Environmental and Social Management and Monitoring Plan (ESMMP)

Nakkas-Basaksehir Motorway Project

Nakkaş Otoyol Yatırım ve İşletme A.Ş

21 August 2023

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The business of sustainability

Signature Page

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Nakkas-Basaksehir Motorway Project

Serkan Kirdogan Partner	Caner Sahin Principal Consultant

ERM GmbH

Siemensstrasse 9

63263 Neu-Isenburg

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Acronyms and Abbreviations

AIIB	Asian Infrastructure Investment Bank
AOI	Area of Influence
BAP	Biodiversity Action Plan
BOT	Build-Operate-Transfer
CCTV	Closed Circuit Television
CESMP	Construction Environmental and Social Management Plan
CLO	Community Liaison Officer
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EPC	Environmental, Procurement and Construction
EPRP	Emergency Preparedness and Response Plan
ERM	Environmental Resources Management
ERT	Emergency Response Team
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESHS	Environmental, Social, Health and Safety
ESMMP	Environmental and Social Management and Monitoring Plan
ESMS	Environmental and Social Management System
E&S	Environmental and Social
ESS	Environmental and Social Standards
EU	European Union
GAP	Gender Action Plan
GBVH	Gender-Based Violence and Harassment
GC	Grievances Committee
GIIP	Good International Industry Practice
GLAC	Guide to Land Acquisition and Compensation
GM	Grievance Mechanism
H&S	Health and Safety
HSE	Health, Safety and Environment
IBA	Important Bird Area
IFC	International Finance Corporation
IFI	International Financial Institution
ILO	International Labour Organisation
KBA	Key Biodiversity Area
KGM	Karayolları Genel Müdürlüğü (General Directorate of Highways in Turkey)
KPI	Key Performance Indicator
LED	Light-Emitting Diode
LRP	Livelihood Restoration Plan
MIC	Maximum Instantaneous Charge

NGOs	Non-governmental Organisations
OECD	Organisation for Economic Cooperation and Development
OHS	Occupational Health and Safety
OHTL	Overhead Transmission Line
PAPs	Project Affected Persons
PEEN	Pan European Ecological Network
PIU	Project Implementation Unit
PM10	Particulate Matter Fraction 10 µm
PPE	Personal Protective Equipment
PR	Performance Requirement
PS	Performance Standard
RAMSAR	Convention on Wetlands of International Importance
RAP	Resettlement Action Plan
RoW	Right of Way
SDS	Safety Data Sheet
SEP	Stakeholder Engagement Plan
SPV	Special Purpose Vehicle (Nakkaş Otoyol A.Ş.)
STD	Sexually Transmitted Diseases
TDS	Total Dissolved Solids
TEIAS	Turkish Electricity Transmission Corporation
TSS	Total Suspended Solids
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHO	World Health Organisation

1 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

1.1 Introduction

The Environmental Social Impact Assessment (ESIA) has examined the negative and positive, biophysical, and socio-economic effects of all components of the Nakkaş-Başakşehir Motorway Project. During the course of the ESIA, design decisions have been made taking account of the need to avoid, minimise and reduce any negative environmental and social impacts. Where potential adverse have been identified, the ESIA has examined the extent to which these impacts would be mitigated through the adoption of good practice methods of working in line with international standards.

In certain cases, additional Project and site-specific mitigation measures have been identified to minimise disruption to local communities and damage to the natural environment. These actions include choice and programming of construction methods, practices and logistics, process and pollution control technology and management procedures.

This Environmental and Social Management and Monitoring Plan (ESMMP) was prepared as a part of Project ESIA Package which is a management tool to be used by Nakkaş Otoyol Yatırım ve İşletme A.Ş. (“Nakkaş Otoyol A.Ş” or “SPV”), EPC Contractor and its sub-contractors & suppliers to implement the E&S mitigation measures identified in the ESIA report during design, construction and operation phases.

1.2 Purpose and Scope of the ESMMP

The purpose of this Plan is to ensure continuous and effective implementation of the mitigation measures set by the Project management plans and to provide an environmental and social monitoring program to achieve Project goals.

Any changes to the Project scope or new substantive environmental and social findings will be evaluated via Project’s Design Change Management Procedure (ESIA Report Annex 1) for their degree of significance, and will be incorporated into the appropriate Project documentation as follows:

- Minor changes will be reflected in updates to the ESMMP; and
- Substantive design changes that might potentially alter the ESIA findings (i.e., those that result in changes to the predicted significance of environmental and social impacts) will be subject to re-assessment, further stakeholder consultation, supplementary reporting and revision of the proposed Project’s ESMMP.

ESMMP will be supported by several management plans, which are a set of stand-alone documents that will evolve during the lifetime of the Project to encompass the construction and operation of the motorway and will be integrated into the overall SPV‘s Environmental and Quality Management Systems.

Each E&S topic will be presented in tabular format and will include the following information:

- A description of the mitigation measures (practical, measurable and auditable actions) that SPV, EPC Contractor and its sub-contractors & suppliers will implement;
- Designation of responsibility for ensuring full implementation of the required action;
- Parameters that will be monitored to track how effectively actions and mitigation are implemented; and
- Timing for implementation of the action to ensure that the objectives of mitigation are fully met.

SPV is committed to the adoption of all these measures and will carry out ongoing inspection and audit, to ensure their implementation and effectiveness.

Given the expected lifespan of the Project, as part of the supporting plans to the ESMMP, a Decommissioning Management Plan is not warranted, as the Project is not expected to be decommissioned at any foreseeable time. A detailed operational ESMP will be developed prior to the commencement of the operation of the Project.

The ESMMP addresses and/or builds up on the following items:

- Physical elements of the project to set the boundaries of the environmental and social management system (ESMS) scope, including the project's physical footprint and applicable associated facilities;
- Project-related activities being undertaken in the relevant project phase, e.g., construction, commissioning, operation, decommissioning and if necessary, post-closure;
- Compliance with applicable national regulation, lender requirements and loan covenants (including from the Environmental and Social Action Plan (ESAP));
- Detailed mitigation and management measures are required following construction, commissioning and operational impacts identified by the ESIA;
- Roles and responsibilities for appropriate management organisational units; and
- Key risks and management requirements related to primary supply chains.

1.2.1 SPV's Environmental and Social Management System

SPV is developing an Environmental and Social Management System (ESMS) to be certified through ISO certification by SPV to manage the potential environmental, social, health and safety impacts and risks caused by the Project. The main elements of an ESMS are provided in Figure 1-1 and comprise the following four phases, also described in Box below.

Figure 1-1 Main Elements of the ESMS

Planning:	Establishing the *objectives* and processes necessary to deliver results in accordance with the Project Guideline for Environmental Management.
Doing:	Implementing the processes through defining *mitigation* measures and assigning *responsibilities* for undertaking or implementing such mitigation measures, typically through suites of Management Plans.
Checking:	*Monitoring* and *measuring* these processes against the policy, objectives and targets, legal and other requirements (such as those of the EBRD; AIIB; IFC), and *reporting* of the results.
Acting:	Taking actions to continually improve the performance of the ESMS through the *training* of personnel and *auditing* of results.

SPV's ESMS will include:

- Policy Statements – which describes Project's E&S objectives which will guide the Project in achieving E&S performance (these policies will include Environmental and Social Sustainability Policy, Occupational Health and Safety (OHS) Policy, Human Resources Policy, Gender Based Violence Harassment Policy, Human Rights Policy, Safe Driving Policy);
- Process for Risk Identification – which, in addition to the ESIA, shall include a defined process for evaluating and managing environmental and social risks through the life of the Project;
- Management Programs – for environmental and social performance execution which are, in part, detailed below;
- Organisation Capacity/Competency – demonstrated through clear division of responsibility and vetting of individual roles holding responsibility and accountability for environmental and social performance execution;
- Documentation such as ESIA, Stakeholder Engagement Plan (SEP), Resettlement Action Plan (RAP), Emergency Preparedness and Response Plan (EPRP), and ESMMP (including all management plans) address how potential Environmental, Social, Health and Safety (ESHS) risks will be managed during the Project lifecycle;
- ESMS Handbook (REC-HSE-EYS-KMO-HB-01); and
- Monitoring and Review System – which will detail the process by which the Project will monitor and measure the effectiveness of the management program, including compliance with any regulatory requirements, legal requirements and/or contractual obligations.

The Project ESMS will provide a systematic structure and approach to enable the effective implementation and management of environmental & social risks, impacts, opportunities and related compliance. Effective management of environmental & social issues will consider, implement and address the following fundamental components as part of the robust ESMS:

- Project-specific policies related to the environmental and social considerations (including labour, HR and external stakeholders & affected communities);
- Project-based E&S Objectives, Targets & Programme;
- Applicable E&S legal requirements and other compliance obligations (such as those required by lenders);
- E&S aspects and potential impacts, as early as possible for construction, commissioning and operation phase planning, including the incorporation of environmental and social considerations into staffing requirements, process plans, programming, work orders, required authorisations, and site layout;

- E&S professionals, who have the experience, competence, and training necessary to assess and manage environmental impacts and risks, and carry out specialised environmental & social management functions including the preparation of Project or activity-specific plans and procedures that incorporate the technical requirements presented in this document;
- Prioritisation of management programmes/ strategies with the objective of achieving an overall reduction of risk to human wellbeing and the environment, focusing on the prevention of irreversible and/or significant impacts;
- Favouring strategies (where possible) that eliminate the cause of the impact at its source, for example, by selecting less hazardous materials or processes that avoid the need for environmental controls;
- When impact avoidance is not feasible, incorporating controls to reduce or minimise the possibility and/or magnitude of undesired consequences, for example, with the application of pollution controls to reduce the levels of emitted contaminants;
- Preparing workers, informing, and cooperating with nearby communities and relevant stakeholders to respond to emergencies, and accidents, including providing technical and financial resources to control such events effectively and safely, and restoring workplace and community environments;
- Improving environmental performance (i.e., for continual improvement) through a combination of ongoing monitoring of facility performance and effective accountability;
- Initial implementation of the ESMS will focus on setting and reviewing requirements, determining custodianship within the project team, identifying budgets, establishing target ranges for performance, and establishing appropriate data-gathering techniques and controls; and
- Performance ranges will be refined on a regular basis as more data becomes available, in turn enabling more accurate strategy development and benchmarking. As such, the ESMS documents will be treated as living documents, to be updated within a continuous process of improvement.

The requirements of the ESMS will be reflected in the contract documents with EPC Contractor, sub-contractors & suppliers. SPV will amend those contracts that are already in place to ensure that all relevant ESMS standards and all ESIA and ESMMP requirements are implemented and met by each respective party.

To ensure that the Project is implemented in compliance with the Project Requirements, Regulations and Standards, the following policies have been developed:

- Environmental and Social Sustainability Policy
- OHS Policy
- Human Resources Policy;
- Gender-Based Violence Harassment Policy (POL-002-0 HR Policy);
- Human Rights Policy;
- Safe Driving Policy.

The above-mentioned policies, to be included in the SPV´s ESMS, will establish the framework for the Project's environmental, social, health and safety management processes as further developed and defined within this ESMMP.

Figure 1-2 shows the document structure of the ESMS to be considered by all parties:

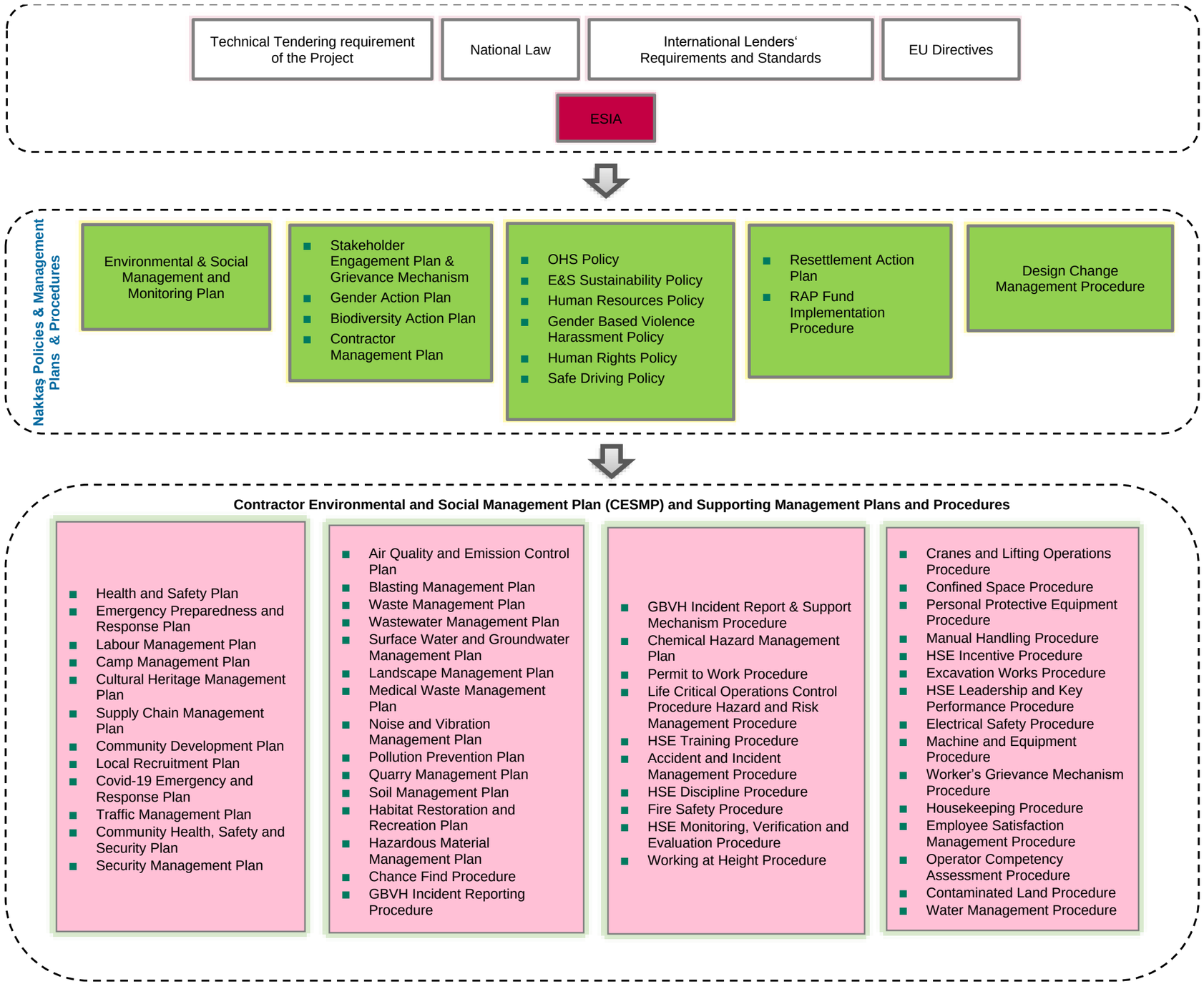

Figure 1-2 Project ESMS Structure

1.2.2 EPC Contractor‘s Environmental and Social Management System

EPC Contractor is required to operate an ESMS in accordance with the plan-do-check-review cycle. SPV shall ensure that the EPC Contractor has certified ESMS in place through the ISO certification process.

EPC Contractor will be required to develop their working methods and procedures in line with ESIA and ESMMP requirements. EPC Contractor´s ESHS Policies will be approved by the Lenders and included in the Construction Environmental and Social Management Plan (CESMP).

The primary objective of the CESMP is to guide the construction phase of the Project and meet the requirements for managing construction-phase risks and impacts identified for the relevant environmental and social aspects, including compliance with National and International legislative requirements as applicable. The CESMP ensures consistency across the development Project site in terms of environmental and social considerations, for the duration of the construction phase.

The CESMP is applicable to the construction phase of the Project specifically, and the ultimate responsibility for its implementation resides with the appointed EPC Contractor. As a contractual requirement, the EPC Contractor, sub-contractors & suppliers will be required to demonstrate compliance with their activities against the CESMP. The CESMP and any associated plans/documents, are intended to be ‘living documents’ that can be refined and modified as situations change. The CESMP will be reviewed and updated after any change in the context in which the Project operates during the construction phase.

CESMP includes the following:

- Roles and responsibilities of different project personnel with respect to environmental, social, health and safety management;
- Legislative requirements;
- Construction phase risks and impacts;
- Construction phase mitigation and management measures;
- Managing existing construction impacts;
- Undertaking Pre-construction Surveys and ESHS assessments to identify and manage ESHS risks;
- Performing EPC Contractor ESHS inspections and audits;
- Performing EPC Contractor ESHS Monitoring;
- EPC Contractor non-conformance and incident notification and response;
- EPC Contractor ESHS Action Tracking System;
- Undertaking design reviews to ensure incorporation of ESIA and subordinate-plan mitigation commitments;
- Creating a functioning interface between designers, construction managers, and ESHS functions to ensure integration and delivery of ESIA commitments;
- Training;
- Monitoring and review;
- Reporting requirements; and
- Record keeping and document control.

1.3 Policy, Legislative and Regulatory Framework

1.3.1 Applicable Turkish Environmental and Social Legislation

The Project is required to comply with relevant Turkish laws and regulations related to environmental and social aspects. The key laws include but are not limited to Environmental Law, Labour Law, Occupational Health and Safety Law, Expropriation Law, Law on the Right to Access to Information and Law on the Use of the Right to Petition.

1.3.2 International Conventions

A list of relevant conventions ratified by Turkey and relevant for the environmental and social aspects is presented in ESIA report Annex 4 and below (e.g., ILO conventions, UNESCO, Climate change, Biodiversity protection etc.) which include but are not limited to the following:

- Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto (1997);
- Paris Agreement under the United Nations Framework Convention on Climate Change (2015);
- Vienna Convention for the Protection of Ozone Layer (1985);
- Bern Convention on the Conservation of European Wildlife and Natural Habitats (1976);
- CITES Convention on Trade in Endangered Species of Wild Flora and Fauna (1975);
- Convention on Biodiversity – Biological Diversity (1992);
- Agreement on the Conservation of Nature and Natural Resources – ASEAN, Kuala Lumpur (1985);
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel (1992);
- International Covenant on Economic, Social and Cultural Rights;
- Agreement on the Conservation of Populations of European Bats (1994);
- Pan European Ecological Network (PEEN);
- RAMSAR Convention on Wetlands (1971);
- UNESCO Convention on the Protection of the World Cultural and Natural Heritage, Paris (1972);
- UNESCO Convention for the Safeguarding of Intangible Heritage, (2003);
- UNESCO Man and Biosphere Program, launched in the early 1970s; and
- ILO Conventions on Forced Labour - No.29 (1930), Freedom of Association and Protection of the Right to Organize - No:87 (1948), Right to Organize and Collective Bargaining - No:98 (1949), Equal Remuneration - No:100 (1951), Abolition of Forced Labour - No:105 (1957) , Discrimination - No: 111 (1958), Minimum Age - No:138 (1973), Worst Forms of Child Labour – No: 182 (1999), Occupational Safety and Health - No:155 (1981), and Promotional Framework for Occupational Safety and Health - No: 187 (2006).

1.3.3 International Standards

Nakkaş Otoyol A.Ş is planning to seek for financing of the investment costs of the Project by debt and equity under a Project Finance structure involving the European Bank for Reconstruction and Development (EBRD), the Asian Infrastructure Investment Bank (AIIB), Atradius, Standard Chartered Bank, SERV, DZ BANK and Bank of China, Deutsche Bank, Credit Suisse, the Islamic Corporation for the Development of the Private Sector (ICD) and Vakıfbank.

Therefore, the Project will comply with recognised international financing requirements, namely the EBRD Performance Requirements (PRs), the IFC Performance Standards (PSs), AIIB Environmental and Social Standards (ESSs), OECD Revised Council Recommendation on Common Approaches on Environment and Officially Supported Credits and Equator Principles IV.

In addition to the above standards, the following guidelines are also relevant to the Project:

- EBRD Sub-sectoral Environmental and Social Guidelines (i.e., Building and Construction Activities, 2010);
- The EBRD's Strategy for the Promotion of Gender Equality (2021 – 2025);
- IFC Environmental, Health, and Safety (EHS) General Guidelines (April 2007);
- IFC Environmental, Health, and Safety Guidelines for Toll Roads (April 2007);
- IFC/EBRD Worker's Accommodation: Processes and Standards (August 2009);
- Addressing Gender-Based Violence and Harassment: Emerging Good Practice for the Private Sector jointly commissioned by IFC, EBRD, and CDC Group;
- EU environmental, social, and occupational health and safety directives:
  - EU Directive 2014/52/EU – The EIA Directive;
  - EU Directive 2000/60/EC – The Water Framework Directive;
  - EU Directive 2008/98/EC – The Waste Framework Directive;
  - EU Directive 2006/118/EU – The Groundwater Directive;
  - EU Directive 2009/147/EC – The Birds Directive;
  - EU Directive 92/43/EEC – The Habitats Directive;
  - EU Directive 2008/50/EC – The Ambient Air Quality Directive;
  - EC Directive 2008/96/EC – Road Infrastructure Safety Management Directive; and
  - EU Directive 89/391/EEC – The Occupational Health and Safety Framework Directive.

1.4 Supporting Environmental and Social Management Plans

Following the completion of ESIA studies, the ESMMP outlined the supporting management plans which have been prepared by SPV and by the EPC Contractor as a part of CESMP.

1.4.1 SPV Plans and Procedures

SPV is the originator and primary responsible party implementing the requirements of the listed plans including but not limited to the following:

- Resettlement Action Plan including livelihood restoration
- RAP Fund Implementation Procedure
- Stakeholder Engagement Plan
- Gender Action Plan
- Design Change Management Procedure
- Biodiversity Action Plan
- Contractor Management Plan

Whilst the primary implementation responsibility lies with SPV, SPV will ensure that these plans and procedures have been submitted to the EPC Contractor officially and that the requirements of these

plans and procedures are followed by the EPC Contractor during each stage of the construction process.

1.4.2 EPC Contractor Management Plans and Procedures

In the CESMP, key points on a range of topics are addressed, while more comprehensive information is contained in the respective topic-specific management plans and procedures as listed in Table 1-1. These associated plans need to be read in conjunction with the CESMP and include:

Table 1-1 List of Plans and Procedures

DOCUMENT CODE	DOCUMENT NAME
REC-İSG-KMO-PL-01	Health and Safety Plan
REC-İSG-KMO-PL-06	Emergency Preparedness and Response Plan
REC-İK-KMO-PL-01	Labour Management Plan
REC-İSG-ÇYS-KMO-PL-16	Camp Management Plan
REC-İSG-ÇYS-KMO-PL-08	Cultural Heritage Management Plan
REC-İSG-ÇYS-KMO-PL-03	Supply Chain Management Plan
REC-İK-KMO-PL-02	Gender Action Plan
REC-ÇYS-KMO-PL-03	Community Development Plan (under development)
REC-İK-KMO-PL-03	Local Recruitment Plan
REC-İSG-ÇYS-KMO-PL-15	Covid-19 Emergency and Response Plan
REC-İSG-KMO-PL-07	Traffic Management Plan
REC-İSG-KMO-PL-13	Community Health, Safety and Security t Plan
REC-İSG-KMO-PL-22	Security Management Plan
REC-ÇYS-KMO-PL-04	Air Quality and Emission Control Plan
REC-İSG-ÇYS-KMO-PL-18	Blasting Management Plan
REC-ÇYS-KMO-PL-02	Waste Management Plan
REC-ÇYS-KMO-PL-20	Wastewater Management Plan
REC-ÇYS-KMO-PL-09	Surface Water and Groundwater Management Plan
REC-ÇYS-KMO-PL-17	Landscape Management Plan
REC-ÇYS-KMO-PL-03	Medical Waste Management Plan
REC-ÇYS-KMO-PL-05	Noise and Vibration Management Plan
REC-ÇYS-KMO-PL-19	Pollution Prevention Plan
REC-İSG-ÇYS-KMO-PL-11	Quarry Management Plan
REC-ÇYS-KMO-PL-10	Soil Management Plan
REC-ÇYS-KMO-PL-15	Habitat Restoration and Recreation Plan
REC-İSG-ÇYS-KMO-PL-09	Hazardous Material Management Plan
REC-ÇYS-KMO-PR-28	Chance Find Procedure
REC-ÇYS-KMO-PR-02	GBVH Incident Reporting Procedure, GBVH Incident Report & Support Mechanism Procedure
REC-İSG-ÇYS-KMO-PL-12	Chemicals Hazard Management Plan
REC-İSG-ÇYS-KMO-PR-03	Permit to Work Procedure
REC-İSG-KMO-PR-03	Procedure for Control of Life-Critical Activities
REC-İSG-KMO-PR-04	Hazard and Risk Management Procedure

DOCUMENT CODE	DOCUMENT NAME
REC-İSG-ÇYS-KMO-PR-05	HSE Training Procedure
REC-İSG-ÇYS-KMO-PR-06	Accident and Incident Management Procedure
REC-İSG-ÇYS-KMO-PR-07	HSE Discipline Procedure
REC-İSG-ÇYS-KMO-PR-08	Fire Prevention and Protection Procedure
REC-İSG-ÇYS-KMO-PR-09	HSE Monitoring, Verification and Evaluation Procedure
REC-İSG-KMO-PR-10	Working at Height Procedure
REC-İSG-KMO-PR-04	Cranes and Lifting Operations Procedure
REC-İSG-KMO-PR-13	Confined Space Procedure
REC-İSG-KMO-PR-14	Personal Protective Equipment Procedure
REC-İSG-KMO-PR-15	Manual Handling Procedure
REC-İSG-ÇYS-KMO-PR-16	HSE Incentive Procedure
REC-İSG-ÇYS-KMO-PR-17	Excavation Works Procedure
REC-İSG-ÇYS-KMO-PR-20	HSE Leadership and Key Performance Procedure
REC-İSG-KMO-PR-08	Electrical Safety Procedure
REC-İSG-KMO-PR-24	Machine and Equipment Procedure
REC-İSG-ÇYS-KMO-PR-12	Worker's Grievance Mechanism Procedure
REC-İSG-ÇYS-KMO-PR-31	Housekeeping Procedure
REC-İK-KMO-PR-01	Employee Satisfaction Management Procedure
REC-İSG-KMO-PR-33	Operator Competency Assessment Procedure
REC-ÇYS-KMO-PR-40	Contaminated Land Procedure
REC-ÇYS-KMO-PR-39	Water Management Procedure

1.5 Managing Changes to Project Activities

Changes in the Project may occur due to unanticipated situations. Adaptive changes may also occur during the course of the project life cycle. SPV will implement a formal procedure to manage changes in the Project that will apply to all project activities.

A Design Change Management Procedure has been prepared for the Project. As is typical for such a large infrastructure project, it is expected that there will be changes required to the design aspects of the Project. Many changes will be of a purely technical nature with little/no ESIA-relevance (e.g., incline of a ramp, or concrete specifications), and many other changes are expected to fall within the areas and issues already covered by the ESIA, ESMMP and Resettlement Action Plan (RAP) (e.g., change in areas of property expropriated from already-affected landowners, layout of facilities at the rest areas).

The objective of the procedure is to ensure that the impact of changes on the health and safety of personnel, the environment, plant and equipment are identified and assessed prior to changes being implemented.

