TÜRKİYE PUBLIC AND MUNICIPAL RENEWABLE ENERGY PROJECT (PUMREP)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

3.45 MWp / 2.86 MWe Solar (Photovoltaic) Power Plant Project of Kayseri Water and Sewerage Directorate (KASKI)

February 2025

Document History

Revision	Submitted to	Issue Date	Revision Details
V1	İLBANK	February 12, 2025	Draft

Table of Contents

List of Tables

List of Figures

Abbreviations

AF	Associated Facility
CCTV	Closed-Circuit Television
DG	Directorate General
E&S	Environmental and Social
EHS	Environmental, Health and Safety
EHSG	Environmental, Health and Safety Guidelines
EIA	Environmental Impact Assessment
ESA	Environmental and Social Assessment
ESAP	Environmental and Social Action Plan
ESF	Environmental and Social Framework
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESS	Environmental and Social Standards
ETL	Energy Transmission Line
E&S	Environmental and Social
FI	Financial Intermediary
GFI	Ground Fault Interrupter
GIIP	Good International Industry Practice
GM	Grievance Mechanism
IFIs	International Financial Institutions
IA	Impact Area
KASKI	Kayseri Water and Sewerage Directorate
ILBANK	İller Bankası A.Ş.
KPI	Key Performance Indicator
MTA	Directorate of Mineral Research and Exploration
OHS	Occupational Health and Safety
O&M	Operation and Maintenance
PAP	Project Affected People
PDR	Project Description Report
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
Project	Public and Municipal Renewable Energy Project
PUMREP	Public and Municipal Renewable Energy Project
RD	Regional Directorate
RE	Renewable Energy
SCADA	Supervisory Control and Data Acquisition
SEP	Stakeholder Engagement Plan
SPP	Solar Power Plant
Sub-project	KIBAAT SPP-2 Project of Sub-borrower KASKI
WB	World Bank

Glossary of Terms

Associated facilities	Facilities or activities that are not funded as part of the Sub-project and are: (a) directly and significantly related to the project; (b) carried out, or planned to be carried out, contemporaneously with the project; and (c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist. For facilities or activities to be Associated Facilities, they must meet all three criteria.
Contractor	A person or organization providing services to an employer at the client worksite in accordance with agreed specifications, terms and conditions.
Excavated material	Materials/soils that are generated as a result of excavation and other similar activities carried out prior to construction
Legally protected area	Designated terrestrial, aquatic or marine ecosystems managed under the related legislation to protect and sustain the biodiversity features, natural and associated cultural resources. Legally protected areas of Türkiye include a diversity of natural ecosystems and associated features ranging from coastal zones to mountains, deltas, forests, plains, steppe, lakes, river systems, deep valleys, canyons, and glaciers.
Material borrow site	Sites, where loose material containing gravel, sand, silt, and clay, which is formed by the natural and geological processes of rock fracturing, fragmentation, alteration, transportation, and/or in-situ sedimentation, and which has the characteristics of slope debris, are extracted to be used as fill material.
Off-site accommodation	Accommodation of workers at hotels, rented housing, etc. available in the vicinity of Sub-project area.
On-site accommodation	Accommodation of workers at temporary exploration camps, construction camps, dormitories, etc. established for the Sub-project on site.
Risk	A combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage to the health of people caused by this event.
Topsoil	Part of soil that provides organic and inorganic materials, air and water required for vegetative growth, and is required to be stored separate from the subsoil.

EXECUTIVE SUMMARY

Türkiye Public and Municipal Renewable Energy Subproject (PUMREP) is financed by the World Bank (WB) to support the deployment of Renewable Energy (RE) technologies in municipalities and to scale up renewable energy in the public sector. İller Bankası A.Ş. (ILBANK) and the WB have established a support system for developing cities to identify, prepare, finance and finance investments for metropolitan municipalities to plan for and invest in a sustainable future, and to develop their urban planning capacities for this purpose. One of the areas of support is in the areas of institutional capacity building and Energy Efficiency and Renewable Energy.

Within the scope of PUMREP, Kayseri Metropolitan Municipality General Directorate of Water and Sewerage Administration (KASKİ) plans to install a land-applied Solar Power Plant (SPP) subproject called KASKİ KİBAAT SPP-2 for a connection power of 2,860 kWe on the parcel of land specified in Table 1.

Table 1. Location and Connection Power Information of the Planned Plant

No	Power Plant Name	Connection Power	District/Neighborhood	Block/Parcel	Area(m^2)
1	KASKİ-KİBAAT	2.860 kWe	Kocasinan District /Boğazköprü Neighborhood	167/1	156.087,20

The Sub-project has been classified as having a Moderate level of risk according to ILBANK's E&S Risk Screening under its ESMS. As part of the Sub-project, an Environmental and Social Management Plan (ESMP) has been prepared in line with ILBANK's ESMS, the WB Environmental and Social Framework (ESF), relevant Environmental and Social Standards (ESSs), WBG General EHS Guidelines, Industry Sector Guidelines, and Türkiye's national legislation. This ESMP aims to enhance sub-borrowers' capacity and awareness while ensuring compliance with these standards and regulations, as is required for internationally financed subprojects.

Within the scope of national legislation, the subproject has an "EIA Not Required" decision (Annex-B EIA Not Required Certificate) within the scope of the national EIA Regulation (Official Gazette dated 29.07.2022 and numbered 31907) in November 2022. In addition, a non-agricultural use permit has been obtained for the area where the subproject is planned to be constructed (Annex-B Non-Agricultural Use Permit).

"The "KASKI KİBAAT SPP-2" subproject plans to realize a 2.8 MWe Solar Power Plant Subproject on block 167block 1, BoğazköprüNeighborhood, Kocasinan District, Kayseri Province, owned by Kayseri Water and Sewerage Administration (KASKI). The area where the subproject will be established will be located next to the KİBAAT SPP-1 with a capacity of 5 MWe, which is already installed and generating electricity. These Solar Power Plants will be operated as interconnected facilities and will be managed by the existing management building.

. The subproject has an area of 156.087,20 m2 with the number of block 167 and parcel 1, and is planned to be constructed only on 39.500 m2 of this area next to the KİBAAT-1 solar power plant. The ownership of the land belongs to KASKI and there will be no land acquisition and expropriation during the construction and operation phases of the subproject. The title deed of the subproject area is presented in Annex-C. The subproject area is shown in Figure 1.

Figure 1. Subproject Area

The environmental and social risk rating of the subproject is assessed as “Moderate” as the environmental and social risks for the construction works are temporary and site specific and the subproject construction area is not located in environmentally and socially sensitive area. Therefore, environmental, and social risks can be mitigated by applying good construction practice guidelines and mitigation measures identified in this ESMP. This ESMP has been prepared for this project in line with the overarching ILBANK ESMS and WB ESF, covering risks and mitigation measures specific to this project area.

Since the subproject area is far from settlements and located outside the urbanization areas, it eliminates many environmental and social risks. The closest settlement to the subproject area is Boğazköprü Neighborhood, 1600 m away. Located next to the Kayseri Wastewater Treatment Plant, the subproject area is surrounded by the D260 Ring Road to the north and the D300 Ring Road to the west. Access will be provided to the subproject area located 1600 m from the D260 Ring Road connection road. The roads to be used for logistics and material supply during mobilization, construction and operation phases will not affect any settlements, only the ring road and the connection road will be used. The subproject has a degraded area with a concrete floor. Therefore, no excavation filling and soil stripping will be carried out during mobilization and construction phase. The subproject area is surrounded by a 1.5 m high wall on the D260 Ring Road access road, with an entrance opening providing access to the site.

The main risk to be encountered during the mobilization and construction phase of the subproject is that long and wide vehicles will cause traffic congestion and risk of accidents at the location where the connection road from the D260 Ring Road to the site is accessed.

1. INTRODUCTION

1.1. Background

The Public and Municipal Renewable Energy Project (PUMREP) (hereinafter referred to as the "Project") aims to increase the use of renewable energy through self-generation in public facilities. The Project will contribute to expanding the market for distributed RE in public facilities, helping to demonstrate leadership in the public sector to use sustainable energy solutions to fulfill the country's climate mitigation commitment and increase energy security.

PUMREP is financed by the World Bank (WB) to support the deployment of RE technologies in municipalities. Iller Bankasi A.S. International Relations Department (ILBANK) acts as the Financial Intermediary (FI). The project will be implemented through 4 components:

Component 1: Renewable energy investments in central government facilities

Component 2: Renewable energy investments in municipalities

Component 3: Technical assistance and project implementation support

Component 4: Emergency Response Component (CERC).

Kayseri General Directorate of Water and Sewerage Administration (KASKİ) (hereinafter referred to as the "Sub-Borrower") applied to ILBANK for the sub-financing of KASKİ KİBAAT SPP-2 2.8 MWe (hereinafter referred to as the "Sub-Project") under Component 2. The Sub-Project is located on block 167 and parcel 1 of Boğazköprü Neighborhood in Kocasinan District of Kayseri Province.

ILBANK has established an Environmental and Social Management System (ESMS) effective on 24th of Dec 2023. The ESMS is aligned with the requirements of World Bank (WB) Environmental and Social Framework (ESF, 2018) including Environmental and Social Standards (ESSs) forming part of the ESF, and E&S polices and standards of other International Financial Institutions (IFIs) ILBANK collaborates with. It will be applicable to all ILBANK projects and Sub-project financed through International Financial Institutions (IFIs).

The ESMS is aims to ensure systematic identification, assessment, management, monitoring, and reporting of the environmental and social (E&S) risks and impacts of the projects and Sub-project financed by the International Finance Institutions (IFIs). This process will be implemented on an ongoing basis throughout their loan duration in line with the requirements of the national legislation, international agreements and conventions ratified by Türkiye and E&S standards of lending IFIs (World Bank for the PUMREP). As a critical element of the ESMS, ILBANK has adopted and published an E&S Policy1 applicable to all ILBANK projects and Sub-project financed through IFIs.

Within the scope of the ILBANK's ESMS and World Bank Environmental and Social Framework (ESF), Sub-project are classified as High Risk, Substantial Risk, Moderate Risk or Low Risk taking into account relevant potential risks and impacts, such as the type, location, sensitivity and scale of the Sub-project; the

[1] https://www.ilbank.gov.tr/sayfa/ilbank-environmental-and-social-policy
https://www.ilbank.gov.tr/sayfa/ilbank-cevresel-ve-sosyal-politika-dokumani

nature and magnitude of the potential E&S risks and impacts; the capacity and commitment of the Sub-borrower; and other relevant areas of risks that may result in unintended impacts.

ILBANK considers financing the Sub-project under the PUMREP. In line with the ESMS, ILBANK carried out an E&S screening and risk classification of the Sub-project and rated the activity as having "Moderate" E&S risk. The Sub-borrower has retained a third-party consultancy company for the preparation of the E&S instruments required as per the E&S risk category assigned to the Sub-project.

This Environmental and Social Management Plan (ESMP) has been prepared by Kolay Enerji Engineering & Consultancy for the Sub-project in line with the applicable E&S requirements as set out in Section 1.3. List of the Individuals/Organizations that Prepared or Contributed to the ESMP development is presented in Annex A.

A stand-alone Stakeholder Engagement Plan (SEP) has also been developed for the Sub-project.

1.2. Objective of the ESMP

This ESMP has been prepared to detail the measures to be taken during the implementation and operation (throughout the sub-financing agreement life cycle) of the Sub-project to eliminate or offset adverse E&S impacts, or to reduce them to acceptable levels; and the actions needed to implement these measures.

1.3. Overview of E&S Requirements Applicable to the Sub-project

The Sub-project will be implemented in compliance with the requirements of the applicable national legislation and international agreements and conventions to which Türkiye is a party of, and in accordance with the following international requirements:

- ILBANK Environmental and Social Management System (ESMS)
- WB Environmental and Social Framework (ESF, 2018) and the Environmental and Social Standards (ESSs) forming part of the ESF,
- WB Group General Environmental, Health and Safety Guidelines (EHSGs) (2007)
- GIIP
- WB Group EHSGs for Electric Power Transmission and Distribution (2007)

Table 2 identifies the relevance of the WB ESSs to the Sub-project.

Table 2. Relevance of the WB ESSs to the Sub-project

ESSs	Definition	Relevance to the Sub-project
ESS 1	Assessment and Management of E&S Risks and Impacts	Relevant
ESS 2	Labor and Working Conditions	Relevant
ESS 3	Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4	Community Health and Safety	Relevant
ESS 5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not relevant in Türkiye
ESS 8	Cultural Heritage	Relevant
ESS 9	Financial Intermediaries	Not relevant to Sub-project
ESS 10	Stakeholder Engagement and Information Disclosure	Relevant

When national requirements differ from the levels and measures presented in the EHSGs, the Sub-project will achieve or implement whichever is more stringent.

1.4. Review and Update

This ESMP will be reviewed and updated by the Sub-borrower during Sub-project implementation as necessary, to reflect changes in national legislative framework, ILBANK's policies and other developments or in specific circumstances such as in case there are changes in the organization structure, following significant incidents, following incorporation of new tools, software or database into the ILBANK E&S Risk Management System, etc.

The Sub-borrower will notify ILBANK of any updates to the ESMP.

The Sub-borrower will ensure that changes to the ESMP do not result in deviation from the requirements set forth by the national legislation and the E&S requirements applicable to the Sub-project.

1.5. Implementation Arrangements

The Sub-borrower will hold ultimate responsibility for implementation of this ESMP by the Sub-borrower and contractor teams (engaged in connection with the Sub-project – including sub-contractors) throughout the sub-financing agreement life cycle.

The Sub-borrower will ensure that adequate financial and human resources for effective ESMP implementation are available at Sub-borrower, supervision consultant and contractor organizations throughout the sub-financing agreement life cycle.

The Sub-borrower will decide on the arrangements for the operation of the Sub-project and be responsible for ensuring that operations are compliant with the national legislation and Operation ESMP.

The Sub-Borrower must ensure that all failures that may occur during the 1-year operational phase (during the defect liability period) are covered by the contractor and subcontractor organizations.

The roles and responsibilities of the Sub-borrower, contractor, and sub-contractor teams regarding the ESMP implementation are described in Chapter 5.

2. SUB-PROJECT DESCRIPTION

2.1. Sub-project Information

The sub-project activity subject is related to the establishment and operation of a photovoltaic (PV) solar power plant (SPP).

Key technical information on the Sub-project is summarized in **Table 3**. Further information on the construction and operation phase activities and facilities is provided in the following sections in this Chapter.

Table 3. Key Technical Information on Sub-project

Information	Remarks/ Notes
Technology	Photovoltaic
Installed Power	3.45 MWp
Connection Power	2.86 MWe
Annual Electricity Generation	4.283 MWh
Solar Panel Type	Monocrystalline
Annual Carbon Emission Reduction	2.200 Tons CO_2/Year
Lifetime Carbon Emission Reduction	55.000 Tons / for 25 Years
Households Powered	1689 / 3 MWh per house annualy
Economic Life of the Power Plant (Operation Duration)	Min 25 Years

2.1.1. Sub-project Location

The subproject is located in Lot 167, Block 1, Boğazköprü Neighborhood, Kocasinan District, Kayseri Province. The land is owned by KASKİ, and no land acquisition or expropriation will be required during the construction and operation phases of the subproject. The title deed for the subproject area is provided in Annex C. Additionally, the subproject will be integrated into the existing system of Kibaat SPP 1, which is already operational at the same location. Therefore, there is no private land along the ETL route between them and no land acquisition is required for the ETL.

Information on the Sub-project location is presented in Table 4.

Table 4. Sub-project Location

Information	Remarks/ Notes
Province	Kayseri
District	Kocasinan
Neighborhood/ Village	Boğazköprü
Land Area (ha)	15.6 ha parsel area - 39.500 m^2 sub-project area
Land Use Type according to Title Deed	Field
Current Land Use	Vacant field covered with concrete floor. There is no formal or informal activity in the sub-project area.
Other Nearby Facilities and Activities	KASKI Wastewater Treatment Plant (100 m) Tanrıverdi Agricultural Facility (400 m) Kayboran Plastic Factory (400 m)

	Keytas Animal Feed Facility (530 m) Industrial Area (800 m)

A map of the Sub-project location is presented in **Figure 2**.

Figure 2. Map of Sub-project Location

Table 5. Coordinates of the Project Area

Unit	Coordinates (WGS84 in decimals)	
	Y	X
Sub-project Area	38.769831	35.299926

2.1.2. Site Access Route

The sub project area is accessed via a connection road at the intersection of the D300 ring road and the D260 northern ring road, which branches off from the D260 northern ring road and is approximately 1600 m away from the sub-project area (see Figure 2). There are no residential areas and/or social areas on the access road. Although there are no schools, prayer places, health centers and social facilities on the connection road, this road only provides access to the facility. The D260 northern ring road and side connection road to be used for sub-project transportation are existing and usable and no improvement/expansion is foreseen. Necessary OHS measures (e.g. flaggers and traffic signs and markings) are required to prevent potential traffic risks during the use of long and wide vehicles.

2.1.3. Energy Transmission Line (ETL)

The sub-project includes the construction of a 200-meter underground energy transmission line (ETL). Technical information on the ETL is presented in Table 6. A map showing the ETL route, and the national grid connection location is provided in Figure 3.

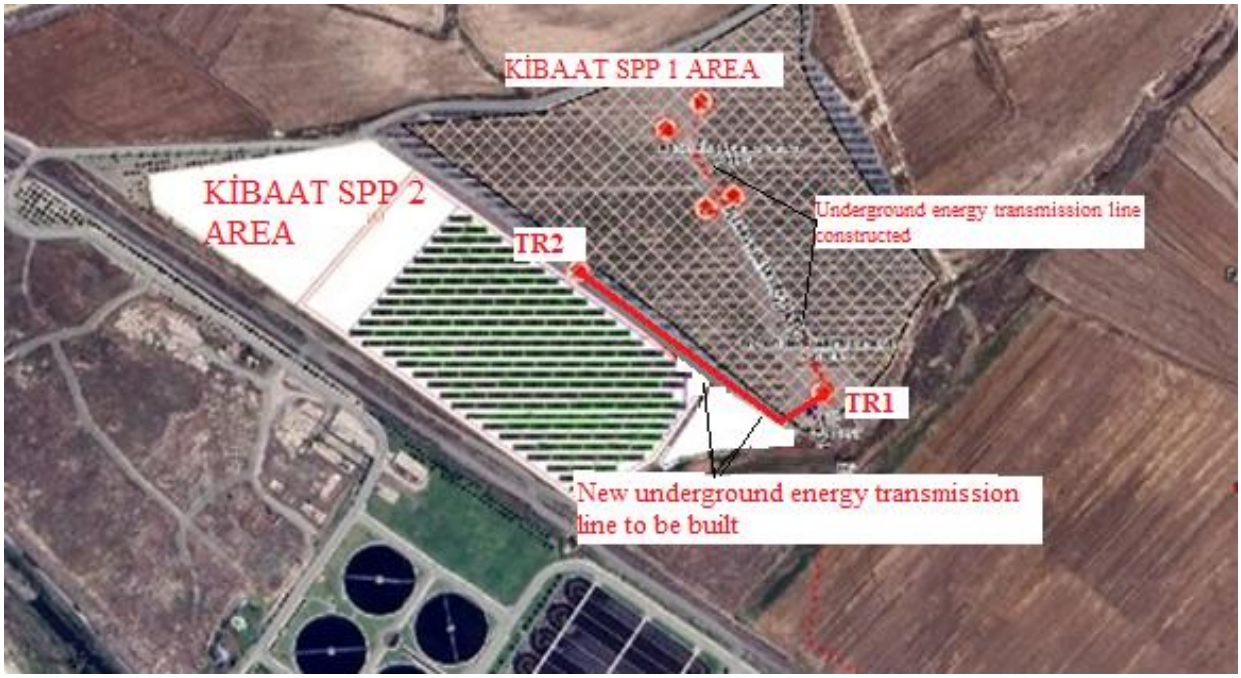
The subproject will be connected integrated into the root existing system of Kibaat SPP 1 power plant, which was previously established at the same location and is currently generating electricity. Kibaat SPP 1 and Kibaat SPP 2 are on the same parcel and there is no private land along the ETL route between them (Figure 3).

