TÜRKİYE ORGANIZED INDUSTRIAL ZONES PROJECT

Uşak Leather Mixed Organized Industrial Zone

Solar Power Plants Project (3,682 kWp)

Environmental and Social Management Plan (ESMP)

JANUARY 2025

Table I Key Experts and Roles

Name-Surname	Company/ Organization	Department	Title
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Başak Özer	MoIT	PIU E&S Team	Environmental Specialist
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Emre Yıldız	MoIT	PIU E&S Team	Social Specialist
Kadir Tomas	MoIT	PIU E&S Team	OHS Specialist
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Metehan Çallı	Uşak Leather Mixed OIZ	Electricity Department	Electrical and Electronics Engineer
Gülşah Furtuna	Uşak Leather Mixed OIZ	Consultant	Environmental Engineer
Büşra Aydın	Uşak Leather Mixed OIZ	Consultant	Environmental Engineer
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REVISION HISTORY

Ver	Date of Issue	Issue Reason	Project Owner	Submitted	Consultant
0	3rd September, 2024	Preliminary Review	Uşak Leather Mixed OIZ	Uşak Leather Mixed OIZ	Infratech Yazılım, Mühendislik ve İnovasyon A.Ş.
1	3rd October, 2024	First submission	Uşak Leather Mixed OIZ	Ministry of Industry and Technology	Infratech Yazılım, Mühendislik ve İnovasyon A.Ş.
2	16th October 2024	Second submission	Uşak Leather Mixed OIZ	Ministry of Industry and Technology	Infratech Yazılım, Mühendislik ve İnovasyon A.Ş.
3	26th November 2024	Third submission	Uşak Leather Mixed OIZ	Ministry of Industry and Technology	Infratech Yazılım, Mühendislik ve İnovasyon A.Ş.
4	16th January 2025	Forth submission	Uşak Leather Mixed OIZ	Ministry of Industry and Technology	Infratech Yazılım, Mühendislik ve İnovasyon A.Ş.

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AC	Alternating Current
AFAD	Disaster and Emergency Management Presidency
AoI	Area of Influence
AZE	Alliance for Zero Extinction
BOD	Biological Oxygen Demand
BOS	Balance of System
CCTV	Closed-circuit television
CİMER	Presidency's Communication Center
CH4	Methane
cm	centimetre
CO_2	Carbon dioxide
COD	Chemical Oxygen Demand
CR	Critically Endangered
dBA	Decibels adjusted
DC	Direct Electric Current
DEM	Digital Elevation Model
DNP	Defects Notification Period
E&S	Environmental and Social
EDAŞ	Electricity Distribution Inc.
EHS	Environmental, Health and Safety
EHSG	Environmental, Health, and Safety Guidelines
EIA	Environmental Impact Assessment
EN	Endangered
EPA	Environmental Protection Agency
EPSA	Ex-post Social Audit
ESCOPs	Environmental Codes of Practice
ESF	Environmental and Social Framework
ESHS	Environmental, Social Health, and Safety
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Monitoring Report
ESMS	Environmental and Social Management System
ESPR	Environmental and Social Progress Report
ESRs	Environmental and Social Reports
ESSs	Environmental and Social Standards
EU	European Union
EUNIS	European Nature Information System
E-W	East-West
GBV	Gender Based Violence

GHG	Green House Gas
GIS	Geographic Information Systems
GM	Grievance Mechanism
GMR	Grievance Mechanism Report
ha	Hectare
HJT	Hetero-junction
IAPCR	Industrial Air Pollution Control Regulation
IBA	Important Bird Area
IBC	Interdigitated back contact
IBRD	International Bank for Reconstruction and Development
ILO	International Labor Organization
INFRATECH	Infratech Yazılım, Mühendislik ve İnovasyon A.Ş.
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
J-Box	Junction Box
KBA	Key Biodiversity Area
kWe	Kilowatt-electric
kWp	Kilowatt-peak
LA_{eq}	A-weighted, equivalent continuous sound level
LMP	Labor Management Procedures
MAK	Central Hunting Commission Decisions
mm	Millimeter
MoEUCC	Ministry of Environment, Urbanization and Climate Change
MoIT	Ministry of Industry and Technology
MPPT	Maximum Power Point Tracking
N/A	Not Applicable
NACE	Nomenclature of Economic Activities
NO_2	Nitrogen oxides
NOx	Nitrogen oxides
NT	Near Threatened
OHS	Occupational Health and Safety
OIZ	Organized Industrial Zone
OSE	Occupational Safety Expert(s)
PERC	Passivated emitter rear contact
PGA	Peak Ground Acceleration
PGV	Peak Ground Velocity
PID	Project Identification Document
PIF	Project Introduction File
PIU	Project Implementation Unit
PM	Particulate Matter
PM_{10}	Particles with aerodynamic diameter smaller than 10µm

$PM_{2.5}$	Particles with aerodynamic diameter smaller than 2.5µm
PMU	Project Management Unit
PoEUCC	Provincial Directorate of Environment, Urbanization and Climate Change
PPE	Personal Protective Equipment
PS	Performance Standards
PV	Photovoltaic
PVC	Polyvinyl Chloride
RAMAQ	Regulation on the Assessment and Management of Air Quality
RENC	Regulation on Environmental Noise Control
RfP	Request for Proposal
SAİS	Continuous Wastewater Monitoring System
SCADA	Supervisory Control and Data Acquisition
SEA/SH	Sexual Exploitation Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SO2	Sulphur dioxide
SPP	Solar Power Plant
SSI	Social Security Institution
TAP	Portable Battery Manufacturers and Importers Association
TDF	Fish Bioassay
TDS	Total Dissolved Solids
The Project	Solar Power Plants Project
TKN	Total Kjeldahl Nitrogen
TN	Total Nitrogen
TOIZ	Türkiye Organized Industrial Zone
TOIZsP	Türkiye Organized Industrial Zones Project
ToR	Terms of Reference
TP	Total Phosphorus
TS	Turkish Standards
TSS	Total Suspended Solids
TurkStat	Turkish Statistical Institute
UBDİT	Uşak Cattle Leather Processing Plant
UNESCO	United Nations Educational, Scientific and Cultural Organization
UKOIZ	Uşak Leather Mixed Organized Industrial Zone
UV	Ultraviolet
VOCs	Volatile Organic Compounds
VU	Vulnerable
WB	World Bank
WBG	World Bank Group
WGM	Workers' Grievance Mechanism
WHO	World Health Organization
WW	Wastewater

WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

Türkiye Organized Industrial Zones Project (TOIZsP) will be financed by the World Bank/ International Bank for Reconstruction through a loan for which Ministry of Industry and Technology (MoIT) has been designated as responsible for project implementation by the Ministry of Treasury and Finance. The project aims to increase the efficiency, environmental sustainability, and competitiveness of Organized Industrial Zones (OIZs) in Türkiye. With a total budget of EUR 250.3 million, the Project will be implemented by the Ministry of Industry and Technology (MoIT) through the General Directorate of Industrial Zones.

The main responsible organization for the implementation of this Environmental and Social Management Plan (ESMP) is Uşak Leather Mixed OIZ. A Project Management Unit (PMU) will be established to carry out operational and administrative tasks. The PMU staff will be the Uşak Leather Mixed OIZ's own staff who has previous WB Project experience. Besides, on different phases of the Project (pre-construction, construction and operation), different parties (Consultant, Contractors, MoIT/Project Implementation Unit (PIU)) will take responsibility for various works in the scope of the ESMP. All mentioned works will be coordinated by the Uşak Leather Mixed OIZ. The roles and responsibilities of these parties are detailed in Chapter 8.

It is planned to install 3 ground-mounted and 5 roof-top solar power plants with a total power of 3,682 kWp in order to meet its own electricity consumption with renewable sources on the parcels with a total module area of 30,659 m^2. The SPPs will be realized as installation work on parcel 188/12 (two SPPs), 188/11, 355/1, 356/1, 184/5, 153/5 and 159/5. Since SPP is installed within the existing boundaries of the OIZ, no additional land will be required for the project.

Currently, electricity consumption of the Uşak Leather Mixed OIZ is met from the distribution grid. With this project, Uşak Leather Mixed OIZ aims to increase the use of renewable energy and reduce carbon emissions. In addition to this goal, installed SPPs will also contribute to reducing energy costs and improve the security of energy supply.

The aim of this project; To establish solar power plants to increase the infrastructure service quality of Uşak Leather Mixed OIZ while protecting the environment with a sustainable and innovative approach. With the establishment of solar power plants, the electrical energy needs of groundwater supplying wells, wastewater treatment plant, street lighting within the OIZ, social facilities and the cattle leather processing facility operated by Uşak Leather Mixed OIZ will be met. Thus, the increasing energy needs of the region will be met from renewable sources and will contribute to sustainable development.

The Project will be in compliance with the good international practice, including WB Environmental and Social Standards (ESSs), the ESMF of the TOIZ project, guidelines, standards and best practices documents alongside the national legislation. In addition, the Project and the social and environmental elements in the Area of Influence (AoI) of the Project include elements or activities that are related to the scope of ESS1, ESS2, ESS3, ESS4, ESS6 and ESS10. The main objectives of these standards within the scope of the Project are presented below.

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts,
- ESS2: Labor and Working Conditions,
- ESS3: Resource Efficiency and Pollution Prevention and Management,
- ESS4: Community Health and Safety,
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources,
- ESS10: Stakeholder Engagement and Information Disclosure.

The Project's anticipated environmental and social impacts/risks will be in terms of air quality, soils, water resources, noise, biological environment, landscape, resources and waste, socioeconomic environment and occupational health and safety, cultural heritage and community health, safety and security. Summary of the mitigation measures is provided in Table 1.

Table 1 Summary of the Significant Impacts and Mitigation Measures

Potential Environmental and Social (E&S) Impacts/Risks	Mitigation Measures
Air Emissions and Odor	Dust and exhaust emissions management Air quality and odor monitoring Speed limitations will be applied
Soil pollution and Contaminated Land	Topsoil preservation and restoration Prevention of soil contamination Erosion control measures
Impacts on Water Resources	Proper storage of chemicals Prevention of surface runoff Effluent discharge consistent with the Project Standards
Noise Emissions	Regular maintenance of the construction machinery, equipment and vehicles Noise monitoring Coordinate the working schedule with sensitive receptors Establishment of a robust grievance mechanism
Impacts on Biological Environment	Re-vegetation, where possible Measures to further avoid and minimize the construction footprint
Landscape and Visual Impacts	Prevent glare and reflection of solar panels
Use of Resources and Wastes Production	Wastes management in accordance with the waste management hierarchy Selection of most appropriate raw materials by evaluating clean production options
Employment and Procurement Opportunities	Providing transparent, non-discriminatory, equal recruitment opportunities with respect to ethnicity, religion, language, gender and sexuality
Infrastructure and Services	Prompt compensation of any damage to infrastructure
Labor Force	A grievance mechanism Preparation of information materials Managing and monitoring the performance of contractors in relation to the requirements of child labor, unregistered employment and forced labor Proper adaptation of human rights policy and labor rights
Impacts on Community Health, Safety and Security	Usage of appropriate traffic signage
Archaeological and Cultural Heritage Impacts	Informing related Civilian Authority or Museum Directorate

As a part of the mitigation measures, this site-specific Environmental and Social Management Plan (ESMP) has been developed. The ESMP includes management plans and procedures required for both phases of the Project, which are given in Table 2 along with guidelines for preparation of the management plans to be prepared by the contractor. The ESMP will be included in the bidding documents. In addition, the TOIZsP Stakeholder Engagement Plan (SEP) will be used for this sub-project and all project parties will be responsible for ensuring compliance with the TOIZsP SEP.

Table 2 Required Management Plans and Procedures for the Project

Management Plans/Procedure	Stage to be Prepared	Responsible Party	Monitoring & Reporting Party	Approving Party
Pre-construction and Construction Phase				
Soil Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Air Quality and Emissions Management Plan (inc. Dust Management)	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Noise Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Waste Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU

Management Plans/Procedure	Stage to be Prepared	Responsible Party	Monitoring & Reporting Party	Approving Party
Oil and Chemical Spill Contingency Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Community Health, Safety, and Security Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Traffic Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Occupational Health and Safety Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Labour Management Plan	Prior to pre-construction	Contractor	OIZ	MoIT PIU
Contractor Management Plan	Prior to pre-construction	Uşak Leather Mixed OIZ	-	MoIT PIU
Operation Phase				
Waste Management Plan (including landfill reinforcement project)	Prior to operation	Uşak Leather Mixed OIZ	-	MoIT PIU
Occupational Health and Safety Management Plan	Prior to operation	Uşak Leather Mixed OIZ	-	MoIT PIU

In order to clearly determine the management plan execution responsibilities of the Constructor which are given as responsible parties in the table above, the definitions of the responsibility areas of both are summarized below:

- Contractor's responsibilities:
  - Implementing the management plans to ensure that all activities on the Project site adhere to the requirements outlined by this ESMP and the E&S sub-plans required to be prepared (please see Table 2), then monitored by OIZ..
  - Allocating any required resources, manpower, and equipment necessary for the successful implementation of the management plans.
  - Managing subcontractors and suppliers to ensure their compliance with the management plans.
  - Documenting activities, inspections, and any deviations from the plans for reporting purposes.

- Uşak Leather Mixed OIZ:
  - Reviewing and providing guidance/advice to the Contractor and the Project Owner regarding the implementation of management plans.
  - Conducting audits/inspections/visits and reporting any deviations or issues and recommending corrective actions.
  - Monitoring progress and performance against the plans and providing feedback to the client.

Main impacts presented in Chapter 7 for the pre-construction, construction and operation phases of the project and the mitigation measures taken to manage these impacts are presented in Chapter 8.

In Chapter 9, details of all necessary monitoring activities for monitoring of ESMP implementation conditions and the effectiveness of the mitigation measures are defined for relevant impacts and environmental factors. The monitoring activities for pre-construction, construction and operation phases are defined.

1 INTRODUCTION

1.1 Project Background and Rationale

The World Bank/International Bank for Reconstruction and Development (IBRD) is funding the Türkiye Organized Industrial Zones Project (TOIZsP) via a loan. The Ministry of Industry and Technology (MoIT), appointed by the Ministry of Treasury and Finance, will oversee the project's execution. This initiative aims to enhance the efficiency, environmental sustainability, and competitiveness of Türkiye's Organized Industrial Zones (OIZs). To measure progress, the project has identified specific indicators:

- Measuring energy savings resulting from OIZ spending on essential and eco-friendly infrastructure.
- Assessing water conservation achieved through OIZ investments in eco-friendly infrastructure.
- Tracking the decrease in CO_2 emissions resulting from the funded investments.
- Evaluating the proportion of OIZs successfully attracting new investments.

The primary project, with a total budget of EUR 250.3 million, will be managed and implemented by the Ministry of Industry and Technology (MoIT) through the General Directorate of Industrial Zones.

The Ministry of Industry and Technology (MoIT) has a significant track record in enhancing Organized Industrial Zones (OIZs). These zones in Türkiye are strategically located to comply with specific regulations (Organized Industrial Zones Law No. 4562) and receive backing from the MoIT. The primary aim of the Türkiye Organized Industrial Zones Project is to enhance the effectiveness, eco-friendliness, and competitiveness of chosen OIZs in Türkiye.

Sub-projects within the framework of the (TOIZsP) are subject to an initial screening process based on three primary criteria: the project's nature, size, and location, particularly considering sensitive areas. This screening aims to identify sub-projects that may have noteworthy environmental or social impacts at an early stage, necessitating a comprehensive Environmental and Social Impact Assessment, in accordance with the World Bank's Environmental and Social Framework (ESF) and TOIZsP's Environmental and Social Management Framework (ESMF).

Environmental and social screening processes have been completed for the subject projects of these OIZs in line with the World Bank's requirements. The screening processes utilized Environmental and Social Screening Forms, along with accompanying annexes, to address pertinent questions aimed at identifying potential environmental and social consequences arising from the execution of the sub-project. Overall environmental and social risks of the sub-projects of these OIZs have been rated as "Moderate".

The Project is financed by the World Bank (WB). The Ministry of Industry and Technology (MoIT) is responsible for execution and Uşak Leather Mixed Organized Industrial Zone (OIZ) is the subproject owner and responsible for the implementation of the Project at the local level.

Uşak Leather Mixed OIZ Solar Power Plants Project (''the Project'') is one of the Projects within the scope of increasing renewable energy use and decreasing Green House Gas (GHG) emissions in Türkiye Organized Industrial Zones (TOIZs) within the Ministry of Industry and Technology. Within the scope of the project, a carport with 445.5 kWp solar panels will be established on parcel 188/12, four rooftop solar power plants with 79.2 kWp, 1,265 kWp, 30.8 kWp and 280.5 kWp will be installed on buildings on parcels 188/11, 188/12, 355/1 and 356/1, respectively, and three ground-mounted solar power plants with 281.6 kWp, 578.6 kWp and 721.6 kWp will be installed on parcels 184/5, 153/5, 159/5, respectively, to create a renewable energy infrastructure for the Uşak Leather Mixed OIZ needs. Locations of the Uşak Leather Mixed OIZ Solar Power Plants Project in Türkiye are shown in Annex-2 Figure 21.

1.2 Purpose and Scope of ESMP

The project classified as Moderate Risk according to WB's E&S Policy, which states that for moderate risk projects, the potential risks and impacts and issues fall within the following characteristics: (i) predictable and expected to be temporary and/or reversible, (ii) low in magnitude, (iii) site-specific, without likelihood of impacts beyond the actual footprint of the project and (iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.). The reasons for the risk characterization of the Project are given below:

- The activities are considered small construction works, including installation, which could pose common environmental risks/impacts associated with waste generation, noise nuisance, and exhaust emissions. Those are considered predictable, site-specific, and temporary and can be easily mitigated with adequate mitigation and management measures to be implemented following the provisions given in the national regulation, WB ESSs, and WB Group's Environmental, Health and Safety (EHS) Guidelines.
- The OIZ's groundwater well 117 m west to the project area is evaluated as a sensitive receptor. With the implementation of preventive measures, no adverse impact on sensitive environmental receptors is foreseen.
- The activities will be carried out within the OIZ boundaries.
- The impact on vegetation, soil, and ecosystem is specific for ground-mounted solar power plant sites and the associated risk is low in magnitude.
- There are occupational health and safety risks during the operation stage that can be mitigated through additional measures and precautions,
- Land acquisition or resettlement will not be needed.
- Excessive labor influx will not be generated,
- Livelihoods of the households, vulnerable groups and formal-informal users on land will not be damaged, and
- Impacts will be very low in scale and will not be differentiated on women and men, different ethnic groups or social classes. National legislation and WB ESSs will be applied on fair employment, equal access and employment opportunities for women.

One of the tasks under the scope of the Project is the preparation of an ESMP in accordance with both national regulations and WB ESF standards, , the ESMF of the TOIZsP, World Bank Group (WBG) General EHS Guidelines and Industrial Sector Guidelines and the national legislation in force in Türkiye. Accordingly, this ESMP has been prepared by Infratech Yazılım, Mühendislik ve İnovasyon A.Ş. (hereinafter referred as "Infratech") to assess and identify the potential environmental and social impacts and risks arising from the development of the Project and recommend mitigation measures for significant adverse environmental and social impacts/risks and describes the monitoring and institutional requirements necessary to implement this Plan.

The primary purpose of this ESMP is to ensure that the environmental and social requirements and social commitments associated with the Project are duly implemented during the construction and operation phases of the Project and are effectively managed. The specific objectives of this ESMP are as follows:

- To conduct all project activities in accordance with the applicable national legislation and in compliance with the ESMF, WB's ESSs;
- To identify anticipated adverse environmental and social risks and impacts;
- To adopt the mitigation hierarchy and identify mitigation measures, which anticipate and avoid, minimize, and, where residual impacts remain, compensate or offset risks and impacts;
- To prevent or compensate any loss of the affected person;
- To prevent environmental degradation as a result of either individual -projects or their cumulative effects;
- To enhance positive environmental and social outcomes;

- To ensure maximizing efficiency and minimizing costs in complying with environmental and social legislation and standards;
- To ensure that the project impact mitigation measures are properly implemented and monitored since it is an Action Plan and roadmap; and
- To ensure that all stakeholders' concerns are addressed.

A Stakeholder Engagement Plan (SEP) has not been prepared for the Uşak Leather Mixed OIZ project by Infratech at Project level. The SEP was prepared by the Ministry of Industry and Technology in January 2021, aiming to fulfil the World Bank's ESS 10 Stakeholder Engagement and Information Disclosure requirements. Stakeholder engagement activities will be based on the plan prepared by the MoIT and stakeholders at project level have been identified and their relevance to the project is stated in Chapter 11 of this ESMP. The TOIZsP Stakeholder Engagement Plan (available at https://yesilosb.sanayi.gov.tr/projedokumanlari) will be implemented throughout the lifecycle of this sub-project and all project parties (including the contractor, Organized Industrial Zone (OIZ) and Ministry of Industry and Technology (MoIT) PIU) will be responsible for ensuring compliance with the TOIZsP SEP.

This plan was structured around the below main headings. The information provided in the plan was detailed under these headings to the extent that the best available data allowed. Accordingly, the chapters included in the ESMP can be briefly explained as the following:

- Chapter 1 Introduction; introduction to the project and ESMP, providing project details.
- Chapter 2 Project Description; is a description of the project including its location, components, technical specifications, associated construction and operation activities, and a proposed schedule for implementation.
- Chapter 3 Legal Framework; explains national and international legal requirements, analyzes gaps between national legislation and WB ESF and identifies environmental and other relevant to the project.
- Chapter 4 Methodology; describes ESMP preparation methodology
- Chapter 5 Environmental Baseline of the Project; describes the baseline conditions in and around the proposed Project Area, including physical, biological conditions.
- Chapter 6 Social Baseline of the Project; describes the baseline conditions in and around the proposed Project Area, including socio-economic conditions.
- Chapter 7 Environmental and Social Risks and Impacts of the Project; assesses the potential negative risks and impacts of the project, identifes mitigation measures.
- Chapter 8 Environmental and Social Aspects and Best Practice Mitigation Measures; describes the necessary management strategies and responsibilities for implementation of the identified mitigation measures.
- Chapter 9 Environmental and Social Monitoring Plan; describes monitoring activities.
- Chapter 10 Institutional Arrangements and Training; gives the information about environmental and social management structure and environmental and social monitoring reports.
- Chapter 11 Stakeholder Management Under ESMP; explains the needs, expectations and concerns of these stakeholders to ensure that the project's impacts and risks on the stakeholder or organization are positive, in other words, the summary of the SEP.
- Chapter 12 Deviation from E&S Screening Studies; describes the deviations between the findings obtained during the ESMP studies and the findings obtained during the Screening studies.

2 PROJECT DESCRIPTION

2.1 Objectives of the Project

On 24/01/1989, Uşak Leather Organized Industry Entrepreneur Organization was established with the participation of the Special Provincial Administration, Uşak Municipality, Uşak Chamber of Commerce and Industry, Uşak Tabaklar Chamber of Tradesmen and Uşak Leather Industrialists Association. After the site selection was made on 23/03/1992, the Master and Implementation Development Plans prepared for the 284 hectares area were approved on 16/11/1994. OIZ started its activities as Uşak Leather Mixed OIZ in the planned area of 284 hectares and was transformed into Uşak Leather (Mixed) OIZ on 29/01/2004. Wastewater treatment services is provided by the OIZ. OIZ collects domestic solid waste, and licensed private firms collect other types of waste (i.e., hazardous, recyclable) that are required to be collected by licensed private firms.

It is planned to install 3 ground-mounted and 5 roof-top solar power plants with a total power of 3,682 kWp in order to meet its own electricity consumption with renewable sources on the parcels with a total module area of 30,659 m^2. The details of the planned solar power plants are given below in Table 3.

Table 3 List of Planned SPPs

Parcel and Location	Type	Module Area (m^2)	Installed Capacity (kWp)	Grid Connection Capacity (kWe)
184/5 (Land beside the pumping station A2)	Land	3,100	281.6	250
153/5 (Land beside the pumping station PID)	Land	6,566	578.6	500
159/5 (Land beside the pumping station B4)	Land	7,892	721,6	625
356/1 (Administrative and social facility area)	Roof-top	2,573	280.5	250
188/11 (Fire Brigade building)	Roof-top	488	79.2	66
188/12 (UBDİT building)	Roof-top	7,157	1,265	999
355/1 (Administrative and social facility area)	Roof-top	258	30.8	25
188/12 (Carport that will be established)	Car Port	2,625	445.5	375
Total		**30,659**	**3682,8**	**3090**

Currently, electricity consumption of the Uşak Leather Mixed OIZ is met from the distribution grid. With this project, Uşak Leather Mixed OIZ aims to increase the use of renewable energy and reduce carbon emissions. In addition to this goal, installed SPPs will also contribute to reducing energy costs and improve the security of supply.

The aim of this project; to establish solar power plants to increase the infrastructure service quality of Uşak Leather Mixed OIZ while protecting the environment with a sustainable and innovative approach. With the installation of solar power plants, the electrical energy needs of groundwater supplying wells, wastewater treatment plant, street lighting within the OIZ, social facilities and the cattle leather processing facility operated by Uşak Leather Mixed OIZ will be met. Thus, the increasing energy needs of the region will be met from renewable sources and will contribute to sustainable development.

This project covers Uşak Leather Mixed OIZ's investments in renewable energy sources throughout the region. With the project, it is aimed to establish solar power plants at a total of 8 different points within the borders of Uşak Leather Mixed OIZ.

2.2 Project Location

The Uşak Leather Mixed OIZ is situated in the Muharremşah Neighborhood within the Uşak Province Central District. Uşak Province Central District itself spans an area of 1,366.5 square kilometers and has an elevation of 919 meters above sea level. The Uşak Leather Mixed OIZ, which was situated on an area of 284.18 ha, has a total of 306 industrial parcels and is located southwest of the Kütahya-Uşak Highway.

The project will be constructed within the existing Uşak Leather Mixed OIZ parcels, including a carport on parcel 188/12, a fire brigade building on parcel 188/11, the Uşak Cattle Leather Processing Plant (UBDIT) on parcel 188/12, the Uşak Leather Mixed OIZ Administrative building on parcel 355/1, the Uşak Leather Mixed OIZ Social Facilities building on parcel 356/1, the land beside the pumping station A2 on parcel 184/5, the land beside the pumping station PID on parcel 153/5, and the land beside the pumping station B4 on parcel 159/5 (planned SPP projects are number from 1 through 8, respectively). The total project area is estimated to be around 3.06 ha land and is owned entirely by Uşak Leather Mixed OIZ. The project does not require land acquisition. The project consists of four rooftop solar power plants, a carport with solar panels, and three land type solar power plants with power output ranging from 30.8 kWp to 1265 kWp and is in line with the approved revised OIZ land use plan.

All parcels have been owned by the OIZ since 1996. All parcels, except for Parcel no.159/5, are mortgaged in exchange for the building on them, based on the regulation on the complete or partial gratuitous allocation of parcels located in OIZs. The project does not require land acquisition[1]. (see Annex 1).

Figure 1 Project Location on Google Earth (Source: Screening Report)

[1] Pre-Feasibility Study, March 2024.

Maps prepared for application in the ESMP within the scope of the Project are given in Annex-2. In order to have an overview of the project vicinity, map of the area of influence that is defined in detail under Chapter 5.1 is given in Figure 2.

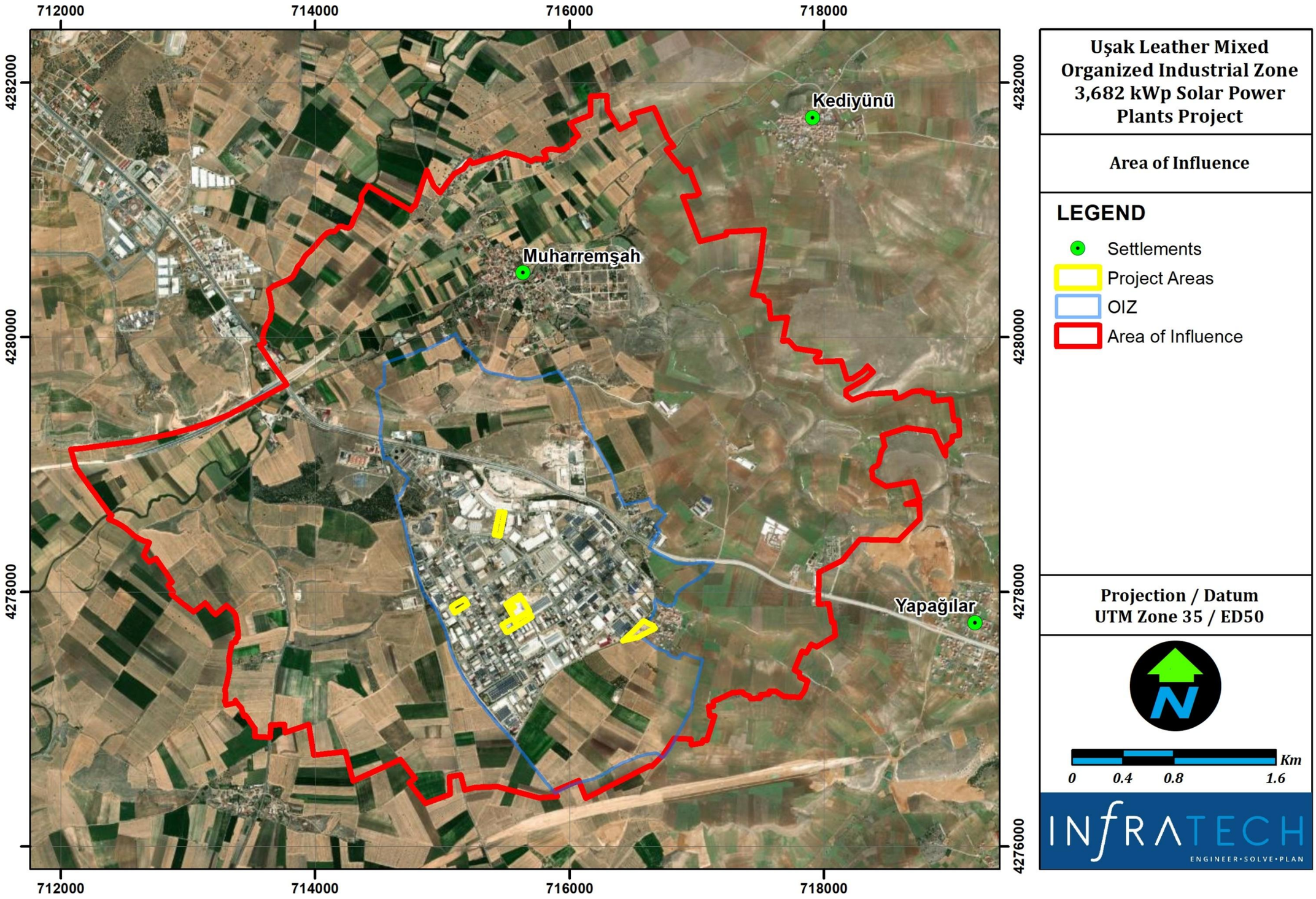

Figure 2 Area of Influence

2.3 Project Components and Timeline

The Project Components are given on the following pages as specified in the Pre-Feasibility Study.

The block diagram of a solar power plant is given below. Most PV modules are made from semiconductor materials, usually some type of silicon. When photons from sunlight hit the semiconductor material, free electrons are produced, and these electrons then flow through the material to generate a direct electric current (DC). DC current must be converted to alternating current (AC) using an inverter before it can be used in electrical appliances or supplied to the electricity grid.

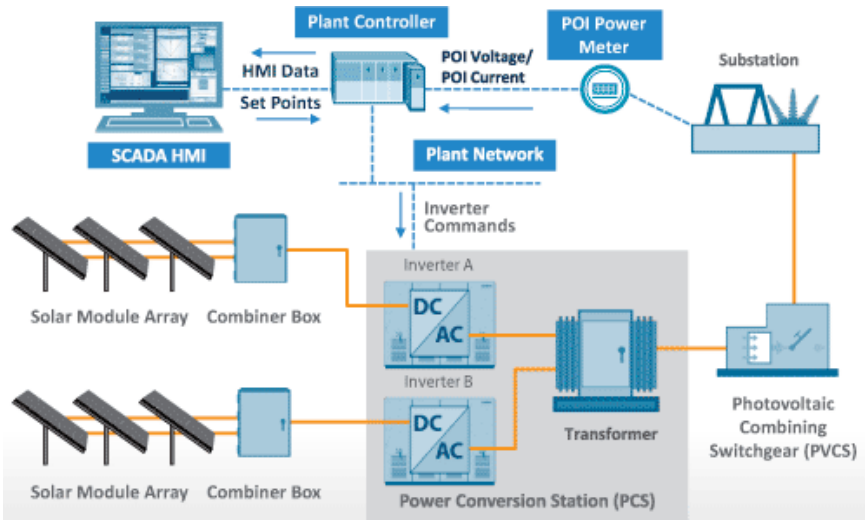

Figure 3 SPP Block Diagram

PV module is a group of photovoltaic cells mounted in an aluminum frame. Photovoltaic cells use sunlight as an energy source and generate direct current electricity. Sequence is formed by connecting PV modules in series.

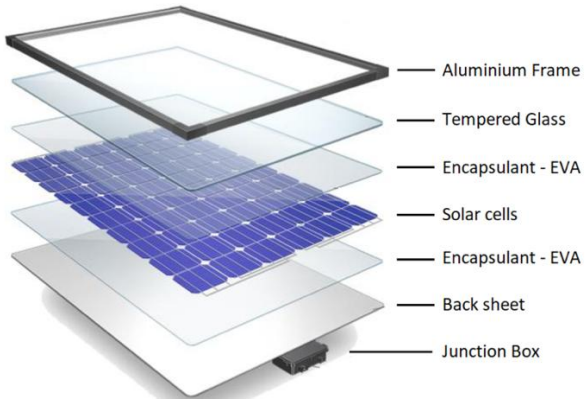

Figure 4 PV Module Components

Photovoltaic modules use light energy (photons) from the sun to generate electricity through the photovoltaic effect. Most modules use wafer-based crystalline silicon cells or thin film cells. The structural (load-bearing) element of a module can be the upper layer or the back layer. Cells must be protected from mechanical damage and moisture. Most modules are rigid, but semi-flexible ones are also available. Cells are electrically connected one after another in series until the desired voltage is achieved, and then these PV module strings are connected in parallel to the inverter to increase the amperage. The wattage of the module is the mathematical product of the module's voltage and amperage. Properties on PV modules are values obtained under standard conditions.

A PV junction box (J-box) is installed behind the solar panel and acts as the output interface. Most photovoltaic modules use MC4 connectors for external connections.

Figure 5 J-Box and MC4 Connector

Some special solar PV modules contain concentrators that focus the light into smaller cells. This allows cost-effective use of cells with a high cost per unit area (such as gallium arsenide).
Over the last decade, with various innovative approaches, PV modules have improved significantly in terms of their efficiency and power output. The efficiency of silicon cells approached 29.4%, the maximum achievable limit called the Auger limit. While it was possible to exceed 22% efficiency with cells produced only in the laboratory environment ten years ago, it can be done in industrial environments today. Cell prototypes are currently achieving efficiency values of over 26%. Some innovations raise the bar for the solar industry in terms of power output, higher efficiency, quality, reliability, production efficiency, and improve system performance.

Innovations followed in the sector:

- PERC / PERT, HJT, IBC and two-face technology to increase system performance and energy efficiency
- Advantages of half-cut cells
- Introduction of 1,500 V modules and their impact on overall BOS cost reduction

Until 2018, polycrystalline silicon PV modules were frequently used in the global PV market due to their cost advantages. After 2018, monoperc modules have dominated the market. Costs are reduced as PERC modules generate more energy per unit area.

1,500 V DC systems minimize the balance of system requirements and contribute to lowering overall PV system costs. For this reason, 1,500 V is preferred for grounding installation, especially in large power plants.

Most small solar power systems use string inverter technology. In this solar technology, each solar panel is connected to strings. The electricity generated by the solar panel goes to the inverter, and eventually, the inverter converts direct current into alternating current by imitating the grid. Therefore, inverters will not work when the mains are cut.

Figure 6 String Inverter

While selecting the string inverters, it should be checked whether it contains an internal DC fuse or not. If it does not, DC fuses must be used at the string inputs.

Sequence-based current-voltage values can also be monitored in these inverters.

The most important advantage of string inverters is that when an insulation failure occurs, the power plant does not experience large power losses. They are simpler to maintain and can be easily backed up. Connecting strings located at different inclinations to inverters with a high number of Maximum Power Point Trackings (MPPTs) will not reduce the efficiency.

In designs made with these inverters, the length of AC cable is more, and the unit cost is higher than the central.

In flat roofs, the carrier system can be ballasted to prevent damage to the ground. Since the parapets on the roof will prevent strong wind from entering under the panels, the concrete blocks, panel and carrier system remain in place thanks to the weight. The metal structure can be produced at the desired angle.

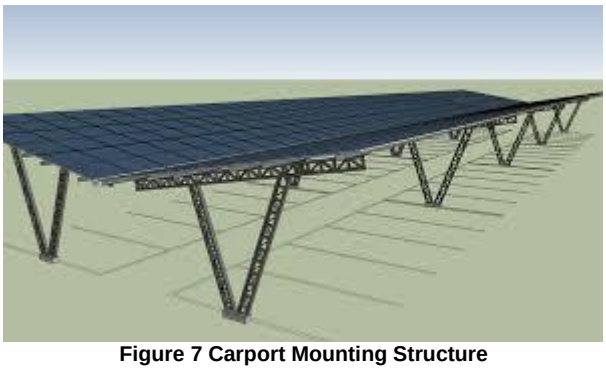

Figure 7 Carport Mounting Structure

Only aluminum purlins and fasteners are used on sloping roofs. Connection type should be chosen according to the roofing type. Aluminum purlins should be continuous in terms of grounding integrity and strength. In trapezoidal roofs, panel carrier purlins should be mounted on the beams that carry the roof covering. If there is a sandwich panel roof covering, purlins carrying PV modules should be fixed from at least four points from the sides, not from the top of the ribs.

Figure 8 Sloping Roof Mounting Structure

To capture the maximum light intensity, the string needs to be focused on the sun position so that the effective area is maximized, and direct beam radiation is received. Viewers increase production by more than 20 percent compared to the constant slope. The facility will not only see increased annual production, but will also see increased production during peak hours, which will add value in regions with Lifetime ratios.

The carrier system is made of hot dip galvanized. It must be resistant to outdoor conditions. Purlins are made of aluminum material.

It is preferred that DC cables are of H1Z2Z2-K type in terms of efficiency and life, and the cross section is at least 6 mm2. MC4 connectors are used for module, string and inverter connections. Cables are run through duct and pipe without being exposed to direct sunlight. It is recommended to connect the pans not to the roofing material, but to the module carrier system to prevent impermeability.

AC cables are the cables used between the inverter - SPP panel board and SPP panel board - transformer. Copper or aluminum cable with suitable cross-section can be used for low and medium voltage cables.

Wi-fi datalogger will be used for inverters. In this way, it will be possible to monitor on the basis of series via web portals and on the basis of panels if an optimizer is used. Many values such as production, fault alarms, current and voltage values, CO2 emissions, performance ratio, radiation and temperature can be remotely monitored. A low voltage panel will be built next to the SPP panel board and communication equipment will be placed inside.

In addition, a SCADA system compatible with the Osmangazi EDAŞ system will be installed. The regional distribution company will also be able to monitor the power plant remotely.

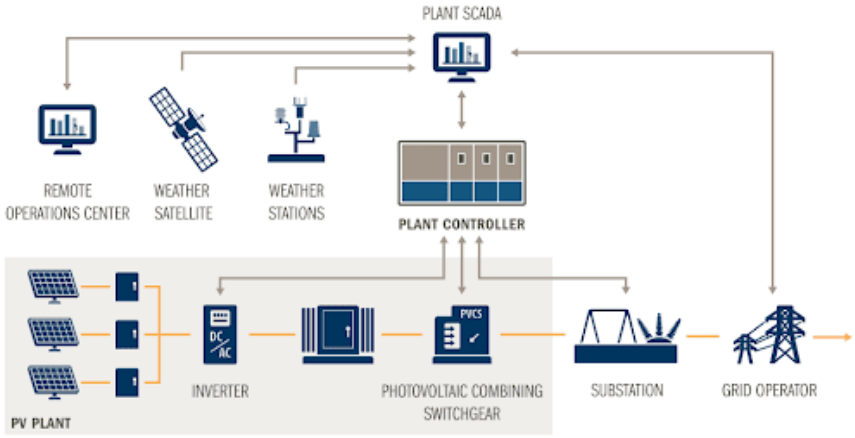

Figure 9 Scada

Component 1: Installation of solar power plant

This component includes the installation stages for the solar power plants. It starts with land preparation, where ground-mounted solar power plants are to be established and proceeds with establishing the frame systems carrying the panel system and installing it on the frame system. The connection of inverters to the system will follow.

Component 2: Connection of distribution line to the distribution center adjacent to the solar power plant on the same parcel and commissioning.

Component 2 is the stage where the connection is performed. In this project, the distribution center to which the solar power plants will be connected is located within the boundaries of the OIZ and on the same parcel. Therefore, there is no excavation for the cable carrier and distribution lines from the solar power plants to the nearest distribution center of the OIZ. There are already transformers within each SPP parcel. In this study system, there will be no excavation for the installation of distribution lines and cable carriers. Therefore, the E&S risk/impact related to the energy transmission line is considered to be negligible.

It is predicted that during the working hours, 25 personnel will work for 120 days to complete the project activities under the Component 1 and 2. The environmental and social risks/impacts are considered mostly in this stage during the activities to be performed.

Component 3: Repair and maintenance in the operational term

Repair and maintenance are crucial for the effectiveness of the plant in the operational term. In general, the maintenance of the solar power plants will be performed semi-annually. At the time of repair and maintenance, at most, two to three personnel will be on site for the activities for at most two days. The environmental and social risks/impacts anticipated for the operational term is similar to the installation term risk/impacts. However, the risk is evaluated lower when compared to the installation stage considering the short working days and small amount of manpower.

From the E&S perspective, the water to be used during the cleaning within the scope of the maintenance is considered. There are automatic cleaning guides used to clean the surface of solar panels from dust and unwanted debris caused by wind blows. The cleaning is mostly conducted with the help of deionized water sprinkled by this guide, which also uses its brush for cleaning. Once the chemical is used for regions/plants where debris on the panels requires such an intervention, the chemicals are mainly selected from the biodegradable ones. For the project, biodegradable cleaning chemicals should be used once necessary. Competent panel cleaning firms should perform the cleaning activities.

The electricity generation with the proposed project will primarily meet Uşak Leather Mixed OIZ's self-consumption, such as electricity, heating, cooling, and lighting.

Project Schedule

According to information from Uşak Deri Karma OSB, the construction contractor tender phase of the project will take four months. In this process, bid preparation, bidding and bid evaluation phases are planned. After these phases, the contract signing and construction phase will take 12 months. After construction phase and commissioning of the SPPs, the Defect Notification Period (DNP) will last 12 months. The anticipated schedule of the Project is provided in Table 4.

Table 4 Time Schedule of the Project

Time Schedule of the Project																											
Months	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
Bid preparation, bidding and bid evaluation																												
Contract signing and Construction																												
Commissioning of the SPP																												
Defect Notification Period																												

2.4 Permits and Management System of the OIZ

2.4.1 Management Systems of the OIZ

According to the Organized Industrial Zones (OIZs) Implementing Regulation (Official Gazette No. 30674 dated 02.02.2019), OIZ managements are the highest regional authority that are responsible for the construction, maintenance and operation of electricity generation plants within OIZs.