The management of the change procedure will ensure that:

- Proposed changes have a sound technical, safety, environmental, social and commercial justification;
- Changes are reviewed by competent personnel and the impact of changes is reflected in documentation, including operating procedures and drawings;

- Hazards resulting from changes that alter the conditions assessed in the ESIA have been identified and assessed and the impact(s) of changes do not adversely affect the management of health, safety or the environment;
- Changes are communicated to personnel who are provided with the necessary skills, via training, to effectively implement changes; and
- The appropriate SPV person accepts responsibility for the change.

1.6 Roles and Responsibilities of ESIA, ESMMP and RAP Implementation

SPV is ultimately responsible for the management and supervision of all Project activities and will have principal responsibility for implementing the requirements of ESIA, ESMMP, and management plans specified in Section 1.4.1.

SPV and EPC will have ESHS organizations in place as presented in Figure 1-3.

SPV is committed to providing resources and establishing the systems and components essential to the implementation and control of the ESMMP. This includes appropriate resources, specialised skills, training programmes, communication procedures, documentation control and a procedure for the management of change. SPV will support the process and have an Environmental, Health and Safety (ESHS) department with competent staff based on appropriate education, training and experience.

As a contractual requirement, EPC Contractor, sub-contractors & suppliers will be required to demonstrate compliance with their activities against the ESIA and ESMMP. This includes providing resources to ensure compliance of next-tier contractors and a process for emergency stop-work orders in response to monitoring triggers. EPC Contractor, sub-contractors & suppliers will be responsible for performing all work:

- In compliance with relevant national and international ESHS legislation and regulations, and with other requirements to which the Project subscribes;
- In conformance with the Project ESIA, ESMMP, and related management plans for specific aspects; and
- In accordance with contractual technical and quality specifications.

The Project's ESIA, ESMMP and related documentation will be the main contractual documentation to which the contractor(s) will be bound. EPC Contractor, sub-contractors & suppliers will be required to develop their own management plans which show how they will comply with these environmental and social requirements.

In this way, the ESMMP will be implemented and controlled using both SPV and the EPC Contractor management systems.

The EPC Contractor management systems will therefore:

- Provide the framework that regulates their activities;
- Define responsibilities and reporting relationships for expediting, mitigating and monitoring actions detailed in the ESMMP; and
- Specify the mechanisms for inspecting and auditing to ensure that the agreed actions are implemented.

EPC Contractor will be required to self-monitor against their plan and compliance with the plan will be routinely monitored by SPV directly or by third parties. EPC Contractor will be required to submit regular reports of monitoring activities and SPV will review these on a regular basis.

Sub-contractors & suppliers will be reviewed and approved by EPC Contractor and an external audit and assurance process will be conducted of the sub-contractors & suppliers. ESHS documentation on an annual basis, the results of which will be disclosed at the completion of the process. Since at the

date of this report, the Contractor has started construction activities without implementing and embedding the ESIA, ESMMP and related E&S management plans into the construction contract, the following actions shall be undertaken at this point:

- Embedding the ESIA, ESMMP and related E&S management plans into the construction contracts;
- Construction site audit by an independent party appointed by the Lenders:
- Review of adherence of EPC contractor ESHS documentation to the ESIA / ESMMP, based on Contractor's ESMMP, ESHS management plans and their implementation:
- Review of ESHS inspection reports, monthly reports, records, etc;
- Review of ESMS project organization and responsibilities; and
- Preparation of a Corrective Action Plan to achieve compliance with the applicable standards.

Land acquisition in line with the Expropriation Law is the responsibility of KGM. The SPV has contractual responsibilities for the provision of part of the Expropriation Cost as defined in RAP. The SPV is also responsible for implementing this RAP including a Guide to Land Acquisition and Compensation (GLAC) in collaboration with KGM to comply with the lender's requirements. As such, in agreement with KGM, the implementation of RAP measures including livelihood restoration, assistance to vulnerable people, affected landowners, households and businesses, compensation of informal users as well as stakeholder engagement and monitoring will be the responsibility of the SPV (including allocation and disbursement of the budget required for RAP implementation – as detailed in RAP Section 8.2).

A RAP Implementation Team will be established by the SPV under the Project Management for the day-to-day implementation of RAP measures in collaboration with KGM. The RAP Implementation Team will consist of a core team, which will be supported by in-house and external support personnel, specialists or consultants, as depicted in Figure 1-4 Management Structure for RAP Implementation.

KGM established a Project Implementation Unit (PIU) under the Directorate General – Department of Operations formed by related personnel of KGM (at the Directorate General and Regional Directorate levels), SPV and EPC. The PIU will work in coordination with the Department of Immovables, Department of Survey, Design and Environment and Legal Department (please see RAP Section 8.1.3. for the description of PIU) to ensure implementation of the Project in accordance with the Project ESHS requirements.

Whilst key roles and responsibilities of SPV ESHS Organization are summarized in Table 1-2 the details on RAP implementation are separately provided in RAP.

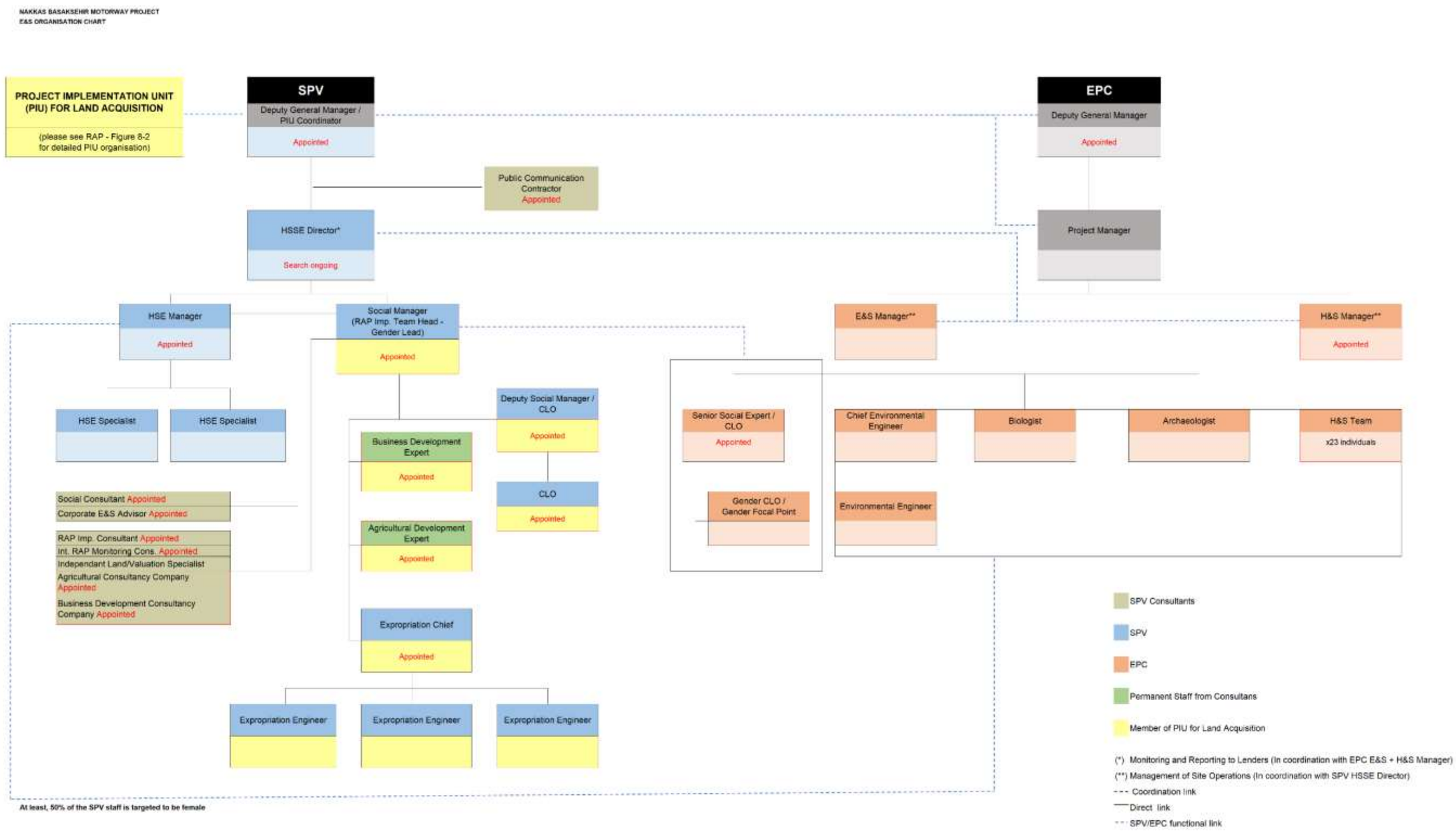

Figure 1-3 SPV&EPC ESHS Organization

Source: Nakkaş Otoyol A.Ş.

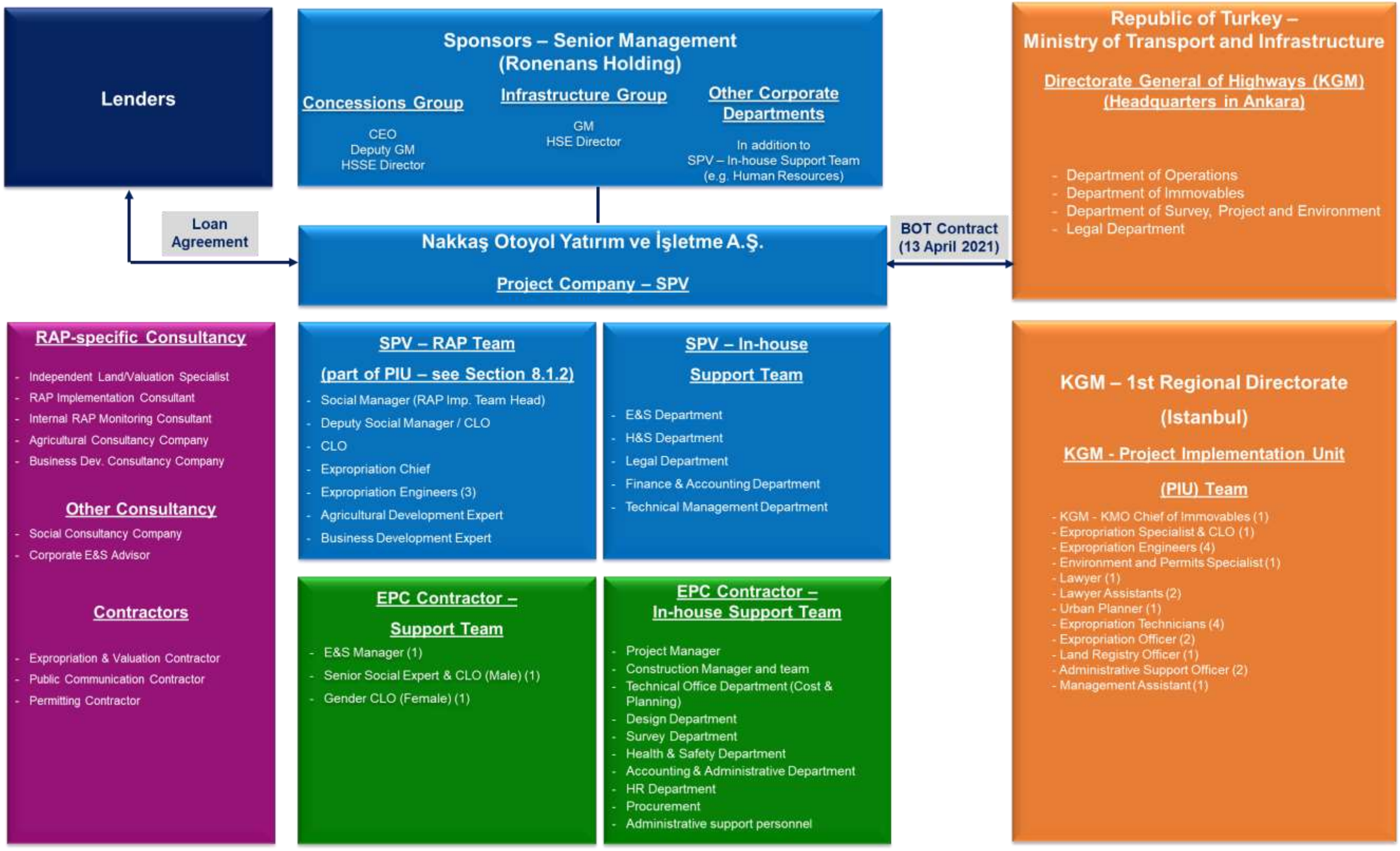

Figure 1-4 Management Structure for RAP Implementation

Source: GEM

SPV will be supported by third-party consultants during RAP implementation, social management, grievance mechanism and stakeholder engagement. In addition, SPV will appoint a communications/ crisis communication expert to the organization to plan the communication strategy and crisis management plan for the management of influential stakeholders such as political parties, local authorities, NGOs and media.

Table 1-2 ESHS Roles and Responsibilities of SPV

Function	Responsibility
SPV Deputy General Manage	■ Has overall accountability for the Project including delivery in line with applicable national and Lender's standards. ■ Ensure allocation of sufficient resources for the ESMMP and RAP implementation including for ESHS and RAP organisation, permitting, training, equipment and qualified personnel. ■ Ultimate responsibility for ensuring implementation of required corrective actions including in response to identified ESHS non-compliances or incidents. ■ Periodical review of the ESMMP and RAP implementation effectiveness in line with the provisions of the Project requirements.
HSE & Social Director of SPV	■ Provide ESHS resources for the implementation of the ESHS management system. ■ Ensure that ESHS risks will be systematically identified assessed avoided, mitigated and managed. ■ Manage the ESHS team and consultants' budget and ensure that the ESHS team's activities are effectively executed. ■ Provide the Project leadership team with ESHS management system advice, guidance, and assurance. ■ Report ESHS performance to management, lenders, and other related parties.
HSE Manager of SPV	■ Oversight of the EPC Contractors' activities to ensure they align with Project ESHS management system requirements and with the Contractor Management Plan and supporting sub-plans and method statements. ■ Communicate the content of this ESMMP and any changes to the SPV and EPC Contractor teams and act as the focal point to promote implementation, performance monitoring and provide guidance and support. ■ Manage the review and acceptance of the Contractor Management Plan and supporting ESHS method statements plans and processes. ■ Ensure that all ESHS-related incidents are reported and dealt with effectively and that lessons learned are shared in accordance with the SPV Accident and Incident Management Procedure. ■ Coordination of the ESHS field activities at the construction sites. ■ Report ESHS performance to HSE & Social Director.

Function	Responsibility
Social Manager of SPV	■ Control and coordinate the entire RAP team and Deputy Social Manager and CLO(s) as per the Project requirements in terms of RAP, community relations, stakeholder engagement, gender, labour & human rights, community development and grievances mechanism. ■ Social Manager is also responsible for the agricultural and business development requirements as required by the Project Affected Persons (PAPs) and defined under the RAP. ■ Define and implement the necessary risk mitigation measures to secure the process. ■ Ensure that the RAP is implemented as planned and in a timely manner to address the gaps during the entire Project in particular that the livelihoods of affected populations and businesses are restored. ■ Stop the work activities in the event of a serious violation of rules that may cause serious and unrecoverable impacts on H&S, the environment or the reputation of the Project. ■ Ensures that adequate and competent experts are mobilised for execution of Works in accordance with Project requirements. ■ Ensures that the relocated businesses are operating at the same or improved level compared to re-relocation conditions. ■ Oversee that the RAP addressed in parallel to the entitlements given by the RAP by coordinating RAP and LRP issues with the Resettlement Consultant. ■ Coordination of labour and human rights requirements with the Labour Expert. ■ Coordination of business relocations and improvements for business opportunities with the Business Development Expert. ■ Coordination of agricultural requirements and improvements with agricultural experts. ■ Coordination of CLOs for GM implementation to follow-up resolutions of complaints, requests and grievances received from third parties. ■ Implementation of SEP, gender and grievances. ■ Carry out stakeholder engagement activities as per the SEP. ■ Establishment of GM and implementation. ■ Establish a grievance redress mechanism program throughout the Corridor that ensures that all grievances (verbal and written), are registered and transmitted to responsible authorities, addressed in a timely manner and reported back to the aggrieved parties. In addition, monitor and submit reports on the performance of the mechanism in accordance with SEP. ■ Prepare quarterly progress and compliance reports for management, SPV Social Manager as well as other external parties. ■ Provide input to SPV's internal RAP auditor regularly to ensure a fair and transparent internal audit as well as provide assistance to the external auditors on a ■ Provide input to external RAP monitoring activities on regular basis. ■ Holds meetings with the lenders, lenders' advisers and all relevant units entities and departments. ■ Control the application of grievance procedures so that records of are kept and followed-up and appropriate corrective actions are taken with satisfactory outcomes. ■ Assign experienced personnel of adequate number and have equipment/materials to perform their responsibility. ■ Ensure that a standard methodology and format is used by their subcontractor. ■ Ensure that the satisfaction of landowners is kept at maximum during the land acquisition and construction process.

Function	Responsibility
Deputy Social Manager and CLO	■ Ensure compliance of the Project's social performance (including implementation of measures/actions related to stakeholder engagement, grievance management) with Project Standards. ■ Ensure effective and periodic communication with the external stakeholders during the construction phase. ■ In coordination with the HR team and Site HSE specialists, ensure all Project personnel (direct and contracted) receive trainings on the implementation of the internal and external grievance mechanism developed for the Project (e.g., how to submit internal grievances, how to manage external grievances, etc.) at the time of employment. ■ Ensure community grievances are registered and responded to as per the Project SEP and reported to Social Manager. ■ Support HSE Manager in the management of internal grievances as required.
Community Liaison Officer (CLO)	■ Establish and maintain the database of all PAPs (households with particular attention to the ones with vulnerabilities and formal and informal users of the affected parcels) with support from the Expropriation Chief. ■ Engage with the PAPs for the implementation of RAP measures and actions ■ Be responsible for daily implementation of related RAP actions (e.g., grievances, stakeholder information and consultations, etc.) on-site under the coordination of the RAP Implementation Team Head and in cooperation with the Expropriation Chief, including engagement with the stakeholders and management of land acquisition related grievances. ■ If received by the Contractor, enter the grievances and feedback relevant to land acquisition in a dedicated database (separate from other Project grievances not relevant to land acquisition) (relevance to be decided by the RAP Implementation Team Head and/or the Expropriation Chief). ■ Lead day-to-day implementation of the SEP and grievance mechanism, including proactively maintaining regular contact with affected communities through regular community visits, calls or other online engagement to monitor opinions and provide updates on Project activities, and ensuring communication with vulnerable groups in line with the Project SEP ■ Support Social Expert during the planning and implementation of her/his tasks. ■ Contact persons for statutory stakeholders and Non-Governmental Organisations (NGOs). ■ Initiate institutional agreements with statutory stakeholders (e.g. training to be received by Project affected people). ■ Set up and perform meetings on the non-community level. ■ Be accessible to liaise with affected populations per request, especially for vulnerable groups. ■ Assist affected people in issues related to the Project (answer questions about the process, delivery of grievances, information about consultation activities etc.). ■ Facilitate access of Project-Affected-Persons (PAPs) to third party legal support, if necessary. ■ Advise on avenues for the resolution of conflicts amongst land owners in cases of multiple ownerships. ■ Assist with grievance management. ■ Facilitate the smooth liaison between stakeholders by maintaining regular contact and networking to ensure that project affected people are well informed of their rights and responsibilities set out in national legislation and respective Stakeholder Engagement Plan and Resettlement Action Plan in particular and other relevant execution plans; ■ Set up and organize meetings with any other agencies or persons if so requested, including organizing meeting spaces; ■ Set up and organize particular meetings and focused studies together with women to encourage women's active support of the Project during construction and operation, as well as collect views and expectations of women through these meetings

Function	Responsibility
	■ Maintain detailed and accurate records of meetings including agendas, meeting minutes, and follow-up/action points in association with other experts. Details of meeting held or cancelled should also be maintained; ■ Prepare or get them prepared, deliver documents; reports, brochures, informative letters, notifications, to all the interested parties and similarly receive documents from both external and internal parties; ■ Ensure that follow-up of document approvals by concerned authorities is done timely and consistently and keep the Project Manager updated as required; ■ Ensure that communities at construction sites are kept abreast of the project developments and communication channels remain open with the communities; ■ Ensure that communities at construction sites are kept abreast of the project developments and communication channels remain open with the communities ■ Provide governance; ■ Respond to community concerns by ensuring that they are brought to the attention of the Project and facilitate the process of resolving the issue; ■ Acting as focal point for the Project stakeholders in terms of grievances, complaints and requests; ■ Responsible for ensuring all GM records are captured, issued to relevant departments for resolution and proper close-out as per Project SEP; ■ Assist in the identification of potential implementation problems and bottlenecks, ■ Providing engagement support for individuals with disabilities in accordance with Project definitions, in particular to the RAP ■ Report to Social Manager on a daily and weekly basis on community issues and the project's performance in relation to those issues; ■ Keep up with the weekly and daily developments of the project; ■ Mediate issues between the community members and the project staff; ■ Forward questions about the project from community leaders and residents to appropriate government authorities and the Project Manager; ■ Create a social media strategy ■ Develop and maintain value add marketing tools, including marketing literature, newsletters, Facebook page, and other external communications ■ Ensure web designs are in place using modelling tools to publish the documents, information and other presented material during any communal gathering and keep it up-to-date ■ Facilitate well prepare and organize trainings consistent with the Project requirements and policies ■ Report to SPV –Social Manager and EPC – Senior Social Expert on a daily and weekly basis on community issues and the project's performance in relation to those issues ■ Perform other duties as may be assigned.
HSE Specialist	■ Assist HSE Manager to develop SPV Project's management plans and procedures. ■ Assist HSE Manager to monitor implementation of all relevant management plans and procedures, including on site. ■ Assist HSE Manager to track the impacts of the Project against the project Objectives and Key Performance Indicators as defined in the Management and Monitoring Plans. ■ Assist HSE Manager to report ESHS performance. ■ Assist HSE Manager to identify breaches of management plans, and recommend corrective actions.
Agricultural Development Expert	■ Lead day to day implementation of agricultural support programmes in line with RAP. ■ Coordinate and work in collaboration with the experts of the external Agricultural Consultancy Company. ■ Report to the SPV –Social Manager.

Function	Responsibility
Business Development Expert	■ Lead business support programmes in line with RAP. ■ Coordinate and work in collaboration with the experts of the external Business Management and Development Consultancy Company. ■ Report to the SPV –Social Manager.
Expropriation Chief	■ Act as the interface between the SPV and the Expropriation Department of KGM 1st Regional Directorate of KGM to follow up and coordinate the progress of expropriation, court cases, land entry processes, etc. ■ Coordinate other expropriation officers employed and work in coordination with the Project CLOs. ■ Provide support to the RAP Implementation Team Head for the review and management of land acquisition related grievances and identification of the responsible parties (internal and external) for their management. ■ Follow and keep track of the Article 27 and Article 10 decisions of the courts in collaboration with KGM (including the valuation amounts and set-off requirements decided at the end of each process) and identify and report (to Project Management) the cases – if any – in which land seizure value is reduced by the courts at the end of Article 10 process. ■ Compile monthly reports on progress on land acquisition for submission to Social Manager and Corporate Senior Management (for integration to periodical – monthly – Project progress reports to be submitted to KGM by the SPV). ■ Report to the Social Manager.

1.6.1 EPC Contractor ESHS Organization, Roles and Responsibilities

It is EPC Contractor`s responsibility to ensure that ESHS compliance is achieved according to the requirements and processes defined in this ESMMP and its own ESHS management system. EPC Contractor ESHS monitoring of its own activities and its subcontractors ESHS performance is referred to as 'self-verification' and forms the first level of ESHS compliance monitoring under this ESMMP.

The EPC Contractor is responsible for:

- Self-verification of its own compliance by maintaining a system to manage ESHS aspects and impacts in line with SPV and its own management system requirements;
- Ensuring that all ESHS non-conformances and incidents are reported and dealt with effectively and that lessons are learned;
- Ensuring their organizations have adequate resources and expertise for ESHS compliance monitoring and control to meet the ESMMP requirements;
- Keeping SPV fully informed of any ESHS issues;
- Recording and reporting monitoring observations, required actions and raising non-conformance reports where appropriate;
- Instructing own and subcontractor staff in their responsibilities with respect to compliance assurance and incident reporting and response;
- Cooperating with SPV in relation to ESHS compliance assurance activities;
- Participating in joint inspections, performance reviews and audits as required by SPV;
- Providing SPV with access to monitoring records (including all relevant documentation and databases) as required;
- Ensuring adequate expertise, planning and resources are in place to appropriately identify ESHS risks sufficiently in advance of construction, in order to ensure compliance;
- Identifying ESHS risks as part of its planning processes and through the implementation of appropriate mitigation measures and communicating these to its workforce;
- Reporting monthly to SPV on ESHS performance, including KPIs;
- Maintaining and reporting updated registers to SPV that capture the range of compliance monitoring and assurance information necessary to demonstrate that Project ESHS standards are being met during construction works execution.

In order to ensure implementation of the above, the EPC Contractors are required to structure their organizations to include sufficient and adequately qualified ESHS staff. The EPC Contractor is responsible for determining the required number of ESHS personnel to ensure that Project ESHS policies, regulations and standards are met throughout works execution. presents the current status of EPC ESHS Organizations.

EPC Contractor's organization will also include 1 Human Resources Chief responsible for recruitment, labour and working conditions management, and 1 Purchasing Chief responsible for procurement and supply chain management.

In case SPV's monitoring of the EPC Contractor's ESHS performance indicates insufficient ESHS oversight, compliance assurance resources or practices, SPV is entitled to enforce required corrective actions on the respective EPC Contractor. This may include requiring the EPC Contractor to allocate additional ESHS staff and resources.

Table 1-3 ESHS Roles and Responsibilities of EPC

Function	Responsibility
EPC Deputy General Manager	■ Has overall accountability for the Project including delivery in line with applicable national and Lenders standards. ■ Ensure allocation of sufficient resources for the ESMMP implementation including for ESHS organisation, permitting, training, equipment and qualified personnel. ■ Ultimate responsibility for ensuring implementation of required corrective actions including in response to identified ESHS non-compliances or incidents. ■ Periodical review of the ESMMP implementation effectiveness in line with the provisions of the Project requirements.
EPC Project Manager	■ Work in coordination and cooperation with E&S and H&S Manager. ■ Has responsibility for the implementation of the Project activities stated in this ESMMP. They will be suitably competent and have a strong understanding of construction best practice aligned with national law and applicable Lender requirements. ■ Accountable for overall ESHS performance and making the human and financial resources available to ensure compliance with Project ESHS requirements. ■ Responsible for Employment and Training Management associated with the construction works. ■ Report ESHS performance to EPC Deputy General Manager.
E&S and H&S Managers	■ Responsible for monitoring and assurance of the EPC Contractor's subcontractors ESHS system performance and requirements of the Project. ■ Develop CESMP and other ESHS plans and procedures and assures that Project requirements are considered. ■ Review subcontractors and suppliers ESHS documentation and ensure that they are aligned with Project ESHS requirements. ■ Monitor performance through Key Performance Indicators (KPIs), reports, audits, and meetings. ■ Report ESHS performance to management, SPV ESHS Management, and other related parties. ■ Establish Emergency Response Teams (ERT) and define roles and responsibilities of ERT members. ■ Ensure that all ESHS training needs are identified, provided and recorded. ■ Disclose relevant ESHS information to Project staff and public and coordinate activities for raising awareness.
EPC Senior Social Expert	■ Work closely with SPV's social team. ■ Act as the custodian of the SEP and grievance mechanism (GM) specific for the Project and responsible for documentation and updates. ■ Liaise with the relevant project-affected people, non-governmental organisations (NGOs) and other stakeholders on a regular basis in line with SEP. ■ Plan the stakeholder engagement activities in close coordination with the SPV Social team and ensure they are appropriately implemented by the CLOs deployed along the different sites. ■ Manage and supervise the CLOs on construction-related activities and collaborate with SPV social team including consultants for implementation of the SEP and Project social requirements. ■ Managing labour and working conditions, gender equality, human rights, community safety and security, local procurement and recruitment in line with Lenders standards. ■ Report social performance to Social Manager of SPV and other related parties. ■ Manage Grievance Mechanism in relation to construction impacts. ■ Responsible for ongoing stakeholder engagement at all levels and monitoring of the overall stakeholder activities in close liaison with SPV's social team. ■ Supervise/monitor and coordinate activities with subcontractors to ensure they comply with the SEP.