Status of land acquisition for the ETL is described below in Section 3.4.

Table 6. Technical Information on the ETL

Information	Remarks/ Notes
Transformer station (for national grid connection)	Kibaat SPP-1 Transformer station will be used
Length of the route (km)	Underground energytransmission line (200 meters)
Voltage level (kV)	-
Number of ETL towers (pylons)	None
Total footprint area per each ETL tower (m^2)	None
Number of parcels subject to expropriation	None
Number of parcels subject to easement rights	None

Figure 3. Map of ETL Route



2.1.4. Associated Facilities

There are not any associated facilities of the Sub-project.

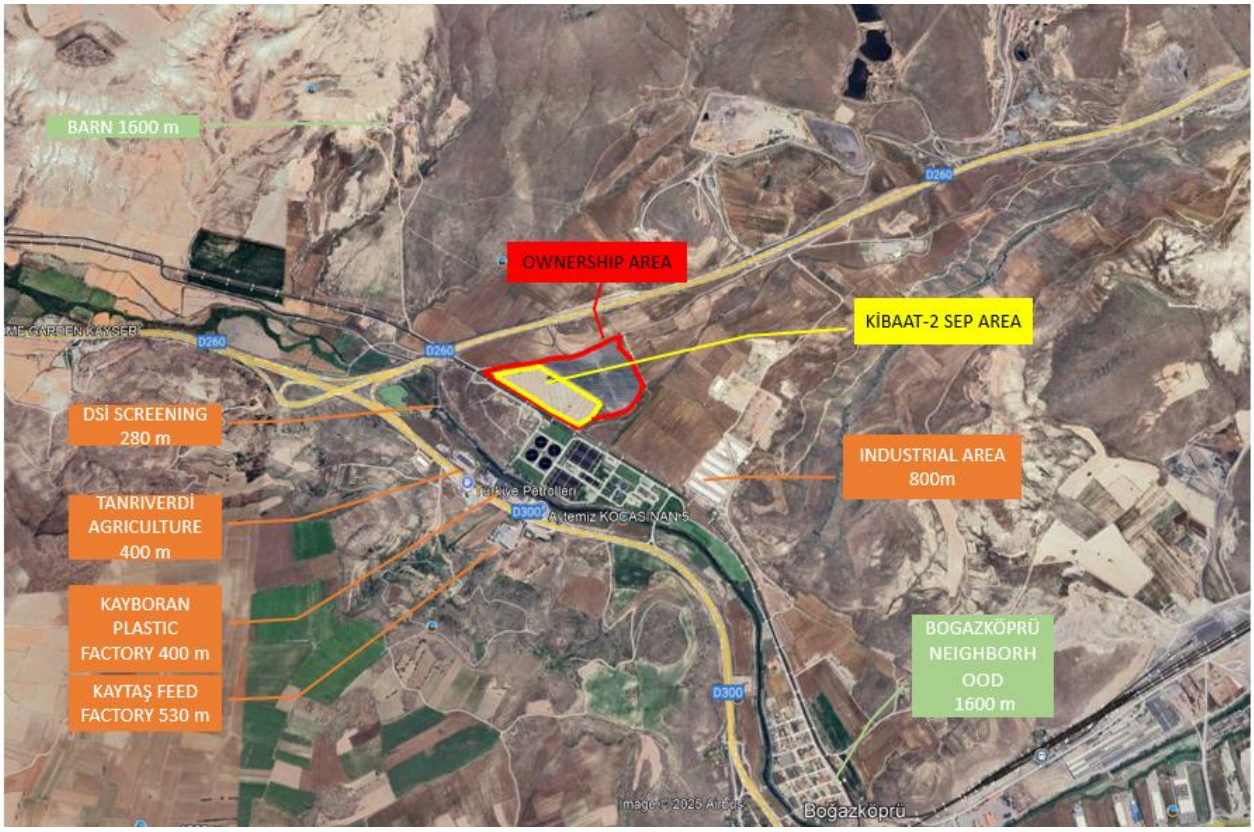
2.1.5. Sub-project Impact Area

According to the WB ESSs, "where the project includes specifically identified physical elements, issues and facilities likely to generate impacts, environmental and social risks and impacts will be defined as the project impact area (IA)." Thus, the IA of the subproject consists of urban or rural areas likely to be affected by the project, its activities and the facilities directly owned, operated, or managed (including by contractors/subcontractors).

The impact area of the subproject covers the following environmental and social aspects:

The sub-project site, its surrounding settlements (including Boğazköprü Neighborhood), and the access roads are assessed to determine the Impact Area (IA). When a circle with a radius of 100 m was drawn from the subproject area to determine the Impact Area (IA), the closest settlement to it was Boğazköprü neighborhood. Boğazköprü neighborhood is approximately 1.6 km away from the subproject area. Considering the environmental and social impacts that the subproject will cause, it has been determined that the local community living in Boğazköprü neighborhood will not be affected by the subproject. Therefore, Boğazköprü neighborhood is not included within the IA of the Sub-project.

Figure 4. Map of Settlements and Facilities Close to the Subproject Area



2.1.6. Environmental and Social Baseline

This section contains information on the environmental and social status of the subproject Impact Area. Some of this information is based on face-to-face interviews with Kayseri KASKİ officials and Boğazköprü Neighborhood Mukhtar on 15.01.2025. Where necessary, data from relevant public institutions and professional organizations have been used.

Table 7 presents a summary of the baseline field studies conducted as part of the ESMP study.

Table 7. Summary of Baseline Field Studies

Subject	Date of the Field Study	Experts who Participated in the Field Study
Environmental and Social Site Survey & Meeting with the Mukhtar of Boğazköprü neighborhood	15.01.2025	Environmental Engineer/Expert Social Expert

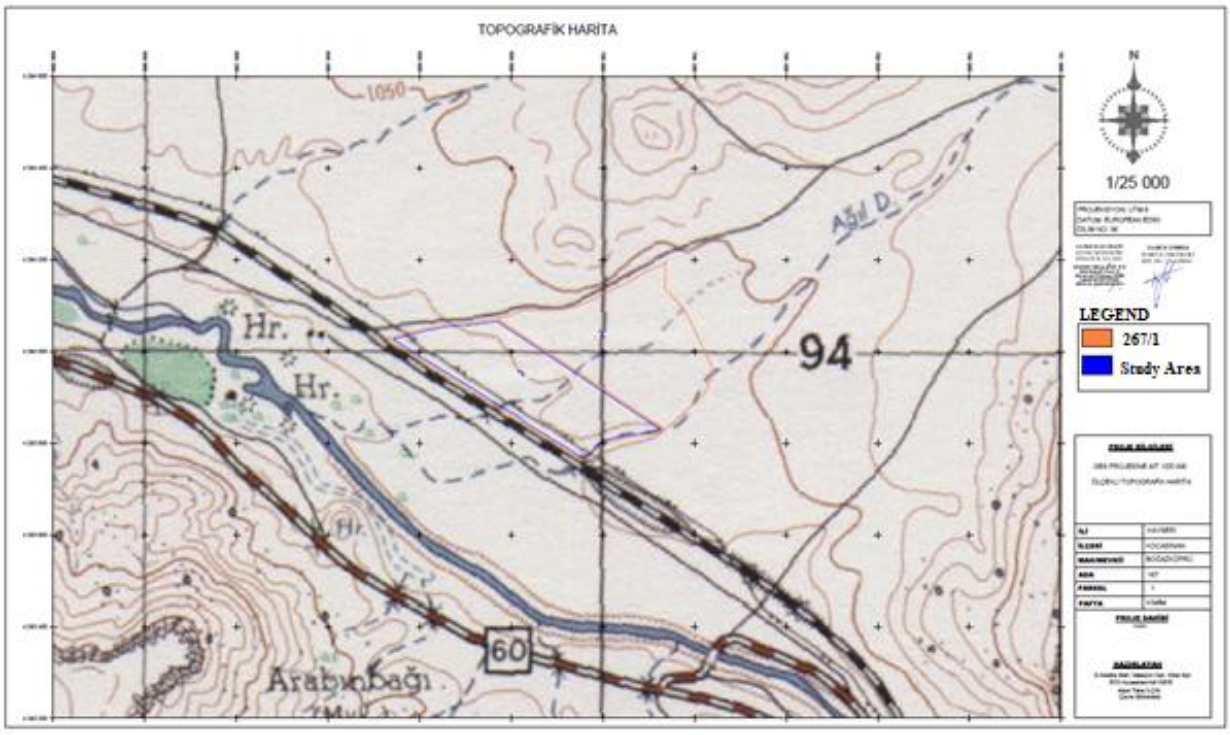
2.1.6.1. Physical Environment

The subproject area was surveyed by environmental and social experts, the environmental and social baseline conditions were characterized based on literature surveys and site visit observations. A survey was not conducted for the subproject area. The interview with the Muhtar of Boğazköprü and data from the institution were used as reference.

2.1.6.1.1. Topography

The subproject area is located at coordinates 35.299926 and 38.769831 in Boğazköprü Neighborhood of Kocasinan District of Kayseri Province, 17.5 km to northwest of the city center. Access to the subproject area is possible by road and it is located on a plain with a slope of 1°-5° and an altitude of 1055. There is no construction in the immediate vicinity and the infrastructure is provided by the relevant municipality. The sub-project area and its surroundings have a flat topography. In the survey, it is stated that there is no potential for mass movement (landslide, rock fall, subsidence, crater, soil flow) and potential, flood, avalanche potential due to precipitation in the project area and its immediate vicinity. This can be seen on the topography map of the subproject area taken from the approved Project Description Report (PDR) and presented below.

Figure 5. Topographic Map



2.1.6.1.2. Geology

According to the report prepared by TMMOB Chamber of Geological Engineers, Kayseri city center is located on a northeast-southwest trending plain at the foot of Mount Erciyes. Geologically, it is largely composed of very young volcanic rocks and alluvial deposits that fill the plain where the city center is located. Below is a geologic map (1/500,000 scale) of the region prepared by the Directorate of Mineral Research and Exploration (MTA), a geologic map of the subproject area prepared by the survey firm, and a section of the earthquake hazard map of Kayseri province prepared by the Disaster and Emergency Management Presidency showing the subproject area (see Figure 6). Kayseri city center is one of the cities with alluvial soils. Earthquake waves are magnified by such soils and transmitted to buildings. This situation, which is defined as ground amplification, means that in the event of an earthquake, Kayseri city center will be shaken more severely than the city centers located on rock type soil units, and as a result, the damage rate will be higher. The edges of this tectonic depression, called the Sultansazlığı check-slip basin, are bounded by active faults, the most important of which are the Erkilet fault zone in the north, the Gesi fault zone, the Yeşilhisar fault zone in the southwest and the Develi fault in the southeast. The Erciyes fault is located in the central part of the basin[2]. The earthquake risk status (PGA475) of the subproject area is 0.169 (see Figure 7), so the earthquake risk is low.

[2] https://kayseri.afad.gov.tr/kurumlar/kayseri.afad/Egitim/Kayseri_IRAP_Baski.pdf

Figure 6. Geology Map and Cross-Sections

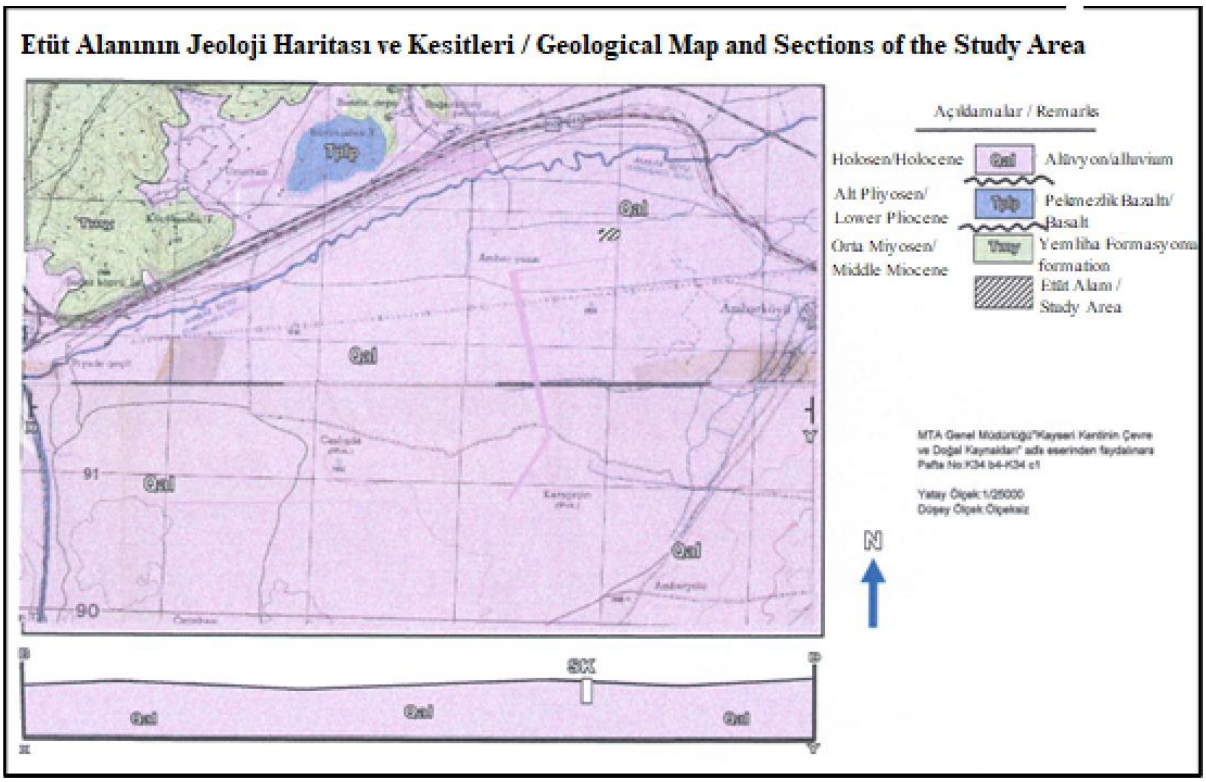
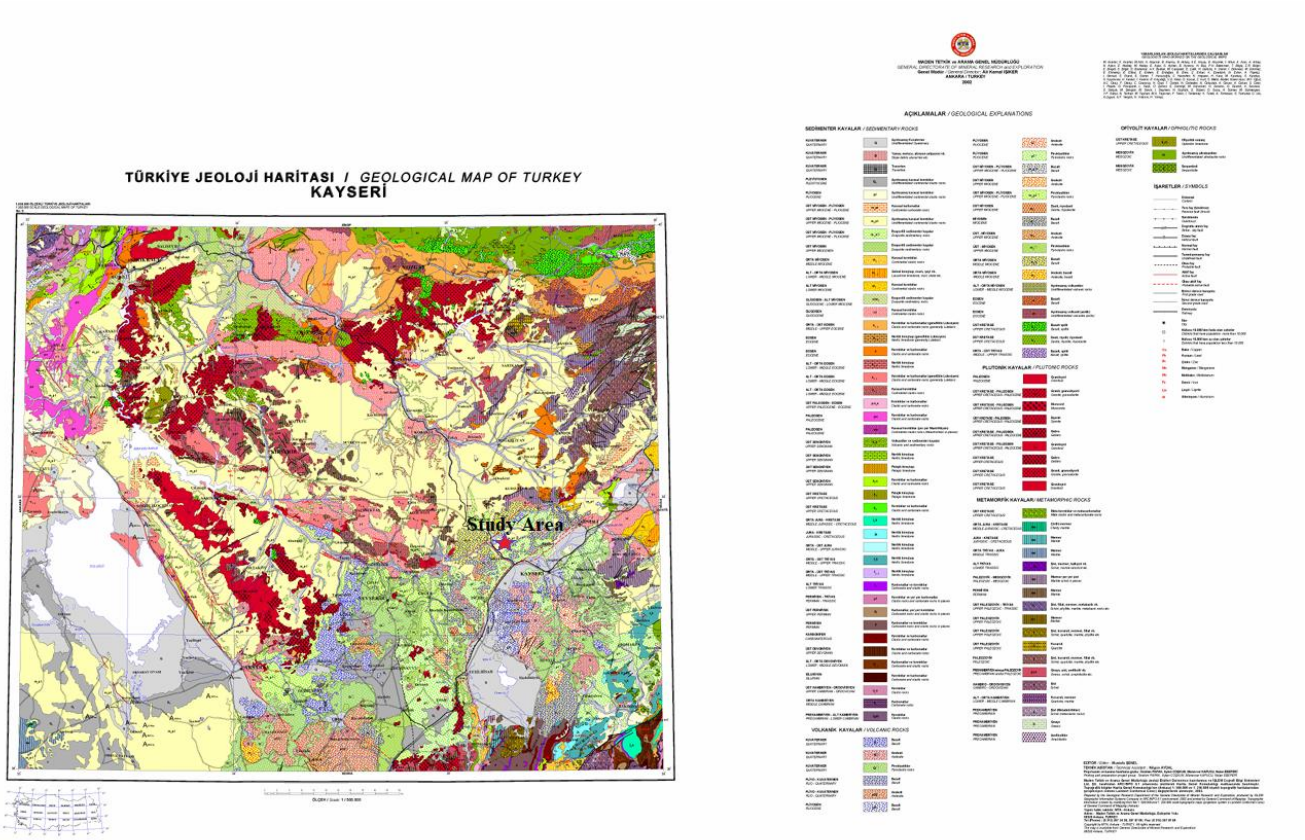


Figure 7. Türkiye Earthquake Hazard Map

Figure 8. Subproject Area



2.1.6.1.3. Meteorology and Climatic Characteristics

The subproject is within Kocasinan district borders. According to the data of the General Directorate of Meteorology, the summer season in the district is hot and dry, while the winter season is cold and rainy. With this situation, it reflects the characteristics of continental climate, which is the typical climate of the Central Anatolia Region. The hottest months are July and August (40.7°C). The coldest months are December, January and February. Precipitation usually occurs in the fall and spring seasons. The average monthly precipitation of the district is around 23.4 mm. Kayseri province has approximately 3282.57 hours of sunshine throughout the year and an average of 107.77 hours of sunshine per month.