OIZ managements are responsible for compliance with the requirements of the Water Pollution Control Regulation published in the Official Gazette No. 25687 dated 31.12.2004. In accordance with the Regulation on Permits and Licences Required by the Environmental Law, it is mandatory to obtain an environmental permit as of June 2, 2021, for the discharge of industrial wastewater into the receiving environment.

Uşak Leather Mixed OIZ has ISO 9001:2015 Quality Management System Certificate in line with the services and activities carried out within the scope of the Organized Industrial Zones Law and Implementing Regulation. This certificate valid until January 9, 2025 is given in Annex-11. Uşak Leather Mixed OIZ does not have ISO 50001:2018 Energy Management System, ISO 10002:2018 Customer Satisfaction Management System, ISO 14001:2015 Environmental Management System and ISO 45001:2018 Occupational Health and Safety Management System certificates. It was stated that applications was made to obtain ISO 50001 certification.

The organization chart of Uşak Leather Mixed OIZ is given in Annex-10.

2.4.2 Permits

The Project-related permits to be taken are as follows:

- Project Base Map (Plankote) Approvals from the Industrial Zones Ministry of Industry and Technology, General Directorate (in planning phase of the Project, obtained on 28th of December 2023 for all parcels except 188/12; given in Annex 15.
- EIA Not Required Decisions for the ground-mounted SPP parcels 153/5, 159/5 and 184/5 regarding the proposed solar power plants project dated 25th December 2023 (see Annex-3).
- Rooftop SPP projects are exempt from the EIA Regulation of Türkiye. An exemption decision letter is required for Rooftop SPPs within the scope of the Project.
- Environmental Permit Certificate on Wastewater Treatment Plant (valid until 2nd of June 2026)
- Three-year Industrial Waste Management Plan from Provincial Directorate of Environment, Urbanization and Climate Change (Industrial Waste Management Plan in Annex-13 is awaiting approval from the Provincial Directorate.)
- Hazardous Waste Liability Insurance by insurance companies (valid until 16th of October 2025)
- Building License from OIZ Directorate by Contractor (in pre-construction phase of the Project),
- Temporary Certificate of Operation from Provincial Directorate of Environment, Urbanization and Climate Change (after construction phase of the Project.)

3 LEGAL FRAMEWORK

This chapter presents the main aspects of the legal and administrative framework followed in the design of this ESMP. In this project, in addition to determining which standards to follow, a gap analysis is conducted between national legislation and WB ESF is carried out and how these gaps will be closed in this project. Various national legislation and international conventions and standards explained in the following sections are also to be complied with during different stages of the Project, including pre-construction, construction and operation.

3.1 National Legislation

The key national laws and regulations presented in this chapter include the legal requirements to reduce the potential environmental impacts that may arise from the pre-construction, construction and operational activities of the Project. National Legislation related to the Project is presented in the following sections under relevant subtopics.

3.1.1 National Environmental, Health and Safety Legislation

Environmental Law No. 2872, which is ratified in August 1983 (Official Gazette dated 11.08.1983 and numbered 18132), is one of the principal legislations related to the Project. Several by-laws and decrees are enforced under the Environmental Law.

Occupational Health and Safety Law No. 6331, which is ratified June 2012 (Official Gazette dated 30.06.2012 and numbered 28339), is other principal legislation related to the Project. Occupational Health and Safety Law enforces various by-laws and decrees to regulate and uphold health and safety standards.

According to Annex I of the Environmental Impact Assessment (EIA) Regulation (Official Gazette dated 29/07/2022 and numbered 310907), only the specialized OIZs would conduct an environmental impact assessment process at the establishment phase. Since the OIZ is a mixed type OIZ, an EIA was not required to be undertaken. In addition, article 24, subparagraph c, of the EIA Regulation states that the method regarding the EIA process to be applied for the projects planned to be established in the OIZs shall be determined by the Ministry of Environment, Urbanization and Climate Change. The OIZ obtained the EIA Not Required Decision from the Provincial Directorate of Environment, Urbanization, and Climate Change regarding the proposed SPP project on parcels 153/5, 159/5 and 184/5 dated 25.12.2023 (See Annex-3). Rooftop SPP projects are exempt from the EIA Regulation of Türkiye. However, it was necessary to apply to Uşak Provincial Directorate of Environment, Urbanization and Climate Change and obtain an exemption decision letter for the Rooftop SPPs within the scope of the Project. In this context, the exemption decision letter for rooftop SPP parcels 356/1, 188/11, 188/12, 355/1 and carport SPP on parcel 188/12 was received on December 16th, 2024, and provided in Annex-3.

Uşak Leather Mixed OIZ shall comply with the requirements of the current national legislation and codes of practice and fulfil all other legal requirements. Therefore, during each stage of the planned Project and implementation of related management plans, all activities will be carried in accordance with certain standards and limits set by the laws and regulations attached in Annex 5 and any license and/or permit required for the upcoming stages of the Project will be acquired accordingly.

3.2 International Agreements and Standards

3.2.1 World Bank Environmental and Social Framework (ESF)

Since the main finance source of the Project is WB, the Project must comply with the WB ESF, WBG General EHS guidelines, and good internaitonal industry practices alongside the national legislation.

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The project is classified as Moderate Risk according to WB's E&S Policy, which states that for moderate risk projects the potential risks and impacts and issues are fall within the following characteristics: (i) predictable and expected to be temporary and/or reversible, (ii) low in magnitude, (iii) site-specific, without likelihood of impacts beyond the actual footprint of the project and (iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.).

The reasons for the risk characterization of the Project is given below:

- The activities are considered small construction works, including installation, which could pose common environmental risks/impacts associated with waste generation, noise nuisance, and exhaust emissions. Those are considered predictable, site-specific, and temporary and can be easily mitigated with adequate mitigation and management measures to be implemented following the provisions given in the national regulation, WB ESSs, and WB Group's Environmental, Health and Safety (EHS) Guidelines.
- The OIZ's groundwater well 117 m west to the project area is evaluated as a sensitive receptor. With the implementation of preventive measures, no adverse impact on sensitive environmental receptors is foreseen.
- The activities will be carried out within the OIZ boundaries.
- The impact on vegetation, soil, and ecosystem is specific for ground-mounted solar power plant sites and the associated risk is low in magnitude.
- There are occupational health and safety risks during the operation stage that can be mitigated through additional measures and precautions,
- Land acquisition or resettlement will not be needed.
- Excessive labor influx will not be generated,
- Livelihoods of the households, vulnerable groups and formal-informal users on land will not be damaged, and
- Impacts will be very low in scale and will not be differentiated on women and men, different ethnic groups or social classes. National legislation and WB ESSs will be applied on fair employment, equal access and employment opportunities for women.

The World Bank Group (WBG) Environmental, Health and Safety (EHS) Guidelines constitutes technical reference resources that include general and sector specific examples of international good sector practices. It includes the information on applicable environmental, the health and safety issues for all industrial sectors. WBG uses the EHS Guidelines as a technical source of information during Project appraisal. EHS Guidelines include performance levels and measurements that can be achieved at newly installed facilities using WBG's available technologies at reasonable cost.

3.2.2 Comparison of Turkish EIA Regulation and WB ESSs

Since the main finance source of the Project is WB,the Project must follow good international industry practice, including compliance with , WBG (EHS) guidelines, WB ESF standards, including its ESSs and best practices documents alongside the national legislation.

The World Bank (WB) Environmental and Social Framework reflects the World Bank's commitment to sustainable development through ten Environmental and Social Standards (ESS) that are designed to support Borrowers' environmental and social (E&S) risk management.

The Project and the social and environmental elements in the Area of Influence (AoI) of the Project include elements or activities that are related to the scope of ESS1, ESS2, ESS3, ESS4, ESS6 and ESS10. The main objectives of these standards within the scope of the Project are presented below.

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts,
- ESS2: Labor and Working Conditions,
- ESS3: Resource Efficiency and Pollution Prevention and Management,
- ESS4: Community Health and Safety,
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources,
- ESS10: Stakeholder Engagement and Information Disclosure.

The gap analysis between the WB ESSs triggered by the Project and Turkish EIA Regulation is provided in Annex 5, including measures to bridge identified gaps which sets the standards to be followed in the present project.

3.3 Project Standards[2]

Table 5 Project Standards

Environmental Standards						
No	**Topic**	**National Standards/ Requirements**	**Limit Values in National Legislation**	**International Standards/ Requirements**	**Limit Values in International Legislation**	**Project Standards**
1	Noise	• Regulation on Environmental Noise Control (Official Gazette Date/Number: 30.11.2022/32029) • Annex- 2 "Table-1 Limit Values for ambient noise level"	Noise source: Industrial Facilities, Transportation: • Day time (07:00-19:00): $LA_{eq,\ 5\ min.}$< 65 dB(A) • Evening time (19:00-23:00): $LA_{eq,\ 5\ min.}$< 60 dB(A) • Night time (23:00-07:00): $LA_{eq,\ 5\ min.}$< 55 dB(A)	WBG General EHS Guidelines: Environmental Noise Management Table 1.7.1 – Noise Level Guidelines Noise impacts should not exceed the levels specified in the Table 1.7.1, or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.	Receptor Residential; institutional, educational: • Day time (07:00-22:00): • One Hour LAeq dB(A) < 55 dB(A) • Night time (22:00-07:00): • One Hour LAeq dB(A) < 45 dB(A) Receptor Industrial, commercial: • Day time (07:00-22:00): • One Hour LAeq dB(A) < 70 dB(A) • Night time (22:00-07:00): • One Hour LAeq dB(A) < 70 dB(A)	Receptor: Residential, industrial, commercial[3]: Day time (07:00-19:00): $LA_{eq,\ 5\ min.}$< 65 dB(A) Evening time (19:00-23:00): $LA_{eq,\ 5\ min.}$< 60 dB(A) Night time (23:00-07:00): $LA_{eq,\ 5\ min.}$< 55 dB(A)
2	Air Quality	• Regulation on the Assessment and Management of Air Quality (Official Gazette Date/Number: 06.06.2008/26898) Annex-1	PM_{10} 1-Year: 40 µg/m3 24-Hour: 50 µg/m3 (not to be exceedance more than 35 times per year)	WBG General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality Table 1.1.1.: WHO Ambien Air Quality Guidelines	PM_{10} 1-Year: 20 µg/m3 24-Hour: 50 µg/m3 (99th percentile (i.e. 3-4 exceedance days per year) $PM_{2.5}$ 1-Year: 10 µg/m3 24-Hour: 25 µg/m3 (99th percentile (i.e.3-4 exceedance days per year)	Turkish Legislation has not described a limit value for $PM_{2.5}$. Therefore, in the assessment of the measurement result, the limit value set forth by the Ambient Air Quality and Cleaner Air for Europe (Directive 2008/50/EC) and WBG 24-hour limit values are used, which is 25 µg/m3 for both of them. PM_{10} 1-Year: 20 µg/m3 24-Hour: 50 µg/m3 (99th percentile (i.e. 3-4 exceedance days per year) $PM_{2.5}$1-Year: 10 µg/m3 24-Hour: 25 µg/m3 (99th percentile (i.e. 3-4 exceedance days per year)
		• Industrial Air Pollution Control Regulation (Official Gazette Date/Number: 03.07.2009/27277 revised in the Official Gazette Date/Number: 06.11.2020/31296) Annex- 2.1 "Table-2 Mass Flows"	Non-stack Mass Flow CO: 50 kg/h Dust: 1 kg/h NOx: (as NO_2) 4 kg/h SOx: 6 kg/h (These limits are for exhaust gas emissions from the working of construction machinery)	WBG General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality	WBG General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality mention that: "Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards by applying national legislated standards, or in their absence, the current WHO Air Quality Guidelines" Since National Standards exist, compliance with National Standards will be ensured.	The limit values for exhaust gas defined in Industrial Air Pollution Control Regulation will be complied in Project. Non-stack Mass Flow CO: 50 kg/h Dust: 1 kg/h NOx: (as NO_2) 4 kg/h SOx: 6 kg/h

[2] *All parameters were evaluated based on the most stringent one.*

[3] *Since there are residential, industrial and commercial commercial areas within the project area of influence, this project standard was selected specifically for noise.*

Environmental Standards

No	Topic	National Standards/ Requirements	Limit Values in National Legislation	International Standards/ Requirements	Limit Values in International Legislation	Project Standards
3	Effluent Water Quality	Regulation on Water Pollution Control (Official Gazette Date/Number: 31.12.2004/25687 and revised in the Official Gazette Date/Number 12.05.2023/32188) Wastewater Discharge Standards Defined in Table 19-Discharge Standards of Mixed Industrial Wastewater to The Receiving Environment (Small and Large Organized Industrial Zones and Other Industries for Which Sector cannot be Determined)	Discharge Standards for the Treated Process Water to Receiving Environment in the Regulation on Water Pollution Control for existing WWTP: COD: 250 mg/L TSS: 200 mg/L Oil and grease: 20 mg/L Total Phosphorus (P): 2 mg/L Total Chrome: 2 mg/L Chrome (Cr^{+6}): 0.5 mg/L Lead (Pb): 2 mg/L Total Cyanide (CN-): 1 mg/L Cadmium (Cd): 0.1 mg/L Ferrous (Fe): 10 mg/L Fluoride (F-): 15 mg/L Copper (Cu): 3 mg/L Zinc (Zn): 5 mg/L Mercury (Hg): 0.05 mg/L Sulphate (SO_4^{-2}): 1500 mg/L Total Kjeldahl Nitrogen (TKN): 60 mg/L Fish Bioassay (TDF): 10 Color: 280 Pt-Co pH:6-9	WBG General EHS Guidelines: Environmental Wastewater and Ambient Water Quality	WBG General EHS Guidelines Environmental-Wastewater and Ambient Water Quality mention that: "Compliance with national or local standards for sanitary wastewater discharges or, in their absence, the indicative guideline values applicable to sanitary wastewater discharges shown in Table 1.3.1." Since National Standards exist, compliance with National Standards will be ensured.	The discharge criteria of the WWTP have been decided on the basis of the Water Pollution Control Regulation, COD: 250 mg/L TSS: 200 mg/L Oil and grease: 20 mg/L Total Phosphorus (P): 2 mg/L Total Chrome: 2 mg/L Chrome (Cr^{+6}): 0.5 mg/L Lead (Pb): 2 mg/L Total Cyanide (CN-): 1 mg/L Cadmium (Cd): 0.1 mg/L Ferrous (Fe): 10 mg/L Fluoride (F-): 15 mg/L Copper (Cu): 3 mg/L Zinc (Zn): 5 mg/L Mercury (Hg): 0.05 mg/L Sulphate (SO_4^{-2}): 1500 mg/L Total Kjeldahl Nitrogen (TKN): 60 mg/L Fish Bioassay (TDF): 10 Color: 280 Pt-Co pH:6-9
4	Surface Water Quality	Regulation on Surface Water Quality-Water Quality Classes (Official Gazette Date/Number: 30.11.2012/ 28483) Annex – 5)		WBG General EHS Guidelines: Environmental Wastewater and Ambient Water Quality	WBG General EHS Guidelines Environmental-Wastewater and Ambient Water Quality mention that: " Discharges to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria or, in the absence of local criteria, other sources of ambient water quality." Since National Standards exist, compliance with National Standards will be ensured.	

Parameter	Unit	Surface Water Quality Regulation Water Quality Classes		
		I (very good)	II (good)	III (moderate)
Ammonium (NH_4^+)	mg/L	<0.2	1	>12
Colour	m^{-1}	RES 436 nm: ≤ 1,5 RES 525 nm: ≤ 1,2 RES 620 nm: ≤ 0,8	RES 436 nm: 3 RES 525 nm: 2,4 RES 620 nm: 1,7	RES 436 nm: > 4,3 RES 525 nm: > 3,7 RES 620 nm: 2,5
Oil and Grease	mg/L	<0.2	0.3	>0.3
Biological Oxygen Demanded BOD(BOD_5)	mg/L	<4	8	>8
Dissolved Oxygen (DO)	mg/L	>8	6	<6
Conductivity	µS/cm	<400	1000	>1000
Chemical Oxygen Demanded (COD)	mg/L	<25	50	>50
Nitrate (NO_3^-)	mg/L	<3	10	>10
pH	-	6-9	6-9	6-9
Total Phosphorus, (TP)	mg/L	<0.08	0.2	>0.2
Ortophosphate (o-PO_4^-)	mg/L	<0.05	0,16	>0.16
Total Kjeldahl Nitrogen(, TKN)	mg/L	<0.5	1.5	>1.5
Total Nitrogen, (TN)	mg/L	<3.5	11.5	>11.5
Floride	µg/L	≤1000	1500	>1500
Manganese	µg/L	≤100	500	>500
Selenium	µg/L	≤10	15	>15
Sulphur	µg/L	≤2	5	>5

Parameter	Unit	Surface Water Quality Regulation Water Quality Classes		
		I (very good)	II (good)	III (moderate)
Ammonium (NH_4^+)	mg/L	<0.2	1	>12
Colour	m^{-1}	RES 436 nm: ≤ 1,5 RES 525 nm: ≤ 1,2 RES 620 nm: ≤ 0,8	RES 436 nm: 3 RES 525 nm: 2,4 RES 620 nm: 1,7	RES 436 nm: > 4,3 RES 525 nm: > 3,7 RES 620 nm: 2,5
Oil and Grease	mg/L	<0.2	0.3	>0.3
Biological Oxygen Demanded BOD(BOD_5)	mg/L	<4	8	>8
Dissolved Oxygen (DO)	mg/L	>8	6	<6
Conductivity	µS/cm	<400	1000	>1000
Chemical Oxygen Demanded (COD)	mg/L	<25	50	>50
Nitrate (NO_3^-)	mg/L	<3	10	>10
pH	-	6-9	6-9	6-9
Total Phosphorus, (TP)	mg/L	<0.08	0.2	>0.2
Ortophosphate (o-PO_4^-)	mg/L	<0.05	0,16	>0.16
Total Kjeldahl Nitrogen(, TKN)	mg/L	<0.5	1.5	>1.5
Total Nitrogen, (TN)	mg/L	<3.5	11.5	>11.5
Floride	µg/L	≤1000	1500	>1500
Manganese	µg/L	≤100	500	>500
Selenium	µg/L	≤10	15	>15
Sulphur	µg/L	≤2	5	>5

Environmental Standards						
No	**Topic**	**National Standards/ Requirements**	**Limit Values in National Legislation**	**International Standards/ Requirements**	**Limit Values in International Legislation**	**Project Standards**
5	Groundwater Quality	Regulation on the Protection of Groundwater Against Pollution and Deterioration (Official Gazette Date/Number: 07.04.2012/ 28257) (Annex – 3)	Nitrate: 50 mg/L Total Pesticide: 0.5 µg/L For the other parameters given below (included in Annex-3 of the Regulation) no limit value is defined. Ammonium Arsenic Mercury Conductivity Cadmium Chloride Lead Sulfate Tetrachloroethylene Trichloroethylene Salinity	WBG General EHS Guidelines: Environmental Wastewater and Ambient Water Quality	Environmental-Wastewater and Ambient Water Quality mention that: 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. Although there is a national regulation, no limit value is set in the regulation. So, limit values for surface water are used for the assessment.	Nitrate: 50 mg/L Total Pesticide: 0.5 µg/L For the other parameters (Ammonium, Arsenic, Mercury, Conductivity, Cadmium Chloride, Lead, Sulfate, Tetrachloroethylene, Trichloroethylene, Salinity) limit values defined for the surface waters will be used.
6	Soil Quality	The Regulation on Soil Pollution Control and Point Source Contaminated Fields (Official Gazette Date/Number: 08.06.2010/27605, revised in the Official Gazette Date/Number 11.07.2013/28704), Annex-2).	[4]Antimony: 31 mg/kg Arsenic: 0.4 mg/kg Boron: - Cadmium: 70 mg/kg Chromium (VI): 235 mg/kg Copper: 3129 mg/kg Lead: 400 mg/kg Mercury: 23 mg/kg Nickel: 1564 mg/kg Selenium: 391 mg/kg Silver: 391 mg/kg Zinc: 23464 mg/kg Tin: 46929 mg/kg Titanium: 312857 mg/kg Total Petroleum Hydrocarbons (TPH): - Total Organic Halogens (TOX): -	WBG General EHS Guidelines: Environmental	Since limit values regarding soil quality are not given at WBG General EHS Guidelines: Environmental, compliance with National Standards will be ensured.	Antimony: 31 mg/kg Arsenic: 0.4 mg/kg Boron: - Cadmium: 70 mg/kg Chromium (VI): 235 mg/kg Copper: 3129 mg/kg Lead: 400 mg/kg Mercury: 23 mg/kg Nickel: 1564 mg/kg Selenium: 391 mg/kg Silver: 391 mg/kg Zinc: 23464 mg/kg Tin: 46929 mg/kg Titanium: 312857 mg/kg Total Petroleum Hydrocarbons (TPH): - Total Organic Halogens (TOX):-

Social Standards						
No	**Topic**	**National Laws / Regulations**	**International Standards**	**Project Standards**	**Non-Compliances /Corrective Actions[5]**	**Targets**
1	Labor and working conditions	Labor Law (No. 4857), published in the Official Gazette no. 25134 dated 10 June 2003	**ESS2** Labor and Working Conditions	**ESS2** Labor and Working Conditions ESF Guidance Note 2 Labor and Working Conditions Labor Management Procedures of the OIZ project	Gaps between national legal standards and WB ESG are the main non-compliances. Turkish national laws and regulations regarding labor and working conditions largely satisfies ESS2 requirements. Workers' grievance mechanism is the main gap between national legislative requirement and ESS2 and the requirement that all workers receive written contracts with job descriptions, working hours, wages etc. These gaps will be bridged through full compliance with the requirements in ESS2.	Comply with national laws / regulations, international standards

[4] The parameters are selected by considering the classification given in Regulation on Soil Pollution Control and Point Source Contaminated Fields Annex-2, Table-2. NACE Code:1089, NACE Code: 1330, NACE Code:2511 (defined in Pollution Control and Point Source Contaminated Fields). Also limit values given in Regulation on Soil Pollution Control and Point Source Contaminated Fields Annex-1 are taken into consideration.
[5] "Corrective Actions" are the standards to be followed in this project.

Social Standards						
No	**Topic**	**National Laws / Regulations**	**International Standards**	**Project Standards**	**Non-Compliances /Corrective Actions[5]**	**Targets**
					Labor Management Procedures (LMP) is developed as a part of E&S documents of the main project (TOIZsP). LMP will form the basis for the Contractor's Labour Management Plan(s) and will also provide guidance on the required mitigations or management implementations such as working conditions.	
2	Labor and working conditions	Law on Occupational Health and Safety (No. 6331), published in the Official Gazette no. 28339 dated 30 June 2012	**ESS2** Labor and Working Conditions	**ESS2** Labor and Working Conditions ESF Guidance Note 2 Labor and Working Conditions WBG "Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution"	Occupational Health and Safety plan, risk assessment, emergency response plan, explosion protection document will be prepared.	Comply with national laws / regulations, international standards.
3	Labor and working conditions	Regulation on Contractors and Sub-contractors, published in the Official Gazette no. 27010 dated 27 September 2008	**ESS2** Labor and Working Conditions	**ESS2** Labor and Working Conditions WBG "Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution" Labor Management Procedures of the OIZ project	Labor Management Procedures (LMP) is developed as a part of E&S documents. LMP will form the basis for the Contractor's Labour Management Plan(s) and will also provide guidance on the required mitigations or management implementations such as working conditions.	Comply with national laws / regulations, international standards.
4	Community Health and Safety	Law on Occupational Health and Safety (No. 6331), published in the Official Gazette no. 28339 dated 30 June 2012	**ESS4** Community Health and Safety	**ESS4** Community Health and Safety ESF Guidance Note 4 Community Health and Safety English WBG "Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution"	Project level management of specific risks such as labor influx, sexual exploitation and abuse and sexual harassment are the key gaps. The plans such as Traffic Management Plan and Community Health and Safety Plan etc. will be prepared.	Comply with national laws / regulations, international standards.
5	Stakeholder Engagement	Laws on Right to Information (No. 4982), published in the Official Gazette no 25269 dated 24 October 2003	**ESS1**0 Stakeholder Engagement and Information Disclosure	**ESS2** Labor and Working Conditions **ESS 10** Stakeholder Engagement and Information Disclosure ESF Guidance-Note 10 Stakeholder Engagement and Information Disclosure English	Effective and transparent stakeholder engagement is the main gap in terms of ESS10 requirement. Within this scope, a Stakeholder Engagement Plan is required which will identify the different stakeholders (project-affected parties and other interested parties including disadvantaged or vulnerable groups) and provide a plan for stakeholder engagement throughout the project. Stakeholder engagement should be a continuous process.	Comply with national laws / regulations, international standards.
6	Environmental and Social Risks and Impacts	Regulation on the Environmental Impact Assessment (EIA) published in the official Gazette no. 31907 dated 29 July 2022	**ESS1** Assessment and Management of Environmental and Social Risks and Impacts	**ESS1** Assessment and Management of Environmental and Social Risks and Impacts	Robust social risk assessments and required plans addressing relevant mitigations are the main gaps between Turkish regulation and ESS1.	Comply with national laws / regulations, international standards.

Health and Safety Standards						
No	**Topic**	**National Standards/ Requirements**	**Limit Values in National Legislation**	**International Standards/ Requirements**	**Limit Values in International Legislation**	**Project Standards**
1	Drinking Water Quality	Regulation on Water Intended for Human Consumption published in the official Gazette no. 25730 dated 17 February 2025	Given in Annex-1 of the Regulation on Water Intended for Human Consumption; **Microbiological parameters** E. coli: 0/250 ml Enterococci: 0/250 ml Coliform bacteria: 0/250 ml P. aeruginosa: 0/250 ml Anaerobic spore sulfite-reducing bacteria: 0/50ml **Chemical parameters** Acrylamide: 0.1 µg/L Antimony: 5.0 µg/L Arsenic: 10 µg/L Benzene: 1.0 µg/L Benzo(a)pyrene: 0.010 µg/L Boron: 1 mg/L	WBG General EHS Guidelines: Community Health and Safety	The fourth edition of the World Health Organization's (WHO) Guidelines for drinking-water quality (GDWQ)	Comply with national laws / regulations, international standards.

Health and Safety Standards						
No	**Topic**	**National Standards/ Requirements**	**Limit Values in National Legislation**	**International Standards/ Requirements**	**Limit Values in International Legislation**	**Project Standards**
			Bromate: 10 µg/L Cadmium: 5.0 µg/L Chromium: 50 µg/L Copper: 2 mg/L Cyanide: 50 µg/L 1,2-dichloroethane: 3.0 µg/L Epichloridine: 0.10 µg/L Fluoride: 1.5 mg/L Lead: 10 µg/L (applied as 25 µg/L for drinking-use water until 31 December 2012) Mercury: 1.0 µg/L Nickel: 20 µg/L Nitrate: 50 mg/L Nitrite: 0.50 mg/L Pesticides: 0.10 µg/L Total pesticides: 0.50 µg/L Polycyclic aromatic hydrocarbons: 0.10 µg/L Selenium: 10 µg/L Tetrachloroethene and trichloroethene: 10 µg/L Trihalomethanes-total: 100 µg/L (applied as 150 µg/L for drinking-use water until 31 December 2012) Vinyl Chloride: 0.50 µg/L			

4 METHODOLOGY

The Project's scope includes the preperation of an Environmental and Social Management Plan (ESMP) in compliance with the ESMF of the TOIZsP and WB ESF. Furthermore, while ESMP is not required by national legislation, compliance with national legislation requirements is evaluated while assessing relevant sections of the plan. As a result, this ESMP has been prepared to assess and identify the adverse potential environmental and social impacts and risks arising from the Project's development, as well as to recommend mitigation measures for significant adverse environmental and social impacts/risks. It also describes the monitoring and institutional requirements required to implement this Plan.

The goal of impact assessment and mitigation is to identify and evaluate the significance of potential impacts (positive or negative) and risks on identified receptors and resources using defined assessment criteria; to develop and describe the measures that will be taken to avoid or minimize any potential adverse effects while enhancing potential benefits; and to report on the significance of residual impacts that remain after mitigation.

The impact assessment took into account the obtained data from the desk research as well as the outcomes of site visits. The assessment of environmental and social impacts/risks has been done based on the criteria presented below, mostly using expert judgement, appropriate standards, and guidelines:

- **Nature of the impact:** Positive (+), Negative (-)
- **Type of Impact:** Direct, Indirect, Cumulative
- **Extent/area of Impact:** On-site/project footprint, Local, Regional, National
- **Duration of Impact:** Short term, Mid-term, Long term, Permanent
- **Likelihood of Impact Occurrence:** Very likely/certain, Likely, Unlikely

The magnitude and severity of the adverse impacts have been assessed based on the criteria given above and significance of the impacts has been determined based on this assessment and sensitivity of the receiver/source exposed to the impact, as much as possible. The matrix given in Table 6 combines the sensitivity information with the magnitude of impacts. The significance of the impact is first designated without mitigation measures and then evaluated with proposed mitigation measures. This evaluation serves to determine the significance of the residual impacts (impact left after employing mitigation measures).

Table 6 Impact Significance Matrix*

Sensitivity of Receptor	Magnitude of Impact			
	High	**Medium**	**Low**	**Negligible/None**
High	High	High	Medium	Negligible/None
Medium	High	Medium	Low	Negligible/None
Low	Medium	Low	Low	Negligible/None

** Adapted from Scottish Natural Heritage – A handbook on environmental impact assessment, 2013.*

An ESMP development methodology involves a systematic process to ensure comprehensive assessment, management and mitigation of environmental and social impacts throughout the life cycle of a project.

Desk Study: It starts with a desk study in which preliminary information is collected by examining the existing literature, reports and data regarding the project area and its surroundings.

Data Collection: Conducting comprehensive data collection involving a variety of sources, including environmental, social and geographic data. This phase includes data from government agencies, existing studies, and private research.

Site-Specific Data Collection Approach: The choice of measurement points is justified by various factors. This includes consideration of proximity to project activities, potential impact zones, and

ecological significance. The rationale lies in ensuring representative coverage of critical areas for accurate assessment of potential impacts.

Area of Influence Definition and Justification: Defining the project's impact area includes determining the geographical area likely to be affected by project activities. The justification is based on scientific methodologies and knowledge of the project's potential impacts on the environment and surrounding communities.

Site Visits and Surveys: Field visits are crucial to make first-hand observations and verify existing data. Surveys conducted during visits help understand local conditions, verify data accuracy, and identify potential environmental and social impacts.

Stakeholder Consultations: Direct stakeholders, such as local communities and businesses, are consulted to understand their concerns and needs. Indirect stakeholders, such as NGOs or government bodies, provide valuable insight into wider social and environmental outcomes.

Impact Assessment Methodology: A comprehensive impact assessment methodology is used to assess potential environmental and social impacts. A comprehensive methodology is used to assess environmental and social impacts, taking into account factors such as air and water quality, biodiversity, socio-economic aspects, etc.

Mitigation Measures Definition: Once impacts are identified, mitigation measures are designed based on the severity and nature of these impacts. The approach involves recommending specific actions to minimize, prevent or compensate for adverse impacts. Mitigation measures are designed to ensure compliance with local regulations and international standards in accordance with stakeholders' concerns and project feasibility.

This structured approach within an ESMP ensures a thorough understanding of potential impacts and the implementation of effective mitigation strategies for sustainable project development.

5 ENVIRONMENTAL BASELINE OF THE PROJECT

5.1 Project Location

The Uşak Leather Mixed OIZ (Organized Industrial Zone) is situated in the Muharremşah Neighborhood within the Uşak Province Central District. Uşak Province Central District itself spans an area of 1366.5 square kilometers and has an elevation of 919 meters above sea level. The Uşak Leather Mixed OIZ, which was situated on an area of 284.18 ha, has a total of 306 industrial parcels and is located southwest of the Kütahya-Uşak Highway.

The sub-project consists of installing eight solar power plants, which are as follows:

- A carport with 445.5 kWp solar panels will be established on parcel 188/12.
- A rooftop solar power plant with 79.2 kWp will be established on the Fire Brigade building on parcel 188/11,
- A rooftop solar power plant with 1,265 kWp will be established on UBDİT[6] building on parcel 188/12 (see Chapter 12),
- A rooftop solar power plant with 30.8 kWp will be installed on UKOIZ Administrative building on parcel 355/1,
- A rooftop solar power plant with 280.5 kWp will be installed on UKOIZ Social Facilities buildings on parcel 356/1,
- A ground-mounted solar power plant with 281.6 kWp will be established on the land beside the pumping station A2 on parcel 184/5,
- A ground-mounted solar power plant with 578.6 kWp will be established on the land beside the pumping station PID on parcel 153/5,
- A ground-mounted solar power plant with 721.6 kWp will be established on the land beside the pumping station B4 on parcel 159/5.

The total project area is estimated to be around 3.06 ha land and is owned entirely by Uşak Leather Mixed OIZ. The project does not require land acquisition. The project consists of four rooftop solar power plants, a carport with solar panels, and three land type solar power plants with power output ranging from 30.8 kWp to 1265 kWp and is in line with the approved revised OIZ land use plan.

All parcels have been owned by the OIZ since 1996. All parcels, except for Parcel no.159/5, are mortgaged in exchange for the building on them, based on the regulation on the complete or partial gratuitous allocation of parcels located in OIZs. The project does not require land acquisition (see Annex 1). Project location map presented in Annex-2 Figure 20.

Determining the area of influence (AoI) for a solar power plant involves identifying the geographic region and environmental, social, and economic factors that could be impacted by the project. This includes assessing the project site and surrounding buffer zones for potential effects on land use, water resources, biodiversity, and local communities. The AoI also considers the impact of related infrastructure, such as distribution lines, and the cumulative effects of other nearby developments. Stakeholder consultation and continuous monitoring are crucial to refining the AoI and mitigating any negative impacts throughout the project's lifecycle. For the Solar Power Plants Project of Uşak Leather Mixed OIZ, an attempt has been made to determine the AoI to cover areas that may be exposed to direct or indirect impacts resulting from the construction and operation of the facility. A 250 m buffer zone was drawn from each of the project parcels and a single polygon was defined to include these buffer zones. The entire defined polygon is located within Muharremşah Neighborhood. When the distances of SPP parcels to other neighborhoods are examined, it is determined that the closest neighborhood is Yapağılar neighborhood, which is approximately 2.9 km away from parcel 159/5. Accordingly, the selected Area of Influence is centered on Uşak Leather Mixed OIZ and sub-project parcels and covers the borders of Muharremşah neighborhood where the OIZ is located. As a result,

[6] UBDİT: Uşak Büyükbaş Deri İşleme Tesisi / Uşak Cattle Leather Processing Plant

the area of influence of the Project was determined as the Muharremşah neighborhood boundary and there was no further need to include other neighborhoods in the vicinity. This deliberate selection is based on determining the potential of project activities to directly and indirectly affect environmental conditions, and the stakeholders within the surrounding areas. The Project's Area of Influence is given in Annex-2 Figure 33.

5.2 Land Use

The area sizes to be used within the scope of the project are given in the previous section. No expropriation or land acquisition is required within the scope of the project.

Approximately 63.98% of the total area of the OIZ is used for industrial purposes, and the remaining is used for other facilities. Table 7 gives the distribution of land use referring to the spatial plan. The proposed project is planned on one of the OIZ parcels (industrial parcel), which is owned by the OIZ and OIZ's own Uşak Cattle Leather Processing Plant (UBDİT) operates, on three of the OIZ's Administrative Facility and Social Areas and on three of the Technical Infrastructure Areas.

Table 7 Distribution of Land Use

Types of Land Uses	Area (ha)	Percentage (%)
Industrial Area	181.82	63.98
Administrative and Social Facility Area	3.37	1.18
Sports Facility Area	0.53	0.19
Technical Infrastructure Area	12.27	4.32
Transformer Area	0.23	0.08
Wastewater Treatment Plant Area	9.44	3.32
OIZ Trading Area	1.47	0.52
OIZ Fuel and Service Station Area	1.26	0.44
Park Area	2.92	1.03
Health Protection Tape Area	24.22	8.52
Reforestation Area	5.35	1.88
Road and Auto Park Area	41.31	14.54
Total	**284.18**	**100**

Around the OIZ, the predominant land use in the surrounding area is industrial zones, whereas residential and agricultural uses are also observed.

Within the scope of the sub-project, a ground-mounted solar power plant will be established on 3 parcels, which have grasses, scrubs and trees. There are 25-30 coniferous trees on parcels 184/5 and 153/5 while there are a few fruit trees on parcel 159/5. It was learned from the residents of the nearby İspiroğlu Farm that no one made a profit from the fruit trees. Topsoil stripping will be required for these parcels.

According to land use map prepared based on Environmental Master Plan for Uşak planning area, the Project Area shows Organized Industrial Zone. The land use map according to Environmental Master Plan is presented in Annex-2 Figure 23.

5.3 Topography

The topography of Uşak is characterized by mountains to the northern, northeastern and eastern parts of the province, and plains with altitudes below 1000 meters to the southwest.

The Uşak Leather Mixed OIZ is situated in the Inner Western Anatolia Region, which forms a passage between the Aegean Region and the Central Anatolia Region, such as the neighboring provinces of Kütahya and Afyonkarahisar. In order to better understand the topography, a regional Digital Elevation Model (DEM) was generated. The Digital Elevation Model (DEM) map including the A-A' section profile in SW-NE direction is also shown in Annex-2 Figure 24.

According to the Digital Elevation Model created, the highest point of the region is approximately 970 m and the lowest point is located at an altitude of approximately 852 m.

5.4 Geology

The geology of Uşak, located in the Uşak Province Central District of Türkiye, is situated within in the southern part of the Banaz-Sincanlı-Dumlupınar Neogene basin in the Banaz-Hocalar (Uşak) and Dumlupınar (Afyon) triangle in the inner Aegean region in Western Anatolia.

The Project area is an approximately E-W (east-west) trending basin bounded by metamorphic basement rocks from the south and volcanites from the east of the Banaz-Sincanlı Neogene basin. The Banaz basin, which is connected with the NE-striking Uşak basin, shows similar stratigraphic features with the Uşak Neogene sequence for the most part.

In the south of the Banaz-Sincanlı basin, shales and marbles consisting of low-grade metamorphics belonging to the Menderes massif are located. The basin margin faults, which border the Banaz-Sincanlı basin from the south and north and extend approximately in the east-west direction, are probably growth faults separating the Neogene sediments from the metamorphic basement rocks in the region.

The Neogene sediments filling the Banaz basin are composed of fluvial, lacustrine and terrestrial (deposited in alluvial fan environment) sediments from bottom to top. The fluvial sediments are predominantly composed of cross-bedded pebbles, sandstones and accompanying mudstones and are conformably overlain by lacustrine sediments.

The lacustrine sediments, which are widely distributed especially in the southern parts of the Banaz Basin, are mostly composed of marl, calcareous mudstone and travertine. Sedimentary interfacies such as tuff, sandstone, pebble and claystone are observed locally within the lacustrine stack. Varv-like regular lamination and drying cracks are the usual sedimentary structures that can be observed in the lacustrine sediments. The generalized stratigraphic column section of the project area and its surroundings is given in Annex-2 Figure 25.

According to the project information file, the Project area surroundings has the rock units that are categorized into two main groups. These are Palaeozoic-Mesozoic aged metamorphic basement rocks and Cenozoic aged rock units. According to the analysis made with the help of MTA General Directorate's Earth Sciences Map Viewer and Drawing Editor programme, it was seen that the project area consists of Miocene Lake Carbonates and terrestrial sediments. Geology map of project area and its surroundings is given in Annex-2 Figure 26.

5.5 Climate

Uşak experiences the influence of a Mediterranean climate and the continental climate of Central Anatolia. The summers are hot, and the winters are cold, with temperature variations typically ranging from -1 to 30 °C throughout the year. August registers the highest average temperature at 30 °C, while January records the lowest at -1 °C. The overall annual average temperature is 12.6°C.

The city witnesses distinct precipitation patterns, with the highest monthly total precipitation occurring in December, reaching 84.6 mm. In contrast, the lowest precipitation is recorded in August, amounting to 12.6 mm. The annual average precipitation for Uşak is 557.6 mm, contributing to the region's overall climate characteristics (Turkish Meteorological Service, 2024).

The prevailing wind in Uşak is from the west and the second prevailing direction is north and east. Detailed meteorological statistics are presented in Table 8.

Table 8 Long Term Meteorological Data of Uşak Province (1939-2023)

Parameter	January	February	March	April	May	June	July	August	September	October	November	December	Annual
	Last Climate Period (1939-2023)												
Avg. Temperature (°C)	2.3	3.3	6.1	10.9	15.6	19.9	23.4	23.5	19.2	13.7	8.4	4.3	12.6
Highest Avg. Temperature (°C)	6.9	8.3	11.7	16.8	21.9	26.5	30.4	30.7	26.4	20.3	14.2	8.9	18.6
Lowest Avg. Temperature (°C)	-1.2	-0.6	1.3	5.2	9.2	12.7	15.5	15.7	12.0	8.0	3.9	0.8	6.9
Avg. Sunshine Duration (hour)	3.9	4.6	5.5	6.8	8.8	10.9	11.8	11.3	9.7	7.3	5.3	3.8	7.5
Average Number of Rainy Days	11.33	10.06	9.84	9.39	8.93	4.87	2.42	1.73	2.87	6.07	7.44	11.55	86.5
Average Monthly Amount of Rain (mm)	73.4	66.7	58.0	50.9	48.0	27.2	16.5	12.6	18.6	42.2	58.9	84.6	557.6
Measurement Period (1939-2023)													
Highest Temperature (°C)	18.3	23.6	27.0	30.0	34.5	36.6	40.2	41.9	36.6	32.6	26.6	21.8	41.9
Lowest Temperature (°C)	-19.9	-15.0	-12.5	-6.2	-1.0	2.9	7.4	6.8	2.0	-4.8	-11.8	-18.9	-19.9

Source: Turkish State Meteorological Service, 2024.

5.6 Soil Quality

Turkish General Directorate for Rural Services database defines the land use capabilities in eight (8) different classes as summarized in Table 9. These classes represent the agricultural potential of the soil. In this classification system, soils are categorized between Class I, which represent the arable lands on which agricultural activities can be conducted in the most efficient, economic and simplest way without causing erosion, and Class VIII, which represent the lands that are not arable, cannot even be used as grassland or forest areas but support only wildlife development or can be used as resting area or national park by human. Characteristics of each class are summarized in Table 9 (*Former Ministry of Agricultural and Rural Services, July 2008*).