Function	Responsibility
	■ Especially ensure outreach to vulnerable members of the affected communities through CLOs. ■ Ensure Community Liaison Officers report on time and with the expected and agreed points. ■ Receive feedback on social performance and resettlement issues from CLOs. ■ Ensuring that Project's employees are informed and trained on the SEP. ■ Ensuring the H&S team reports on time and with the expected and agreed points. ■ Providing resources to ensure that interests of stakeholders are represented and taken into consideration. ■ Managing and coordinating grievances or concerns regarding H&S or environmental issues. ■ Maintain an oversight and monitoring role with regard to resettlement planning and implementation. ■ Manage and supervise the CLOs including consultants for implementation of the Project's social requirements. ■ Report social performance to SPV Social Manager and other related parties. ■ Provide the EPC Contractor's Project management team with advice, guidance and assurance on social topics.
Biodiversity Expert	■ Conduct pre-construction ecological surveys to identify location of roosting and resting places. ■ Translocate the identified species. ■ Liaise with NGOs and other stakeholders regarding ecological topics. ■ Monitor the vegetation clearance to ensure that disturbance to habitats are minimised. ■ Provide biodiversity training to all field workers. ■ Inform the workers on important biodiversity species and important areas and advice on best practice patterns of work to avoid harm to local biodiversity. ■ Manage the implementation of BAP and CESMP.
Archaeologist	■ Develop Cultural Heritage Management Plan and Chance Finds Procedure. ■ Conduct pre-construction archaeological investigations to identify, investigate and scientifically remove any archaeological deposits encountered. ■ Monitor the ground-disturbing activities on all construction fronts particularly at archaeologically sensitive areas. ■ Liaise with the relevant museum directorate proactively to manage the identified cultural heritage on the right of way (RoW). ■ Manage additional cultural heritage assessment studies including stakeholder engagements in case of a route or design change will be conducted.
Community Liaison Officers (CLOs)	■ Establish and maintain the database of all PAPs (households with particular attention to the ones with vulnerabilities and formal and informal users of the affected parcels) with support from the Expropriation Chief. ■ Engage with the PAPs for the implementation of RAP measures and actions. ■ Be responsible for daily implementation of related RAP actions (e.g. grievances, stakeholder information and consultations, etc.) on site under the coordination of the RAP Implementation Team Head and in cooperation with the Expropriation Chief, including engagement with the stakeholders and management of land acquisition-related grievances. ■ If received by the Contractor, enter the grievances and feedback relevant to land acquisition in a dedicated database (separate from other Project grievances not relevant to land acquisition) (relevance to be decided by the RAP Implementation Team Head and/or the Expropriation Chief). ■ Lead day-to-day implementation of the SEP and grievance mechanism, including proactively maintaining regular contact with affected communities through regular community visits, calls or other online engagement to monitor opinions and provide updates on Project activities, and ensuring communication with vulnerable groups in line with the Project SEP.

Function	Responsibility
	■ Support Social Expert during the planning and implementation of her/his tasks. ■ Contact persons for statutory stakeholders and NGOs. ■ Initiate institutional agreements with statutory stakeholders (e.g. trainings to be received by PAPs). ■ Set-up and perform meetings on the non-community level. ■ Be accessible to liaise with affected population per request, especially for vulnerable groups. ■ Assist affected people with issues related to the Project (answer questions about the process, delivery of grievances, information about consultation activities etc.). ■ Facilitate access of PAPs to third party legal support, if necessary. ■ Advise on avenues for the resolution of conflicts amongst landowners in cases of multiple ownerships. ■ Assist within grievance management. ■ Facilitate the smooth liaison between stakeholders by maintaining regular contact and networking to ensure that PAPs are well informed of their rights and responsibilities set out in national legislation, SEP and RAP in particular and other relevant execution plans. ■ Set up and organize meetings with any other agencies or person if so requested, including organizing meeting spaces. ■ Set up and organize particular meetings and focused studies together with women to encourage women's active support of the Project during construction and operation, as well collect views and expectations of women through these meetings. ■ Maintain detailed and accurate records of meetings including agendas, meeting minutes, follow-up/action points in association with other experts. Details of meetings held or cancelled should also be maintained. ■ Prepare or get them prepared, deliver documents; reports, brochures, informative letters, and notifications, to all the interested parties and similarly receive documents from both external and internal parties. ■ Ensure that follow up of document approvals by concerned authorities is done timely and consistently and keep the Project Manager updated as required. ■ Ensure that communities at construction sites are kept abreast of the project developments and that communication channels remain open with the communities. ■ Provide governance. ■ Respond to community concerns by ensuring that they are brought to the attention of the Project and facilitate the process of resolving the issue. ■ Acting as focal point for the Project stakeholders in terms of grievances, complaints and requests. ■ Responsible for ensuring all GM records are captured, and issued to relevant departments for resolution and proper close-out as per Project SEP. ■ Assist in the identification of potential implementation problems and bottlenecks. ■ Providing engagement support for individuals with disabilities in accordance with Project definitions, in particular to the RAP. ■ Report to Social Manager on a daily and weekly basis on community issues and the project's performance in relation to those issues. ■ Keep up with the weekly and daily developments of the project. ■ Mediate issues between the community members and the project staff. ■ Forward questions about the project from community leaders and residents to appropriate government authorities and the Project Manager. ■ Create social media strategy. ■ Develop and maintain value add marketing tools, including marketing literature, newsletters, Facebook page, and other external communications. ■ Ensure web designs are in place using modelling tools to publish the documents, information and other presented material during any communal gathering and keep it up to date.

Function	Responsibility
	■ Facilitate well prepare and organize trainings consistent with the Project requirements and policies. ■ Perform other duties as may be assigned.
Grievances Committee (GC)	The GC is driven internally by SPV and EPC Project team and led by the SPV Senior Management and has representation from the following teams: ■ SPV Senior Management; ■ SPV Social Manager; ■ Construction Manager/Project Manager; ■ EPC Senior Social Expert; and ■ Community Liaison Officer (CLOs). The committee shall have at least (but preferably more) one female member. There may be nominated members from the local Governance bodies (e.g Mukhtars, soil experts/agricultural experts from the local governorate of agriculture) or senior representative from the EPC Contractor/ Sub contractor added to the Committee in specific cases, where any other concerned person with decision making authority in relevance to the grievance or aggrieved party needs to be involved. The main responsibilities of the GC include: ■ Oversight of GM implementation. ■ Solution of grievances. ■ Periodic review of grievances raised by internal and external stakeholders. ■ Review of responses being shared with external stakeholders in an attempt to resolve non-judicial disputes arising out of various matters related to the Project.
H&S Supervisors	■ Develop Project management plans and procedures. ■ Assist subcontractors and suppliers to develop and implement their site-specific plans and procedures. ■ Monitor implementation of all relevant management plans and procedures, including on site. ■ Track the impacts of the Project against the Project Objectives and Key Performance Indicators as defined in the Management and Monitoring Plans and work with the subcontractors where amendments to the mitigation measures are required. ■ Identify breaches of management plans, and recommend corrective actions. ■ Stop work activities in the event of serious breaches of rules that may cause serious impacts on health and safety, environment and community or on the reputation of the Project. (All workers have the obligation to intervene in case of a dangerous situation and have to report to the supervisor). ■ The Supervisors will be assisted by experts (for example archaeological, ecological, ESHS Monitors and Community Liaison) as necessary in the discharge of their duties. ■ Provide H&S training.
Environmental Engineer & H&S Inspectors	■ Ensure that all construction personnel (including subcontractors) working or visiting the site understand the health, safety and environmental requirements of the Project and comply fully with them. ■ Make sure that the ESHS risk assessments are performed prior to the activities. ■ Monitor subcontractors' ESHS performance, and their compliance to the ESIA and ESHS plans. ■ Report and record the ESHS accidents, incidents to H&S Supervisor. ■ Conduct daily ESHS inspections. ■ Monitor that all personnel (including contractors) has undergone all necessary trainings. ■ Develop and ensure E&S and H&S training is provided, where relevant.

Function	Responsibility
Agricultural Development Expert	■ Lead day-to-day implementation of agricultural support programmes in line with RAP. ■ Coordinate and work in collaboration with the experts of the external Agricultural Consultancy Company. ■ Report to the SPV –Social Manager.
Business Development Expert	■ Lead business support programmes in line with RAP. ■ Coordinate and work in collaboration with the experts of the external Business Management and Development Consultancy Company. ■ Report to the SPV –Social Manager.
Expropriation Chief	■ Act as the interface between the SPV and the Expropriation Department of KGM 1st Regional Directorate of KGM to follow-up and coordinate the progress of expropriation, court cases, land entry processes, etc. ■ Coordinate other expropriation officers employed and work in coordination with the Project CLOs. ■ Provide support to the RAP Implementation Team Head for the review and management of land acquisition related grievances and identification of the responsible parties (internal and external) for their management. ■ Follow and keep track of the Article 27 and Article 10 decisions of the courts in collaboration with KGM (including the valuation amounts and set-off requirements decided at the end of each process) and identify and report (to Project Management) the cases – if any – in which land seizure value is reduced by the courts at the end of Article 10 process. ■ Compile monthly reports on progress on land acquisition for submission to Social Manager and Corporate Senior Management (for integration to periodical – monthly – Project progress reports to be submitted to KGM by the SPV). ■ Report to the Social Manager.

1.6.1.1 ESHS Organization, Roles and Responsibilities During Operational Phase

During the operation phase of the Project an Operation and Maintenance (O&M) Contractor will be responsible for maintenance and operation of the motorway. To date this contractor has not yet been engaged. The organizational structures will be adapted according to the relevant operational procedure.

1.6.2 Training and Awareness

One of the most important mechanisms for the enhancement of the Project's ESHS performance will be the continued implementation of a programme of ESHS training for all project personnel including SPV, EPC Contractor, subcontractors and supplier personnel. All personnel will be given ESHS induction and awareness training aimed at achieving 'buy-in' by workers. Key project personnel whose management roles or job responsibilities/activities may have an impact on the ESHS will also receive specific issue training as appropriate (e.g. in waste management, fuel handling etc). ESHS training will be provided at each stage of the Project, from the initial establishment of logistical facilities through to construction and operation.

A key message in each of the ESHS training programmes will be the means, methods, and mechanisms to be employed in the monitoring and audit of ESHS management. The priority afforded to ESHS issues will be highlighted both through the content of the training courses and through the day-to-day scrutiny provided by ESHS teams.

Following general topics shall be covered by the training and awareness program of the project as a minimum:

- Environmental and Social Sustainability Policy, objectives and goals;
- Code of Conduct;
- Gender-Based Violence and Harassment;

- Land Acquisition; Land entry and exit requirements;
- ESHS organization and responsibilities;
- Project E&S impacts and risk;
- HSE Site Rules;
- Potential risk to worker's health and safety;
- Knowledge of materials, equipment and tools;
- General safety requirements;
- Firs aid;
- Personal protective equipment (PPE) requirements, wearing and use;
- Precautions to prevent exposure to key hazards;
- Basic hygiene requirements;
- Safe driving and transportation;
- Prohibited substances and activities;
- Pollution prevention;
- Waste management;
- Working in the vicinity of heavy machinery;
- Coordination of activities;
- Individuals' responsibilities;
- Environmental DO's and DON'Ts;
- Incident reporting;
- Accident/incident management;
- Communication;
- Emergency preparedness and response;
- Community relations;
- RAP implementation;
- Stakeholder Engagement Plan; and
- Grievance Mechanism.

1.6.3 SPV / KGM Training Program

For the ESMMP implementation, a training program for the Sponsor and KGM will be prepared including a specific, tailor-made capacity building and training program designed for the applicable Sponsor / KGM staff, based on comprehensive analysis of the existing capacities, procedures, and routines and of the needs for capacity building according to ESHS project requirements set up for implementation and monitoring. A 3-day RAP training has been provided to KGM and SPV teams. Prior to construction RAP training will be provided to all new E&S teams and KGM, preferably prior to disclosure meetings.

A training plan, including a training matrix that indicates the status quo and the needs of each team member involved in the ESHS management of the project shall be prepared, along with training material on the selected topics. Progress updates and audits on the implementation of the training plan will be provided to the Lenders advisers on regular basis.

1.6.4 EPC Training Program

EPC Contractor will implement a training program for its own staff similar to that specified above with regards to subcontractors and suppliers. This training program will include ESHS induction training for all Project personnel and additional specific training for individuals involved in particular tasks or with particular responsibilities. Training records will be maintained and an assessment of the effectiveness of the training program will be included as part of internal audit procedures. A formal ESHS induction program will be implemented for new personnel joining the Project and a refresher training program will also be implemented to ensure continual improvement in ESHS awareness for all project personnel. Regular toolbox training sessions will be given to on-site staff during both the construction and operational phases of the Project.

1.6.5 Subcontractor Training Program

EPC Contractor will be responsible for ensuring that all construction personnel are aware of their ESHS responsibilities. Subcontractors will develop and implement an ESHS training programme to the satisfaction of the EPC Contractor. The training program will be submitted to SPV for approval within six weeks of the award of a contract. The training program will include an initial site induction program for all site personnel prior to carrying out any work on site. The induction program will be developed and tailored to meet the needs of the different personnel employed by the subcontractor. Upon completion of the induction program, all site personnel will be issued with authorized training cards and hard hat stickers that must be carried by the person at all times and may be requested by EPC ESHS inspectors during site audits. The training program documentation will be made available for review and approval by SPV prior to mobilisation. The Contractor will also attend training programs organised by SPV when requested.

The ESHS training program will ensure that all site personnel:

- fully understand the ESHS requirements of the Project and how they will be implemented and monitored on-site;
- fully understand the potential impacts of the Project, the mitigation measures that have been adopted to address those impacts and how and where to apply these measures;
- fully understand the ESHS sensitivities of the areas through which the motorway and other facilities will be constructed;
- fully understand the procedures to be followed in the event of a non-compliance with the ESHS requirements;
- fully understand the procedures for responding to the media, unauthorised visitors to the site, and enquiries from the public;
- know how to deal with unforeseen ESHS incidents; and
- are aware of the roles of the contractor staff with respect to ESHS issues.

The EPC Contractor will keep auditable records of the training given to individual staff. Assessment of the effectiveness of the training program will be included as part of SPV's ESHS audit procedures.

In addition to the induction program, EPC Contractor will ensure that all construction personnel attend regular site-specific 'tool-box' training sessions on ESHS issues throughout the term of the contract. This will include updates on specific local issues such as seasonal constraints, valuable crops or archaeological sites.

1.6.6 Documentation

The ESHS management activities will be documented and tracked to effectively manage the ESHS performance of the Project. Non-compliance observations, decisions on identified issues, solutions, corrective, and preventive actions taken and the results of these actions will be documented.

1.6.7 Checking and Corrective Action

1.6.7.1 Inspection and Monitoring

Inspection and monitoring of the ESHS effects of construction and operational activities will enable the effectiveness of ESHS mitigation to be evaluated; it will also allow ESHS problems to be identified and responded to at an early stage.

EPC Contractor will be responsible for the implementation of an appropriate inspection and monitoring programme to the satisfaction of SPV during construction phase. This will enable both parties to ensure the works are being carried out in accordance with the requirements of the ESMMP and ESIA and to identify and implement any possible improvements.

In addition, any monitoring requirements specified by regulatory authorities will be fully complied with by EPC Contractor and its subcontractors and suppliers.

EPC Contractor will be required to undertake appropriate pre-construction survey activities to ascertain the following:

- Land acquisition and land permit status of the Project site;
- Pre-construction quality of temporary and permanent access roads;
- The presence, status and extent of ecological resources;
- Location and suitability of existing licensed quarries, stockyards, and dumpsites; and
- Infrastructure surveys for buildings to be conducted by EPC (through independent experts) for all buildings that could be potentially affected by the project i.e., due to vibration and construction activities prior to land entry.

1.6.7.2 Monitoring Data

Monitoring results should be compared against relevant standards, permit requirements, required thresholds, received complaints, audit findings, CESMP and Operational ESMP.

The SPV Senior Management has the ultimate responsibility for ensuring implementation of required corrective actions including in response to identified ESHS non-compliances or incidents. The ESHS Management team for the EPC Contractor or O&M Contractor will need to define appropriate action to follow in the instance that any exceedances in monitoring limits are confirmed or adverse impacts are identified, including:

- Communication protocol in the event that an exceedance is identified;
- Internal review process of recently performed maintenance and inspection;
- Review of previous monitoring data to identify any potential associated variations or trends in results; Project ESIA baseline conditions;
- Recommendations for quarantine of equipment or change in work practices; and
- Review of monitoring frequency to ensure the issue does not re-occur.

The repetition of measurements is an essential part of monitoring as it detects changes over time and should alert to potentially positive or negative effects of an activity. Adverse effects should trigger a review of mitigation measures and a determination of the likely source of the impact. Should no effect be detected it may demonstrate a lack of effect, success of mitigation measures or the requirement to continue monitoring over a longer period of time. Data from the monitoring shall be used for comparison against baseline and all previous monitoring efforts to identify trends in condition and make inferences on the success of implemented mitigation measures.

1.6.7.3 Auditing

Both SPV and EPC Contractor will be required to demonstrate how the requirements of the ESMMP and ESIA are being complied with. This will include a programme of inspections and audits by both SPV and EPC Contractor. Site inspections and more formal audits by the SPV's ESHS Inspectors will be undertaken using pre-prepared audit protocols that reflect the requirements of the ESMMP and the ESIA.

Where issues of non-compliance are identified by either SPV or EPC Contractor's representative, they will be immediately reported to SPV, and corrective action will be identified by the SPV and representative in conjunction with the EPC Contractor.

Following an audit conducted by SPV, the EPC Contractor will prepare an Action Plan in accordance with the findings of the audit and the corrective actions and recommendations will be implemented by the EPC Contractor accordingly. This could take the form of, for example, further direct mitigation, or changes to procedures or additional training.

An activity can be stopped when a perceived unsafe condition or behaviour may result in an unwanted event. Activity may continue once the corrective and preventive actions are implemented and confirmed by ESHS Inspectors. In the case of continued or severe non-compliance, SPV has right to stop all works until necessary corrective actions are taken by the EPC Contractor.

Following Auditing Program will be implemented as a minimum:

Construction Phase

Internal Monthly Audit: The Contractor´s ESHS manager will carry out an in-depth supervision once a month for each ESHS area, with a specific protocol for, e.g., electrical works, mechanical works, PPE, manual handling, etc. depending on the project activities. Main goal of the monthly audits is to evaluate the ESMMP implementation carried out by the Contractor. The SPV E&S team will be located on site, and as such SPV representatives will be involved in these audits.

The main tasks of monthly audits will include:

- Site inspection of areas addressed in the ESMMP: waste management, hazardous substances, noise, occupational H&S topics (first aid, PPE, electrical works, mechanical works, etc.);
- Review of ESHS Documentation on site: inspection protocols and reports, training protocols and plan, ESHS management documents and plans available on-site, emergency plan, etc.;
- Interviews with project Stakeholders and other PAPs;
- Preparation of Contractor´s monthly ESHS Construction Supervision Report; and
- Adjusting E&S Management Plans and ESMMP as necessary.

External Bi-Monthly Audits: the internal monthly monitoring carried out by the Contractor shall be supervised by an external SPV Consultant by means of bi-monthly site inspections reviewing the Contractor´s ESHS documentation, training, reporting and performance, and providing a general ESHS compliance assessment of the project. As a result, the external auditor will deliver an ESHS Construction Audit Report, describing findings, issues and non-compliances, and proposing actions for amendment.

External Quarterly Audits by the Lenders: Lenders' ESHS Advisor and Lenders' representatives will conduct quarterly audits during the construction phase to monitor ESHS performance of the Project against ESIA and the Lenders' requirements. The SPV will be required to develop corrective actions in liaison with KGM and EPC to address audit findings in a timely manner.

Operation Phase

Monitoring during the **Operation Phase** shall continue to ensure the safety maintenance of the works, as well as community health and safety, according to the following program:

Semi-Annual Audits: during the first 2 years of operation, with the following main tasks:

- Follow up E&S requirements derived from the ESIA and Environmental Permit defined for the operation phase;
- Follow-up E&S requirements from ESIA and environmental permit that remained pending during construction;
- General Supervision of ESMMP and Action Plans prepared for the operation phase;
- Consulting with the PAPs and other stakeholders as necessary;
- Update ESMMP as necessary to reflect the findings from the monitoring; and
- Preparation of semi-annual monitoring reports.

Annual Audits: from third year of operation, including the same activities as those listed for the semi-annual audits but on an annual basis.

External Annual Audits by the Lenders: Lenders' ESHS Advisor and Lenders' representatives will conduct annual audits during the operation phase to monitor the ESHS performance of the Project against ESIA and the Lenders' requirements.

External Completion Audit for RAP: Minimum two years after RAP implementation, the external Auditor shall undertake a final RAP implementation compliance evaluation.

1.6.7.4 Non-Conformity and Corrective Actions

All non-conformances identified during audits, inspections and monitoring activities will be recorded and followed up as non-conformity. Clear processes for actions stated in the SPV. ESMS Handbook will be followed.

Non-conformances are instances where Project compliance obligations (such as a legal requirement, or ESMS requirement) are not being fulfilled, or cannot be evidenced. Examples of non-conformity include, but are not limited to:

- Breach of an environmental and social standard;
- Commencement of works without an approved risk assessment and method statement that covers environmental issues and land permits identified herein;
- No review of risk assessment and method statements following any significant changes in requirements that could adversely impact the environment and people;
- Appointment of a waste transport/disposal service provider that is not appropriately licensed;
- Failure to comply with waste storage/disposal requirements as identified by risk assessment and/or method statement;
- Failure to comply with chemical storage and/or handling requirements;
- Un-containable or uncontrollable spills of fuels or chemicals;
- Undertaken works outside the scope defined within the risk assessment and method statement;
- Discharge of untreated, contaminated wastewater to the environment; and
- Nonconformity on labour requirements including presence of child/forced labour; lack of work permits and social security and overtimes below legal requirements.

Each non-conformance and near miss will be recorded utilizing a developed reporting process. All non-conformances and near misses shall include the following information:

- Location and description of the non-conformance and the criteria/requirement that has been breached;
- The proposed corrective action including who holds responsibility for undertaking this action;
- The proposed preventative action to ensure against reoccurrence of the non-compliance;
- Any required monitoring and follow-up; and
- Key performance indicators and a deadline for the successful completion of the corrective and preventive action.

1.6.7.5 Emergency Response

An Emergency Preparedness and Response Plan (EPRP) has been prepared and will be implemented, including requirements for coordination with the applicable external agencies (i.e., emergency services), impacted stakeholders and statutory authorities in the instance that an ESHS incident occurs.

The Emergency Preparedness and Response Plan considers:

- Internal and external roles and responsibilities;
- Emergency response plan contact information;
- Implementation of the EPRP including emergency procedures for different emergency scenarios;
- Drills that will be conducted;
- Training and competence of employees within the scope of emergency management;
- Information on assembly areas and emergency evacuation plans;
- Monitoring, verification and evaluation; and
- Institutions to visit in case of emergency

1.6.7.6 Management and Reporting of Incidents

Incident management and associated reporting will be addressed by Accident and Incident Management Procedure.

The SPV will prepare an annual report to the public on environmental, health and safety performance and implementation of the action plans and grievance procedure. The annual reports will be disclosed on the SPV website.

In addition, the SPV will commit to the following external reporting:

- Statutory Notifications and Reporting:
  The SPV will report to Turkish regulatory bodies as required in Project permits and permitting documentation.
- Incident Notification and Reporting:
  All environmental and social incidents will be appropriately documented, notified and reported in accordance with established procedures.
  Incident notification and reporting to relevant Turkish regulatory bodies will be performed in line with applicable legislation in force and as stipulated in permits and licenses.
  The SPV will notify the Lenders of incidents pursuant to the terms and conditions agreed upon in the Finance Agreements.

1.6.7.7 Stakeholder Engagement and Grievance Mechanism

A Stakeholder Engagement Plan has been prepared for the project, including a Grievance Mechanism (GM) both for project workers (internal GM) and for the public (external GM).

The SEP includes, among others, procedures for the stakeholder engagement activities:

- Stakeholder identification and analysis;
- Disclosure and dissemination of information;
- Consultation and participation;
- External and internal grievance mechanism; and
- Ongoing reporting to affected communities.

For a detailed Stakeholder Engagement process, refer to the SEP.

1.6.7.8 ESMS Communication

The ESMS will establish, implement, and maintain processes needed for internal and external communication relevant to environmental and social performance of the Project. Lines of communication relevant to the construction phase will be clearly defined within the CESMP whilst lines of communication relevant to the operational phase will be clearly defined within the Operation Phase Environmental and Social Management Plans.

Associated processes will establish:

- What will be communicated;
- When it will be communicated;
- With whom to communicate; and
- How to communicate.

When establishing communication processes relevant to the ESMS, particular note will be made to compliance obligations, including any reporting requirements to the statutory environmental authority.

1.6.7.9 Data Management and Record Keeping

The implementation of the ESMS will generate data, that will be required to be managed. The appropriate management of records is a requirement of any successful ESMS and can be used to track progress, review effectiveness and demonstrate compliance.

The ESMS relevant to both the construction, commissioning and operational phases should include the collation of the records including (but not limited to) the following:

- Environmental and social induction and training records;
- Relevant records of competence/qualifications;
- Accident investigation reports;
- Grievance register;
- Internal audits reports (including close-out);
- Non-conformance reports;
- Incident reports;
- Environmental & social inspection & audit reports (including corrective action reports);
- Environmental & social monitoring results;

- Waste manifest forms and chain of custody;
- Environmental & social risk assessments and method statements;
- Equipment & social inspections/certifications;
- Independent audit reports for lenders (including corrective action reports); and
- Emergency events.

Such records will need to be included on the ESMS register and updated as applicable. Progress updates will be provided to the Lenders' advisers on regular basis.