2.1.6.1.4. Air Quality

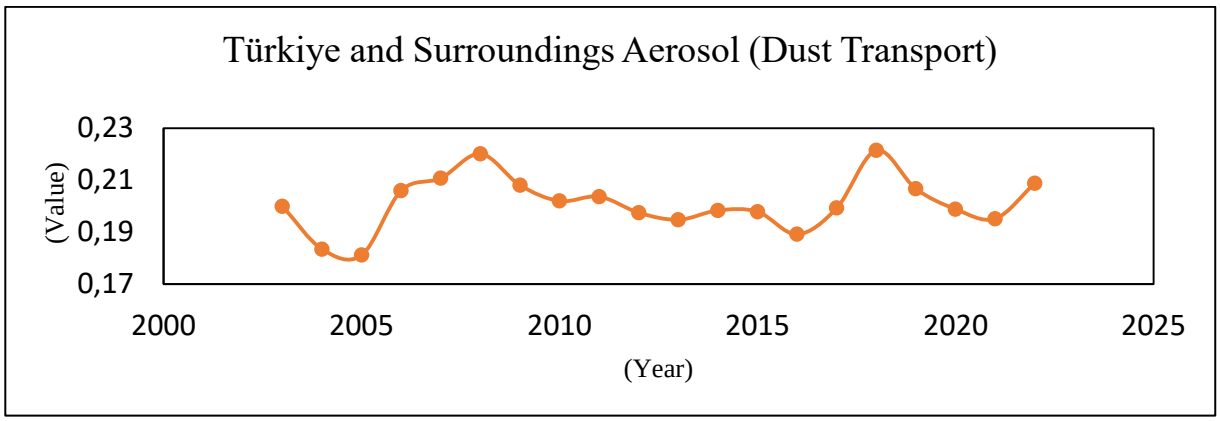
According to the data of the Central Station, which is the continuous monitoring center of the Ministry of Environment, Urbanization and Climate Change, the air quality level is “MEDIUM-(55)” in Kocasinan district. The table dated 21.08.2024 is presented below:

Table 8. Air Quality Monitoring Table

Measurement	Value
PM	1014 µg/m³
NO	214 µg/m³
CO	172 µg/m³

Aerosol (Dust Transport) Analyses of the General Directorate of Meteorology for Turkey and its Surroundings covering the years 2003-2022 are given below. The average dust value for the region is given as 0.2012.

Figure 9. Aerosol (Dust Transport) Analyses



2.1.6.1.5. Noise

Near the subproject area, there is a railway, small industrial site, wastewater treatment plant and ring road which are noise sources.

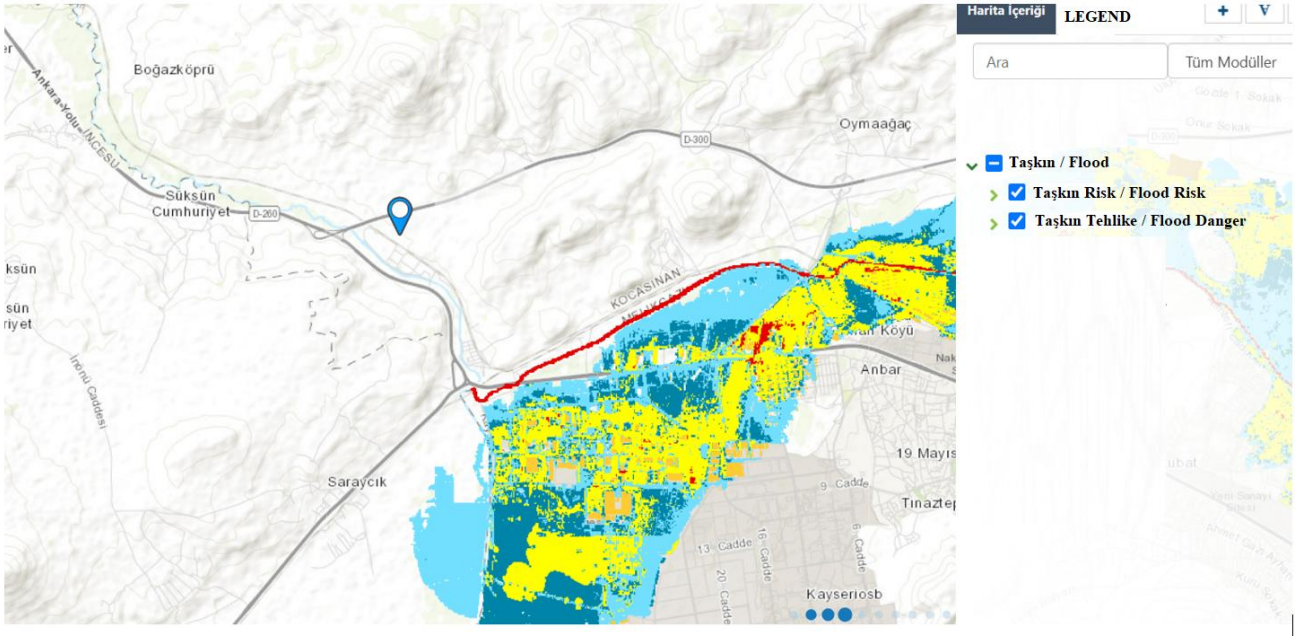
2.1.6.1.6. Water Resources

Inspections of the subproject area revealed that Karasu Stream is located near the subproject area. Kayseri KASKİ Advanced Biological Wastewater Treatment Plant is located between Karasu Stream and the sub-project area. The distance of the subproject area to Karasu Stream is 280 m.

2.1.6.1.7. Natural Hazards (such as flooding, landslides, fire, etc.)

The opinion of the General Directorate of State Hydraulic Works that there is no flood and flood risk in the subproject area, flood risk map is presented in Figure 10 . As stated under the heading of Topography and presented in the topography map, there are no risks such as landslides, rock falls, subsidence, soil flow etc. in and around the subproject area.

Figure 10 Flood and Flood Risk Map[3]



[3] https://usbs.tarimorman.gov.tr/usbs/VatandasGirisi/Index#

2.1.6.2. Biodiversity

Since the subproject area is covered with concrete, there is no vegetation cover, thus preventing the existence of natural life. There are no flora and fauna species and there are not Critically Endangered (CE) or Endangered (EN) species according to the IUCN Red List and there are no species that need to be protected by international conventions such as Bern and CITES. As a result, there are no critical habitats for flora and fauna species in the subproject area.

Within the scope of the studies conducted for the PDR, biodiversity assessments were conducted and no endemic flora or fauna species were determined within the subproject area.

Based on those assessments, it is understood that the subproject area does not contain critical habitats or species that require special protection. Since soil stripping and excavation and filling works will not be carried out during the construction phase, natural habitats will not be destroyed.

Protected Areas

The closest protected area to the subproject area is the Hürmetçi Reed Wetland, approximately 4.6 km away. There are no other legally protected and internationally recognized areas near the subproject area. As there will be no construction works such as topsoil stripping, excavation, filling and blasting in the subproject area, it is unlikely that the solar power plant will directly affect the protected area.

Please see Figure 11 for the nearest protected areas.

Figure 11. Hürmetçi Sazlığı Wetland Protected Area

2.1.6.3. Socio-Economic Environment

Fieldwork on the socio-economic situation of the neighborhood was conducted on 15.01.2025 and a face-to-face interview was conducted with the neighborhood Mukhtar A photograph of the interview is presented below. A significant part of the information in this section is based on the information obtained from this interview.

2.1.6.3.1. Demography and Population

The subproject area is located 17.5 km away from Kayseri Province center and Kocasinan District, which serves as a central district. The closest settlement to the subproject area is Boğazköprü Neighborhood of Kocasinan District Municipality. As shown in the map below, the borders of the central district, and therefore the subproject area, are close to the city center. According to 2023 TurkStat data, the population of Boğazköprü Neighborhood is 112. In the interview with the mukhtar during the fieldwork, it was learned that the current population is 120. The Mukhtar stated that many people in the neighborhood, including himself, also have a house in Kocasinan District center, only three or four households stay in the neighborhood during the winter season, and everyone else spends a few months in the district center during the winter season.

Figure 12. Closest House to the Subproject Area and Kayseri City Center Map

2.1.6.3.2. Land Ownership Status and Land Use by Affected People

There are no local communities affected in any way within the subproject impact area. Residents of the nearest Boğazköprü neighborhood are engaged in agriculture and animal husbandry, but agricultural lands and animal husbandry areas are not affected by the subproject. No land acquisition process will be undertaken for the subproject activities. The subproject land is owned by Kayseri KASKİ.

2.1.6.3.3. Employment and Means of Livelihood

According to the information obtained from the neighborhood mukhtar, the livelihood of all households in the neighborhood is agriculture and animal husbandry. It was stated by the mukhtar that during the winter season, some of the residents of Kocasinan district center continue these economic activities by employing shepherds in their stables.

2.1.6.3.4. Education and Health Services

It was learned that there was a primary school in the neighborhood until about ten years ago, but the school was closed down about ten years ago. The neighborhood mukhtar stated that, as mentioned above, the residents of the neighborhood preferred to spend the winter season in Kocasinan district center, both for this reason and because they thought that the education in the schools in the district center would be better, they

continued their children's education in the district center, but after a while, there was no enrollment in the school in their neighborhood, so the school was closed.

There is no unit providing health services in Boğazköprü Neighborhood. When an emergency health service is needed, 112 Emergency Service is called and the mobile health service unit in Kocasinan District provides services to rural neighborhoods outside the municipality's municipal boundaries, including Boğazköprü.

2.1.6.3.5. Infrastructure Services

Drinking water and sewerage network line and electricity infrastructure are available in the neighborhood. Domestic wastes are regularly collected and disposed of by Kocasinan Municipality.

2.1.6.3.6. Transportation and Traffic

There is no public transportation system in the neighborhood. Transportation is provided by personal vehicles. There is a railway crossing the neighborhood on the east-west axis. With this road, passenger and freight transportation services are organized by the General Directorate of State Railways of the Republic of Turkey. It is not used by the residents of the neighborhood and there is no station or stop in the neighborhood. There is no intersection of this railway with any road in the impact area of the subproject. At the D260 highway intersection, which is the only intersection point, the railway continues through the passage opened under the highway.

Transportation to the sub-project area will be provided via Kayseri-Kırşehir highway (D260). During transportation operations, no settlements will be crossed, and the asphalt connection road from the highway to the subproject area will be taken directly. The transportation road planned to be used is currently used as a transportation road to Kayseri KASKİ KİBAAT SPP-1 area and will not pass through different property (pasture, field, forest, etc.) since there is no road work. The figure below shows the road to be used for access to the subproject area via the D260 highway.

Figure 13. Access Road of Subproject Area

2.1.6.3.7. Cultural Heritage (Tangible and Intangible)

Kayseri Regional Directorate for the Protection of Cultural Assets has stated in the opinion letter in the Annex B that there are no cultural assets in the subproject area. A Chance Find Procedure has been prepared and presented in the Annex H to be applied in case of any findings during the construction phase. Construction activities will be carried out according to this procedure.

2.1.6.3.8. Vulnerable and Disadvantage Groups

As a result of the interview with the neighborhood mukhtar, the vulnerable and disadvantaged groups in the neighborhood were identified as follows:

Table 9. Vulnerable and Disadvantaged Groups of Boğazköprü Neighborhood

Group	Number	Explanation
Disabled Individual	1	A 23-year-old individual with Down syndrome was identified in the neighborhood.
Over 65 Years of Age Living Alone	4	It was learned that 4 women over the age of 65 live alone in the neighborhood.
Immigrants and Refugees	10	It was found out that there are 10 Syrian immigrants in the neighborhood. The neighborhood Mukhtar stated that all of them make a living as shepherds.

The Subproject will not use the roads of Boğazköprü neighborhood, and the construction works will not affect the daily functioning of the neighborhood. Therefore, Vulnerable and Disadvantaged Groups identified in Table 11. will not be negatively affected by the Subproject.

3. SUB-PROJECT ACTIVITIES

3.1. Construction Phase

3.1.1. Construction Activities

Construction activities will be completed in 6 (six) months. Detailed implementation schedule envisaged for the construction phase activities (including provisional acceptance) is presented in Chapter 6.

Construction phase activities are briefly described below:

- Pre-construction activities:

  Due to the concrete surfacing of the sub-project area, no topsoil stripping, excavation, and backfilling works will be carried out during the site preparation phase.

- Construction/ installation activities:

  During the construction phase of the sub-project, the work area will be enclosed with fence to prevent unauthorized access and to ensure work and community safety. A temporary camp site will be established to be used by the personnel working on the sub-project. Steel construction will be assembled by drilling holes in the concrete floor in the sub-project area. Solar panels will be installed on the steel structure. The electrical cables between the panels will be laid on the floor surface using cable ducts instead of being buried. After the steel construction and panel installation is completed, the energy connections will be connected to the transformer center located at the existing Kibaat SPP-1 site. The energy connection of the existing transformer building, and the sub-project area will be made with underground cables by excavating approximately 200 meters.

- Construction machinery and equipment:

  Concrete drilling machine, piling machine, forklift, crane and backhoe loader will be used during the construction phase of the subproject.

- Water use and waste water management:

  Dust generation is not foreseen since no topsoil stripping and excavation/filling will be carried out during the construction phase. In addition, since the access roads are covered with asphalt, dust will not be generated due to vehicle mobility. Therefore, there will be no watering and there will be no need for a water source and water tanker. The closest surface water source to the sub-project area is the Karasu Stream with a surface flow 280 m away. No impact caused by the sub-project works is expected to occur in Karasu Stream.

  The subproject works will not affect groundwater resources. There is a water network in the existing Kibaat SPP-1 area and domestic water will be supplied from the existing water network during the subproject. The drinking water needs of the employees will be met with bottled water. A septic tank will be used for wastewater disposal and wastewater will be collected in the septic tank. The wastewater treatment plant located 100 meters away from the sub-project work area will provide wastewater disposal. The wastewater will be regularly transported to the wastewater treatment plant by KASKI's vacuum trucks.

- Waste and hazardous materials management:

  The construction process will produce various types of waste, including general construction debris, packaging materials, and a small amount of damaged or unused panels containing hazardous substances. These hazardous materials primarily consist of fuels and lubricants used for machinery. All waste will be handled in accordance with local regulations, ensuring that hazardous materials are properly stored and disposed of in line with environmental standards.

- Use of other resources and materials:

There will be no backfilling during the construction phase and no chemical hazardous materials will be used. In case of need, it is envisaged to use concrete in the amount to be procured from the local suppliers. The fuel of the construction machinery to be used during the construction phase will be supplied from suppliers, no fuel will be stored within the sub-project site and no fuel storage tank will be installed.

- Supply of materials and equipment:
    - Panels: Panels will be procured from domestic manufacturers that meet high efficiency and durability criteria. Preference will be given to photovoltaic panels produced in Turkey to ensure cost advantages and support the local industry.
    - Steel Construction: Durable steel structures suitable for field conditions will be sourced from domestic manufacturers. Long-lasting coatings against corrosion and materials in compliance with engineering calculations will be used.
    - Inverters: Inverters will be procured from foreign suppliers, considering criteria such as efficiency, warranty period, and technical support. The choice between central or string inverters will be determined based on site requirements.

  Other Electrical Equipment (Solar Plant Materials):
    - Cables and Cable Management Systems: Locally produced solar cables of appropriate cross-section will be used for both DC and AC sides. Cable trays and conduit systems will also be sourced from domestic suppliers.
    - Transformer and Switchgear Equipment: Transformer stations suitable for power transmission lines will be planned using domestic production. Circuit breakers, disconnectors, and other electrical protection systems to be used in the switchyard will be supplied from local manufacturers.
    - Grounding and Lightning Protection: Locally produced grounding rods, conductors, and lightning protection systems will be used to ensure the safety of the solar plant.
    - Monitoring and Supervisory Control and Data Acquisition (SCADA) Systems: Local software and hardware will be preferred to enable facility performance monitoring.
    - Supply Planning: Considering cost, quality, logistics, and procurement timelines, all equipment except inverters will be sourced from domestic manufacturers. For imported inverters, reliable international companies will be selected.
- Test and commissioning

  Before the solar power plant is put into operation, a series of tests and commissioning procedures will be conducted to ensure safe and efficient performance. The key steps include:
    - Visual and Mechanical Inspections: Verification of proper installation of panels, mounting structures, cabling, and other equipment.
    - Electrical Testing: Insulation resistance tests, continuity checks, and voltage measurements to confirm proper wiring and grounding.
    - Inverter Commissioning: Configuration, functional checks, and synchronization of inverters with the domestic grid frequency.
    - Performance Testing: Measurement of power output under different conditions to verify system efficiency.
    - Protection and Safety Tests: Checking circuit breakers, surge protection devices, and relay settings to ensure electrical safety.
    - SCADA and Monitoring System Integration: Testing remote monitoring, data logging, and communication with the grid operator.
    - Final Grid Connection and Approval: Coordinating with the utility company for final inspections and obtaining the necessary approvals for grid connection.

All tests will be conducted in compliance with international and local standards to ensure the reliability and long-term performance of the solar power plant.

- Decommissioning of temporary construction facilities

  After the completion of the solar power plant construction, all temporary facilities used during the project will be systematically dismantled and removed. The key steps include:

  - Dismantling of Temporary Structures: Offices, storage units and other temporary buildings will be disassembled and removed from the site.
  - Removal of Construction Equipment and Materials: Any remaining construction materials, scaffolding, and machinery will be transported off-site or repurposed.
  - Site Cleaning and Waste Management: Construction debris and packaging materials will be properly collected, sorted, and disposed of in accordance with WB ESSs and environmental regulations.
  - Land Restoration: The project site will be restored to its planned operational state, ensuring compliance with environmental and aesthetic requirements.
  - Final Inspection and Handover: A final site assessment will be conducted to confirm that all temporary facilities have been removed and the area is ready for long-term solar power plant operation.

  All decommissioning activities will be carried out in accordance with local regulations and good International Industry Practice.

There will be no activities related to the Subproject outside the scope of the proposed financing.

3.1.2. Construction Facilities

Construction facilities to be used during construction activities are listed in Table 10.

Temporary construction facilities will be dismantled and removed from the site after the sub-project construction phase is completed. Waste generated during the dismantling of temporary construction facilities will be separated according to the ESSs and national legislation and disposed of if necessary.

Table 10. Construction Facilities

Type	On-site or Off-site	Temporary or Permanent	List of Facilities
Construction Camp Site	On-site	Temporary	• Office container • Toilets and connected septic tank. • Dining hall container • Security lodge

A layout of the construction camp site is presented in **Figure 14**.

Figure 14. Construction Camp Site Layout

3.2. Operation Phase

3.2.1. Operation Activities

1. Operation and Maintenance (O&M):

- Routine Inspections: Regular checks will be carried out on panels, inverters and electrical components.
- Preventive and Corrective Maintenance: Repair and replacement of defective parts will be carried out when necessary.
- Monitoring Systems: SCADA and Energy Monitoring Systems will be used to monitor plant performance.

2. Panel Cleaning:

- Water-Based or Dry Cleaning: Panels are cleaned with soft brushes, water or robotic cleaners using machines specially built for use with solar panels only. Panel cleaning will be done with water only, no chemical cleaners will be used.
- Water Source: Water from local sources or storage tanks.
- Cleaning Equipment: Non-abrasive tools (cloths, sponges or brushes, etc.) or robotic systems.

3. Vegetation Control:

- Mowing/Crushing: Regular removal of weeds and vegetation will be ensured.

4. Site Security:

- Fencing and Gates: A secure perimeter will be created with controlled access.
- Security Guards and Closed-Circuit Television (CCTV): On-site guards and surveillance cameras for monitoring.

5. Control Building and Systems:

- Control Room: Monitors plant performance and manages system alarms.
- Communication Systems: Used for coordination and emergencies.

3.2.2. Operation Facilities

Operation facilities are described in Table 11. Information on AFs is separately provided in Section **Table 11**.

Table 11. Operation Facilities

Component	Characteristics
Solar panels	Monocrystalline 545 Wp Panel
Mounting structures	Galvanized Steel and Aluminum Fixed Tilt Structure
Inverters, transformers, etc.	110 kW On-Grid Inverter PID Protective Smart String Inverters, Hermetic Power Transformer Autoproducer Switchgear, DC Solar Cables, AC Cables, Auto TMS, SPP Specialized Electrical Panels with Circuit Breakers And Disconnectors.
Control room, building, system, etc.	Remote Control SCADA System, Energy Monitoring and Management System, Inverter Control Panels Aka Dataloggers, Protection and Security Systems Such As Fire Detection and Suppression Systems, CCTV Systems And Alarm Systems. Communication and Remote Internet Access Systems, Backup Power Systems, Climate Control Systems.
Energy monitoring system	SCADA and Datalogger Smart Inverter Compatible Energy Monitoring System Tracks the Performance Of Solar Panels, Helps In Fault Detection And Maintenance Planning. It Would Monthly Generate Performance Reports.