Table 9. Agricultural Potentials Represented by Different Land Use Capability Classes and Their Characteristics

Class	Agricultural Potential	Definition of Land Use Capability
Class I	Agricultural lands suitable for agricultural soil cultivation	Class I lands are; flat or near flat, deep, fertile and easily cultivated so that the conventional agricultural methods can be applied; potential for water and soil erosion are minimal; have good drainage; are not prone to flood damage exposure; suitable for hoe plants and other intensively grown crops; Class I irrigated lands with low precipitation rates have slope values less than 1% slope, loamy structure, good water holding capacity and medium level permeability.
Class II		Class II lands are decent lands that can only be processed after taking some special precautions. Their difference from Class I lands is one or more of the limiting factors such as slight slope, moderate exposure to erosion, moderately thick soil, exposure to occasional moderate floods and a moderate level of moisture that can easily be isolated.
Class III		Class III lands are moderately good lands for hoe plants which can generate solid income provided they are utilized with a good cropping system and proper agricultural methods. Moderate slope, increased erosion sensitivity, excessive moisture, exposed soil, presence of stones, having a lot of sand and/or gravel, low water holding capacity and low yield are properties of this type of land.
Class IV		Class IV lands can be constantly utilized as meadows. Field crops can also be occasionally grown. High levels of slope, bad soil characteristics, erosion and climate are the factors limiting agricultural activities on these lands. Soils with low slopes and poor drainage are also classified as Class IV lands. These soils are not subject to erosion, but they are unsuitable for growing many agricultural products as they have a low yield and a tendency to suddenly dry up in the spring. In semi-arid regions, cropping systems incorporating legumes are generally not possible due to climate.
Class V	Agricultural lands not suitable for soil cultivation	Class V lands are reserved for long-life plantations such as meadows and forests as they generally are unsuitable for cultivated plants. A few factors such as stony structure and sogginess hinder cultivation here. The land is flat or near-flat. It is not subject to an excessive amount of wind and water erosion. Grazing and tree logging activities can be carried out on condition that a good soil cover is constantly maintained.

Class	Agricultural Potential	Definition of Land Use Capability
Class VI		Class VI lands require moderate precautions even when they are used as forest or meadow since they have quite a bit of slope and are subject to severe erosion. Exposed, soggy or very dry conditions make this type of land unsuitable for cultivation.
Class VII		Class VII lands have high slope, are stony and have been subject to violent erosion. Exposed soils, dry and/or some unfavorable conditions and swamps can be classified as Class VII soil. These can be used as forest or meadow without showing due care. If the vegetation on these soils diminishes, erosion can get quite violent.
Class VIII	Non-arable lands	Class VIII lands exhibit features that prevent them from being used as forest, meadow or cultivated land. This type of land is habitat to wild life and can also be used for recreational purposes or as catchment basins for streams. These include lands containing marshes, swamps, deserts as well as areas of high mountainous regions, rocky lands or lands with very deep craters.

Source: Former Ministry of Agricultural and Rural Services, July 2008

The Major Soil Group Map of the Ministry of Agriculture and Forestry was analyzed through the Atlas Portal (atlas.gov.tr) of the Ministry of Environment, Urbanization and Climate Change. Although the major soil group of the project area has not been defined, the surrounding area of the OIZ is generally located on Brown Forest Soil and Brown Soils (see Figure 10). In terms of land cover classification, its status was examined according to the Corine 2018 database. All of the project parcels have the status "Industrial and Commercial Units (121)" (see Figure 11).

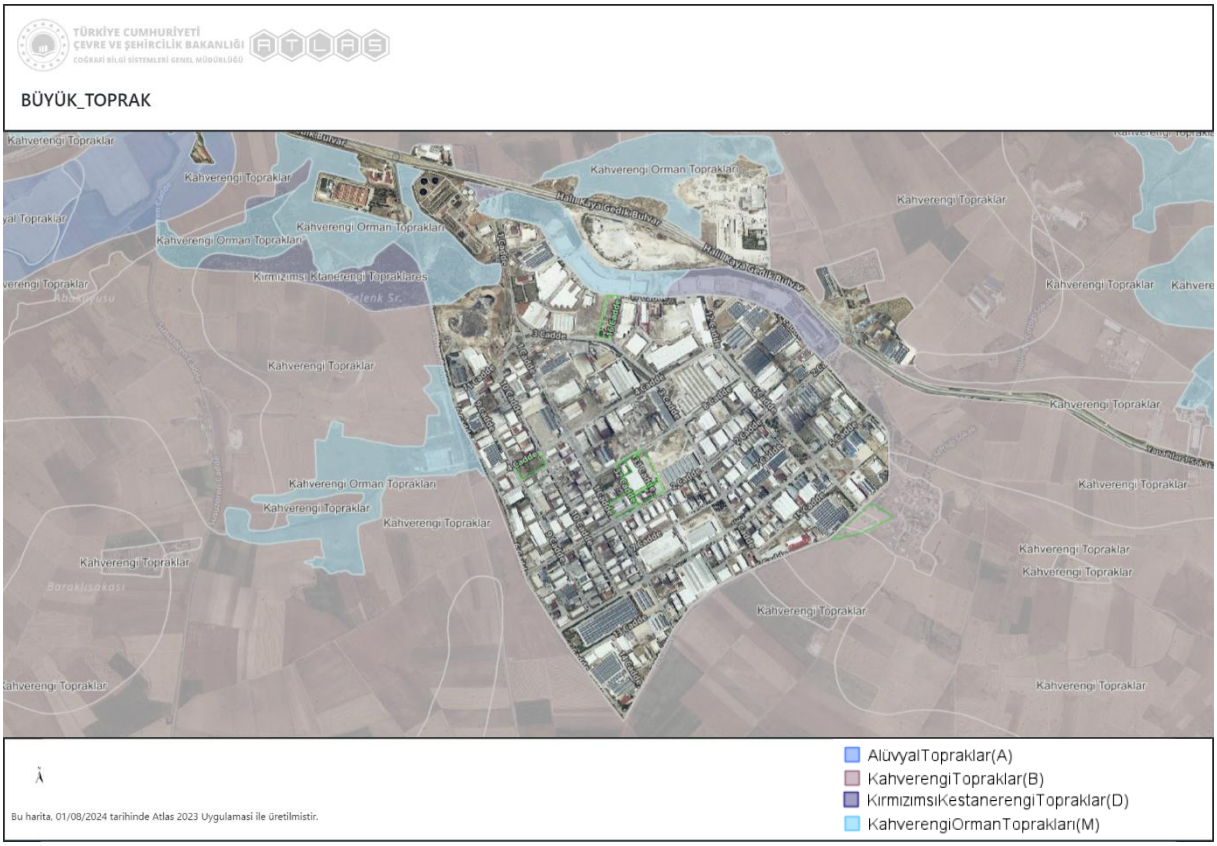

Figure 10 The Major Soil Group Map of the project area

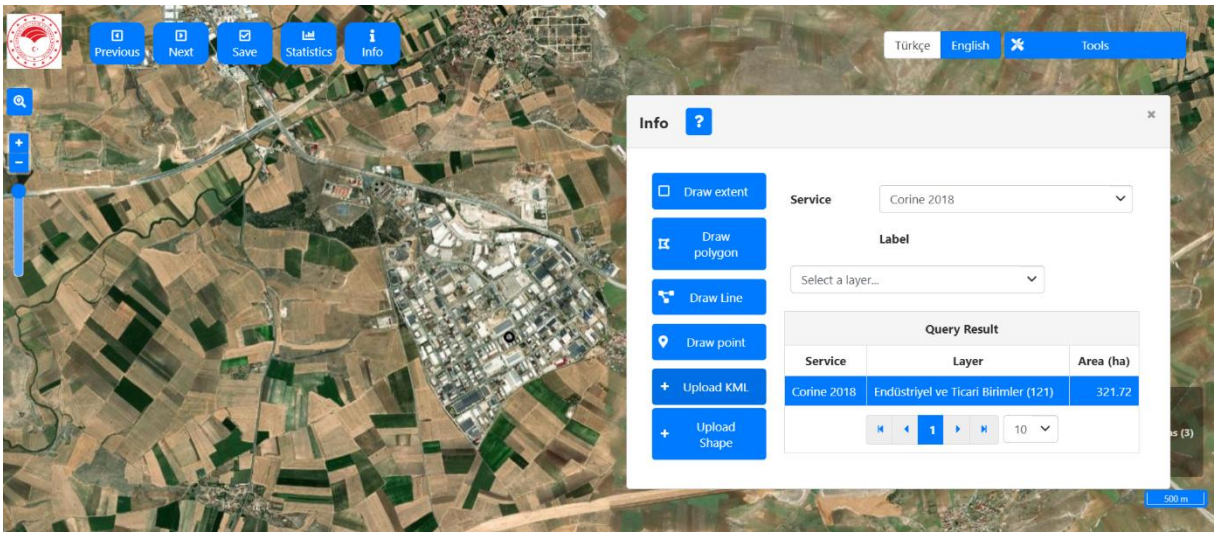

Figure 11 Corine 2018 Database

During the site visit conducted on 13.06.2024, no pollution was detected by visual observation. However, it was observed that weeds in the project area were deliberately burned. It is known that the burning of weeds disrupts the physical, chemical and biological properties of soils, the resulting smoke pollutes the air as well as damaging approximately 70% of the microorganisms in the 510 cm depth of the soil, the excess carbon resulting from stubble burning causes nitrogen deficiency in the soil and requires the addition of excess nitrogen to the soil, which further increases the pollution levels of water.

Figure 12 Burning of weeds in project area

There is an improper landfill area which was used to store treatment sludge, leather industry wastes and textile industry waste within the OIZ boundaries. As a result of gas compaction in the improper landfill within the OIZ boundaries, the landfill embankment collapsed on 4th May, 2018. The waste migrated down to the storage area and reached the public highway through the wastewater treatment plant area. After the landfill embankment failure and after the investigations carried out by the Ministry of Environment, Urbanization and Climate Change, the waste site was determined as a Site to be Monitored referring to the Regulation on Soil Pollution Control and Point-Source Contaminated Sites.

As of 2018, many soil and groundwater samples were taken and analyzed. In 2019, a Site Status and Risk Assessment Report was prepared and a Site to be Cleaned in 2020 was decided. After the Cleanup Activity Planning Evaluation Report was approved by the commission, Cleanup Activity Implementation and Monitoring activities started in 2021. In July 2022, two separate soil quality analyses were conducted by the OIZ's contracted consultant. These analyses, covering the project site and its surroundings, confirmed that no soil contamination exists at the specific project site under current conditions. In February 2024, the 5th monitoring report was completed and according to the report, Arsenic is still the target pollutant identified at the site (see Annex 17). This contamination is limited to

the improper landfill area and does not extend to the project site. There is no active cleanup/remediation work at the site. The reason for this is the landslide risk at the site. A program to address the landslide and subsequent cleanup activities has been developed, but its implementation is currently on hold due to safety concerns. This program will be revisited once the landslide risks are sufficiently mitigated. The OIZ authorities have confirmed that the site-specific cleanup and remediation planning process will be reinitiated as soon as these risks are under control. In parallel with the landslide control works, the planning process of the cleanup / remediation works to be carried out at the site needs to be organized. It is confirmed that no Solar Power Plants (SPPs) are planned on or near this improper landfill area. The project layout has been carefully designed to avoid any potential interaction with this site.

5.7 Air Quality and Odor

OIZs emit large amounts of greenhouse gases, especially carbon dioxide (CO_2), methane (CH_4), nitrogen oxides (NO_x), sulfur dioxide (SO_2) and fugitive volatile organic compounds (VOCs) that contribute to climate change. Since the project area is in the organized industrial zone, there are many companies generating air emissions.

To understand the baseline air quality of the project area, data from continuous monitoring studies by MoEUCC were examined. In the air quality analysis, the data of the station located in Uşak district, which is the closest monitoring station to the project area, was used. Data obtained from Uşak Air Quality Monitoring Station[7] (between 31.07.2023-31.07.2024), WBG EHS Guidelines Limit Values and limit values according to Turkish Legislation are presented in Table 10. According to the data in the table, the annual average and 24-hour (maximum) PM_{10} concentration, 8-hour daily maximum O_3 concentration, and annual average NO_2 concentration are above the limit values of both WBG EHS Guidelines and the Turkish Legislation. Daily maximum SO_2 concentration was within the national legislation; however, was over the limit value of the WBG EHS Guidelines. Although hourly NO_2 concentration in the air is below the limit values, it is close to them. The high annual average values in air pollutant concentrations are thought to be due to the fact that Uşak is a highly industrialized city.

Table 10 Air Quality Measurements Result

Parameter	Averaging Period	WBG EHS Guideline Limit Value in µg/m^3	Regulation on the Assessment and Management of Air Quality Limit Value in µg/m$_3$	Uşak Air Quality Monitoring Station
SO_2	24-Hour	20	125	43.47
	10-Minute	500	-	-
PM_{10}	1-Year	20	40	34,34
	24-Hour	50	50	54.00
$PM_{2.5}$	1-Year	10	-	-
	24-Hour	25	25	
NO_2	1-Year	40	40	41,78
	1-Hour	200	200	186,06

Source: https://sim.csb.gov.tr/STN/STN_Report/StationDataDownloadNew

There have been public complaints about heavy odor. The OIZ authorities stated that the odor removal units were installed in the wastewater treatment plant's odor-generating sections in 2013; thus, the odor emitted to the environment was reduced. However, two of the six fines issued since 2018 are related to odor complaints as a result of inspections in 2020 and 2021 (source: E&S Screening Form).

5.8 Noise

Environmental noise in Türkiye is regulated by the Regulation on Environmental Noise Control (RENC) which is published in the Official Gazette dated 30.11.2022 and numbered 32029. This regulation is intended to ensure that precautions are taken to prevent disturbance to peace and tranquility, and to

[7] Air quality monitoring station coordinates: 709265.60 E 4282202.47 N. The approximate distance to the project area is 7.5 km.

ensure the physical and mental health of persons potentially exposed to environmental noise. For this purpose, the regulation sets out requirements regarding noise mapping, acoustic reporting, environmental noise assessment for determination of noise exposure levels and preparation and application of action plans to prevent or mitigate negative impacts of noise exposure on human being and the environment.

Noise is expected to be generated during the land preparation and construction phase ("installation") of the Project, while noise may be generated during the operation phase within the scope of maintenance and repair activities. Project parcel 159/5 is located adjacent to İspiroğlu Farm. In our interviews with the farm residents, it was stated that they have no complaints about noise. There are no sensitive receptors such as health centers and schools near the Project Area. The nearest sensitive receptor is the mosque of İspiroğlu Farm, which is 200 meters away from parcel 159/5 and is used by 10-15 people (see Figure 32). Noise pollution is not considered to be a concern within the Project area of influence and therefore no baseline measurement is required. However, in the event of noise complaints during construction works, mitigation measures given in Chapter 8 should be implemented.

5.9 Water Resources and Use

Uşak Leather Mixed OIZ has been using groundwater resources. According to the Screening report, in the installation period including the commissioning, the available water by the OIZ system for the estimated water to be used during installation and commissioning was calculated to be around 268 m^3. OIZ management indicated that the nearest groundwater well of the OIZ is located 117 m of the sub-project land (7). The groundwater utilization certificate for these wells is given in Annex-12.

The wastewater treatment plant of the OIZ discharges its treated effluent to a drainage canal near the public highway. The proposed project area does not coincide with surface water or groundwater resources. The closest surface water is Kabaklar Creek, 1.5 km northwest, and the closest groundwater use is 1.1 km west at Uşak Open Penal Institution. OIZ has its closest groundwater well to the sub-project areas at 117 m north of the project land (7) (see Figure 13[8]). The distance to water resources map of Project is presented in Annex-2 Figure 34.

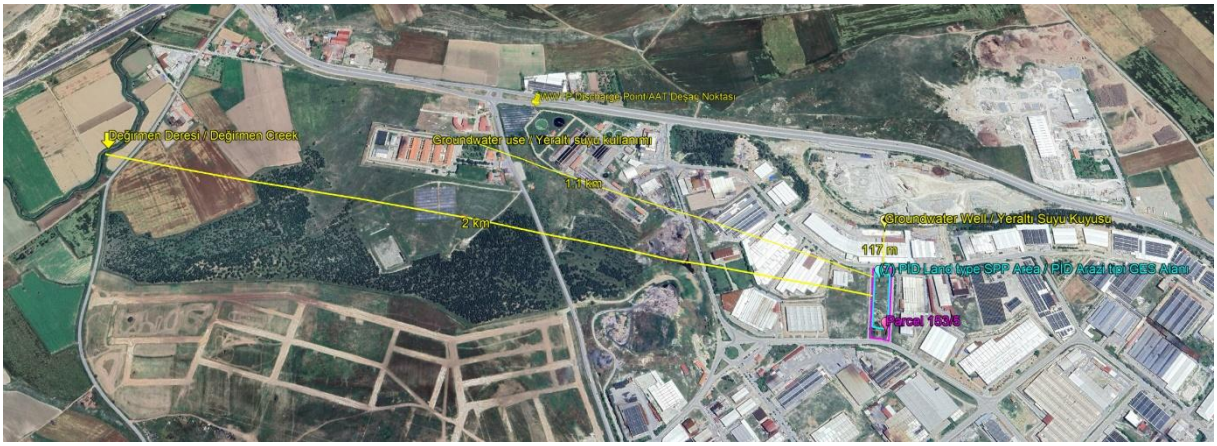

Figure 13 Closest Surface Waters to the project Area
Source: Screening Report

Following the landfill embankment failure mentioned in Chapter 5.6, the Soil Pollution Monitoring and Assessment Commission decided to conduct monthly groundwater quality monitoring at 7 locations[9]. It was informed by the OIZ management that, since December 2018, comprehensive soil and groundwater quality monitoring campaigns have been conducted under the supervision of authorities and contracted

[8] The nearest stream was shown as Değirmen Stream during the screening studies. As a result of our studies, it was understood that the nearest stream is Kabaklar Stream.
[9] Fire Brigade Kitchen Fountain Water, OIZ WWTP, Prison, Hocalar Village Hall, Koyunbeyli Primary School, Susuzören Primary School and Uşak-Ulubey Dutluca Village drinking water wells.

consultants**.** Arsenic has been named as a target pollutant[10] parameter while the Commission requires measurement of many parameters. The results of the risk calculations were compared with the regulatory limit values to assess whether the site poses a risk to human health. Considering the sum of cancer and non-cancer health risks for site workers and child residents, the site is classified as "Contaminated Site[11]". However, this classification is based on site-specific conditions and does not indicate any direct risk to the proposed project activities or its workers. Based on the results of the risk assessment, it was determined that the relevant pollution was caused by the Arsenic pollutant indicator parameter.

As highlighted in the Screening report, the groundwater quality analyses performed in 2019, 2020, 2021, and 2022 confirmed that no contamination was detected at the monitoring points. In July 2022, two soil quality analyses and six groundwater quality analyses were carried out, and in 2023, a monthly groundwater monitoring program was implemented by the OIZ's contracted consultant, further confirming the absence of contamination.

As a result of the February 2024 Site Cleanup Activity Implementation Monitoring Report, the table regarding the Decision of No Follow-up or Contaminated Site for 7 groundwater quality measurement points is presented in Annex-17. The proposed project area does not overlap with contaminated zones, and no project activities are planned near the affected areas. Therefore, no adverse impacts on the project or surrounding environment are anticipated.

5.10 Wastewater Management

The proposed Project, namely the Solar Power Plants, is planned on 8 different parcels within the OIZ boundaries and includes installation works for one carport, three rooftop solar power plants, three ground-mounted solar power plants and distribution lines connecting the solar power plants to the distribution centers.

Uşak Leather Mixed OIZ has been operating its industrial wastewater treatment plant since 1988 and disposing of its sludge with a high-water content following national regulations. All firms within the OIZ boundaries discharge their wastewater either treated or not to the Uşak Leather Mixed OIZ's sewage system ending with the OIZ's wastewater treatment plant with 24,000 m^3/day capacity. Wastewater and storm water connection controls of all enterprises within the OIZ are carried out to prevent rainwater entering the treatment plant.

As a result of the analysis of the instantaneous sample taken from the wastewater treatment plant discharge water in July 2021, it was determined that Total Kjeldahl Nitrogen was above the limit. In order to improve this parameter, the air transmission lines of the biological treatment unit have been renewed and it is stated that the desired oxygen values have been reached. However, the Screening Report states that "After the improvements, no nonconformity has been detected in analysed effluent samples." This information appears to be based on data prior to late 2023. Although the air transmission lines of the biological treatment unit were renewed in order to improve this parameter and it was stated that the desired oxygen values were reached, in line with the analysis results of 3 samples dated December 2023 and January 2024 by Uşak University Scientific Analysis and Technological Application and Research Center, it was determined that the Total Kjeldahl Nitrogen parameter given in Table 12 of the Water Pollution Control Regulation of WWTP Discharge Water was above the limit value (see Annex-18).

Wastewater to be generated during all phases of the Project will be treated at the existing wastewater treatment plant of the OIZ and discharged in compliance with legal discharge standards. Treated

[10] It is the parameter calculated above the limit value in terms of cancer risk, which led to the designation as a "Site to be Cleaned".
[11] It is important to note that the classification as a 'Contaminated Site' is based on the cancer risk calculations for arsenic levels, which led to its designation as a 'Site to be Cleaned.' This does not conflict with its current status as a 'Site to be Monitored,' as groundwater measurements are ongoing in the surrounding area."

wastewater will be discharged according to the limit values given for the 24-hour composite sample in "Water Pollution Control Regulation Table 19[12] - Discharge Standards of Mixed Industrial Wastewater to the Receiving Environment".

5.11 Waste Management

According to Environmental Law No. 2872, it is prohibited directly and indirectly to deliver, store, transport, or dispose of any types of waste and residues to the receiving environment in violation of the standards and methods established in the applicable regulation. Uşak Mixed Leather OIZ manages waste in compliance with the Waste Management Regulation.

OIZ collects domestic solid waste, and licensed private firms collect other types of waste (i.e., hazardous, recyclable) that are required to be collected by licensed private firms. OIZ management take the responsibility for collecting, temporarily storing, and disposing of the non-hazardous waste specific to the leather industry, which has been taken from the firms and transported to the transfer station within the OIZ boundaries. Some of the waste is then transported to a biogas facility for disposal and others to recycling firms, depending on the types of waste. In the upcoming period, as informed by the OIZ, these wastes will be disposed of by the waste incineration facility to be operated within the OIZ boundaries by a private firm.

There is an improper landfill area which was used to store treatment sludge, leather industry wastes and textile industry waste within the OIZ boundaries. As a result of gas compaction in the improper landfill within the OIZ boundaries, the landfill embankment collapsed on 04/05/2018. The waste migrated down to the storage area and reached the public highway through the wastewater treatment plant area. After the landfill embankment failure and after the investigations carried out by the Ministry of Environment, Urbanization and Climate Change, the waste site was determined as a Site to be Monitored referring to the Regulation on Soil Pollution Control and Point-Source Contaminated Sites. The Contaminated Site Evaluation and Monitoring Commission was established under the coordination of the Uşak Provincial Directorate of Environment, Urbanization and Climate Change. It has been stated that the OIZ Management continues the necessary procedures in line with the decisions taken by the Commission, which meets at least twice a year. The information provided in the Screening Report is mostly accurate, with the exception of the current status of the OIZ's improper landfill area. While it is true that the landfill has not been in use since October 2023, as per the decision of the Contaminated Field Monitoring and Evaluation Commission on 4th October 2023, additional steps have been taken since then. Specifically, a design project to strengthen the landfill was developed by a contracted firm in January 2024, and a construction firm has already been contracted to implement the landfill strengthening project. The implementation of the project is expected to be finalized in 2024, rather than leaving it to 2025 as previously indicated. Furthermore, the rehabilitation of the landfill site to prevent environmental contamination, as indicated by the OIZ representative, is planned to take place in 2025, with a detailed waste management plan to be prepared by Uşak Leather Mixed OIZ during the operation phase of the project. This plan should include the landfill reinforcement project to ensure the proper management of sanitary waste storage.

According to the Screening Report, the OIZ's improper landfill area has not been in use since October 2023 on the decision taken at the meeting of the Contaminated Field Monitoring and Evaluation Commission dated 4th October, 2023. To eliminate the risk of another collapse, a design project to strengthen the improper landfill was developed by a firm contracted in January 2024. Upon the completion of the design and after the tendering, a construction firm was contracted to implement the landfill strengthening project on site. The implementation of the landfill strengthening project is expected to be finalized in 2024. To prevent the waste site from contaminating the environment, OIZ representative indicated that a rehabilitation project will be developed, and the rehabilitation will be implemented on site in 2025. The status of the strengthening and rehabilitation project will be followed within the E&S documents to be prepared. A waste management plan will have to be prepared by Uşak

[12] Since 20% or more of the wastewater is mixed industry from the leather sector, Table 12 TKN limits in WPCR are applied.

Leather Mixed OIZ during the operation phase of the project. This plan should include the landfill reinforcement project prepared for the sanitary waste storage site.

Figure 14 Sanitary Waste Storage Area (Contaminated Site)

Due to the existing landslide risk at the sanitary landfill, no rehabilitation activities are carried out. It is necessary to organize the planning process of the cleanup/rehabilitation works to be carried out in the site in parallel with the landslide mitigation works. It is essential that the clearing/rehabilitation works are planned and carried out in coordination with the landslide control project.

5.12 Natural Disaster Potential

The project area was taken as the center point and the epicenter distribution of earthquakes with magnitude M≥4 that occurred between 1900 and 2023 within a circle with a radius of 50 km is shown in Annex-2 Figure 30. The project area was examined on the interactive earthquake hazard map published by Disaster and Emergency Management Presidency (AFAD) and it was determined that the maximum ground acceleration (PGA 475) of the project area was 0.266 g (see Figure 15). Therefore, it was concluded that the earthquake risk is low. Earthquake hazard map of Türkiye where the project area is marked is shown in the Annex-2 Figure 31.

Figure 15 Türkiye Earthquake Hazard Maps Interactive Web Application

5.13 Biodiversity and Protected Areas

Field studies of the biological environment of this Project Area and the potential impact area were carried out on 13th June, 2024 and details of the studies are given in Annex-6. The studies covered terrestrial environment, including flora and fauna species, vegetation and habitat descriptions. The study results are given in detail in Annex-6.

As a consequence of flora-fauna research conducted in and around the project area, terrestrial flora and fauna species have been identified and provided in Annex-6 in tables with Latin-English names, protection status, and endemism status. Additionally, EUNIS habitat classification has been completed, and the map is given in Annex-6.

As a result of the studies carried out within the scope of the project, it was determined that the project area is within the existing facility and is completely under anthropogenic impacts. There are industrial areas and settlements around the project area. Therefore, it is seen that the flora and fauna elements are very limited in the project area, while it has been determined that the flora and fauna of the surrounding area of the project area have deteriorated due to anthropogenic effects caused by human activities.

According to the flora list created by compiling the field studies carried out within the scope of the project and literature data, it has been determined that there are no endemic, protected and endangered plant taxa among the plant taxa found and likely to be found in and around the project area. The plant taxa in and around the project area are widely distributed throughout the province and this situation prevents the destruction that will occur within the scope of the project from causing irreparable consequences.

National protected areas and internationally recognized areas in the project area and its immediate surroundings have been researched and mapped (Annex-6). As a result, according to research conducted with current databases, there is no nationally protected area in and around the Project Area.

Since the level of anthropogenic impact is high in and around the project area, fauna species distributed in the area have previously left the region. The existing species consist of species adapted to anthropogenic impacts. In addition, it is predicted that the impact of the activity on fauna species will be minimal due to the absence of an endemic species among the identified fauna species, the mobility of fauna species and the presence of alternative habitats to migrate around the project area.

6 SOCIAL BASELINE OF THE PROJECT

The overall Study Area for the social impact assessment represents the potential Area of Influence (AoI) of the Project. This is 'the area over which significant effects of the Project could reasonably occur, either on their own or in combination with those of other developments and projects'.

The Project does not require land acquisition nor involve resettlement or physical displacement of any persons. The Project will not cause damage to the livelihood income of any households, vulnerable groups. The land where the power plant will be built on Parcel no.159/5 is observed to be used by a few industrialists, with the permission of the OIZ, for a certain period during the summer months to dry wool by laying it on the ground in a primitive manner. OIZ management considers that with the installation of the power plant, industrialists will have to move away from using this area, and the loss of income will be compensated by the OIZ, in accordance with ESMP (see Chapter 7.2.5). The Project does not require any land acquisition and the nearest settlement (İspiroğlu Farm) to the Project construction site is approximately 200 m. The Project's area of influence is defined as the boundaries of Muharremşah neighborhood. The Project's Area of Influence is given in Annex-2 Figure 33.

The nearest sensitive receptor is the mosque of İspiroğlu Farm, which is 200 meters away from parcel 159/5 (see Figure 32). It was stated by the mukhtar of Muharremşah that the mosque was being used by 10-15 people.

6.1 Demography and Population

The largest industrial sectors that provide employment in Uşak are the manufacture of textile products, manufacture of food products and furniture manufacturing sectors. There are 4 organized industrial zones in Uşak.

According to the Labor Market Research Uşak Province 2022 Final Report[13], the total number of employees of enterprises with 20+ employment in Uşak province has been determined as 39.155. Based on gender, 27.943 employees are men and 11.213 employees are women. According to the Social Security Institution (SSI) data for the period of July 2022, the number of workplace in Uşak is 10,134 and the number of insured employees working in these workplace is 74,338.

There is 1 settlement within the social Area of Influence (AoI) of the Project. The distribution of the existing male and female population of this settlement is given in Table 11.

Table 11 Population of Settlements at AoI

Settlement	Total	Female	Male	Female %	Male %
Muharremşah neighborhood	3,255	539	2,716	16.6	83.4

Source: TurkStat, 2023

During the site visit, the Mukhtar of Muharremşah neighborhood was interviewed and he stated that there has been no significant change in the population of the neighborhood in the last 5 years.

The gender imbalance among the permanent residents can be explained by the unique socioeconomic characteristics of the area. It is possible that the majority of the permanent population consists of male workers employed in industries or agricultural activities within the region, while female family members may reside elsewhere, possibly in nearby urban centers, due to better access to social services, education, or employment opportunities. This demographic trend reflects local patterns and dynamics rather than a typical household settlement structure.

6.2 Cultural Heritage

There are 242 archaeological sites, 2 urban sites and 2 historical sites in Uşak. There are 85 of these protected areas in the city center where the project is located. In addition, the province has a total of

[13] https://media.iskur.gov.tr/66933/usak.pdf

523 immovable cultural assets, of which 132 are Cultural Buildings and 245 are Civil Architecture Examples. As a result of the investigations carried out through the official portal of the Ministry of Culture and Tourism and the Environmental Master Plan, the archaeological heritage in the vicinity of the Project area is marked in Annex-2 Figure 27.

There is no known cultural heritage site and cultural resources in the project area or near the project site. Therefore, the Project will not cause alteration, damage, or removal of any known cultural heritage assets nor constrain community access to cultural sites. The closest cultural heritage to the Project area are Tahta Bridge and Muharremşah Bridge, which are 1.7 km and 1.8 km away from parcel 153/5, respectively. These bridges will not be used as crossing routes during the construction works of the Project.

6.3 Livelihood and Employment

Socio-Economic Development Index studies allow for determining the development index and trends of districts, provinces and regions as well as benchmarking. Socio-Economic Development Index studies allow for determining the development index and trends of districts, provinces and regions as well as benchmarking. According to the Socio-Economic Development List of Provinces and Regions Study (2017), Uşak is listed as the 29th most developed province out of 81 provinces and located within the 3rd degree-developed level (Acar, et al., 2019).

According to Provincial Gross Domestic Product (2021) data (TurkStat, 2023b), the industry sector has the largest share (24.71%) in Uşak. The industry sector is followed by production (18.26%) and real estate activities (14.81%).

According to the Socio-Economic Development Index of Districts Study (2022), Merkez district is listed as the 1st most developed district of Uşak (101 out of 973 districts of Türkiye) and located within the 2nd-degree development level (Acar, et al., 2022).

Agriculture and animal husbandry activities have an important place in Muharremşah neighborhood. Crops such as corn, beets, tomatoes, potatoes, barley and wheat are grown in the neighborhoods.

During the site visit, interviews were conducted with households living at İspiroğlu Farm, located 200 meters away from the project area. The interviewed individuals stated that they make a living through livestock farming. Since the project area is within the boundaries of the OIZ, they mentioned that they are not currently using the area and do not expect any negative impact on their livestock activities during the construction and operational phases of the Project.

6.3.1 Major Economic Activities in Settlements Located in the Project AoI

The mukhtar of the settlement in the Project impact area was interviewed. Information was obtained from the neighborhood Mukhtar about the main economic activities in the Project impact area. The main economic activities in the settlement are given in Table 14.

Table 12 Major Economic Activities in the Settlement Located in the Project AoI

Settlement	Primary Economic Activity	Secondary Economic Activity	Tertiary Economic Activity
Muharremşah neighborhood	Agriculture	Animal Husbandry	Pension

According to information provided by Uşak Leather Mixed OIZ management, Uşak Leather Mixed OIZ efforts to allocate employment opportunities to the local settlements.

6.4 Education and Health Services

Muharremşah neighborhood has a primary and secondary school.

There is no institution providing health services in Muharremşah neighborhood and residents go to other nearby neighborhoods.

Education, health centers, mosques and other sensitive receptors in AoI are shown in Annex-2 Figure 32.

6.5 Vulnerable Groups and Social Equity

Vulnerable groups refer to people who may be more affected by the potential negative impacts of the project or are less able to access information or get their voices heard and concerns raised. The characteristics of persons belonging to vulnerable groups are as follows:

- Individuals over 65 years of age living alone,
- Physically or mentally handicapped,
- Those who have a chronic illness or are bedridden,
- Women-headed households,
- Poor people who live on state or association aid,
- Refugees,
- Ethnic minority groups,
- Nomads.

According to the information provided by the mukhtar of the neighborhoods, information about vulnerable/disadvantaged individuals/groups is presented in Table 15.

Table 13 Vulnerable Groups at AoI

Settlement	Individuals over 65 years of age living alone	Poor families*	Physically / Mentally disabled
Muharremşah	2	15	5

* Households, which are depended on social and economic support are defined as Poor Families by headmen.

6.6 Infrastructure Services

The following table presents the infrastructure services in the neighborhoods in the social AoI.

Table 14 Infrastructure Services of the neighborhoods in the social AoI

Settlement	Water Resource	Irrigation Resource	Sewerage System	Domestic Waste Management	Mass Transportation Vehicle
Muharremşah	Drilling	Drilling	Sewage system	Collected by the special provincial administration	Municipality buses and private cars

6.7 Traffic and Transportation

Transportation to the construction site will be made via the existing road in the current OIZ area.

The project area is located within Uşak Leather Mixed OIZ. It is possible to access Uşak Leather Mixed OIZ via Kütahya- Uşak Highway (D595).

According to the 2022 state highways traffic volume map published by the General Directorate of Highways, the annual average daily traffic on the Kütahya-Uşak Highway traffic segment passing through the north-east of the OIZ is 5,804 vehicles. Of these vehicles, 4,078 are automobiles, 575 are medium goods vehicles, 20 are buses, 509 are trucks and 622 are articulated trucks (KGM, 2023).

7 ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS OF THE PROJECT

7.1 Environmental Risks and Impacts of the Project

The main purpose of an Environmental and Social Management Plan (ESMP) is to identify and assess the potential positive and adverse impacts/risks that may be caused by the Project activities on the natural environment and on the socio-economic well-being and conditions of the population (community and workforce) at local and regional level. The following assessment is based on the Project characteristics and activities and the baseline conditions in the Project area.

As a result of this assessment, relevant mitigation measures were developed to avoid, minimize, mitigate and off-set significant adverse impacts and enhance beneficial impacts. Furthermore, the significance of Project-induced residual adverse effects on the environment and community after implementation of the mitigation measures are assessed. And finally, planned monitoring activities for checking effectiveness of the proposed mitigation measures are identified. In Table 16, identification of the level of environmental and social impacts for three Project phases (pre-construction, construction and operation phases) is presented. The area of influence map of the project is presented in Annex-2 Figure 33.

Determining the significance of impacts is a crucial step in assessing the environmental and social aspects of a project. The process typically involves a systematic evaluation of various factors to gauge the magnitude and importance of potential impacts. Populating the impact significance matrix is done by utilizing the collected data (baseline studies), assessments (determination of impact criteria, identification and categorization of potential impacts, quantitative and qualitative assessments), and stakeholder input (stakeholder consultations). Before populating the matrix, all impacts are evaluated by factors like severity, duration, reversibility, and cumulative effects to determine their significance.

The anticipated impacts for each phase of the project are presented in this section. The project will overall comply with WBG ESF with the most relevant ESS for each environmental and social topic that is provided in the Table 15.

Table 15 ESS List Concerning the Project

Physical and Biological Environment	Relevant ESS
7.1.1 Land Use	ESS1: Ensures environmental and social impacts on land use are assessed, and mitigation measures are implemented. ESS3: Focuses on sustainable land resource management to avoid degradation.
7.1.2 Geology	ESS1: Assesses geological risks such as erosion or stability due to project activities. ESS3: Promotes the sustainable use of geological resources.
7.1.3 Hydrogeology	ESS1: Assesses potential impacts on groundwater flow and quality. ESS3: Ensures that project activities do not result in resource depletion or contamination.
7.1.4 Climate and Vegetation	ESS1: Evaluates project impacts on local vegetation and climate conditions. ESS3: Promotes sustainable use of natural resources, including vegetation management.
7.1.5 Soil Quality	ESS1: Assesses potential soil contamination or degradation. ESS3: Advocates sustainable practices to prevent soil erosion or loss.
7.1.6 Air Quality and Odor	ESS1: Identifies and mitigates air quality impacts from emissions and odor sources. ESS3: Implements measures for pollution prevention and sustainable resource use.
7.1.7 Noise	ESS1: Evaluates potential noise impacts on nearby communities and ecosystems. ESS3: Promotes measures to minimize noise pollution during operations.
7.1.8 Water Resources and Use	ESS1: Assesses potential impacts on water availability and quality for local communities. ESS3: Ensures efficient and sustainable water use.
7.1.9 Wastewater Management	ESS1: Addresses potential environmental and social impacts of wastewater discharge. ESS3: Promotes efficient treatment and safe disposal of wastewater.
7.1.10 Waste Management	ESS1: Evaluates waste generation and management practices. ESS3: Implements strategies for minimizing waste and promoting recycling.
7.1.11 Pesticide Use and Management	ESS1: Reviews impacts of pesticide use on human health and ecosystems. ESS3: Ensures safe handling and disposal of pesticides to prevent contamination.
7.1.12 Natural Disaster Potential	ESS1: Assesses risks of natural disasters, such as earthquakes or floods, and develops mitigation measures.
7.1.13 Biodiversity and Protected Areas	ESS1: Ensures project activities do not harm biodiversity. ESS6: Protects critical habitats and ensures no net loss of biodiversity.

Socio-Economic Environment	Relevant ESS
7.2.1 Population/Demography	ESS1: Evaluates potential impacts on local population dynamics, including migration and settlement patterns.
7.2.2 Cultural Heritage	ESS1: Assesses risks to cultural heritage from project activities. ESS8: Ensures protection and preservation of cultural heritage sites.
7.2.3 Economy/Employment	ESS1: Addresses impacts on local employment and economic activities, including opportunities and risks.
7.2.4 Vulnerable/Disadvantaged Groups	ESS1: Ensures no disproportionate impacts on vulnerable or disadvantaged groups and promotes inclusive benefits.
7.2.5 Land Requirement	ESS1: Assesses social impacts related to land acquisition or changes in land use.
7.2.6 Working Conditions and Labor Management	ESS1: Evaluates working conditions and potential labor-related risks. ESS2: Ensures fair treatment, non-discrimination, and safe working conditions.
7.2.7 Community Health and Safety	ESS1: Identifies risks to community health from project activities. ESS4: Promotes mitigation measures to ensure community safety, including traffic and construction risks.
7.2.8 Traffic and Transportation	ESS1: Assesses impacts of increased traffic due to project activities on local infrastructure and communities.
7.2.9 Occupational Health and Safety	ESS1: Reviews of potential occupational risks for project workers. ESS2: Promotes safe and healthy working environments for all personnel.