1.6.7.10 Review of ESMS

Project ESMS documentation will be 'living' and will need to be reviewed and updated in relation to changes in project circumstances, activities, environmental sensitivities, and future requirements defined by respective regulatory authorities and Project Lenders.

The ESMS should be regularly reviewed according to any changes in construction, commissioning, or operational activities, new (applicable) regulation and in response to results from monitoring, audits and inspection. Reviews should be undertaken at a frequency to ensure the adequacy of the ESMS and to ensure that all potentially significant adverse impacts are identified and that associated control measures are appropriate to the Project.

1.6.7.11 Mitigation and Monitoring Action Plan

This section summarizes the impacts and risks identify, defining mitigation and monitoring measures along with responsibilities, frequency, indicators and receptors for each phase of the Project as listed below:

- Table 1-4 Design Phase;
- Table 1-5 Pre-Construction Phase;
- Table 1-6 Construction Phase;
- Table 1-7 Operation Phase; and
- Table 1-8 summarizes the environmental (water, wastewater, air quality, noise, soil) monitoring requirements including thresholds and monitoring triggers.

Table 1-4 Design Phase

DESIGN PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[1]l**	**Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[2]**
Climate Change Risks	■ River bridges/viaducts, culverts, derivation channels and proper drainage system will be designed according to the Hydraulic Hydrological Calculation Report and meteorological data of The Directorate General of Meteorology. ■ Road drainage and stormwater design will be done according to KGM (General Directorate of Highways) drainage criteria code considering 10,100- and 500-years precipitation recurrence intensity and critical precipitation duration map prepared by State Hydraulic Works (DSI). ■ Enhancement of road segment resistance will be considered, e.g., on embankments, creating deeper road foundations on slopes, enhancing drainage structures. ■ Consideration of the adaptation measures listed in BTY Climate Resilience study during design.	**EPC**	■ Design Documents	■ Climate Change Risks integrated in the Final Design	■ Design Stage	-
Erosion and Stability	■ All structures will be designed according to Turkish and international design and engineering standards requiring specific structural characteristics. ■ The road design will be optimized to limit the gradient of the access roads to reduce runoff-induced erosion and provide adequate road drainage based on road width, surface material, compaction, and maintenance. ■ Retaining walls and Mechanically Stabilized Earth (MSE) walls will be built in sections of the motorway to ensure soil and slope stability and the prevention of rock fall.	**EPC**	■ Design Documents	■ Erosion and Stability Risks integrated in Final Design	■ Design Stage	-
Road Safety	■ Consideration of the road safety measures listed in Stage 1 Road Safety Audit Report prepared by J.B. Barry & Partners, in partnership with BTY.	**EPC**	■ Road Safety Audit Report	■ Road Safety Audit Report Findings integrated in the Final Design	■ Design Stage	-
Severance	■ Underpasses, overpasses, and culverts of different diameter size are planned to ensure the free passage of farm roads, wildlife and any kind of water course beneath the Motorway. The distance between underpasses/overpasses/culverts will depend on the local land use and requirements. Further, SPV may provide additional underpasses if necessary (based on the stakeholder engagements) to ensure that no severance will occur.	**EPC**	■ Design Documents ■ Stakeholder Consultation Records	■ Stakeholder Consultation Records integrated in Final Design	■ Design Stage	-
Noise	■ Stone Mastic Asphalt (SMA) will be preferred in design which has the following advantages in comparison with conventional asphalt types such as noise absorption, less hydroplaning, good low temperature performance, slow ageing and durability to premature cracking of asphalt, stability against permanent deformation (rutting) and high wear resistance.	**EPC**	■ Design Documents	■ SMA integrated in Final Design	■ Design Stage	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300

[1] All key relevant management plans, procedures, policies, tracking records, etc.

[2] (Residential Areas, Schools, Hospitals, Water Courses, Important Biodiversity Sites, Archaeological Sites)

DESIGN PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[1]l**	**Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[2]**
Birds	The following mitigation measures are to be implemented taking into account the risk of collision of birds with the bridge. ■ Bridge cables and support structures should be flood-lit to increase their visibility at night. ■ No power lines should be suspended above the bridge deck. ■ Standard highway lighting will increase the visibility of the top of the deck to birds that fly over the bridge at night. ■ Under the surface of the bridge should be lit to increase visibility of the piers and deck under surface to birds that fly beneath the bridge at night. ■ Bridge management and maintenance personnel should be required to collect and report all cases of bird mortality on the bridge, shall these events happen.	**EPC**	■ Design Documents	■ Measures integrated in Bridge Final Design	■ Design Stage	Sazlıdere Bridge
Displacement of Existing Land Use, Property and People and Access to Land	■ In line with RAP commitments, minimise the area of land take, expropriation and demolition required for the Project via micro-design changes along the RoW. ■ No forced eviction will be implemented in the project. ■ Consult with provincial and local administrations about the implications of changes in regional accessibility and the implications for local development plans and zoning policies. ■ Consult with local people and businesses at early stage which may be affected by the Project and consider if the impacts are avoidable by micro-design changes. ■ Consult with vulnerable groups as per SEP and RAP ■ Identify the utilities to be displaced in early stage (such as irrigation lines, electrical lines, wells, telecom lines, powerlines, etc.) and incorporate them into design. ■ Minimise the use of private land for temporary construction activities by using state lands as much as possible. ■ Reinstatement of lands to be sued for construction temporarily before handed over to its users.	**SPV/EPC**	■ Design Documents ■ Design Change Management Procedure ■ RAP	■ Number of micro-design changes to minimize land use and property.	■ Design Stage	-
Utilities	■ The utilities to be displaced will be identified in early stage (such as irrigation lines, electrical lines, wells, telecom lines, powerlines, etc.) and incorporate into design.	**EPC**	■ Utility Inventory List	■ Utilities integrated in Final Design	■ Design Stage ■	-
Overhead Transmission Lines	■ Minimise the area of land take, expropriation and demolition required for the Project via micro-design changes along the RoW. ■ The design of the tower is to be made as per the national regulations, which ensure that a safety margin is included in the design to reduce the risk from any seismic activity, wind loads, etc. ■ Bird safe strain poles with insulating chains of at least 60 centimetres in length should be adopted. ■ Use of conductors to minimise corona effect during foul weather conditions.	**EPC**	■ Design Documents ■ Design Change Management Procedure	■ Measures integrated in OHTL design	■ Design Stage	
Cultural Heritage	■ Engagement will be conducted with the authorities based on the archaeological findings along the RoW. This will help the Project design team to understand if any route changes would be required to avoid the potential impacts on cultural heritage or if other measures instructed by the authorities would be adequate (such as relocation of the assets which will not affect the route alignment).	**EPC**	■ Official Correspondences with Authorities	■ Authority decisions integrated Final Design and Construction Schedule	■ Design Stage ■ Throughout construction (particularly for Chance Finds)	■ Km 3+800 – TEM Connection Section West ■ Km 3+900 – TEM Connection Section West

DESIGN PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[1]l**	**Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[2]**
	Engagement with communities in identifying tangible and intangible cultural heritage					■ Km 4+000 - TEM Connection Section West ■ Km 4+420 - TEM Connection Section West ■ Km 9+500 – TEM Connection Section West ■ Km 36+276 ■ Km 36+543 ■ Km 41+740 ■ Km 54+920 – Km 55+144 ■ Km 54+158 – Km 54+306
Campsites	■ In addition to National requirements, Workers' Accommodation Processes and Standards IFC & EBRD Guidance Note" will be considered during the design of the campsites. All these requirements will also be applicable for the EPC Contractor and subcontractors, and relevant clauses will be integrated into contracts.	**EPC**	■ Tender Documents ■ Contract Documents ■ Campsite Inspection Reports ■ Camp Management Plan	■ Construction Camp design and operation to standards, confirmed in site inspection reports.	■ Design Stage ■ Monthly inspections throughout construction	-
Gender Aspects	■ In line with the commitments made in the Gender Action Plan, SPV will consider gender aspects at campsites such as separate gender accommodation, employment of security staff of both genders, separate gender sanitary and toilet facilities with adequate privacy, including ceiling to floor partitions and lockable doors. All these requirements will also be applicable for the EPC Contractor and subcontractors, and relevant clauses will be integrated into contracts. ■ Lighting will be considered around Project sites, at underpasses (where the underpasses serve also for pedestrian crossings) including around latrines and access routes. ■ Installation of CCTV, overpasses, underpasses, internet, emergency roadside telephone system, security guards. ■ Installation of a gender-sensitive external grievance mechanism and an external gender-based violence and harassment grievance reporting mechanism. ■ Train all workers on GBVH concepts, principles, rights and requirements set out in the GBVH Policy. ■ Ensure that contractors throughout the supply chain adopt a zero-tolerance policy regarding all forms of GBVH.	**SPV/EPC**	■ Design Documents ■ Tender Documents ■ Contract Documents ■ Gender Action Plan ■ Gender Sensitive External Grievance Mechanism ■ External Gender-based Harassment Grievance Reporting Mechanism ■ GBVH Policy	■ Gender Aspects integrated into Final Design.	■ Design Stage ■ Monthly inspections throughout construction	-
Community Safety and Security	■ Consideration of the road safety measures listed in Stage 1 Road Safety Audit Report prepared by J.B. Barry & Partners, in partnership with BTY and future road safety audit reports. ■ The minimisation of severance impacts is one of the main issues that will be addressed by the appropriate design of the Project (e.g. numerous crossings). The final Project design will include safe road crossing options for pedestrians, bicycles, vehicles, animals, etc. to enhance access to communal resources, land and infrastructure where required. ■ The motorway design will include fencing.	**EPC**	■ Design a Safety Audit Report ■ Design Documents	■ Community safety and security aspects integrated into the Final Design.	■ Design Stage	-

DESIGN PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[1]I**	**Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[2]**
	■ Workers will be accommodated at two fences campsites (Olimpiyat and Sazlidere campsites). ■ The Project will also have in place a protocol for Third Party Crossing; this plan will be developed and used to ensure no impacts to other projects take place. In order to do so a crossing Projects checklist well become part of the work permit.					

Table 1-5 Pre-Construction Phase

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
Land Acquisition	■ Project Resettlement Action Plan including a Guide to Land Acquisition and Compensation (GLAC) has been prepared and will be implemented by KGM and SPV's RAP Implementation Team. ■ The RAP Implementation Team will establish the database of all PAPs, including affected vulnerable persons/households for the provision of entitlements. ■ Additional compensation (on top of mandatory cash compensation to be provided KGM in line with the contractual responsibilities of SPV and KGM as defined in the Build-Operate-Transfer (BOT) Contract), livelihood restoration and assistance measures will be provided to owners and users of the affected houses, affected businesses, and affected lands in line with the RAP. ■ Compensation values will be based on market prices and will be updated on annual basis ■ Compensation to PAPs will be provided at full replacement cost. To this end, a RAP Fund will be established to provide the difference between the mandatory cash compensation provided by KGM and the full replacement cost as defined and required by international standards (see Implementation Costs – RAP Fund to be allocated by the SPV in consultation with KGM). ■ The Project will provide technical and financial support through the RAP Fund specific allowances (e.g. moving allowance, business relocation allowance, financial support package to employers and employees for the temporary business interruption during relocation) to support PAPs in the resettlement process and in livelihood restoration or improvement. ■ Special measures and assistance tailored to the needs of vulnerable PAPs will be developed and implemented by the RAP Implementation Team in line with RAP. ■ The same principles will apply to any land acquisition work required in the Project in future. Potential operation phase impacts on sensitive receptors located outside the expropriation boundary (such as noise) will be monitored internally by SPV and externally by the Lenders through their independent consultants. PAPs will be granted the	SPV/KGM and some actions shall be supported by EPC	■ Resettlement Action Plan ■ GLAC ■ RAP Fund Implementation Procedure ■ KGM Land Acquisition and Resettlement Procedure (this procedure will be prepared during disclosure period) ■ RAP	■ Demonstration of compliance with RAP and other commitments related to mitigation of physical and economic displacement. ■ Number of complaints pertaining to land acquisition, displacement, and livelihood restoration. ■ Number of complaints pertaining to land acquisition, displacement, and livelihood.	■ Prior to construction	-

[3] All key relevant management plans, procedures, policies, tracking records, etc.

[4] (Residential Areas, Schools, Hospitals, Water Courses, Important Biodiversity Sites, Archaeological Sites)

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
	right to request acquisition within three (3) years upon commissioning of the Motorway should any significant environmental and/or social impacts be identified through E&S monitoring that cannot be mitigated. ■ Expropriation of the overhead transmission line (OHTL) tower (pylon) locations and constitution of easement rights along the OHTL displacement route will be prioritised and conducted by KGM in line with the Expropriation Law based on the Updated Valuation Study completed in November 2022 and in accordance with the principles of the RAP that will be implemented by the SPV in collaboration with KGM. ■ In case of future land acquisition/expropriation and resettlement requirements for any works that are not foreseen at this stage, RAP Addendum will be prepared and implemented by the SPV in accordance with the principles of this RAP in collaboration with KGM. ■ The RAP will be publicly disclosed in manners suitable to the local context and a non-technical summary of entitlements and processes will be provided to all PAPs and other relevant stakeholders in the form of a "Guide to Land Acquisition and Compensation". ■ Engagement with PAPs (who have already been engaged during the expropriation process) will continue with a combination of community and face-to-face meetings. Any compensation-related or other grievances from PAPs will be managed through Project's Grievance Mechanism. ■ Vulnerable groups will be entitled to the livelihood restoration and improvement measures described in RAP. In addition to other applicable entitlements and measures defined previously, for households with vulnerable members, case-specific in-kind assistance and measures, which will be designed through direct engagement with the affected households in consideration of their special needs, will be provided. ■ Specific attention will be paid to gender consideration to ensure participation and engagement of women. ■ Specific actions presented in RAP will be implemented by SPV throughout the Project to avoid/manage GBVH risks and complaints as part of land acquisition, resettlement and livelihood restoration processes. ■ Specific attention will be paid during information, consultation, negotiation and post-resettlement monitoring processes through development and implementation of special information and consultation methods and tools designed to address the needs of each vulnerable PAP in line with the Project SEP. ■ Land permit should be obtained and entry protocol should be filled and signed before any construction activities commence. Vulnerable groups will have privileges such as: ■ Priority in accessing consultancy services and Livelihood Restoration Projects offered by the RAP. ■ Assistance to follow-up and/or access to compensation payments as part of RAP implementation. ■ Assistance in accessing governmental institutions, legal advice, etc. when needed and relevant (e.g., logistical					

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
	support, communication assistance, assistance with preparation of official application documentation). ■ Assisting illiterate, elderly, and other persons in need in reviewing and processing official documents relevant to expropriation. ■ Priority for job opportunities to one of the household members eligible and able to work and meet the Project's employment requirements. ■ Assistance in accessing and applying to governmental institutions providing existing support programs to persons with vulnerabilities. In line with RAP, the Project shall provide additional compensation (on top of mandatory cash compensation to be provided KGM in line with the contractual responsibilities of SPV and KGM as defined in the BOT Contract), livelihood restoration and assistance measures to owners and users of the affected houses, affected businesses and affected lands. ■ A specific Grievance Mechanism Channel will be developed specifically to manage concerns regarding the RAP processes. This Grievance Mechanism Channel will be managed by the teams in charge of the RAP processes. A separate database should be maintained by the Project to monitor these grievances.					
Water resources	■ Water permits will be obtained in case groundwater or surface water usage will be required by the Project activities.	EPC	■ Surface Water and Groundwater Management Plan	■ Water permits in place. ■ The number of complaints pertaining to water abstraction and water scarcity.	■ Prior to surface and groundwater abstraction	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)
Material Supply from Quarries	■ Whenever possible, general preference will be given to using existing (fully licensed) quarries over opening new quarries. ■ The ESHS considerations that will need to be takeninto account in the selection of appropriate quarry sites and access routes will be based on IFC General EHS Guidelines (IFC, 2007) as well as guidelines for IFC EHS Guidelines for Construction Materials Extraction (IFC, 2007). These mitigation measures together with the existing permitting framework in Turkey will be used to minimize the worst-case scenario impacts and allow for residual impact assessment. Gaps identified based on E&S site selection will be requested to be mitigated by third-party quarry operators. The use of the third-party quarries will be based on their suitability to be in line with EBRD and IFC guidelines. ■ Environmental and community health and safety factors like site sensitivity, travel routes, mining methods etc. will be included in the decision-making process. ■ A due diligence will be conducted for existing quarries to ensure permits are valid and operations are in compliance with national regulations and international guidelines. Relevant suggestions will be made to improve current standards of the quarry.	EPC	■ Quarry Management Plan	■ Due Diligence report in place for third party quarries. ■ Permits are in place. ■ Number of complaints pertaining to dust and noise.	■ Prior to the usage of the quarries ■ Throughout construction	-

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
	■ In case of opening a new quarry, all necessary permits will be obtained, operations will be set up in accordance with international standards and quarries will be monitored frequently. ■ The Quarry Management Plan has been developed to ensure compliance with applicable Turkish environmental standards and IFC Guidelines for Construction Materials Extraction (IFC, 2007). The IFC Guidelines for Construction Materials Extraction details the environmental issues during the operational, construction, decommissioning phases of construction materials extraction which primarily include air emissions, noise and vibrations, water as well as waste. Particular importance will be the land conversion aspects which will take into account the findings of the biodiversity setting established in this ESIA and integrate into site rehabilitation practice. ■ During the operation of the quarries, dust generation will be avoided by covering, shielding or watering the dusty surface areas as per the Turkish Industrial Air Pollution Control Regulation for the Operation of Stone Crushing and Screening Plants. ■ The operation permit holder will develop and follow the renaturation/rehabilitation plans as required by Turkish Regulation on the Rehabilitation of Land Destroyed by Mining Activities (published in the Official Gazette on January 23, 2010, No. 27471, with last changes on September 28, 2012) as well as the IFC Guidelines for Construction Materials Extraction (IFC, 2007)) According to Turkish regulations, the renaturation work will include the following issues: - Arrangements will be in compliance with the requirements of local authorities, environmental conditions and safe conditions for all living organisms. - Geological and geotechnical investigations will be conducted to define land use properties and morphological conditions and define measures against geohazards and the stability of the area. - Safety precautions for people will be implemented if the area will be open to human use. - Measures to reduce risks of surface cracks (for underground sourcing) to prevent damage to wildlife will be implemented. - The cuts will be filled and the deposits removed according to the geotechnical and geological survey results, land is prepared, and conditions are provided for landscaping. - Suitable areas will be planted according to the land use targets and measures will be taken to prevent erosion. - A list of species will be created (including local endemic species under protection of national and international jurisdiction) and excavated areas will be renatured. - Drainage control and siltation prevention systems will be installed.					

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
Cultural Heritage	■ The relevant museum directorate will be notified about the cultural heritage sites that have been identified along the RoW and the chance finds in case encountered during Project activities as per the requirements of Law on Preservation of Cultural and Natural Assets (Law No. 2863). ■ There will be a liaison with the Istanbul Regional Council No:1 for the Conservation of Cultural Property to agree a strategy for archaeological mitigation. ■ No physical Project activity at the cultural heritage sites site will be started before the studies of the related museum directorate are finalised and the official views of the authorities on relevant sites are obtained. ■ Pre-construction archaeological investigations will be conducted to identify, investigate and scientifically remove any archaeological deposits encountered. ■ Qualified archaeologist will be appointed during ground disturbing activities and on all construction fronts particularly at risk areas. ■ There will be liaisons at the early stages with relevant museum directorate in case blasting will be required close to archaeological sites. ■ Additional cultural heritage assessment studies including stakeholder engagements in case of a route or design change will be conducted. ■ A Cultural Heritage Management Plan has been developed. Items to be addressed in the plan will include Regulator Engagement, Access Management, Mitigation Control and Management of Intangible Heritage through community engagement. ■ The archaeological sites will be processed/indicated as “historical sensitive area” in all Project documentation, drawings, etc. and notify EPC Contractor and subcontractors about the presence of these sites.	EPC	■ Cultural Heritage Management Plan	■ Istanbul Regional Council No:1 decisions are considered in design and construction schedule. ■ Archaeological monitoring in place during initial earthworks ■ Number of grievances raised related to cultural heritage. ■ 100% workers received training on cultural heritage and awareness of the archaeological sites along the RoW.	■ Prior to construction	
RoW Clearance	■ Preconstruction survey will be carried out prior to the RoW clearance to identify roosting and resting places those needs to be relocated outside of the RoW in a suitable location identified by the Biodiversity Expert. ■ Nest boxes, roost for bats and artificial holts for otters will be provided and constructed where required. ■ Seeds and/or bulbs of the endemic and rare species (except for *Campanula lyrata* which is widespread endemic species) shall be collected and delivered to the Turkish Seed Gene Bank. ■ Vegetation clearance will be performed in winter where possible under supervision of the Biodiversity Expert. Woodland clearance and the removal of other ecosystems and the disturbance to soils will be minimised, particularly if they are habitats of species of conservation concern. ■ Biodiversity training will be given to all field workers by the Biodiversity Expert. The Biodiversity Expert will inform the workers on important biodiversity species and important areas and advice on best practice patterns of work to avoid harm to local biodiversity. ■ Micro siting will be used to avoid areas of greatest biodiversity interest.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Ecological constraints are reflected in Construction schedule (e.g. vegetation clearance to be preferred in winter). ■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Seeds collected prior to RoW clearance and sent to Gene Bank. ■ Roosting, resting places, nests identified and translocated before RoW clearance. ■ 100% of workers received training on ecological sensitivity.	■ Prior to RoW clearance	

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
	■ Project construction sites will be separated from other areas with appropriate signboards, signs, and fences. ■ Staff and vehicle access to the area will be limited to the construction site.					
Terrestrial Habitats	■ The EPC contractor will aim to reduce footprint. Infrastructure in areas will be located to reduce the risk of habitat loss, particularly forests. ■ Study areas will be clearly defined before vegetation clearance where construction activities will take place. ■ Project construction sites will be separated from other areas with appropriate signboards, signs and fences. ■ Staff and vehicle access to the area will be limited to the construction site. ■ Construction waste generated due to project activities will first be stored at designated storage areas and then disposed. Solid waste will not be allowed to be left at natural habitats. ■ Regular dust suppression will be made at construction sites to prevent dust formation. ■ Vegetation clearance will be performed in winter where possible. Woodland clearance and the removal of other ecosystems and the disturbance to soils will be minimized, particularly if they are habitats of species of conservation concern.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Biodiversity Expert in place. ■ 100% of workers received training on ecological sensitivity. ■ Portable sound barriers or earth mounds are in place before blasting activities. ■ Signboards are in place.	■ Prior to RoW clearance	
Flora	■ Micro siting will be used to avoid areas of greatest biodiversity interest. ■ Invasive species management will be implemented in line with the requirements defined in CESMP. ■ During the preconstruction phase, seeds and/or bulbs of the endemic and rare species (except for *Campanula lyrata*, which is widespread endemic species) will be collected and delivered to the Turkish Seed Gene Bank. With this action in place, it is considered that there is no need to take measures within the scope of this project for ex-situ conservation. However, taking in-situ conservation measures is important for the future of the populations of the species. In this context, the populations in the areas where the species spread will either be moved to suitable habitats by translocation method or the seeds of these species will be collected and planted in suitable habitats. Monitoring will be done to determine success.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Seeds collected prior to RoW clearance and sent to Gene Bank	■ Prior to RoW clearance	
Mammals	■ Pre-construction surveys will be conducted to identify location of roosting and resting places. Retention and micro avoidance will take place if possible. Removal of these will take place when not in use. Appropriate roosting and resting places, like roost for bats, will be provided. Artificial holts for otters will be constructed where it is required. ■ Lighting and noise will be controlled. ■ Egress by wildlife to construction areas e.g., capping pipes at night, will be prevented. Ditches will be fenced off. ■ Connectivity around or across construction areas, particularly linear infrastructure (e.g., through use of animal crossings) will be maintained. ■ Controls such as speed bumps will be constructed and awareness training to reduce wildlife collisions will be	EPC	■ CESMP ■ Biodiversity Action Plan	■ Crossing strategy is in place. ■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Roosting, resting places, nests identified and translocated before RoW clearance.	■ Prior to RoW clearance ■ Throughout construction	

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
	conducted. Protocols will be followed for capture or herding mammals found in construction areas where these are unable to exit by themselves. ■ Mitigation areas will be developed in advance of construction to replace lost habitat. ■ Micro-siting will be used to avoid areas of greatest biodiversity interest. ■ To mitigate barrier effect, a crossing strategy will be implemented to identify existing likely movement areas within the AoI and establish suitable types of crossings. This is especially important near the Sazlıdere dam where the bridge will be built. ■ Light and noise will be minimised during construction and operations near any identified bat roosting and foraging areas.					
Birds	■ Noise and visual disturbance will be reduced. ■ Suitable alternative habitats will be created, or existing ones will be enhanced to support displaced species (e.g. nest sites if these are a limiting factor). ■ Sympathetic timing of works will be used. Vegetation will be removed in winter where possible.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Ecological constraints are reflected in Construction schedule (e.g., vegetation clearance to be preferred in winter). ■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Roosting, resting places, nests identified and translocated before RoW clearance. ■ 100% of workers received training on ecological sensitivity.	■ Prior to RoW clearance ■ Throughout construction	
Herptiles	■ Pre-construction capture and removal to enhanced areas will be carried out for the Mediterranean Spur-thighed Tortoise (VU) and European pond turtle. ■ Waterbodies and associated features and terrestrial habitat will be retained wherever possible. ■ Connectivity across construction areas, particularly infrastructure, e.g., through provision of pipes under construction roads, will be maintained. ■ Restoration and rehabilitation of temporary land take will take place. ■ Terrestrial zones with natural vegetation around amphibian reproduction centres will be protected, to enable the necessary flow of genetic material between local habitats. ■ Suitable mitigation habitats will be created pre-construction. ■ Reptiles and amphibians will be collected prior to construction and moved to mitigation areas by suitably trained and experience staff. ■ High hygiene levels will be maintained and checks for fungi (Chytridiomycetes) and viral infections, e.g., Ranavirus will take place. ■ Where the motorway will cross this watercourse, a suitable underpass such as a large culvert will be established over the channel that allow amphibians to survive inside the channel. Culverts or underpass structures will be large enough to keep soil ground stripes along both side of the channel so that amphibians in water and some other	EPC	■ CESMP ■ Biodiversity Action Plan	■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Mediterranean Spur-thighed Tortoise (VU) and European pond turtle is relocated in case identified prior to RoW clearance. ■ Roosting, resting places, nests identified and translocated before RoW clearance. ■ Suitable culverts are in place for amphibians' crossings. ■ 100% of workers received training on ecological sensitivity.	■ Prior to RoW clearance ■ Throughout construction	