Grounding system	TT system Grounding Rods, Grounding Conductors, Grounding Busbar, Equipotential Bonding Bar
Lightning protection system	Lightning Rods Mounted on High Metal Poles Which Connected to Power Plant's Grounding Line to Protect and Avoid Lightning-Induced Overvoltage.
Fire preparedness and firefighting facilities	Overcurrent Protection Devices (Fuses and Circuit Breakers) Integrated Equipment, Arc Fault Circuit Interrupters (AFCI), Portable Fire Extinguishers, Automatic Fire Suppression Systems (FM-200, CO2, Water-Based, Or Foam-Based Systems), Water Sprinkler Systems
Security facilities	Shift Patterns On-Site Security Guards, Main Entrance Gates, Security Gates, Vehicle Access Control, Remote Monitoring CCTV Surveillance Systems, Perimeter Lighting, Two-Way Radios.

3.3. Labor Requirements

Number of workers (at peak) that will work on site during the construction and operation phases of the Sub-project are provided in Table 12. During the construction phase of the Subproject, workers will be transported to the work site by shuttles.

Table 12. Labor Requirements of the Sub-project

Phase	**Number of Workers** (including contractors and subcontractors)	**Planned Accommodation Arrangement**
Construction Workers (at peak)	30 People	Off-site
Operation Workers (at peak)	1 Person	KASKI staff/Off-site

3.4. Land Acquisition Status

The parcel required for the Kayseri KASKİ SPP-2 2.8 MWe sub-project has been under the ownership of Kayseri KASKİ since 2003. The total area of the parcel is 156,087.20 m², with 39,500.00 m² designated for the project area. Additionally, no land acquisition is required for the energy transmission line. The 200-meter underground energy cables will be laid within the same parcel and connected to the KASKİ-Kibaat SPP-1 transformer building. No land acquisition process will be carried out for the construction and operation phases of the subproject. Information on the subproject land is provided below:

Land acquisition status of the parcel to be used by the Sub-project is summarized in Table 13.

Table 13. Land Acquisition Status for the Sub-project

Sub-project Component	**Lot/ Parcel No.**	**Current Land Ownership**	**Type of Parcel (according to Title Deed)**	**Land Acquisition Method**	**Title Deed Area of the Parcel (m^2)**	**Area to be Used by the Sub-project (m^2)**	**Status of Land Acquisition**
SPP Area	167/1	Kayseri KASKI	Field	None	156.087,20	39.500,00	The parcel has been under the ownership of Kayseri KASKİ since 2003. Kayseri KASKI SPP-2 2.8 MWe sub-project

							is planned in Kayseri province, Kocasinan district, Boğazköprü neighborhood, 167 block 1 parcel. The parcel in question has an area of 156.087,20 m2 and 39.500,00 m2 of it will be used for the project area. The title deed of the parcel is given in the Annex B.
ETL	167/1	Kayseri KASKI	Field	-None	156.087,20		Underground energy cables (200m) will be laid within the same parcel and connected to KASKI-Kibaat SPP-1 transformer building.

3.5. Permitting Status

The status of permits, licenses and approvals that need to be obtained before the subproject construction phase starts is presented in Table 14.

Table 14. Status of Permits for the Construction Phase

Permit, License, Approval	**Status** (In place, Not in place)	**Remarks/ Notes**
EIA Decision for the Power Plant	In place	Annex II activity as per the EIA Regulation in force (Official Gazette Date: 25.11.2014; Official Gazette No: 29186) EIA is not Required Decision (Decision Date: 25.11.2022; Decision No. 27332451 220-02 E-2022606) has been secured from the Kayseri Governorship Provincial Directorate of Environment, Urbanization and Climate Change– Annex B. (*) Decision shall be considered invalid in case the investment is not initiated within **5**

		years of the Decision without any force majeure.
Zoning plan approval	In place	With the decision of Kayseri Metropolitan Municipality dated 25.11.2022 and numbered 431, a zoning plan change decision was made on the parcel containing the subproject area. The decision is presented in the Annex B.
Permit for non-agricultural land use	In place	The opinion of Kayseri Governorship Provincial Directorate of Agriculture and Forestry numbered 87878883-230.99-15876509 is attached as Annex B.
Cultural Heritage Protection Board	In place	The opinion of the Ministry of Culture and Tourism, General Directorate of Cultural Assets and Museums, Kayseri Regional Board for the Protection of Cultural Assets dated 23.12.2022 and numbered E-67141141-166.08-3301271 is presented in the Annex B.

Status of permits, licenses, approvals required for operation phase are listed below:

- Obtaining Construction License and Fire Safety Report from Kayseri Metropolitan Municipality
- Electricity Generation License Application, Call Letter and Connection Agreement with the Relevant Grid Operator
- Preparation of Electrical, Mechanical and Related Engineering Projects for the Approval of the Relevant Energy Company and Obtaining University Expert Approval for Structural Projects

4. ESMP MATRIX: RISK AND IMPACTS, MITIGATION AND MONITORING

As the Sub-project involves both construction and operation activities, the ESMP consist of two components applicable to respective Sub-project phase, as follows:

- Construction ESMP Matrix
- Operation ESMP Matrix

Roles and responsibilities related to implementation of this ESMP is defined in Section 5.2.

Implementation arrangements for ESMP implementation are described in Section 1.5.

Contractor's E&S management plans and procedures that will support implementation of the E&S assessment documents are listed in Section 4.5.

4.1. E&S Risk and Impacts of the Sub-project

This section identifies potential environmental and social impacts and risks that may arise from Subproject activities during construction and operation phases.

Sub-Project activities are generally categorized as follows:

- Construction phase,
- Operation phase,

The overall potential environmental and social impacts expected for the Subproject are presented below.

4.1.1. Construction Phase

4.1.1.1. Environmental Impacts and Risks

During the construction phase, topsoil stripping, excavation and backfilling works will not be carried out as the subproject area is covered with concrete. Environmental impacts will be limited to noise and waste generation.

4.1.1.1.1. Soil Contamination

Although the subproject area is covered with concrete floor, failure to respond to accidental oil spills in a timely manner may pose a risk of oil flowing over the concrete floor and through the gaps in between to the soil. Due to the use of heavy machinery during the construction phase, accidental oil spills in the subproject area may pose a risk of soil contamination. Uncontrolled storage or non-disposal of solid and/or liquid wastes that will be generated within the scope of the Subproject may cause soil contamination risk.

4.1.1.1.2. Impacts on Biodiversity

During the construction and operation phases, natural habitats will not be destroyed as there will be no tree cutting, vegetation stripping, road widening, soil stripping, excavation, and filling works.

4.1.1.1.3. Dust and Exhaust Gases Emission

During construction, there will be exhaust emissions of heavy construction machinery. Primary emissions from exhaust gases of vehicles are NO2, CO, HC, SO2 and PM. Exhaust emissions are anticipated to remain minimal due to the limited use of vehicles and machinery.

4.1.1.1.4. Noise Pollution

Noise pollution may occur during the construction phase due to the operation of heavy machinery and especially the piling of steel poles into the ground, necessary precautions will be taken and procedures will be followed.

4.1.1.1.5. Impacts Associated with Water, Energy and Raw Materials Use

Employee needs will create water supply requirements. Construction phase activities will require consumption of resources such as concrete, reinforcement, structural steel, energy, etc. The risk of human contamination from construction camps due to construction works and wastewater generation from workers may affect surface water and groundwater quality, especially where the Subproject is close to the Karasu Stream.

4.1.1.1.6. Waste

During the construction phase of the Subproject, activities such as procurement, transportation and installation of panels, electrical cables, steel materials and equipment will be carried out. The types of solid waste expected to be generated from these activities include domestic solid waste, packaging waste from system equipment (e.g. wood, cardboard, plastic, etc.), hazardous waste, electronic waste, construction waste (e.g. scrap metal, wood, concrete waste, etc.) and waste system equipment (panels, cables, electronic components). Hazardous and special waste may include contaminated packaging materials and rags contaminated with chemicals (e.g. paints, solvents, panels, inverters, etc.) or oils, waste oils from the

operation and maintenance of machinery and vehicles, solvents, accumulators, batteries, filters, machine parts.

In addition, there is a risk of uncontrolled discharge of domestic wastewater generated as a result of the needs of employees.

4.1.1.2. Social Impacts and Risks

4.1.1.2.1. Occupational Health and Safety and Labor

Construction works can cause incidents and accidents that may threaten the health and safety of workers if measures are not taken proactively.

Potential health and safety risks during the construction have been listed below.

- Extreme weather condiditons
- Working at height,
- Moving objects and construction equipment
- Hand and Power Tools
- Slips and trips and falls
- Noise vibration and exposure to dust,
- Materials handling and ergonomics,
- Unintended collapse, lifting and rigging bulky materials,
- Electric shock,
- Lack of use of appropriate personal protective equipment,
- Traffic related risks due to increased traffic and commute to work
- Unauthorized access to the facility
- Associated risk of occupational accidents, injuries and diseases,

  Hazards due to unhygienic or unsanitary living conditions, etc.Occupational health and safety risks and mitigation measures will be managed in line with the Subproject's Labor Management Procedure and OHS Management Plan which is in line with national legislation, Occupational Health and Safety Law (Law No: 6331, Effective Date: 20/06/2012) and related OHS Legislation, World Bank ESS2 and World Bank Group General Environmental Health and Safety Guidelines.

4.1.1.2.2. Community Health and Safety

The subproject will benefit the community in terms of improved access to municipal services, which may increase local job opportunities. However, there may also be impacts such as accidents, pressure on existing social infrastructure, and exposure to SEA/SH risk and diseases due to labor influx. The sub-project has identified the following potential Community Health Safety (CHS) impacts resulting from the construction phase.

Accidents caused by unauthorized access of community members (especially children) to sub-project site (both construction and operation phases)

Road damage in transportation and traffic; increased risk of traffic and road accidents and injuries,

Emergencies resulting from contextual risks (e.g. earthquakes, fires, etc.)

Noise and vibration,

Increased demand on existing community health and sanitation infrastructure due to the influx of temporary workers and camp followers,

The threat to community culture, safety and security posed by the presence of construction workers and business opportunists,

Impacts due to labor influx and interaction of temporary workers with the community (such as sexually transmitted diseases (STDs), SEA/SH risk),

4.1.1.2.3. Labor and Working Conditions

A maximum of 30 people will work during the subproject construction phase. Although local employment will be prioritized, there is a small risk of an influx of workers.

Working and accommodation conditions will need to comply with World Bank standards (ESS 2).

4.1.1.2.4. Traffic

Access to the subproject area is provided by the D260 ring road and side connection road. During the construction phase, roads passing through settlements will not be used for supply and transportation processes. Therefore, a traffic risk in settlements is not foreseen. Transition of large and long transportation vehicles from the D260 ring road to the connection road may cause traffic congestion and accident risk.

4.1.1.2.5. Loss of Land and Livelihoods

As no land acquisition process will be carried out within the scope of the subproject, no negative impact on land is expected. Therefore, there will be no negative impact on livelihoods.

4.1.1.2.6. Vulnerable Groups

The subproject will not have any social negative impact on the lives of specific vulnerable groups such as persons with disabilities, children, elderly, refugees and livelihood dependent groups. The subproject will have no impact on the daily life and habits in the nearest settlement.

4.1.1.2.7. Cultural Heritage

As stated in the Existing Environmental and Social Status section, there are no registered cultural heritage sites in and near the subproject area. Therefore, no negative impact on cultural heritage is expected during the construction phase. However, if any findings are identified during construction activities, the Chance Find Procedure will be applied (see Annex H).

4.1.1.2.8. Technical and Social Infrastructure Services

Considering the existing Environmental and Social Status data and the construction duration of the subproject, no negative impact on technical and social infrastructure services in the region is expected during the construction phase of the subproject.

4.1.2. Operation Phase

4.1.2.1. Environmental Impacts and Risks

During the operation phase, environmental impacts and risks will be limited to the production of domestic waste and domestic wastewater generated by 1 personnel working at the facility.

4.1.2.1.1. Waste

There is a risk that the wastes (electronic wastes, panels, inverters, cables, electronic components) generated after maintenance-repair and breakdowns are not regularly stored and disposal processes are not carried out in accordance with national legislation and World Bank ESSs.

In addition, there is a risk that the domestic waste generated by 1 personnel working at the facility will not be collected by the municipality and the domestic wastewater will be discharged uncontrolled and cause environmental pollution.

4.1.2.2. Social Impacts and Risks

Due to the sub-project's location and nature, social impacts and risks are limited during operation phase.

4.1.2.2.1. Occupational Health and Safety

Potential health and safety risks for the operational phase of the subproject are listed below:

- Working at height: Risk of falling from height during maintenance and repair of panels
- Electricity: Risk of electric shock, arc flash and insulation breakdown in cables and failure to follow "Lock Out Tag Out Procedure"
- Material handling: Physical and ergonomic risk when replacing panels or transporting battery systems.
- Risks associated with use of machinery and equipment used in repair and maintenance work.
- Fire: Risks of short circuit fires, battery explosions, etc.
- Unauthorized access to the facility
- Risk associated with occupational accidents, injuries, and illnesses.
- .

4.2. Construction ESMP Matrix

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
• ESS2 - Labor and Working Conditions					
1.	Working Conditions	Employees	• Toolbox trainings will be implemented on weekly basis to consist of the OHS Plan and Labor Conditions. • Labor Management Plan will be implemented for recruiting and managing all employees. • Child labor, forced labor and unregistered labor will be prohibited as of the Labor Management Plan. • Employees will be provided with documented information that is clear and understandable, regarding their rights under national labor law; including collective agreements, their rights related to hours of work, wages, overtime, compensation, and benefits as of startup of working relationship and when any material changes occur. • The Grievance Mechanism for employees will be implemented. The employees will be informed about the grievance mechanism at the time of recruitment, and it will be made easily accessible to them.	Contractor Supervision Consultant KASKI	• ESMP • Workers Grievance Mechanism • Safe work procedures • Sub-contractor agreement templates • Employment templates • Induction Training Plan • Employment records • LMP
2.	**General OHS Risks**	Employees	• A complete risk assessment document addressing the Sub-project specific risks and defining mitigation measures will be prepared. • All employees including the subcontractors will receive necessary OHS training covering the risks. • Personnel who have not been trained in OHS and are not aware of all risks will not be allowed to enter the work site. • All Sub-project management plans including safe work procedures and emergency action plans will be prepared. • Safety procedures and appropriate Personal Protective Equipment (PPE) will be used when working at height. • OHS Trainings will include the safety procedures. • In case of OHS incidents involving loss of life, loss of limb or eye, or temporary disability from work lasting more that 72 hrs, the Contractor will immediately (within 24 hrs) inform ILBANK PMU and follow up with	Contractor Supervision Consultant KASKI	Risk Assessment document OHS Management Plan OHS Training Plan Emergency Preparedness and Response Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			completing ESRT forms, as instructed by ILBANK. This will include root cause analysis and corrective action plan.		
3.	**OHS - Physical Hazards: Electrical Hazards**	Employees	**General Measures** • Ensure that all energized electrical devices and lines are marked with warning signs • Ensure that the devices are locked (de-charging and leaving open with a controlled locking device) and labeled (warning sign placed on the lock) during service or maintenance. • Ensure that all electrical cords, cables, and hand power tools are checked for frayed or exposed cords. Also, ensure that the manufacturer's recommendations for the maximum permitted operating voltage of portable hand tools are followed • Ensure that all electrical equipment used in environments that are or may be wet is double insulated/grounded; use equipment with ground fault interrupter (GFI) protected circuits. • Ensure that power cords and extension cords are protected against damage from traffic by shielding or suspending above traffic areas • Ensure that high-voltage equipment and service rooms where access is controlled or prohibited are properly labeled ('electrical hazard') • Ensure that "No Approach" zones are established around or under high voltage lines. • Ensure that construction vehicles or other vehicles with rubber tires that come into direct contact with or arc across high-voltage cables are taken out of service for 48 hours. • Ensure that all buried electrical cables are thoroughly identified and marked prior to any excavation work. **Site-specific Measures** • Relevant safety procedures will be established, and employees will be trained on these procedures to prevent the risk of electric shock and injury to employees during the installation of electrical equipment.	Contractor Supervision Consultant KASKI	Risk Assessment document OHS Management PlanOHS Training Plan Emergency Preparedness and Response Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			• Safety fences will be constructed around electrical areas and no materials will be stored in or near these areas. • Contractor and subcontractor electricians will be well trained and those without a certificate of professional competence will not be employed in electrical work. • Electricians will be provided with suitably insulated Personal Protective Equipment (PPE) and work tools, and will be made aware of the risk of electric shock and protection techniques. • First aid workers trained in first aid in case of electric shocks will be employed by the contractor and subcontractor. • Work will not be carried out in rainy weather conditions. • Warning signs will be placed in areas with electrical hazards and all safety measures (e.g. hard barriers) will be implemented to prevent workers from being exposed to these areas. • Toolbox talks will provide information about assembly work and electrical hazards and unqualified personnel will not be assigned to electrical work.		
4.	**OHS - Physical Hazards: Industrial Vehicle Driving and Site Traffic**	Local communities Employees	**General Measures** • Ensure that industrial vehicle operators are trained and certified in the safe use of specialized vehicles such as forklifts, including safe loading/unloading, load limits • Make sure drivers undergo medical supervision regularly • Ensure that moving equipment with restricted rear visibility is equipped with audible back-up alarms and employ banksmen/flagmen when required • Ensure that rights of way, site speed limits, vehicle inspection requirements, operating rules and procedures , and control of traffic patterns or direction are established • Ensure that deliveries and movement of private vehicles are restricted to defined routes and areas, with 'one-way' movement preferred where appropriate **Site-specific Measures**	Contractor Supervision Consultant KASKI	Risk Assessment document OHS Management Plan OHS Training Plan Emergency Preparedness and Response Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			• All vehicles used in transportation activities shall comply with the speed limits specified in the Road Traffic Regulation. • Vehicle speed will be limited to 30 km/h on unpaved roads. • Safe traffic control measures such as road warning signs, speed humps and flag staff will be used where necessary, especially at the transition from the ring road to the side access road. • Any damage to the side access road will be repaired and restored. • An emergency response plan will be prepared and necessary protocols will be established for possible infrastructure failures, accidents or natural disasters that may occur during construction. • Heavy construction machinery working in the subproject area will not be operated or maneuvered without a flagman or signaler. • All drivers will receive road safety training.		
5.	**OHS - Physical Hazards: Ergonomics, Repetitive Motion, Manual Handling Lifting**	Employees	**General Measures** • Ensure that mechanical assists are used to eliminate or reduce the effort required to lift materials, hold tools and work objects, and that more than one person is lifting if weights exceed thresholds • Ensure that tools are selected and designed that reduce force requirements and holding times and improve postures • Ensure that user-adjustable workstations are provided • Ensure that rest and stretch breaks are incorporated into work processes and job rotation is in place • Ensure quality control and maintenance programs are in place that reduce unnecessary forces and effort • Ensure that additional special circumstances, such as left-handed people, are considered **Site-specific Measures** • For manual handling and lifting, workers will be informed of the carrying capacities set out in the regulation and will be provided with the means to transport materials that are not suitable for manual handling.	Contractor Supervision Consultant KASKI	Risk Assessment document OHS Management Plan OHS Training Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			• Site workers will be provided with information and training on manual handling, including healthy lifting techniques. • Implementation of safe transportation techniques will be ensured. • Manual handling operations will be kept to a single level, ground conditions will be improved and environmental conditions will be enhanced. The ground will be kept clear of obstacles. • Appropriate Personal Protective Equipment (PPE) and safety equipment will be used.		
ESS3 - Resource Efficiency and Pollution Prevention and Management					
	Air Emissions and Ambient Air Quality				
6.	Emissions to air due to construction activities	Local communities Employees Flora & Fauna	**General Measures** • Ensure use of dust control methods, such as covers, water suppression, or increased moisture content for open storage piles. • Ensure use of water suppression for control of loose materials on paved or unpaved road surfaces. **Site-specific Measures** • Modern equipment and vehicles in compliance with relevant emission standards will be used during construction works. • Exhaust emission measurements of work machines and vehicles will be carried out on time and vehicles exceeding the limit values will not be used in the subproject. • In case of dust formation on the side access road providing access to the subproject area, water suppression method will be applied with water tankers. • Speed limit will be applied for Transport Trucks. • A grievance mechanism will be implemented.	Contractor Supervision Consultant KASKI	Stakeholder Engagement Plan
	Wastewater and Ambient Water Quality				
7.	Generation and discharge of wastewater due to	Surface water resources	**General Measures**	Contractor Supervision	Waste management plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures

	construction activities		• Ensure water is used efficiently to reduce the amount of wastewater generation
			• Ensure that waste minimization and process modification, including reduction of the use of hazardous substances, is carried out to reduce the load of pollutants requiring treatment.
			• Septic will be used for wastewater disposal and treatment, ensure that the following requirements are met:
			  ○ Properly designed and installed in accordance with local regulations and guidance to prevent any hazard to public health or contamination of land, surface or groundwater.
			  ○ Well maintained to allow effective operation.
			  ○ Installed in areas with sufficient soil percolation for the design wastewater loading rate.
			  ○ Installed in areas of stable soils that are nearly level, well drained, and permeable, with enough separation between the drain field and the groundwater table or other receiving waters.
			Site-specific Measures
			• Domestic wastewater generated in the subproject area will be collected in sealed septic tank located in the camp site.
			• KASKI's vacuum trucks will regularly transfer the wastewater to the WWTP.
			• Kayseri Wastewater Treatment Plant located 100 m from the subproject area will be used to treat all wastewater generated.
			• No uncontrolled wastewater discharge will be allowed during the subproject lifetime.
				Consultant
				KASKI	

