the measured value exceeds the exposure action value of 0.5m/s², preventive measures will be taken. To prevent employees from being harmed by vibration, regular maintenance of the work equipment will be conducted. Additionally, the working hours of employees will be adjusted. 	Internal audit records Maintenance records	The sub-project area	On-site visual observations/inspections	Quarterly	AIIB ESS 1 WBG EHS Guidelines Regulation on Occupational Health and Safety in Construction Works Regulation on the Use of Personal Protective Equipment in Workplaces	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	KGM RIU	No additional cost
Possible impacts resulting from the overturning of machinery used	<ul style="list-style-type: none"> Employees will be required to use machinery, equipment, vehicles, tools, hazardous substances, transportation devices, and other production tools in accordance with regulations, correctly utilizing their safety features, and refraining from arbitrarily removing or altering them. Employees will be encouraged to immediately inform the employer or a representative if they encounter a serious and immediate health or safety hazard in machinery, equipment, vehicles, tools, facilities, or buildings in the workplace, or if they detect any deficiencies in protective measures. No one will be allowed to operate or use machinery unless the operator is adequately competent and reliable, informed about the risks associated with the operation, and subjected to regular medical examinations. The employee tasked with operating work equipment will need to possess a G-class driver's license, a psychotechnical report, a defensive driving certificate, and a professional competency training document (SRC (Driver) certificate). Standing behind large operating plant machinery or under suspended loads will never be permitted. Individuals will be advised to avoid working close to moving objects and to be cautious of their surroundings, especially if those objects do not have lights or beepers. There will always be a requirement to ensure a flagman is 	Internal audit records Maintenance records	The sub-project area	On-site visual observations/inspections	Quarterly	AIIB ESS 1 WBG EHS Guidelines Regulation on Occupational Health and Safety in Construction Works Regulation on the Use of Personal Protective Equipment in Workplaces	Number of accident-free days (Target: Zero accident) Compliance rate with OHS Performance criteria	KGM RIU	No additional cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	present to guide plant vehicles.								
Possible impact of contact with overhead electrical wires while using machinery	<ul style="list-style-type: none"> Work permits will be obtained before commencing work involving working with electricity. Strict compliance with work instructions will be enforced. 	<p>Work permits</p> <p>Internal audit records</p>	The sub-project area	On-site visual observations/inspections	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Possible impact of working at heights on employees	<ul style="list-style-type: none"> If possible, the necessity of working at height should be avoided. Collective measures will be implemented in situations where working at height cannot be avoided to prevent falls. For example, using equipment such as a scaffold with double guardrails or edge protection will be considered. Additionally, to minimize fall consequences, safety nets will be provided. Special precautions will be taken for working at height. Personnel without parachute-type safety harnesses or working in areas lacking a lifeline will not have their work permits approved and will not be allowed to work. Work permits will be obtained before commencing work involving working at heights. 	<p>Work permits</p> <p>Internal audit records including PPE use</p>	The sub-project area	On-site visual observations/inspections	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Occupational Health and Safety in Construction Works</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Asphalt Fumes and Contact with Asphalt	<ul style="list-style-type: none"> Ensure use of PPEs, including suitable clothing, during pavement works. Use pavers with exhaust ventilation systems and ensure adequate maintenance. 	PPE use	The sub-project area	On-site visual observations/inspections	Quarterly	<p>AIIB ESS 1</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of accident-free days (Target: Zero accident)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Possible Risks due to Traffic	<ul style="list-style-type: none"> The work attire used in road maintenance, and repair activities should be designed to be visible and noticeable by both civilian vehicle drivers in the vicinity and other work vehicles within the maintenance site. Areas where pedestrian workers are not permitted should be designated, personnel should be informed about these areas, and these restricted areas should be physically closed off, Ensuring that construction vehicles and other auxiliary equipment are parked in appropriate areas when work is completed or paused, A flagger with the ability to identify hazardous traffic situations and alert other workers, thereby providing sufficient time to prevent accidents, should be present. Furthermore, if a flagger is to be assigned in a road maintenance, or repair work, markings and warnings indicating the presence of a flagger should be placed in the advance warning zone. 	