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
	animals such as reptiles and mammals can cross the motorway by using these land stripes along the channel.					
Fish	■ The EPC contractor will ensure that good construction practice near water is enforced following UK Guidance for Pollution Prevention: Works and maintenance in or near water: GPP 5 (Version 1.2 February 2018)[5]. ■ In April, May and June, which is the breeding season for fish, the least possible interference will be made in the areas where aquatic sampling was carried out within the scope of this study.	**EPC**	■ CESMP ■ Biodiversity Action Plan	■ Ecological constraints are reflected in Construction schedule (e.g., vegetation clearance to be preferred in winter). ■ Biodiversity Expert in place.	■ Prior to RoW clearance ■ Throughout construction	
Vibration	■ Structural building assessments will be carried out by competent independent experts at the locations where the buildings are within 50 m of significant sources of vibration and blasting prior to the activities at these areas. Sensitivity of the identified buildings and building occupants to vibration will be evaluated. ■ SPV and EPC will prepare a plan for cases where houses are damaged due to blasting/vibration; i.e. a building evacuation plan; and these people will be assisted for temporary or permanent resettlement (if needed) as per RAP principles. The damage to houses and effectiveness of restoration shall be investigated by third party experts. ■ A documentation will be prepared for each of the identified buildings, which will include photographs of buildings sensitive to vibration and results of the sensitivity evaluation. ■ Vibration on commencement of relevant construction activities will be monitored to ensure that the Turkish requirements are met. If the standards are exceeded additional measures will be taken to reduce vibration and if necessary altering the methods of working to use equipment that creates lower levels of vibration. ■ In case of a third party claim on damage to buildings, SPV will hire a third party expert (i.e. Technical department of a reputable university) to assess the causes of the damage and develop mitigation measures to be agreed with the complainant (i.e., restoration or compensation etc if the damage is confirmed); and ■ If there is disagreement between building owners and the SPV with regards to the cause for the damage and or on the mitigation measure suggested by the project, the third party expert will assess such claims and suggested mitigation measures to provide an expert opinion. In case of failure to reach to a consensus with the complainant (s) based on the third party expert report, then complainant(s) have full legal rights to apply to judicial mechanism for the resolution of their complaint.	EPC	■ Noise and Vibration Management Plan	■ Structural Building Assessment reports prepared by independent third parties are in place at sensitive locations (the buildings located within 50 m of significant sources of vibration and blasting) ■ Number of complaints pertaining to vibration.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 36+900 ■ Km 37+300 – 41+800 ■ Km 43+100 – 44+300 ■ Km 46+300 ■ Km 51+600 – 51+900 ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300

[5] https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf

PRE-CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[3]**	**Key Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[4]**
■ Stakeholder Engagement ■ Disclosure of Information ■ Consultation ■ Grievance Mechanism	■ Engage with stakeholders and conduct separate meetings with disadvantaged or vulnerable groups, women and Non-governmental organizations (NGOs). ■ Implement grievance mechanism.	SPV /EPC	■ Stakeholder Engagement Plan (including Grievance Mechanism)	■ Number of stakeholder meetings with regard to pre-construction phase and Minutes of Meeting (including photographic data). ■ Number of actions closed ■ Number of complaints received and number solved grievances on time.	■ Prior to construction	

Table 1-6 Construction Phase

CONSTRUCTION PHASE						
Subject	**Mitigation Measures & Monitoring Requirements**	**Responsible Party (KGM, SPV or EPC)**	**Relevant Document & Management Plan[6]I**	**Performance Indicator**	**Timing and Frequency**	**Sensitive Receptors[7]**
CLIMATE CHANGE						
Emergency Preparedness and Response	■ Emergency Preparedness and Response Plan (EPRP) will be in place with a set of specific pre-established procedures for coordination, alert, mobilisation and response to the occurrence or imminence of a particular event, such as natural hazards as for wildfires, flooding and storm surge, landslides. ■ The EPRP has been developed and includes regular monitoring in the surrounding areas to avoid potential wildfire risks from reflective materials, metals, and plastic, among others. ■ ERT will be formed, trained, and equipped with adequate tools and equipment to respond the emergency cases.	EPC	■ Emergency Preparedness and Response Plan	■ EPRP (including ERT) in place and implemented as needed. ■ 100% of workers received training on how to act during emergency cases. ■ Number of planned emergency drills vs. implemented as committed in EPRP.	■ Emergency drills throughout the construction on a monthly basis. ■ EPRP review and update on quarterly basis. ■ Regular monitoring of the surrounding area for potential wildfire among others (daily monitoring in high temperatures).	-
Floods	■ Construction of all drainage structures (i.e., culverts, sediment basins, and catch drains) will be carried out as early as possible. ■ Identified existing drainage and irrigation channels will be protected using appropriate measures such as sediment barriers, grassed areas, swale drains, and buffer strips, for erosion and sediment control. ■ Weekly monitoring and maintenance of drainage channels.	EPC	■ Water Management Procedure	■ Number of drainage structures constructed. ■ Number of complaints pertaining to damages caused by floods.	■ Throughout the construction	-

[6] All key relevant management plans, procedures, policies, tracking records, etc.

[7] (Residential Areas, Schools, Hospitals, Water Courses, Important Biodiversity Sites, Archaeological Sites)

CONSTRUCTION PHASE						
Working Conditions at Extreme Heats	■ Cool water will be provided for employees to drink. Small amounts of cool water have to be drunk frequently to prevent dehydration. ■ The EPC contractor will ensure that appropriate clothing will be provided and worn. During periods of elevated temperature, employees should wear light-coloured, lightweight, loose-fitting cotton clothing that allows ventilation of air to the body. ■ Employees will be encouraged to take breaks and hydrate any time they feel necessary. ■ The job will allow for more frequent breaks and sufficient recovery time. ■ A space in a shaded area or an air-conditioned building will be provided for taking breaks. ■ Work changes will be considered to lower the risk of heat stress. ■ Shaded areas during remote outdoor work (e.g. constructing temporary shelters using tarps) will be provided.	EPC	■ Health and Safety Plan	■ 100% of workers received training on working at extreme heat conditions. ■ Number of employee complaints pertaining to working at extreme heats. ■ Number of sickness/disease cases recorded related with extreme heat.	■ Throughout the construction during extreme heat events	-
AIR QUALITY						
Air and Dust Emissions	■ All dust and air quality complaints will be recorded using grievance mechanism and root causes will be identified. Appropriate measures will be taken to reduce emissions in a timely manner. ■ The head or regional office contact information and name and contact details of person(s) accountable for air quality and dust issues on the site boundary will be displayed. ■ Daily on-site and off-site inspection will be carried out where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the inspection log available to the local authority when asked. ■ Regular site inspections will be carried out to monitor compliance with the Air Quality and Emission Control Plan and record inspection results. ■ The frequency of site inspections by the person(s) accountable for air quality and dust issues on site will be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. ■ Dust deposition, dust flux, or real-time PM10 continuous monitoring locations will be agreed with the Local Authority. ■ Site layout will be planned so that machinery and dust causing activities are located away from receptors, as far as is possible. ■ Solid screens or barriers will be erected around dusty activities or the site boundary during excavation works. ■ Regular dust suppression will be conducted using water trucks to prevent dust formation. ■ The site or specific operations where there is a high potential for dust production and the site is actives for an extensive period will be fully enclosed. ■ Reduced speed limits will be implemented on unsurfaced haul roads and work areas will be imposed and signposted (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	EPC	■ Air Quality and Emission Control Plan	■ Number of complaints pertaining to air quality. ■ Findings of Site Inspection Reports actioned in a timely manner and preventive actions defined. ■ PM 10 monitoring results below thresholds ■ Vehicle maintenance records in place.	■ Continuous PM 10 monitoring throughout construction. ■ Daily visual site inspections. ■ Monitoring data will be reviewed on a monthly basis.	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300

CONSTRUCTION PHASE						
	■ Only cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems, will be used. ■ An adequate water supply on the site for effective dust/particulate matter suppression/mitigation will be ensured, using non-potable water where possible and appropriate. If water is scarce or unavailable, applicable binding agents will be used. ■ Enclosed chutes and conveyors and covered skips will be used. ■ Drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment will be minimised and fine water sprays will be used on such equipment wherever appropriate. ■ Equipment will be readily available on site to clean any dry spillages, and spillages will be cleaned up as soon as reasonably practicable after the event using wet cleaning methods. ■ Inside buildings will be soft stripped before demolition (walls and windows will be retained in the rest of the building where possible, to provide a screen against dust). ■ An effective dust suppression (watering) will be used during demolition operations. ■ Earthworks and exposed areas/soil stockpiles will be re-vegetated to stabilise surfaces as soon as practicable. ■ Hessian, mulches or tackifiers will be used where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. ■ Only the cover in small areas during work will be removed and not all at once. ■ Sand and other aggregates will be stored in bunded areas and will not be allowed to dry out, unless this is required for a particular process, in which case it will be ensured that appropriate additional control measures are in place. ■ Bulk cement and other fine powder materials will be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. ■ For smaller supplies of fine power materials, the EPC contractor will ensure that bags are sealed after use and stored appropriately to prevent dust. ■ Scabbling (roughening of concrete surfaces) will be avoided if possible. Vehicles entering and leaving sites will be covered to prevent escape of materials during transport. ■ On-site haul routes will be inspected for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. ■ All inspections of haul routes and any subsequent action will be recorded in a site logbook. ■ Hard surfaced haul routes will be installed, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. ■ A wheel washing system with pool or water jet (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable) will be implemented.					

CONSTRUCTION PHASE						
	■ The EPC contractor will ensure that there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. ■ Access gates will be located at least 10 m from receptors where possible. ■ The EPC contractor will ensure that all on-road vehicles comply with the applicable emissions standards. ■ There will be no idling vehicles. ■ Grid electricity or battery powered equipment will be used where practicable. ■ The manufacturer-recommended engine maintenance programs will be implemented by the fleet owners / operators.					
Greenhouse Gas Emissions	■ Refuelling will be done from authorised fuel stations. ■ Transport logistics (locations/routes) will be optimized to ensure efficient carriage of raw materials and promote fuel efficiency. ■ Vehicle idling times will be reduced through focus on scheduling of construction operations. ■ The use of fuel-efficient transportation vehicles will be prioritised, and regular maintenance of vehicles ensured. ■ The timing for works implementation (traffic management) will be optimised to minimize traffic delays due to rehabilitation, widening or maintenance work zones on existing road sections. ■ Energy efficiency specifications for new and retrofitted site accommodation will be created. ■ Sourcing renewable energy will be considered if feasible. ■ Energy efficiency usage among workers will be promoted.	EPC	■ Traffic Management Plan ■ Air Quality and Emission Control Plan	■ Records of fuel procurement from authorised fuel stations. ■ Optimum traffic routes identified and communicated to the drivers (both heavy and light vehicle drivers). ■ 100% of drivers received training on fuel efficiency. ■ Vehicle maintenance records are in place.	■ Throughout construction	-
GEOLOGY AND SOIL						
Soil Management and Erosion Prevention	■ The topsoil and subsoil will not be mixed during the earthworks. Stripped topsoil will be stored and preserved to the maximum extent possible to be re-used during re-vegetation of excavated areas, cut and embankment areas. ■ The area of soil exposure and disturbance will be limited to the construction site as much as possible. ■ Measures to prevent erosion from excavated areas and soil storage heaps will be implemented. ■ Sediments will be prevented from flowing into surface waters and drainage channels by localized control measures (e.g., sediment fences, check dams, or fabric barriers, sediment basins), contouring to optimize slope angle and steepness will be appropriated. ■ Wind erosion will be prevented via fencing and covering. ■ Measures will be implemented to divert external ‘clean’ runoff around the construction area to prevent mixing of ‘clean’ and ‘dirty’ runoff and reduce the size of the required sediment basins. ■ Disturbed fertile topsoil will be covered and protected with vegetation, mulch or erosion-resistant material. ■ Construction of all drainage structures (i.e. culverts, sediment basins, and catch drains) will be carried out as early as possible. ■ Identified existing drainage channels will be protected using appropriate measures such as sediment barriers,	EPC	■ Soil Management Plan	■ Number of complaints pertaining to erosion and sediments impacting arable lands, impacting crops, etc. ■ Number of non-compliances with regard to topsoil stripping, storage and protection of topsoil in designated areas with appropriate erosion measures. ■ Number of prioritized drainage structures constructed. ■ Number of erosion, slope failure, landslide incidents that have occurred.	■ Weekly site inspections throughout construction. ■ Daily site inspections at specific areas after heavy rainfall.	-

CONSTRUCTION PHASE						
	grassed areas, swale drains, and buffer strips, for erosion and sediment control.					
Soil Contamination	■ Training will be provided to construction staff on how to prevent contamination, recognize and appropriately handle contaminated land when encountered during construction activities. ■ Any spillages from handling fuel and other hazardous liquids will be immediately contained on-site and the contaminated soil will be removed from the site for suitable treatment and/or disposal. ■ Construction crews will be trained to spot signs of contamination during earthworks. Any contaminated soils/wastes encountered during construction must in any case be reported to the local responsible authorities and further measures conducted as agreed with the authorities and local enterprises. ■ Further measures will be conducted as agreed with the authorities and local enterprises.	EPC	■ Soil Management Plan	■ ERT team in place to respond soil contamination. ■ 100% of workers received training on how to act during soil contamination. ■ Number of spills.	■ Throughout construction	-
RESOURCES						
Water resources	■ Water permits will be obtained in case groundwater or surface water usage will be required by the Project activities. ■ Water analysis will be conducted in line with World Health Organization (WHO) Standards if water will be provided for human consumption purposes.	EPC	■ Surface Water and Groundwater Management Plan	■ Water permits in place. ■ Water quality analysis results in place. ■ Number of compliant analysis results vs. non-compliant results ■ Number of complaints pertaining to water abstraction and water scarcity.	■ Prior to surface and groundwater abstraction. ■ Water quality analysis on a monthly basis.	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)
Lighting	■ Replacing c. 2.500+ sodium lights with light-emitting diodes (LEDs) (incl. temporary lights during construction and permanent lights within the scope of the project) which would reduce energy consumption by c. 37.5% (20+ MW) during the project lifetime. ■ This would also have advantages in terms of lifecycle and replacement bulbs required as the lifetime for LEDs are approximately six times more than those of sodium lights.	EPC	■ Not Applicable	■ LEDs in place	■ Throughout construction	-
Material Supply from Quarries	■ Whenever possible, general preference will be given to using existing (fully licensed) quarries over opening new quarries. ■ The ESHS considerations that will need to be taken into account in the selection of appropriate quarry sites and access routes will be based on IFC General EHS Guidelines (IFC, 2007) as well as guidelines for IFC EHS Guidelines for Construction Materials Extraction (IFC, 2007). These mitigation measures together with the existing permitting framework in Turkey will be used to minimize the worst-case scenario impacts and allow for residual impact assessment. Gaps identified based on E&S site selection will be requested to be mitigated by third party quarry operators. The use of the third-party quarries will be based on their suitability to be in line EBRD and IFC guidelines. ■ Environmental and community health and safety factors like site sensitivity, travel routes, mining methods etc. will be included in the decision-making process. ■ A due diligence will be conducted for existing quarries to ensure permits are valid and operations are in compliance with national regulations and international guidelines. Relevant suggestions will be made to improve current standards of the quarry.	EPC	■ Quarry Management Plan	■ Due Diligence report in place for third party quarries. ■ Permits are in place. ■ Number of complaints pertaining to dust and noise.	■ Prior to the usage of the quarries. ■ Throughout construction.	-

CONSTRUCTION PHASE						
	■ In case of opening a new quarry, all necessary permits will be obtained, operations will be setup in accordance with international standards and quarries will be monitored frequently. ■ The Quarry Management Plan has been developed to ensure compliance with applicable Turkish environmental standards and IFC EHS Guidelines for Construction Materials Extraction (IFC, 2007). The IFC EHS Guidelines for Construction Materials Extraction details the environmental issues during the operational, construction, decommissioning phases of construction materials extraction which primarily include air emissions, noise and vibrations, water as well as waste. Particular importance will be the land conversion aspects which will take into account the findings of the biodiversity setting established in this ESIA and integrate into site rehabilitation practice. ■ During the operation of the quarries, dust generation will be avoided by covering, shielding or watering the dusty surface areas as per the Turkish Industrial Air Pollution Control Regulation for the Operation of Stone Crushing and Screening Plants. ■ The operation permit holder will develop and follow the renaturation/rehabilitation plans as required by Turkish Regulation on the Rehabilitation of Land Destroyed by Mining Activities (published in the Official Gazette on January 23, 2010, No. 27471, with last changes on September 28, 2012) as well as the IFC EHS Guidelines for Construction Materials Extraction (IFC, 2007)) According to Turkish regulations, the renaturation work will include the following issues: - Arrangements will be in compliance with the requirements of local authorities, environmental conditions and safe conditions for all living organisms. - Geological and geotechnical investigations will be conducted to define land use properties and morphological conditions and define measures against geohazards and stability of the area. - Safety precautions for people will be implemented if the area will be open to human use. - Measures to reduce risks of surface cracks (for underground sourcing) to prevent damage to wildlife will be implemented. - The cuts will be filled and the deposits removed according to the geotechnical and geological survey results, land is prepared, and conditions are provided for landscaping. - Suitable areas will be planted according to the land use targets and measures will be taken to prevent erosion. - A list of species will be created (including local endemic species under protection of national and international jurisdiction) and excavated areas will be renatured. - Drainage control and siltation prevention systems will be installed.					

CONSTRUCTION PHASE						
Material Transportation from Quarries and other material and equipment delivery sites.	■ When designing the quarry and other transport routes, the EPC Contractor will consider social issues to minimize the impacts from passing through populated areas. ■ To ensure community safety, all truck drivers will receive internal driver safety training which includes safe driving through small villages. ■ Quarry access roads will be well maintained. Water will be sprayed on unpaved roads to minimize dust generation and will be surfaced or stabilized where feasible. ■ The EPC Contractor will ensure that the width of the access roads is adequate, especially in villages. ■ Roads damaged during the operation of a quarry will be repaired on a timely basis.	EPC	■ Quarry Management Plan ■ Traffic Management Plan	■ Number of complaints pertaining to material transportation.	■ Throughout construction	-
WASTE MANAGEMENT						
Waste Hierarchy	■ A waste hierarchy will be applied to avoid, segregate, re-use, recycle wastes as much as possible and as of last option safely dispose of wastes. ■ Excavated soils will be re-used in the Project area as far as possible and seeking alternative uses for surplus spoil where practicable (e.g., landscaping and earthworks for other projects) to minimize the requirements for off-site disposal. ■ Construction staff will be trained to ensure safe management of all types of waste preventing harm to themselves, the environment, and the public.	EPC	■ Waste Management Plan	■ 100% of workers received training on waste management.	■ Throughout construction	-
Waste Storage and Handling	■ Waste generation will be recorded in terms of type (EU Waste Code) and quantity at all points of generation (camps, quarries, plants, toll road stations). ■ Waste will be collected and segregated according to its type, whether it is reusable, recyclable, non-hazardous, or hazardous waste. ■ Wastes will be stored according to international best practices (e.g., IFC EHS General Guidelines). Additional measures for storage of hazardous wastes (such as use of secondary containment, access restriction, provision of PPE etc.) will be applied as necessary to prevent harm to construction staff, environment, and the public. ■ Designated waste collection containers and storage areas will be used for different kinds of wastes (hazardous and non-hazardous). ■ Waste collection containers and storage areas will be adequately labelled for different kinds of wastes (hazardous and non-hazardous). ■ Records will be kept of the types and quantities of wastes that are reused, recycled, recovered or disposed both on and off the site to assess waste hierarchy effectiveness. ■ Scrap materials (towers and cables) generated by removal of the existing OHTLs will be handed over to the Turkish Electricity Transmission Corporation (TEIAS) based on the requirements of protocol signed between SPV and TEIAS.	EPC	■ Waste Management Plan	■ Waste storage area in place approved by the local environmental authority. ■ Findings of Site Inspection Reports actioned in a timely manner and preventive actions defined. ■ Waste records and inventories are in place.	■ Throughout construction	-

CONSTRUCTION PHASE						
Waste Transportation and Disposal	■ Wastes will be transported and disposed at licensed waste management facilities as listed in ESIA. A due diligence will be undertaken to understand if the sites are materially compliant with Project requirements. ■ Waste will be transported in licensed vehicles designed appropriately to the type of waste to minimise the risk of release of materials (hazardous and non-hazardous materials) and windblown debris. ■ Training will be provided to drivers on handling and disposal of their cargo and the documentation of the transport describing the nature of the waste and its degree of hazard. ■ All waste transfer notes and hazardous waste consignment notes where the waste is being taken will be recorded.	EPC	■ Waste Management Plan	■ Contracts in place with licensed facilities. ■ Waste transfer notes are in place.	■ Throughout construction	-
HAZARDOUS MATERIALS MANAGEMENT						
Storage and Handling	■ Procedures for handling and storage of hazardous materials following manufacturer's instructions (SDS forms) will be implemented. ■ Hazardous materials will be registered and dangers posed by hazardous materials within the Project site will be identified. ■ Fuels, oils, and hazardous materials will be stored on a suitably sized impervious and bunded base and drip trays will be used for fuelling. No fuelling of vehicles or equipment will take place within excavated areas and/or within 50 meters of water resources, if practically feasible. ■ On-site personnel will be trained on the presence, handling, transport, and disposal of hazardous materials and emergency response management. ■ Suitable/specific PPE will be provided to staff who are required to handle certain chemicals. ■ The public will be protected from major hazards associated with hazardous materials incidents or process failure, as well as nuisance issues related to noise, odours, or other emissions. ■ If heavy equipment cannot be moved to appropriate fuelling points, an impervious surface (such as a drip-tray) has to be used for refuelling this equipment to hinder accidental spillage to drain into the soil and therefore in potential groundwater aquifers.	EPC	■ Hazardous Material Management Plan	■ Hazardous storage area in place and inspected. ■ SDS are in place and storage is conducted in line with SDS. ■ 100% of workers received training on hazardous material management. ■ PPE is in place. ■ Spill kits are in place.	■ Throughout construction	-
Spillages	■ A spillage risk assessment will be undertaken as part of the development of the EPRP to determine the optimal location and type of emergency response equipment and the required capacities for handling liquid spills. ■ EPR team will be trained about roles and responsibilities and regular drills will be conducted. ■ Spill response kits will be available, including absorbent materials suitable for the materials to be handled on-site, will be held at secure, clearly signposted locations, instructions will be provided with the kits and personnel will be trained in their use. ■ Any spillages will be immediately contained on-site and all contaminated materials including soils will be removed from the site for suitable treatment and disposal. ■ All staff and subcontractors will be required to report any incidents, and these will be subject to investigation and remedial and preventive actions will be taken.	EPC	■ Emergency Preparedness and Response Plan	■ ERT in place. ■ PPE is in place. ■ Spill kits are in place. ■ Number of spill incidents.	■ Throughout construction	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)

CONSTRUCTION PHASE

POLLUTION PREVENTION AT SURFACE AND GROUNDWATER

Wastewater	■ Wastewater from all construction compounds and the associated building will be either discharged into the local/municipal sewage network or treated before discharge to the suitable receiving environment or collected on site and transported by tanker for disposal at the local sewage treatment works. ■ All wastewater discharges must comply with relevant Turkish legal requirements (Water Pollution Control Regulation 2004, No. 25687) and Project Standards before disposal, and relevant permits will be in place. ■ Drainage from excavations will be collected and settled to remove suspended materials before discharge by required permits. If physically possible, local perimeter drains will be constructed around working areas to collect potentially suspended run-off and direct it to a system of settlement basins before discharge by required permits. ■ There will be no direct discharge of contaminated run-off from worksites to any watercourse along the alignment ■ Channels, bunds and sandbag barriers will be provided on-site to direct run-off to the collection system. ■ Construction equipment will be cleaned away from surface waters. ■ All facilities and structures will be regularly inspected and maintained to always ensure proper and efficient operation, and especially after heavy rainfall. Sediment deposits will be regularly removed and disposed of either by spreading on-site (if uncontaminated) or at a suitably licensed facility. ■ Spoil and soil storage areas and open stores of construction materials will be designed and managed to control the loss of sediments into run-off by minimizing the length and angle of slopes. ■ The size and duration of exposure of areas of the open ground will be kept to a minimum. ■ If technically feasible small drains within the construction area will be covered with metal plates which can be passed over by construction machines, to protect them against disturbance, or conveyed to have free flow through the pipes placed for this purpose. ■ Protection measures to prevent soil erosion after the finalisation of the earthwork will be implemented where required such as: - use of grass turf to cover the soil surface; - use of erosion-control blankets or mats; - renaturation as soon as feasible. ■ The design of the channels considers the flow from the whole basin at that specific section and 10-year and 100-year flood regimes are used for design and flooding respectively (which is also the same as the design criteria of the attached culvert(s)). Deviation channels are concrete and will be designed in a box shape or open channel format depending on the site conditions.	EPC	■ Wastewater Management Plan	■ Wastewater discharge permits in place. ■ Wastewater connection permits to existing municipality infrastructure is in place. ■ Number of penalties issued by authorities.	■ Throughout construction	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)

CONSTRUCTION PHASE						
Working Close to Streams	■ Sensitive areas of rivers and drains will be protected from impacts of vehicles and other construction activities via fencing or other appropriate means. ■ Driving within streams or on their banks will be forbidden except if unavoidable to construct a particular structure. Then appropriate measures will be implemented to protect the sensitive areas, for example by placing with metal plates to drive on. ■ Water quality will be monitored at upstream and downstream of the river before and after the construction activities are completed. Samples will be analysed for a suite of analyses suitable to identify potential contaminants from project activities, e.g.: total petroleum hydrocarbons, dissolved metals, cations, and anions (Ca, Mg, K, Fl, Cl, SO4), pH, total dissolved solids (TDS) and total suspended solids (TSS), and other compounds of potential concern based on chemicals compounds used during the project (e.g.: lubricants, degreasers). ■ No fuelling of vehicles or equipment will take place within excavated areas and/or within 50 meters of water resources, if practically feasible.	EPC	■ Surface Water and Groundwater Management Plan	■ 100% of workers received training on working close to water resources. ■ Water analysis in place in line with Turkish Surface Water Quality Regulation.	■ Throughout construction	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)
NOISE AND VIBRATION						
Construction Equipment and Earthworks	■ Where practicable, noisy equipment will be sited as far away as possible from receptors and limits to night time working in sections close to residential buildings. ■ Where practicable, noisy equipment will be orientated to face away from the receptors at which moderate or major noise impacts are predicted. ■ Alternatives to diesel and petrol engines and pneumatic units, such as hydraulic or electric-controlled units, will be used, where practicable. ■ Where practicable, stationary equipment will be located in an acoustically treated enclosure. ■ Throttle settings will be reduced and equipment and plant turned off, when not being used. ■ Onsite chutes and bins will be lined with damping material. ■ Equipment will be regularly inspected and maintained to ensure it is in good working order. The condition of mufflers will also be checked. Equipment will not be operated until it is maintained or repaired, where maintenance or repair would address the annoying character of noise identified. ■ Compressors, generators and pumps fitted with properly lined and sealed acoustic covers or enclosures, which will be kept closed whenever the machines are in use, will be used and all ancillary plant (e.g., generators, compressors) will be positioned so as to cause minimum noise disturbance. ■ Mufflers or silencers of the type recommended by manufacturers will be fitted. ■ For machines with fitted enclosures, doors and door seals will be checked to ensure they are in good working order; also that the doors close properly against the seals. ■ Machines in intermittent use will be shut down in the intervening periods between work. ■ Excavated material will be stored between the construction site and the sensitive receptor to form a natural noise barrier (with cover to avoid dust erosion) or other (temporary) noise barriers will be installed. ■ Drop height of materials will be minimalised.	EPC	■ Noise and Vibration Management Plan	■ Noise monitoring results compliant to Turkish noise regulatory standards. ■ Number of penalties issued by authorities. ■ Recommendations and corrective actions taken when high audible incidents are noted. ■ Number of complaints pertaining to excessive noise.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300