	Waste Management				
8.	Generation of waste during construction activities	Local communities Employees Flora & Fauna	**General Measures** • Establish waste management priorities at the outset of activities based on an understanding of potential Environmental, Health, and Safety (EHS) risks and impacts and considering waste generation and its consequences	Contractor Supervision Consultant KASKI	Waste management plan Stakeholder Engagement Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			• Ensure that a waste management hierarchy is established that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of waste • Ensure that waste segregation and storage in temporary waste storage areas is managed according to the standards set out in the GIIP and relevant legislation • Ensure that waste is classified and labeled according to waste codes. • Ensure that data and information is collected on waste streams generated under the project, including characterization of waste streams by type, quantity and potential use/disposal. • Ensure that raw materials or inputs are substituted with less hazardous or toxic materials or with materials for which processing produces lower waste volumes. • Ensure that good housekeeping and operational practices, including inventory control, are established to reduce the amount of waste from materials that are outdated, out-of-specification, contaminated, damaged or in excess of facility needs • Ensure that the generation of hazardous waste is minimized by implementing strict waste segregation to avoid mixing of non-hazardous and hazardous waste to be managed **Site-specific Measures** • A covered temporary waste storage area will be established within the subproject area, which will not be affected by weather conditions, in order to accumulate wastes under appropriate conditions. • Personnel responsible for the temporary waste storage area will be assigned and identification signs will be posted indicating the types of waste to be generated and the responsible personnel. • All waste generated during the construction phase will be sorted and labeled according to type and class and stored in the temporary waste storage area. • The contractor will have a waste disposal protocol with licensed recycling and disposal company.		

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			• All waste will be included in the recycling and disposal process through licensed recycling companies within the period specified in the regulations for waste types. • Separate sections will be created in the temporary waste storage area for different waste types and measures will be taken to prevent hazardous wastes from reacting. • Fire risk and precautions will be taken into consideration in the temporary waste storage area and fire extinguishing equipment will be kept in accessible locations. • All waste generated during the subproject will be recycled or disposed of and no waste will be buried, incinerated or disposed of uncontrolled.		
9.	Generation of hazardous waste during construction activities	Soil Quality Employees Flora & Fauna	• Ensure that operators are trained on release prevention, including drills specific to hazardous materials as part of emergency preparedness response training • Ensure a description of response activities in the event of a spill, release or other chemical emergency, including: o Internal and external notification procedures o Specific responsibilities of individuals or groups o Decision process for assessing severity of the release, and determining appropriate actions o Facility evacuation routes o Post-event activities such as clean-up and disposal, incident investigation, employee re-entry, and restoration of spill response equipment. • Ensure that appropriate PPE (footwear, masks, protective clothing and goggles in appropriate areas), emergency eyewash and shower stations, ventilation systems and sanitary facilities are provided • Ensure that monitoring and record-keeping activities and accident and incident investigation reports, including audit procedures designed to verify and record the effectiveness of the prevention and control of exposure to occupational hazards, are kept on file for at least five years.	Contractor Supervision Consultant KASKI	Waste management plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
	Noise				
10.	Noise generation due to construction	• Local community • Project Site Surroundings • Fauna species	**General Measures** • Manage the potential impact of noise, selecting equipment with lower sound power levels • All Sub-project personnel including direct and contracted workers will be trained on the implementation of ESMP. • Ensure implementation of Sub-project-specific SEP in order to address any noise-related grievance and plan/take corrective actions, where necessary. • Ensure consultation with PAPs prior to the start of and during the construction activities to be conducted at this location in order to inform stakeholders about the scope and duration of the activities and mitigate the potential impacts for the period of construction **Site-specific Measures** • Night work will not be allowed during the construction phase of the subproject. • Working hours will be between 09:00 in the morning and 18:00 in the evening. • Surrounding industrial facilities and residents of Boğazköprü neighborhood will be informed about the timing and content of construction activities under the SEP. • The machinery and equipment used during land preparation and construction works will not be operated at the same point but distributed homogeneously over the area. • Regular and periodic maintenance of work machines and equipment and daily checks will be carried out in each shift. • All vehicles used in transportation activities shall comply with the speed limits specified in the Road Traffic Regulation. • A grievance mechanism will be established to receive grievances from local communities.	Contractor Supervision Consultant KASKI	Stakeholder Engagement Plan
ESS4 - Community Health and Safety					
	Traffic Safety				

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
11.	Road safety	Local Communities Road Users Road Infrastructure	**General Measures** • Monitoring the licensing and professional competence of the drivers employed in the sub-project. • Avoiding dangerous routes and times of day to reduce the risk of accidents • Ensure use of speed control devices (governors) on trucks, and remote monitoring of driver actions • Roads passing through settlements will be avoided whenever alternative routes are available. If sub-project traffic routing through the settlements is not avoidable, all necessary traffic management measures will be taken. The local communities and if necessary local authorities will be informed about the transportation routes and schedule • Scheduling of traffic will be undertaken to avoid the peak hours on the local road network wherever practicable (e.g. early in the morning with the daylight). Scheduling information and planned traffic disruptions will be communicated well in advance to all related parties including authorities, local communities and nearby businesses **Site-specific Measures** • All vehicles used in transportation activities shall comply with the speed limits specified in the HighwayTraffic Regulations. • Vehicle speed will be limited to 30 km/h on the site access road. • Safe traffic control measures such as road warning signs, speed bumps and flagging personnel will be provided throughout the subproject. • Any damage to the roads will be repaired. • An emergency response plan will be prepared and necessary protocols will be established for possible infrastructure failures, accidents or natural disasters that may occur during construction. • Operators and drivers will receive road safety training and their driving licenses will be registered.	Contractor Supervision Consultant KASKI	Traffic Management Plan Stakeholder Engagement Plan
12.	Sexual Exploitation and Abuse (SEA)/Sexual	Local Communities	• Where possible and feasible, local employment options will be considered at all stages of the sub-project.	Contractor Supervision Consultant	Stakeholder Engagement Plan GM

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
	Exploitation/ Sexual Harassment (SE/SH)		• All sub-project staff will be trained on Code of Conduct at induction to minimize the impact of cultural differences. • Workerswill be trained on SEA/SH and CoC and those involved in sexual exploitation will have their employment contracts terminated. • It will be mandatory for project employees to sign the CoC. • Women's complaints of sexual abuse will be handled in a confidential manner and women staff (e.g. Women Social Workers) will be employed within the grievance mechanism to ensure that these complaints are shared. • The content of E&S trainings to be provided to project employees will include Sexual Exploitation and Sexual Harassment	KASKI	
13.	Impacts on vulnerable and disadvantaged individuals and groups	Local Communities	• Although the subproject does not pose significant risks to vulnerable groups, additional stakeholder engagement measures will remain in place. Support will be provided in accordance with the project specific SEP, such as transportation to stakeholder engagement activities.	Contractor Supervision Consultant KASKI	Stakeholder Engagement Plan GM
14.	Grievance Mechanism	Local Communities Employees	• As indicated in the Roles and Responsibilities table; KASKI will establish a Grievance Mechanism for the project and ensure its effective operation throughout the life cycle of the project with İLBANK. • SEP to be updated annually and if there are significant changes in the Project. • The implementation of the Stakeholder Engagement Plan (SEP) and Grievance Mechanism will be the responsibility of KASKI PIU. • Visibility of the SEP and Grievance Mechanism will be ensured, including contact details of staff responsible for grievance handling. • In order to increase the accessibility of the Grievance Mechanism and the visibility of the project, posters and brochures will be prepared and distributed to all residents of Boğazköprü neighborhood and employees of nearby facilities. • All records received through the grievance mechanism and other channels will be recorded in a grievance log for the duration of the project.	Contractor Supervision Consultant KASKI	Stakeholder Engagement Plan GM
ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement					

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
15.	Land Acquisition ,Restrictions on Land Use and and Involuntary Resettlement	Local Communities	• It will be ensured that construction activities do not restrict/obstruct the social and economic life of the local community. • There will be no expropriation under the sub-project. • Private and public lands outside the project work area will not be entered and all measures will be taken to prevent this.	Contractor Supervision Consultant KASKI	Stakeholder Engagement Plan GM
ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources					
16.	Natural habitats	Flora and Fauna Species	• No work will be carried out outside the designated Subproject area and natural habitats will not be harmed. • Before the subproject construction works start, the area will be inspected and checked for the presence of stray and wild animals within the work area. The efforts to encourage species to leave the area should be carried out gradually at the beginning of the work. • If any living creatures are encountered, they will be taken out of the work area and the area will be secured with fencing.	Contractor Supervision Consultant KASKI	ESMP
ESS8 - Cultural Heritage					
17.	Impacts on cultural heritage		• If archaeological remains are encountered during the construction works, the works will be stopped, and the relevant institutions will be contacted in accordance with the Chance Find Procedure in the ESMP. The Contractor shall immediately (within 24 hours) notify the Employer and ILBANK of such a finding. • Project employees, including contractor and subcontractor employees, will be trained on the Chance Find Procedure on the procedures to be followed in case of any findings. • The relevant Preservation Board or Museum Directorate will be informed immediately and the security of the area will be ensured by the Contractor. Construction work will not continue until official notification is received.	Contractor Supervision Consultant KASKI	Chance Find Procedure
ESS10 - Stakeholder Engagement and Information Disclosure					
18.	Stakeholder Engagement and Information Disclosure	Local community	• Communities in the vicinity of the work area will be informed prior to commencement of works through consultation meetings, leaflets and information signage.	Contractor Supervision Consultant KASKI	SEP Grievance Mechanism

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Relevant Plans/Procedures
			• Construction sites and access roads will be separated from other areas with appropriate signboards, signs and fences to limit the staff and vehicle access to the other areas. • Information sharing and consultation activities will be carried out with communities and other stakeholders in line with the Stakeholder Engagement Plan (SEP). • Local culture and values of the project area will be taken into consideration in all phases of the sub-project and employees will be trained on codes of conduct.		

4.3. Operation ESMP Matrix

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
ESS2 - Labor and Working Conditions					
1.	**General OHS Risks**	PIU Employees Maintenance Personnel	• A complete risk assessment document addressing the Sub-project specific risks and defining mitigation measures will be prepared. • All employees of the PIU and contractor companies that will work during the operation period will receive the necessary OHS training covering the risks. • Personnel who have not been trained in OHS and are not aware of all risks will not be allowed to enter the work site. • All Sub-project management plans including safe work procedures and emergency action plans will be prepared. • Safety procedures and appropriate Personal Protective Equipment (PPE) will be used when working at height. • OHS Trainings will include the emergency procedures. • In case of OHS incidents involving loss of life, loss of limb or eye, or temporary disability from work lasting more that 72 hrs, the Contractor will immediately (within 24 hrs) inform ILBANK PMU and follow up with completing ESRT forms, as instructed by ILBANK. This will include root cause analysis and corrective action plan.	KASKI	Risk Assessment document OHS Management Plan OHS Training Plan Emergency Preparedness and Response Plan
2.	**OHS - Physical Hazards: Electrical Hazards**	PIU Employees Maintenance Personnel	**General Measures** • Ensure that all energized electrical devices and lines are marked with warning signs • Ensure that the devices are locked (de-charging and leaving open with a controlled locking device) and labeled (warning sign placed on the lock) during service or maintenance. • Ensure that all electrical cords, cables, and hand power tools are checked for frayed or exposed cords. Also, ensure that the manufacturer's recommendations for the maximum permitted operating voltage of portable hand tools are followed	KASKI	Risk Assessment document OHS Management Plan OHS Training Plan Emergency Preparedness and Response Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			• Ensure that all electrical equipment used in environments that are or may be wet is double insulated/grounded; use equipment with ground fault interrupter (GFI) protected circuits. • Ensure that power cords and extension cords are protected against damage from traffic by shielding or suspending above traffic areas • Ensure that high-voltage equipment and service rooms where access is controlled or prohibited are properly labeled ('electrical hazard'). • Ensure that "No Approach" zones are established around or under high voltage lines. • Ensure that construction vehicles or other vehicles with rubber tires that come into direct contact with or arc across high-voltage cables are taken out of service for 48 hours. • Ensure that all buried electrical cables are thoroughly identified and marked prior to any excavation work. **Site-specific Measures** • Relevant safety procedures will be established, and employees will be trained on these procedures to prevent the risk of electric shock and injury to employees during the installation of electrical equipment. • Safety fences will be constructed around electrical areas and no materials will be stored in or near these areas. • Contractor and subcontractor electricians will be well trained and those without a certificate of professional competence will not be employed in electrical work. • Electricians will be provided with suitably insulated Personal Protective Equipment (PPE) and work tools, and will be made aware of the risk of electric shock and protection techniques. • First aid workers trained in first aid in case of electric shocks will be employed by the PIU. • Work will not be carried out in rainy weather conditions.		

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			• Warning signs will be placed in areas with electrical hazards and all safety measures (e.g. hard barriers) will be implemented to prevent workers from being exposed to these areas. • Toolbox talks will provide information about assembly work and electrical hazards and unqualified personnel will not be assigned to electrical work.		
3.	**OHS - Physical Hazards: Ergonomics, Repetitive Motion, Manual Handling Lifting**	Maintenance Personnel	**General Measures** • Ensure that mechanical assists are used to eliminate or reduce the effort required to lift materials, hold tools and work objects, and that more than one person is lifting if weights exceed thresholds • Ensure that tools are selected and designed that reduce force requirements and holding times and improve postures • Ensure that user-adjustable workstations are provided • Ensure that rest and stretch breaks are incorporated into work processes and job rotation is in place • Ensure quality control and maintenance programs are in place that reduce unnecessary forces and effort • Ensure that additional special circumstances, such as left-handed people, are considered **Site-specific Measures** • For manual handling and lifting, workers will be informed of the carrying capacities set out in the regulation and will be provided with the means to transport materials that are not suitable for manual handling. • Site workers will be provided with information and training on manual handling, including healthy lifting techniques. • Implementation of safe transportation techniques will be ensured. • Manual handling operations will be kept to a single level, ground conditions will be improved and environmental conditions will be enhanced. The ground will be kept clear of obstacles.	KASKI	Risk Assessment document OHS Management Plan OHS Training Plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			• Appropriate Personal Protective Equipment (PPE) and safety equipment will be used.		
ESS3 - Resource Efficiency and Pollution Prevention and Management					
	Wastewater and Ambient Water Quality				
4.	Waste water generation and discharge during operation	Surface water resources	**General Measures** • Ensure water is used efficiently to reduce the amount of wastewater generation • Ensure that waste minimization and process modification, including reduction of the use of hazardous substances, is carried out to reduce the load of pollutants requiring treatment. • Septic system constructed for construction phase will be used for wastewater disposal and treatment, ensure that the following requirements are met: o Properly designed and installed in accordance with local regulations and guidance to prevent any hazard to public health or contamination of land, surface or groundwater. o Well maintained to allow effective operation. o Installed in areas with sufficient soil percolation for the design wastewater loading rate. o Installed in areas of stable soils that are nearly level, well drained, and permeable, with enough separation between the drain field and the groundwater table or other receiving waters. **Site-specific Measures** • Domestic wastewater generated in the subproject area will be collected in sealed septic tank. • KASKI's vacuum trucks will regularly transfer the wastewater to the WWTP. Kayseri Wastewater Treatment Plant located 100 m from the subproject area will be used to treat all wastewater generated.	KASKI	Waste management plan

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			• No uncontrolled wastewater discharge will be allowed during the subproject lifetime.		
	Waste Management				
5.	Waste generation during operation	Local communities Flora & Fauna	**General Measures** • Establish waste management priorities at the outset of activities based on an understanding of potential Environmental, Health, and Safety (EHS) risks and impacts and considering waste generation and its consequences • Ensure that a waste management hierarchy is established that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of waste • Ensure that waste segregation and storage in temporary waste storage areas is managed according to the standards set out in the GIIP and relevant legislation • Ensure that waste is classified and labeled according to waste codes. • Ensure that data and information is collected on waste streams generated under the project, including characterization of waste streams by type, quantity and potential use/disposal. • Ensure that raw materials or inputs are substituted with less hazardous or toxic materials or with materials for which processing produces lower waste volumes. • Ensure that good housekeeping and operational practices, including inventory control, are established to reduce the amount of waste from materials that are outdated, out-of-specification, contaminated, damaged or in excess of facility needs • Ensure that the generation of hazardous waste is minimized by implementing strict waste segregation to avoid mixing of non-hazardous and hazardous waste to be managed **Site-specific Measures** • A covered temporary waste storage area that will not be affected by weather conditions will be established outside the sub-project area (in an area to be determined by KASKI) in an area owned by	KASKI	

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			KASKI for the accumulation of wastes under appropriate conditions. • Personnel responsible for the temporary waste storage area will be assigned and identification signs will be posted indicating the types of waste to be generated and the responsible personnel. • All waste generated during the operation phase will be sorted and labeled according to type and class and stored in the temporary waste storage area. • KASKI will have waste protocols with licensed recycling and disposal companies. • All waste will be included in the recycling and disposal process through licensed recycling companies within the period specified in the regulations for waste types. • Separate sections will be created in the temporary waste storage area for different waste types and measures will be taken to prevent hazardous wastes from reacting. • Fire risk and precautions will be taken into consideration in the temporary waste storage area and fire extinguishing equipment will be kept in accessible locations. • All waste generated during the subproject will be recycled or disposed of and no waste will be buried, incinerated or disposed of uncontrolled.		
ESS4 - Community Health and Safety					
6.	Sexual Exploitation and Abuse (SEA)/Sexual Exploitation/ Sexual Harassment (SE/SH)	Local Communities	• All project staff will be trained on Code of Conduct at induction to minimize the impact of cultural differences. • Project staff will be trained on SEA/SH and CoC and those involved in sexual exploitation will have their employment contracts terminated. • It will be mandatory for project employees to sign the CoC. • Women's complaints of sexual abuse will be handled confidentially.	KASKI	Stakeholder Engagement Plan GM