Table 16 Environmental and Social Attributes Impact Levels Identification Matrix

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
A. PRE-CONSTRUCTION PHASE																					
1. Air Quality																					
1	Increase in dust concentration		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**
2	Exhaust emissions (SO_2 PM, NO_x)		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**
3	GHG emissions (CO_2, CH_4, N_2O)		✓	✓					✓		✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**
2.Soils and Contaminated Lands																					
1	Loss of topsoil at the OIZ area		✓	✓			✓							✓		✓		**Low**	**Low**	**Low**	**Negligible/ None**
2	Erosion potential		✓	✓			✓						✓			✓		**Low**	**Low**	**Low**	**Negligible/ None**
3	Contamination of soil		✓	✓			✓						✓			✓		**Medium**	**Low**	**Low**	**Low**
4	Pesticide Use		✓	✓			✓						✓			✓		**Medium**	**Low**	**Low**	**Negligible/ None**
3. Water Resources																					
1	Change in surface water quality		✓	✓				✓			✓						✓	**Medium**	**Low**	**Low**	**Low**
2	Change in groundwater quality		✓	✓			✓				✓						✓	**Medium**	**Low**	**Low**	**Low**
4. Noise																					
1	Increase in noise level		✓	✓				✓			✓				✓			**Medium**	**Low**	**Low**	**Low**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
2			✓	✓			✓				✓				✓						
5. Resources and Waste																					
1	Resources used during works		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
2	Improper waste management		✓	✓				✓			✓					✓		**Medium**	**Low**	**Low**	**Low**
6. Landscape and Visual (Aesthetics)																					
1	Impairment of quality of life due to the overall presence of annoying construction works and activities and altered landscape		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
7. Biological Environment																					
1	Damage or loss of terrestrial habitats and flora species		✓	✓				✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
2	Disturbing/harming of terrestrial fauna species		✓		✓			✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
8. Socioeconomic Environment																					
1	Infrastructure damage		✓	✓				✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
9. Community Health and Safety and Security																					
1	Trespassing and community encroachment		✓	✓			✓				✓						✓	**Low**	**Low**	**Low**	**Negligible/ None**
2	Gender Based Violence (GBV), Sexual Exploitation Abuse /		✓	✓				✓					✓			✓		**Low**	**Low**	**Low**	**Negligible/ None**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
	Sexual Harassment (SEA/SH)																				
10. Labor Force and Working Conditions																					
1	Working conditions and protecting the workforce		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
2	Workers' exposure to work-related occupational health and safety (OHS) risks		✓	✓			✓				✓				✓			**High**	**Low**	**Medium**	**Low**
3	Workers Engaged by Third Parties and the Supply Chain		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
B. CONSTRUCTION PHASE																					
1. Air Quality																					
1	Increase in dust concentration		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**
2	Exhaust emissions (SO_2 PM, NO_x)		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**
3	GHG emissions (CO_2, CH_4, N_2O)		✓	✓					✓		✓				✓			**Medium**	**Low**	**Low**	**Negligible/ None**
2. Soils and Contaminated Land																					
1	Loss of topsoil at the ground-mounted SPP areas		✓	✓			✓							✓		✓		**Medium**	**Low**	**Low**	**Negligible/ None**
2	Erosion potential		✓	✓			✓						✓			✓		**Low**	**Low**	**Low**	**Negligible/ None**
3	Contamination of soil		✓	✓			✓						✓			✓		**Medium**	**Low**	**Low**	**Low**
4	Pesticide Use		✓	✓			✓						✓			✓		**Medium**	**Low**	**Low**	**Negligible/**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
																					None
3. Water Resources																					
1	Change in surface water quality	✓		✓					✓			✓			✓			**Medium**	**Low**	**Low**	**Low**
2	Change in groundwater quality		✓		✓			✓			✓						✓	**Medium**	**Low**	**Low**	**Low**
4. Noise																					
1	Increase in noise level		✓	✓				✓			✓				✓			**Medium**	**Low**	**Low**	**Low**
5. Resources and Waste																					
1	Resources used during works		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
2	Improper waste management		✓	✓				✓			✓					✓		**Medium**	**Low**	**Low**	**Low**
6. Landscape and Visual (Aesthetics)																					
1	Impairment of quality of life due to the overall presence of annoying construction works and activities and altered landscape		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
7. Biological Environment																					
1	Damage or loss of terrestrial habitats and flora species		✓		✓			✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
2	Disturbing/harming of terrestrial fauna species		✓		✓			✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
8. Socioeconomic Environment																					

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
1	Infrastructure damage		✓	✓			✓		✓						✓			**Low**	**Low**	**Low**	**Negligible/ None**
9. Community Health and Safety and Security																					
1	Trespassing and community encroachment		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
2	Gender Based Violence (GBV), Sexual Exploitation Abuse / Sexual Harassment (SEA/SH)		✓	✓				✓			✓				✓			**Low**	**Low**	**Low**	**Negligible/ None**
10. Labor Force and Working Conditions																					
1	Working conditions and protecting the workforce			✓			✓				✓					✓		**Medium**	**Low**	**Low**	**Low**
2	Workers' exposure to work-related occupational health and safety (OHS) risks		✓	✓			✓				✓					✓		**High**	**Low**	**Medium**	**Low**
3	Workers Engaged by Third Parties and the Supply Chain		✓	✓				✓			✓					✓		**Medium**	**Low**	**Low**	**Low**
B. OPERATION PHASE																					
1. Air Quality and Odor																					
1	Exhaust emissions (SO_2 PM, NO_x)	✓			✓		✓						✓		✓			**Positive**			
2	GHG emissions (CO_2, CH_4, N_2O)	✓			✓				✓				✓		✓			**Positive**			
2. Geology, Soils and Contaminated Land																					
1	Contamination of Soil		✓		✓		✓					✓					✓	**Low**	**Low**	**Low**	**Negligible/ None**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
3. Water Resources																					
1	Change in water quality		✓		✓			✓					✓				✓	**Low**	**Low**	**Low**	**Negligible/ None**
2	Change in groundwater quality		✓		✓			✓					✓				✓	**Low**	**Low**	**Low**	**Negligible/ None**
4. Noise																					
1	Increase in Noise Levels		✓	✓			✓							✓		✓		**Low**	**Low**	**Low**	**Negligible/ None**
5. Resources and Waste																					
1	Resources used for operation		✓	✓				✓					✓		✓			**Low**	**Low**	**Low**	**Negligible/ None**
2	Generation of different types of waste in the SPP site		✓	✓				✓					✓			✓		**Medium**	**Low**	**Low**	**Low**
6. Landscape and Visual (Aesthetics)																					
1	The existence of the SPP		✓	✓				✓						✓		✓		**Low**	**Low**	**Low**	**Negligible/ None**
2	Glare and reflection effect of SPP		✓	✓				✓						✓		✓		**Medium**	**Low**	**Low**	**Negligible/ None**
7. Biological Environment																					
1	Damage or loss terrestrial habitats and flora-fauna species		✓		✓			✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**
8. Socioeconomic Environment																					
1	Infrastructure damage		✓	✓				✓			✓					✓		**Low**	**Low**	**Low**	**Negligible/ None**

No	Environmental and Social Attributes	Impact																		
		Nature		Type			Extent/area				Duration				Likelihood of Occurrence			Sensitivity of the Receptor	Magnitude of the Impact	Impact Significance without ESMP	Impact Significance with ESMP
		Positive (+)	Negative (-)	Direct	Indirect	Cumulative	On-site/ Project footprint	Local	Regional	National	Short term	Mid-term	Long term	Permanent	Very likely/ certain	Likely	Unlikely	High	High	High	High
																		Medium	Medium	Medium	Medium
																		Low	Low	Low	Low
																		Negligible/ None	Negligible/ None	Negligible/ None	Negligible/ None
9. Community Health and Safety																					
1	Trespassing and community encroachment		✓	✓			✓										✓	**Low**	**Medium**	**Low**	**None/ Negligible**
2	Community's exposure to disease due to improper handling of wastes		✓	✓				✓			✓						✓	**Low**	**Medium**	**Low**	**Negligible/ None**
3	Failure of operation		✓	✓					✓		✓					✓		**Medium**	**Medium**	**Medium**	**Low**
10. Labor Force and Working Conditions																					
1	Working conditions and protecting the workforce		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**
2	Gender Based Violence (GBV), Sexual Exploitation Abuse / Sexual Harassment (SEA/SH)		✓	✓				✓					✓			✓		**Low**	**Low**	**Low**	**Low**
3	Workers' exposure to work-related occupational health and safety (OHS) risks		✓	✓			✓				✓				✓			**High**	**Low**	**Medium**	**Low**
4	Workers Engaged by Third Parties and the Supply Chain		✓	✓			✓				✓				✓			**Medium**	**Low**	**Low**	**Low**

7.1.1 Land Use

The Project area is located in Muharremşah Neighborhood within the Uşak Province Central District. The project area consists of 7 parcels including parcels 188/11, 188/12, 355/1, 356/1, 184/5, 153/5, and 159/5. The total area of the parcels is estimated to be around 30,600 m^2 and is owned entirely by Uşak Leather Mixed OIZ.

Changes in land use happen often and on a variety of sizes, and they can have distinct and cumulative effects on air and water quality, watershed function, waste production, extent and quality of wildlife habitat, climate, and human health (*Land use | U.S. Environmental Protection Agency* 2021).

According to their potential effects on the environment and human health, land use activities are examined under two main topics: land development and agricultural uses. Since the allocated area is in the organized industrial zone, therefore, does not have any importance/value for wildlife or agricultural use, only the land development part will be given in this report.

Within the scope of the sub-project, a ground-mounted solar power plant will be established on 3 parcels, which have grasses, scrubs and trees. The impacts related to land development are due to the impermeable surfaces to be constructed for ground-mounted SPPs within the scope of the Project. Three possible impacts for this Project are as follows:

- Soil health deterioration in areas where land is covered with concrete or other impermeable materials,
- If vegetation is cleared for solar installation, the lack of ground cover can increase the risk of soil erosion, particularly in regions prone to heavy rain or wind.

In addition to the possible impacts defined above, legal obligations regarding land use, and visual effects of landscaping are assessed in the following sub-sections for the pre-construction, construction and operation phases of the Project.

7.1.1.1 Pre-Construction Phase

Proper planning, monitoring, and adherence to environmental and safety regulations are critical for minimizing the risks associated with land use during pre-construction activities in a solar power plant.

Permit Violations: Failure to obtain the necessary permits and/or non-compliance with permit conditions can result in regulatory fines and delays. Environmental Regulations: Violations of environmental regulations can lead to legal consequences and additional costs for remediation and mitigation.

Topsoil stripping will be required for 3 ground-mounted solar power plant parcels. Topsoil stripped during the pre-construction phase of the project will be used in landscaping works within the boundaries of the Uşak Leather Mixed OIZ.

During the pre-construction phase, no significant sized impermeable surface will be constructed, thus any impacts related to impervious areas are not expected at this stage. However, there will be impacts on air quality due to dusting and exhaust emissions during topsoil stripping. Impacts on air quality are given in Chapter 7.1.6 of this report. As a result, impacts related to land use for pre-construction phase are short term, direct, and *low* severity thus assessed as low to *negligible* in significance with mitigations in Chapter 8.

7.1.1.2 Construction Phase

During the construction phase of the Project, since the solar power plant consist of impermeable materials (concrete, steel, aluminum etc.) the creation of impermeable surfaces is expected in the

Project area. However, Uşak Leather Mixed OIZ has an existing storm water collection line[14]. After the completion of the construction phase, the impact of impermeable areas will be minimized by connecting the storm water collection channels of the Project facility, units, and roads to the existing Uşak Leather Mixed OIZ storm water collection line.

The use of aluminum construction and temporary use of cranes excavators etc. may cause landscape and visual impacts. As a result, impacts related to land use for construction phase are short term, direct, and *low* severity thus assessed as low to *negligible* in significance with mitigations in Chapter 8. There is no impact on land use within the scope of rooftop SPP during the construction phase.

7.1.1.3 Operation Phase

In the operational phase, no impacts on the landscape other than the SPP areas are expected. The possible impacts during the operation phase will be the maintenance periods of the equipment (solar panels, inverters etc.) in SPP. During the maintenance works, as the works will be done in a limited area, the landscape of the site will not be affected in a significant way. However, during maintenance works, the work area will be determined and limited to that area to minimize impacts on the landscape.

Since Uşak Leather Mixed OIZ has an existing storm water collection line that the Project's components will be connected to, the impact of impermeable areas will be minimal in operation phase as well. As a result, impacts related to land use for operation phase are short term, direct, and *low* severity thus assessed as low to *negligible* in significance with mitigations in Chapter 8.

7.1.2 Geology

7.1.2.1 Pre-Construction Phase

Necessary measures should be taken against the risk of ground liquefaction. Construction of the units would be in accordance with the Building Earthquake Regulations. Impacts caused by the project, related to geology for pre-construction phase are minimal thus assessed as negligible in significance.

7.1.2.2 Construction Phase

Necessary measures should be taken against the risk of ground liquefaction. Construction of the units would be in accordance with the Building Earthquake Regulations. Impacts caused by the project, related to geology for construction phase are minimal thus assessed as *negligible* in significance.

7.1.2.3 Operation Phase

Necessary measures should be taken against the risk of ground liquefaction. Impacts caused by the project, related to geology for operation phase are minimal thus assessed as *negligible* in significance.

7.1.3 Hydrogeology

7.1.3.1 Pre-Construction Phase

Leakage and spill of fuels, and oils to be used for the construction machinery and equipment may create soil contamination risk. All chemical storage containers, including diesel fuel and hazardous liquid waste drums/containers, should be located to minimize the risk of soil, surface water, and groundwater contamination during pre-construction. There is no hydrogeological impact on the SPP project at this stage. On the other hand, there are no discharges into groundwater resources. As a result, impacts related to hydrogeology for pre-construction phase are short term, indirect, and *low* severity thus assessed as *negligible* in significance.

[14] https://www.ukosb.org.tr/sayfa/hakkimizda.html

7.1.3.2 Construction Phase

Construction activities may create the potential for accidental release/leak of petroleum-based products such as lubricants, hydraulic fluids or fuels during storage, transportation or use in equipment. All chemical storage containers, including diesel fuel and hazardous liquid waste drums/containers, should be located to minimize the risk of soil, surface water, and groundwater contamination during construction. On the other hand, there are no discharges into groundwater resources. As a result, impacts related to hydrogeology for construction phase are short term, indirect, and *low* severity thus assessed as *negligible* in significance.

7.1.3.3 Operation Phase

The impacts will be mostly related to accidental spills/leakages and poor management of generated wastes during the maintenance work. All chemical storage containers, including diesel fuel and hazardous liquid waste drums/containers, should be located to minimize the risk of soil, surface water and groundwater contamination. The SPP project has no hydrogeological impact at this stage. On the other hand, there is no discharge to underground water resources. As a result, impacts related to hydrogeology for the operation phase are long-term, direct, and *low* severity, thus assessed as *negligible* in significance.

7.1.4 Climate and Vegetation

The impacts on climate and vegetation before construction of a project can vary depending on the nature of the development, the specific location, and the environmental conditions.

Using solar power plant for energy consumption significantly reduces GHG emissions compared to conventional fossil fuel-based methods. Lower overall carbon footprint due to the renewable nature of solar power, contributing to climate change mitigation. The use of solar energy presents a sustainable approach with significant positive impacts on climate and vegetation. Moreover, the Project area is a confined area that is located within the organized industrial zone limiting the negative impacts on the vegetation; thus, no significant long-term negative impacts on vegetation are expected.

Assessments on the Project's impacts on climate change and vegetation during the pre-construction, construction and operation phases is given in the following sub-sections

7.1.4.1 Pre-Construction Phase

The Screening Report states that there are 25-30 trees and that these trees will be cut down. The presence of trees was confirmed during our site visit. Provided that it is not less than 5 times the number of trees cut down, trees will be planted by Uşak Leather Mixed OIZ within the OIZ.

Land clearing for construction generally involves the removal of vegetation, which may lead to the loss of plant species and habitat disruption for local wildlife. The removal of vegetation leaves the soil vulnerable to erosion, as plants help stabilize the soil. Erosion carries waste and sediments (soil, pebbles etc.) to nearby water bodies and may harm aquatic ecosystems.

The main reasons for the pre-construction impacts of the project on climate change will be the greenhouse gas (CO_2, CH_4 and N_2O) emissions that will increase due to the project's energy consumption (fuel for construction machinery and generators, electricity for utilities, equipment, and heating, and LPG for construction machinery and heating) and resource consumption. The Project's contribution to climate change through GHG emissions during pre-construction phase is assessed as a negative, short term and direct impact while impacts on vegetation is assessed as negative, short term and direct. The pre-construction phase of the project will meet ESS1 and ESS3 in terms of climate and vegetation.

7.1.4.2 Construction Phase

Until the land restoration process is finished, which is one of the last tasks performed during the construction phase, the removed ground from the pre-construction phase still presents a risk of erosion. Furthermore, compacting the soil with heavy construction equipment reduces its suitability for plant growth. The ability of plants to regenerate after construction may be impacted by this.

The main factors that affect climate change in the construction phase are the increase in greenhouse gas (CO_2, CH_4, and N_2O) emissions, which will be caused by the Project's energy consumption (fuel for generators and construction machinery, electricity for utilities, equipment, and heating, and LPG for heating and machinery) and resource consumption. The Project's contribution to climate change through GHG emissions during construction phase is assessed as a negative, short term and direct impact while impacts on vegetation is assessed as negative, short term and direct.

7.1.4.3 Operation Phase

The contribution of the Project to climate change during the operational phase will be different from the pre-construction and construction phases. Since it is estimated that the electricity consumption of Uşak Leather Mixed OIZ will be met by the use of solar energy, the use of fossil fuels will decrease. For this reason, the use of solar energy, which is a sustainable resource, will reduce greenhouse gas emissions during the operation phase. The contribution of the Project to climate change through GHG emissions during the operational phase is assessed as a positive, short-term and direct impact, while the significance of the impact on vegetation is assessed as low to *negligible* with mitigations in Chapter 8.

7.1.5 Soil Quality

Construction projects could have various impacts on the soil environment including disturbances to the natural soil structure due to activities like soil stripping, levelling, and excavation. The mixing of soil layers, contamination risks from construction machinery fuels and materials, potential soil pollution from waste mismanagement, and improper replacement of soil are common concerns.

The possible impacts mentioned above are assessed in the following sub-sections for the pre-construction, construction and operation phases. All phases of the project will meet ESS1 and ESS3 in terms of soil quality.

7.1.5.1 Pre-Construction Phase

The impacts on the soil environment are restricted to the construction site. These impacts that could occur on the soil environment during pre-construction phase are listed below:

- Disturbance of the natural soil and land structure as a result of soil stripping, levelling, excavation and filling activities, work of construction machinery,
- Mixing of soil layers as a result of excavation activities;
- Soil contamination risk due to leakage and spill of fuels, paints and oils that will be used for the construction machinery and equipment;
- Soil pollution, which may occur in case of uncontrolled storage or disposal of solid and/or liquid wastes to be generated within the scope of the Project; and
- Improper replacement of soil to its original position.

There is a temporary storage area for hazardous wastes in OIZ. Wastes accumulated in non-hazardous waste storage areas are sent to various licensed facilities and the facilities to which the waste will be sent are specified in the Industrial Waste Management Plan in Annex-13. Hazardous and non-hazardous wastes may be generated due to the project activities. These impacts can be easily managed and mitigated to *negligible* from *low* in significance with the implementation of the mitigation measures presented in Chapter 8.

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7.1.5.2 Construction Phase

The impacts on the soil environment are restricted to the construction site. These impacts that could occur on the soil environment during construction phase are listed below:

- Construction activities increase the risk of erosion by wind and water, which can wash away the topsoil, reducing soil fertility and leading to sedimentation in nearby water bodies.
- Refill actions may cause soil layer mixing.
- Construction machinery and equipment may leak and spill fuels, paints, and oils, posing a soil contamination risk.
- The Project may cause soil pollution due to uncontrolled storage or disposal of solid and liquid waste.

These impacts can be easily managed and mitigated to low in significance with the implementation of the mitigation measures presented in Chapter 8.

7.1.5.3 Operation Phase

The activities during the Project's operating phase will have limited physical interaction with the soil environment. In the operation phase of the Project, no additional significant direct impacts on topography, soil and land use are anticipated under normal operating conditions. The effect on soil quality during the operation phase of solar power plants can occur during maintenance and repair work. These impacts are accidental spills/leaks of chemicals and solvents required for cleaning solar energy panels and spills/leaks of oil and chemicals from vehicles/tools into the soil during repair and maintenance work.

The extent of these negative impacts will be limited with the Project's footprint, the significance of the impacts on soil environment would be considered as low if mitigation measures will not be applied accordingly. With careful planning, strict adherence to environmental safety protocols, and the implementation of sustainable practices, the residual impacts will be *negligible* from low in significance. The defined mitigation measures are presented in Chapter 8.

7.1.6 Air Quality

7.1.6.1 Pre-Construction Phase

In the pre-construction phase of the project, topsoil stripping will be carried out during the land preparation process. Values showing uncontrolled and controlled dust emissions resulting from topsoil stripping are presented in the Annex-7 of this report.

Table 17 Air Quality Project Standards and Calculated Emission Values in Annex 7 (in Pre-Construction Phase)

Parameter	Unit	Emission from machinery and equipment	Emissions from topsoil stripping activities (PM10)		Project Standard
			Uncontrolled	Controlled	
CO	kg/h	0.0245	-	-	10.000 µg/m^3
SO_2	kg/h	0.0005	-	-	60 µg/m^3
NOx	kg/h	0.15	-	-	-
PM_{10}	kg/h	0.006	1.082	0.543	50 µg/m^3
$PM_{2.5}$	kg/h	0.0042	0.7574	0.3801	25 µg/m^3

These emission rates are calculated based on the worst-case scenario. It is found that the emission rate for uncontrolled activities is above the limit value defined for non-stack sources in Industrial Air Pollution Control Regulation (IAPCR), which is 1 kg/hour, while the emission rate for controlled activities is below the limit values. When the calculated CO, SO_2, NO_x, PM_{10} and $PM_{2.5}$ values are evaluated (see Table 51), it is seen that they are also below the limit value defined for non-stack sources in IAPCR. Therefore, impacts related to dust emissions are in low significance. In addition, with implementation of a set of

mitigation measures that are presented in Chapter 8, any related impacts on air environment will be reduced.

Detailed air quality calculations are described in Annex-7. These impacts can be easily managed and mitigated to *low* in significance with the implementation of the mitigation measures presented in Chapter 8. .

7.1.6.2 Construction Phase

These emission rates are calculated based on the worst-case scenario. It is found that the emission rate for both uncontrolled and controlled activities are above the limit value defined for non-stack sources in IAPCR, which is 1 kg/hour. When the calculated CO, SO_2, NO_x, PM_{10} and $PM_{2.5}$ values are evaluated, it is seen that they are also below the limit value defined for non-stack sources in IAPCR. Therefore, impacts related to dust emissions are in low significance. In addition, with implementation of a set of mitigation measures that are presented in Chapter 8, any related impacts on air environment will be reduced.

Detailed air quality calculations are presented in Annex-7, and these impacts can be easily managed and mitigated to *negligible* from low in significance with the implementation of the mitigation measures presented in Chapter 8.

Table 18 Air Quality Project Standards and Calculated Emission Values (in Construction Phase)

Parameter	Unit	Emission from machinery and equipment	Project Standard
CO	kg/h	0.049	10.000 µg/m^3
SO_2	kg/h	0.001	60 µg/m^3
NOx	kg/h	0.03	-
PM_{10}	kg/h	0.012	50 µg/m^3
$PM_{2.5}$	kg/h	0.0084	25 µg/m^3

7.1.6.3 Operation Phase

Being a renewable and sustainable resource, solar energy is not expected to have any negative impact on air quality during the operation phase. Maintenance activities, such as panel cleaning or equipment repair, may generate dust. However, this is generally localized and can be managed with dust control measures. Moreover, solar power plants generate electricity without burning fossil fuels, so they significantly reduce GHG emissions compared to conventional fossil fuel-based methods.

Since the solar power plants do not have odor-generating processes, such as combustion or waste treatment, it typically will not produce any significant odors during operation. Minor odors may occasionally arise from equipment (e.g., transformers) or materials used on-site, but these will typically be contained and not noticeable beyond the immediate vicinity of the equipment.

During the operation phase of the Project, the use of fossil-fuel-based methods for energy production will decrease, and greenhouse gas emissions will be reduced indirectly. Cumulatively, the impacts on air quality will be *positive* with the mitigation measures given in the ESMP.

7.1.7 Noise

Construction projects may generate noise, affecting both the surrounding environment and nearby communities. Heavy machinery and construction equipment, as well as activities like drilling and hammering, are common noise sources. The loudness might cause disturbances, compromising the health of neighboring humans and wildlife. Potential consequences include increased stress, sleep difficulties, and disruptions to daily routines.

The next subsections for the pre-construction, construction, and operating phases evaluate the aforementioned potential effects. Values showing noise calculations are presented in the Annex-8 of this report.

7.1.7.1 Pre-Construction Phase

During pre-construction phase of the Project, the noise would be potentially generated by vehicles and machinery to be used during land preparation activities. Since the planned land type SSP are in an industrial area, there are no sensitive receptors such as health centers and schools in the immediate vicinity of the Project Area. The nearest sensitive receptor is the mosque of İspiroğlu Farm, which is 200 meters away from parcel 159/5 (see Figure 32).

Vibration that will affect humans or the structure in the vicinity is not expected to occur as there will be no blasting activity within the Project.

Noise levels have been calculated according to the machinery and equipment to be used in the land preparation and pre-construction phase according to the distances in Annex-8. In the calculations, it is assumed that the machinery and equipment will operate at the same point at the same time for the worstcase scenario and in this direction, the noise level is calculated above the Project Standard at a distance of 0-100 meters (see Table 54). Therefore, in the pre-construction phase of the Project, the noise impacts will be direct and negative with short term duration and *low* in significance. These impacts will be mitigated by the implementation of the mitigation measures presented in Chapter 8 and the Project Standard will be ensured.

7.1.7.2 Construction Phase

The Project activities within the construction phase are associated with a range of activities that generate noise. The noise would be potentially generated by transportation vehicles, machinery and outdoor equipment to be used for the preparation of the site and the construction activities. Since the planned land type and roof type SPPs are in an industrial area, there are no sensitive receptors such as health centers, schools, or mosques in the immediate vicinity of the Project Area.

The noise generated during the installation of these SPPs are temporary and usually lasts for a few weeks to a couple of months, depending on the size of the installation. Drilling can generate noise levels of 70-90 decibels (dB), which is similar to the noise produced by a household vacuum cleaner or a power drill. Cutting tools such as saws can produce noise levels of 80-100 dB, comparable to a lawnmower or chainsaw. Hammering and screwing typically produce noise levels around 60-80 dB, akin to the noise level of a normal conversation or a busy street. Modern, quieter vehicles and equipment designed to reduce noise levels will be used. Efficient installation techniques will be utilized to minimize the duration of noisy activities.

Vibration that will affect humans or the structure in the vicinity is not expected to occur as there will be no blasting activity within the Project.

Noise levels have been calculated according to the machinery and equipment to be used in the construction phase according to the distances in Annex-8. In the calculations, it is assumed that the machinery and equipment will operate at the same point at the same time for the worst case scenario and in this direction, the noise level is calculated above the Project Standard at a distance of 0-400 meters (see Table 56). Therefore, in the construction phase of the Project, the noise impacts will be direct and negative with short-term duration and *low* in significance. The noise level of the equipment and machinery will be kept at a minimum with proper mitigation measures such as the use of silencers and with regular maintenance which is presented in Chapter 8 and the Project Standard will be ensured.

7.1.7.3 Operation Phase

|Ground-mounted and Roof-type solar power plants (SPPs) are known for their quiet operation compared to many other forms of energy generation. However, there are a few potential sources of noise associated with their operation. Inverters convert direct current (DC) from solar panels to alternating current (AC) for use in the grid or home. They can produce a low-level humming or buzzing sound. Typically, inverter noise is around 40-50 decibels (dB), which is comparable to a quiet office or a refrigerator. Installing inverters in well-ventilated but enclosed spaces, away from living areas, can minimize any audible impact.

The sound levels listed in the technical specifications or data sheet will be taken into consideration as good practices when purchasing machinery and equipment. Project standards will all be followed in all works performed during the operation.

These impacts will be mitigated by the implementation of the mitigation measures presented in Chapter 8. The operation phase of the project will meet the requirements of ESS1 and ESS3 in terms of noise.

7.1.8 Water Resources and Use

During the pre-construction and construction phases, employees' needs will create water supply requirement. The utility water used will be supplied by obtaining a construction site subscription from the network of Uşak Leather Mixed OIZ by the Contractor.

The total amount of daily water requirement is calculated based on the multiplication of the number of employees that will be working at the peak time of the phase and the daily water requirement for a person, which is 171 L/cap/day for Uşak (TurkStat, 2022).

The calculations regarding water usage mentioned above are given in the following sub-sections for the pre-construction, construction and operation phases.

7.1.8.1 Pre-Construction Phase

The average number of personnel required for the pre-construction phase is determined as 5. Therefore, the daily water requirement of employees during the pre-construction phase will be;

5 employees x 0.171 m^3/cap/day= 0.855 m^3/day

Bottled water will be used for the drinking water needs of the personnel. The quality of drinking water that will be supplied to the Project shall be in compliance with the Regulation Concerning the Water Intended for Human Consumption together with the internationally accepted standards, such as WHO and WBG's General EHS Guidelines.

The needs of employees will determine the water supply requirements during the pre-construction phase. The employees' drinking water requirements will be met by contractor with bottled water purchased firm a nearby retailer.

These impacts will be considered to have *low* impact significance by the implementation of the mitigation measures presented in Chapter 8.

7.1.8.2 Construction Phase

During the construction phase, employees' needs and dust suppression water. The water used for dust suppression and utility water will be supplied by obtaining a construction site subscription. There will be no accommodation on the construction site, and water use will be limited to the working hours of the employees. The number of personnel required is determined as 25. Therefore, the daily water requirement of employees during the construction phase will be;

25 employees x 0.171 m^3/cap/day= 4.275 m^3/day

Bottled water will be used for the drinking water needs of the personnel. The quality of drinking water that will be supplied to the Project shall be in compliance with the Regulation Concerning the Water Intended for Human Consumption together with the internationally accepted standards, such as WHO and WBG's General EHS Guidelines.

During the construction phase, employees' needs and dust suppression will create water supply requirements. The drinking water needs of employees will be met by bottled water to be purchased from the local market.

On the other hand, construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. All chemical storage containers, including diesel fuel and hazardous liquid waste drums/containers should be placed so as to minimize the risk of soil, surface water and groundwater contamination during the construction.

By implementing adequate measures for preventing spills and chemical leaks, it will be ensured that groundwater quality remains unaffected. These impacts will be considered to have *low* impact significance by the implementation of the mitigation measures presented in Chapter 8.

7.1.8.3 Operation Phase

During the operation phase of the Project, part of the water supply requirement will arise due to employee needs. The number of personnel required is determined as 3. Therefore, the daily water requirement of employees during the operation phase will be;

3 employees x 0.171 m^3/cap/day = 0.513 m^3/day

While solar PV panels generally require water for cleaning to maintain efficiency, the actual water needs vary depending on factors like system size, cleaning method, and local environmental conditions. In this context, it is predicted that water usage will not exceed 10 m^3 per year.

During the operating phase, the impact on groundwater may be noticed as a result of accidental oil leaks in regions where subproject equipment is being maintained, as well as incorrect waste disposal. This may have an impact on groundwater quality in the Project Area; if necessary, mitigation measures will be implemented. However, it is possible to assume that the impacts will be minimal provided mitigation measures and good engineering practices are implemented.

Consequently, the impacts of the Project on water resources may be negative without the above-mentioned practices. These impacts of low impact significance will be considered *negligible* impact significance by the implementation of the mitigation measures presented in Chapter 8. During the operation phase of the Project, the impact will be indirect, negative with long-term duration and negligible in significance.

7.1.9 Wastewater Management

Wastewater will be generated in all phases of the Project. Domestic wastewater resulting from workers will be generated from facilities where the needs of employees are met, such as eating areas, toilets. Portable toilets will be available for workers during pre-construction and construction phases of the Project. Wastewater will be stored on impermeable tanks and will be collected with septic trucks to be sent to the existing OIZ's sewage system.

During the operation phase, the water used in the cleaning activities will evaporate; therefore, no wastewater will be generated. In addition, employees will use the toilets and lavatories in the existing buildings of the OIZ, especially the Administration Building during the operation phase.

Considering the number of additional personnel that will work within the scope of the project during all phases, it is foreseen that it will not create any additional load on the existing wastewater system.

According to 2022 TurkStat data, the Uşak Municipality's Daily Wastewater Amount is 0.125 m^3/day. The calculations regarding wastewater generation mentioned above are given in the following sub-sections for the pre-construction, construction and operation phases.

7.1.9.1 Pre-Construction Phase

The average number of personnel required for the pre-construction phase is determined as 5. Therefore, the daily wastewater generation of employees during the pre-construction phase will be;

5 employees* 0.125 m^3/day = 0.625 m^3/day

As the number of employees is low, the additional wastewater load will not have a significant impact.

It is estimated that a maximum of 5 m^3 of water will be used daily for dust suppression operations during the pre-construction phase of the Project.

As a result, the Project may have an adverse impact in terms of wastewater management during the pre-construction phase due to use of resources. These low significance impacts will be assessed as *negligible* impact significance with the implementation of mitigation measures presented in Chapter 8.

7.1.9.2 Construction Phase

The average number of personnel required for the construction phase is determined as 25. Therefore, the daily wastewater generation of employees during the construction phase will be;

25 employees* 0.125 m^3/day = 3.125 m^3/day

As the number of employees is low, the additional wastewater load will not have a significant impact.

It is estimated that a maximum of 5 m^3 of water will be used daily for construction works during the construction phase of the Project.

As a result, the Project may have an adverse impact in terms of wastewater management during the construction phase due to use of resources. These low significance impacts will be assessed as *negligible* impact significance with the implementation of mitigation measures presented in Chapter 8.

7.1.9.3 Operation Phase

During the operation phase of the Project, the domestic wastewater that will be generated from the areas where the needs of the employees in the administrative building are met, such as cafeteria and restrooms, will be connected to the existing wastewater treatment plant within the OIZ, and will be treated and discharged at this facility. The number of personnel required for the operation phase is determined as 3. Therefore, the daily wastewater generation of employees during the pre-construction phase will be;

3 employees* 0.125 m^3/day = 0.375 m^3/day

To avoid contamination of natural water resources, systems should be installed in the SPP area to capture wastewater from cleaning operations of solar PV panels before disposal. Mild, environmentally friendly cleaning solutions should be used to minimize environmental impact. Manufacturer recommendations for diluting cleaning agents should be followed to reduce chemical run-off and minimize environmental contamination.

Due to the amount of water utilization, the Project will not have an adverse impact on wastewater management provided that mitigation measures given in Chapter 8 are implemented.

7.1.10 Waste Management

Waste is anticipated to be generated during the land preparation including topsoil stripping and land levelling, during the construction of the SPP and during the installation activities for the solar panels. The types of waste that can be produced are scraps, cardboard, recyclable packaging materials, contaminated containers, contaminated rags and domestic solid wastes. Since the land levelling will be limited and there will be no excavation, excess excavated material that needs to be disposed of is not expected. As for the roof-type SPPs, waste generation is not expected during both the construction and installation activities.

To prevent negative effects on nearby water resources, soils, and flora and fauna, all waste produced during the Project's pre-construction, construction, and operation phases must be appropriately managed in accordance with national waste management laws and international good practices. This chapter evaluates the effects of waste generation and identifies the waste that will be produced in this situation.

Waste to be generated in the scope of the Project activities will be managed in accordance with the waste management hierarchy as given in Figure 16. In this respect, waste generation will be avoided/prevented at the source. In cases where prevention is not possible at the source, respectively; minimization of waste generation, selection of materials that will not cause generation of hazardous waste as much as possible, separate collection of waste according to their type (hazardous, non-hazardous, recyclable, etc.), reuse of generated waste at the site as much as possible, assessment of alternatives such as recycling and energy recovery for waste (where reuse is not possible) will be considered. The final step in the hierarchy of waste management involves the final disposal of waste in accordance with relevant regulations, where reuse, recycling and energy recovery options are not possible..

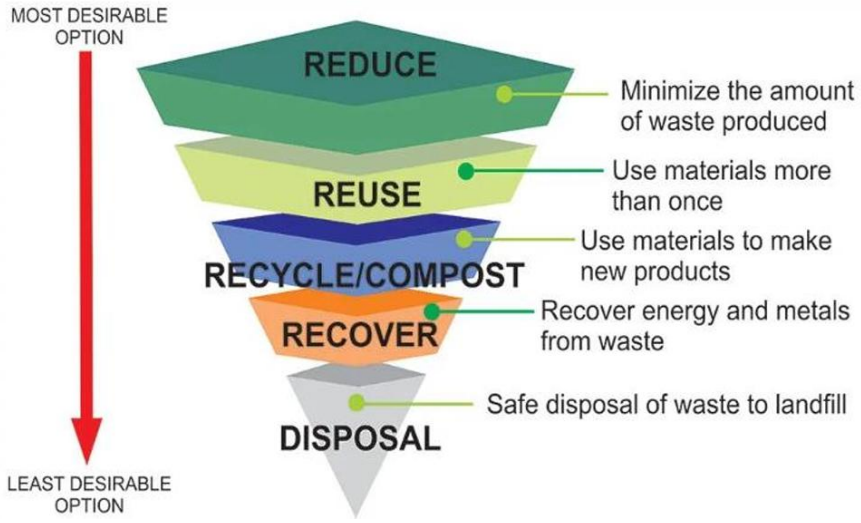

Figure 16 Waste Management Hierarchy[15]

7.1.10.1 Pre-Construction Phase

As in the current situation, the OIZ's Environmental Engineer[16] will be responsible for waste management during all phases of the project. Waste will be managed according to the waste hierarchy. Waste generation in the pre-construction phase is often associated with planning, site preparation, and early material deliveries. Common sources of waste during this phase are:

- Packaging Waste

[15] World Bank Group, Approach Paper, An Evaluation of the World Bank Group's Support to Municipal Solid Waste Management, 2010–20, June 29, 2020

[16] consultancy service procurement

- Demolition or Deconstruction Waste
- Unused or Surplus Materials
- Hazardous Waste
- Municipal Solid Waste

Efforts to minimize waste during the pre-construction phase involve strategic planning, efficient material use, and waste reduction measures. Implementing a waste management plan, as discussed earlier, can help identify, categorize, and manage the various sources of waste generated in the pre-construction stage.

Topsoil stripped during the pre-construction phase of the project will be used in green areas within the boundaries of the Uşak Leather Mixed OIZ.

The construction machinery may require oil changes during the pre-construction phase of the Project, since the oil needs to be replaced at least once every two months. Oil changes of the construction machinery will be carried out at services licensed for the maintenance of the machinery. Thus, there will be no waste oil generation in the pre-construction of the Project.

Waste vegetable oil will not be generated at the site during the pre-construction activities as meals for the staff will be provided by catering companies. End-of-life tire generation and storage will not take place due to the fact that the tire changes of the construction machines and other vehicles to be used at this stage will be carried out at the facilities in the region providing service for this purpose. In addition, since there is an emergency medical center at the project site and in case of any incident during the activities, the existing emergency medical center will be used primarily for possible medical interventions, and then hospitals / health centres in Merkez District will be used if necessary. Within the scope of the Project, there will be no significant amount of medical waste generation at the site.

In order to determine the amount of municipal waste to be generated at site, the average daily municipal waste per person in Uşak is taken as 1.14 kg according to the municipal waste statistics of TurkStat in year 2022. The estimated amount of municipal waste to be generated during the pre-construction phase of the Project, based on the number of people working, is given below. This amount includes also separately collected fractions such as paper, cardboard, glass, metal, plastic, etc. together with biodegradable wastes.

For pre-construction phase:

5 people x 1.14 kg/person/day=5.7 kg/day

No significant impact resulting from waste generation is expected due to the nature and scale of the Project, as explained above. Therefore, the impact is assessed as direct and negative with short term duration, local and *low* significance. However, mitigation measures proposed in Chapter 8.2 in order to prevent and/or minimize likely impacts will be implemented.

7.1.10.2 Construction Phase

To reduce negative environmental effects, it is critical to use environmentally friendly construction methods, follow environmental rules, and continuously analyze and improve procedures throughout the project's lifecycle. Environmental impact assessments and extensive planning during the pre-construction phase are critical in striking a balance between construction needs and environmental preservation.

Hazardous waste will be stored in special compartments in the Temporary Storage Area allocated for this purpose, in containers, separated from the non-hazardous waste as indicated in Waste Management Regulation. This area will have an impermeable base/ground and will be protected from the surface flows and rain. Additionally, necessary drainage for the area will be provided. Hazardous wastes will be collected and disposed of by licensed companies. Uşak Leather Mixed OIZ will be

responsible for the selection of a company licensed by MoEUCC for the transportation of hazardous waste.

Table 19 lists the types of waste that can be generated during the pre-construction phase and construction phase of the Project and their waste codes according to the waste lists given in the annexes of the Waste Management Regulation.

Table 19 List of Possible Waste Types to be generated during Pre-construction and Construction Phase of the Project

Waste Code	Definition of Waste Code
13	**Oil Wastes and Liquid Fuel Waste (Excluding Edible Oils, 05 and 12)**
13 02	Waste Engine, Transmission and Lubrication Oils
15	**Waste Packages, Unspecified Absorbents, Wipes, Filter Materials and Protective Clothing**
15 01	Packaging Waste (Including Packaging Waste Separately Collected by the Municipality)
15 02	Absorbents, Filter Materials, Cleaning Cloths and Protective Clothing
16	**Waste Not Specified Otherwise in the List**
16 06	Batteries and Accumulators
17	**Construction and Demolition Waste (Including Excavations from Contaminated Sites)**
17 01	Concrete, Brick, Tile and Ceramic
17 02	Wood, Glass and Plastic
17 04	Metals (Including Alloys)
17 05	Soil (Including Excavations from Contaminated Sites), Stones and Dredging Sludge
17 09	Other Construction and Demolition Waste
20	**Municipal Waste Including Separately Collected Fractions (Domestic and Similar Commercial, Industrial and Institutional Waste)**
20 01	Separately Collected Fractions (Except 15 01)
20 03	Other Municipal Waste

Municipal waste within the scope of the Waste Management Regulation is referred to as domestic waste or commercial, industrial and institutional waste similar to domestic waste in terms of its content or structure, which are defined with waste code of 20, in the Waste List given in Annex-4 of the Regulation and of whose management responsibility belongs to the Municipality. Therefore, these types of waste will be stored separately from hazardous waste and recyclable waste and will be collected regularly by the municipality. Municipal waste will be managed in the same way as it is currently managed in Uşak Leather Mixed OIZ. Other wastes will be given to licensed organizations within the framework of the legislation.

In order to determine the amount of municipal waste to be generated at site, the average daily municipal waste per person in Uşak is taken as 1.14 kg according to the municipal waste statistics of TurkStat in year 2022. The estimated amount of municipal waste to be generated during the construction phase of the Project, based on the number of people working, is given below. This amount includes also separately collected fractions such as paper, cardboard, glass, metal, plastic, etc. together with biodegradable wastes:

25 people x 1.14 kg/person/day= 28.5 kg/day

There will be no cafeteria at the site of the construction. As a result, no food preparation-related waste is envisaged. Meals will be provided by catering services.

Waste Declaration of Uşak Leather Mixed OIZ for 2023 is given in Annex-14. The waste load that the Project will generate during the construction phase will be negligible compared to the amount of waste generated throughout the OIZ.

Waste vegetable oil will not be generated at the site during the construction activities as meals for the staff will be provided by catering companies. End-of-life tire generation and storage will not take place

due to the fact that the tire changes of the construction machines and other vehicles to be used at this stage will be carried out at the facilities in the region providing service for this purpose. In addition, since there is an emergency medical center at the project site and in case of any incident during the activities, the existing emergency medical center will be used primarily for possible medical interventions, and then hospitals / health centres in Merkez District will be used if necessary. Within the scope of the Project, there will be no significant amount of medical waste generation at the site.

The construction machinery will require oil changes during the construction phase of the Project, at least once in every two-month period of the phase. Oil changes of the construction machinery will be carried out at services licensed for the maintenance of the machinery. Thus, there will be no waste oil generation construction phase of the Project.

The annual amount of waste battery per person in Türkiye is 4-5 and this value corresponds to 135 grams (TAP, 2016). According to this, the annual waste battery production of 25 people to be employed during the construction phase of the Project is calculated as: 3.375 kg (1-year x 135 gram/year-person x 25 person = 1.35 kg).

During the construction (installation) phase of the Project, it is possible that solar panels may be broken or damaged. The broken/damaged panels will be stored in the temporary waste storage area. The contractor will send the broken/damaged panels to a licensed recycling/disposal facilities for separation and recycling of recyclable parts of the panels during the construction phase.

No significant impact resulting from waste generation is expected due to the nature and scale of the Project, as explained above. Therefore, the impact is assessed as direct and negative with short term duration, local and *low* significance. However, mitigation measures proposed in Chapter 8.2 in order to prevent and/or minimize likely impacts will be implemented.

7.1.10.3 Operation Phase

In the operation phase, there will be waste generation resulting from damaged, malfunctioned or end-of-life equipment (components such as wiring, inverters, and panel mounts) and material that could be replaced or controlled during maintenance and repair activities to be performed periodically or in case of a breakdown. Also, procurement of new equipment, pieces and others will also result in the generation of packaging waste. Besides, personal protective equipment, clothes and rags used during maintenance and repair activities might result in a limited amount of waste generation.

5 workers are expected to be employed in the Project's operation phase. Therefore, municipal waste generation will be 5.7 kg/day and using the same approach as in pre-construction and construction.

Solar panels can contain hazardous materials such as cadmium, zinc, lead, CFCs, etc. During the installation and operation phase, if the broken and replacement panels are not managed with appropriate waste management systems or in case of any accident/explosion/fire, these dangerous substances may be released and cause adverse environmental effects. However, the risks will be reduced by managing the waste according to the relevant national legislation and WB Group's General Environmental, Health, and Safety Guidelines. The broken/end-of-life panels should be managed following the Waste Management Regulation and the Zero Waste Regulation. Considering their hazardous content, those shall be delivered to the licensed recycling/disposal facilities. In addition to that, there should be specific emergency response procedures specific for breaking/damage of solar panels.

Solar panel waste code is generally accepted to facilities in 16 02 14 code. Within the scope of 20 01 35 hazardous electronic waste code, solar panel waste code can also be specified. Table 20 lists the waste types and waste codes that may occur during the operational phase of the project, according to the waste lists given in the Waste Management Regulation's Annex. The wastes generated during the operation phase will be stored in a temporary waste storage area.