CONSTRUCTION PHASE						
	■ Advantage of the natural topography for noise shielding will be taken.					
Construction Traffic	The following measures will be implemented for construction traffic including transportation of equipment and material (e.g. quarries, dumpsites, etc.) to and from work sites: ■ Speed limits (50 km/h) will be implemented for trucks while travelling to and from construction sites (within buildings and on village roads of poor condition: 30 km/h). ■ Slow driving rules in villages (e.g. 30km/h) will be implemented, particularly near sensitive use areas which will be identified (at least one month) prior to start of construction related activities; ■ Project traffic routing through community areas will be reduced wherever possible. ■ The motorway alignment will be used for transportation whenever possible. ■ Dedicated site access roads will that avoid routing through villages will be used. ■ If necessary, to avoid narrow areas near receptors, construction of a new access road will be considered. ■ Hours of operation for specific equipment or operations (*e.g.* trucks or machines operating in or passing through community areas) will be limited. ■ Internal haul routes will be kept well maintained and steep gradients will be avoided. ■ The noise will be restricted to be perceived at nearby buildings from construction to 70 dB Leq during the evening and 65 dB Leq at night as far as practicable for short-term activities lasting not more than 10 days. ■ Noise levels from longer term construction activities (longer than 10 days) will be restricted to 55 dB LAeq during the evening, and 50 dB LAeq at night as far as is practicable, or to other standards that have been agreed with the local authority	EPC	■ Traffic Management Plan ■ Noise and Vibration Management Plan	■ Noise monitoring results compliant to Turkish noise regulatory standards and IFC noise level guidelines. ■ Number of penalties issued by authorities. ■ Recommendations and corrective actions taken when high audible incidents are noted. ■ Number of complaints pertaining to construction traffic.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300
Vibration	■ Buildings located within 50 m of significant sources of vibration ahead of construction works will be identified prior to construction. Sensitivity of the identified buildings and building occupants to vibration will be evaluated by competent independent technical experts. ■ A vibration sensitivity report will be prepared for each of the identified buildings, which will include photographs of buildings sensitive to vibration and results of the sensitivity evaluation. ■ Vibration on commencement of relevant construction activities will be monitored to ensure that the Turkish requirements are met. If the standards are exceeded additional measures will be taken to reduce vibration and if necessary altering the methods of working to use equipment that creates lower levels of vibration. ■ In case of potential damages to assets/houses, the incidents or any claims will be investigated by independent experts for corrective actions to be taken by the EPC. Compensation to the damages shall be made in line with the principles of the RAP.	EPC	■ Noise and Vibration Management Plan	■ Inspection reports are in place for the buildings located within 50 m of significant sources of vibration. ■ Number of complaints pertaining to vibration.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 36+900 ■ Km 37+300 – 41+800 ■ Km 43+100 – 44+300 ■ Km 46+300 ■ Km 51+600 – 51+900 ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300

CONSTRUCTION PHASE

BLASTING

Airblast and Vibration	■ An appropriate and detailed protocol that minimises the impacts on the surrounding area will be drawn. ■ Consultation with people living in houses close to the RoW. ■ Compensate/reinstate any houses damaged due to blasting in line with RAP principles. ■ Building Evacuation Plan ensuring people are evacuated safely in line with RAP principles. ■ The Maximum Instantaneous Charge (MIC) is the maximum mass of explosive detonated in any 8 ms period throughout the blast. A reduction in the MIC would correspondingly result in a reduction of the airblast level. The MIC may easily be reduced by reducing the number of holes fired at any one time, resulting in airblast levels lowered by 1 dB Linear to 3 dB Linear. In addition, a pre-blast assessment protocol plays an essential role in managing blast impacts. ■ An appropriate charge mass design and loading will be used. ■ An appropriate initiation sequence will be applied for each blast to minimise the possibility of hole interaction, i.e. avoid reinforcing effect and aim for a single hole initiation. ■ An alternative blast design will be undertaken around identified geological features to avoid face burst and excessive airblast emission. ■ An appropriate quality stemming material and stemming height will be used to enable correct confinement of explosive charges and therefore minimise airblast emission. ■ An appropriate pre-blast meteorological condition protocol will be used to avoid blasting in unfavourable weather conditions.	SPV	■ Blasting Management Plan ■ Building Evacuation Plan	■ Number of complaints pertaining to blasting.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 36+900 ■ Km 37+300 – 41+800 ■ Km 43+100 – 44+300 ■ Km 46+300 ■ Km 51+600 – 51+900 ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300
Occupational and Community Health and Safety	■ Community awareness and emergency preparedness and response planning will be undertaken, including control of third-party access to blasting areas (including animal grazing activities). ■ Structural building assessments will be carried out by competent independent experts at the locations where the buildings are within 50 m of significant sources of vibration and blasting prior to the activities at these areas. Sensitivity of the identified buildings and building occupants to vibration will be evaluated. ■ SPV and EPC will prepare a plan for cases where houses are damaged due to blasting/vibration; i.e. a building evacuation procedure; and these people will be assisted for temporary or if needed permanent resettlement as per RAP principles. The damage to houses and effectiveness of restoration shall be investigated by third party experts. ■ A documentation will be prepared for each of the identified buildings, which will include photographs of buildings sensitive to vibration and results of the sensitivity evaluation. ■ Vibration on commencement of relevant construction activities will be monitored to ensure that the Turkish requirements are met. If the standards are exceeded additional measures will be taken to reduce vibration and if necessary altering the methods of working to use equipment that creates lower levels of vibration.	EPC	■ Blasting Management Plan ■ Community Health, Safety and Security Plan ■ Health and Safety Plan	■ Number of complaints pertaining to blasting. ■ Community safety awareness training in place. ■ Blasting storage, transportation and usage permits in place**.** Worker health and safety training on explosives handling and safety management in place. ■ Structural Building Assessments by third parties are in place at sensitive locations where blasting and vibration will occur.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 36+900 ■ Km 37+300 – 41+800 ■ Km 43+100 – 44+300 ■ Km 46+300 ■ Km 51+600 – 51+900 ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300

CONSTRUCTION PHASE						
	■ In case of a third party claim on damage to buildings, SPV will hire a third party expert (i.e. Technical department of a reputable university) to assess the causes of the damage and develop mitigation measures to be agreed with the complainant (i.e., restoration or compensation etc if the damage is confirmed); and ■ If there is disagreement between building owners and the SPV with regards to the cause for the damage and or on the mitigation measure suggested by the project, the third party expert will assess such claims and suggested mitigation measures to provide an expert opinion. In case of failure to reach to a consensus with the complainant (s) based on the third party expert report, then complainant(s) have full legal rights to apply to judicial mechanism for the resolution of their complaint. ■ Blasting will be conducted according to a consistent timetable agreed with the stakeholders who may be affected. If changes to the blasting timetable occur, nearby communities will be immediately informed of those changes. ■ Residents of the local communities will receive a written notification at least 30 days in advance of a nearby blasting as well as two (2) more written reminders. This notification will include the blasting schedules, as well as the name, address and telephone number of the operator; an identification of the specific areas in which blasting will take place; the dates and time periods when explosives are to be detonated; the methods to be used to control access to the blasting areas; and the type of patterns of audible warning and all-clear signals to be used before and after blasting. ■ Access within the blasting area will be controlled to prevent presence of livestock or unauthorized persons during blasting. Access will remain controlled until an authorized representative of the operator has reasonably determined that: no unusual hazards, such as imminent slides or undetonated charges, exist, and access to and travel within the blasting area can be safely resumed. ■ Blasting schedules will be distributed to the users of the grazing areas, residents and local governments including the name, address and telephone number of the operator; an identification of the specific areas in which blasting will take place; the dates and time periods when explosives are to be detonated; the methods to be used to control access to the blasting areas; and the type of patterns of audible warning and all-clear signals to be used before and after blasting. ■ Specific warning devices (e.g. horn signals and flashing lights) and procedures will be implemented before each blasting activity to alert all workers and third parties in the surrounding areas (e.g. local communities). Warning procedures will include traffic limitation along local roadways and railways. ■ Specific personnel training on explosives handling and safety management will be conducted. ■ Blasting-permit procedures will be implemented for all personnel involved with explosives (e.g. handling, transport, storage, charging, blasting, and destruction of unused or surplus explosives). ■ Blasting sites will be checked post-blast by qualified personnel for malfunctions and unexploded blasting agents, prior to resumption of work.					

CONSTRUCTION PHASE						
	■ Particular attention will be given to all explosives handling phases to prevent theft / improper use. ■ Blasting blankets will be used to prevent rock and stone fly. ■ Blasting sings are to be conspicuously place along the edge of the blast site and area where flying debris may occur.					
LANDSCAPE AND VISUAL						
	■ Sensitive vegetation to be retained will be fenced or sign-posted before work commences on site, and as much vegetation as possible will be retained to maintain the integrity of the landscape and the visual screening already present. ■ Temporary Working areas will be as small as practicable and areas chosen for the storage of materials will avoid areas of high visual impact to nearby residents/viewers. The areas outside of the Project's expropriated construction borders will not be occupied. ■ The construction site will be kept tidy and free of litter and debris as far as possible. ■ The construction site will only be floodlit when health and safety require and during night Works, so the impacts of temporary lighting upon the night time landscape and upon views are kept to a minimum. ■ Site compounds and other large areas required for construction will be sited in locations where effects on the local landscape and on viewers can be minimised to the extent possible. ■ Temporary hoardings (site fences) will be introduced to visually screen areas of intense construction activity in close vicinity of visually sensitive areas where moving plant, machinery and vehicles may be a source of visual impact.	EPC	■ Landscape Management Plan	■ Number of complaints pertaining to landscape and visual.	■ Throughout construction	-
BIOLOGICAL ENVIRONMENT						
RoW Clearance	■ Preconstruction survey will be carried out prior to the RoW clearance to identify roosting and resting places those needs to be relocated outside of the RoW in a suitable location identified by the Biodiversity Expert. ■ Nest boxes, roost for bats and artificial holts for otters will be provided and constructed where required. ■ Seeds and/or bulbs of the endemic and rare species (except for *Campanula lyrata* which is widespread endemic species) shall be collected and delivered to the Turkish Seed Gene Bank. ■ Vegetation clearance will be performed in winter where possible under supervision of the Biodiversity Expert. Woodland clearance and the removal of other ecosystems and the disturbance to soils will be minimised, particularly if they are habitats of species of conservation concern. ■ Biodiversity training will be given to all field workers by the Biodiversity Expert. The Biodiversity Expert will inform the workers on important biodiversity species and important areas and advice on best practice patterns of work to avoid harm to local biodiversity. ■ Micro siting will be used to avoid areas of greatest biodiversity interest. ■ Project construction sites will be separated from other areas with appropriate signboards, signs, and fences.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Ecological constraints are reflected in Construction schedule (e.g. vegetation clearance to be preferred in winter). ■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Seeds collected prior to RoW clearance and sent to Gene Bank ■ Roosting, resting places, nests identified and translocated before RoW clearance. ■ 100% of workers received training on ecological sensitivity.	■ Prior to RoW clearance	-

CONSTRUCTION PHASE						
	■ Staff and vehicle access to the area will be limited to the construction site.					
Internationally Recognized Areas Küçükçekmece Basin Important Bird Area (IBA) and Key Biodiversity Area (KBA)	■ The EPC contractor will aim to reduce footprint as much as possible in IBA and KBA. ■ A robust mitigation strategy will be followed with a focus on good construction practice, avoidance of working in water, avoiding use of box culverts, silt traps, testing for pollutants and availability of spill kits and trained personnel. ■ Phased development and restoration approach will be considered at the construction areas. After the activity is completed at one section, areas of previously natural habitat shall be restored and planted with plants suitable for the region's habitat. ■ Habitat will be restored and recreated where possible to mitigate habitat loss and degradation, including the replacement of pond/ditch habitats for amphibians and planting forest for animals. ■ Sound boarding will be installed at areas in close proximity to the IBA when necessary.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Biodiversity Expert in place. ■ 100% of workers received training on ecological sensitivity. ■ Portable sound barriers or earth mounds are in place before blasting activities.	■ Throughout construction	■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)
Terrestrial Habitats	■ The EPC contractor will aim to reduce footprint. Infrastructure in areas will be located to reduce the risk of habitat loss, particularly forests. ■ Study areas will be clearly defined before vegetation clearance where construction activities will take place. ■ Project construction sites will be separated from other areas with appropriate signboards, signs and fences. ■ Staff and vehicle access to the area will be limited to the construction site. ■ Construction waste generated due to project activities will first be stored at designated storage areas and then disposed. Solid waste will not be allowed to be left at natural habitats. ■ Regular dust suppression will be made at construction sites to prevent dust formation. ■ Vegetation clearance will be performed in winter where possible. Woodland clearance and the removal of other ecosystems and the disturbance to soils will be minimised, particularly if they are habitats of species of conservation concern.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Biodiversity Expert in place. ■ 100% of workers received training on ecological sensitivity. ■ Portable sound barriers or earth mounds are in place before blasting activities. ■ Signboards are in place.	■ Prior to RoW clearance ■ Throughout construction	■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)
Aquatic Habitats	■ Mixing any chemical substances, that is used in the construction area, in waterbed and/or aquatic ecosystems will be prevented. ■ Excavation materials will not be dumped onto riverbed. ■ Any contamination of water resources will be avoided through pollution control measures and pollution response measures including training in use of and deployment of spill kits. ■ During the construction and operation phases, water abstraction can only be carried out after receiving permits from the relevant authority. ■ The use of sediment traps to reduce sedimentation yields minimize the effects of downstream aquatic will be considered. ■ The EPC contractor will ensure the maintenance of water quality at controlled discharge points.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Biodiversity Expert in place. ■ 100% of workers received training on ecological sensitivity. ■ Signboards are in place.	■	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)

CONSTRUCTION PHASE						
	■ All freshwater resources such as small ponds, water channels, creeks, etc. will be protected as much as possible during construction. ■ Surface runoff from high precipitation events will be attenuated using on-site storage and water management infrastructure (e.g., storage ponds, sumps, low gradient ditches, clean water diversions). ■ Construction activities, uncontrolled removal of vegetation, forming of waste dumps will be minimised; and any material, including temporary stores within the riparian buffer zone (50m) along the banks of water courses will be disposed.					
Flora	■ Micro siting will be used to avoid areas of greatest biodiversity interest. ■ Invasive species management will be implemented in line with the requirements defined in CESMP. ■ During the preconstruction phase, seeds and/or bulbs of the endemic and rare species (except for *Campanula lyrata*, which is widespread endemic species) will be collected and delivered to the Turkish Seed Gene Bank. With this action in place, it is considered that there is no need to take measures within the scope of this project for ex-situ conservation. However, taking in-situ conservation measures is important for the future of the populations of the species. In this context, the populations in the areas where the species spread will either be moved to suitable habitats by translocation method or the seeds of these species will be collected and planted in suitable habitats. Monitoring will be done to determine success.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Seeds collected prior to RoW clearance and sent to Gene Bank.	■ Prior to RoW clearance	■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)
Mammals	■ Pre-construction surveys will be conducted to identify location of roosting and resting places. Retention and micro avoidance will take place if possible. Removal of these will take place when not in use. Appropriate roosting and resting places, like roost for bats, will be provided. Artificial holts for otters will be constructed where it is required. ■ Lighting and noise will be controlled. ■ Egress by wildlife to construction areas e.g., capping pipes at night, will be prevented. Ditches will be fenced off. ■ Connectivity around or across construction areas, particularly linear infrastructure (e.g., through use of animal crossings) will be maintained. ■ Controls such as speed bumps will be constructed and awareness training to reduce wildlife collisions will be conducted. Protocols will be followed for capture or herding mammals found in construction areas where these are unable to exit by themselves. ■ Mitigation areas will be developed in advance of construction to replace lost habitat. ■ Micro siting will be used to avoid areas of greatest biodiversity interest. ■ To mitigate barrier effect, a crossing strategy will be implemented to identify existing likely movement areas within the AoI and establish suitable types of crossings. This is especially important near the Sazlıdere dam where the bridge will be built. ■ Light and noise will be minimised during construction and operations near any identified bat roosting and foraging areas.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Crossing strategy is in place. ■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Roosting, resting places, nests identified and translocated before RoW clearance.	■ Prior to RoW clearance ■ Throughout construction	■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)

CONSTRUCTION PHASE						
Birds	■ Noise and visual disturbance will be reduced. ■ Suitable alternative habitats will be created, or existing ones will be enhanced to support displaced species (e.g. nest sites if these are a limiting factor). ■ Sympathetic timing of works will be used. ■ Vegetation will be removed in winter where possible.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Ecological constraints are reflected in Construction schedule (e.g., vegetation clearance to be preferred in winter). ■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Roosting, resting places, nests identified and translocated before RoW clearance. ■ 100% of workers received training on ecological sensitivity.	■ Prior to RoW clearance ■ Throughout construction	■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)
Herptiles	■ Pre-construction capture and removal to enhanced areas will be carried out for the Mediterranean Spur-thighed Tortoise (VU) and European pond turtle. ■ Waterbodies and associated features and terrestrial habitat will be retained wherever possible. ■ Connectivity across construction areas, particularly infrastructure, e.g., through provision of pipes under construction roads, will be maintained. ■ Restoration and rehabilitation of temporary land take will take place. ■ Terrestrial zones with natural vegetation around amphibian reproduction centres will be protected, to enable the necessary flow of genetic material between local habitats. ■ Suitable mitigation habitats will be created pre-construction. ■ Reptiles and amphibians will be collected prior to construction and moved to mitigation areas by suitably trained and experience staff. ■ High hygiene levels will be maintained and checks for fungi (Chytridiomycetes) and viral infections, e.g., Ranavirus will take place. ■ Where the motorway will cross this watercourse, a suitable underpass such as a large culvert will be established over the channel that allow amphibians to survive inside the channel. Culverts or underpass structures will be large enough to keep soil ground stripes along both side of the channel so that amphibians in water and some other animals such as reptiles and mammals can cross the motorway by using these land stripes along the channel.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Biodiversity Expert in place. ■ Preconstruction survey forms are in place. ■ Mediterranean Spur-thighed Tortoise (VU) and European pond turtle is relocated in case identified prior to RoW clearance. ■ Roosting, resting places, nests identified and translocated before RoW clearance. ■ Suitable culverts are in place for amphibians' crossings. ■ 100% of workers received training on ecological sensitivity.	■ Prior to RoW clearance ■ Throughout construction	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream) ■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)
Fish	■ The EPC contractor will ensure that good construction practice near water is enforced following UK Guidance for Pollution Prevention: Works and maintenance in or near water: GPP 5 (Version 1.2 February 2018)[8]. ■ In April, May and June, which is the breeding season for fish, the least possible interference will be made in the areas where aquatic sampling was carried out within the scope of this study.	EPC	■ CESMP ■ Biodiversity Action Plan	■ Ecological constraints are reflected in Construction schedule (e.g., vegetation clearance to be preferred in winter). ■ Biodiversity Expert in place.	■ Prior to RoW clearance ■ Throughout construction	■ Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir ■ Km 55+000 - 56+000 (Stream) ■ Km 56+000 - 57+000 (Stream)

[8] https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf

CONSTRUCTION PHASE

ECONOMY AND EMPLOYMENT

Temporary Direct and Indirect Employment	■ SPV and EPC Contractor will work with local authorities (such as İŞKUR) and employment organisations to ensure that all temporary positions are advertised in a manner that is accessible to the communities in the AoI. ■ SPV and EPC Contractor will ensure that the recruitment process (including EPC, subcontractors, and suppliers' recruitment process) is fair and transparent, public and open to all regardless of ethnicity, religion or gender. ■ SPV and EPC Contractor is committed to employ 5% of people from vulnerable groups (applicable for temporary employment) such as low-income households, refugees, young people, ethnic minorities. Women and men will be evaluated according to the same standards, and employment priority will be given to female employees if they meet the expected qualifications. SPV and EPC Contractor also committed to employ in minimum 5% women during construction period. ■ SPV and EPC Contractor will ensure that subcontractors develop the following specific measures for to facilitate access to employment for vulnerable people, including women and youth: - Include gender quota to ensure women are represented in the pool of candidates or workers; - Use inclusive vocabulary in job descriptions in order to encourage women to apply; - Collaborate with local unemployment agencies. ■ Stakeholder Engagement Plan will be implemented to outline how SPV will ensure regular, open, and transparent communication with all stakeholders. ■ Stakeholders will also be able to report directly to the Project via Grievance Management Procedure about their expectations and concerns related to the local economy and employment. ■ To maximise capacity enhancement and transfer of knowledge to local contractors and their employees, SPV will develop formal training programs and formalise on-the-job trainings to the extent possible, including learning targets and performance monitoring.	EPC	■ Local Recruitment Plan ■ Labour Management Plan	■ Percentage of the skilled, semi-skilled and unskilled workforce hired from the Project affected community. ■ Percentage of workforce hired from vulnerable groups. ■ Number of complaints pertaining to employment related to discrimination, abuse of labour rights, sexual harassment**.**	■ Throughout construction	-
Procurement/ Supply chain management	■ SPV and EPC Contractor will ensure no forced and child labour is involved in the whole supply chain of the project. They will include contractual provisions into contracts regarding their zero tolerance policy against child/.forced labour and exploitation of workers and they will monitor suppliers on regular basis. ■ SPV and EPC Contractor will be required to develop a purchasing strategy that stipulates how national and local purchase of goods will be optimised. The purchasing strategy will be required to adhere to all SPV HSE policies, procedures, and Project ESIA report. Agreed measures will be monitored and reported by SPV will implement a phased capacity building programme (sector by sector) that will enable local companies to achieve qualifications and potentially certification with the relevant standards and requirements well in advance of the tendering process. ■ SPV and EPC Contractor will engage with the local government, and other organisations to determine opportunities for targeted training. ■ Any selected potential suppliers will have to meet labour, health, safety, environment and quality standards.	EPC	■ Supply Chain Management Plan	■ Percentage of procurement of goods and services from the Project affected community.	■ Throughout construction	-

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	■ Following selection of primary contractors, and prior to the start of construction, SPV and EPC Contractor will carry out trainings for contractors focused on the Project's E&S requirements including HSE, social policies.					
LAND AND LIVELIHOODS						
Physical resources and related livelihoods	■ Project Resettlement Action Plan including a Guide to Land Acquisition and Compensation (GLAC) will be implemented by RAP Implementation Team. ■ The RAP Implementation Team will establish the database of all PAPs, including affected vulnerable persons/households including vulnerable members, for the provision of entitlements. ■ Additional compensation (on top of mandatory cash compensation to be provided KGM in line with the contractual responsibilities of SPV and KGM as defined in the BOT Contract), livelihood restoration and assistance measures will be provided to owners and users of the affected houses, affected businesses, and affected lands. ■ Compensation to PAPs will be provided at full replacement cost. To this end, a RAP Fund will be established to provide the difference between the mandatory cash compensation provided by KGM and the full replacement cost as defined and required by international standards (see Implementation Costs – RAP Fund to be allocated by the SPV in consultation with KGM). ■ The Project will provide through the RAP Fund specific allowances (e.g. moving allowance, business relocation allowance, financial support package to employers and employees for the temporary business interruption during relocation) to support PAPs in the resettlement process and in livelihood restoration or improvement. ■ Special measures and assistance tailored to the needs of vulnerable PAPs will be developed and implemented by the RAP Implementation Team in line with RAP. ■ The same principles will apply to any acquisition/expropriation work required in the Project in future. Potential operation phase impacts on sensitive receptors located outside the expropriation boundary (such as noise) will be monitored internally by SPV and externally by the Lenders through their independent consultants. PAPs will be granted the right to request acquisition within three (3) years upon commissioning of the Motorway should any significant environmental and/or social impacts be identified through E&S monitoring that cannot be mitigated. ■ The RAP will be publicly disclosed in manners suitable to the local context and a non-technical summary of entitlements and processes will be provided to all PAPs and other relevant stakeholders in the form of a "Guide to Land Acquisition and Compensation". ■ Engagement with PAPs (who have already been engaged during expropriation process) will continue with a combination of community and face-to-face meetings. Any compensation-related or other grievances from PAPs will be managed through Project's Grievance Mechanism. ■ Vulnerable groups will be entitled to the livelihood restoration and improvement measures described in RAP. In addition to other applicable entitlements and measures defined previously, for households with vulnerable members, case-specific in-kind assistance and measures, which will be designed through direct engagement with the	SPV/KGM	■ Resettlement Action Plan ■ GLAC ■ RAP Fund Implementation Procedure ■ KGM Land Acquisition and Resettlement Procedure	■ Demonstration of compliance with RAP and other commitments related to mitigation of physical and economic displacement. ■ Number of complaints pertaining to land acquisition, displacement, and livelihood restoration. ■ Number of complaints pertaining to land acquisition, displacement, and livelihood.	■ Throughout construction	-

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	affected households in consideration of their special needs, will be provided. ■ Specific attention will be paid to gender consideration to ensure participation and engagement of women. ■ Specific attention will be paid during information, consultation, negotiation and post-resettlement monitoring processes through development and implementation special information and consultation methods and tools designed to address the needs of each vulnerable PAP in line with the Project SEP. Vulnerable groups will have privileges such as: ■ Priority in accessing consultancy services and Livelihood Restoration Projects offered by the RAP. ■ Assistance to follow-up and/or access to compensation payments as part of RAP implementation. ■ Assistance in accessing governmental institutions, legal advice, etc. when needed and relevant (e.g., logistical support, communication assistance, assistance with preparation of official application documentation). ■ Assisting illiterate, elderly, and other persons in need in reviewing and processing official documents relevant to expropriation. ■ Priority for job opportunities to one of the household members eligible and able to work and meeting the Project's employment requirements. ■ Assistance in accessing and applying to governmental institutions providing existing support programs to persons with vulnerabilities. In line with RAP, the Project shall provide additional compensation (on top of mandatory cash compensation to be provided KGM in line with the contractual responsibilities of SPV and KGM as defined in the BOT Contract), livelihood restoration and assistance measures to owners and users of the affected houses, affected businesses and affected lands A specific Grievance Mechanism Channel will be developed specifically to manage concerns regarding the RAP processes. This Grievance Mechanism Channel will be managed by the teams in charge of the RAP processes. A separate database should be maintained by the Project to monitor these grievances.					
LABOUR AND WORKING CONDITIONS						
Labour and Working Conditions / Workers' Rights	■ SPV will ensure its EPC and sub-contractors comply with the labour conditions in accordance with the national law and lenders standards in line with the core ILO conventions. ■ Regular (quarterly) labour audits will be conducted by independent labour experts during construction. ■ Access to clear and understandable information regarding worker's labour and working conditions will be provided. ■ Reasonable working conditions and terms of employment will be provided. ■ Employment, compensation/remuneration and working conditions will be provided, including working hours, based on equal opportunity and fair treatment, avoiding discrimination on any aspects. ■ A Grievance Mechanism will be implemented for the Project's workers including subcontractor workforce (accessible to all workers, whether permanent or temporary, directly or indirectly employed including	EPC	■ Human Resources Policy ■ Camp Management Plan ■ Labour Management Plan ■ GAP ■ GBVH Policy	■ 100% of workforce who received training/ induction on HR policies, plans and procedures. ■ 100% of workers having received training on their legal rights and responsibilities. ■ Number of grievances received ■ Percentage of workers who are covered by a collective bargaining agreement. ■ Number of incidents of forced or child labour within direct employees, subcontractors, and suppliers. ■ Monthly inspections of all accommodation provided completed.	■ Throughout construction	-