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			• The content of E&S trainings to be provided to project employees will include Sexual Exploitation and Sexual Harassment		
7.	Risks of unauthorized access of community members, especially children, to the subproject site	Local Communities	• The subproject site will be fenced to prevent unauthorized access and ensure security. • The subproject site will be monitored 24 hours a day with security cameras and in case of security problems, the personnel in charge will intervene in case of violations. • Children will be prevented from crossing the fence and entering the subproject area by security cameras. Unauthorized entries will be intervened immediately. • Physical security checks will be carried out at regular intervals to prevent damage to the fence and security problems. • Consultation meetings will be held in the nearest settlement, Boğazköprü neighborhood, and local communities will be informed that children in particular should not enter the subproject area and that there is an electricity hazard.	KASKI	Stakeholder Engagement Plan
8.	Grievance Mechanism	Local Communities PIU Employees	• As indicated in the Roles and Responsibilities table; KASKIwill establish a Grievance Mechanism for the project and ensure its effective operation throughout the life cycle of the project with ILBANK. • SEP to be updated annually and if there are significant changes in the Project. • The implementation of the Stakeholder Engagement Plan (SEP) and Grievance Mechanism will be the responsibility of KASKI PIU. • Visibility of the SEP and Grievance Mechanism will be ensured, including contact details of staff responsible for grievance handling. • In order to increase the accessibility of the Grievance Mechanism and the visibility of the project, posters and brochures will be prepared and distributed to all residents of Boğazköprü neighborhood and employees of nearby facilities.	KASKI	Stakeholder Engagement Plan GM

No	Impact Description	Receptor	Proposed Mitigation Measure	Responsible Parties	Implementation Plans
			• All records received through the grievance mechanism and other channels will be recorded in a grievance log for the duration of the project.		
ESS10 - Stakeholder Engagement and Information Disclosure					
9.	Stakeholder Engagement and Disclosure	Local community	• • Interaction / communication will be established with communities, and adequate timing will be planned for engagement activities. Additionally, regular consultations will be carried out with the authorities and communities regarding the project management.	KASKI	Stakeholder Engagement Plan SEP

4.4. Monitoring and Reporting

The Sub-borrower will conduct internal monitoring of Sub-project's E&S performance and submit Periodic Monitoring Reports to ILBANK in line with the sub-financing agreement requirements. The information to be provided as part of reporting for the respective monitoring period will include the following:

- Up-to-date information on sub-project construction progress, work plan and adequate technical staff,
- The status of compliance with legal requirements, permits required and the outcome of inspections by national authorities and the status of fines imposed by national authorities,
- Details of how the requirements of the IFI standards (e.g. WB ESSs) are being met on the basis of compliance with Sub-project level Environmental and Social Action Plans (ESAPs),
- Incident and accident reports and statistics,
- Current Sub-project level E&S organization and capacity (including information on capacity building and training),
- Progress with Sub-project level stakeholder engagement activities and management of grievances, and
- Records on E&S non-conformities identified and general status of Corrective Action Plan implementation at Sub-project level (in case of non-conformities).

Key performance indicators (KPIs) of this procedure will be monitored, verified, and evaluated within the scope of the Sub-project monitoring stage. The KPIs for both construction and operation phases of the Sub-project are presented in Table 15.

Table 15 Key Performance Indicators for Both Construction and Operation Phases of the Sub-project

Monitoring Focus	KPI
Documentation	
Following ESMP Project specific plans will be developed and be in place.	Full compliance with Sub-project's ESMP
Air Quality	
Non-Compliance with air quality standards	Zero grievances per year
Community grievances	Minimization and continued improvement in the number of air quality related community grievances
Violation on speed limit	Minimization and continued improvement in the number of reported violations on speed limit
Noise	
Noise and Vibration incidents	Minimize and continued improvement in number of reported noise and vibration related incidents
Non-Compliance with Project standards	Zero Non-Compliance Reports (NCRs) per year
Number of noise-related community grievances	Zero grievances per year
Community grievances	Minimization and continued improvement in the number of noise related community grievances
Water / Wastewater	
Spill incident	Minimization and continued improvement in the number of the reported water quality related incidents.
Non-Compliance with Sub-project standards	Zero NCRs per year

Monitoring Focus	KPI
Wastewater collection system	Zero grievances per year
Waste	
Waste Generation	Minimization of total waste generated Decrease in the ratio of hazardous waste generated to total waste (by contamination + by generation)
Waste Disposal	Increase in the ratio of recovered/reused/recycled waste to total waste generated
Soil Quality	
Spill incident	Minimization and continued improvement in the number of the reported soil quality related incidents
Non-Compliance with Sub-project standards	Zero NCRs per year
Soil quality accidents	Zero accident per year
Number of soil-related community grievances	Zero grievances per year
Traffic	
Number of non-compliances against the mitigation controls identified in Traffic and Transport Management Plan	Decreasing number/ continuous improvement in number of reported non-compliances
Number of drivers found to be exceeding speed limits or driving unsafely	Zero exceedance per year
Number of road traffic accidents involving: Accidental injuries and deaths, Spillages (such as cargo or fuel), Wildlife-vehicle collisions.	Zero accidents per year
Number of traffic-related grievances	Zero grievances per year
Health, Safety and Environment	
% of scheduled HSE Inspection	>90
% of attendance at HSE meetings	>90
% of closing of NCRs	100
Reporting safe observations	100%
Reporting unsafe observations	100%
Reporting near misses	100%
Reporting number of incidents	100%
Reporting number of accidents	100%
Reporting day-loss	100%
% of Toolbox attending	>90
% of Risk Assessment compliance	>90
% of Legal Requirements compliance	100%
Results of scheduled audits	>85
HSE training carried out to training matrix > 90% of all training to matrix	>90
% of attendance at scheduled trainings	>90
Engagement in HSE program by individual managers and supervisors	>90
Engagement in HSE program by contractor's	>90
Labor and Working Conditions	
Number of worker grievances closed out within the target timeframe	100% compliance with labor laws and regulations Zero unresolved health and safety incidents within the target timeframe 100% availability of required PPE

Monitoring Focus	KPI
	90% or higher worker satisfaction rate
Community Health and Safety	
Number of communicable and non-communicable diseases and injuries.	Negative Trend/No significant increase in communicable and non-communicable disease and injury rates per 1,000 residents per annum.
Number of community health safety & security grievances from local communities as recorded in the grievance management system.	Decreasing number/ continuous improvement in number of grievances
Number of reported community health & safety incidents	Zero incidents per year
Number of reported air quality or noise incidents	Zero incidents per year
Direct and indirect threats posed by construction activities against traffic and pedestrians	Zero number of drivers found to be exceeding speed limits or driving unsafely Zero accidental injuries and deaths, Zero traffic-related grievances
Access to the Construction Site - Security Fence/ Protection Tape	Zero Number of unauthorized accesses to the Sub-project area
Trainings	
Training records	Trainings on ESMP and SEP documents. Providing all trainings (including GM, GBV, SEA/SH) to all employees. 100% of scheduled training sessions conducted 80% or higher participant satisfaction rate Zero participants without completion certificates if applicable
Disclosure	
Grievance Records, Disclosure meeting participant records, ESMP, SEP, GM will be disclosed at Project web site in two languages. (English and Turkish).	All grievances closed-out within the target timeframe ESMP, Project specific SEP and GM will be prepared and disclosed at the Project web site
Grievance mechanism	
Grievance Records, GM disclosure	All grievances closed-out within the target timeframe GM disclosure to the PAPs, stakeholders GM disclosure at Sub-project web site
Cultural Heritage	
Existence of a Chance Find	Zero Grievance Records

Table 16. Construction Environmental and Social Monitoring Table

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Reference / Threshold Level (if applicable)	Responsibility for Monitoring	Monitoring/Key Performance Indicators (KPIs)	Cost (If not included in the Sub-project Budget)
C 1	Working Conditions General OHS Risks Lifting Risks Electric Shock Risks Fire Risks Manual Handling Risks	Use of PPE OHS Trainings Number of OHS non-compliances	Subproject Area	OHS Checklist OHS Training Records Fire Extinguishing System Records Daily field visual observations Accident records Near-miss records Grievance records Monthly report	Daily visual observations Monthly report	National OHS Legislation WB ESS 2	KASKI Supervision Consultant Contractor	% of Planned OHS Audits % of participation in OHS meetings Rate of closure of Non-Compliance Reports (NCR) % Reporting of safe and unsafe observations % of toolbox participation Results of audits OHS trainings conducted according to the training matrix Number of closed corrective actions	Included in the Subproject Cost
C 2	Waste management Waste Storage Area Waste management practices	Adequate waste storage conditions Spills	Temporary Waste Storage Area	Visual observations Waste records Record of Spills	Daily visual observations Monthly document record control Monthly report	Waste Management Regulation WB ESS 3 GIIP	KASKI Supervision Consultant Contractor	Amount of waste stored Amount of waste disposed	Included in the Subproject Cost

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Reference / Threshold Level (if applicable)	Responsibility for Monitoring	Monitoring/Key Performance Indicators (KPIs)	Cost (If not included in the Sub-project Budget)
C 3	Dust from construction activities and vehicle traffic	Grievances related to dust and emissions	Sub Project Site Subproject surroundings	Grievance records Visual observations	Daily visual observations Monthly report	WB ESS 3 National Legislation GIIP	KASKI Supervision Consultant Contractor	Number of grievances received Number of grievances closed Number of open grievances	Included in the Subproject Cost
C 4	Wastewater Pollution	Wastewater	Septic Tanks	Wastewater receipts (sewerage septic tank receipt)	Monthly report	Regulation on Urban Waste Water Treatment WB ESS 3	KASKI Supervision Consultant Contractor	Amount of treated wastewater	Included in the Subproject Cost
C 5	Noise Pollution	Grievances related to disturbances caused by noise	Sub Project Site Subproject surroundings	Grievance records Noise measurement results in case of grievances	Monthly report	Environmental Noise Control Regulation GIIP WB ESS 3	KASKI Supervision Consultant Contractor	Number of grievances received	Included in the Subproject Cost
C 6	Traffic risks	Damage to roads Emergency records Traffic accident records	Sub Project Site Subproject surroundings	Grievance records	Daily visual observations Monthly report	Traffic management plan Emergency Response Plan WB ESS 4	KASKI Supervision Consultant Contractor	Number of grievances received	Included in the Subproject Cost
C 7	Sexual Exploitation and Abuse (SEA)/ /Sexual Exploitation/ Sexual Harassment (SE/SH)	Employee code of conduct Grievance mechanism	Sub Project Site Subproject surroundings	Review of grievance records Code of Conduct Training Plan to include SEA and SE/SH topics	Daily report	WB ESS 2 WB ESS 4 Sub management Plan	KASKI Supervision Consultant Contractor	Number of grievances received Grievance Mechanism	Included in the Subproject Cost

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Reference / Threshold Level (if applicable)	Responsibility for Monitoring	Monitoring/Key Performance Indicators (KPIs)	Cost (If not included in the Sub-project Budget)
				Visual observations Meetings with Muhtars in the Area of Impact					
C 8	Cultural Heritage	Chance Finds	Sub Project Site	Chance Find Procedure	Daily visual observations Monthly report	WB ESS 8 Sub management Plan	KASKI Supervision Consultant Contractor	Number of Chance Finds	Included in the Subproject Cost

Table 17. Operation Environmental and Social Monitoring Table

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Reference / Threshold Level (if applicable)	Responsibility for Monitoring	Monitoring/Key Performance Indicators (KPIs)	Cost (If not included in the Sub-project Budget)
O 1	Working Conditions General OHS Risks Lifting Risks Electric Shock Risks Fire Risks Manual Handling Risks	Use of PPE OHS Trainings OHS Non Compliances	Subproject Area	OHS Checklist OHS Training Records Fire Extinguishing System Records Daily field visual observations Accident records Near-miss records Grievance records	Daily site visual observations Monthly report	National OHS Legislation WB ESS 2	KASKI	% of Planned OHS Audits % of participation in OHS meetings Reporting of safe and unsafe observations % of toolbox participation Number of closed corrective actions	Included in the Operating Cost

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Reference / Threshold Level (if applicable)	Responsibility for Monitoring	Monitoring/Key Performance Indicators (KPIs)	Cost (If not included in the Sub-project Budget)
				Monthly report				Results of audits OHS trainings	
O 2	Waste management Waste Storage Area Waste management practices	Adequate waste storage conditions	Temporary Waste Storage Area	Visual observations Waste records	Daily visual observations Monthly report	Waste Management Regulation WB ESS 3 GIIP	KASKI	Amount of waste stored Amount of waste disposed	Included in the Operating Cost
O 3	Sexual Exploitation and Abuse (SEA)/ /Sexual Exploitation/ Sexual Harassment (SE/SH)	Employee code of conduct Grievance mechanism	Sub Project Site Subproject surroundings	Review of grievance records Code of Conduct Training Visual observations	Daily report	WB ESS 2 WB ESS 4 Sub management Plan	KASKI	Number of grievances received Grievance Mechanism	Included in the Operating Cost

4.5. List of Associated Plans and Procedures

The E&S management plans and procedures to be prepared by Contractor/s are listed in **Table 18**.

Table 18. Plans and Procedures associated

Management Plan or Procedure	**Relevant Sub-project Phase** (Construction only, Operation only, both Construction and Defect Liability Period (DLP))
Waste Management Plan	Construction
Traffic and Safety Management Plan	Construction/Operation
Community Health, Safety and Security Plan	Construction/Operation
Workforce Management Plan	Construction
Occupational Health and Safety Management Plan	Construction/Operation
Emergency Response and Action Plan	Construction/Operation
Stakeholder Engagement Management Plan and Grievance Mechanism	Construction/Operation
Chance Find Procedure	Construction

The plans/procedures will be reviewed and revised in any major change and/or at least every 6 months.

4.6. Management of Change

Sub-borrower shall notify ILBANK of material changes in Sub-project (including those that stem from Sub-borrower and/or contractor activities) using ILBANK's Change Notification Form template (Annex İ). Such changes may include, inter alia, the following:

- Administrative/ organizational structure changes at the decision-making level
- Changes in assigned environmental, social and/or OHS staff
- Legislative changes impacting Sub-project implementation (e.g. new permitting processes).
- Design changes (e.g. any changes in the Sub-project description, footprint such as new temporary or permanent sites/facilities – on-site or off-site, changes in number of workforce involved, changes in on-site/off-site worker accommodation arrangements).
- Schedule changes.
- Changes related to E&S issues (e.g. new biodiversity features or cultural heritage assets identified, additional resettlement need, etc.)

Contractor or construction supervision consultants' changes at any phase of the Sub-project requiring (i) E&S commitments and E&S roles and responsibilities to be clarified with the new contractor or supervision consulting firm, and (ii) contractor E&S training to be reorganized and redelivered to new contractor or supervision consulting firm's staff.

5. CAPACITY DEVELOPMENT AND TRAINING

5.1. Organizational Capacity

The organization structure of the PIU to be established by the Sub-borrower is presented in **Figure 15.** The PIU will have qualified staff and resources to the satisfaction of ILBANK.

Project Implementation Unit Personnel List
Contract Management
Deputy General Manager
Procurement Unit
Branch Manager
Construction Technician
Technical Management
Department Head
Technical Unit
Branch Manager - Civil Engineer
Civil Engineer
Civil Engineer
Electrical Technician
Electrical - Electronics Engineer
Mechanical Engineer
Mapping Technician
Financial Management
Branch Manager
Financial Unit
Officer
Monitoring and Evaluation
Civil Engineer
OHS
Occupational Health and Safety and Civil Defense Branch Manager
Social Specialist
Social Specialist/Sociologist
Environmental Specialist
Environmental Engineer

Figure 15. Organization Structure – Project Implementation Unit (PIU)

The Sub-borrower will maintain the PIU by ensuring that there is qualified staff assigned and serving on the duty throughout the sub-financing agreement life cycle.

At minimum, the E&S team at the Sub-borrower PIU will include the following personnel who shall support management and monitoring of Sub-project E&S risks and impacts and ensure full compliance with the ESMP and other relevant E&S instruments:

- **Environmental Specialist(s):** to address environmental risks and impacts identified under the Environmental and Social Assessment (ESA) reports, such as Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), etc.

- **Social Expert/ Grievance Mechanism (GM) Focal Point:** to address social risks and impacts under the ESA reports, land acquisition, and labor issues, including stakeholder engagement and grievance redress; and
- **Occupational Health and Safety (OHS) Specialist(s)** to address OHS risks and impacts under the ESA reports.

If the necessary staff is not available within its own organizational structure, the Sub-borrower shall receive support/ consultancy services from outside.

Contractors

The Sub-borrower will require awarded contractors to establish and maintain throughout the contract duration an organizational structure with qualified staff and resources.

This will be achieved through assigning the following personnel under the contractor's organization:

- Environmental Specialist(s)
- Social Specialist(s) who will also act as the GM Focal Point
- Occupational Health and Safety (OHS) Specialist(s)

If the necessary staff is not available within its own organizational structure, contractors shall receive third-party support/ consultancy services.

5.2. Roles and Responsibilities

The roles and E&S related responsibilities of the Sub-borrower and other key parties are described in Table 19.