Internal audit records	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Working Environment Temperature	<ul style="list-style-type: none"> Outdoor work should monitor weather forecasts to provide early warnings of extreme weather conditions and plan activities accordingly. Work and rest periods should be adjusted based on heat stress management procedures, taking into account both temperature and workload. Temporary shelters should be provided to protect from weather conditions during work activities or for use as rest areas. Protective clothing should be worn. Easy access to sufficient fluids, such as drinking water or electrolyte drinks, should be ensured. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
Potential risks associated with ergonomics, repetitive motions, and manual handling.	<ul style="list-style-type: none"> Mechanical aids should be used to eliminate or reduce the exertion required for lifting materials, holding tools, and work objects, and multi-person lifts should be implemented if weights exceed set thresholds. Tools that decrease force requirements and holding times while improving postures should be selected and designed. Rest and stretch breaks should be incorporated into work processes, and job rotation should be implemented. Quality control and maintenance programs that reduce unnecessary forces and exertions should be implemented. Additional special conditions, such as those applicable to left-handed individuals, should be considered. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Potential impacts of road cleaning after accidents	<ul style="list-style-type: none"> Appropriate clothing should be clothes and instructions should be followed to protect against diseases or infections that can be transmitted from injured or dead animals. PPE should also be used to protect against zoonotic diseases that can be transmitted via blood, body fluids, or parasites from injured or dead animals on the highway (such as work clothes, coveralls, gloves, masks, face shields, etc.). If the animal has sharp bones or teeth, approach with caution. PPE should be used to protect against health risks from contact with fuel, oil, or other chemicals present on the road after an accident. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Possible dangers from pests	<ul style="list-style-type: none"> In rural areas, such as forest roads and agricultural lands, measures should be taken to ensure safety against diseases that can be transmitted to humans through biological agents such as water, air, animal bites, and insect stings. Personnel should be educated about biological risks such as animal bites and insect stings. Regular health check-ups should be conducted, and employees should be monitored for any effects of biological risks. Additionally, if the risk of rabies is identified, a vaccination program can be implemented. Employees should be provided with appropriate protective clothing (long-sleeved shirts, long pants) and personal protective equipment (gloves, face masks, eye protection). Insect repellent sprays and lotions should be used against insect bites. Regular environmental inspections should be conducted to control biological hazard sources such as insect nests and animal shelters. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
Possible risk due to improper hazardous and chemical materials management	<ul style="list-style-type: none"> Safe handling procedures will be implemented for the storage, transportation, and use of hazardous and chemical materials. Designated storage areas equipped with appropriate containment measures will be provided to prevent leaks or spills. Material Safety Datasheet (MSDS) will be available. Proper labeling and packaging of hazardous and chemical materials will be ensured to facilitate safe handling and identification. Workers will be provided with adequate personal protective equipment, such as gloves, goggles, and respirators, to minimize exposure to hazardous materials. Comprehensive training will be provided to employees on the safe handling and management of hazardous and chemical materials, including emergency response procedures. Emergency preparedness and response plan will be implemented to address spills, leaks, or other incidents involving hazardous materials, ensuring prompt containment and cleanup. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	<ul style="list-style-type: none"> Proper waste management procedures will be established for the disposal of hazardous and chemical materials, including recycling and disposal at licensed facilities. In case of storing hazardous substances included in Annex-1 Part 1 and Part 2 of the Regulation Regarding Prevention of Major Industrial Accidents and Mitigation of Their Effects, a declaration will be made to the BEKRA Notification System. 								