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	contractor workers). The grievance mechanism will include specific provisions to manage GBVH grievances. ■ Open attitude towards freedom of association and in conformance with Turkish laws will be adopted. ■ No employee or job applicant will be discriminated against on the basis of his or her gender, marital status, nationality, age, religion or sexual orientation. ■ All workers will, as part of their induction, receive training on worker rights in line with Turkish legislation to ensure that positive benefits around understanding labour rights are enhanced. ■ All workers (including those of contractors and subcontractors) will be able to join unions of their choice and have the right to collective bargaining. ■ All workers (including those of contractors and subcontractors) will have contracts which clearly state the terms and conditions of their employment and their legal rights. ■ Contracts will be verbally explained to all workers where this is necessary to ensure that workers understand their rights. ■ Contractor contracts will establish the right for SPV monitoring and auditing of all contractors and subcontractors and the consequences for the contractor if they are found to be breaching national legal requirements, international standards, SPV's policies or clauses in the contract. Contractor contracts will specify that the same standards will be met by their sub-contractors and suppliers. ■ A program of social compliance monitoring will be implemented to inform internal auditing and monitoring process. Develop KPIs around worker rights, discrimination and management, workforce grievance mechanism and monitoring of outcomes. ■ The outcomes of community engagement, media coverage and its workforce and Community Grievance mechanism will be reviewed and monitored for additional indications of labour-related issues that may arise.			■ Number of non-compliances identified related to accommodation. ■ 100 % of workers (direct employees and subcontractors) trained on the worker grievance mechanism. ■ 100 % of workers received all documentation (references, final pay, certificates etc.) upon completion of their contact.Number of labour related court cases		
Occupational Health and Safety	■ PPE will be identified and provided to all concerned workers during activities to avoid health implications (e.g., dust masks, protective clothing for handling waste materials etc.). ■ Pre-employment screening protocols will be conducted for all employees including contractors and subcontractors which will include medical checks of SARS CoV 2 history and other diseases appropriate to WHO recommendations, the individual's country of origin and vaccinations. ■ Workers will be provided with primary health care and basic first aid at worksites. ■ All work of persons will be subject to an appropriate risk assessment and regular monitoring of health, working conditions, and hours of work. ■ Regular medical check-ups and centralized medical treatment for all workers of the Project (SPV, contractors and subcontractors) will be provided. ■ Workforce, including contractors and subcontractors, will be provided with health awareness training, including hazardous works, a significant briefing of hygiene practices (such as hand washing), implementation of	EPC	■ Health and Safety Plan ■ Emergency Preparedness and Response Plan ■ Permit to Work Procedure ■ Procedure For Control of Life Critical Activities ■ Hazard and Risk Management Procedure ■ HSE Training Procedure ■ Accident and Incident Management Procedure ■ HSE Discipline Procedure ■ Fire Safety Prevention and Protection Procedure ■ HSE Monitoring, Verification and Evaluation Procedure	■ 100% workers (direct employees, subcontractors, and suppliers) that have received HSE induction prior to working on site. ■ 100% workers (direct employees, subcontractors, and suppliers) that have received task specific training. ■ Percentage of workers attending toolbox talks. ■ Number of stop work notices issued by activity. ■ Number and type of non-compliances observed during daily and weekly site inspections. ■ 100% workers received PPE. ■ Zero fatality. ■ Number of Lost Time Incidents involving workers on site. ■ Number of incidents investigated, corrective actions identified and	■ Throughout construction	-

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	educational outreach to increase awareness of major communicable disease and how to protect against infection and about transmission routes and the symptoms of the communicable diseases of concerns (including STDs and COVID-19). ■ Contractor contracts will specify monitoring to be undertaken by the contractor, establish the right for the Project monitoring and auditing of all contractors and subcontractors and the consequences for the contractor if they are found to be breaching national legal requirements, international standards, policies, or clauses in the contract. Contractor contracts will specify that the same standards will be met by their sub-contractors and suppliers. ■ As part of the contractor and supplier selection process SPV will take into consideration performance with regard to worker health and safety as outlined in Turkish law, international standards and SPV policies. ■ Any appointed contractors will establish their own EPRP and communicate key information to the Project workforce prior to work commencing on any site. ■ Furthermore, unauthorized access to explosive materials will be restricted, allowing only qualified personnel in the initiation of the explosives. Flyrock control is essential, and the area around the blast site where flying debris may occur will be secured. ■ Similarly, during the construction phase, SPV and EPC Contractor will maintain all provisions of the existing 'Labour Management Plan in line with Turkish regulations. SPV and EPC Contractor will maintain a workers' grievance mechanism that will be accessible to all workers, whether permanent or temporary, directly or indirectly employed. Contractors and sub-contractors will be required to put in place a Workers' Grievance Mechanism. Following specific measures will be implemented with regard to the OHTLs are as follows: ■ Implementation of Permit to Work system for working at height and working with live power lines. ■ Ensure compliance of safe practices and implementation of Health and Safety Plan. ■ Provide and ensure use of PPE like, safety goggles, gloves, safety harness, helmets, gumboots etc. ■ Hoisting equipment should be properly rated and maintained and hoist operators properly trained. ■ Signs and other obstructions should be removed from tower prior to undertaking work. ■ Prior training of the workers regarding health and safety procedures, especially in terms of working at height. ■ Use of lock-out/tag-out procedure, before work is performed on, or in close proximity, to the lines. ■ Trained and certified workers should be involved in installation, maintenance, or repair electrical equipment. ■ The worker should be properly insulated from the energized part with gloves or other approved insulation prior to start of work. ■ Ensure proper use of special safety equipment and procedures when working near or on exposed energized parts of an electrical system.		■ Working At Height Procedure ■ Cranes and Lifting Operations Procedure ■ Confined Space Procedure ■ Personal Protective Equipment Procedure ■ Manual Handling Procedure ■ Excavation Works Procedure ■ Electrical safety Procedure ■ Machine and Equipment Procedure ■ Housekeeping Procedure ■ Operator Competency Assessment Procedure	closed out/ not closed out within the required timeframe.		

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	■ Fall protection should be in place prior to working at towers and poles. ■ When operating power tools at height, workers should use a second (backup) safety strap. ■ Signs and other obstructions should be removed from poles or structures prior to undertaking work. ■ Approved tool bag should be used for raising or lowering tools or materials to workers on structures.					
Gender-Based Violence, Harassment and Inequalities **Child Labour and Forced Labour in the Supply Chain**	■ A Gender Action Plan will be implemented for the Project, including mitigation measures in relation to Gender-Based Violence and Harassment (GBVH). The strategy will include: - In consultation with workers and their representatives, a workplace policy on violence and harassment will be adopted and implemented; - Violence and harassment and associated psychosocial risks in the management of occupational health and safety will be taken into account; - Hazards will be identified and the risks of violence and harassment will be assed, with the participation of workers and their representatives, and to prevent and control them measures, such as ensuring access to clean, safe, secure and separate toilet and welfare facilities at work, will be taken. Lack of access can create or exacerbate health problems for workers as well as put them at risk of violence, including sexual violence; - Workers and other persons will be provided concerned information and training, in accessible formats as appropriate, on the identified hazards and risks of violence and harassment and the associated prevention and protection measures, including on the rights and responsibilities of workers; and - Effective means of inspection and investigation of cases of violence and harassment will be ensured, including through labour inspectorates or monitoring. ■ Specific provisions will be implemented in the Project's Grievance Mechanism to manage grievances related to GBVH (e.g., the complainant will be able to communicate the grievance to a person of its preferred gender, for example, if a woman prefers to explain the grievance to another woman, that will be possible). ■ Local Recruitment Plan will be developed ensuring that the recruitment process is fair and transparent, public, and open to all regardless of ethnicity, religion or gender.	EPC	■ Human Resources Policy ■ Gender Based Violence Harassment Policy ■ Local Recruitment Plan ■ GBVH Incident Reporting Procedure, GBVH Incident Report & Support Mechanism ■ Gender Action Plan ■ Supply Chain Management Plan	■ 100% workers (direct employees, subcontractors, and suppliers) that have received task specific training on Gender Based Violence, Harassment and Inequalities. ■ Number of grievances received. ■ Code of Conduct in place. ■ Zero Tolerance Policy in place. ■ Gender Based Violence Harassment Policy in place. ■ 100% of contracts including clauses on labour and working conditions in line with Turkish Law and Project standards. ■ Zero incidents of suppliers and subcontractors hired where assessment has identified issues associated with forced labour, child labour or significant safety violations.	■ Throughout construction	-

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	■ SPV and EPC Contractor will oversee if suppliers comply with all applicable child labour laws and only employ workers who meet the applicable minimum legal age requirement in accordance with international standards. ■ Contractor contracts will specify monitoring to be undertaken by the contractor, establish the right for the Project monitoring and auditing of all contractors and subcontractors and the consequences for the contractor if they are found to be breaching national legal requirements, international standards, policies or clauses in the contract regarding forced child labour. Contractor contracts will specify that the same standards will be met by their sub-contractors and suppliers. ■ In all contractor contracts SPV and EPC Contractor will make explicit reference to the need to abide by Turkish law and international standards in relation to child labour.					
COMMUNITY HEALTH, SAFETY AND SECURITY						
Road safety	■ Drivers of Project vehicles will be trained/briefed about safe driving with respect to other drivers, pedestrians and livestock. ■ Advance warning will be given of any proposed road diversions and closures. ■ Project vehicles will be identifiable (e.g. an easy to read/see sign or symbol on vehicles which shows that they are connected to the Project). ■ It will be addressed how the Contractor can reduce the exposure of vehicle drivers, their passengers and other road users from the hazards of road-related accidents. ■ The grievance mechanism will be implemented prior to commencement of the construction phase, with all relevant staff fully cognizant of their roles in the grievance resolution process so that quick and effective response is provided to the concerns raised by local stakeholders. ■ Monthly Road Safety Audits will be conducted in line with “EC Directive 2008/96/EC – Road infrastructure safety management” on the Project design documentation as required by the Directive.	EPC	Traffic Management Plan ■ Community Health, Safety and Security Plan	■ 100% number of drivers trained and have driving license. ■ Number of community members/ stakeholders engaged with on road safety. ■ Number of Road Traffic Accidents involving Project vehicles. ■ Number of incidents of speed exceedances. ■ Number of vehicles that fail inspections for roadworthiness. ■ Number of grievances received.	■ Throughout construction	-
Site trespass and injury	■ As part of the SEP, SPV and EPC Contractor will undertake a programme of stakeholder engagement and consultation to educate local communities of the risks of blasting and trespassing onto sites, the meaning of signs, the risks of playing on or near equipment or entering fenced areas. This will include a presentation in every primary and secondary school in communities in the AoI. ■ A community meeting will also be given in every settlement along the route. Records of the meeting and attendees will be kept. ■ EPC Contractor will provide access to health care for those injured by its activities. ■ EPC Contractor will ensure that signs are put up around work fronts and construction sites advising people of the risks associated with trespassing. In order to reduce the likelihood of people trespassing to seek job opportunities in the Project, the site safety signage will include a warning stating that recruitment at the construction site will not be permitted. Furthermore, all job advertisements will clearly state no recruitment will be done on the construction site.	EPC	■ Community Health, Safety and Security Plan ■ Security Management Plan	■ Number of community members/ stakeholders engaged with site trespass. ■ Warning signs are in place and in good conditions. ■ Number of incidents. ■ Number of grievances received.	■ Throughout construction	-

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Overhead Transmission Lines	■ Engagement with PAPs (who have already been engaged during expropriation process) will continue in line with SEP. Any compensation-related or other grievances from PAPs will be managed through Project's Grievance Mechanism. ■ Risks to general public during stringing activities to be mitigated by initial on-site training of workers and sensitisation of the local community. ■ Once the stringing is complete, notices (danger-sign boards) and anticlimbing devices to be put on all the faces of the tower. The landowners and local community will be given adequate notice in advance of the initiation of construction activities, the possible health and safety risks associated with it, and the safety measures to be followed. ■ Appropriate signage in the local language will be erected. ■ Excavation for foundations will be closed up as soon as practicable to prevent people or animals falling into the excavations. ■ The transport of heavy and abnormal loads will be undertaken out of normal working hours whenever possible. ■ Grounding conducting objects (e.g. fences or other metallic structures) should be installed near power lines, to prevent shock. ■ Fixing of permanent warning plates (danger-sign boards). ■ Fixing of anti-climbing devices on all faces of the towers. ■ The community in the immediate vicinity should be informed of the possible risks associated with the transmission line, the measures put in place to ensure safety and the precautions to be taken by the local community for the same.	EPC	■ Stakeholder Engagement Plan (including Grievance Mechanism) ■ Community Health, Safety and Security Plan	■ Number of community members/ stakeholders engaged with site trespass. ■ Warning signs are in place and in good conditions. ■ Number of incidents. ■ Number of grievances received.	■ Throughout construction	**EPC**
Blasting	■ Blasting signs are to be conspicuously place along the edge of the blast site and area where flying debris may occur. ■ Access within the blasting area will be controlled to prevent presence of livestock or unauthorized persons during blasting. Access will remain controlled until an authorized representative of the operator has reasonably determined that: no unusual hazards, such as imminent slides or undetonated charges, exist, and access to and travel within the blasting area can be safely resumed. ■ Blasting schedules will be distributed to the users of the grazing areas, residents and local governments including the name, address and telephone number of the operator; an identification of the specific areas in which blasting will take place; the dates and time periods when explosives are to be detonated; the methods to be used to control access to the blasting areas; and the type of patterns of audible warning and all-clear signals to be used before and after blasting. ■ Residents of the local communities will receive a written notification at least 30 days in advance of a nearby blasting as well as two (2) more written reminders. This notification will include the blasting schedules, as well as the name, address and telephone number of the operator; an identification of the specific areas in which blasting will take place; the dates and time periods when explosives are to be detonated; the methods to be used to control access to the blasting areas; and the type of patterns of audible warning and all-clear signals to be used before and after blasting.	EPC	■ Blasting Management Plan ■ RAP in case of damaged houses/businesses etc ■ Building Evacuation Plan	■ Number of community members/ stakeholders engaged and informed about blasting. ■ Blasting schedules agreed with stakeholders. ■ Written notifications in place and recorded. ■ Warning signs are in place and in good conditions. ■ Number of incidents. ■ Number of grievances received.	■ Throughout construction	■ Km 2+600 – Km 4+500 ■ Km 36+900 ■ Km 37+300 – 41+800 ■ Km 43+100 – 44+300 ■ Km 46+300 ■ Km 51+600 – 51+900 ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300 ■ Km 45+000 – Km 52+000 (Important Bird Area) ■ Bahçeşehir Connection Road Km 0 – 5+00 (Important Bird Area) ■ Km 58+000 – Km 59+000 (Important Plant Area)

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	■ Consultation with people living in houses close to the RoW. ■ Compensate/reinstate any houses damaged due to blasting in line with RAP principles. ■ Building Evacuation Plan ensuring people are evacuated safely in line with RAP principles					
Increased transmission of communicable diseases	■ A Workforce Code of Conduct detailing specific values, living and working conditions, which will contribute to reduce the risks of disease transmission into the community as well as a Worker Grievance Mechanism. The Code of Conduct will expressly prohibit sexual interactions of any kind with underage persons. ■ Workforce, including contractors and subcontractors, will be provided with health awareness training, including a significant briefing of hygiene practices (such as hand washing), implementation of educational outreach to increase awareness of major communicable disease and how to protect against infection and about transmission routes and the symptoms of the communicable diseases of concerns (including STDs and COVID-19). ■ Pre-employment screening protocols will be conducted for all employees including contractors and subcontractors, which will include checks for COVID-19, and testing for TB and other diseases appropriate to WHO recommendations, the individual's country of origin and vaccinations. ■ Workers will be provided with primary health care and basic first aid at worksites. ■ Regular medical check-ups and centralized medical treatment for all workers of the Project will be provided. ■ Workers will be provided with appropriate sanitary facilities, which are appropriately designed to prevent contamination. ■ COVID-19 measures will be implemented in line with guidance note of Ministry of Health[9]. ■ A robust waste handling system to avoid the creation of new vector breeding grounds or attracting rodents to the area will be developed. ■ Measures to reduce the presence of standing water onsite through environmental controls and source reduction to avoid the creation of new breeding grounds will be implemented. ■ It will be ensured that the worker camp is kept clean and free from any accumulation of wastes as well as supplied with clean potable water. ■ Appropriate food preparation and monitoring measures will be in place. Monitoring to ensure that all standards are being met by the relevant departments will take place.	EPC	■ Labour Management Plan ■ Covid-19 Emergency and Response Plan	■ Number of cases of communicable diseases in total and by disease. ■ Number of cases of vector borne diseases in total and by disease. ■ Number of cases of STDs in total and by disease. ■ Number of cases referred for treatment at other health facilities. ■ Percentage of workers that have received pre-employment health screening. ■ Number of grievances received.	■ Throughout construction	-
Increase risk of Gender Based Violence and Harassment	■ All employees and contractors are required to acknowledge and adopt the environmental and social work practices and comply with all HSE procedures as well as the Code of Conduct and Zero Tolerance Policy, reporting safety hazards, unsafe work practices, unacceptable conditions, and environmental and social issues. ■ All contractor contracts will include explicit reference to the need to abide by Turkish law and applicable standards and policies in relation to health and safety. Furthermore,	EPC	■ Labour Management Plan ■ Gender Action Plan ■ GBVH Incident Reporting Procedure, GBVH Incident Report & Support Mechanism	■ 100% workers (direct employees, subcontractors, and suppliers) that have received task specific training on Gender Based Violence, Harassment and Inequalities. ■ Number of grievances received. ■ Code of Conduct in place.	■ Throughout construction	-

[9] https://covid19.saglik.gov.tr/TR-66301/covid-19-rehberi.html

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	contracts will include a clause committing contractors to adhere to SPV' GBVH policies and procedures, which could include specific GBVH risks and agreed measures to address them, explicitly mentioning the SPV' zero tolerance towards GBVH. ■ Training and orientation will be delivered on respecting local communities and vulnerable populations, with a special focus on gender, Human Rights and GBVH risks awareness. The training will also include clear guidelines to create a secure environment for women and children in the area, for example: actions such as catcalling people from the community or other workers will not be permitted. ■ Monitoring systems will be put in place for regular reporting on GBVH, including a grievance mechanism with special provisions for GBVH grievances that include confidential and anonymous grievance reporting, referral and a support system for workers. Workers in charge of dealing with grievances will have adequate specialised training on how to conduct GBVH-related investigations and provide a suitable response. ■ Finally, SPV will consider conducting mappings of formal services (healthcare and counselling) and informal resources, including women's organisations.			■ Zero Tolerance Policy in place.		
Use of security personnel	■ A Security Management training will be provided to security personnel. Security Arrangements will be based on the Voluntary Principles for Security and Human Rights[10] which are international best practice. Security arrangement will be made transparent to the local communities. Consultation with them about the impact of arrangements will take place regularly. ■ Violation of the required standards will result in corrective actions, including termination of sub-contracts with security firms. Sufficient training including clear instructions on the objectives and the permissible actions will be provided to the security personnel. The instructions will be based on the relevant Turkish law and will be communicated as terms of employment and reinforced through periodic professional training. Given regular contact with the local populations, training on the Grievance Mechanism, such as handling of community grievances will also be provided to the security staff as part of their periodic professional training. ■ Complaints by the public (or other workers) with respect to behaviour of Security Personnel can be made via the Grievance Mechanism. ■ As part of the Stakeholder Engagement Plan, SPV and EPC Contractor will have an engagement meeting community informing about the Health and Safety Plan and the procedures adopted. SPV and EPC Contractor will consider and incorporate feedback and concerns of the community into the Health and Safety Plan.	EPC	■ Security Management Plan ■ Community Health, Safety and Security Plan ■ Stakeholder Engagement Plan (including Grievance Mechanism) ■ Health and Safety Plan	■ 100% security personnel (direct employees, subcontractors, and suppliers) received task specific training on Voluntary Principles for Security and Human Rights. ■ Number of grievances received. ■ Code of Conduct in place.	■ Throughout construction	-
ACCESS TO INFRASTRUCTURE AND SERVICES						
Disruption to infrastructure and utilities during construction	■ Infrastructure relocated by the Project (electricity, telecommunication, sewage, natural gas distribution, storm water lines and water supply, etc.) will be developed in a way that allows neighbouring communities to benefit from them after construction is over.	EPC	■ Community Development Plan ■ Stakeholder Engagement Plan (including Grievance Mechanism)	■ Percentage of grievances related to severance closed out in line with the timings in the Grievance Mechanism. ■ Number of issues related to severance raised in stakeholder	■ Throughout construction	-

[10] https://www.voluntaryprinciples.org/

CONSTRUCTION PHASE						
	■ Special attention will be paid to the settlements with poor access to infrastructure and services such as Samlar and Sahintepe (Başakşehir district), Yesilbayir (Arnavutköy district), Bahyasis (Çatalca district) and Tahtakale (Avcilar district). ■ Nearby properties to the blasting areas will be inspected prior and after the blasting to assess the potential impacts. ■ Where roads are closed, EPC Contractor will find local solutions (including diversions if necessary) to be put in place. ■ EPC Contractor will liaise and engage with local authorities and utilities companies to ensure continuity of supply to communities. Only short term “planned” disruption to drinking water or electricity services will be allowed (and these disruptions will be communicated in a timely manner to the affected people). ■ EPC Contractor will work with local utilities companies to ensure coordinated and rapid response to unplanned events such as damage to electric lines and water pipes. ■ CLOs will be present at work fronts to ensure that impacts from planned disruptions are minimised and that unplanned disruptions are properly managed. ■ The Grievance Mechanism will be in place ensuring rapid response time and access to a compensation process will unplanned disruption result in loss of livelihoods that could not otherwise be avoided. ■ Beyond the above mitigation measures, a Community Development Plan will be developed by the Project in consultation with local communities, with active engagement required to determine the location and nature of investments to support local communities and their infrastructure]. All stakeholders will be kept informed on the progress of investment activities and opportunities.			meetings and percentage closed out in agreed timeframes. ■ Community satisfaction with alternative routes provided around Construction Camps, laydown areas and construction sites need to be determined to provide alternative or additional routes to maintain connectivity to infrastructure services and social networks.		
Disturbance from presence of workforce	■ In order to limit disturbances related to the influx of outside workers into the Project area, the Employment Strategy and Recruitment Process will clearly communicate to stakeholders that local candidates will be prioritized to the fullest extent possible. ■ A code of conduct for construction workers is developed and they will be trained regarding code of conduct measures prior to construction. ■ The Project’s Community Liaison Officer (CLO) will engage with local stakeholders prior to commencement of construction activities, providing updates and answering queries. The CLO will be present on the ground during the whole construction process and available to the affected communities. ■ Ongoing dialogue will be maintained between SPV, EPC Contractor and local communities to assist in information sharing regarding employment practices and the use of non-local staff. Local communities will be provided information on the number of non-locals to be brought to the area, their housing arrangements and the measures that EPC Contractor is putting in place to ensure that all workers abide by local customary practices. ■ The Grievance Mechanism will be implemented.	EPC	■ Stakeholder Engagement Plan (including Grievance Mechanism) ■ The code of conduct ■ HR policy and procedures ■ GBVH policy	■ Number of grievances raised related to issues associated with social cohesion/ change. ■ Number of stakeholder engagement activities undertaken regarding social cohesion/ change. ■ Number of actions raised in stakeholder meetings and percentage closed out in agreed timeframe.	■ Throughout construction	-

CONSTRUCTION PHASE

CULTURAL HERITAGE

Cultural Heritage	■ The relevant museum directorate will be notified about the cultural heritage sites those have been identified along the RoW and the chance finds in case encountered during Project activities as per the requirements of Law on Preservation of Cultural and Natural Assets (Law No. 2863). ■ There will be a liaison with the Istanbul Regional Council No:1 for the Conservation of Cultural Property to agree a strategy for archaeological mitigation. ■ No physical Project activity at the cultural heritage sites site will be started before the studies of the related museum directorate are finalised and the official views of the authorities on relevant sites are obtained. ■ Pre-construction archaeological investigations will be conducted to identify, investigate and scientifically remove any archaeological deposits encountered. ■ Qualified archaeologist will be appointed during ground disturbing activities and on all construction fronts particularly at risk areas. ■ There will be liaisons at early stages with relevant museum directorate in case blasting will be required close to archaeological sites. ■ Additional cultural heritage assessment studies including stakeholder engagements in case of a route or design change will be conducted. ■ A Cultural Heritage Management Plan has been developed. Items to be addressed in the plan will include Regulator Engagement, Access Management, Mitigation Control and Management of Intangible Heritage through community engagement. ■ The archaeological sites will be processed/indicated as “historical sensitive area” in all Project documentation, drawings, etc. and notify EPC Contractor and subcontractors about the presence of these sites.	EPC	■ Cultural Heritage Management Plan	■ Istanbul Regional Council No:1 decisions are considered in design and in construction schedule. ■ Archaeological monitoring in place during initial earthworks ■ Number of grievances raised related to cultural heritage. ■ 100% workers received training on cultural heritage and awareness on the archaeological sites along the RoW.	■ Prior to construction	■ Km 3+800 – TEM Connection Section West ■ Km 3+900 – TEM Connection Section West ■ Km 4+000 - TEM Connection Section West ■ Km 4+420 - TEM Connection Section West ■ Km 9+500 – TEM Connection Section West ■ Km 36+276 ■ Km 36+543 ■ Km 41+740 ■ Km 54+920 – Km 55+144 ■ Km 54+158 – Km 54+306
Archaeological Chance Finds Management	■ A competent archaeologist will be present during ground disturbing activities and on all construction fronts particularly at risk areas. ■ An active look ahead construction site inspection program will be operated over the next construction section. ■ All site personnel will be trained in the recognition and proper handling and custody of archaeological finds which are the property of the Turkish government. ■ Protocols for responding to chance finds will be established including cessation of work for finds and notification of SPV and its archaeological consultant, who will advise the appropriate authorities including the Regional Protection Council and Museum. ■ Expedited procedures for evaluation and treatment of significant chance finds will be implemented in order to limit impacts to important resources while limiting construction delays. This may include, for example, recording and removal or more detailed investigation by excavation; decisions on further actions will in any case be made in agreement with the Regional Protection Council.	EPC	■ Chance Find Procedure	■ Archaeological monitoring in place during initial earthworks. ■ 100% workers received training on chance find procedure.	■ Throughout construction	-

Table 1-7 Operation Phase

OPERATION PHASE						
AIR QUALITY						
Operational Traffic	■ Continuous monitoring of emissions, particularly roadside sensitive receptors where impacts are predicted to be major. continuous monitoring of emissions, particularly roadside sensitive receptors where impacts are predicted to be major. ■ Where air quality impacts are major on public health, purchase sensitive receptor properties particularly close to roadside.	O&M Contractor	■ Stakeholder Engagement Plan (including Grievance Mechanism)	■ Number of complaints pertaining to air quality ■ Air emissions monitoring records PM 10 monitoring results below thresholds	■ Continuous air emissions monitoring throughout operation ■ Regular site inspections ■ In the first months of operation, monitoring data will be reviewed on a monthly basis. ■ Appropriate highway maintenance.	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300
GEOLOGY AND SOIL						
Management of spills, fires, accidents, earthquake and flood	■ Any spillages from handling fuel and other hazardous liquids will be immediately contained on-site and the contaminated soil will be removed from the site for suitable treatment and/or disposal. ■ Appropriate spill response equipment will be available along the route, with particular emphasis on quick-response in areas of higher ecological settings. ■ Weekly monitoring and maintenance of drainage channels.	O&M Contractor	■ Emergency Preparedness and Response Plan	■ 100% of workers received training on how to act during accidental events. ■ Number of spills.	■ Regular site inspections in line with KGM's monitoring plans	-
Use of pesticides and herbicides for maintenance	■ Complying with Turkish regulations on pesticide use. If pest infections are detected the competent authority needs to approve the respective pesticide/biocide for pest control. Pesticides of WHO Type 1a and 1b will not be used[11]. ■ Only use registered or approved[12] herbicides, and ensure they are properly labelled. ■ Select applicable technologies and practices designed to reduce unintentional drift or runoff. ■ Establish buffer zones or strips along with water sources and surface water bodies. ■ Store appropriately by following good hazardous materials storage and handling management practices.	O&M Contractor	■ Landscape Management Plan	■ 100% of workers received training on use of pesticides and herbicides. ■ Number of spills.	■ Regular site inspections in line with KGM's monitoring plans	-
WASTE MANAGEMENT						
Waste handling during maintenance activities	■ Regular inspections of sites will be conducted to ensure waste facilities are correctly used and are kept clean and tidy. ■ Maintain full records of the type, quantity, composition, origin, disposal destination and method of transport for all wastes. Collect solid wastes on a regular basis and dispose them appropriately at a designated disposal site. ■ Provide training on proper collection and disposal of solid wastes to staff. ■ Use solid waste containers that will not be affected by weather conditions and which will adequately and safely contain the wastes. ■ Waste containers shall have labels which describe the waste type. Proper labelling may prevent mixing	O&M Contractor	■ Waste Management Plan	■ 100% of workers received training on waste management. ■ Waste storage area in place approved by the local environmental authority. ■ Findings of Site Inspection Reports actioned in a timely manner and preventive actions defined. ■ Waste records and inventories are in place.	■ Regular site inspections in line with KGM's monitoring plans	-

([11]) WHO recommended classification of Pesticides by Hazards 2009: http://www.who.int/ipcs/publications/pesticides_hazard/en/index.html

([12]) Registered or approved by competent authorities and in accordance with the Food and Agriculture Organisation's (FAO) International Code of Conduct on the Distribution and Use of Pesticides, and FAO Revised Guidelines for Good Labeling Practice for Pesticides.