Table 19. Roles and E&S related Responsibilities of Key Parties associated with ESMP Implementation

Party	Role	Key Responsibilities
Financial Intermediary		
ILBANK	FI	• To fulfill the Sub-project implementation support role to ensure that is carried out in line with ILBANK ESMS and WB ESF, • Visit Sub-project site/s on occasion, and as required, as part of Sub-project supervision, monitoring and auditing. • Reviewing, approving, and disclosing ESMP on ILBANK's official website. • Reviewing the Environmental and Social Monitoring Reports (ESMRs) which will be prepared by the Sub-borrower.
Sub-borrower		
Kayseri Water and Sewerage Directorate (KASKI)	Sub-borrower Management	• Hold ultimate responsibility for the E&S performance of the Sub-project to the satisfaction of the ILBANK, including the performance of Sub-project contractors throughout the sub-financing agreement life cycle. • Establish Project Implementation Unit (PIU) following the execution of sub-financing agreements to carry out operational and administrative tasks to oversee the implementation of the E&S instruments and monitoring progress; allocate resources for the recruitment of in-house environmental, social and OHS staff under the PIU • Ensure that ESMP, SEP and other E&S management plans and procedures required by ILBANK is prepared within the timeframes agreed with ILBANK and allocate adequate financial and human resources – either from the Sub-borrower's own resources or from the Sub-project loan and implement. • Cooperate with the ILBANK representatives to discuss and agree on the ESAP and other E&S covenants for incorporation into sub-financing agreements to be executed between the ILBANK and the Sub-borrower (with support from RD E&S team as necessary) • Ensure that EHSS requirements of ILBANK are incorporated into relevant contractor tender and agreement documents to be prepared in collaboration with the construction supervision consultant • Hold and use the authority and responsibility to stop any Sub-project related work activity if it poses an imminent danger to health, safety, or the environment. • Allocate resource to ensure monitoring of Sub-project E&S performance and reporting to ILBANK at IFI standards in line with the sub-financing agreement conditions • Facilitate monitoring visits and audits by ILBANK and their consultants • Notify the ILBANK RD – E&S Teams of any significant E&S incident or accident within maximum 24 hours of the accident/incident; contractually require the supervision consultants and/or contractors to promptly report such incident and accidents (timeframe to be defined by ILBANK) (Annex F) • Prepare and submit a detailed E&S Incident Investigation Form, supplemented by an RCA to be conducted pursuant to GIIPs, to ILBANK within **15 days** of the accident/incident date for significant accidents or incidents (in line with the template presented in the E&S Supervision, Monitoring and Reporting Procedure). The investigation will be supplemented by a Root Cause Analysis (RCA) (Annex G).
	E&S Team - Environmental staff - Social staff - OHS staff	• Participate in the training to be organized by ILBANK as part of ILBANK ESMS Training Procedure implementation • Ensure that satisfactory ESMP, SEP and as required other E&S assessment documentation required by ILBANK is prepared by qualified independent specialists and submitted to ILBANK for appraisal and credit decision-making for Moderate risk Sub-project where the Sub-borrower has limited E&S capabilities, coordinate commissioning independent third-party specialists (such as external E&S consultancy companies, individual consultants) to carry out the E&S assessment and prepare the E&S documentation required for ILBANK's appraisal and credit decision-making processes

Party	Role	Key Responsibilities
		• Provide ILBANK with relevant adequate information to undertake the E&S due diligence in accordance with the ESMS (e.g. duly completed Sub-borrower questionnaire and supporting documentation to be requested by ILBANK in accordance with the E&S Screening and Risk Classification and ESDD procedures) • Support the Sub-borrower management as required in the review and evaluation of ESAP and other E&S covenants for incorporation into sub-financing agreements to be executed between the ILBANK and the Sub-borrower • Ensure compliance of Sub-project operations (including contractor activities on site) with national legislation and E&S requirements of the lending IFIs as included in the sub-financing agreements, ESAP and Sub-project-specific E&S documentation (such as ESMP, SEP and other E&S management plans and procedures required by ILBANK) • Undertake monitoring of Sub-project E&S performance and reporting to ILBANK at IFI standards in line with the sub-financing agreement conditions • Ensure implementation of corrective actions in case of E&S non-compliances in coordination and agreement with ILBANK DG and RD E&S teams over reasonable timeframes • Coordinate the construction supervision consultants, contractors and/or external E&S consultants for collection of the monitoring data and compilation of or providing input to periodic monitoring reports as necessary and appropriate • Allow ILBANK representatives (including individual consultants) to access Sub-project facilities and records.
Construction Supervision Consultants	Management and E&S staff	Carry out the following tasks on behalf of the Sub-borrowers: • Participate in the training sessions to be organized by Sub-borrowers in line with the requirements of ILBANK ESMS Training Procedure • Supervise the construction works of contractors on-site, including implementation of Sub-project-specific E&S requirements (requirements stemming from ESMP, SEP and other E&S management plans and procedures required by ILBANK as applicable) by contractors on a daily basis • Ensure sufficient E&S capacity for implementation of E&S requirements as set out in the sub-financing agreements between the Sub-borrower and ILBANK • Support the Sub-borrowers for the supervision and review of E&S management documentation prepared by construction contractors and submit them to Sub-borrowers upon finalization • Review monthly self-monitoring reports prepared by the construction contractors for early identification of E&S issues and/or non-compliances and submit them to municipalities/municipal utilities upon finalization • Identify E&S non-compliances on site and enforce construction contractors to undertake corrective actions within defined and agreed timeframes • Support the Sub-borrowers (as requested) in the preparation of periodic E&S monitoring reports to be submitted to ILBANK in line with the ILBANK E&S Supervision, Monitoring and Reporting Procedure • Notify the Sub-borrower of any significant E&S incident or accident that have taken place in Sub-project related operations within 24 hours.
Construction Contractor	Management and E&S staff	• Ensure sufficient E&S capacity for implementation of E&S requirements as set out in the construction contracts • Participate in the training sessions to be organized by Sub-borrowers in line with the requirements of ILBANK ESMS Training Procedure • Prepare Sub-project-specific E&S management plans and procedures prior to start of construction works as required by the construction contracts • Comply with the requirements of national legislation and implement the E&S requirements as set out in the sub-financing agreements (executed between ILBANK and the Sub-borrowers) and construction contracts • Submit periodic (in frequencies to be set by ESAP) E&S self-monitoring reports to the municipalities/municipal utilities through construction supervision consultants ("*müşavir*") – in line with the format provided by ILBANK. • Fill in monthly occupational health and safety (OHS) forms – reviewed by construction supervision consultants.

Party	Role	Key Responsibilities
		• Implement corrective actions in case of E&S non-compliances under the supervision of Sub-borrower's construction supervision consultant • Promptly notify the Sub-borrower of any significant E&S incident or accident that have taken place in Sub-project related operations (ILBANK no later than 24 hours)

5.3. Capacity Building and Training

Sub-borrower staff (trained by ILBANK) will deliver E&S training to contractors. Training contents are summarized in Table 20. Sub-borrower will identify specific training to be conducted in line with these modules and submit this to ILBANK prior to commencement of works.

Sub-borrower will ensure that E&S training programs are expanded to subcontractors by contractors in case their involvement in Sub-project implementation.

Table 20. Training Components for Training of Contractor Staff

Module	Training Name	Training Duration	Key Training Content
Module 1	ILBANK E&S Requirements	1 hour	- Overview of ILBANK E&S requirements: o ILBANK E&S Policy (including but not limited to the guiding principles on human rights, labor rights and working conditions, community health, safety and well-being, cultural heritage, gender equality, etc.) o External Communications (including stakeholder engagement, grievance management, etc.) o Monitoring, Review and Reporting o Labor Management, Contractor Management - ILBANK Code of Conduct
Module 2	Sub-project-level E&S Requirements for contractors as per sub-financing agreement conditions	3 hours	- Sub-project specific requirements: o E&S covenants included in sub-loan agreements o Sub-project ESAP requirements o Sub-project-level E&S assessment and management documentation (such as ESMP, SEP and other E&S management plans and procedures as applicable); o E&S sub-management plans training o Emergency Preparedness and Response Plan including a training program for emergency responders including drills at regular intervals; o Specific training (e.g. special trainings-certificates for workers in electrical work and training on appropriate behavior towards workers and affected communities). - Preparation and implementation of Labor Management Plans.

Training will be provided immediately following the recruitment process and will be refreshed every six months throughout the employment period and will be conducted at various levels. Training will cover employee rights, contractual requirements, Emergencies, Code of Conduct, grievance mechanism and communication channels. Awareness and compliance with rules on gender-based violence, sexual harassment, sexual exploitation, and abuse to be provided in trainings will be included in employee contracts. Trainings can be conducted by external experts or with internal expertise of the PIU and consultants as well as support from ILBANK and WB. Long-term trainings will address specific environmental and social issues and provide possible solutions to the PIU.

The PIU is also responsible for monitoring the Contractor's training related activities. Trainings will be provided after the signing of the work contracts and refresher trainings will be conducted as necessary according to the progress of the work and construction activities. At the end of the training, assessment and evaluation should be carried out to measure the effectiveness of the training and the level of knowledge and competence of the participants. According to the evaluation results, the training program may be changed, the trainers may be changed, or the training may be repeated.

Planned Key Trainings include (but are not limited to):

- Waste Management,
- Energy Efficiency,

- Safe Driving,
- Occupational Health and Safety,
- Chance Find Procedure,
- Orientation on Code of Conduct, GBV and CSI/CT, Grievance Mechanism, Environment, Health and Safety and WB Requirements, and
- First Aid and Emergency Preparedness Trainings

6. IMPLEMENTATION SCHEDULE AND COST ESTIMATES

6.1. Implementation Schedule

Duration of the construction and operation phase activities are listed in **Table 21**.

Table 21. Duration of Activities

Phase	Remarks/ Notes
Construction Duration (from site mobilization until provisional acceptance)	6 months
Defect Liability Period	12 months
Operation Duration	25 years

6.2. Cost Estimates

All costs related to the implementation of the ESMP are included in the subproject budget.

Estimated sources for budget allocation are listed in Table 24.

Table 22. Estimated Budget Requirement for ESMP Implementation

Cost items	Party	Estimated cost (EURO)
PIU E&S Staff	KASKI	50.000
Training of Construction Workforce	Included in the subproject budget	20.000
Health and Safety training and equipment	Included in the subproject budget	30.000
Complaint Based Measurements and Surveys	Included in the subproject budget	15.000
Accidental Spill and Leakage Management	Included in the subproject budget	10.000
Regular Maintenance of E&S Systems and Implementation of ESMP/ E&S Tools	Included in the subproject budget	20.000
Operation phase staff & OHS System	KASKI	50.000
Total		195.000

List of Annexes

Annex A – List of the Individuals/Organizations that Prepared or Contributed to the ESMP

Name of the Individual/ Organization	Company/ Institution	Profession/ Expertise
Kemal Kurt – General Manager	Kolay Enerji	Electrical and Electronic Engineer
Gürkan Kılıç – Preject Lead	Kolay Enerji	Mathematician, (Quality Engineer)
Tuncay Albayrak	Kolay Enerji	Environmental Engineer
Hasan Özdemir	Kolay Enerji	Electrical and Electronic Engineer
Ali Aydemir	Kolay Enerji	SPP Technical Analysis (Energy Systems Engineer)
Gizem Çetin	Kolay Enerji	SPP Material Analysis (Energy Systems Engineer)
Merve Karakuş	Kolay Enerji	Social and Regional Analysis (Geographer)
Aşkın	Kolay Enerji	Economic Analysis (Econometrician)
Öykü Kılıç	Kolay Enerji	Economic Analysis (Business Specialist)

Annex B – Existing Permitting Documentation

- B-1 EIA Decisions
- B-2 Non-Agricultural Use Opinion
- B-3 Permission for Non-Agricultural Use
- B-4 KASKI Municipal Decision
- B-5 DSI Opinion
- B-6 DSI Decision
- B-7 Opinion Letters or Official Correspondence with Authorities (e.g. Cultural Heritage Authorities etc.)
- B-8 DHMI Opinion

Official correspondence and permissions mentioned in Annex B are not attached to the ESMP but presented separately.

Annex C – Title Deed

webtapu
tapunun kısayolu

Kaydı Oluşturan: Osman Bayraktar (Kayseri Su ve Kanalizasyon İdaresi Genel Müdürlüğü)

Tapu Kaydı (Aktif Malikler için Detaylı - ŞBİ var)

TAPU KAYIT BİLGİSİ

Zemin Tipi:	AnaTasinmaz
Taşınmaz Kimlik No:	8347309
İl/İlçe:	KAYSERİ/KOCASİNAN
Kurum Adı:	Kocasinan
Mahalle/Köy Adı:	BOĞAZKÖPRÜ Mah.
Mevkii:	KARASU
Cilt/Sayfa No:	10/951
Kayıt Durum:	Aktif

Ada/Parsel:	167/1
AT Yüzölçüm(m2):	156087.20
Bağımsız Bölüm Nitelik:	
Bağımsız Bölüm Brüt YüzÖlçümü:	
Bağımsız Bölüm Net YüzÖlçümü:	
Blok/Kat/Giriş/BBNo:	
Arsa Pay/Payda:	
Ana Taşınmaz Nitelik:	TARLA

MÜLKİYET BİLGİLERİ

(Hisse) Sistem No	Malik	El Birliği No	Hisse Pay/ Payda	Metrekare	Toplam Metrekare	Edinme Sebebi-Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
18629809	(SN:2861557) KAYSERİ BÜYÜKŞEHİR BELEDİYESİ SU VE KANALİZASYON İDARESİ (KASKİ) VKN:5400039871	-	1/1	156087.20	156087.20	Kadastro Parselinde Birleştirme 21-02-2003 1063	-

ölçekli uygulama imar planı paftalarında plan müellifi tarafından teknik gereklere uygun olarak hazırlanıp onama sınırı içerisine alınan yerin Su Yüzeyi (Kanal) olarak planlanması yönündeki imar planı değişikliği talebinin oy birliği ile kabulünün uygun olacağı yönünde hazırlanan İmar ve Bayındırlık Komisyon Raporunun kabulüne oy birliği ile karar verildi.

Top Tarihi : 25.11.2022
Karar No : 431
Konusu : Mülkiyeti KASKİ Genel Müdürlüğü'ne ait, Kocasinan İlçesi, Boğazköprü Mahallesi, 167 ada 1 parsel numaralı taşınmazın bulunduğu alanda imar planı değişikliği yapılması talebi.

Meclis gündeminin 28. maddesinde bulunan, Mülkiyeti KASKİ Genel Müdürlüğü'ne ait, Kocasinan İlçesi, Boğazköprü Mahallesi, 167 ada 1 parsel numaralı taşınmazın bulunduğu alanda imar planı değişikliği yapılması talebi hususunda hazırlanan 17.11.2022 tarih ve 217 numaralı İmar ve Bayındırlık Komisyon Raporu okundu.

Yapılan müzakere ve oylama neticesinde; söz konusu taşınmazın bulunduğu alan, 1/25.000 ölçekli nazım imar planında İçmesuyu Tesisleri Alanı ve Enerji Üretim Alanı, 1/5000 ölçekli nazım imar planında Atıksu Tesisleri Alanı ve Enerji Üretim Alanı, 1/1000 ölçekli uygulama imar planında ise Atıksu Tesisleri Alanı (Arıtma Tesisi) ve Yenilenebilir Enerji Kaynaklarına Dayalı Üretim Tesisi Alanı olarak planlıdır. Kayseri Büyükşehir Belediyesi Su ve Kanalizasyon İdaresi Genel Müdürlüğü, söz konusu taşınmazın bir kısmının imar planı değişikliği ile Atıksu Tesisleri Alanından çıkarılarak "Yenilenebilir Enerji Kaynaklarına Dayalı Üretim Tesisi Alanı" olarak planlandığı ve yapılan istişareler sonucunda bahse konu taşınmaz üzerinde belirtilen alanda da Güneş Enerji Santrali kurulmasına karar verildiğini belirtilerek, taşınmazın geri kalan kısmının imar planındaki Atıksu Tesisleri Alanından çıkarılması ve "Yenilenebilir Enerji Kaynaklarına Dayalı Üretim Tesisi Alanı" olarak planlanmasını talep etmektedir.

5216 sayılı kanunun 7. maddesine istinaden 1/25.000 ve 1/5000 ölçekli nazım imar planları ile 1/1000 ölçekli uygulama imar planı paftalarında plan müellifi tarafından teknik gereklere uygun olarak hazırlanıp onama sınırı içerisine alınan yerin 1/25.000 ve 1/5000 ölçekli nazım imar planlarında Enerji Üretim Alanı, 1/1000 ölçekli uygulama imar planında ise Yenilenebilir Enerji Kaynaklarına Dayalı Üretim Tesisi Alanı olarak planlanması yönündeki imar planı değişikliği talebinin oy birliği ile kabulünün uygun olacağı yönünde hazırlanan İmar ve Bayındırlık Komisyon Raporunun kabulüne oy birliği ile karar verildi.

Top Tarihi : 25.11.2022
Karar No : 432
Konusu : Kocasinan İlçesi, Yenidoğan Mahallesi, 4702 ada 27 parsel ve 6725 ada 10 parsel numaralı taşınmazların bulunduğu alanda 1/5000 ölçekli nazım imar planı değişikliği yapılması talebi.

Meclis gündeminin 29. maddesinde bulunan, Kocasinan İlçesi, Yenidoğan Mahallesi, 4702 ada 27 parsel ve 6725 ada 10 parsel numaralı taşınmazların bulunduğu alanda 1/5000 ölçekli nazım imar planı değişikliği yapılması talebi hususunda hazırlanan 17.11.2022 tarih ve 218 numaralı İmar ve Bayındırlık Komisyon Raporu okundu.

Yapılan müzakere ve oylama neticesinde; söz konusu taşınmazların bulunduğu alan,

Kayseri Büyükşehir Belediyesi
İmar ve Şehircilik Şube Müdürlüğü
Sayı: E-32845575-301.03-2022-1581
Tarih: 10.11.2022
Dosya Numarası: 2022-117525

T.C.
KAYSERİ BÜYÜKŞEHİR BELEDİYE BAŞKANLIĞI
İmar ve Şehircilik Daire Başkanlığı

44

Sayı : E-32845575-301.03-2022-1581
Konu : İmar Planı Değişikliği Talebi Hk.

10.11.2022

BAŞKANLIK MAKAMINA

Kayseri Büyükşehir Belediyesi Su ve Kanalizasyon İdaresi Genel Müdürlüğü, 21.10.2022 tarih, E-31566421-754-27207 sayılı yazısı ile, mülkiyeti Kayseri Büyükşehir Belediyesi Su ve Kanalizasyon İdaresi Genel Müdürlüğü'ne ait, Kocasinan İlçesi, Boğazköprü Mahallesi, 167 ada 1 parsel numaralı taşınmazın bulunduğu alanda imar planı değişikliği yapılması talebinde bulunmaktadır.

Söz konusu taşınmazın bulunduğu alan, 1/25.000 ölçekli nazım imar planında İçmesuyu Tesisleri Alanı ve Enerji Üretim Alanı, 1/5.000 ölçekli nazım imar planında Atıksu Tesisleri Alanı ve Enerji Üretim Alanı, 1/1.000 ölçekli uygulama imar planında ise Atıksu Tesisleri Alanı (Arıtma Tesisi) ve Yenilenebilir Enerji Kaynaklarına Dayalı Üretim Tesisi Alanı olarak planlıdır. Kayseri Büyükşehir Belediyesi Su ve Kanalizasyon İdaresi Genel Müdürlüğü, söz konusu taşınmazın bir kısmı için plan tadilatı yapılıp, imar planındaki durumu Atıksu Tesisleri Alanından çıkarılmış ve 'Yenilenebilir Enerji Kaynaklarına Dayalı ÜretimTesisi Alanı' olarak revize işlemi gerçekleştiği, yapılan istişareler sonucunda bahse konu taşınmazın ekteki uydu görüntüsünde koordinatları verilen alanda da Güneş Enerji Santrali kurulmasına karar verildiği belirtilerek, taşınmazın geri kalan kısmının imar planındaki Atıksu Tesisleri Alanından çıkarılması ve 'Yenilenebilir Enerji Kaynaklarına Dayalı Üretim Tesisi Alanı'olarak revize edilmesini talep etmektedir.

Konu hakkında karar ittihazını arz ederim.

Ali SÜSLÜ
İmar ve Şehircilik Dairesi Başkanı

Ek : Dos. Muh.