Possible dangers from pests	<ul style="list-style-type: none"> In rural areas, such as forest roads and agricultural lands, measures should be taken to ensure safety against diseases that can be transmitted to humans through biological agents such as water, air, animal bites, and insect stings. Personnel should be educated about biological risks such as animal bites and insect stings. Regular health check-ups should be conducted, and employees should be monitored for any effects of biological risks. Additionally, if the risk of rabies is identified, a vaccination program can be implemented. Employees should be provided with appropriate protective clothing (long-sleeved shirts, long pants) and personal protective equipment (gloves, face masks, eye protection). Insect repellent sprays and lotions should be used against insect bites. Regular environmental inspections should be conducted to control biological hazard sources such as insect nests and animal shelters. 	<p>Training activities</p> <p>Internal audit records</p>	The sub-project area	<p>On-site visual observations</p> <p>Internal Audit</p>	Quarterly	<p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions</p> <p>Regulation on the Use of Personal Protective Equipment in Workplaces</p>	<p>Number of the health issues (Target: Zero health issues)</p> <p>Compliance rate with OHS Performance criteria</p>	KGM RIU	No additional cost
COMMUNITY HEALTH, SAFETY AND SECURITY									
Communication issues with the stakeholders	<ul style="list-style-type: none"> Stakeholder Engagement Plan will be developed and implemented for the operation phase of the Project. Stakeholder Engagement Plan will be disclosed at the Project web site. 	<p>Grievance records</p> <p>SEP information activities performed and planned</p>	The sub-project area and surroundings	<p>Document review</p> <p>Assessment of the GRM records</p>	Once for one year	<p>SEP including GRM</p> <p>AIIB ESS 1</p>	<p>Grievance records</p> <p>SEP disclosure meetings</p> <p>Number of SEP information activities</p>	KGM RIU	No additional cost
Risk on traffic, operation safety and pedestrian safety due to highway traffic	<ul style="list-style-type: none"> Fencing, walls, and similar restrictive structures will be installed along the highway route to prevent access by communities and wild animals. These structures will be checked regularly and maintained to ensure they continue to restrict access to the highway. All required signage (such as traffic signs, cautionary signs) and markings (traffic lines, flashing ground signage) will be installed along the route in compliance with KGM technical specifications. In case large-scale maintenance is required, the affected lanes will be closed to traffic, and necessary measures will be implemented to slow down the remaining traffic. Tow trucks will be distributed and maintained at sufficient intervals along the route to prevent congestion or road closures. This will mitigate related risks that may arise in high-speed sections of the road. In case of large-scale oil or hazardous material spillage events, the road surface will be washed to prevent a slippery surface. Regular maintenance will be conducted along the entire route to ensure continued compliance with the standards and KGM technical specifications. Chemical ice inhibition and de-icing (e.g., salt (NaCl), calcium chloride (CaCl₂), magnesium chloride (MgCl₂), etc.) as well as physical snow and ice removal will be performed before and after adverse weather conditions. Additional investigation and maintenance will be conducted in potentially affected areas following natural hazards (e.g., earthquakes, flooding, etc.) and traffic accidents. In times of increased heavy vehicle traffic or traffic congestion, inform local settlements, workplaces around the Project activities, 	<p>Safety conditions at the site</p> <p>Incident/accident records</p> <p>Grievance records</p> <p>Corrective and preventive actions taken</p>	The sub-project area	<p>On-site visual observations/inspections</p> <p>Maintenance and repair records</p> <p>Incident/accident records</p> <p>Grievance records</p>	Monthly	<p>Highway Traffic Law</p> <p>AIIB ESS 1</p> <p>WBG EHS Guidelines</p> <p>Emergency Preparedness and Response Plan</p> <p>SEP including GRM</p>	<p>Number of maintenance and repair records</p> <p>Number of incident/accident records</p> <p>Number of grievances recorded</p>	KGM RIU	Included in operation cost