Table 20 List of Possible Waste Types to be generated during Operation Phase

Waste Code	Definition of Waste Code
13	**Oil Wastes and Liquid Fuel Waste (Excluding Edible Oils, 05 and 12)**
13 02	Waste Engine, Transmission and Lubrication Oils
13 03	Waste Insulation and Heat Conduction Oils
15	**Waste Packages, Unspecified Absorbents, Wipes, Filter Materials and Protective Clothing**
15 01	Packaging Wastes (Including Packaging Waste Separately Collected by the Municipality)
15 02	Absorbents, Filter Materials, Cleaning Cloths and Protective Clothing
16	**Waste Not Specified Otherwise in the List**
16 02	Electrical and Electronic Equipment Waste
16 06	Batteries and Accumulators
20	**Municipal Waste Including Separately Collected Fractions (Domestic and Similar Commercial, Industrial and Institutional Wastes)**
20 01	Separately Collected Fractions (Except 15 01)
20 03	Other Municipal Wastes

The impact is assessed as direct and negative with long term duration, local and *low* in significance. However, mitigation measures proposed in Chapter 8 in order to prevent and/or minimize likely impacts will be implemented.

7.1.11 Pesticide Use and Management

In accordance with ESS3, WB attaches importance to the use and management of pesticides in projects. According to WB ESF, the Borrower will ensure that all pesticides used will be manufactured, formulated, packaged, labeled, handled, stored, disposed of, and applied according to relevant international standards and codes of conduct, as well as the Environmental, Health, and Safety Guidelines (EHSGs).

The following criteria apply to the selection and use of such pesticides: (a) they will have negligible adverse human health effects; (b) they will be shown to be effective against the target species; and (c) they will have minimal impact on nontarget species and the natural environment. The methods, timing, and frequency of pesticide application are aimed to minimize damage to natural enemies.

No pesticide use is planned at any stage of the Project activities. Thus, no impact is expected in this regard in any phase of the Project.

7.1.11.1 Pre-Construction and Construction Phases:

There will be soil removal and relocation during the land preparation and construction phases. Therefore, pesticide control during these phases on formerly agricultural land involves management and mitigation requirement for environmental and health risks if there is a historical pesticide use because pesticides will not be used in these phases. Pesticide-free construction practices are adopted to prevent the introduction of new pesticides, accompanied by worker training on safety and proper handling. Ongoing monitoring and testing of soil and water quality will be done, coupled with transparent communication with regulatory authorities and the local community, contribute to a proactive and compliant approach. Overall, the goal is to facilitate the responsible transformation of the land for non-agricultural purposes and construction of project while minimizing environmental impact.

Since there is no pesticide use in the area, there will be no impact due to pesticide use during the pre-construction and construction phases.

7.1.11.2 Operation Phase:

If there are any green spaces or landscaping in an industrial location, pest control measures, such as the use of pesticides, may be required. Stormwater runoff from the industrial zone may carry pesticides into nearby aquatic bodies. By using effective stormwater management techniques, this risk can be

reduced. The maintenance of utilities, roads, and other infrastructure may require the use of herbicides to control vegetation. Pesticide spills during transit could happen if they are utilized for landscaping or other objectives.

It is expected that the Project will not be affected by the use of pesticides during the operation phase..

7.1.12 Natural Disaster Potential

7.1.12.1 Pre-Construction Phase

Uşak province is located in an area with moderate earthquake risk. Still, the construction will be carried out in accordance with the Building Earthquake Regulations. Considering the project's scale, the project's impacts alone are not sufficiently affecting its environment to trigger or significantly contribute to another trigger of any natural disaster, therefore assessed as *negligible* in significance on natural disasters.

7.1.12.2 Construction Phase

Uşak province is located in an area with moderate earthquake risk. Construction of the units will be in accordance with the Building Earthquake Regulations. Considering the project's scale, the project's impacts alone are not sufficiently affecting its environment to trigger or significantly contribute to another trigger of any natural disaster, therefore assessed as *negligible* in significance on natural disasters.

7.1.12.3 Operation Phase

Uşak province is located in an area with moderate earthquake risk. Considering the project's scale, the project's impacts alone are not sufficiently affecting its environment to trigger or significantly contribute to another trigger of any natural disaster, therefore assessed as *negligible* in significance on natural disasters.

7.1.13 Biodiversity and Protected Areas

In this section, the sensitivity of terrestrial and aquatic ecosystems, as well as the identified flora and fauna species within the project and impact areas will be assessed, followed by a magnitude impact on biodiversity and impact assessment.

The Project areas will not be located within any internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and Alliance for Zero Extinction (AZE) Sites. The nearest internationally recognized area is Murat Mountain, 15.5 kilometers away.

Critical Habitat

The WB ESS6, Biodiversity Conservation and Sustainable Management of Living Natural Resources criteria were used to identify Critical Living Areas in the Study Area. WB criteria for identifying Critical Habitats include rules were used to identify Critical Living Areas in the Study Area. WB criteria for identifying Critical Habitats include:

a) Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national approaches;
b) Habitat of significant importance to endemic or restricted-range species;
c) Habitat supporting globally or nationally significant concentrations of migratory or congregatory species;
d) Highly threatened or unique ecosystems; and
e) Ecological functions or characteristics that are needed to maintain the viability of the biodiversity values described above in (a) to (d).

The level of sensitivity of species and habitats are determined according to Table 21, and for the evaluation of the significance of the impacts on biodiversity of pre-construction, construction and operation phases of the project, the categorization matrix given in Chapter 4 is used.

Determining the ecological sensitivity criteria, the criteria used in defining critical habitat in WB ESS6 Guidance Note are considered. Accordingly, if a biodiversity component meets the critical habitat criteria; its sensitivity is evaluated as "High". Habitats and species that are globally widespread but locally or nationally protected species are assessed as "Medium" sensitivity. Natural habitats that do not meet the criteria for either medium or high sensitivity are assessed as low sensitivity. The criteria are also explained in Table 21.

Table 21 Criteria for Sensitivity/Value of Resource/Receptor (Ecology and Biodiversity)

Ecosystem Component	Sensitivity/Value Level		
	High (3)	**Medium (2)**	**Low (1)**
Designated Areas	• Areas that meet the criteria of the IUCN's Protected Area Categories Ia, Ib and II. • Key Biodiversity Areas (KBAs), which encompass Important Bird and Biodiversity Areas (IBAs). • UNESCO Natural and Mixed World Heritage Sites. • Sites that fit the designation criteria of the Alliance for Zero Extinction (AZE).	Nationally designated areas	N/A
Habitats	• Habitats that trigger critical habitat under the (d) and (e) criteria. • Habitats that support species of High sensitivity.	Areas of habitat that represent >1% distribution within Türkiye or are threatened at a national level. Habitats that support species of Medium sensitivity.	Natural habitats that do not meet the criteria for either medium or high sensitivity. Habitats that support species of Low sensitivity.
Species	• Species populations that trigger critical habitat under the (a), (b) and (c) criteria	Nationally/ regionally important concentrations of a Vulnerable (VU) species, or locally important concentrations of Critically Endangered (CR) and/or Endangered (EN) species. Locally important populations of endemic / rangerestricted species. Populations of migratory species that represent >1 % of the national population.	Locally important populations of Near Threatened (NT) or Vulnerable (VU) species, or locally important populations of species listed on Annexes to the Bern Convention.

Uşak Leather Mixed OIZ will avoid adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, Uşak Leather Mixed OIZ will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in ESS1 and with the requirements of ESS6. When necessary, Uşak Leather Mixed OIZ will ensure that competent biodiversity expertise is utilized to conduct the environmental and social assessment and the verification of the effectiveness and feasibility of mitigation measures. Where significant risks and adverse impacts on biodiversity have been identified, a Biodiversity Management Plan will be developed and implemented.

As a result, in assessment according to Table 21, terrestrial and aquatic habitats and flora and fauna species determined in the Project Area are considered not sensitive.

7.1.13.1 Pre-Construction Phase

The primary impact of the Project on terrestrial habitats and flora species will be in the pre-construction period. Topsoil stripping will be carried out during the pre-construction phase, and this will cause the populations and habitats of the flora species lost from the area. Since the habitat of the area is currently modified, the abundance and number of species in the area are low, and the species in question are not of critical or endemic importance, the threat status of these species is not expected to change due to the Project.

Aside from the loss of habitat in the Project Area, the overall impact of pre-construction activities, such as waste and effluent generation and air emissions, on vegetation and flora species is considered minimal. It is known that dust emissions that may occur, especially during the land preparation phase, will prevent plants from photosynthesizing by closing their stomata. In this context, the mitigation measures given in Chapter 8 will be followed.

As explained in the previous title, the habitat and flora species identified in the Project Area are not considered sensitive. As a result, the Project's impact on terrestrial flora species and habitats during the pre-construction phase is considered low.

Terrestrial fauna species in the Project Area and its vicinity will be affected by disturbance from pre-construction activities because of topsoil stripping and habitat loss. The fauna species that depend partly or totally on the habitats to be lost are the ones that will be mainly affected by the Project. The fauna determination studies were carried out, and no sensitive species were determined in the Project and impact area.

The impacts of pre-construction activities on fauna can be considered as follows: First is the direct impacts because of the degradation and loss of habitats due to pre-construction activities. Indirect impacts are disturbances from noise, dust and human activity in the pre-construction area. Secondly, impact of the pre-construction phase will be the vehicle traffic. The fauna species which have limited mobility will be prone to fauna mortality. All these effects can be eliminated by taking appropriate measures (see Chapter 8).

Most fauna species will leave the construction sites due to pre-construction impacts and move towards similar habitats in the immediate vicinity. As a result, the Project's low significance impact on terrestrial fauna species during the pre-construction phase is considered *negligible* with the mitigations in Chapter 8.

7.1.13.2 Construction Phase

The primary impact that may occur on flora and habitats during the construction works to be carried out within the scope of the Project is waste and air emissions. In this context, the mitigation measures given in Chapter 8 will be followed. As a result, the Project's impact on terrestrial habitats and flora species during the construction phase is considered low.

The impacts of construction activities on fauna are disturbances from noise, dust and human activity in the construction area. Another impact will be the vehicle traffic. Most fauna species will leave the construction sites due to impacts and move towards similar habitats in the immediate vicinity. As a result, the Project's impact on fauna species during the construction phase is considered to be low to *negligible* with the mitigations in Chapter 8.

7.1.13.3 Operation Phase

The operation activities of the Project are not anticipated to have an adverse impact on terrestrial species and habitats. Terrestrial fauna species that have already adapted to anthropogenic influences are expected to persist in similar habitats near the Project Area once the construction works are concluded. The impact of the Project's operation phase on terrestrial biodiversity has been assessed as negligible.

As a result, the Project's impacts on terrestrial habitats and flora-fauna species during the operation phase are considered to be low to *negligible* with the mitigations in Chapter 8.

7.2 Social Impacts of the Project

7.2.1 Population/Demography

7.2.1.1 Construction Phase

It is foreseen that the Project will create temporary employment. It is planned to employ twenty-five (25) personnel during the construction phase of the project. The construction of the solar power plants is planned to take twelve (12) months from the date of project approval.

As the construction activities of the Project will be carried out in Uşak Leather Mixed OIZ which is about 7 km from Uşak City center, it is anticipated by Uşak Leather Mixed OIZ that no accommodation facilities will be constructed for the workers within the scope of the Project. No negative impact is expected from the Project in terms of population level in the settlements expected to be affected during the construction phase of the Project.

Labor influx as a result of construction is not expected during the project. The construction activities do not require additional/skilled labor from outside the locality. While the majority of the workforce is expected to be locally sourced, rental accommodation may be considered as a contingency plan for specialized tasks or unforeseen workforce needs.

Containers can be placed in the Project area for those who will work on the Project to rest, eat and for sanitary facilities.

To avoid any negative impact on the local community due to the presence of workers during the construction phase and their potential interaction with the local community, contractors will be responsible for providing code of conduct training to each worker. The contractor will inform all workers orally and in writing about the code of conduct during the recruitment phase and the code of conduct document will be signed. The Uşak Leather Mixed OIZ will ensure that the contractors establish the code of conduct and check that the workers have received training on communication with the public before starting work. In order to avoid the negative impacts of any workforce influx, Uşak Leather Mixed OIZ aims to hire as many local people as possible, and this will be added to the terms of the contracts of the Contractor and possible subcontractors to ensure this.

As a result, no change in the population is expected due to the project. The construction phase of the project will meet ESS1 in terms of population and demography.

7.2.1.2 Operation Phase

In the operation phase, 3 personnel are expected to be employed by Uşak Leather Mixed OIZ. Uşak Leather Mixed OIZ plans to employ all the required personnel locally. As a result, no change in the population is expected due to the project. The operation phase of the project will meet ESS1 in terms of population and demography.

7.2.2 Cultural Heritage

The project area is within the boundaries of Uşak Leather Mixed OIZ. Necessary evaluations were made by the authorized institutions and organizations related to Cultural Assets during the selection of the OIZ location. Therefore, the project will not cause alteration, damage or removal of any known cultural heritage assets and constrain access to cultural sites for the communities.

If any cultural property is found during construction (excavation) works ("chance find"), the Chance Find Procedure will be implemented, and any findings will be reported to the local authorities. Chance Finds Procedure is given in Annex 9. In such cases, construction works will be stopped immediately, the area will be taken under protection, and the Kütahya Cultural Heritage Conservation Regional Board Directorate will be notified. The construction works will not resume unless permitted by the relevant authority. All phases of the project will meet ESS1 and ESS8 in terms of cultural heritage.

7.2.3 Economy/Employment

7.2.3.1 Construction Phase

It is foreseen that the Project will create temporary employment. The construction of the solar power plants is planned to take twelve (12) months from the date of project approval. The construction activities do not require additional/skilled labor from outside the locality and forced labor and/or child labor is prohibited by Turkish Law and LMP of the project. During the construction phase, it is planned to employ 25 (twenty-five) people. Uşak Leather Mixed OIZ plans to employ all of the required personnel locally.

Regarding procurements of goods and services, priority will be given to contributing to the local economy through the use of local materials during the construction period and paying attention to procuring various goods and services locally.

Work permits of the workers to be employed within the operational scope of the Project will be monitored by Uşak Leather Mixed OIZ and recruitment will be carried out within the framework of legal practices. Legal work permits will be checked, and recruitment will be carried out in accordance with the working conditions detailed in Chapter 7.2.6 during construction and operation phases. Unregistered, child or forced labor will not be allowed. The construction phase of the project will meet ESSs in terms of economy and employment.

As a result, the labor relations under the project will be guided by the Labor Management Procedure (LMP) of the TOIZsP and the Contractor will produce project specific Labor Management Plan in compliance with the LMP.

7.2.3.2 Operation Phase

In the operation phase, 3 personnel are expected to be employed by Uşak Leather Mixed OIZ. It is expected that jobs will be created in factories that will benefit from the SPP, and contribute to economic development in the area. Installing the 3.682 kWp Solar Power Plants Project will increase the interest in the OIZ and attract new investments.

The project will provide benefits for local communities through new employment opportunities during the construction phase and, to a lesser extent, at the operating phase, and opportunities for local businesses. The operation phase of the project will meet ESSs in terms of economy and employment.

7.2.4 Vulnerable/Disadvantaged Groups

Vulnerable groups according to the information provided by the headman of neighborhoods are presented in Chapter 6.5. Construction works for the Project will have a short-term and temporary impact. The Project does not require any relocation or land acquisition.

The project does not involve access restriction, resettlement, or physical displacement of any persons. No damage to livelihood income for the vulnerable groups is foreseen. Therefore, vulnerable/disadvantaged groups within the Project impact area are not expected to be adversely affected by the Project. Considering the social benefits (e.g. increased employment opportunities, prevention of environmental pollution) of the Project, the Project has the potential to benefit vulnerable/disadvantaged groups.

All phases of the project will meet ESS1 and ESS10 in terms of vulnerable and disadvantaged groups.

7.2.5 Land Requirement

The decision to establish the Organized Leather Industry Zone was made on October 19, 1988. To achieve this, the Uşak Chamber of Commerce and Industry, the Provincial Special Administration, the Uşak Municipality, the Tanners' Tradesmen Association, and the Leather Industrialists Association joined forces to create the Uşak Organized Leather Industry Zone Initiative. The land previously used covered 284 ha of agricultural land.

The Uşak Leather Mixed Organized Industrial Zone is 7-10 kilometers from the Uşak-Denizli Highway. In 2005, the site selection committee designated an additional 150 ha facing the Uşak-Denizli Highway south of the OIZ as an expansion zone. The Ministry of Industry and Technology approved this area's zoning plan in 2016. Fifty hectares of this area have been transferred to the OIZ from the treasury. The 100-hectare area is subject to private ownership and not yet expropriated.

All parcels have been owned by the OIZ since 1996. All parcels, except for Parcel no.159/5, are mortgaged against the building on them, based on the regulation on the complete or partial gratuitous allocation of parcels located in OIZs. The Project does not require land acquisition.

The Project does not involve resettlement or physical displacement of any persons. The Project will not cause damage to the livelihood income of any households, vulnerable groups. The land where the power plant will be built on Parcel no.159/5 is observed to be used by a few industrialists, with the permission of the OIZ, for a certain period during the summer months to dry wool by laying it on the ground in a primitive manner. However, these companies have their own facilities for drying wool and by drying the wool on these OIZ lands, they reduce their electricity consumption free of cost. which uses the project area owned by the OIZ for drying wool with permission to reduce electricity costs, does not generate any income from this situation, it is obvious that there will be no loss of income if they are not able to use this area. However, there is no loss of income due to their inability to continue using this area. In addition, loss of employment/jobs will also not result from the Project. 25-30 trees will be lost on the land where the ground-mounted solar power plants, numbered as (6), (7), and (8), will be established. These trees are not for productive use, and they belong to the OIZ.

All phases of the project will meet ESS1 in terms of land requirement.

7.2.6 Working Conditions and Labor Management

Labor Management Procedures (LMP) have been prepared for Türkiye Organized Industrial Zones Project. It aims to protect workers' rights and ensure the management and control of activities that may pose labor-related risks. It describes how MoIT will comply with the requirements of World Bank Environmental and Social Standard 2 (ESS 2), "Labor and Working Conditions", and with Turkish labor, employment and occupational health and safety laws.

Labor relations are governed by the provisions of the Turkish Labor Law (4857 numbered). The Law of Turkish on Occupational Health and Safety (numbered 6331) provides for provisions on occupational health and safety and applies to direct and contracted workers, including foreign workers. Social Security and General Health Insurance Law (Law No: 5510) regulates social insurance and general health insurance.

Uşak Leather Mixed OIZ will be responsible for human resources during the construction and operation phases. The Project will comply with national labor, social security and occupational health and safety laws and the principles and standards. The Project will comply with national labor, social security and occupational health and safety laws and the principles and standards of the International Labor Organization convention. The Project Owner is responsible for providing minimum legal labor standards as per International Labor Organization (ILO) regulations (prohibition of use of child/forced labor, no discrimination, working hours, minimum wages). Full compliance with all Turkish Laws and International Labor Organization Conventions regarding child labor, forced labor, discrimination, freedom of association, collective bargaining, working hours and minimum wages.

Uşak Leather Mixed OIZ will be responsible for the followings:

- Not use or employ children during the construction phase under 18 years of age,
- Not use or employ forced labor and ensure a Human Resources Policy in compliance with the European Convention on Human Rights and the Turkish Constitution,
- Elimination of discrimination based on language, race, sex, political opinion, philosophical belief, and religion in labor relations,
- Ensuring workers' access to the right to collective bargaining (Law No. 6356 on Trade Unions and 4857 Labor Law on Collective Bargaining),

- Ensure access to an effectively functioning Project grievance mechanism.
- Ensure workers are provided with written contracts containing i.a. job description, working hours, information about their rights and duties, code of conduct and information of workers' GM.
- In order to reduce the possible impacts on the neighborhoods, facilities such as food, sanitary facilities and resting areas will be provided within the Project Area in accordance with the use of the employees.
- Review and approve the contractor's labor management plans that should be in line with the LMP prior to the construction phase,
- Review and approve the contractor's OHS plan prior to the construction phase,
- Monitor that contractors/subcontractors fulfil their obligations to contracted workers as set out in relevant procurement documents in accordance with ESS2, LMP, national labor and OHS laws,
- Keeping records of recruitment and employment processes of direct reports,
- Monitor the potential risks of child labor, forced labor and serious safety issues in relation to primary support workers,
- Monitor the training of relevant project staff,
- Ensure that a grievance mechanism for project workers is established and implemented and that workers are informed about it,
- Monitor the training of employees on Code of Conduct, Sexual Harassment/Sexual Abuse prevention training, and to monitor their compliance,
- Monitor that occupational health and safety standards are met in workplaces in line with national occupational health and safety legislation, ESS2 OHS requirements, occupational health and safety plan,
- Monitoring employees' compliance with work behavior rules,
- Establish and implement a procedure for documenting specific project-related incidents such as occupational accidents, illnesses and time-loss accidents.
- In cases of severe, fatal and mass accidents, informing law enforcement, Labor Inspectorate and MoIT,

In addition to legal requirements and the Labor Management Procedure, the contractor will be responsible for the followings:

- Employ or engage qualified social, labor and occupational safety experts to implement the project-specific labor management plan, occupational health and safety plans and manage the performance of subcontractors,
- Develop a labor management plan for review and approval of Uşak Leather Mixed OIZ,
- Develop an OHS plan for review and approval of Uşak Leather Mixed OIZ,
- Ensure labor management plan and OHS plan are in place and applied by all contract and subcontracted workers,
- Supervise subcontractors' adherence to the labor management procedure and OHS plans,
- Keeping records of the recruitment and employment processes of contracted employees,
- Follow up the employment process of subcontracted workers to ensure that it is carried out in accordance with this labor management procedure and national labor law,
- Developing and implementing a grievance mechanism for employees, evaluating complaints from contracted and subcontracted workers,
- Provide written contracts to the contracted workers with job descriptions, wages, working hours, rights and duties fully described,

- Provide regular induction training to employees, including but not limited to OHS, social familiarization, Code of Conduct, Sexual Harassment/Sexual Abuse prevention training,
- Ensure that all contractor and subcontractor employees understand and sign the Code of Conduct before starting work,
- Establish and implement a procedure for recording/ documenting specific project-related incidents such as occupational accidents, illnesses and time-loss accidents,
- Notify law enforcement, Labor Inspectorate and OIZ in case of severe, fatal and mass accidents.

7.2.6.1 Construction Phase

Personnel will be employed by the Contractor during the construction phase of the Project. During the project construction, it is anticipated that 25 workers will be mobilized. Where possible, options for employment of local labor will be considered. Child labor and forced labor shall be prohibited. All Turkish Laws and International Labor Organization (ILO) Conventions on child labor, forced labor, discrimination, freedom of association and the right to collective bargaining will be complied with.

Labor influx as a result of construction is not expected during the project. The construction activities do not require additional/skilled labor from outside the locality. While the majority of the workforce is expected to be locally sourced, rental accommodation may be considered as a contingency plan for specialized tasks or unforeseen workforce needs. In addition, There may be a need for specialized people in their fields and they may come from out of province. In such cases, these individuals will be accommodated in rental residences in the city center.

The construction phase of the project will meet ESS1 and ESS2 in terms of working conditions and labor management.

7.2.6.2 Operation Phase

A labor force of 3 personnel shall be required during the operation phase of the project. However, since the number of personnel to work on the project is limited, no labor flow is expected. Uşak Leather Mixed OIZ plans to employ all of the required personnel locally. Child labor and forced labor shall be prohibited. All Turkish Laws and International Labor Organization (ILO) Conventions on child labor, forced labor, discrimination, freedom of association and the right to collective bargaining will be complied with.

The operation phase of the project will meet ESS1 and ESS2 in terms of working conditions and labor management.

7.2.6.3 Training

On-the-job and OHS training of all employees will be given and recorded within the scope of the Regulation on the Procedures and Principles of Occupational Health and Safety Trainings of Employees published in the Official Gazette numbered 30430 and dated 05.2018.

According to LMP, project workers will receive OHS training at the beginning of their employment, as induction, and regularly thereafter, to cover legislative requirements. Training will cover the relevant aspects of OHS associated with daily work, including the ability to stop work without imminent danger and respond to emergencies.

The consultant will also provide training to the personnel about environmental and social standards of the project, ESMP and SEP. The Contractor shall inform its personnel, subject to the supervision of the Uşak Leather Mixed OIZ, on the implementation of all measures to prevent and/or minimize environmental and social impacts during construction.

Training on the code of conduct will be provided to workers. The scope of the Code of Conduct will be:

- General conditions

- Human rights and labor rights
- International humanitarian law
- Protection of the environment
- Anti-corruption
- Gender-Based Violence (GBV), Sexual Harassment, Sexual Exploitation and Abuse (SH/SEA)
- Grievance Mechanism

The contractor will also provide GBV, SEA/SH and GM trainings to the employees. The scope of this training will be:

- Gender-Based Violence (GBV), Sexual Harassment, Sexual Exploitation and Abuse
- Grievance Mechanism.

Training will be repeated at regular intervals, taking into account the changing and emerging new risks specified in the Regulation on the Procedures and Principles of Occupational Health and Safety Trainings of Employees. Information and training activities will be carried out not only for employees but also on measures to be taken for public health and safety.

Measurement and evaluation should be carried out at the end of the training. According to the results of the evaluation, it can be determined whether the training is effective or not and if necessary, changes can be made in the training programme or trainers, or the training can be repeated.

Training records will be kept on file. These records will include a description of the training, the number of hours of training provided, training attendance records, and results of evaluations.

7.2.7 Community Health and Safety

Community Health and Safety is covered under the WB ESF ESS4. ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

7.2.7.1 Construction Phase

Public health and safety issues are associated with risk factors that may arise from the construction and operation periods of the Project. The following potential impacts were identified during the construction phase of the Project.

- Increased traffic and road traffic accidents and injuries,
- Impact of the project area on accessibility for the community
- Damage to existing infrastructure, increased demand on existing infrastructure and disruption of services,
- Noise and vibration,
- Threat to community culture, safety and security linked to the presence of construction workers and business opportunists
- Risk of infectious diseases such as sexually transmitted diseases due to labor flows and interaction of temporary workers with host communities,

Kütahya – Uşak State Highway (D595), Afyonkarahisar – Uşak State Highway (E96/D300) and OIZ internal roads will be used for transportation and traffic to the project area. Local roads that are used to access settlements will not be used. Therefore, negative impacts related to transportation and traffic will not be caused.

The project does not involve access restriction; therefore, the project will not have an impact on accessibility for the community.

The project area is within the OIZ and the OIZ has infrastructure, there is no situation that will disrupt public services in the project area.

The Project activities within the construction phase are associated with a range of activities that generate noise. Since the planned ground-mounted and roof-type SPP are in an industrial area, the closest settlement to the construction site is Muharremşah Neighborhood, 2.5 km away. There exist industries in the neighboring parcels. There are no sensitive receptors such as health centers, schools, or mosques near the Project Area.

There will be no impact on community culture and safety as there will be no interaction with society and no impact on community transportation and sensitive groups is expected. As the Project area is located within the OIZ and the OIZ is currently surrounded by fences, warning signs and additional security measures will be implemented so that access and negative impacts on public health will be prevented.

As mentioned above, the contractor will also provide GBV, SEA/SH and GM trainings to the employees. Besides awareness-raising activities will be organized for workers and security personnel to prevent cultural problems due to rude behavior of workers and/or security personnel towards the population of the area related to gender-based violence (GBV) and sexual exploitation and abuse and sexual harassment and attitudes that disrupt the environment such as noise.

The construction phase of the project will meet ESS1 and ESS4 in terms of community health and safety.

7.2.7.2 Operation Phase

During the operation phase of the project, there will be no potential impacts on community health and safety. Entry to the project area will be prevented except for authorized persons. Wire fences for this purpose will be installed. Thus, the negative effects that may occur due to uncontrolled entry will be prevented.

During the operation phase of the project, it is not expected to be an activity that will create emissions. Solar systems offer significant benefits for public health and safety, particularly through the reduction of air pollution and the promotion of renewable energy. Addressing potential negative impacts with appropriate mitigation strategies will ensure that these systems can be safely and effectively integrated. It will lower the risk of fire by making sure solar PV systems are installed by trained specialists. Regular maintenance and inspections will increase the solar PV system's lifespan and help avert possible electrical issues. Solar panels' glare can be minimized, and their visual impact can be lessened by using anti-reflective coatings. This will also reduce the risk of birds colliding with the panels by mitigating the illusion of water bodies (a phenomenon called the “lake effect”).

The operation phase of the project will meet ESS1 and ESS4 in terms of community health and safety.

7.2.8 Traffic and Transportation

Kütahya-Uşak Highway (D595) and OIZ internal roads will be used for transportation and traffic to the project area. Local roads that are used to access settlements will not be used.

Therefore, negative impacts related to transportation and traffic will not be caused. Considering the current traffic and capacity of the state highway, the project will not bring additional traffic load to the state highway.

However general measures such as driver training, speed limits, limiting unnecessary use of noisy equipment, etc. will be implemented.

7.2.8.1 Construction Phase

The transportation of the construction materials to and from construction sites, vehicle movement during the construction activities and need to relocate services/utilities (and therefore dig up roads and access

ways) will create temporary traffic disruptions, disturbances for the local community and pose a risk to pedestrians.

Local roads used to access settlements will not be used. Therefore, negative impacts related to transportation and traffic will not be caused. However general measures such as driver training, speed limits, limiting unnecessary use of noisy equipment, etc. will be implemented. Maintenance of the construction machinery will be followed, and contractor will install all signs, barriers and control devices needed to ensure the safe use of the road by traffic and pedestrians.

The construction phase of the project will meet ESS1 and ESS4 in terms of traffic and transportation.

7.2.8.2 Operation Phase

The Project will not cause any transportation/traffic problems. Transportation to the project site will be made via the existing road, which belongs to the OIZ.

It is expected that 3 people will be employed by Uşak Leather Mixed OIZ in the SPP during the operation phase. No traffic impact is expected during the operation phase of the Project.

The operation phase of the project will meet ESS1 and ESS4 in terms of traffic and transportation.

7.2.9 Occupational Health and Safety

During the construction of the Project, the general risks will be working at height, moving objects, slips, trips and falls, noise, material & manual handling, collapse, electricity, etc. Electrical hazards are also a concern, as workers may come into contact with exposed wiring or electrical equipment, resulting in electric shocks or burns. To prevent these accidents, workers must be trained in proper electrical safety procedures, such as wearing insulated gloves and shoes. Heavy machinery is another major risk on construction sites, as workers can be struck by or caught in machinery, leading to serious injury or even death. To reduce these risks, employers should provide proper training and safety equipment, such as reflective clothing and hard hats, and enforce strict safety protocols. Dust and other airborne pollutants are also a concern on construction sites, as they can cause respiratory issues for workers and nearby residents. Respiratory protection such as dust masks or respirators should be provided to reduce these risks and exposure to these pollutants should be limited.

For the construction period, emergency plans and procedures will be implemented by the Contractor according to the national legislation. The OIZ will prepare its emergency plans to support the establishments for the operation phase.

National laws/ regulations and international conventions/ standards related with Occupational Health and Safety are;

- Law on Occupational Health and Safety (No. 6331, Published on Official Gazette dated: 30.06.2012),
- Labor Law (No. 4857, Published on Official Gazette dated: 10.06.2003),
- Law of Obligations (No. 6098, Published on Official Gazette dated: 04.02.2011)
- General Health Law (No. 1590, on Official Gazette dated: 06.05.1930)
- Social Insurance and General Health Insurance Law (No. 5510, Published on Official Gazette dated: 16.06.2006)
- Regulation on Occupational Safety and Health Services (No: 28512, Published on Official Gazette dated: 29.12.2012)
- Regulation on Duties, Rights and Responsibilities of OSEs (No: 28512, Published on Official Gazette dated: 29.12.2012),
- Regulation on Occupational Health and Safety in Construction Works (No: 28786, Published on Official Gazette dated: 05.10.2013),

- Regulation on the Use of Personal Protection Equipment at Workplaces (No: 28695 Published on Official Gazette dated: 02.07.2013),
- Regulation on Emergency Situations in Workplaces (No: 28681, Published on Official Gazette dated: 18.06.2013),
- Regulation on the Procedures and Principles of Occupational Health and Safety Training of Employees (No: 18371, Published on Official Gazette dated: 15.05.2013),
- Regulation on Health and Safety Precautions Regarding Working with Chemicals (No: 28733, Published on Official Gazette dated: 12.08.2013),
- Regulation on the Protection of Workers from Noise Related Risks (No: 28721, Published on Official Gazette dated: 28.07.2013),
- Regulation on the Protection of Workers from Vibration Related Risks (No: 28743, Published on Official Gazette dated: 22.08.2013),
- Regulation on Protection of Workers from Explosive Hazards (Published on Official Gazette dated: 30.04.2013, numbered: 28633)
- Regulation on Management of Dust (Published on Official Gazette dated: 05.11.2013, numbered: 28812),
- Regulation on Health and Safety Signs (Published on Official Gazette dated: 11.09.2013, numbered: 28762),
- Regulation on the Occupational Health and Safety for Temporary or Fixed Term Jobs (Published on Official Gazette dated: 23.08.2013, numbered: 28744),
- First Aid Regulation (Published on Official Gazette dated: 29.07.2015, numbered: 29429),
- Regulation on Personal Protection Equipment (Published on Official Gazette dated: 01.05.2019, numbered: 30761),
- Manual Handling Operations Regulation (Published on Official Gazette dated: 24.07.2013, numbered: 28717),
- Regulation on the Procedures and Principles of Employment of Children and Young Workers (Published on Official Gazette dated: 06.04.2004, numbered: 25425),
- Regulation on Risk Assessment for Occupational Health and Safety (Published on Official Gazette dated: 29.12.2012, numbered: 28512),
- Regulation on Health and Safety Conditions Regarding Use of Work Equipment (Published on Official Gazette dated: 25.04.2013, numbered: 28628),
- Communiqué on Occupational Health and Safety Hazard Classes List (Published on Official Gazette dated: 26.12.2012, numbered: 28509),
- ILO Conventions including Occupational Safety and Health Convention (No. 155), Occupational Health Services Convention (No. 161), and Safety and Health in Construction Convention (No. 167),
- WB ESS2,
- WBG Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution
- WB EHS Guidelines for Waste Management Facilities,
- Türkiye Organized Industrial Zones Project Labor Management Procedure.

7.2.9.1 Pre-Construction Phase

During the pre-construction phase (before construction works start), the contractor will prepare a Risk Assessment Report, Emergency Preparedness and Response Plan and Occupational Health and Safety Management Plan in accordance with Turkish legislation, WB ESS 2 and WB EHS Guidelines for Electric Power Transmission and Distribution, WBG General EHS Guidelines: Occupational Health and Safety, and ILO standards.

Occupational Health and Safety Management Plan will include the assessment of below topics as applicable:

- General Facility Design and Operation
- Communication and Training
- Physical Hazards
- Chemical Hazards
- Biological Hazards
- Radiological Hazards
- Personal Protective Equipment (PPE)
- Special Hazard Environments
- Monitoring

Specifically, the objectives associated with the Occupational Health and Safety Management Plan are:

- Minimize the risk of occupational health and safety hazards to the workers,
- Prevention of work-related accidents, reporting near misses, personnel injuries and occupational illnesses,
- Ensure compliance with all applicable occupational health and safety regulations and other legal and contractual requirements,
- Integrate health and safety procedures and safe work practices into every operational activity,
- Encourage employees to maintain a healthy and safe workplace through periodic reviews of operational procedures, and provision of training,
- Ensure the availability of resources to fully implement the Health and Safety policy.

According to the relevant provision of the national laws/ regulations and international conventions/ standards, all contractors and sub-contractors shall manage the construction site in such a way that the workers and communities are properly protected against possible OHS risks. The following OHS standard requirements should as a minimum be included in the OHS Plan to be prepared by the contractors:

- Risk assessment procedure,
- Work permitting for hazardous work (working at heights, hot work, work on energized lines, work within confined spaces),
- Golden rules for life-threatening works,
- Emergency response procedure,
- Fall prevention and working at heights procedure,
- Excavations safety, ladders and scaffolders safety; welding and cutting safety; Cranes, Derricks, and forklifts safety; power and hand tools safety,
- Respiratory prevention of chemical and airborne hazards procedure (including dust, silica and asbestos);
- Electrical safety procedure (hazardous energies control, lock out tag out, energy verification, safe distance work, wiring and design protection, grounding, circuit protection, arc fault protection, PPE and dielectric tools);
- Hazards communication procedure; noise and vibration safety; steel erection safety; fire safety; material handling safety; concrete and masonry safety,
- Using PPE procedure,
- OHS training procedure, and
- Refuse to work policy.

The Occupational Health and Safety Management Plan shall be periodically revised by the contractor whenever there is a major accident, changes in organization, processes, procedures, approved materials (including risk assessment), legislation, and work patterns. In addition, the Occupational

Health and Safety Management Plan will, among other issues, also include roles and OHS responsibilities. The contractor will appoint its own OHS staff that will be responsible for the implementation and supervision of the OHS.

For a possible accident and emergency, an Emergency Preparedness and Response Plan shall be prepared by the contractor, emergency teams shall be established, and drills and trainings shall be conducted in accordance with emergency scenarios. The emergency Preparedness and Response Plan should include;

- Emergency scenarios and relevant emergency preparedness and response actions with the allocations of responsibilities to local communities and authorities where appropriate,
- First aid training,
- Special trainings to be given to extinguishing, rescue and protection teams,
- Specific stakeholder engagement based on consultation and participation with government and communities regarding the nature and potential consequences of the Project-related risks,
- Training of the personnel for the response to emergencies in accordance with the requirements outlined in the specifications,
- Emergency drills to be conducted, at least once a year and in formats according to Regulation on Emergencies in Workplaces,
- Evaluation of findings and lessons learnt from drills and corrective actions.

The pre-construction phase of the project will meet ESS1 and ESS2 in terms of occupational health and safety.

7.2.9.2 Construction Phase

The construction phase of the project will meet ESS1 and ESS2 in terms of occupational health and safety.

As defined in the previous section, OHS Plan that is prepared in pre-construction stage will be implemented by contractor. As a general approach, main OHS risks are summarized as follows:

7.2.9.2.1 Working at Height

Work at height is the biggest single cause of fatal and serious injury in the construction industry, particularly on smaller projects. Working from a level difference and the possibility of injury as a result of falling are considered for the employees as “working at height”.

Ladders, scaffolds, mobile elevating work platforms and suspended access equipment will be used during the construction and falls occur from them. The risk related to working at height will be mitigated by the implementation of the mitigation measures presented in Chapter 8.

7.2.9.2.2 Working with Chemicals

Many products used at construction sites consist of chemicals. Workers may be exposed to dangerous chemicals during construction activities. These include lead, silica, carbon monoxide, and paints. The chemicals can exist in several forms and can enter the body in a variety of different ways including inhalation (breathed in), ingestion, absorption and injection. Chemical exposure causes acute and chronic health problems.

The risk related to working with chemicals will be mitigated by the implementation of the mitigation measures presented in Chapter 8.

7.2.9.2.3 Fire and Explosion

Flammable materials, electrical equipment and heat sources will be present at the construction site. This means that there's a multitude of sources for fires or explosions. Hazards that can cause fires and explosions during the construction period are given below:

- There will be many hazards of high heat and sparks on construction sites. Equipment, such as those used in welding, cutting, and grinding, may create sparks when being used that can catch fire.
- Electrical errors, i.e. electrical wires short-circuit, are insufficient ground fault protection causes fires.
- Defective equipment, for example tools, heating equipment, and electrical wiring can cause a fire when being used.
- Sources of fuel, such as propane, gas lines, and acetylene on construction sites can cause a fire if they come in contact with a heat source.
- Chemical explosions (open solvents/fuels, fuel tanks and chemical tanks or drums), fires (open solvents and vehicles/heavy equipment), pressurized container explosions (vehicle tires, pipes/pipelines and water tanks) and arc flashes/blasts (switchboards, circuit breakers, transformers, other electrical wiring and parts) might cause to construction site explosions.
- Temporary lighting and lamps - where necessary the illumination of work areas is from temporary lighting installed or from specific task lighting. The hazards from such lighting come from placing light units too close to combustible items not allowing the lamps to cool or from broken lamp units where hot surfaces are exposed. Lighting units should be secured in a position away from combustible material to prevent them from being dislodged. Halogen and halide lights should not be used due to their high operating temperatures. Lamp holders should be provided that ensure bulbs of different operating voltages cannot be interchanged and those not fitted with a bulb should be capped off. Light units should be inspected periodically and broken units should be removed immediately.
- Portable heaters should only be permitted where necessary and then portable heaters should be regarded in the same category as 'hot work' and an assessment should be made of the suitability of the heater and its location; the most hazardous types of portable heaters should be avoided.

In all applications Regulation on Protection of Workers from Explosive Hazards will be complied with. Explosion protection document which is necessary according to the regulation will be prepared by the contractor. The risk related to fire and explosion will be mitigated by the implementation of the mitigation measures presented in Chapter 8.

7.2.9.2.4 Noise

During the construction phase, noise will be generated due to excavation and construction works. This impact can be mitigated with general measures such as arranging the working hours during which the noisy activities will be carried out and providing the necessary information to the enterprise. Besides, the measures (e.g., regular maintenance of the equipment, selection of low noise machines, use of personnel protective equipment etc.) will be taken to reduce the noise to acceptable limits (below the (LEX, 8 hour) = 87 dB(A)) for the health and safety of the workers in accordance with the Regulation on Protection of the Workers from the Noise Risks (28.07.2013/28721).

These impacts will be mitigated by the implementation of the mitigation measures presented in Chapter 8.

7.2.9.2.5 Vibration

Workers will be exposed to vibration when using grinders, polishers, strimmers, chainsaws, power drills, breakers, crashers and concrete vibrators. Vibration can lead to permanent injury of the hands and arms. The vibration effect will be low for the workers.

In all applications limits mentioned in Regulation on the Protection of Workers from Vibration Related Risks will be complied with. Daily exposure action value for an eight-hour working period (the value that, if exceeded, requires controlling the risks that may arise from the employee's exposure to vibration) 2.5 m/s^2 for hand-arm vibration; 0.5 m/s^2 for whole body vibration. The daily exposure limit value for an eight-hour working period (the value to which employees should never be exposed to vibration above this value) is 5 m/s2 for hand-arm vibration; 1.15 m/s^2 for whole body vibration.

7.2.9.3 Operation Phase

The operation phase of the project will meet ESS1 and ESS2 in terms of occupational health and safety.

Prior to start operation, Occupational Health and Safety Management Plan will be prepared. This Plan will include the assessment of below topics as applicable:

- General Facility Design and Operation
- Communication and Training
- Physical Hazards
- Chemical Hazards
- Biological Hazards
- Radiological Hazards
- Personal Protective Equipment (PPE)
- Special Hazard Environments
- Monitoring

As a general approach, main OHS risks are summarized as follows:

7.2.9.3.1 Working at Height

Although necessary precautions will be implemented at the working areas at height by covering ground-mounted safety railing and compliant handrail systems, lifelines, and working/maintaining platforms, there is a risk of falling due to working at height during monitoring, maintenance and repair. Although the risk is low, the risk will be mitigated by the implementation of the mitigation measures presented in Chapter 8.

7.2.9.3.2 Working with Chemicals

Solar PV panels need to be washed at regular intervals to be cleaned. During this washing process, chemicals, solvents and cleaning agents may be used. Use of these cleaning solutions and chemicals for panel maintenance can lead to skin irritation or respiratory issues if not handled properly. In addition, chemicals may be present in the tools/equipment used during repair and maintenance work. Uşak Leather Mixed OIZ will ensure that regular training is provided on chemical safety and proper handling procedures.