Arz Ederim
08.11.2022
Hamdi ELCUMAN
Genel Sekreter Yardımcısı

Uygun Görüşle Arz Ederim
09.11.2022
Av. Hüseyin BEYHAN
Genel Sekreter

Adres: Mustafa Kemal Paşa Bulvarı No:15
Posta Kodu: 38010 Kocasinan / KAYSERİ
Telefon No: (0352) 222 8960 **Fax No:** (0352) 222 8958
Kep Adresi: kayseribelediyesi@hs01.kep.tr
Web Adresi: https://www.kayseri.bel.tr

Bilgi için: ŞERİFE ALTUN
Şehir Plancısı
Telefon No:03522071663

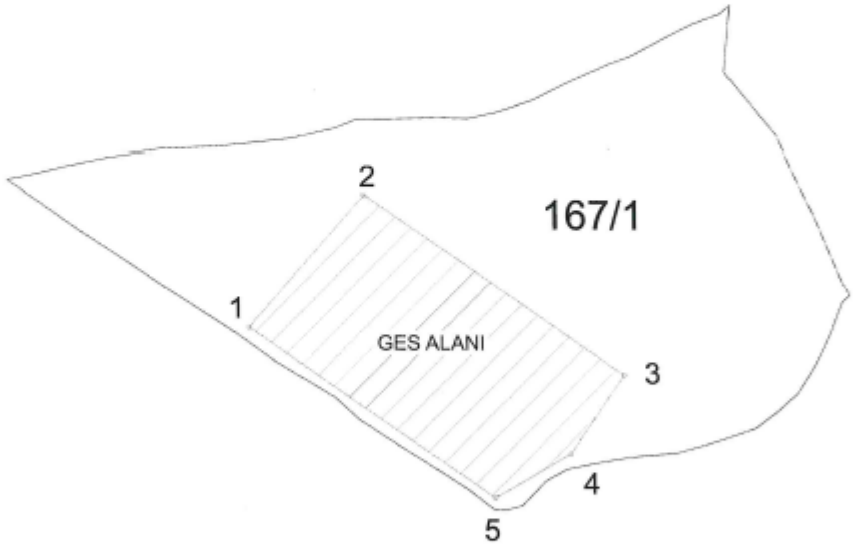
İli	KAYSERİ
İlçesi	KOCASİNAN
Mah/ Köy	BOĞAZKÖPRÜ
Pafta No	K34B21C
Ada No	167
Parsel No	1
Yüzölçümü	156.087,20

APLİKASYON KROKİSİ

GES Alanı Köşe Koordinatları (ITRF-96)

No	Y	X
1	439049.350	4293177.462
2	439147.887	4293289.104
3	439366.524	4293137.207
4	439320.587	4293070.992
5	439256.324	4293033.643

GES ALANI : 39600.00 m²



N

1
5000

Annex D – Site Photographs

Photo No: 01 **Date: 15.01.2025** **Location:** **Subproject Area** **Details/Notes:**	
Photo No: 02 **Date: 15.01.2025** **Location:** **Subproject Area** **Details/Notes:**	
Photo No: 03 **Date: 15.01.2025** **Location:** **Subproject Area** **Details/Notes:**	
Photo No: 04 **Date: 15.01.2025** **Location:** **Boğazköprü Neighborhood** **Details/Notes:** **Consultation of Mukhtar of Boğazköprü Neighborhood**	

Annex E – Baseline Measurements

Annex F – E&S Incident Notification Form Template

1) Incident Details		
Date of Incident: [*Please indicate*]	**Time of Incident:** [*Please indicate*]	
Location of the Incident:	[*Please indicate*]	
Full Name of Sub-borrower:	[*Please indicate*]	
Date Reported to ILBANK: [*Please indicate*]	**Reported to ILBANK by**: [*Please indicate]*	**Notification Type**: [*Please indicate; e-mail/phone call/media notice/other]*
Date Reported to WB: [*Please indicate*]	**Reported to WB by**: [*Please indicate]*	**Notification Type**: [*Please indicate; e-mail/phone call/media notice/other]*
Full Name of the Contractor of the Sub-project:	[*Please indicate]*	
Full Name of the Sub-contractor involved in the incident:	[*Please indicate]*	

2) Type of incident (please check all that apply)[4]	
☐ Fatality	☐ Acts of violence/protest
☐ Lost time injury	☐ Unexpected impacts on heritage resources
☐ Displacement without due process	☐ Unexpected impacts on biodiversity resources
☐ Child labor	☐ Environmental pollution incident
☐ Forced labor	☐ Dam failure
☐ Disease outbreaks	☐ Other

3) Description/Narrative of Incident

For example:

I. *What is the incident?* [*Please briefly describe*]

II. *What were the conditions or circumstances under which the incident occurred (if known)?* [*Please briefly describe*]

III. *Are the basic facts of the incident clear and uncontested, or are there conflicting versions? What are those versions?* [*Please briefly describe*]

IV. *Is the incident still ongoing or is it contained?* [*Please briefly describe*]

V. *Have any relevant authorities been informed?* [*Please briefly describe*]

4) Actions taken to contain the incident

Short Description of Action	**Responsible Party**	**Expected Date**	**Status**

[4] See Appendix 2 for definitions.

For incidents involving a Contractor:

Name of Contractor:
Have the works been suspended? Yes ☐ No ☐
Note: Please attach a copy of the instruction suspending the works

5) What support has been provided to affected people

[*Please briefly describe*]

APPENDICES

Appendix 1: Supporting documents

[Note: Please mark the relevant documents available at this stage and submit them attached to the report]:

☐ Copy of the social security registration records of the victims and involved persons
☐ Copy of the instruction suspending the works
☐ Statement of victims
☐ Statement of witnesses
☐ Copies of notifications done to the relevant authorities
☐ Copies of legal investigation reports of relevant authorities
☐ Copies of E&S training records of the affected and involved persons
☐ Copies of OHS training records of the affected and involved persons
☐ Photographs related to the incident
☐ Others

Appendix 2: Incident Types

The following are incident types to be reported using the environmental and social (E&S) incident response process:
Fatality: Death of a person(s) that occurs within one year of an accident/incident, including from occupational disease/illness (e.g., from exposure to chemicals/toxins).

Lost Time Injury: Injury or occupational disease/illness (e.g., from exposure to chemicals/toxins) that results in a worker requiring 3 or more days off work, or an injury or release of substance (e.g., chemicals/toxins) that results in a member of the community needing medical treatment.

Acts of Violence/Protest: Any intentional use of physical force, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, deprivation to workers or project beneficiaries, or negatively affects the safe operation of a project worksite.

Disease Outbreaks: The occurrence of a disease in excess of normal expectancy of number of cases. Disease may be communicable or may be the result of unknown etiology.

Displacement Without Due Process: The permanent or temporary displacement against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection and/or in a manner that does not comply with an approved resettlement action plan.

Child Labor: An incident of child labor occurs: (i) when a child under the age of 14 (or a higher age for employment specified by national law) is employed or engaged in connection with a project, and/or (ii) when a child over the minimum age specified in (i) and under the age of 18 is employed or engaged in connection with a project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development.

Forced Labor: An incident of forced labor occurs when any work or service not voluntarily performed is exacted from an individual under threat of force or penalty in connection with a project, including any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. This also includes incidents when trafficked persons are employed in connection with a project.

Unexpected Impacts on heritage resources: An impact that occurs to a legally protected and/or internationally recognized area of cultural heritage or archaeological value, including world heritage sites or nationally protected areas not foreseen or predicted as part of project design or the environmental or social assessment.

Unexpected impacts on biodiversity resources: An impact that occurs to a legally protected and/or internationally recognized area of high biodiversity value, to a Critical Habitat, or to a Critically Endangered or Endangered species (as listed in IUCN Red List of threatened species or equivalent national approaches) that was not foreseen or predicted as part of the project design or the environmental and social assessment. This includes poaching or trafficking of Critically Endangered or Endangered species.

Environmental pollution incident: Exceedances of emission standards to land, water, or air (e.g., from chemicals/toxins) that have persisted for more than 24 hours or have resulted in harm to the environment.

Dam failure: A sudden, rapid, and uncontrolled release of impounded water or material through overtopping or breakthrough of dam structures.

Other: Any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. Any repeated non-compliance or recurrent minor incidents which suggest systematic failures that the task team deems needing the attention of Bank management.

Annex G – E&S Incident Investigation Form Template

1) Investigation Findings

For example:

I. *where and when the incident took place,*
II. *who was involved, and how many people/households were affected,*
III. *what happened and what conditions and actions influenced the incident,*
IV. *what were the expected working procedures and were they followed,*
V. *did the organization or arrangement of the work influence the incident,*
VI. *were there adequate training/competent persons for the job, and was necessary and suitable equipment available,*
VII. *what were the underlying causes; where there any absent risk control measures or any system failures.*

2) Corrective Actions from the investigation to be implemented (to be fully described in Corrective Action Plan)

Action	Responsible Party	Expected Date

3a) Fatality/Lost Time Injury Information

Fatality ☐ **Lost time injury** ☐

Immediate cause of fatality/injury for worker or member of the public (please check all that apply) [5]**:**

☐ Caught in or between objects
☐ Struck by falling objects
☐ Stepping on, striking against, or struck by objects
☐ Drowning
☐ Chemical, biochemical, material exposure
☐ Falls, trips, slips
☐ Fire & explosion
☐ Electrocution
☐ Homicide
☐ Medical Issue
☐ Suicide
☐ Project Vehicle Work Travel
☐ Non-project Vehicle Work Travel
☐ Project Vehicle Commuting
☐ Non-project Vehicle Commuting
☐ Vehicle Traffic Accident (Members of Public Only)
☐ Other

Name	Age/ Date of Birth	Nationality	Gender	Date of Fatality/ Injury	Cause of Fatality/ Injury	Affected Party (Employee/ Public)
			☐ Female ☐ Male			☐ Sub-borrower employee ☐ Contractor employee ☐ Sub-contractor employee ☐ Public

[5] See Appendix 1 for definitions

3b) Financial Support/Compensation Types (to be fully described in Corrective Action Plan template – template is given in Appendix 3)

☐ No Compensation Required
☐ Workman's Compensation/National Insurance
☐ Contractor Direct
☐ Contractor Insurance
☐ Other
☐ Court Determined Judicial Process

Name	Compensation Type	Compensation Amount (TRY)	Responsible Party

4) Supplementary Narrative

Appendix 1: Definition of fatality/injury immediate causes

1. **Caught in or between objects:** caught in an object; caught between a stationary object and moving object; caught between moving objects (except flying or falling objects).
2. **Struck by falling objects:** slides and cave-ins (earth, rocks, stones, snow, etc.); collapse (buildings, walls, scaffolds, ladders, etc.); struck by falling objects during handling; struck by falling objects.
3. **Stepping on, striking against, or struck by objects:** stepping on objects; striking against stationary objects (except impacts due to a previous fall); Striking against moving objects; Struck by moving objects (including flying fragments and particles) excluding falling objects.
4. **Drowning:** respiratory impartment from submersion/emersion in liquid.
5. **Chemical, biochemical, material exposure:** exposure to or contact with harmful substances or radiations.
6. **Falls, trips, slips:** falls of persons from heights (e.g., trees, buildings, scaffolds, ladders, etc.) and into depths (e.g., wells, ditches, excavations, holes, etc.) or falls of persons on the same level.
7. **Fire & explosion:** exposure to or contact with fires or explosions.
8. **Electrocution:** exposure to or contact with electric current.
9. **Homicide:** a killing of one human being by another.
10. **Medical Issue:** a bodily disorder or chronic disease.
11. **Suicide:** the act or an instance of taking, or attempting to take, one's own life voluntarily and intentionally.
12. **Others:** any other cause that resulted in a fatality or injury to workers or members of the public.

Vehicle Traffic

13. **Project Vehicle Work Travel:** traffic accidents in which project workers, using project vehicles, are involved during working hours and which occur in the course of paid work.
14. **Non-project Vehicle Work Travel:** traffic accidents in which project workers, using non-project vehicles, are involved during working hours and which occur in the course of paid work.
15. **Project Vehicle Commuting:** traffic accidents in which project workers, using project vehicles, are involved while travelling to (i) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration.
16. **Non-project Vehicle Commuting:** traffic accidents in which project workers, using non-project vehicles, are involved while travelling to (i) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration.
17. **Vehicle Traffic Accident (Members of Public Only):** traffic accidents in which non-project workers/members of the public are involved in an accident while travelling for any purpose.

Appendix 2: Supporting documents

[Note: Please mark the relevant documents available and submit them attached to the report]:

☐ Copy of the social security registration records of the victims and involved persons

☐ Copy of the instruction suspending the works

☐ Statement of victims

☐ Statement of witnesses

☐ Copies of notifications done to the relevant authorities

☐ Copies of legal investigation reports of relevant authorities

☐ Copies of E&S training records of the affected and involved persons

☐ Copies of OHS training records of the affected and involved persons (such as basic OHS training, induction training, visitors training, job-specific training, refreshment training, etc.)

☐ Photographs related to the incident

☐ Health examination records of the affected and involved employees

☐ Copies of Personal Protective Equipment delivery forms (signed copies)

☐ Root Cause Analysis completed for the incident

☐ Information/documentation related to any judicial process

☐ Others

Appendix 3: Corrective Action Plan template

Action No:	Brief Description of E&S non-compliance	Corrective Action	Financial and Human Resources Required	Responsible Party	Due Date for Completion of Corrective Action	Indicators for Successful Completion of Corrective Action	Status of Corrective Action

Annex H – Chance Find Procedure

Chance Find Procedure

1. Introduction

This document describes the Chance Find Procedure for subproject, outlining the procedures that will be followed in case of chance finds occur during the construction activities associated with the subproject.

2. Scope

This Chance Find Procedure (CFP) will be implemented for Kayseri Water and Sewerage Directorate (KASKI)-KIBAAT SPP-2 sub-project in order to manage any chance finds that may be encountered during the construction activities. The purpose of the CFP document is to:

- outline the applicable legislation and standards relevant to this procedure;
- define roles and responsibilities;
- define project commitments, operational procedures, training requirements and guidance relevant to this procedure; and
- define monitoring and reporting procedures.

Although there are no known archaeological sites or remains within the subproject area, it is considered that there may be a potential to encounter archaeological findings during the construction of the subproject. Activities which have high potential to lead to discover or adversely affect the archeological resources are;

- topsoil stripping
- excavation and earthworks

This CFP is prepared in order to provide information to the contractors and employees regarding the actions to be taken in case of an archaeological chance find discovery.

3. Legislation and Standards

Legislation and standards that apply to the project comprise the following:

- Word Bank Environmental and Social Standard (ESS) 8: Cultural Heritage
- applicable Turkish laws and national standards
- other commitments to and requirements of Turkish government authorities
- other industry guidelines with which the project has committed to comply

In Turkey, movable and immovable cultural and natural assets are protected and preserved by the Law on Preservation of Cultural and Natural Assets (Law No. 2863) published in the Official Gazette dated 23.07.1983 and numbered 18113. Law 2863 establishes legal protection for the following:

- all natural assets and immovable cultural assets constructed up until the end of the 19th century,
- any immovable cultural asset from after the end of the 19th century, identified by the Ministry of Culture and Tourism as an important asset worthy of preservation,
- all immoveable cultural assets located within archeological sites,

- buildings/areas that have witnessed significant historical events during the National War and the foundation of the Turkish Republic and dwellings that have been used by Mustafa Kemal ATATÜRK, regardless of time and registration.

The Ministry of Culture and Tourism is the responsible body to take decisions for protection of cultural heritage in Turkey at the national level. As part of the Ministry, the High Commission for the Protection of Cultural Assets is responsible for protecting and restoring immovable cultural assets. Implementation of the decisions and regulations issued by the Ministry are undertaken by local administrations. At local level, there are Cultural Assets Protection Regional Boards defined by the Ministry of Culture and Tourism, which are responsible for preservation, registration and classification of cultural heritage within their respective jurisdictions. The relevant Regional Board for the project is the Kayseri Cultural Heritage Protection Regional Board Directorate." According to Law 2863, all the natural and cultural assets qualified for legal preservation are properties of the State. Therefore, regional boards have the power and authority to provide legal protection to the preservation sites and to approve or reject all the activities, which have potential negative impacts on the preservation sites such as construction, demolition and excavation activities.

4. Roles and Responsibilities

Principal roles and responsibilities for the implementation of this procedure are outlined below.

Role	Responsibilities
Contractor -Project Manager	• Overall responsibility for the development, review, approval and coordination of the numerous activities required to initiate, conduct and complete construction. • Ensure that this procedure is prepared, and updated as required, based on the activities undertaken as part of the project. • Ensure that adequate resources are made available to implement the procedures and guidelines outlined in this procedure.
Contractor - Environmental and Social (E&S) Expert	• Initiation, development, implementation and coordination of the CFP during construction. • Ensure that adequate training is given to all site personnel and sub- contractors, covering the procedures and guidelines outlined in this procedure. Establish appropriate control procedures and conduct audits as necessary. • Consultation with and reporting to relevant government bodies in case of potential archeological chance finds. • Record all confirmed chance finds by filling up the "Chance Find Reporting Form" and maintain copies in a log-book. Ensure that the chance finds log-book is up to date.
Contractor - Site Manager	• Day-to-day implementation of the provisions of the CFP in the field during construction. • Notify the E&S Expert regarding potential chance finds during construction.
Employees	• Understand and comply with archeological chance finds procedures and guidelines outlined in this procedure. • Reporting of the potential chance finds to the Site Manager.

5. Impact Avoidance and Mitigation

In the event of an archaeological discovery, the following actions will be implemented:

- All staff involved in land clearance and excavation activities will take the responsibility for managing archaeological protection and will be trained in these aspects by the E&S Expert.
- In case any potential chance find is encountered, all construction activities will cease immediately in the vicinity of the chance find.

- The Site Manager will be contacted immediately. The discovered site location, the characteristics of the potential archaeological material and photos will be recorded by the Site Manager, who in turn will inform the E&S Expert.
- Kayseri Museum Directorate will be notified at the latest within three days after the chance find is encountered. Contact details of the Kayseri Museum Directorate are given below:
  Address: Cumhuriyet Mahallesi Kaleiçi Çarşı Kümeevler No:1/1 Melikgazi/KAYSERİ
  Telephone: 0 352 222 21 49
  E-mail: kayserimuzesi@kultur.gov.tr
- The site and its vicinity will be secured 24 hours a day against damage or loss, until inspection by the authority.
- The E&S Expert will fill up a “Chance Find Report Form” for each confirmed chance find and inform the Project Manager about the date that the construction work can resume, which is determined by the authorities concerning the conservation of the heritage.
- Further steps to be followed and proper plan to be implemented for the management of the finds (Changes in the layout, conservation, preservation, restoration and salvage) will be decided and reported in writing by the authorities in charge.
- Photographs of the potential artifacts that are likely to be encountered in the construction site are presented in the following pages to be used during the training of the relevant staff.

6. Verification and Monitoring

E&S Expert/s will record all cases of archaeological chance finds. He/she will fill up a “Chance Find Reporting Form” for each chance find confirmed by the authority and maintain copies in a logbook. A sample of a reporting form which can be used to record chance finds is included below. The chance find logbook will be summarized on an annual basis and records included in semi-annual monitoring reports to verify that correct management procedures have been followed. Action items will be taken in cases of non-adherence to this CFP.

7. Reporting

Contractor will comply with reporting requirements including chance finds defined in site-specific ESMP (contractor will develop monthly and quarterly monitoring reports and submit to Kayseri Municipality/KASKI through supervision consultant; Kayseri Municipality/KASKI will examine submit the reports to ILBANK quarterly (and monthly if requested by ILBANK); ILBANK will inform the World Bank by providing regular semi-annual monitoring reports.

KASKI-KIBAAT SPP-2 Subproject Chance Find Reporting Form		
REGISTRATION		
Name of recorder:		
Date and time of discovery:		
Site Name:	**Coordinates** **X**	**Y**
Description of find:		
Photograph:		
Estimated weight and dimensions:		
CONTACT PERSON		
Name/Title/Duty:		
Date and Time:		
Contact information:		
Details of conversation:		
DECISIONS		
Any protection measures to be implemented:		

Movable or immovable: If moved, please specify the new location.	
Further actions required:	
Recommence date and time:	
Notes:	
SUBMISSION	
Name:	**Date:**

Annex İ – Change Notification Form

Change Notification Form	
Sub-project Name	
Sub-project Location	
Sub-project Phase	☐ Pre-construction
	☐ Construction
	☐ Operation
Name of the Institution Notifying the Change	
Date	
Category of the Change *(please select all that apply)*	☐ Legislative Change
	☐ Design Change
	☐ Schedule Change due to E&S factors
	☐ Project Schedule Changes due to technical, financial, legal or administrative factors
	☐ Changes due to E&S issues encountered at Sub-project implementation
	☐ Contractor or Construction Supervision Consultant Change
	☐ Other *(please specify below)*
Detailed Description of the Change(s)	
Documents Submitted with Change Notification Form	
Name of the Staff Notifying the Change	
Position of the Staff Notifying the Change	
Signature	