Potential E&S Impacts	Mitigation Measures	Monitoring Parameter	Monitoring Location	Monitoring Method	Monitoring Frequency	Legal Requirements for Monitoring or Implementation Plan	Key Performance Indicators	Responsible Party	Cost
	and local people engaged in migratory agriculture and animal husbandry activities in the surrounding area, in a contractual and written form, regarding community health and safety regarding the location, duration, possible risks and precautions of the works.								
Emergency Preparedness and Response	<ul style="list-style-type: none"> The project-specific Emergency Preparedness and Response Plan will be implemented for the operational phase. Cooperation with relevant authorities will be ensured for both preventing emergencies and responding to emergency situations. 	Emergency situations Corrective and preventive actions taken Correspondence with relevant stakeholders	The sub-project area	Document review	Whenever necessary	Highway Traffic Law AIIB ESS 1 WBG EHS Guidelines Emergency Preparedness and Response Plan	Number of emergency situations Number of corrective and prevention actions	KGM RIU	No additional cost



APPENDIX-1 MANAGEMENT OF CHANGE PROCESS FORM

MANAGEMENT OF CHANGE PROCESS FORM	
Section A. This section will be filled-out by the Facilitator of the Change	
Facilitator of the Proposed Change(s):	
Date:	
Location of the proposed Change(s):	
References to Relevant Design Documentation/ Drawings:	
Summary of the Proposed Change (s):	
Please specify the change content:	<input type="checkbox"/> Route/site facility change <input type="checkbox"/> Engineering/Design Development <input type="checkbox"/> Change in Legislation <input type="checkbox"/> Change in Authority Decision <input type="checkbox"/> Change in new E&S data <input type="checkbox"/> Change of Construction/Operation Execution strategy <input type="checkbox"/> Change of Management Strategy <input type="checkbox"/> Stakeholder influence
ROUTE/SITE FACILITY CHANGE	
Please provide details of the route/site facility change	
ENGINEERING/DESIGN DEVELOPMENT CHANGE	Please specify the new E&S aspects with the below given questions?
ATMOSPHERIC EMISSIONS	
Will there be any associated atmospheric emissions? If so, which contaminants will be emitted? What volumes or concentrations of these contaminants will be emitted?	
How will these contaminants be managed to reduce the environmental impact?	
How will the emission of these contaminants affect KGM's compliance with national and/or international legislation and policy commitments?	
WASTEWATER DISCHARGES	
Will there be any associated wastewater discharges? If so, what contaminants will be discharged? What volumes or concentrations of these contaminants will be discharged?	
How will this affect KGM's compliance with national/ international legislation and policy commitments?	



MANAGEMENT OF CHANGE PROCESS FORM

Section A. This section will be filled-out by the Facilitator of the Change

WASTE GENERATION	
Will any wastes be generated? If so, what types of waste will be generated? What quantities of these wastes will be generated?	
How will these wastes be managed and finally disposed?	
NOISE	
Will the proposed change be expected to create any additional noise impact? If so, what will be the level of this additional noise?	
How will the noise impact be mitigated if it is likely to exceed Project Standards?	
SOIL	
Will the proposed change be expected to create any additional impact to soil? If so, what will be the level of this additional impact?	
How will the soil impact be mitigated if it is likely to exceed Project Standards?	
ENVIRONMENTAL AND CULTURALLY SENSITIVE AREAS	
Is a critical habitat (CH) or archaeological site (ARC) identified within the vicinity of the proposed change?	
If yes, has a specialist desktop (ecological or archaeological) review been completed to identify risks to the CH?	
If yes, will the proposed change create any impact on environmental sensitive areas? If so, what are those areas and what recommendations will be required?	
How will the impact on these areas be mitigated? As per national or international standards?	
USE OF NATURAL RESOURCES	
Will the proposed change create any increase in energy, water, raw material, fuel consumptions or additional land use? If so, what type and amount of increase is expected?	
Will there be any additional permit/legal requirements?	
ENVIRONMENTAL MONITORING	
Will there be any environmental monitoring/reporting requirements?	



MANAGEMENT OF CHANGE PROCESS FORM

Section A. This section will be filled-out by the Facilitator of the Change

If so, what will be these monitoring/reporting requirements and how will they be conducted?	
How often will these monitoring/reporting requirements need to be conducted?	
MAINTENANCE	
Will any air emissions, wastewater discharges or wastes be generated during maintenance activities associated with the proposed change?	
If so, what contaminants will be generated? What quantities of these contaminants will be generated?	
How will these contaminants be managed to reduce the environmental impact? Are these management strategies in line with the existing national and international requirements?	
HAZARDOUS MATERIALS	
Will any new hazardous materials be used? If so, what types and quantities will be used? Does the Material Safety Data Sheets (MSDSs) of the new hazardous material fit for the legal requirements?	
How will these materials be stored and handled?	
Have MSDSs been obtained, retained and communicated to all relevant personnel?	
How will these contaminants be managed to reduce the environmental impact?	
SENSITIVE RECEPTORS	
Will there be any additional or new sensitive receptors in the vicinity?	
POLITICS AND GOVERNANCE	
Will any additional or new authority approval or permit be required?	
SETTLEMENT PROFILE	
Are any settlements or houses nearby?	
INFRASTRUCTURE FACILITIES	
Will any additional or new infrastructure be crossed (roads, etc.)?	
TRANSPORTATION AND TRAFFIC	