While these activities are not anticipated to pose significant risks to occupational health, appropriate protective equipment will be provided to all personnel involved.

7.2.9.3.3 Fire and Explosion

Electrical fires in solar power plants can be caused by faulty wiring, shoddy installation techniques, or equipment malfunctions. This danger can be reduced by using high-quality materials and components, hiring qualified specialists to design and install systems correctly, installing fire detection and extinguishing systems, and performing routine maintenance.

In all applications Regulation on Protection of Workers from Explosive Hazards will be complied with. As stated in the Explosion Protection Document Regulation; An explosion protection document will be prepared to protect the health and safety of employees from the dangers of explosive atmospheres that

may occur in workplaces. The explosion protection document will be prepared before the start of work and will be revised whenever there is a significant change, expansion or modification of the workplace, work equipment or work organization. The risk related to fire and explosion will be mitigated by the implementation of the mitigation measures presented in Chapter 8.

7.2.9.3.4 Noise

Electric shocks or burns from live cables and components pose a risk, especially during the installation and maintenance of the SPP. Appropriate electrical safety training, use of personal protective equipment (PPE) such as insulated gloves and tools, and ensuring that installations are carried out according to electrical regulations and standards will be ensured.

Some community members may be concerned about Electromagnetic Fields (EMF) exposure from solar PV systems, even though EMF levels are often low and safe. To allay worries and guarantee that installations adhere to pertinent safety regulations, information and training need to be given.

7.2.9.3.5 Vibration

Exposure to high temperatures, especially in sunny and arid environments while maintenance work, can lead to heat stress. Methods such as access to water and shaded rest areas and the implementation of work/rest cycles to avoid overheating will be used to reduce heat stress.

7.2.9.3.6 Noise

Ground-mounted solar power plants (SPPs) are known for their quiet operation compared to many other forms of energy generation. However, there are a few potential sources of noise associated with their operation. Inverters convert direct current (DC) from solar panels to alternating current (AC) for use in the grid or home. They can produce a low-level humming or buzzing sound. Typically, inverter noise is around 40-50 decibels (dB), which is comparable to a quiet office or a refrigerator. Installing inverters in well-ventilated but enclosed spaces, away from living areas, can minimize any audible impact. Also, noise may occur from the equipment/tools during the maintenance and repair work of components of SPP. While these activities are not anticipated to pose significant risks to occupational health, appropriate protective equipment will be provided to all personnel involved.

7.2.9.3.7 Vibration

Vibration may occur from the equipment/tools during the maintenance and repair work of components of SPP. While these activities are not anticipated to pose significant risks to occupational health, appropriate protective equipment will be provided to all personnel involved.

8 ENVIRONMENTAL AND SOCIAL ASPECTS, AND BEST PRACTICE MITIGATION MEASURES

This chapter presents cost effective and feasible measures to reduce adverse environmental and social impacts to acceptable level. Mitigation measures listed within the scope of the this ESMP are presented in Table 22, Table 23 and Table 24. During the implementation of the mitigation plan, Project Standards as described in Chapter 3 will be complied with.

The mitigation measures foreseen to be applied as a minimum for the project are as follows[17]:

[17] *These measures are from driven from Environmental and Social Code of Practices of WBG. ESCOPs are pre-prepared environmental and social risks management measures for standard construction, livelihood or household support activities. To manage and mitigate potential negative environmental impacts, the project applies Environmental Codes of Practice (ESCOPs); outlined in this document. The ESCOPs contain specific, detailed and tangible measures that would mitigate the potential impacts of each type of eligible subproject activity under the project. They are marked as relevant for the pre-construction phase, the construction phase, or the operation phase of activities. They are intended to be simple risk mitigation and management measures, readily usable to the Borrower and contractors.*

8.1 Mitigation Plan for the Pre-Construction Phase

Table 22 Mitigations for the Pre-Construction Phase

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Physical Environment						
Air Quality: Dust Emissions	Reducing air quality surrounding the Project Area, Temporarily reduced line of sight on nearby roads and highways, Possible health hazards due to extended exposure to high dust emissions in the Project Area. Possibility of erosion with strong winds.	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will prepare and implement an Air Quality and Emissions Management Plan that is in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific). The Air Quality and Emissions Management Plan will be prepared by the Contractor 30 days prior to commencement of the works to ensure; This condition will be included within Contractor's contract. The employees will be trained on the Air Quality and Emissions Management Plan; • Dust will be minimized from open area sources, including storage piles, by using control measures such as installing enclosures and covers and increasing the moisture content; • The drop height of potentially dust generating materials will be kept as low as possible; • Dust suppression methods will be applied at construction sites to mitigate Project-related dust emissions. In this respect, the upper layers of the work sites/materials will be kept at a humidity level of about 10%. Watering will be applied at any time necessary including night time, weekends or off-days by using pressurized distribution or spraying systems that would ensure even distribution of water; • If there is traffic flow on the existing roads near the work sites, dust suppression measures will be continuously applied to ensure traffic safety. If there is no traffic existing in the local roads, dust suppression measures will be applied only at local residential areas; • All vehicles to be used in transportation activities will obey the speed limits set out in the Regulation on Highway Traffic. Vehicle speeds are proposed to be limited to 30 km/h on unpaved surfaces; • When there will be windy weather conditions (wind speed is above 30 km/hour) in the Project Area, excavation will not be carried out or additional measures such as placement of wind shields/barriers will be taken to prevent dust dispersion; • Loading and unloading operations will be performed without throwing/scattering; • Wind shields/barriers will be placed at work sites such as material storage areas to prevent dust dispersion where necessary; • Solid screens or barriers that are at least as high as any stockpiles on site will be erected at the boundaries of the construction site adjacent to the crops and/or field; • Any damage caused by insufficient or lack of dust suppression (transportation of dust to a residential area, wind borne dust deposits etc.) measures will be compensated by the contractor. • The asphalt roads will be used as much as possible, • Compliance with the air emission limit values stipulated in project standards will be ensured. • Dust measurements will be conducted if any grievance regarding dust generation is received and mitigation measures will be enhanced in this respect such as increasing wet suppression/watering activities, further reducing speed/traffic if deemed necessary, considering both project standards. • Compliance with the air emission limit values stipulated in national legislation and WB Compliance with the air emission limit values stipulated in national legislation and WB.	Negligible/None	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Air Quality: Exhaust Emissions	Reducing air quality surrounding the Project Area, Possible health hazards due to extended exposure to high emissions in the Project Area. Increase in SO_2, PM, NO_x emissions. Increase in GHG emissions (CO_2, CH_4, N_2O)	Low	• All vehicles to be used in transportation activities will be issued an emission control stamp which is renewed every year by measuring the emissions from the exhausts; • Relevant provisions of the Regulation on Air Pollution Control Sourced from Industry, the Regulation on Exhaust Gas Emission Control and Regulation on the Assessment and Management of Air Quality will be complied with to minimize air emissions sourced from construction machinery and trucks; • Vehicles that can provide European Euro VI standards will be selected; • Exhaust systems of the vehicles (daily and periodically) will be controlled regularly. Daily maintenance will be carried out in each shift; and the working time of each vehicle will be registered by the operator in order to follow the total working hours for periodic maintenance. • Vehicle speed will be controlled when passing through public transport areas, thus minimizing dust dispersion from vehicle transportation. • Optimal utilization of the available construction equipment and materials in such a way that reduces greenhouse gas emissions;	Negligible/None	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
			• Speed restrictions will be adopted by construction vehicles and optimal use of equipment to optimize fuel efficiency; • Regular maintenance of construction vehicles and equipment will be applied; • Idling of vehicles and machinery will be avoided. • Energy uses associated with construction vehicles and equipment will be monitored; • Training will be performed for project personnel regarding energy efficiency.			
Soil Environment: Preserving Topsoil	Loss of topsoil, Possibility of increased risk of erosion	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will prepare and implement a Soil Management Plan that is in line with the WB ESS1 and WBG General EHS Guidelines (both general and sector specific). The Soil Management Plan will be prepared by the Contractor 30 days prior to commencement of the works and the employees will be trained on the Soil Management Plan; This condition will be included within Contractor's contract. • Where there is topsoil, topsoil will be stripped to a sufficient depth (15- 30 cm, depending on the topsoil depth) prior to the start of the land preparing activities. To avoid soil compaction, stripping operation will not be done when soil is wet. The average height of top soil stacks will be 1.5 meters. The side slope of these stacks will not exceed 3:1 (h:v); • Stripping of topsoil will not be conducted earlier than required to prevent the erosion of soil (wind and water); • At the end of the land preparing phase, the stored at the project site topsoil will be used for landscaping; • The stripped topsoil will not be used for agribusiness.	Negligible/None	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Soil Environment: Erosion Potential	Possibility of increased risk of erosion, Possibility of increased dust emissions caused by wind erosion.	Low	• The contractor will take additional mitigation measures, such as soil sampling, in case of a requirement revealed by the monitoring and/or any complaint. • By establishing a suitable drainage system in the field, the potential impact of surface runoff will be minimized. In this context, drainage channels will be constructed in accordance with the topographical conditions of the site; • Pre-construction activities will be undertaken in the dry weather condition as much as possible to avoid surface runoff effects on stripped topsoil; • Stripping of topsoil will not be conducted earlier than required to prevent the erosion of soil (wind and water); • Circulation of heavy machinery to In the Project Area will be limited; • The disturbed areas and soil stock piles will be kept moist to avoid wind erosion of soil and the pile height will not be higher than 2 m; • Topography will be restored to provide stabilization immediately after the completion of construction at each location. • Once the work is completed, construction areas will be quickly covered with topsoil and revegetated. • Mulch, sod or compacted soil will be used to stabilize exposed areas.	Negligible/None	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Soil Environment: Soil Contamination	Contamination of soil, Possibility of contamination of underground waters close to the surface, Scatter/dispersion of contaminated soil due to improper handling, transferring and disposal of the contaminated soil, Improper reuse of contaminated soil as landscaping,	Low	• In all activities to be carried out within the scope of the Project, it should be taken into consideration that the Project is close to an area designated as a Site to be Monitored in accordance with the Regulation on Soil Pollution Control and Point Source Contaminated Sites any relevant mitigation measures should be considered during planning of the activities. • In order to minimize the impacts on soil environment, the amount of soil that could be subject to compaction and contamination/pollution will be minimized by ensuring the use of only the designated work sites and routes for the construction machinery and equipment and field personnel; • The fuel required for the construction equipment and vehicles to be used within the site during pre-construction phase will be supplied primarily from the nearest station; if deemed necessary, fuels that may possibly be stored at site will be stored in the areas where necessary impermeability precautions (including secondary containment) are taken; • Machinery and equipment will be checked regularly for leaking oil and fuel; • The provisions of the Regulation on the Control of Excavation Soil, Construction and Demolition Wastes shall be complied with during pre-construction phase of the Project; • Provisions of the Regulation on the Control of Soil Pollution and Sites Contaminated by Point Sources shall be complied with within the scope of the Project; • Wastes and wastewater to be generated during the pre-construction phase of the Project will be stored and disposed in a controlled manner in accordance with the Waste Management Regulation and Regulation on the Control of Excavation, Construction and Demolition Wastes, WB ESS1, WBG General EHS Guidelines and in line with the management practices described in this report; • According to requirements specified in the Regulation on the Control Soil Pollution and Sites Contaminated by the Point Source, in terms of a possible soil contamination in the area, Uşak	Low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
			Leather Mixed OIZ is obliged to notify the MoEUCC on possible soil pollution in the Project Area according to the procedure defined in the regulation. Based on the inspections that will be carried out by the MoEUCC, if the site will be defined as a contaminated site that needs to be cleaned up, the site will be cleaned up by firms authorized by the MoEUCC and Uşak Leather Mixed OIZ will be the responsible entity to ensure clean up. Within the scope of cleanup activities, the following measures will be taken for the contaminated areas during the pre-construction phase: ○ Vehicles containing any stripped soil will be suitably covered to limit potential dust emissions and truck bodies and tailgates will be sealed to prevent any discharge during transport; ○ Only licensed waste haulers will be used to collect and transport contaminated soil to an appropriate treatment/disposal site and illegal disposal of the soil will be prohibited; ○ Speed control for the trucks carrying contaminated soil will be enforced; • The use of contaminated soil for landscaping will be prohibited.			
Water Resources: Quality Change in Water Bodies	Possibility of leakage of generated municipal wastewater that may cause to degradation in surface water and groundwater qualities, Increased possibility of surface runoff occurrence, Deterioration of quality in nearby water bodies due to wastes carried by surface runoff, erosion, waste dispersion or improper waste storage, handling and transfer.	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will prepare and implement a Water Resources Management Plan that is in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific). The Water Resources Management Plan will be prepared by the Contractor 30 days prior to commencement of the works and employees will be trained in the Water Resource Management Plan; This condition will be included within Contractor's contract. • Surface runoff resulted from rain/storm water or wastewater generation due to dust suppression activities will be prevented; • Stripping of topsoil will not be conducted earlier than required to prevent the erosion of soil (wind and water); • Pre-construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. All chemical storage containers, including diesel fuel and hazardous liquid waste drums/containers will be placed in secondary containment in temporary storage area so as to minimize the risk of soil, surface water and groundwater contamination during the construction; • For a case of possible breakdown and natural disaster situation, Uşak Leather Mixed OIZ will ensure that that contractor will prepare, implement and monitor an Emergency Preparedness Plan and the employees will be trained on the plan. • The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements. • Activities should not affect the availability of water for drinking and hygienic purposes. • No polluted substances, solid waste, toxic or hazardous substances will be stored, spilled or disposed of in water bodies for dilution or disposal.	Low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Noise Management	Possible health hazards due to extended exposure to high noise and vibration in/around the Project Area. Over exposure to increased noise and vibration levels may disturb routine life of human and animal populations nearby.	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will prepare and implement a Noise and Vibration Management Plan that is in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific) prior to the pre-construction works and the employees will be trained on the Plan. This condition will be included within Contractor's contract. • The machinery and equipment to be used during the pre-construction phase will not be operated at the same point/location but homogeneously distributed in the site if possible; • During vehicle and equipment procuring/leasing process for the Project, item with lower noise levels than equivalent ones will be preferred, if feasible; • The maintenance of the construction machinery and equipment will be carried out regularly and periodically. Daily maintenance will be carried out in each shift; and the working time of each vehicle will be registered by the operator in order to follow the total working hours for periodic maintenance. Periodic maintenance will be conducted at every 50, 250, 500, 1000, 2000 working hours. Maintenance forms will be filled out regularly; • All vehicles to be used in transportation activities will obey the speed limits set out in the Regulation on Highway Traffic; • Noise measurements will be conducted by an authorized environmental laboratory in case of any grievance and mitigation measures will be enhanced in this respect such as use of noise barriers; • Construction works will be performed between 07:00 - 19:00 hours. Unless absolutely necessary, no construction activities will be done at night. In case night operations are deemed necessary and the noise levels would be high, the public will be informed 1 week in advance about the time of construction activities; • All construction activities will be carried out in compliance with the noise limits set out in the Regulation on Environmental Noise Control (RENC) and WBG EHS Guidelines and the contractor will take additional mitigation measures in case of a requirement revealed by the monitoring; • A grievance mechanism will be established to manage noise related grievances as well. • The work schedule will be adjusted by communicating with sensitive receptors.	Low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Resource Management	Resources used/consumed during works	Low	• Uşak Leather Mixed OIZ will supervise the construction contractor to select the most appropriate raw materials and resources by evaluating clean production options.	Negligible/None	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Waste Generation	Inefficient management of resources and increased amount of waste due to not separating waste and/or storing, handling or transferring wastes improperly. Possibility of increased public health hazard risks, deterioration of surface water, underground water and air quality, and/or soil contamination due to improper storage, handling and transfer of hazardous wastes, Possibility of air and/or soil pollution risk due to unauthorized burial and burning of waste on the site.	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will prepare and implement a Waste Management Plan that is in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific). The Waste Management Plan will be prepared by the Constructor 30 days prior to the commencement of the works and the employees will be trained on the plan. This condition will be included within Contractor's contract. • Waste to be generated within the scope of the Project will be managed in accordance with the waste management hierarchy; • Waste will be separated (i.e., hazardous / non-hazardous, recyclable / non-recyclable) and stored in designated temporary storage areas; • All kinds of implementations that may threaten personnel or public health will be avoided in all activities involving collection, temporary storage, transport and disposal of waste throughout the Project; • Waste recycling, transport and disposal will be carried out by means of licensed companies and/or relevant Uşak Municipality's vehicles; • Incineration or burying of waste by any means at site and/or dumping of waste to nearby roads or water resources will not be allowed; • Waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Waste oils originating from machinery and vehicles will be stored in impervious tanks and containers that would be situated on impervious foundation in accordance with the "Regulation on Control of Waste Oils". Tanks and containers will be equipped with apparatus that would prevent over filling and will be filled till the designated level mark. Tanks and containers will have a red color and will be labeled as "waste oil". Disposal of waste oils will be controlled by the Uşak Leather Mixed OIZ; • Waste batteries from construction site and accumulators from vehicles will be disposed of in compliance with the consumer responsibilities specified in Article 13 of the "Regulation on Control of Waste Batteries and Accumulators". Accordingly, used batteries will be collected separately (from municipal wastes) and transferred to the TAP battery collection center; • All other hazardous materials will be disposed of in accordance with the Waste Management Regulation; • Hazardous waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Hazardous or non-hazardous inscription, waste code, stored waste amount and storage date will be indicated/labelled on waste temporarily stored by classifying according to their properties. The reaction of waste with each other will be prevented by the measures taken in the Temporary Storage Area, which will have impermeable ground, proper drainage for accidental leaks/spills, top cover and designated rooms for different types of waste, etc. The permit for the temporary Waste Storage Area will be taken from the Provincial Directorate of Environment, Urbanization and Climate Change. • Spill kits will be available at the Temporary Storage Area and necessary precautions will be taken against possible fires such as provision of appropriate firefighting equipment. • Workers will be trained in the proper transfer and handling of fuels and other materials and will require the use of gloves, boots, aprons, goggles and other protective equipment for protection when handling highly hazardous materials. • After each construction site is decommissioned, all debris and waste shall be cleared.	Low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Biological Environment						
Pesticide Use	Pesticides can run off into water bodies, contaminating rivers, lakes, and groundwater. This can harm aquatic life and affect water quality.	Low	• Pesticide control during these phases on formerly agricultural land involves management and mitigation requirements for environmental and health risks if there is a historical pesticide use because pesticides will not be used in this phase. • Pesticide-free construction practices are adopted to prevent the introduction of new pesticides, accompanied by worker training on safety and proper handling.	Negligible/ None	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
	Pesticides may reduce soil fertility by killing beneficial microorganisms, leading to long-term soil health issues. Non-target organisms such as bees, birds, and other wildlife can be affected, leading to a decline in biodiversity.		• Ongoing monitoring of soil and water quality will be done, coupled with transparent communication with regulatory authorities and the local community, contribute to a proactive and compliant approach.			
Terrestrial habitats and flora species	Damage or loss of terrestrial habitats and flora species	Low	• Conduct cutting in dormant seasons to minimize impacts on flora. • Identify and tag significant or protected trees, especially those serving as habitats for rare or endangered species. • Minimize land clearing and vegetation removal to preserve as much natural habitat as possible for flora. • All type of impact on natural habitats outside the Project footprint will be avoided during land clearance and topsoil removal; • Use dust suppression techniques to reduce air pollution that could harm flora.	Low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Terrestrial fauna species	Disturbing/harming of terrestrial fauna species	Low	• Determine the ecological value of trees, such as nesting, feeding, or roosting sites. • Avoid clear-cutting; stagger tree removal to allow wildlife to relocate naturally. • Safely capture and relocate animals found in or around trees scheduled for removal. • Implement a species relocation plan to move Testudo graeca to suitable nearby habitats if found within the construction zone. • Mark sensitive areas where vulnerable species are located to prevent accidental disturbance. • Limit habitat disturbance by minimizing land clearing to preserve existing habitats for fauna. • Establish buffer zones around areas where Testudo graeca and other sensitive species are present, restricting access to construction activities. • Avoid heavy machinery use outside designated areas to prevent soil compaction that could impact burrowing species. • Schedule construction to avoid critical breeding or nesting seasons for Testudo graeca and other wildlife. • Install temporary fencing around construction zones to prevent animals from entering dangerous areas. • Enforce strict speed limits for vehicles to avoid collisions with wildlife. • During vegetation clearance or felling, any animals found should be removed and released to a safe refugia.	Low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Socio-economic Environment						
Stakeholder Engagement	Objections and obstruction efforts during the project/design phase due to lack of information to the people who are likely to be affected by the project Suspension of the project due to lack of Stakeholder Engagement Process and not receiving suggestions and complaints Insufficient stakeholder engagement activities and public consultation	Low	• Before the start of construction works, the local people and all relevant stakeholders will be informed of the works to be performed and the measures to be taken. • The TOIZsP Stakeholder Engagement Plan (SEP), linked in Chapter 1.2, will be used for this sub-project and all project parties (including the contractor, Organized Industrial Zone (OIZ) and Ministry of Industry and Technology (MoIT) PIU) will be responsible for ensuring compliance with the TOIZsP SEP. • Informing the persons or organizations likely to be affected by the project about the project • Establishing a grievance and suggestion mechanism in order to inform the persons and organizations that are likely to be affected by the Project as specified in the SEP, about any adverse environmental and social risks and how to submit any grievances, if required. • Collection and evaluation of suggestions and complaints about the project	low	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Occupational Health and Safety	Risk of occupational health and safety hazards to the workers
	Work-related accidents (near misses, personnel injuries and occupational illnesses, fatalities)
	Noncompliance with all applicable occupational health and safety regulations and other legal and contractual requirements
		Medium	• Preparation of the following plans and procedures for the approval of the OIZ and the Supervision Consultant by the Contractor before the commencement of construction works. These will be included within Contractor's contract:
			  ○ Occupational Health and Safety (OHS) Plan based on construction site OHS risk assessment, including work procedures (such as permit to works etc.), checklists and daily record forms
			  ○ Emergency Preparedness and Response Plan,
			  ○ Labor Management Plan (including Worker Code of Conduct) in line with the LMP
			  ○ Grievance Mechanism Procedure including Grievance Register
			  ○ Accident investigation and root cause analyze
			• GM, GBV, SEA/SH trainings will be given to whole personnel before the construction.
				low	Included in pre-construction cost	Contractor (implementation)
						Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
	GBV and SEA/SH related incidents					

Community Health and Safety	Risk of health and safety hazards to the community members such as access from outside etc.	Low	• Preparation and implementation of the Community Health and Safety Plan such as
			  • Informing community about the risks
			  • Installing warning signs, fence/curtain for the perimeter of the construction area, etc.
				low	Included in pre-construction cost	Contractor (implementation)
						Uşak Leather Mixed OIZ (performance control and management)

8.2 Mitigation Plan for the Construction Phase

Table 23 Additional mitigations for the Construction Phase

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Physical Environment						
Air Quality: Dust Emissions	Reducing air quality surrounding the Project Area, Temporarily reduced line of sight on nearby roads and highways, Possible health hazards due to extended exposure to high dust emissions in the Project Area. Possibility of erosion with strong winds.	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will implement an Air Quality and Emissions Management Plan that is in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific). This condition will be included within Contractor's contract. • The employees will be trained on an Air Quality and Emissions Management Plan; • Dust will be minimized from open area sources, including storage piles, by using control measures such as installing enclosures and covers and increasing the moisture content; • Speed limitations will be defined and obeyed for construction vehicles; • The drop height of potentially dust generating materials will be kept as low as possible; • Dust suppression methods will be applied at construction sites to mitigate Project-related dust emissions. In this respect, the upper layers of the work sites/materials will be kept at a humidity level of about 10%. Watering will be applied at any time necessary including night time, weekends or off-days by using pressurized distribution or spraying systems that would ensure even distribution of water; • If there is traffic flow on the existing roads near the work sites, dust suppression measures will be continuously applied to ensure traffic safety. If there is no traffic existing in the local roads, dust suppression measures will be applied only at local residential areas; • All vehicles to be used in transportation activities will obey the speed limits set out in the Regulation on Highway Traffic. Vehicle speeds are proposed to be limited to 30 km/h on unpaved surfaces; • When there will be windy weather conditions (wind speed is above 30 km/hour) in the Project Area, excavation will not be carried out or additional measures such as placement of wind shields/barriers will be taken to prevent dust dispersion; • Loading and unloading operations will be performed without throwing/scattering; • During transportation, excavated materials will be covered with nylon canvas or materials with grain size larger than 10 mm; • Wind shields/barriers will be placed at work sites such as material storage areas to prevent dust dispersion where necessary; • Solid screens or barriers that are at least as high as any stockpiles on site will be erected at the boundaries of the construction site adjacent to the crops and/or field; • Any damage caused by insufficient or lack of dust suppression (transportation of dust to a residential area, wind borne dust deposits etc.) measures will be compensated by the contractor. • The asphalt roads will be used as much as possible, • Compliance with the air emission limit values stipulated in national legislation and WBG General EHS Guidelines will be ensured. • Dust measurements will be conducted if any grievance regarding dust generation is received and mitigation measures will be enhanced in this respect such as increasing wet suppression/watering activities, further reducing speed/traffic if deemed necessary, considering both national and WBG EHS Guidelines limit values. • Compliance with the air emission limit values stipulated in national legislation and WB Compliance with the air emission limit values stipulated in national legislation and WB;	Negligible/None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Air Quality: Exhaust Emissions	Reducing air quality surrounding the Project Area, Possible health hazards due to extended exposure to high emissions in the Project Area. Increase in SO_2, PM, NO_x emissions. Increase in GHG emissions (CO_2, CH_4, N_2O)	Low	• All vehicles to be used in transportation activities will be issued an emission control stamp which is renewed every year by measuring the emissions from the exhausts; • Relevant provisions of the Regulation on Air Pollution Control Sourced from Industry, the Regulation on Exhaust Gas Emission Control and Regulation on the Assessment and Management of Air Quality will be complied with to minimize air emissions sourced from construction machinery and trucks; • Vehicles that can provide European Euro VI standards will be selected; • Relevant provisions of the Regulation on Air Pollution Control Sourced from Industry and Regulation on the Assessment and Management of Air Quality will be complied with to minimize air emissions sourced from construction machinery and trucks; • Exhaust systems of the vehicles (daily and periodically) will be controlled regularly. Daily maintenance will be carried out in each shift; and the working time of each vehicle will be	Negligible/None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
			registered by the operator in order to follow the total working hours for periodic maintenance. • Optimal utilization of the available construction equipment and materials in such a way that reduces greenhouse gas emissions; • Speed restrictions will be adopted by construction vehicles and optimal use of equipment to optimize fuel efficiency; • Regular maintenance of construction vehicles and equipment will be applied; • Idling of vehicles and machinery will be avoided. • Energy uses associated with construction vehicles and equipment will be monitored; • Training will be performed for project personnel regarding energy efficiency.			
Soil Environment: Erosion Potential	Possibility of increased risk of erosion, Possibility of increased dust emissions caused by wind erosion.	Low	• By establishing a suitable drainage system in the field, the potential impact of surface runoff will be minimized. In this context, drainage channels will be constructed in accordance with the topographical conditions of the site; • Construction activities (especially excavation works) will be undertaken in the dry weather condition as much as possible to avoid surface runoff effects on excavated soil; • Circulation of heavy machinery to In the Project Area will be limited; • The disturbed areas and soil stock piles will be kept moist to avoid wind erosion of soil and the pile height will not be higher than 2 m; • Topography will be restored to provide stabilization immediately after the completion of construction at each location.	Negligible/None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Soil Environment: Soil Contamination	Contamination of soil, Possibility of contamination of underground waters close to the surface, Scatter/dispersion of contaminated soil due to improper handling, transferring and disposal of the contaminated soil, Improper reuse of contaminated soil as landscaping,	Low	• Uşak Leather Mixed OIZ will ensure that the Contractor will continue to comply with the Soil Management Plan that was prepared in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific) before the commencement of the works. The Contractor will ensure all the employees are trained on the Oil and Chemical Spill Contingency Management Plan and renew the training if necessary; • In order to minimize the impacts on soil environment, the amount of soil that could be subject to compaction and contamination/pollution will be minimized by ensuring the use of only the designated work sites and routes for the construction machinery and equipment and field personnel; • The fuel required for the construction equipment and vehicles to be used within the site during construction phase will be supplied primarily from the nearest station; if deemed necessary, fuels that may possibly be stored at site will be stored in the areas where necessary impermeability precautions (including secondary containment) are taken; • Machinery and equipment will be checked regularly for leaking oil and fuel; • The provisions of the Regulation on the Control of Excavation Soil, Construction and Demolition Wastes shall be complied with during construction phase of the Project; • Provisions of the Regulation on the Control of Soil Pollution and Sites Contaminated by Point Sources shall be complied with within the scope of the Project; • Wastes and wastewater to be generated during the construction phase of the Project will be stored and disposed in a controlled manner in accordance with the Waste Management Regulation and Regulation on the Control of Excavation, Construction and Demolition Wastes, WB ESS1, WBG General EHS Guidelines and in line with the management practices described in this report; • According to requirements specified in the Regulation on the Control Soil Pollution and Sites Contaminated by the Point Source, in terms of a possible soil contamination in the area, Uşak Leather Mixed OIZ is obliged to notify the MoEUCC on possible soil pollution in the Project Area according to the procedure defined in the regulation. Based on the inspections that will be carried out by the MoEUCC, if the site will be defined as a contaminated site that needs to be cleaned up, the site will be cleaned up by firms authorized by the MoEUCC and Uşak Leather Mixed OIZ will be the responsible entity to ensure clean up. Within the scope of cleanup activities, the following measures will be taken for the contaminated areas during the construction phase: o Vehicles containing any excavated soil will be suitably covered to limit potential dust emissions and truck bodies and tailgates will be sealed to prevent any discharge during transport; o Only licensed waste haulers will be used to collect and transport contaminated soil to an appropriate treatment/disposal site and illegal disposal of the soil will be prohibited; o Speed control for the trucks carrying contaminated soil will be enforced; • The use of contaminated soil for landscaping will be prohibited.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Water Resources: Quality Change in Water Bodies	Possibility of leakage of generated municipal wastewater that may cause to degradation in surface water and groundwater qualities, Increased possibility of surface runoff occurrence, Deterioration of quality in nearby water bodies due to wastes carried by surface runoff, erosion, waste dispersion or improper waste storage, handling and transfer.	Low	• Uşak Leather Mixed OIZ will ensure that the Contractor will continue to comply with the Water Resources Management Plan that was prepared in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific) before the commencement of the works. The Contractor will ensure all the employees are trained on the Water Resources Management Plan and renew the training if necessary. This condition will be included within Contractor's contract. • Surface runoff resulted from rain/storm water or wastewater generation due to dust suppression activities will be prevented; • The water to be used for dust suppression will be monitored and recorded in m^3; • Discharge of wastewater, residues or other waste into groundwater or into surface water will be avoided. Portable toilets will be supplied for the workers at the construction sites. The limited amount of domestic wastewater generated at the construction site will be stored on impermeable tanks and will be collected with septic trucks to be sent to the existing OIZ's sewage system. • Construction activities may pose the potential for accidental release/leakages of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. All chemical storage containers, including diesel fuel and hazardous liquid waste drums/containers will be placed in secondary containment in temporary storage area so as to minimize the risk of soil, surface water and groundwater contamination during the construction; • For a case of possible breakdown and natural disaster situation, Uşak Leather Mixed OIZ will ensure that that contractor will prepare, implement and monitor an Emergency Preparedness Plan and the employees will be trained on the plan. • It will be ensured that the facility is designed and constructed to be resistant to natural disasters. • Activities should not affect the availability of water for drinking and hygienic purposes. • No polluted substances, solid waste, toxic or hazardous substances will be stored, spilled or disposed of in water bodies for dilution or disposal. • The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Noise Management	Possible health hazards due to extended exposure to high noise in/around the Project Area. Over exposure to increased noise level may disturb routine life of human and animal populations nearby.	Low	• Uşak Leather Mixed OIZ will ensure that the contractor will prepare and implement a Noise and Vibration Management Plan that is in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific) prior to the construction works and the employees will be trained on the Plan. • The machinery and equipment to be used during the construction phase will not be operated at the same point/location but homogeneously distributed in the site if possible; • During vehicle and equipment procuring/leasing process for the Project, item with lower noise levels than equivalent ones will be preferred, if feasible; • The maintenance of the construction machinery and equipment will be carried out regularly and periodically. Daily maintenance will be carried out in each shift; and the working time of each vehicle will be registered by the operator in order to follow the total working hours for periodic maintenance. Periodic maintenance will be conducted at every 50, 250, 500, 1000, 2000 working hours. Maintenance forms will be filled out regularly; • All vehicles to be used in transportation activities will obey the speed limits set out in the Regulation on Highway Traffic; • Noise measurements will be conducted by an authorized environmental laboratory in case of any grievance and mitigation measures will be enhanced in this respect such as use of noise barriers; • Construction works will be performed between 07:00 - 19:00 hours. Unless absolutely necessary, no construction activities will be done at night; • All construction activities will be carried out in compliance with the noise limits set out in the Regulation on Environmental Noise Control (RENC) and WBG EHS Guidelines and the contractor will take additional mitigation measures in case of a requirement revealed by the monitoring; • A grievance mechanism will be established to manage noise related grievances as well. • The work schedule will be adjusted by communicating with sensitive receptors.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Resource Management	Resources used/consumed during works	Low	• Uşak Leather Mixed OIZ will supervise the construction contractor via supervision consultant to select the most appropriate raw materials and resources by evaluating clean production options.	Negligible/None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Waste Generation	Inefficient management of resources and increased amount of waste due to not separating waste and/or storing, handling or transferring wastes improperly. Possibility of increased public health hazard risks, deterioration of surface water, underground water and air quality, and/or soil contamination due to improper storage, handling and transfer of hazardous wastes, Possibility of air and/or soil pollution risk due to unauthorized burial and burning of waste on the site.	Low	• Uşak Leather Mixed OIZ will ensure that the Contractor will continue to comply with the Waste Management Plan that was prepared in line with the WB ESS1 and WBG EHS Guidelines (both general and sector specific) before the commencement of the works. The Contractor will ensure all the employees are trained on the Waste Management Plan and renew the training if necessary; • Waste to be generated within the scope of the Project will be managed in accordance with the waste management hierarchy; • Waste will be separated (i.e., hazardous / non-hazardous, recyclable / non-recyclable) and stored in designated temporary storage areas; • All kinds of implementations that may threaten personnel or public health will be avoided in all activities involving collection, temporary storage, transport and disposal of waste throughout the Project; • Waste recycling, transport and disposal will be carried out by means of licensed companies and/or relevant municipality's vehicles; • Incineration or burying of waste by any means at site and/or dumping of waste to nearby roads or water resources will not be allowed; • Waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Removal of the excavated material, which will not be used for backfilling, from the site will be performed at regular intervals without waiting. These materials will be transferred to the nearest licensed landfill facility by licensed transportation companies; • Waste oils originating from machinery and vehicles will be stored in impervious tanks and containers that would be situated on impervious foundation in accordance with the "Regulation on Control of Waste Oils". Tanks and containers will be equipped with apparatus that would prevent over filling and will be filled till the designated level mark. Tanks and containers will have a red color and will be labeled as "waste oil". Disposal of waste oils will be controlled by the Uşak Leather Mixed OIZ; • Waste batteries from construction site and accumulators from vehicles will be disposed of in compliance with the consumer responsibilities specified in Article 13 of the "Regulation on Control of Waste Batteries and Accumulators". Accordingly, used batteries will be collected separately (from municipal wastes) and transferred to the TAP battery collection center; • All other hazardous materials will be disposed of in accordance with the Waste Management Regulation; • Hazardous waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Hazardous or non-hazardous inscription, waste code, stored waste amount and storage date will be indicated/labelled on waste temporarily stored by classifying according to their properties. The reaction of waste with each other will be prevented by the measures taken in the Temporary Storage Area, which will have impermeable ground, proper drainage for accidental leaks/spills, top cover and designated rooms for different types of waste, etc. The permit for the temporary Waste Storage Area will be taken from the Provincial Directorate of Environment, Urbanization and Climate Change. • Removal of the excavated material, which will not be used for backfilling, from the site will be performed at regular intervals without waiting. • Spill kits will be available at the Temporary Storage Area and necessary precautions will be taken against possible fires such as provision of appropriate firefighting equipment.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Landscape and Visual (Aesthetics) Concerns	Creation of visual pollution. Impairment of quality of life due to the overall presence of annoying construction works and activities and altered landscape	Low	• Construction works will be performed between 07:00 - 19:00 hours. Unless absolutely necessary, no construction activities will be done at night. In case night operations are deemed necessary and the noise levels would be high, the public will be informed 1 week in advance about the time of construction activities; • The construction schedule will be disclosed to the public via website of Uşak Leather Mixed OIZ.	Negligible/None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Biological Environment						
Pesticide Use	Pesticides can run off into water bodies, contaminating rivers, lakes, and groundwater. This can harm aquatic life and affect water quality.	Low	• Pesticide control during these phases on formerly agricultural land involves management and mitigation requirements for environmental and health risks if there is a historical pesticide use because pesticides will not be used in this phase.	Negligible/ None	Included in pre-construction cost	Contractor (implementation)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
	Pesticides may reduce soil fertility by killing beneficial microorganisms, leading to long-term soil health issues. Non-target organisms such as bees, birds, and other wildlife can be affected, leading to a decline in biodiversity.		• Pesticide-free construction practices are adopted to prevent the introduction of new pesticides, accompanied by worker training on safety and proper handling. • Ongoing monitoring of soil and water quality will be done, coupled with transparent communication with regulatory authorities and the local community, contribute to a proactive and compliant approach.			Uşak Leather Mixed OIZ (performance control and management)
Terrestrial habitats and flora species	Damage or loss of terrestrial habitats and flora species	Low	• Limit the Project activities with the boundaries of the construction area, including traffic routes to avoid impact on the adjacent vegetation. • Select the location of the topsoil stockpiles with consideration of environmental safeguards	Negligible/None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Terrestrial fauna species	Disturbing/harming of terrestrial fauna species	Low	• On-site vehicle speed limits will be implemented to avoid potential road-kills. • Limit habitat disturbance by minimizing land clearing to preserve existing habitats for fauna. • Establish buffer zones around areas where Testudo graeca and other sensitive species are present, restricting access to construction activities. • Schedule construction to avoid critical breeding or nesting seasons for Testudo graeca and other wildlife. • During the construction phase, any animals found should be removed and released to a safe refugia.	Negligible/ None	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Socio-economic Environment						
Cultural Heritage	Loss of cultural heritage	Low	• Any cultural asset found during the construction works will be indicated and recorded as “chance finds”. A “Chance Find Procedure” has been prepared for the steps to be followed and implemented after the chance finding. Annex 9 shows Chance Find Procedure. • The Cultural and Natural Assets Conservation Boards will be informed about the chance finds and the approval of the Conservation Board, which is responsible for the area where the construction site is located, will be required. No demolition/construction work will be carried out when awaiting the said approval.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Employment / Economy	Contribution to economy	Low	• Care will be taken to contribute to the local economy through the use of local materials and to procure various goods and services from local resources. • Priority should be given to the local labor where possible and practical. • Efforts will be exercised to allocate employment opportunities to the local parties and the settlements within the AoI.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Community Health and Safety	Potential Community Disturbance Access from outside and accidents that may occur due to lack of security in the project area	Low	• The OIZ will ensure that contractors establish the code of conduct and will check that workers will be given training, especially on communication with local people of foreign nationality public before starting work, so that local people of foreign nationality will not be adversely affected by external workers. • The operations to be carried out during construction works will be performed not to restrict/hinder the social and economic life of local people. • To avoid any impact on the safety and daily life of communities, safety and information signs will be placed on site before the work. • The perimeter of the construction areas will be blocked with a wire fence and warning signs will be hung.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Labor and Working Conditions	Improper Working Conditions, Child labor, forced labor and unregistered employment	Low	• Preparation and implementation of Labour Management Plan in compliance with LMP of TOIZsP, • Workers will be informed about the Grievance mechanism and will be required to be aware of this Mechanism. • All workers will be given training on discrimination and codes of conduct. The training given to the employees will be explanatory about the concepts of sexual harassment and abuse, sexual exploitation, gender-based violence, abuse, and intervention with harassment. • Minimum legal labor standards will be met (prevention of child/forced labor, anti-discrimination, working hours, minimum wages) as per International Labor Organization (ILO) regulations. • At the same time, national laws/ regulations and international conventions/ standards will be complied with in terms of the working conditions.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
			• Discrimination based on language, race, gender, political thought, philosophical belief and religion will be avoided in business relations.			
Labor and Working Conditions	Work suspension due to legal noncompliance in Human Resources and Workforce Management	Medium	• Concluding written contracts with workers upon recruitment, including job description, working hours, wages, terms and conditions of employment and rights in accordance with national legislation and Code of Conduct, access to workers' GM • Keeping personnel data files including contracts, training records, signed codes of conduct, health reports	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Occupational Health and Safety (OHS)	Inadequate workers' health and safety conditions	Medium	• The PMU will include an OHS expert with a Class A specialization certificate who will take part full-time and effectively control the implementation of the Project. She/he shall monitor the site implementations. • The consultant and the OIZ will make sure that the measures provided below are taken by the contractor and enforce necessary actions/sanctions in case of lack of these measures on-site. In accordance with the Occupational Health and Safety Regulation in Construction Works, the required person, information, plan, and organization will be provided. • An Emergency Response Plan will be prepared and shared with all employees. • The OIZ will require all employees and contractors to adhere to local and international health and safety legislation and guidelines. Workers will be provided with all necessary personal protective equipment (PPE) (hard hats, safety harnesses, protective coveralls, glasses, gloves, safety shoes, etc.). • Necessary gear will be provided to the employees that will be working on the construction of roof-type SPPs by the OIZ. • Non-smoking areas will be allocated at the construction site. • Appropriate hand and face washing facilities will be provided to the employees, and also shower facilities for dusty works. • Technical and OHS training, including the code of conduct indicating the possible risks regarding the work site and works to be carried will be given to workers by the contractor.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Occupational Health and Safety	Work suspension due to work accident (lack of appropriate OHS measures/ unsafe work environment)	Medium	• Implementing OHS Plan, Emergency Preparedness and Response Plan (see Table 2), Accident/incident Investigation and Reporting and Root Cause Analysis Procedure, and Non-Conformity / Non-Compliance and Corrective / Preventive Action Procedure. • The contractor and supervision consultant will have a full-time Occupational Health and Safety Expert with relevant certification and experience in charge of occupational health and safety and s/he will control and monitor the site implementations. • Placing safety barriers and warning signs around work areas. • Conducting occupational safety meetings/toolbox talks with workers before starting work every day. • Legal periodic inspection of work equipment at the construction site by an authorized expert. • Daily control of work equipment by its operators. • First aid boxes for each work team for first aid response. • Providing certified first aid training to workers. • Establishment of a first aid team consisting of workers for each work zone. • Providing workers with Personal Protective Equipment (PPE) specific to their tasks. • Provide a safe and healthy work environment for the workers. Provide equipment that meets international standards in terms of performance and safety • Inform all workers about the required safety rules, risks, and related regulations to be followed at the construction site throughout the construction period. • Establish emergency teams and carry out training/drills according to the emergency scenarios • Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.) as well as near misses. The project owner will ensure that all OHS measures are taken by the Contractor and enforce necessary actions/sanctions in case of lack of these measures on sites. • The Contractor will promptly notify the OIZ in case of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public and workers such as OHS accidents or that result in threatening community health and safety and the OIZ will immediately (not later than 48 hours) inform MoIT, and MoIT will inform the World Bank. In such cases, the OIZ will provide sufficient details regarding the incident or accident, findings of the Root Cause	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
			Analysis (RCA), indicating immediate measures taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervising entity/consultant, as appropriate. The OIZ will submit the incident report, including root cause analysis, precautions and compensation measures taken, to MoIT within 30 business days. MoIT will forward the incident report to the Bank immediately upon receipt from the OIZ. • Within the scope of electrical safety, work will not be carried out other than authorized and competent persons. • Providing periodic training to the workers on OHS issues including emergency response such as firefighting and recording all provided training. • Providing appropriate type and number of fire extinguishing equipment in each working area • Machinery and equipment to be used during land preparation and construction activities will not be operated at the same point/place, but will be distributed homogeneously on the site, • Care will be taken to select equipment with low noise levels within the scope of the project, • Maintenance of construction machinery and equipment will be done regularly and periodically, • In case of complaints, noise measurements will be conducted and additional mitigation measures (such as noise barriers, etc.) will be applied if the measured values exceed the project standards. • Equipment and vehicles used externally will be regularly maintained. • "Low noise" equipment will be used as much as possible during the construction phase. Where construction equipment is provided with impermeable acoustic covers or enclosures, covers will be kept closed while the equipment is in operation. • When equipment is not working, it will be turned off or reduced to the minimum level. • Vibration levels will be monitored in case of complaints, and measures will be taken to reduce vibration if standards are exceeded. • Noise measurement will be carried out at the nearest noise-sensitive receptors in accordance with the international standard, in case of any complaints. •			
Traffic and Pedestrian Safety	Direct and indirect threats posed by construction activities against traffic and pedestrians	Low	Traffic management plan will be prepared which includes the following measures: • Traffic safety will be provided. • All vehicles to be used in transportation activities will comply with the speed limits specified in the Highway Traffic Regulation, • Traffic and warning signs will be placed around and near the project area. • The project area will be made visible. • Local people will be informed about potential hazards and risks through brochures and posters left in common areas frequently used by local people such as headman's offices, hospitals, health centres, mosques, coffee houses and marketplaces. • The activities affecting the local traffic will be planned considering the rush hours of the traffic as much as possible. • Vehicles carrying construction machinery and materials will not park outside the project area and parking lot • Setting speed limits • Protectors carrying work machines and materials must have appropriately qualified persons. • Hanging warning signs about speed limit in the Project Area • All drivers involved in the project will be informed about road safety, speed limits, and traffic rules to be followed during the project, and requirements to be observed.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Stakeholder Engagement	Lack of communication with the stakeholders.
	Insufficient stakeholder engagement activities and public consultation.
		Low	• The TOIZsP Stakeholder Engagement Plan (SEP), linked in Chapter 1.2, will be used for this sub-project and all project parties (including the contractor, Organized Industrial Zone (OIZ) and Ministry of Industry and Technology (MoIT) PIU) will be responsible for ensuring compliance with the TOIZsP SEP.
			• Adequate timing will be planned for interaction/communication with communities and for engagement.
			• Regular public awareness and sufficient public engagement will be carried out with the authorities and communities regarding
			  • Information about current progress of the Project
			  • Implementation of project-specific Grievance Mechanism (GM)
			• Grievance mechanisms and tools other than project-specific GM implementations.
				Low	Included in construction cost	Contractor (implementation)
						Uşak Leather Mixed OIZ (performance control and management)