OPERATION PHASE						
	of hazardous waste and non-hazardous solid wastes. ■ Reuse/recycling methods shall be considered to minimize solid waste generation. ■ Certified/licensed facilities for final disposal of solid wastes, which cannot be reused/recycled will be used. ■ Disposal of solid waste outside the designated sites and into any surface water or groundwater source, or any other location that could potentially affect the environment and human settlements will be prevented. ■ Use of signage and other postings to advise motorists not to litter. ■ Road litter or illegally dumped waste along the Project route will be collected and disposed appropriately. ■ Maintain and manage supply inventories to minimize the disposal of unused products. ■ Manage and appropriately dispose sediments and sludge removed from storm drainage systems. ■ Manage old road surface materials by reusing them in paving or stockpiling the materials for roadbed or other uses. ■ Hazardous wastes to be disposed of by licensed waste contractors. ■ Follow practices given in IFC EHS Guidelines for Toll Roads for minimizing risks during road paving maintenance activities (i.e. use of proper staging techniques to reduce the spillage of paving materials during the repair of potholes and worn asphalts).					
SURFACE AND GROUNDWATERS						
Accidental spills	■ A spillage risk assessment will be undertaken as part of the development of the EPRP (e.g., to determine the areas of the Motorway most susceptible to spills/accidents, sensitive areas compare with local response capability/backup capacity) to determine the optimal location and type of emergency response equipment and the required capacities for handling liquid spills. ■ EPR team will be trained about roles and responsibilities and regular drills will be conducted. ■ The EPRP specifies that Spill Response Kits will be available, including absorbent materials suitable for the materials to be handled on-site, will be held at secure, clearly signposted locations, instructions will be provided with the kits and personnel will be trained in their use. ■ Any spillages will be immediately contained on-site and all contaminated materials including soils will be removed from the site for suitable treatment and disposal. ■ All staff and subcontractors will be required to report any incidents, and these will be subject to investigation and remedial and preventive actions will be taken.	O&M Contractor	■ Emergency Preparedness and Response Plan ■ Pollution Prevention Plan	■ EPR Team in place. ■ PPEs are in place. ■ Spill kits are in place. ■ Number of spill incidents**.**	■ Throughout operation	-

OPERATION PHASE						
Water quality during routine operation	■ For fertilizing the landscaping in the Right of Way, only natural fertilizer will be used as required in KGM's Technical Specification for landscaping of Highways, published in 2008. If pest infections are detected the competent authority needs to approve the respective pesticide/biocide for pest control. ■ Permanent erosion and runoff control features will be regularly inspected and maintained during operation. ■ Oil separators will be operated and maintained to achieve the desired water treatment results.	O&M Contractor	■ Pollution Prevention Plan ■ Landscape Management Plan	■ 100% of workers received training on working close to water resources. ■ Water analysis in place in line with Turkish Surface Water Quality Regulation.	■ Throughout operation	-
NOISE AND VIBRATION						
Operational traffic	■ Frequent noise monitoring will be conducted in locations where noise modelling resulted in *major* impacts. ■ Based on the monitoring results, type and height of the noise barriers will be discussed with noise barrier supplier and noise barriers will be installed. ■ Noise related grievances will be closely monitored, assessed and adaptive mitigations will be implemented.	O&M Contractor	■ Stakeholder Engagement Plan (including Grievance Mechanism)	■ Noise monitoring results compliant to Turkish noise regulatory standards. ■ Number of noise-related grievances. ■ Recommendations and corrective actions taken when high audible incidents are noted.	■ Throughout operation	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300
LANDSCAPE AND VISUAL						
	■ Planting mixes will be selected using native species and planting will be set out to establish new and enhance existing native habitats. The use of native species is important so that the Motorway planting will, over time, become almost indistinguishable from the vegetation naturally occurring in the surrounding area. Non-native species should only be used in locations where their presence is of local relevance, for example in urban areas to match any existing non-native planting. ■ Planting will be introduced to restore or compensate for lost habitats. ■ Planting will be introduced to reconnect hedgerows or areas of planting formerly severed as a result of the construction works in order to reinstate local landscape character. ■ Landscape design treatment will seek to restore regional identity where possible by enhancing landscape character. ■ Opportunities to provide views out from the Motorway to the surrounding landscape will be taken into account in the landscape design. Breaks in Motorway planting will provide for views out whilst mitigating nearby residents of settlements from adverse visual impacts. ■ Planting treatments will be designed to visually screen road structures and earthworks from nearby residential dwellings and settlements. Planting treatments will be interrupted to open up key views and vistas for motorists to reinforce local identity in locations where noise mitigation barriers are to be installed, this will ideally be introduced as plantation or earthworks structures designed to fit or match the topography of the surrounding landscape. ■ Engagement with PAPs (who have already been engaged during expropriation process) will continue in line with the SEP. Any compensation-related or	O&M Contractor	■ Landscape Management Plan	■ Number of complaints pertaining to landscape and visual	■ Before operation start	-

OPERATION PHASE						
	other grievances from PAPs with regard to landscape and visual impacts will be managed through Project's Grievance Mechanism.					
ECONOMY AND EMPLOYMENT						
Temporary direct and indirect employment opportunities (primarily unskilled)	■ SPV will update its Local Recruitment Plan prior to operations specifying the exact needs for operations.	O&M Contractor	■ Local Recruitment Plan	■ Percentage of the skilled, semi-skilled and unskilled workforce hired from the Project affected community. ■ Percentage of workforce hired from vulnerable groups. ■ Number of complaints pertaining to employment related to discrimination, abuse of labour rights, sexual harassment.	■ Before operation start	-
LAND AND LIVELIHOODS						
Permanent loss of livelihoods and household income due to permanent land restrictions	■ Project RAP principles will apply to any acquisition/expropriation work required in the Project in future. Potential operation phase impacts on sensitive receptors located outside the expropriation boundary will be monitored internally by SPV and externally by the Lenders through their independent consultants. ■ PAPs will be granted the right to request acquisition within three (3) years upon commissioning of the Motorway should any significant environmental and/or social impacts be identified through E&S monitoring that cannot be mitigated. ■ RAP completion audit will be done during operation.	SPV	■ Resettlement Action Plan ■ RAP Fund Implementation Procedure ■ KGM Land Acquisition and Resettlement Procedure ■ Stakeholder Engagement Plan (including Grievance Mechanism) ■ RAP completion audit	■ Demonstration of compliance with RAP and other commitments related to mitigation of economic displacement. ■ Demonstration that the quality of life and livelihoods of affected communities are restored or enhanced. ■ Number of complaints pertaining to land acquisition, displacement and livelihood. ■ Projects/initiatives implemented to create alternative income generating activities.	■ Throughout operation	-
LABOUR AND WORKING CONDITIONS						
Labour and Working Conditions / Workers' Rights	■ SPV will ensure O&M contractor comply with the labour conditions in accordance with the national law and lenders standards in line with the core ILO conventions. ■ Access to clear and understandable information regarding worker's labour and working conditions will be provided. ■ Reasonable working conditions and terms of employment will be provided. ■ Employment, compensation/remuneration and working conditions will be provided, including working hours, based on equal opportunity and fair treatment, avoiding discrimination on any aspects. ■ A Grievance Mechanism will be implemented for the Project's workers including subcontractor workforce (accessible to all workers, whether permanent or temporary, directly or indirectly employed including contractor workers). The grievance mechanism will include specific provisions to manage GBVH grievances. ■ Open attitude towards freedom of association and in conformance with Turkish laws will be adopted. ■ No employee or job applicant will be discriminated against on the basis of his or her gender, marital status, nationality, age, religion or sexual orientation. ■ All workers will, as part of their induction, receive training on worker rights in line with Turkish	O&M Contractor	■ Human Resources Policy ■ Labour Management Plan	■ 100% of workforce who received training/ induction on HR policies, plans and procedures. ■ 100% of workers having received training on their legal rights and responsibilities. ■ Number of grievances received. ■ ■ Percentage of workers who are covered by a collective bargaining agreement. ■ Number of incidents of forced or child labour within direct employees, subcontractors, and suppliers. ■ 100 % of workers (direct employees and subcontractors) trained on the worker grievance mechanism. ■ 100 % of workers received all documentation (references, final pay, certificates etc.) upon completion of their contact.	■ Throughout operations	-

OPERATION PHASE

	legislation to ensure that positive benefits around understanding labour rights are enhanced. ■ All workers (including those of contractors and subcontractors) will be able to join unions of their choice and have the right to collective bargaining. ■ All workers (including those of contractors and subcontractors) will have contracts which clearly state the terms and conditions of their employment and their legal rights. ■ Contracts will be verbally explained to all workers where this is necessary to ensure that workers understand their rights. ■ Health and safety, worker management and rights as outlined in Turkish law and ILO international standards will be considered when preparing the contracts.					
Workers' Health and Safety	■ PPE will be identified and provided to all concerned workers during activities to avoid health implications. ■ Pre-employment screening protocols will be conducted for all employees including contractors and subcontractors which will include medical checks of SARS CoV 2 history and other diseases appropriate to WHO recommendations, the individual's country of origin and vaccinations. ■ Workers will be provided with primary health care and basic first aid at worksites. ■ All work of persons will be subject to an appropriate risk assessment and regular monitoring of health, working conditions, and hours of work. ■ Workforce, including contractors and subcontractors, will be provided with health awareness training, including hazardous works, a significant briefing of hygiene practices (such as hand washing), implementation of educational outreach to increase awareness of major communicable disease and how to protect against infection and about transmission routes and the symptoms of the communicable diseases of concerns (including STDs and COVID-19). ■ Contractor contracts will specify monitoring to be undertaken by the contractor, establish the right for the Project monitoring and auditing of all contractors and subcontractors and the consequences for the contractor if they are found to be breaching national legal requirements, international standards, policies or clauses in the contract. Contractor contracts will specify that the same standards will be met by their sub-contractors and suppliers. ■ Any appointed contractors will establish their own Emergency Preparedness and Response Plan and communicate key information to the Project workforce prior to work commencing on any site. ■ Furthermore, unauthorized access to explosive materials will be restricted, allowing only qualified personnel in the initiation of the explosives. Flyrock control is essential, and the area around the blast site where flying debris may occur will be secured. ■ Implementation of Permit to Work system for working at height and working with live power lines.	O&M Contractor	■ Health and Safety Plan ■ Emergency Preparedness and Response Plan ■ Labour Management Plan ■ Contractor Management Plan ■ Permit to Work Procedure ■ Procedure For Control of Life Critical Activities ■ Hazard and Risk Management Procedure ■ HSE Training Procedure ■ Accident and Incident Management Procedure ■ HSE Discipline Procedure ■ Fire Safety Prevention and Protection Procedure ■ HSE Monitoring, Verification and Evaluation Procedure ■ Working At Height Procedure ■ Cranes and Lifting Operations Procedure ■ Confined Space Procedure ■ Personal Protective Equipment Procedure ■ Manual Handling Procedure ■ Excavation Works Procedure ■ Electrical safety Procedure ■ Machine and Equipment Procedure ■ Housekeeping Procedure ■ Operator Competency Assessment Procedure	■ 100% workers (direct employees, subcontractors, and suppliers) that have received HSE induction prior to working on site. ■ 100% workers (direct employees, subcontractors, and suppliers) that have received task specific training. ■ Percentage of workers attending toolbox talks. ■ Number of stop work notices issued by activity. ■ Number and type of non-compliances observed during daily and weekly site inspections. ■ 100% workers received PPE. ■ Zero fatality. ■ Number of Lost Time Incidents involving workers on site. ■ Number of incidents investigated, corrective actions identified and closed out/ not closed out within the required timeframe.	■ Throughout operation	-

OPERATION PHASE						
	■ Ensure compliance of safe practices and implementation of the Health and Safety Plan. ■ Provide and ensure use of PPE like, safety goggles, gloves, safety harness, helmets, gumboots etc. ■ Hoisting equipment should be properly rated and maintained and hoist operators properly trained. ■ Signs and other obstructions should be removed from tower prior to undertaking work. ■ Prior training of the workers regarding health and safety procedures, especially in terms of working at height. ■ Use of lock-out/tag-out procedure, before work is performed on, or in close proximity, to the lines. ■ Trained and certified workers should be involved in installation, maintenance, or repair electrical equipment. ■ The worker should be properly insulated from the energized part with gloves or other approved insulation prior to start of work. ■ Ensure proper use of special safety equipment and procedures when working near or on exposed energized parts of an electrical system. ■ Fall protection should be in place prior to working at towers and poles. ■ When operating power tools at height, workers should use a second (backup) safety strap. ■ Signs and other obstructions should be removed from poles or structures prior to undertaking work. ■ Approved tool bag should be used for raising or lowering tools or materials to workers on structures.					
COMMUNITY HEALTH, SAFETY AND SECURITY						
Road safety and Environmental Health	■ The Grievance Mechanism will be accessible to all communities and stakeholders. ■ Awareness sessions will be held to explain the type of noise, dust and emissions from Project activities, the mitigation measures implemented and a point person of contact in case of emergency. ■ Annual Road Safety Audits will be conducted in line with “EC Directive 2008/96/EC – Road infrastructure safety management” on the Project design documentation as required by the Directive.	O&M Contractor	■ Stakeholder Engagement Plan (including Grievance Mechanism)	■ Number of participants in awareness trainings and sessions ■ Number of grievances received	■ Before and throughout operation	-
STAKEHOLDER ENGAGEMENT						
■ Stakeholder Engagement ■ Disclosure of Information ■ Consultation ■ Grievance Mechanism	■ Engage with stakeholders and conduct separate meetings with disadvantaged or vulnerable groups, women and non-governmental organizations (NGOs). ■ Implement grievance mechanism.	O&M Contractor	■ Stakeholder Engagement Plan (including Grievance Mechanism)	■ Number of stakeholder meetings with regard to operation phase and Minutes of Meeting (including photographic data). ■ Number of complaints received, and number solved grievances on time.	■ Before and throughout operation	

Table 1-8 Environmental Monitoring - Wastewater Discharges to Water Bodies – Direct Outfall

Wastewater Discharges to Water Bodies – Direct Outfall					
Parameter/ Aspect	**Responsibility**	**Location**	**Frequency/Timing**	**Threshold level[13] (if applicable)**	**Trigger for Monitoring**
Construction Phase: Based on permitting requirements-Turkish Water Pollution Control Regulations (Official Gazette Date/Number: (31.12.2004/25687): Domestic wastewater treatment plants (if applicable) (Table 21.1 and IFC EHS General Guideline): ■ BOD ■ COD ■ TSS ■ pH ■ Total nitrogen ■ Total phosphorus Oil Water Separator in line with vehicle maintenance repairs (Table 18): ■ Oil and grease NH4-N ■ CN^- ■ Total Chromium ■ Fish biotesting ■ pH Batch Plant and related washing activities: ■ pH ■ temperature	■ EPC Contractor (during construction phase)	■ Domestic wastewater Treatment Plants, oil water separators at construction Camps and project site areas during construction phase. ■ Wastewater generated during concrete batch plant operations and washing of cement trucks. ■ Domestic wastewater Treatment Plants, oil water separators at resting and maintenance areas and repair activities during operation phase.	■ Based on permitting requirements	■ Domestic wastewater treatment plants (Table 21.1 of Turkish Water Pollution Control Regulations and IFC EHS General Guidelines) ■ Oil Water Separator in line with vehicle maintenance repairs (Table 18)	■ Discharge from a project site to surface water (e.g. industrial effluent, wastewater from a sewage treatment plant, discharge from an oil interceptor, etc.
Operation Phase: Domestic wastewater treatment plants (if applicable) (Table 21.1 and IFC EHS General Guideline): ■ BOD ■ COD ■ TSS ■ pH ■ Total nitrogen ■ Total phosphorus	■ O&M Contractor (during operation phase)	■ Domestic wastewater Treatment Plants, oil water separators at construction Camps and project site areas during construction phase. ■ Wastewater generated during concrete batch plant operations and washing of cement trucks. ■ Domestic wastewater Treatment Plants, oil water separators at resting and maintenance areas and repair activities during operation phase.	■ Based on permitting requirements	■ Domestic wastewater treatment plants (Table 21.1 of Turkish Water Pollution Control Regulations and IFC EHS General Guidelines). ■ Oil Water Separator in line with vehicle maintenance repairs (Table 18).	■ Discharge from a project site to surface water (e.g. industrial effluent, wastewater from a sewage treatment plant, discharge from an oil interceptor, etc.

13 Unless not specified otherwise in permits/licenses, whichever of EU, IFC EHS Guidelines and national threshold levels is most stringent, applies.

Table 1-9 Environmental Monitoring - Wastewater Discharges to Water Bodies – Surface Water Runoff

Wastewater Discharges to Water Bodies – Surface Water Runoff					
Parameter/ Aspect	**Responsibility**	**Location**	**Frequency/Timing**	**Threshold level[14] (if applicable)**	**Trigger for Monitoring**
Construction Phase: Turkish Regulations on Surface Water Quality (Official Gazette No/Date: 29327/15.04.2017) to include: ■ Dissolved oxygen ■ pH ■ TSS/Turbidity ■ Oil and grease (TPH and PAH) ■ Coliforms ■ COD ■ BOD River crossings testing for low flow and high flow conditions (seasonal) - tested routinely during construction.	■ EPC Contractor	■ Upgradient and downgradient locations of the following streams: - Km 51+000 and 52+000 Sazlıdere Stream and Sazlıdere Reservoir - Km 55+000 - 56+000 (Stream) - Km 56+000 - 57+000 (Stream) ■ Upgradient testing will inform of baseline conditions for surface water quality. ■ Downgradient testing locations selected based on risk assessment, pending on receptors sensitivity (e.g. ecological and/or water resources).	■ The testing frequency will be selected based on the risk assessment of the downgradient receptor sensitivity (e.g. ecological and/or water resources).	■ Category I = very good and Category II = good based on the latest changes in the Turkish Regulations on Surface Water Quality (Official Gazette No/Date: 29327/15.04.2017). ■ Upgradient Conditions (reference).	■ Discharge from a project site to surface water (e.g. industrial effluent, wastewater from a sewage treatment plant, discharge from an oil interceptor, etc.

Table 1-10 Environmental Monitoring - Water Use at Project Facilities

Water Use at Project Facilities					
Parameter/ Aspect	**Responsibility**	**Location**	**Frequency/Timing**	**Threshold level (if applicable)**	**Trigger for Monitoring**
Construction Phase: Quantity of water abstracted from groundwater/surface water sources or water supply from utilities providers	■ EPC Contractor	■ At each Project facility with water supply from indicated sources	■ Ongoing, reported monthly.	■ As specified in site permit/license, if applicable.	■ Abstraction of water from indicated sources or supplied by an utilities service provider.
Construction Phase: Water quality in case of supply from own source. Parameters as per applicable permits/licenses/regulations and type of use (e.g. potable/ sanitary/ industrial	■ EPC Contractor	■ From each own source	■ Ongoing, reported monthly, unless otherwise specified in any permit/license.	■ Unless not specified otherwise in permits/licenses, whichever of EU, IFC EHS Guidelines and national threshold levels is most stringent, applies.	■ Abstraction from own source.

[14] Unless not specified otherwise in permits/licenses, whichever of EU, IFC EHS Guidelines and national threshold levels is most stringent, applies.

Table 1-11 Environmental Monitoring - Soil

Soil					
Parameter/ Aspect	**Responsibility**	**Location**	**Frequency/Timing**	**Threshold level (if applicable)**	**Trigger for Monitoring**
Construction Phase: Regulation on Soil Pollution Control and Point-Source Contaminated Sites; Official Gazette Date/Number: 08.06.2010/27605 which include: ■ Total Petroleum Hydrocarbons (TPH) ■ benzene, toluene, ethyl benzene and xylene (BTEX) polycyclic aromatic hydrocarbons (PAH) heavy metals (As, Cd, Co, Cr, Cu, Hg, Ni, Pb, Sb, V, Zn)	■ EPC Contractor	At sites of suspected contaminated land including: ■ areas of known or suspected third-party contamination. ■ areas where spills/contamination occurred during construction (excluding minor spills, where visual observation confirms complete removal of contaminated soil).	■ Before construction works initiation. ■ After construction works finalization.	■ Risk-based with consideration of the provisions of the Turkish Regulation on Soil Pollution Control and Point-Source Contaminated Sites; Official Gazette Date/Number: 08.06.2010/27605.	■ Upon identification of suspected contaminated land on a project site. ■ During demobilisation of project sites where spills/contamination occurred during construction.

Table 1-12 Environmental Monitoring - Air Emissions

Air Emissions					
Parameter/ Aspect	**Responsibility**	**Location**	**Frequency/Timing**	**Threshold level[15] (if applicable)**	**Trigger for Monitoring**
Construction Phase: Visual inspections of dust generation and dust suppression controls	■ EPC Contractor	■ Project sites and impacted third party sites, such as adjacent receptors or along site access routes.	■ Daily or more frequently during high risk, dry and windy conditions.	N/A	■ High-risk activities with potential to cause dust nuisance including, but not limited to construction traffic on unsealed access roads, construction sites adjacent to sensitive receptors. ■ Visible wind-blown dust leaving site boundary or dust deposition observed on street furniture or at sensitive receptors. ■ Any complaints received from third parties.
Construction Phase: Emissions from stationary/non-stationary sources	■ EPC Contractor	■ Project site	■ Continuously	*	■ Visible black smoke from machinery or vehicle exhausts at any point during operation, not including initial start up.
Construction Phase: Real-time PM10 continuous monitoring locations will be agreed upon with the Local Authority.	■ EPC Contractor	■ Project site	■ Continuously	*	■ High-risk activities with the potential to cause dust nuisance.
Operation Phase: Long-term (ie>12 month) operational monitoring survey using diffusion tubes at roadside sensitive receptors where impacts are predicted to be major.	■ O&M Contractor	■ Km 2+600 – Km 4+500 ■ Km 51+800 Sazlıdere ■ Km 54+300 – Km 55+700 ■ Km 57+000 – Km 57+600 ■ Km 58+500 – Km 59+300	■ Continuously	*	■ Proximity of the road to the residential buildings at specified kilometre points.

[15] Unless not specified otherwise in permits/licenses, whichever of EU, IFC EHS Guidelines and national threshold levels is most stringent, applies.

Table 1-13 Environmental Monitoring - Noise and Vibration

Noise and Vibration					
Parameter/ Aspect	**Responsibility**	**Location**	**Frequency/Timing**	**Threshold level[16] (if applicable)**	**Trigger for Monitoring**
Construction Phase: Noise levels monitoring	■ EPC Contractor	■ At sensitive receptors (as identified in ESIA).	■ As necessary, risk-based pending on works performed ■ During planned out-of-hours works	■ 75 dBA (Day - 07:00 – 19:00) ■ 70 dBA (Evening – 19:00 – 22:00) ■ 65 dBA (Night - 22:00 – 07:00)	■ High-risk activities or out-of-hours activities with the potential to cause impact/nuisance to identified sensitive receptors.
Construction Phase: Vibration monitoring (Piling and compaction)	■ EPC Contractor	■ Inside representative-occupied properties that are within 100 m of major vibration-generating activities (e.g. driven piling or vibro-compaction).	■ As necessary, risk-based pending on works performed	■ 10 mm/s	■ High-risk activities or out-of-hours works with the potential to cause impact/nuisance to identified sensitive receptors.
Construction Phase: Vibration monitoring (Blasting)	■ EPC Contractor	■ At blasting areas	■ During blasting	■ 5 mm/s (1) ■ 19 mm/s (4 – 10) ■ 50 mm/s (30 – 100)	■ Blasting activities
Operation Phase: Noise levels monitoring	■ O&M Contractor	■ At sensitive receptors (as identified in ESIA).	■ Quarterly	■ 60 dBA at noise-sensitive areas including residential, educational, cultural and health centres. ■ 63 dBA at mixed-use areas with a predominance of dwellings. ■ 65 dBA in Mixed use areas with a predominance of commercial. ■ 67 dBA in industrial areas.	■ Noise generated by the traffic operations

[16] Unless not specified otherwise in permits/licenses, whichever of EU, IFC EHS Guidelines and national threshold levels is most stringent, applies.

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ERM GmbH
Siemensstrasse 9
63263 Neu-Isenburg
Germany

T: +49 (0) 6102 206-0
F: +49 (0) 6102 771 904-0

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