MANAGEMENT OF CHANGE PROCESS FORM

Section A. This section will be filled-out by the Facilitator of the Change

Will there be any additional or new impact on existing, local traffic?	
ECONOMIC CONDITIONS	
Will economic conditions of the area be affected?	
LAND	
Will additional or new land be required?	
LAND USE	
If additional or new land is required, is it used as agricultural, pasture or forest?	
EMPLOYMENT AND LIVELIHOODS	
Will there be positive effects in terms of employment or procurement?	
CHANGE IN LEGISLATION	Please specify the change details.
CHANGE IN AUTHORITY PROVISION	Please specify the change details.
CHANGE IN NEW E&S DATA	Please specify the change details.
CHANGE OF CONSTRUCTION/OPERATION EXECUTION STRATEGY	Please specify the change details.
CHANGE OF MANAGEMENT STRATEGY	Please specify the change details.



MANAGEMENT OF CHANGE PROCESS FORM	
Section A. This section will be filled-out by the Facilitator of the Change	
STAKEHOLDER INFLUENCE	Please specify the change details.

Section B. This part will be filled by following disciplines for specific evaluation of MCP data	
COMMENTS OF SPECIALISTS	
Environmental & Social Specialist	
M&E Specialist	
PIU Head/Project Director	
Please state the final decision based on the below headings:	
<input type="checkbox"/> No action is required. Change can be implemented.	
<input type="checkbox"/> Additional permit is required.	
<input type="checkbox"/> Environmental and Social Assessment is required.	
<input type="checkbox"/> Public Consultation is required.	
<input type="checkbox"/> Project Description File is required by State Authorities.	
<input type="checkbox"/> EIA Process is required by State Authorities.	
<input type="checkbox"/> Change can be implemented provided that:	



APPENDIX-2 CHANCE FIND PROCEDURE

Chance find procedure refer to measures to address archaeological material encountered unexpectedly during project construction. A chance find procedure is a project-specific protocol that outlines how to manage such finds. This procedure typically includes requirements to notify relevant authorities of discovered objects or sites, to close off the area to avoid further disturbance, to conduct assessments of the finds by cultural resources experts, to identify and implement actions consistent with the requirements of AIIB ESS 1 and national law, and to train project workers on these procedures.

Cultural resources include movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance, as well as graveyards and individual grave sites. Cultural resources may be located in urban or rural settings and may be above or below ground or under water. Their cultural interest may be at the local, provincial, national, or international level⁷.

The chance find can be described as an unexpectedly encountered physical cultural heritage.

As stated in AIIB ESS1, Project owner is responsible for determining the project design and project area in a way that avoids significant negative impacts on cultural heritage. In the process of determining environmental and social risks and impacts, it should be determined whether there is a possibility of cultural heritages during the works to be carried out in the area determined for the project. For projects where there is a high probability of encountering cultural heritage, chance find procedure should be established. The procedure is prepared before the start of the project and is applied in case of encountering the chance find. A general schematic diagram of chance find procedure and its applications is given in Figure 1.