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Grievance mechanism	Grievance Issues. Insufficient and/or ineffective grievance mechanism for the internal and external stakeholders.	Low	• An efficient Grievance mechanism (described in SEP) will be initiated to allow potentially affected individuals to voice their concerns on the Project in accordance with the national legislation and WB ESS10. • All grievances will be collected, recorded and resolved/closed in a short period of time. • All stakeholders/grievance holders will be given feedback regarding the complaints, suggestions and requests. • Contractor will be required to establish an effective grievance mechanism working in coordination with the Project Owner.	Low	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

8.3 Mitigation Plan for the Operation Phase

Table 24 Additional mitigations for the Operation Phase

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Physical Environment						
Air Quality: Exhaust Emissions	Reducing air quality surrounding the Project Area, Possible health hazards due to extended exposure to high emissions in the Project Area. Increase in SO_2, PM, NO_x emissions Increase in GHG emissions(CO_2, CH_4, N_2O)	Positive	• Well and adequately maintained vehicles will be used. Regular maintenance of machinery and equipment will be ensured; • Exhaust systems of the vehicles will be controlled regularly (daily and periodically); • All vehicles to be used in transportation activities will be issued an emission control stamp; • Relevant provisions of the Regulation on Air Pollution Control Sourced from Industry, the Regulation on Exhaust Gas Emission Control and Regulation on the Assessment and Management of Air Quality will be complied with to minimize air emissions sourced from machinery, equipment, and vehicles that are used in operation phase; • Speed restrictions will be adopted by operation phase vehicles and optimal use of operation phase equipment to optimize fuel efficiency; • Regular maintenance of operation phase vehicles and equipment will be applied; • Energy uses associated with operation phase vehicles and equipment will be monitored; • Regular maintenance of SPP machinery, and equipment will be applied; • Energy uses associated with SPP units and utility facilities will be monitored; • Training will be performed for project personnel regarding energy efficiency.	Positive	Included in operation cost	Uşak Leather Mixed OIZ
Soil Environment: Soil Contamination	Contamination of soil, Possibility of contamination of underground waters close to the surface, Scatter/dispersion of contaminated soil due to improper handling, transferring and disposal of the contaminated soil, Improper reuse of contaminated soil as landscaping,	Low	• The staff will be trained in proper management of liquid waste to avoid soil contamination during maintenance and repair works; • The amount of soil that could be subject to contamination will be minimized by ensuring the use of only the designated worksites and routes for the machinery and equipment and field personnel during maintenance and repair works; • Machinery and equipment will be checked regularly for leaking oil and fuel; • In the event of an accident, leak or spill, necessary repair works and/or replacement of parts will be performed promptly in accordance with the standards; • Provisions of the Regulation on the Control of Soil Pollution and Sites Contaminated by Point Sources will be complied with.	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ
Water Resources: Quality Change in Water Bodies	Improving water quality of nearest water bodies	Low	• Preventing the cleaning agents, chemicals and solvents used during the cleaning and maintenance phase of solar panels from mixing into water resources using berms and barriers or collecting systems. • Minimizing the use of cleaning agents, chemicals and solvents for cleaning solar PV panels. • Activities should not affect the availability of water for drinking and hygienic purposes. • No polluted substances, solid waste, toxic or hazardous substances will be stored, spilled or disposed of in water bodies for dilution or disposal. • The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements.	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ
Noise Control	Increase in background noise.	Low	• During the procurement of equipment and machinery, sound levels given in the technical specifications/data sheet will be taken into consideration; • Relevant provisions and limit values of Regulation on the Environmental Noise Emissions Caused by Equipment Used Outdoors and Regulation on Environmental Noise Control (RENC) and WBG General EHS Guidelines and Sectorial Guidelines will be complied with during the operation phase; • A grievance mechanism will be established to manage noise-related grievances as well. • The work schedule will be adjusted by communicating with sensitive receptors.	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ

Resource Management	Resources used/consumed during works	Low	• Starting from the operation phase, Uşak Leather Mixed OIZ will seek assistance from technical consultants to reduce energy consumption and related costs through optimization of the following:
			  ○ Energy conservation,
			  ○ Process efficiency,
			  ○ Process flow configuration,
			  ○ Time of day consumption of energy.
				Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ

Waste and Wastewater Management:	Inefficient management of resources and increased amount of waste due to not separating waste and/or storing,	Low	• Waste Management Plan will be updated by Uşak Leather Mixed OIZ to reflect the operation phase conditions before commencement of the operation phase. Relevant measures defined for the construction phase also apply also to the operation phase;	Low	Included in operation cost	Uşak Leather Mixed OIZ

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
Waste Generation	handling or transferring wastes improperly. Possibility of increased public health hazard risks, deterioration of surface water, underground water and air quality, and/or soil contamination due to improper storage, handling and transfer of hazardous wastes, Possibility of air and/or soil pollution risk due to unauthorized burial and burning of waste on the site.		• The broken/end-of-life panels should be managed following the Waste Management Regulation and the Zero Waste Regulation. Considering their hazardous content, those shall be delivered to the licensed recycling/disposal facilities; • Waste to be generated within the scope of the Project will be managed in accordance with the waste management hierarchy; • Waste recycling, transport and disposal will be carried out by means of licensed companies and/or Uşak Municipality; • Incineration or burying of waste by any means on site and/or dumping of waste to nearby roads or water resources will absolutely not be in question; • All kinds of implementations that may threaten personnel or public health will be avoided in all activities involving collection, temporary storage, transport and disposal of waste throughout the Project; • Waste to be temporarily stored on site will be delivered to licensed transport vehicles appropriate to the type of waste for disposal. Information related to the operations in this context will be recorded and the records will be kept in the administrative building; • Waste will be separated (i.e., hazardous / non-hazardous, recyclable / non-recyclable) and stored in designated temporary storage areas; • Temporary storage of waste will be labelled with an indication of hazardous or non-hazardous inscription, waste code, stored waste amount and storage date and classification according to their properties. The reaction of wastes with each other will be prevented by the measures taken in the Temporary Storage Area; and • Hazardous wastes will be stored in designated impermeable waste storage areas. • Impermeability will be provided on the floors of the Temporary Storage Area and a suitable drainage system will be installed. Spill kits will be available at the Temporary Storage Area and necessary precautions will be taken against possible fires such as provision of appropriate firefighting equipment.			
Landscape and Visual (Aesthetics) Concerns The existence of the SPP	Creation of visual pollution.	Low	• Improvements in this visuality will be achieved by landscaping the surroundings of the facility; • Uşak Leather Mixed OIZ should paint the visible buildings (administrative building, transformer etc.) to colors suitable to the background.	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ
Landscape and Visual (Aesthetics) Concerns: Glare and reflection effect of SPP	Creation of visual pollution.	Low	• Plant trees or shrubs around the perimeter of the plant to block potential glare from reaching neighboring properties or roads • Uşak Leather Mixed OIZ OIZ may utilize adjustable or tracking systems that can change the angle of panels throughout the day to reduce glare at specific times • A grievance mechanism will be established to manage glare and reflection related grievances as well. • Engage with local communities, transportation authorities, and aviation stakeholders to discuss potential glare issues and collaborate on solutions	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ
Biological Environment						
Terrestrial habitats and flora species	Damage or loss of terrestrial habitats and flora species	Low	• Select planting sites near the affected area to provide continuity of habitat. • Encourage the growth of native plants around and under solar panels. Native flora supports local wildlife and helps maintain ecosystem health. • Limit maintenance activities that require heavy machinery, and avoid unnecessary land clearing.	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ
Terrestrial fauna species	Disturbing/harming of terrestrial fauna species	Low	• Replant trees with native species to restore biodiversity and ecological balance. • Monitor bird fatalities and panel appearance at the Project Site. • Properly manage waste generated during operations to prevent contamination of soil and water, which can adversely affect terrestrial habitats. • Schedule maintenance and operational activities to avoid critical periods for local fauna, such as breeding or nesting seasons.	Negligible/None	Included in operation cost	Uşak Leather Mixed OIZ
Socio-economic Environment						
Community Health and Safety	Community health and safety risks	Low	• The public, nearby institutions and organizations, and hospitals and schools will be informed at least two days before starting repair/maintenance works that may cause disturbance. • The grievance mechanism officer will be introduced to the local people and updated information about the grievance mechanism will continue to be provided. In case of an update in the documents, the updated information will be announced to the local people through the relevant headman's office.	Low	Included in operation cost	Uşak Leather Mixed OIZ
Labor and Working Conditions	Improper Working Conditions Child Labor, forced Labor and unregistered employment	Low	• Contractor to develop Labour Management Plan in accordance with LMP of the TOIZsP. Concluding written contracts with workers upon recruitment, including job description, working hours, wages, terms and conditions of employment and rights in accordance with national legislation and Code of Conduct	Low	Included in operation cost	Uşak Leather Mixed OIZ

Issue	Potential Impact	Impact Significance Before Mitigation	Mitigation Measure	Impact Significance After Mitigation	Cost of Mitigation *(if substantial)*	Responsible Party/Parties
			• Workers will be familiar with the grievance mechanism officer and will be enabled to have access to and be aware of the Grievance mechanism . • Minimum legal labor standards will be met (child/forced labor, anti-discrimination, working hours, minimum wages) as per ILO regulations. • At the same time, national laws/ regulations and international conventions/ standards will be complied with in terms of the working conditions.			
Occupational Health and Safety	Inadequate workers health and safety conditions	Medium	• Prior to start operation, Occupational Health and Safety Plan will be prepared based on operational OHS risks. • Before starting work, employees will receive written contracts with job descriptions, responsibilities, relationships with the local people, and risks that may threaten occupational health and safety. • Workers will be provided with appropriate induction, health and safety training and information. • All equipment used during the operation phase will be kept in good working condition. • Emergency Plans" will be prepared for a potential accident or emergency. Emergency teams will be formed, and drills and training programs will be carried out in line with emergency scenarios. • Employees will have a good command of emergency plans, and the grievance will be reported to the authorized teams and resolved if they require urgent action. • In case of any potential accident involving injury during the operation phase, the equipment for first aid will be kept available at the rehabilitation center, taking into account that first aid response may be required before the casualty is referred to the nearest healthcare provider. • The OIZ formally agrees that all work will be carried out in a safe and disciplined manner and is designed to minimize risks to neighbouring residents and the environment. • All activities will be implemented in line with both the Law on Occupational Health and Safety and its relevant regulations, and also the WBG's EHS Guidelines. • Both training and incidents (fatalities, lost time incidents, outbreak of pandemic or communicable diseases, social unrest, etc.) will be recorded. • In the event of any significant incident (e.g. environmental, social, labor or lost-time incidents) the OIZ shall inform the MoIT and WB within three business days. Then, within 30 days, a report on the root causes of the incident and the corrective actions to be taken will be presented to the MoIT and WB. • Equipment that meets international standards in terms of performance and safety will be used in the Project • The chemicals will be stored indoors by taking sealing precautions and only experienced personnel will handle chemicals, while employees will have minimal contact with them in terms of quantity and duration. • Adequate ventilation systems will be installed in all areas where chemicals are stored or used to ensure that air quality standards are maintained, and the risk of exposure is minimized. • Necessary precautions will be implemented at the working areas at height by covering ground-mounted safety railing and compliant handrail systems, lifelines, working/maintaining platforms	Low	Included in operation cost	Uşak Leather Mixed OIZ
Grievance mechanism	Grievance Issues. Insufficient and/or ineffective grievance mechanism for the internal and external stakeholders.	Low	• An efficient grievance mechanism will be initiated to allow potentially affected community members and employees to voice their concerns on the Project.	Low	Included in operation cost	Uşak Leather Mixed OIZ
Stakeholder Engagement	Lack of communication with the stakeholders. Insufficient stakeholder engagement activities and public consultation.	Low	• 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.	Low	Included in operation cost	Uşak Leather Mixed OIZ

9 ENVIRONMENTAL AND SOCIAL MONITORING PLAN

In order to ensure the continuity and effectiveness of the implementation of mitigation management strategies defined, monitoring plays a key role. The main objective of the Monitoring Plan is to assess the implementation of the prescribed mitigation measures and requirements of this ESMP.

Information collected during monitoring can be used to improve management plans during all phases of the Project. While impact assessment attempts to encompass all relevant potential impacts to identify their significance and include appropriate responses for these impacts, unanticipated impacts may still arise, which can be managed or mitigated before they become a problem using the information obtained through monitoring. Therefore, monitoring will ensure the successful implementation of the mitigation/management plans and optimize environmental protection through good practice at each and every stage of the Project.

Consequently, monitoring studies will ensure the proper implementation of impact mitigation measures and optimization of environmental protection by using best practices at all stages of the Project.

Some of the monitoring parameters are determined in the scope of engineering design studies. Monitoring studies will ensure the accordance with the project standards, contract necessities and implementation of impact mitigation measures.

Monitoring activities are submitted in tabular form in Table 25, Table 26 and Table 27 for pre-construction and construction, and operation phases, respectively.

Table 25 Monitoring Plan for the Pre-Construction Phase

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Air quality	Settled dust, PM_{10} and $PM_{2.5}$	Below the Project standards PM_{10}: 1-Year: 20 µg/m3 24-Hour: 50 µg/m3 (99th percentile (i.e.3-4 exceedance days per year) $PM_{2.5}$: 1-Year: 10 µg/m3 24-Hour: 25 µg/m3 (99th percentile (i.e.3-4 exceedance days per year) Settled Dust: Long-term limit value: 390 mg/m^2day, Short-term limit value: 210 mg/m^2day No air quality related grievance received	In case of a complaint, in the relevant area	Sampling/analysis via an authorized environmental laboratory Visually, on the basis of irritation of the respiratory system	One monitoring from the start of the pre-construction phase (land preparation, topsoil stripping) Upon grievance	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Maintenance and exhaust decal records of all machinery and equipment	Below the Project Standards: CO: 50 kg/h Dust: 1 kg/h NOx: (as NO_2) 4 kg/h SOx: 6 kg/h	Administration office of Contractor for the follow-up of records	Maintenance records	Monthly during the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Storage and usage of topsoil	Amount of stripped and reused topsoil by indicating reuse locations Storage conditions of topsoil (humidity and pile height)	No loss of topsoil	Construction site and storage areas	Visual observation Records	Once in a week starting from the initialization of pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Storage and usage of chemicals including fuels	Conditions of the storage area Number of leaks, spills, etc.	No chemical spill incident	Entire Project Area and chemical storage locations	Visual observation Site inspections Environmental incident registry	Once in a week starting from the initialization of pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (How *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (When *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Water resources	Surface water / groundwater quality analysis and measurements that include spill-related pollutants including the parameters of pH, BOD, COD, TSS, TDS, TP, TKN, nitrate, nitrite, TN, salinity, etc.	Prevention of water quality deterioration compared to current surface water and groundwater quality COD: 250 mg/L TSS: 200 mg/L Oil and grease: 20 mg/L Total Phosphorus (P): 2 mg/L Total Chrome: 2 mg/L Chrome (Cr^{+6}): 0.5 mg/L Lead (Pb): 2 mg/L Total Cyanide (CN-): 1 mg/L Cadmium (Cd): 0.1 mg/L Ferrous (Fe): 10 mg/L Fluoride (F-): 15 mg/L Copper (Cu): 3 mg/L Zinc (Zn): 5 mg/L Mercury (Hg): 0.05 mg/L Sulphate (SO_4^{-2}): 1500 mg/L Total Kjeldahl Nitrogen (TKN): 60 mg/L[18] Fish Bioassay (TDF): 10 Color: 280 Pt-Co pH:6-9	At the upstream and downstream of Kabaklar Stream At related water resources (wells, fountains, etc.)	Sampling and in situ / laboratory measurements via an authorized environmental laboratory Spill notices/correspondences to authorities in case of major spills	In case of a major spill In case of a leak/spill reaches water bodies	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Noise	Noise levels	Not exceeding the limit values defined in Project Standards Day time (07:00-19:00): $LA_{eq,\ 5\ min.}$< 65 dB(A) Evening time (19:00-23:00): $LA_{eq,\ 5\ min.}$< 60 dB(A) Night time (23:00-07:00): $LA_{eq,\ 5\ min.}$< 55 dB(A)	In case of a complaint, in the relevant area	At least 24-hr noise measurements via an authorized environmental laboratory	One monitoring from the start of the pre-construction phase (land preparation, topsoil stripping) Upon grievance	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Number of complaints	No noise related grievance received	Administration office of Contractor for the follow-up of records	Grievance Registration	Monthly during the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Waste	Type and amount of waste generated	Adhering to the TurkStat estimation of 1.14 kg/person/day waste generation Minimizing the amount of waste to be sent for disposal and implementing waste management hierarchy	Treatment plant site, storage areas	Visual inspection regarding proper collection and temporary storage of waste and records kept regarding their coordinated recycle / disposal via licensed firms Waste Records Site inspections Disposal truck register	Once in a month starting from the initialization of the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

[18] It is applied to industries processing bovine hides and skins and mixed industries with 20-65% of their wastewater originating from the leather sector.

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (How *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (When *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Resources	Types and amounts of materials/resources used	Use of recycled materials whenever possible Reducing energy consumption	Administration office	Material/resource procurement/consumption records	Quarterly during the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Infrastructure Damage	Number and nature of cases and amount of compensation paid	No infrastructure cases	Administration office	Incident records Receipts of compensation payments	Monthly during the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Trespassing	Trespassing cases	No trespassing	Administration office	Security reports Visitor logs	Weekly during the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Condition of Closed-circuit television (CCTV) system			System checks	Daily during the pre-construction phase		
Community Health and Safety	Health and safety signs and traffic signs placed in appropriate locations	All cases that cause health and safety problems to be prevented No complaints related from health and traffic received through public GM	Project Area	Visual observation Site inspection	Daily basis Upon grievance	Included in operation cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Working Conditions	Workers' grievances	All worker's grievances addressed and resolved within defined time limit and to satisfaction of aggrieved party	Administration office	Grievance records	Weekly during the operation phase	Included in operation cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Occupational Health and Safety	Number of incidents	No OHS incidents occurred	Construction site	Incident records Site inspections and OHS audit	Daily basis starting from the initialization of the pre-construction phases Monthly during the pre-construction phase	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Incident investigation	Address and resolve OHS incidents reported at GM within the stipulated time limits and to the satisfaction of the complainant		Incident investigation records Site inspections and OHS audit	Daily basis starting from the initialization of the pre-construction phases Monthly during the pre-construction phase		
	Period of disease occurrence	No disease cases and response within the prescribed timeframe in case of a case		Disease follow-up register	Daily basis starting from the initialization of the pre-construction phases		

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (How *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (When *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
	Training requirements	100 percentage of prescribed staff duly trained, and with satisfactory result		Annual Environmental, Social Health, and Safety (ESHS) training plan	Annually during the pre-construction phase		
	Adequate OHS organizational structure.	1 fulltime OHS staff throughout the life of the Project		Site implementation Site inspection	Monthly during the pre-construction phase		
	Total hours worked by employee	As specified in the LMP, total hours worked should be less than 11 hours/worker/day including overtime and the total of overtime working hours cannot exceed 270 hours/worker/year.		Timesheets, Grievance records	Monthly, yearly		
Protecting the Workforce	Age of candidate employee Total working hours Wages and benefits Grievances Non-discrimination practices	No case of child labor 100% of workers receive timely wages and overtime compensation. Compliance with minimum wage standards for 100% of workers All workers receive statutory benefits (social security, leave, etc.). 100% of workers have formal contracts. All contracts include terms on wages, hours, and grievance mechanisms. All worker grievances resolved within 30 days of submission. 100% of grievances documented and tracked. Zero incidents of discrimination or harassment. Equal pay for equal work for all workers. Evidence of worker freedom to join unions or associations. Zero reports of interference in worker organization.	Administration office and Project area	Age verification with National ID Timesheets Payroll audits Grievance records Worker interviews	Before each recruitment Monthly, yearly	Included in pre-construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Gender Based Violence (GBV), Sexual Exploitation Abuse / Sexual Harassment (SEA/SH)	GBV and SEA/SH related incidents Grievance records	No GBV and SEA/SH related issues if such issues arise, they will be addressed in accordance with the stipulated procedures, ensuring confidentiality and protection of the aggrieved party. Minimum 1 annual refresher training for SEA/SH and GBV	Administration office	Document review Review of grievance logs Training records	Quarterly Upon relevant grievances Yearly	Included in operation cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

**In cases where the Turkish requirements differ from the levels and measures presented in the WBG's EHS Guidelines, the more stringent one (such as the most stringent discharge and emission standards) will be applied in the project specifications.*

Table 26 Monitoring Plan for the Construction Phase

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Air quality	Settled dust, PM_{10} and $PM_{2.5}$	Below the Project standards PM_{10}: 1-Year: 20 µg/m3 24-Hour: 50 µg/m3 (99th percentile (i.e.3-4 exceedance days per year) $PM_{2.5}$: 1-Year: 10 µg/m3 24-Hour: 25 µg/m3 (99th percentile (i.e.3-4 exceedance days per year) Settled Dust: Long-term limit value: 390 mg/m^{2}day, Short-term limit value: 210 mg/m^{2}day No air quality related grievance received	In case of a complaint, in the relevant area	Sampling/analysis via an authorized environmental laboratory Visually, on the basis of irritation of the respiratory system	Monthly starting from the initialization of construction phase Upon grievance	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Maintenance and exhaust decal records of all machinery and equipment	Below the Project Standards: CO: 50 kg/h Dust: 1 kg/h NOx: (as NO_2) 4 kg/h SOx: 6 kg/h	Administration office of Contractor for the follow-up of records	Maintenance records	Quarterly during the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Soil contamination	Amount of contaminated soil	No soil contamination resulting from project activities	Project Area	Visual observation	After each incident	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Storage and usage of chemicals including fuels	Conditions of the storage area Number of leaks, spills, etc.	No chemical spill incident	Entire Project Area and chemical storage locations	Visual observation Site inspections Environmental incident registry	Once in a week starting from the initialization of construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Storage and use of excavation waste	Amount of refilled, stored and disposed excavation materials	Proper management of excavation wastes	Construction site and storage areas	Visual observation Records	Once in a week starting from the initialization of construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Water resources	Surface water / groundwater quality analysis and measurements that include spill-related pollutants including the parameters of pH, BOD, COD, TSS, TDS, TP, TKN, nitrate, nitrite, TN, salinity, etc.	Prevention of water quality deterioration compared to current surface water and groundwater quality COD: 250 mg/L TSS: 200 mg/L	At the upstream and downstream of Kabaklar Stream At related water resources (wells, fountains, etc.)	Sampling and in situ / laboratory measurements via an authorized environmental laboratory Spill notices/correspondences to authorities in case of major spills	In case of a major spill In case of a leak/spill reaches water bodies	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
		Oil and grease: 20 mg/L Total Phosphorus (P): 2 mg/L Total Chrome: 2 mg/L Chrome (Cr^{+6}): 0.5 mg/L Lead (Pb): 2 mg/L Total Cyanide (CN-): 1 mg/L Cadmium (Cd): 0.1 mg/L Ferrous (Fe): 10 mg/L Fluoride (F-): 15 mg/L Copper (Cu): 3 mg/L Zinc (Zn): 5 mg/L Mercury (Hg): 0.05 mg/L Sulphate (SO_4^{-2}): 1500 mg/L Total Kjeldahl Nitrogen (TKN): 60 mg/L[19] Fish Bioassay (TDF): 10 Color: 280 Pt-Co pH:6-9					
Noise	Noise levels	Not exceeding the limit values defined in Project Standards: Receptor: Industrial, commercial: Day time (07:00-19:00): $LA_{eq,\ 5\ min.}$< 65 dB(A) Evening time (19:00-23:00): $LA_{eq,\ 5\ min.}$< 60 dB(A) Night time (23:00-07:00): $LA_{eq,\ 5\ min.}$< 55 dB(A)	In case of a complaint, in the relevant area	At least 24-hr noise measurements via an authorized environmental laboratory	Monthly starting from the initialization of construction phase Upon grievance	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Number of complaints	No noise related grievance received	Administration office of Contractor for the follow-up of records	Grievance Registration	Quarterly during the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Waste	Type and amount of waste generated	Adhering to the TurkStat estimation of 1.14 kg/person/day waste generation Minimizing the amount of waste to be sent for disposal and implementing waste management hierarchy	Treatment plant site, storage areas	Visual inspection regarding proper collection and temporary storage of waste and records kept regarding their coordinated recycle / disposal via licensed firms Waste Records Site inspections Disposal truck register	Once in a month starting from the initialization of the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Resources	Types and amounts of materials/resources used	Use of recycled materials whenever possible Reducing energy consumption	Administration office	Material/resource procurement/consumption records	Quarterly during the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

[19] It is applied to industries processing bovine hides and skins and mixed industries with 20-65% of their wastewater originating from the leather sector.

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Infrastructure Damage	Number and nature of cases and amount of compensation paid	No infrastructure cases	Administration office	Incident records Receipts of compensation payments	Monthly during the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Trespassing	Trespassing cases	No trespassing	Administration office	Security reports Visitor logs	Weekly during the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Condition of CCTV system			System checks	Daily during the construction phase		
Community Health and Safety	Health and safety signs and traffic signs placed in appropriate locations Number of Grievances, Number of incidents, Number of accidents	No community health and safety incidents occurred No community health and safety accidents occurred 100 percent of satisfactorily resolved grievances within stipulated time	Project Area	Visual observation Site inspection Grievance logs, Accident investigation and root cause records	Daily basis Upon grievance	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Working Conditions	Workers' grievances Training records Recruitment documentations	All employees will be trained on OHS, GM, GBV, SEA/SH and other E&S issues. All grievances closed-out within the target timeframe.	Administration office	Grievance records Accident/incident records, On-site inspections	Weekly during the construction phase	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Occupational Health and Safety	Number of incidents	No OHS incidents occurred	Construction site	Incident records	Daily basis starting from the initialization of the construction phases	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
	Incident investigation	No OHS incidents occurred		Incident investigation records	Daily basis starting from the initialization of the construction phases		
	Period of disease occurrence	No infectious disease is recorded		Disease follow-up register	Daily basis starting from the initialization of the construction phases		
	Training requirements	Every training defined in the Annual ESHS is completed		Annual Environmental, Social Health, and Safety (ESHS) training plan	Annually during the construction phase		
	Adequate OHS organizational structure.	1 fulltime OHS staff to be		Site implementation Site inspection	Quarterly during the construction phase		
	Total hours worked by employee	As specified in the LMP		Timesheets, Grievance records	Monthly, yearly		
Protecting the Workforce	Age of candidate employee	No cases of child labor	Administration office and Project area	Age verification with National ID	Before each recruitment	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Workers Engaged by Third Parties and the Supply Chain	Contractor and sub-contractor agreements	No nonconformity with the LMP	Administration office	Contract reviews by ESHS expert(s)	Before each agreement made	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)
Gender Based Violence (GBV), Sexual Exploitation Abuse / Sexual Harassment (SEA/SH)	GBV and SEA/SH related incidents Grievance records	No GBV and SEA/SH related issues and in case of such issues, prescribed procedure ensuring confidentiality observed Minimum 1 annual refresher training for SEA/SH and GBV	Administration office and Project area	Document review Review of grievance logs Training records	Quarterly Upon relevant grievances Yearly	Included in construction cost	Contractor (implementation) Uşak Leather Mixed OIZ (performance control and management)

**In cases where the Turkish requirements differ from the levels and measures presented in the WBG's EHS Guidelines, the more stringent one (such as the most stringent discharge and emission standards) will be applied in the project specifications.*

Table 27 Monitoring Plan for the Operation Phase

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Soil and Contaminated Land	Number of spills/leaks	No soil contamination resulting from project activities	Entire construction site	Environmental incident reports	Monthly during the operation phase After each incident	Included in operation cost	Uşak Leather Mixed OIZ
	Amount of contaminated soil						
	Soil quality, including heavy metals, petroleum hydrocarbons, organic halogens			Sampling and analysis by an authorized environmental laboratory	Upon grievance		
	Landfill Reinforcement Project	Cleaning the contaminated site	Points determined by the Commission	Site Cleanup Activity Implementation Monitoring Report	Upon publication of monitoring report		
Water quality of the receiving environment	Water quality analysis parameters including Ammonium, Oil and Grease, Biological Oxygen Demanded BOD, Dissolved Oxygen DO, Conductivity, Chemical Oxygen Demanded COD, Nitrate, pH, Total Phosphorus, TP, Ortophosphate, Total Kjeldahl Nitrogen, TKN, Total Nitrogen, TN, Floride, Manganese, Selenium, Sulphur	Prevention of water quality deterioration compared to current surface water COD: 250 mg/L TSS: 200 mg/L Oil and grease: 20 mg/L Total Phosphorus (P): 2 mg/L Total Chrome: 2 mg/L Chrome (Cr^{+6}): 0.5 mg/L Lead (Pb): 2 mg/L Total Cyanide (CN-): 1 mg/L Cadmium (Cd): 0.1 mg/L Ferrous (Fe): 10 mg/L Fluoride (F-): 15 mg/L Copper (Cu): 3 mg/L Zinc (Zn): 5 mg/L Mercury (Hg): 0.05 mg/L Sulphate (SO_4^{-2}): 1500 mg/L Total Kjeldahl Nitrogen (TKN): 60 mg/L[20] Fish Bioassay (TDF): 10 Color: 280 Pt-Co pH:6-9	Kabaklar Creek	In-situ measurements and laboratory measurements and analysis via an authorized environmental laboratory Spill notices/correspondences to authorities in case of major spills	Quarterly during the operation phase	Included in operation cost	Uşak Leather Mixed OIZ
Odor	Odor Level	Limited number of grievances, resolved adequately, fast and to the satisfaction of the complainants.	Location of Grievance	Grievance records Measurement via an authorized environmental laboratory	Upon grievance	Included in operation cost	Uşak Leather Mixed OIZ
Noise	Noise level	Not exceeding the limit values defined in Regulation on Environmental Noise Control and WB standards No noise related grievance received	In case of a complaint, in the relevant area	At least 24-hr noise measurements via an authorized environmental laboratory	Once in a year Upon grievance	Included in operation cost	Uşak Leather Mixed OIZ
Waste	Type and amount of waste generated including sludge	Adhering to the TurkStat estimation of 1.14 kg/person/day waste generation Minimizing the amount of waste to be sent for disposal and implement waste management hierarchy	Treatment plant site and storage areas	Visual observation Waste Records Site inspections Disposal truck register	Weekly basis starting from the initialization of the operation phase of the Project	Included in operation cost	Uşak Leather Mixed OIZ
Resources	Types and amounts of materials/resources used	Use of recycled materials whenever possible Reducing energy consumption	Administration office	Material/resource procurement/consumption records	Annually starting from the initialization of operation phase	Included in operation cost	Uşak Leather Mixed OIZ
Infrastructure Damage	Number and nature of cases and amount of compensation paid	No infrastructure cases	Administration office	Incident records Receipts of compensation payments	Monthly during the operation phase	Included in operation cost	Uşak Leather Mixed OIZ

[20] It is applied to industries processing bovine hides and skins and mixed industries with 20-65% of their wastewater originating from the leather sector.

Issue	Parameters to be monitored (What parameter is to be monitored?)	Target/Threshold Value*	Monitoring location (Where the parameter is to be monitored?)	Monitoring Method (**How** *is the parameter to be monitored/ type of monitoring equipment?)*	Timing/Frequency of Monitoring (**When** *is the parameter to be monitored- frequency of measurement or continuous?)*	Cost of Monitoring *(What is the cost of equipment or contractor charges to perform monitoring?)*	Responsible Party/Parties
Trespassing	Trespassing cases	No trespassing	Administration office	Security reports Visitor logs	Weekly during the operation phase	Included in operation cost	Uşak Leather Mixed OIZ
	Condition of CCTV system			System checks	Daily during the operation phase		
Community Health and Safety	Health and safety signs and traffic signs placed in appropriate locations	All cases that cause health and safety problems to be prevented	Project Area	Visual observation Site inspection	Daily basis Upon grievance	Included in operation cost	Uşak Leather Mixed OIZ
Working Conditions	Workers' grievances	All worker's grievances addressed and resolved within defined time limit and to satisfaction of aggrieved party	Administration office	Grievance records	Weekly during the operation phase	Included in operation cost	Uşak Leather Mixed OIZ
Occupational Health and Safety	Number of incidents	No OHS incidents occurred	Administration office	Incident records	Daily basis starting from the initialization of operation phase	Included in operation cost	Uşak Leather Mixed OIZ
	Incident investigation	No OHS incidents occurred		Incident investigation records	Daily basis starting from the initialization of operation phase		
	Period of disease occurrence	No disease cases and response within the prescribed timeframe in case of a case		Disease follow-up register	Daily basis starting from the initialization of operation phase		
	Training requirements	Every training defined in the Annual ESHS is completed		Annual ESHS training plan	Annually during the operation phase		
	Total hours worked by employee	Total hours worked should be less than 11 hours/worker/day The total of overtime working hours cannot exceed 270 hours in a year.	Administration office	Timesheets, Grievance records	Monthly, yearly		
Protecting the Workforce	Age of candidate employee	No case of child labor	Administration office	Age verification with National ID	Before each recruitment	Included in operation cost	Uşak Leather Mixed OIZ
Gender Based Violence (GBV), Sexual Exploitation Abuse / Sexual Harassment (SEA/SH)	GBV and SEA/SH related incidents Grievance records	No GBV and SEA/SH related issues and in case of such issues, prescribed procedure ensuring confidentiality observed Minimum 1 annual refresher training for SEA/SH and GBV	Administration office	Document review Review of grievance logs Training records	Quarterly Upon relevant grievances Yearly	Included in operation cost	Uşak Leather Mixed OIZ

10 INSTITUTIONAL ARRANGEMENT AND TRAINING

The main responsible organization for the implementation of this ESMP is Uşak Leather Mixed OIZ. Uşak Leather Mixed OIZ/PMU does not yet have the personnel and resources to ensure the implementation of the Environmental and Social Management Plan (ESMP), which covers all stages of the Project and consists of management plans on different issues. A PMU will be established to carry out operational and administrative tasks. The PMU consists of the Uşak Leather Mixed OIZ's own staff.

Besides, on different phases of the Project, various parties (contractors, Ministry of Industry and Technology (MoIT), etc.) will take responsibility for various works in the scope of the ESMP. All mentioned works will be coordinated by the Uşak Leather Mixed OIZ. Mitigation and monitoring tables, which are given in this ESMP, summarize the relevant responsibilities.

In that scope, it is suggested to add below mentioned liabilities to tender documents of any possible contractor(s):

- The full ESMP,
- Environmental, social and occupational health and safety liabilities,
- Other environmental and social issues that can show-up.
- Additional management plans (have been listed Table 2.).

10.1 Roles and Responsibilities

The entire Project will be financed by the WB. MoIT is responsible for the coordination of the sub-project and acting as the contracting authority. Uşak Leather Mixed OIZ is the sub-borrower.

The draft ESMP will be made available to the public in both Uşak Leather Mixed OIZ's and MoIT's web site prior to any activity on site. MoIT Project Implementation Unit (PIU) will include an environmental specialist, a social expert and an OHS specialist to supervise the implementation of the ESMP. The specialist will supervise the implementation of the ESMP by Uşak Leather Mixed OIZ and document performance, recommendations and any further actions required. He/she will provide guidance to Uşak Leather Mixed OIZ officials on WB procedures, consultation and disclosure requirements. In addition, Uşak Leather Mixed OIZ will inform MoIT and WB on any project changes or unforeseen circumstances in the approved project documents.

Uşak Leather Mixed OIZ will be responsible for providing technical and data support during the supervision of contractors and the preparation of technical and financial feasibility reports regarding projects. Moreover, Uşak Leather Mixed OIZ holds ultimate responsibility for the environmental and social performance of the overall Project, including the performance of its contractors and any other contractors. A PMU will be established to carry out operational and administrative tasks. The PMU staff will be the Uşak Leather Mixed OIZ's own staff.

The parties responsible for the monitoring progress are contractor and Uşak Leather Mixed OIZ/PIU during the construction phase, while only Uşak Leather Mixed OIZ/PMU is responsible for monitoring progress during the operation phase of the Project. Depending on the monitoring plan, the Contractor will prepare monthly Environmental and Social Monitoring Reports (ESMRs) to be submitted to Uşak Leather Mixed OIZ; whereas Uşak Leather Mixed OIZ will review and submit ESMRs to MoIT monthly. Environmental engineer/expert will appoint a representative on site to lead the development of this ESMP and its onsite implementation.

Regarding implementation of the ESMP, a team (project management unit) to be established by the OIZ management will be specified to include team members detailed as follows and indicated in the below chart.

Project Coordinator

- Overall responsibility for the ESMP implementation,

Project Manager

- Ensure that ESMP provisions are implemented to mitigate environmental (including OHS) and social impacts, and contractor's Labour Management Plan is in accordance with the LMP
- Ensure that all workers participate in training sessions on ESMP. Maintain a record of training and conduct of awareness sessions for staff to ensure compliance with environmental and safety commitments stated in ESMP,
- Prepare monthly environmental and social monitoring reports for submission to MoIT PIU.

Environmental Specialist

- Ensure that the environmental management systems of the project comply with the ESMP,
- Monitor the environmental impacts and risks of the construction activities on site.

Social Specialist

- Adopt and implement the project-specific Stakeholder Engagement Plan (SEP)[21],
- Establish an easily accessible public and workers' grievance mechanism,
- Manage and ensure effective operationalization of the GM,
- Record grievances,
- Disclosure to complainant,
- Monitor the social impacts and risks of the construction activities on site.

OHS Specialist

- Ensure that implementation and supervision of Occupational Health and Safety Management Plan,
- Preparedness and response to emergency situations according to Emergency Response Plan
- Notify MoIT PIU immediately about any contingencies such as labor issues, accidents and incidents. The incident report including root cause analysis, precautions and compensation measures taken, will be shared with MoIT PIU in 30 business days.

Technical Specialist

- Responsible for the project design,
- Coordinating the actions and evaluations in case of a change due to engineering/design changes.

[21] https://yesilosb.sanayi.gov.tr/projedokumanlari

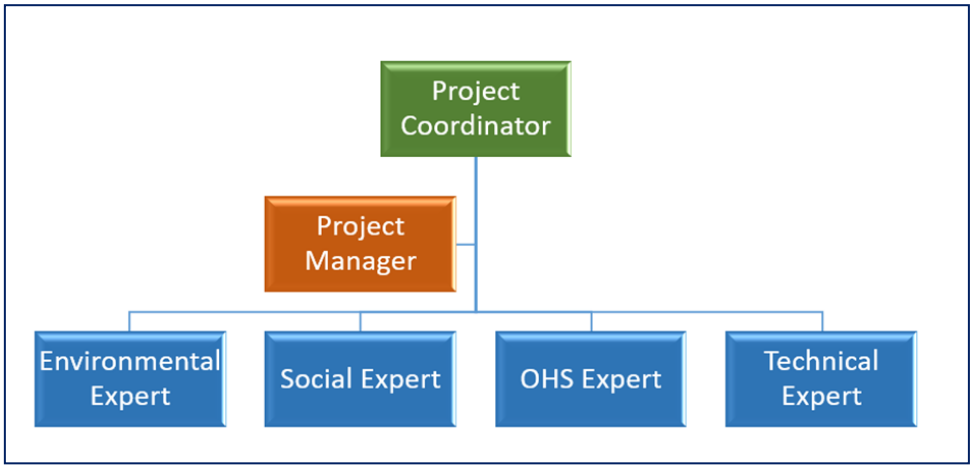

Figure 17 Organizational Chart of Project Management Unit (PMU)

A table defining the responsibilities for the MoIT PIU, OIZ PMU, E&S consultant, and contractor is given below. The roles and responsibilities of the relevant institutions which are involved in the management, monitoring, implementation and finalization of the Project in line with both national and WB ESF requirements are summarized in the table below.