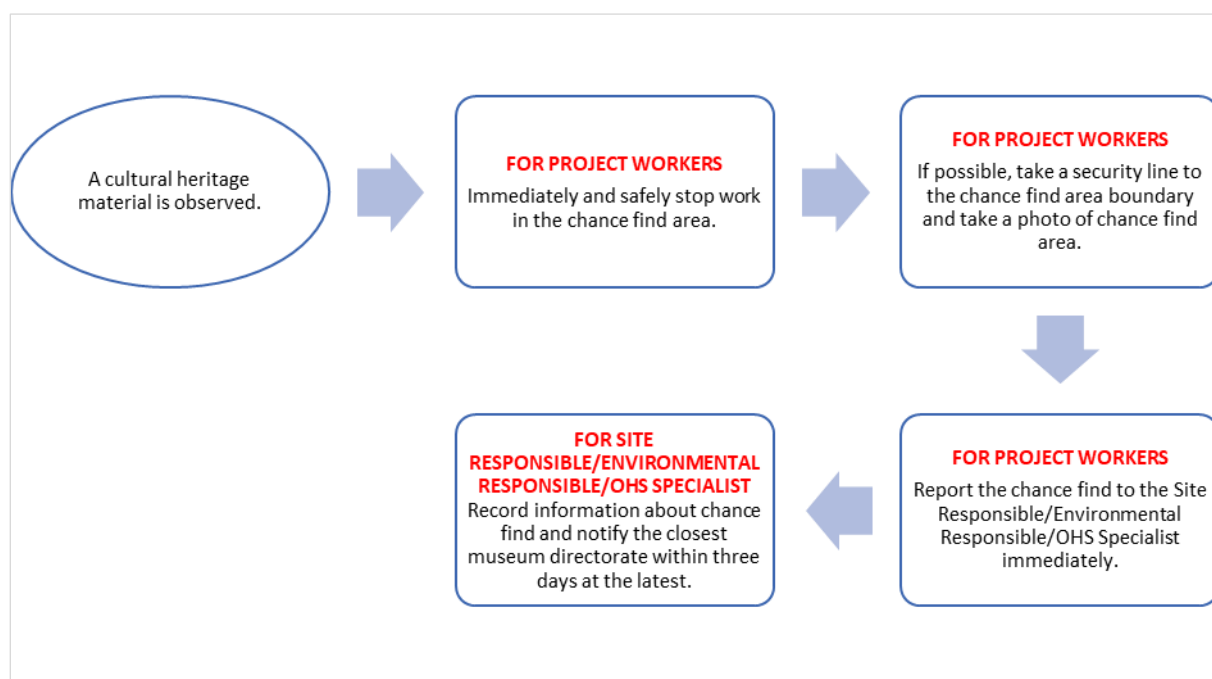


Figure 1. Chance Find Procedure Diagram

⁷ Source: AIIB Environmental and Social Framework (Approved February 2015-Amended November 2022)

Approach to be taken by the Contractor:

1. Immediate suspension of all construction work around the site of the chance find
In case of discovery of archaeological finds:
2. Immediately inform the project manager and/or the environmental department.
3. Take photographs.
4. Record the location of the site, keeping all remains in position, do not move them.
5. Surround the area to prevent damage or loss of movable objects.
6. Contact the social specialist for guidance.
7. Prepare the Chance Find Form (see Table 1).

Table 1. Sample Registration Form

Date of Chance Find	Name of Chance Find	Notified Authority	Actions	Status of Chance Find (Open/Close Issue)	Remarks

* Environmental Expert/Contractor will record the finding in the registration chart in case of encountering a chance find.

Suspension of Work

As stated in the National Law on the Protection of Cultural Heritage, in case of encountering any cultural assets during the construction phase of the project, the nearest Museum Directorate should be notified within three days at the latest. In case such a situation is encountered, the works in the project area will be stopped and the nearest museum directorate will be informed. No activity will be carried out in the project area until the related Museum Directorate authorities complete their works.

In case cultural assets are encountered during the construction phase, the institution that can be informed within the province of Hatay is "Hatay Museum Directorate"

Contact information of the relevant institution is as follows:

Name: Hatay Museum Directorate
Adress: Maşuklu Mahallesi Atatürk Caddesi Antakya
Phone: 0 326 225 10 60 / 0 326 225 10 62
E-mail: hataymuzesi@ktb.gov.tr



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The Key Points to be Considered

Key points to consider in case of any cultural heritage in the subproject area are given below:

- If there is any doubt as to whether the material/structure encountered in the project area is cultural heritage, the provincial museum directorate should be notified.
- The cultural heritage encountered should not be touched by anyone other than the authorized personnel of the provincial museum directorate.
- If the cultural heritage is buried in the ground, it should not be dug up before the provincial museum directorate arrives.
- All project personnel should be informed about the practices in this plan during orientation, environmental and OHS trainings to be organized within the scope of the project.



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APPENDIX-3 EMERGENCY PREPAREDNESS AND RESPONSE PLAN

Presented as a separate document (CNR-KGM-TERRRP-EPRP-001).