Table 28 Parties Responsible for the Management of the Project in Accordance with World Bank ESF Requirements

Institution	Responsibilities
MoIT Project Implementation Unit (PIU)	• Providing guidance to OIZ and the consultant that is responsible for preparation of this ESMP and SEP considering WB's requirements (standards, guidelines and procedures), • Reviewing the documents related to the environmental and social assessment of the project, provide comments/revisions to the consultant in order to develop (performing overall quality assurance) the E&S documents, • Guiding OIZ and the consultant on stakeholder consultation and announcement requirements within the scope of this ESMP, • Following of monitoring activities such as the implementation of this ESMP, other environmental and social mitigation measures, grievance process and Main Project's Labor Management Procedures (LMP), • Auditing the OIZ's ESMP practices and giving feedback on its performance, and further actions to be taken within the overall project audit, • Being open and responsive to concerns raised by affected groups and local environmental authorities regarding environmental aspects of Project implementation. Meet with these groups during site visits, as necessary, • In case of necessity, providing coordination and communication regarding the field visits • To provide CoC, GM, GBV, SEA/SH, OHS training to the contractor and OIZ PMU specialists before the construction activities
OIZ Project Management Unit (PMU)	• • Assigning/hiring one environmental, one social expert and one OHS specialist with sufficient qualifications and skills • Identification and management of risks and impacts related to environmental, social and OHS issues during construction activities on site • Implementation of this ESMP and related management plans and achieving of all commitments under these plans. Checking both the technical and administrative progress of contract packages and • Providing support to implementation of the mitigation measures and commitments given in the ESMP on site • The E&S Team will also be responsible for taking actions required to eliminate/minimize environmental and social impacts and risks in line with this ESMP and for putting monitoring plans into practice, • Sharing the ESMP with the Contractor, • Guiding the Contractor in preparing and approving the sub-management plans, and Contractor's Labour Management Plan • Coordinating the actions and evaluations in case of a change due to engineering/design changes, route/location changes, legislative changes related to environmental and social issues, authorization provision changes, new environmental/social data, construction/operation strategy changes. • Updating the ESMP when necessary and sharing additional commitments with the Contractor,

Institution	Responsibilities
	• Informing MoIT PIU via monthly ES Monitoring Reports which will be prepared in line with ESMF and submitted by the contractor, • Monitoring and evaluating the performance of the contractor activities in line with ESMP requirements, • Ensuring compliance with project standards, taking urgent action in case of non-compliance within the knowledge and approval of MoIT PIU, • Any non-conformities found during the inspections will be managed by a process adapted to the severity of the case,To provide training to the project personnel of the Contractor and their own personnel on ESMP implementations, CoC, OHS, GM, GBV, SEA/SH trainings and commitments, which covers project related environmental and social impacts and risks, and corresponding measures applied to avoid, reduce, and mitigate the risks and potential adverse impacts, roles and responsibilities assigned to the relevant party, monitoring plan and reporting process prior to the construction activities are commenced • Preparing the bidding documents during the implementation, conducting bidding processes. The requirements of the WB and the Construction Contract including this ESMP and LMP will be chased and cooperating with the MoIT PIU for the supervision of construction activities • Supervision of construction and/or rehabilitation works and installation of equipment, • Suspending work in any situation that threatens environment and community and occupational health and safety and informing MoIT PIU, • Analysing and following-up the environmental (including OHS) and social accidents/incidents. Specifically, for any significant environmental or social incidents (e.g. fatalities, lost time incidents, environmental spills etc.), the OIZs will inform MoIT PIU in 48 hours after the occurrence of the incident or accident, • Notifying MoIT PIU immediately about any contingencies such as environmental, social and labour issues or accidents, incidents or loss of time that has or is likely to have a significant adverse impact on the environment, affected communities, the public or workers. The incident report including root cause analysis, precautions and compensation measures taken, will be submitted to MoIT PIU in 30 business days, • Follow up the penalties arising from the contract, checking the suitability of the work done by the Contractor, giving warnings and directions and notifying the MoIT PIU in a timely manner if necessary
E&S Consultant	• Preparation and finalizing this ESMP as per the concerns/opinions of the stakeholders of the Project for the approval of MoIT PIU and WB, • Supporting the PMU to organize and carry out the stakeholder engagement and information meeting for the draft version of this ESMP, • Organizing and delivering a training to the respective OIZ PMU on ESMP implementations, GM, GBV, SEA/SH trainings and commitments, which covers project related environmental and social impacts and risks, and corresponding measures applied to avoid, reduce, and mitigate the risks and potential adverse impacts, roles and responsibilities assigned to the relevant party, monitoring plan and reporting process prior to the construction activities are commenced.
Contractor	• Fulfillment of all requirements of ESMP and the relevant management plans, • Implementation of additional commitments to be included in the Construction Contract, • Preparation of its site-specific sub-management plans (mentioned above in the relevant sections and the mitigation measures Tables) in line with this ESMP, including OHS plans before construction, as part of their method statement and submit to the OIZ PMU and MoIT PIU for reviewing and approval, • Ensuring compliance with project standards, obtaining all relevant permits and licenses, • Implementing of the mitigation measures provided in this ESMP and monitoring of construction activities (including subcontractor activities) in compliance with the national legislation and WB standards, • Development of monitoring plans/procedures in accordance with the ESMP structure, implementation after the approval of OIZ PMU and MoIT PIU,Employment of competent Environmental, Social and OHS Experts (at least one Social Expert, one Environmental Expert and one full-time OHS Expert) within the scope of the project, • Training its own and subcontractor's staff on environmental, social and OHS issues, • Carrying out the environmental and social audits to monitor the ESMP practices on site and report on this to the OIZ PMU, • Submission of Environmental and Social Progress Reports (ESPRs) on environmental and social issues, mitigation, results and findings throughout the construction period to the OIZ PMU, • Notifying immediately of the contingencies such as environmental, social and labor issues or accidents, incidents or loss of time to OIZ PMU and keeping an event log on site throughout the life

Institution	Responsibilities
	of the Project. The incident report including root cause analysis and the corrective actions to be taken will be submitted to OIZ PMU within 30 days, • On the basis of the project's Labor Management Procedures, the Labor Management Plan which will be prepared by the contractor will also comply with the Labor Legislation (4857 Labor Law), Occupational Health and Safety Plan and Procedures (6331 Occupational Health and Safety Law) and 5510 Social Insurance Law. • Developing and implementing Labor Management Plan (based on Project's LMP) including working conditions, fair treatment, non-discrimination, equal opportunity, vulnerable/disadvantaged workers, GBV, SEA/SH, prevention of child labor and forced labor issues under the project's Labor and Employment Policy for construction phase. • To provide CoC, GM, GBV, SEA/SH, OHS training to the project personnel before construction activities and repeat annually. Training records will be kept. • Establishment and implementation of project specific grievance mechanism for the Project construction activities in coordination with OIZ PMU.

10.2 Reporting

Reporting process that should be followed during the implementation phase of the project is an important tool to record and chase project activities in compliance with the national and WB standards. Therefore, the requirements of such processes are presented in Table 29.

Table 29 Requirements of Such Processes

Responsible Party	Roles & Responsibility
MoIT Project Implementation Unit (PIU)	• Quarterly inform the WB with Environmental and Social Reports (ESRs) to include summary of Environmental and Social Monitoring Reports (ESMRs) on the progress and updates. Quarterly ESRs will highlight any issues arising from non-compliance with ES requirements in the ESMP and how it has been/is being addressed from the ESF requirements point of view. • Submitting the quarterly Grievance Mechanism Report (GMR) to WB • Site visits will be carried out quarterly and environmental and social issues will be examined on site. Findings after site visits will be included in the quarterly ESRs. • CoC, GM, GBV, SEA/SH, OHS training will be given to OIZ PMU and Contractor's Environmental and Social Specialists and training records will be kept.
OIZ Project Management Unit (PMU)	• Review and submit monthly ESMRs to MoIT PIU • Submitting the monthly GMR to cover both Consultant's GMR and Contractor GMR to MoIT PIU • This ESMP implementation, CoC, GM, GBV, SEA/SH, OHS training will be given to employees and training records will be kept.
Contractor	• Prepare and submit monthly ESPRs covering the progress of the construction activities and environmental and social issues to the OIZ PMU • Submit the monthly GMR to OIZ PMU • CoC, GM, GBV, SEA/SH, OHS training will be given to employees and training records will be kept.

10.3 Training

One of the main necessities of the ESMP is training for the Project Owner's and contractor's top-level management and employees.

Necessary training will be given to the personnel immediately after the recruitment, and training will also be refreshed during the work period and will be conducted at different levels. Some short-term training is required for the Environment Expert, other staff members of the PIU and the contractor staff to raise their levels of environmental and social awareness. The training can be conducted by either some external experts or with the help of in-house expertise of the PIU and the consultants and help of MoIT and WB. In the long-term training, special environmental and social issues will be investigated, and likely solutions provided to the PIU.

The mentioned training will take place over a maximum two (2) days. This period will be determined by considering the responsible trainer's opinion on how many days it takes to explain the relevant subject the evaluation of the trainees' prior knowledge and capacities on the relevant subjects and the detailed scope of the syllabus that has been prepared. The PIU is also responsible for the monitoring of the Contractor's actions on training. The training will be given after signing the works contracts and refresher trainings will be held as needed depending on work progress and construction activities. Measurement and evaluation will be performed at the end of the training given to the personnel. This is to measure the effectiveness of the training and to measure the trainees' level of knowledge and competence. According to the review results, the training program can be modified, or trainers can be replaced, or training can be repeated, if needed, upon determining whether the training is effective.

The basic training that are planned to be given are as follows, but not limited to:

- Waste Management,

- Energy Efficiency,
- Safe Driving,
- Occupational Health and Safety,
- Chance Find Procedure,
- Induction training including Code of Conduct, GBV & SEA/SH, GM, EHS and ESMP Requirements, and
- First-Aid and Emergency Preparedness Measures

Table 30 provides examples of the basic training for the ESMP implementation. The training programs will be developed annually and delivered by the PIU.

Table 30 Training Program

Training Topics	Responsible Party (Trainer Party)	Target Group	Duration	Time	Cost
• Overview of potential impacts and mitigation measures • Requirements of environmental monitoring • Occupational Health and Safety Training • Role and responsibilities of the contractor • Content and methods of implementation of environmental mitigation measures • Response and risk control • Preparation and submission of report • Risk response and control • Code of conduct training • GM training • SEA/SH and GBV training/ awareness • Other areas to be determined	PMU with support of MoIT PIU Contractor	OIZ, Contractor, related authorities: On-site construction management staffs, environmental staffs of contractor, related authorities	Two (2) days of training twice a year to be repeated on a yearly basis depending on needs.	After signing the works contract	-
• Trainings for the E&S documents	Environmental and Social Consultant	Contractor, PMU	One (1) day	Before construction	-
• General environmental and social management relating to the Project • Requirements on environmental and social monitoring • Monitoring and implementation of mitigation measures • Guide and supervise contractor in implementation of the ESMP	OIZ PMU	Whole personnel related to the Project.	Two (2) days of training twice a year to be repeated on a yearly basis until the end of the DLP.	Soon after the Project effectiveness but at least one (1) month before the construction of the contract. The follow-up training will be scheduled as needed.	-

Training Topics	Responsible Party (Trainer Party)	Target Group	Duration	Time	Cost
• Documentation and reporting					
• Code of conduct					
• Risk response and control					
• Other areas to be determined					

In addition, the training program/modules shall address a range of issues, including but not limited to:

- Purpose of ESMP regarding the Project activities,
- Requirements in management plans and monitoring activities to be performed within the scope of this plan,
- Understanding of the sensitive environmental and social receptors within the project area and its vicinity, and
- Awareness-raising about the potential risk and impacts from the project activities,
- Grievance mechanism developed within the scope of the project, grievance mechanism officer and employee rights,
- Community health and safety risks and measures,
- OHS, first aid, emergency preparedness,
- Code of conduct and clothing,
- Communication with the local community,
- Code of conduct training, including gender-based violence, sexual harassment, sexual exploitation and abuse,
- Traffic and road safety principles, and
- Training on waste sorting, storage and environmental planning.

11 STAKEHOLDER MANAGEMENT UNDER ESMP

A stakeholder is defined as any individual, organization or group who is potentially affected by the Project or who has an interest in the Project and its impacts. The objective of stakeholder identification is to establish which stakeholders may be directly or indirectly affected – either positively or negatively - ("affected parties") or have an interest in the Project ("other interested parties").

The term "project affected parties" includes those likely to be affected by the project because of actual impacts or potential risks to their physical environment, health, security, cultural practices, well-being, or livelihoods. These stakeholders may include individuals or groups, including local communities.

The term "other interested parties" refers to individuals, groups, or organizations with an interest in the project, which may be because of the project location, its characteristics, its impacts, or matters related to public interest. For example, these parties may include regulators, government officials, the private sector, the scientific community, academics, unions, women's organizations, other civil society organizations, and cultural groups.

Table 31 Stakeholders and Relevance to the Project

Stakeholder Group			Relevance of Stakeholders to the Project
Project Affected Parties (PAP)	Communities (residents and businesses)	Muharremşah Neighborhood (with a population of 3.255 and distance to Project Area 2.5 km)	Potential noise and dust emission during the construction phase
	Business and Employees	Firms operated in Uşak Leather Mixed OIZ	Potential noise and dust emission during the construction phase, User/ beneficiary after commissioning
		Employees of Firms: About 6000 Employees	Potential noise and dust emission during the construction phase
Other Interested Parties	Central and Local Authorities	Uşak Provincial Governorate	Responsible for public healthcare, environmental and social services
		District Governorate of Merkez	Responsible for public healthcare, environmental and social services
		Uşak Provincial Directorate of Environmental Urbanism and Climate Change	The authority consulted for the project preparation and implementation phases
		Uşak Industry and Technology Provincial Directorate	Project implementing local partner
		Uşak Provincial Directorate of Health	Responsible for public health
		Merkez District Directorate of Health	Responsible for public health
		Uşak Municipality	Responsible for public services
	Non-Governmental Organizations	Organized Industrial Zones Association	NGO responsible to protect and develop the common economic, social rights and interests of OIZs and to provide mutual assistance among them.
		Organized Industrial Zones Supreme Organization	NGO responsible for unity of application and cooperation between OIZs and solving the problems of OIZs.
		Uşak Chamber of Trade and Industry	Responsible to strive for the development of trade and industry in accordance with general interests,
	Media/ Electronic Media	Uşak Haber Gazetesi https://www.usakhabergazetesi.com.tr/	Information disclosure
		Uşak Gündem https://www.usakgundem.com/	Information disclosure
		Uşak Olay https://www.usakolay.com/	Information disclosure

The TOIZsP Stakeholder Engagement Plan (SEP), linked in Chapter 1.2, will be used for this sub-project and all project parties (including the contractor, Organized Industrial Zone (OIZ) and Ministry of Industry and Technology (MoIT) PIU) will be responsible for ensuring compliance with the TOIZsP SEP.

11.1 Previous Stakeholder Engagement Activities

A site visit was conducted by Infratech on 13.06.2024 and primary data was collected on the communities living around the Project area and potential Project impacts through key informant interviews with the mukhtars of Muharremşah neighborhood.

The general information obtained from the mukhtar summarizes the current situation of the neighborhood as stated in Chapter 6. This information is shared in Chapter 6 of this document. No evidence of any previous stakeholder engagement activities was found among the information obtained. It was also stated by the OIZ authorities that no stakeholder activity has been held yet for the project.

11.2 Disclosure and Consultation of the ESMP

A Stakeholder Consultation Meeting (SCM) will be conducted following the clearance of this draft ESMP for disclosure and consultation purpose. During the meeting, details about the project, its potential environmental and social impacts/risks, mitigation measures to be taken, and implementation/monitoring/reporting responsibilities of different parties will be shared with the stakeholders; and then their opinions and suggestions will be received during the question-answer (Q&A) session. The ESMP will be further revised to incorporate the outcomes of the consultations and the feedback received from stakeholders. Minutes of the Stakeholder Consultation will be prepared and published on the Uşak Leather Mixed OIZ website (https://ukosb.org.tr/) and MoIT PIU website (yesilosb.sanayi.gov.tr).

The Uşak Leather Mixed OIZ will ensure that the final approved ESMP to be disclosed will be available locally at the Uşak Leather Mixed OIZ offices, places easily accessible to affected groups such as headmen's offices and local NGOs and will be published on Uşak Leather Mixed OIZ website (https://ukosb.org.tr/) and MoIT PIU website (yesilosb.sanayi.gov.tr).

The ESMP is a dynamic document and will be reviewed, updated, and approved as necessary throughout the implementation of the Project. For each approved updated version of this ESMP, the Uşak Leather Mixed OIZ and the firm will be responsible for disclosure through the communication channels.

A range of tools will be utilized for stakeholder engagement under this Project. Different engagement methods are proposed and cover different stakeholder needs for before construction, during construction and operation phases as stated below:

- Formal/ informal face-to-face meetings,
- Digital communication tools (including web pages, correspondence by phone/email, whatsapp, short message service),
- Written materials,
- Grievance mechanism,
- Media promotions.

11.3 Grievance Mechanism

The main aim of the grievance mechanism is to assist in resolving complaints and grievances in a timely, effective, and efficient manner that satisfies all parties involved. The GM is intended to serve as a mechanism to:

- Allow identification and impartial, timely and effective resolution of issues affecting the project,
- Strengthen accountability of the beneficiaries, including project-affected stakeholders, and
- Provide channels for the stakeholders to provide feedback and raise concerns.

GM at the National Level

Presidency's Communication Center: The Presidency's Communication Centre (CİMER) provides a centralized complaint system for Turkish citizens, legal persons and foreigners. CİMER only allow applications in Turkish.

Through CİMER, applicants can direct their requests directly to the relevant authorities. The requests submitted to CİMER are resolved within 30 days. If the applicants do not receive feedback within this period, they can re-submit their grievance to CİMER or elevate it to the Ombudsman Institution (www.ombudsman.gov.tr).

Webpage:	www.cimer.gov.tr/ www.turkiye.gov.tr/
Call Centre (hotline):	150
Phone number:	+90 312 590 20 00
Fax number:	+90 0312 473 64 94
Official Letter/Petition:	Republic of Türkiye, Directorate of Communications T.C. Cumhurbaşkanlığı Külliyesi 06560 Beştepe/ Ankara
Individual Application:	Community relations desks at governorates, ministries and district governorates.

CİMER will be available to Project stakeholders as an alternative and well-known channel for conveying their Project-related grievances and feedback directly to state authorities.

Foreigners Communication Center: The Foreigners Communication Center (YİMER) provides a centralized complaint system for foreigners. YİMER will be available to Project stakeholders as an alternative and well-known channel for conveying their Project-related grievances and feedback directly to state authorities.

Webpage:	www.yimer.gov.tr
Email:	yimer@goc.gov.tr
Call Centre (hotline):	157
Phone number:	+90 312 515 11 22
Fax number:	+90 312 920 06 09
Official Letter/Petition:	Republic of Türkiye General Directorate of Migration Management, Çamlıca Mahallesi 122. Sokak No: 4 Yenimahalle/ Ankara
Individual Application:	Republic of Türkiye General Directorate of Migration Management

MoIT Level GM: All stakeholders can submit individual applications to the MoIT grievance mechanism established specifically for the Main Project via ways given below.

E-mail	info@sanayi.gov.tr dboneri@sanayi.gov.tr
Website	www.sanayi.gov.tr
Address	Mustafa Kemal Mahallesi Dumlupınar Bulvarı (Eskişehir Yolu 7.km) 2151. Cadde No:154/A 06530 Çankaya/ANKARA
Phone	444 6 100
Fax	+90 (312) 201 58 23

Project Level Grievance Mechanism

On the website[22] of Uşak Leather Mixed OIZ, there is a Contact page which is available in Turkish. The grievances/requests related to Uşak Leather Mixed OIZ's activities can be communicated through this page and the resolution process is followed. The page includes information on email, phone number and mailing address of the Uşak Leather Mixed OIZ. There is a section on the page where messages can be sent. Name e-mail address and explanation/message/grievance are entered in the online Contact Form. Filling all fields is obligatory on this way. Notification that the application has been received is made via e-mail address.

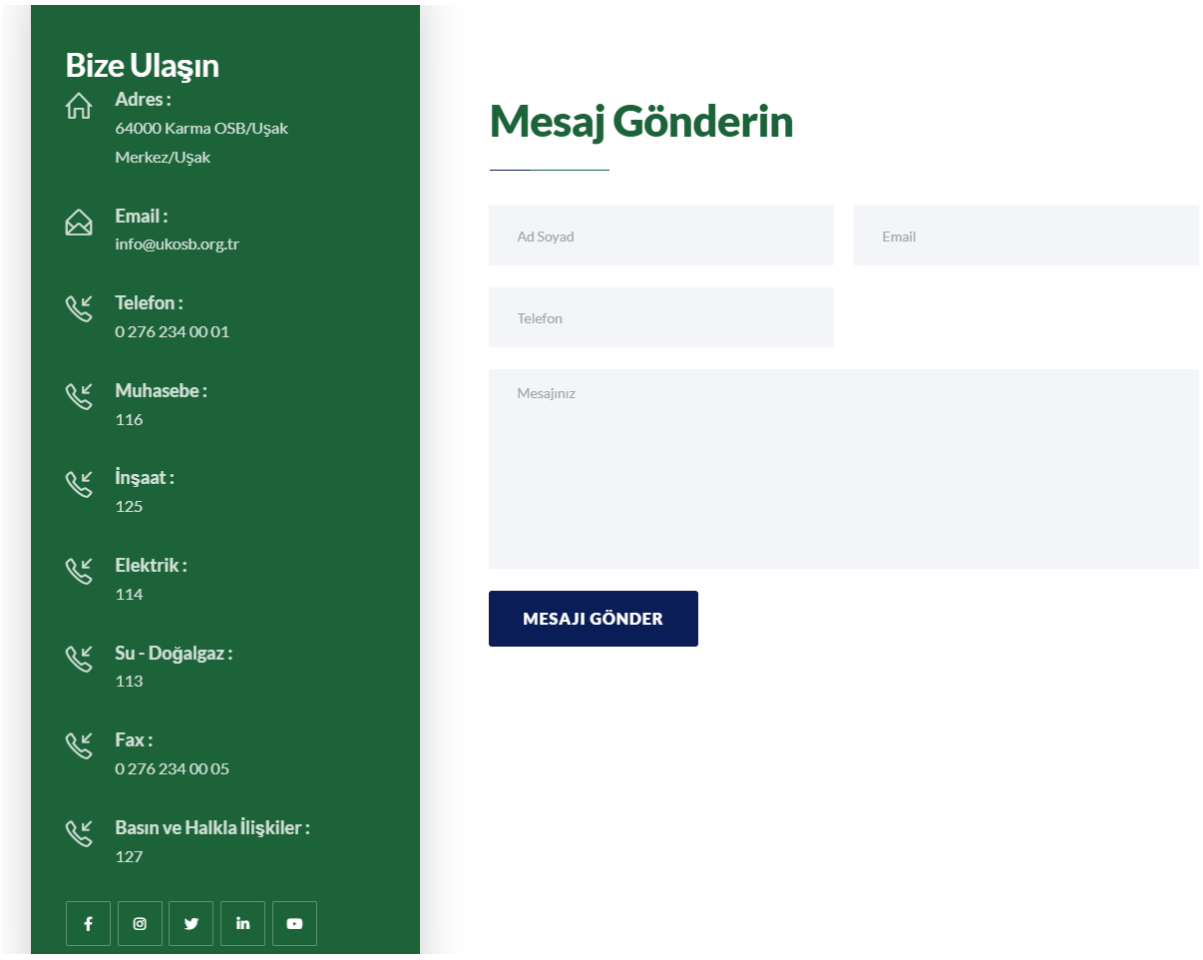

Figure 18 Screenshot of Uşak Leather Mixed OIZ Contact Web Page

11.3.1 Procedural Steps of GM

As per the World Bank's ESS10 requirement, a proper grievance mechanism (GM) will be established for the Project and will be operational before starting construction. For this mechanism to function in a proper and timely manner, a GM focal point who will oversee the entire process has been assigned as a part of the project team of the MoIT. The GM focal point will also be responsible for reporting the grievance process of the project for monitoring purposes. This person will also be responsible for coordinating the grievance mechanism to ensure its smooth functioning within the scope of the project.

As per the GM procedure prepared for the MoIT's project-specific GM, complaints should be reviewed and closed in 15 days. Regardless of general response and resolution timeframes, some complaints may require immediate attention, for example, an urgent safety issue or where it concerns the livelihood of locals.

[22] https://www.ukosb.org.tr/iletisim.html

The Project-based GM is detailed in Chapter 7 of the TOIZsP Stakeholder Engagement Plan. The steps that complete the grievance mechanism and the description of this process are summarized in the Table below.

Table 32 Steps of Grievance Mechanism

Step	Description of Process	Time Frame	Responsibility
GM implementation structure	There exist three Grievance Mechanism at the National Level: • Presidency's Communication Center and • Foreigners Communication Center • MoIT level GM Additionally there is also a Project Level GM	-	Presidency's Communication Center, and Foreigners Communication Center and related authorities MoIT PIU OIZ PMU
Grievance uptake	Grievances can be submitted via telephone, e-mail, letter to Grievance focal points at local facilities, complaint form lodged via any of the above channels (contact information is given in the Annex-19), or walk-ins may register a complaint in a grievance logbook at a facility or suggestion box.	-	Presidency's Communication Center, and Foreigners Communication Center and related authorities MoIT PIU OIZ PMU
Sorting, processing	Complaints are forwarded to PMU, logged in the Grievance Log, and categorized as Level 1, Level 2, or Level 3 complaints[23]. If out of scope, the grievant is notified and an alternative solution is suggested.	-	OIZ PMU
Acknowledgement and follow-up	Receipt of the grievance is acknowledged by PMU/Social Expert within 2 working days through a personal meeting, phone call, or letter. Clarifications are sought if necessary.	2 working days	OIZ PMU/Social Expert
Verification, investigation, action	Investigation of the complaint is led by the Project Manager. The Project Manager is notified of Level 1, 2 or 3 grievances. The PMU, as appropriate, supports the Project Manager in deciding who should deal with the grievance and determines whether additional support for the response is necessary.	-	Project Manager OIZ PMU
Provision of feedback	A response is developed by the delegated team within 15 days. The response identifies a suitable resolution to the grievance and involves further information to clarify a situation, taking measures to mitigate problems or compensate for any damages that have been caused during the Project activities through financial compensation.	Within 15 days	OIZ PMU

In addition to the project's GM for its internal and external stakeholders, ESS 2 requires the establishment of a Workers' Grievance Mechanism (WGM) for the project workers. Worker GRM is

[23] Level 1 Complaint: A complaint that is isolated or 'one-off' and essentially local.
Level 2 Complaint: A complaint that is widespread and repeated.
Level 3 Complaint: A one-off complaint, or one which is widespread and/or repeated that, in addition, has resulted in a serious breach of the Project's policies or National law and/or has led to negative national/international media attention, or is judged to have the potential to generate negative comment from the media or other key stakeholders.

defined as complaints from project employees (including both direct and indirect employees). This mechanism, defined in the LMP of TOIZsP and required to be adhered to in the contractor's Labor Management Plan, is structured to be an effective approach for early identification, assessment, and resolution of grievances throughout the project's lifespan.

The scope of the Worker GRM can be summarized as follows, but not limited to; occupational health and safety, labour conditions, wages, problems with the local community or co-workers, hygiene problems in common areas, insufficient food and/or worker safety, etc. Grievance related to OHS would be addressed and managed immediately, where feasible. Procedural steps of Worker GRM is the same as described in the Table 32.

The World Bank and the Borrower do not tolerate reprisals and retaliation against project stakeholders who share their views about Bank-financed projects.

11.4 Grievances Related GBV/SH/SEA

To properly address SEA/SH risks, the GM will be in place prior to contractors mobilizing. For GBV—and particularly SEA/SH—complaints, there are risks of stigmatization, rejection and reprisals against complainant. This creates and reinforces a culture of silence so complainant may be reticent to approach the project directly. To enable survivors of GBV, SH/SEA to safely access the GM, multiple channels will be made available through which complaints can be registered in a safe and confidential manner. These channels are The Presidency's Communication Centre (CİMER), The Foreigners Communication Center (YİMER), MoIT communication channels at National Level and the Contact page on the website of Uşak Leather Mixed OIZ at Project Level. The GM operators and CLO will to be trained in how to collect SEA/SH cases confidentially and empathetically (with no judgement).

Projects will have multiple complaint channels. No identifiable information on the survivor will be stored in the GM. The GM will not ask for, or record, information on more than the following related to the SEA/SH allegation:

- The nature of the complaint (what the complainant says in her/his own words without direct questioning);
- If, to the best of the survivor's knowledge, the perpetrator was associated with the project;
- If possible, the age and sex of the survivor; and
- If possible, information on whether the survivor was referred to services.

The information in the GM will be confidential especially when related to the identity of the complainant.

12 DEVIATION FROM SCREENING STUDIES

Environmental and Social Screening studies of the Project have been carried out and the final version dated 29th March, 2024 has been used to prepare this plan. While preparing the ESMP, it was concluded that most of the information stated in the screening report reflects the Subproject. However, it can be said that there are some deviations from the screening forms in the ESMP. These deviations are listed below:

- It is stated in the documents that a Rooftop SPP is planned on the UBDIT Building within the 188/12 parcel within the scope of the project and on the roof of the carport to be built on the same parcel. During the site visit on June 13, 2024, it was stated by the Deputy Regional Director that the carport to be built in the 188/12 parcel will be built in the 355/1 parcel, which is actually within the scope of the project and where the Administration Presidency Building is located. Accordingly, it was understood that the carport planned in parcel 188/12 was relocated and moved to parcel 355/1. Therefore, the parcel number of the Rooftop SPP to be built on the carport within the scope of the project has also changed. Rooftop SPP will be installed on the OIZ Management Presidency Building, which is already located on the 355/1 parcel. For this reason, both parcels in mentioned are within the scope of the project.

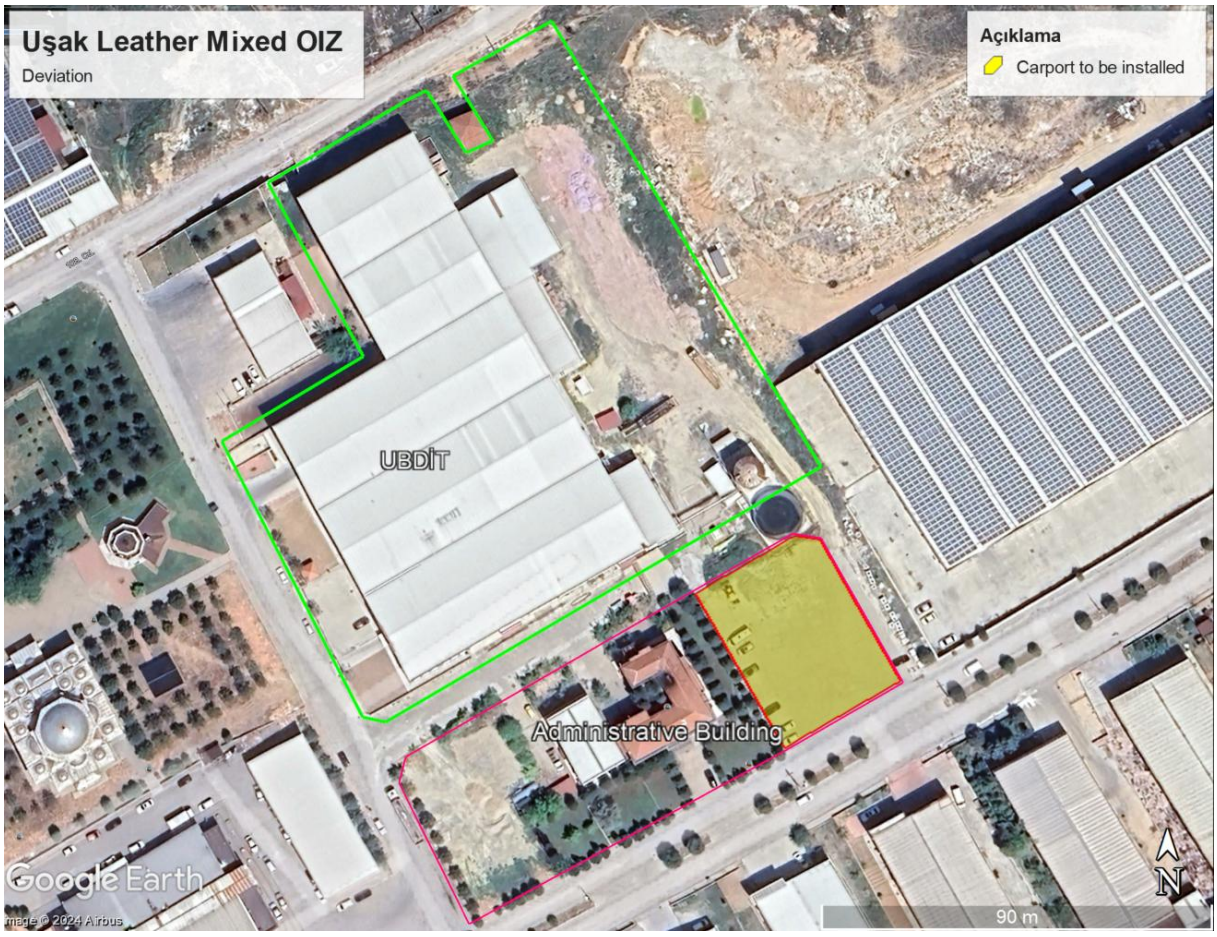

Figure 19 Deviation about Carport Rooftop SPP Area

- During the screening studies, the nearest creek was shown as Değirmen Creek (see Figure 13). As a result of our studies, it was understood that the nearest creek was Kabaklar Creek. According to the topographic map data of the General Command of Mapping, Değirmen Creek is actually referred to as Aşağıova Stream (see Annex-2, Figure 34).

- In the screening report of the project, it is stated that the distribution center to which the solar power plants will be connected is located within the boundaries of the OIZ, but not on the same parcel as the power plant, but on another parcel. Therefore, it is estimated that a route will be

excavated from the solar power plants to the nearest distribution center of the OIZ where the distribution lines will be buried with a cable carrier and the excavation will be 0.5 m deep and 0.1 m wide. In fact, there is no distribution line in the project. There are transformers in all parcels and the electricity generated will be fed directly into the grid through these transformers. Nevertheless, we have included a map showing the transformers in Annex-2. As a result, no power distribution line will be realized within the scope of the project.

- The screening report states that the land on parcel 159/5 where the power plant will be installed is used by a few industrialists with the permission of the OIZ for drying wool by laying it on the ground for a certain period of time during the summer months. It is also stated that with the installation of the power plant, industrialists will have to move away from using this area and it is thought that the loss of income will be compensated by the OIZ in accordance with the ESMP. Considering that the company which uses the project area owned by the OIZ for drying wool with permission to reduce electricity costs, does not generate any income from this situation, it is obvious that there will be no loss of income if they are not able to use this area. In brief, there is no loss of income due to not use this area.

13 REFERENCES

- Acar, et al. (2019) İllerin ve Bölgelerin Sosyo-Ekonomik Gelişmişlik Sıralaması Araştırması SEGE-2017, Kalkınma Ajansları Genel Müdürlüğü Yayını Sayı: 3, Ankara
- Acar, et al. (2022). İlçelerin Sosyo-Ekonomik Gelişmişlik Sıralaması Araştırması SEGE-2022.
- Akman, Y., 1995. Türkiye Forest Vegetation, Ankara University Faculty Of Science Botany Department, Ankara.
- Anşin R. 1988. Seed Plants, Karadeniz Technical University, Faculty of Forestry Publications No: 15 Trabzon.
- Baran, I. (2008). Amphibians and Reptiles of Türkiye, TUBITAK Popular Science Books, Ankara.
- Cox, G.W., 2010. Bird Migration and Global Change. Islandpress, Washington, Covelo, London, 1-291.
- Davis P.H. 1965-1988. Flora of Turkey and the East Aegean Islands Vol: 1-10. Edinburgh Univ. Press, Edinburgh.
- Davis P.H., Mill R.R., Kit T.,1988. Flora of Turkey and the East Aegean Islands (Suppl.) Vol. 10, Edinburgh.
- Demirsoy, A. (1996). Amphibians. Ministry of Environment, General Directorate of Environmental Protection, Ankara.
- Demirsoy, A., (1996). Mammals. Ministry of Environment, General Directorate of Environmental Protection, Ankara.
- Demirsoy, A. (1996). Reptiles. Ministry of Environment, General Directorate of Environmental Protection, Ankara.
- Ekim, T., Koyuncu, M., Vural, M., Duman, H., Aytaç, Z., Adıgüzel, N., 2000. The Red Book of Plants of Turkey, Turkey Nature Conservation Society, Van Yüzüncü Yıl University Publications, 246 p., Ankara.
- Güner, A., 2012. Türkiye Bitkileri Listesi (Vascular Plants), Nezahat Gökyiğit Botanical Garden Publications, Flora Series 1, 1290 p., İstanbul.
- Green, I., Moorhouse, N., 1995. A Birdwatchers' Guide to Turkey. Bird Watcher's Guides Prion Ltd., England, 1-122.
- Herptil Turkey, 2020. Turkish Society for Observation and Photography of Frogs and Reptiles. http://www.turkherptil.org/
- KGM, 2023, 2019 İl Yolları Trafik ve Ulaşım Bilgileri https://www.kgm.gov.tr/SiteCollectionDocuments/KGMdocuments/Istatistikler/TrafikveUlasimBilgileri/22TrafikUlasimBilgileri.pdf
- Kiziroğlu, İ., 1993. The Birds of Türkiye (Species List in Red Data Book). Turkish Nature Conservation Association. Ankara.
- Ministry Environment, Urbanization and Climate Change, 2023, Air Quality - Station Data retrieved from: https://sim.csb.gov.tr/STN/STN_Report/StationDataDownloadNew
- Ministry Environment, Urbanization and Climate Change, 2023, Directorate General of Geographic Information Systems, ATLAS Application. retrieved from: https://atlas.gov.tr/
- Ministry of Agriculture and Forestry General Directorate of Water Management-Sensitive Area Maps (https://www.tarimorman.gov.tr/SYGM/Link/17/Hassas-Alanlar-Haritalari)
- Newton, I., Dale, L., 2001. A comparative analysis of the avifaunas of different zoogeographical regions. Journal of Zoology, 254(2): 207-218.
- Plants of Turkey Data Services, n.d., http://www.tubives.com/
- TAP, 2016, Taşınabilir Pil Üreticileri ve İthalatçıları Derneği, retrieved from: http://www.tap.org.tr
- Turkish State Meteorological Service, 2024, retrieved from https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?m=USAK
- Trakus, 2020. Anonymous birds of Turkey. http://www.trakus.org/
- Tramem, 2020. Anonymous mammals of Turkey. http://www.tramem.org/
- Turkish Statistical Institute, 2022, retrieved from: https://www.tuik.gov.tr/
- Turkish Statistical Institute, 2023, retrieved from: https://www.tuik.gov.tr/
- U.S. Environmental Protection Agency, 2024, Land Use, retrieved from: https://www.epa.gov/report-environment/land-use
- Yaltırık F., Efe A., 1989. Systematics of Herbaceous Plants, Istanbul University Institute of Science Publications, No:3, Istanbul.
- https://ebird.org/

- https://www.inaturalist.org.

ANNEXES

ANNEX-1: LAND REGISTRY

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK
İlçe:	MERKEZ
Mahalle/Köy:	MUHARREMŞAH
Mevki:	
Ada: 188	Parsel: 12
Yüz Ölçümü: 16.113,26 m2	Cilt/Sayfa No: 54 - 5378
Niteliği: ARSA	

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	Tam	16.113,26

TESCİLE İLİŞKİN BİLGİLER

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Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

İDARİ BİNA

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK
İlçe:	MERKEZ
Mahalle/Köy:	MUHARREMŞAH
Mevki:	
Ada: 355	Parsel: 1
Yüz Ölçümü: 5.609,63 m2	Cilt/Sayfa No: 54 - 5379
Niteliği: ARSA	

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	Tam	5.609,63

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No: 120412348	Edinme Nedeni: İfraz İşlemi (TSM)	İşlem Bedeli:
Konum Bilgisi:	Tescil Tarihi/Yevmiye No: 18/03/2022 - 10141	Siciline Uygundur Veriliş Tarihi : 18/03/2022 Fulre GÜLAY Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

Sosyal Tesis
Elektrik

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK		
İlçe:	MERKEZ		
Mahalle/Köy:	MUHARREMŞAH		
Mevki:			
Ada:	356	Parsel:	1
Yüz Ölçümü:	6.832,83 m2	Cilt/Sayfa No:	54 - 5380
Niteliği:	ARSA		

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	Tam	6.832,83

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No: 120412349	Edinme Nedeni: İfraz İşlemi (TSM)	İşlem Bedeli:
Konum Bilgisi:	Tescil Tarihi/Yevmiye No: 18/03/2022 - 10141	Siciline Uygundur. Veriliş Tarihi : 18/03/2022 Emre GÜLAY Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

İTTAİYE

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK		
İlçe:	MERKEZ		
Mahalle/Köy:	MUHARREMŞAH		
Mevki:			
Ada:	188	Parsel:	11
Yüz Ölçümü:	2.357,05 m2	Cilt/Sayfa No:	54 - 5377
Niteliği:	ARSA		

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	Tam	2.357,05

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No: 120412346	Edinme Nedeni: İfraz İşlemi (TSM)	İşlem Bedeli:
Konum Bilgisi:	Tescil Tarihi/Yevmiye No: 18/03/2022 - 10141	Siciline Uygundur Veriliş Tarihi : 18/03/2022 Emre GÜLAY Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK
İlçe:	MERKEZ
Mahalle/Köy:	MUHARREMŞAH
Mevki:	
Ada:	159
Parsel:	5
Yüz Ölçümü:	14.281,63 m2
Cilt/Sayfa No:	55 - 5468
Niteliği:	ARSA

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	Tam	14.281,63

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No: 127803758	Edinme Nedeni: Tevhit İşlemi (TSM)	İşlem Bedeli:
Konum Bilgisi:	Tescil Tarihi/Yevmiye No: 08/03/2023 - 8671	Siciline Uygundur Veriliş Tarihi : 08/03/2023 Süleyman KAFKAMANOĞLU Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

Konay Konisi

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK
İlçe:	MERKEZ
Mahalle/Köy:	MUHARREMŞAH
Mevki:	
Ada: 153	Parsel: 5
Yüz Ölçümü: 8.308,76 m2	Cilt/Sayfa No: 55 - 5467
Niteliği: ARSA	

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	167161/ 207719	6.686,44
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	40558/ 207719	1.622,32

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No: 127803756	Edinme Nedeni: Tevhit İşlemi (TSM)	İşlem Bedeli:
Konum Bilgisi:	Tescil Tarihi/Yevmiye No: 08/03/2023 - 8671	Siciline Uygundur. Veriliş Tarihi : 08/03/2023 Süleyman KAHRAMANOĞLU Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

Not yön yok

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	UŞAK
İlçe:	MERKEZ
Mahalle/Köy:	MUHARREMŞAH
Mevki:	
Ada: 184	Parsel: 5
Yüz Ölçümü: 6.594,13 m2	Cilt/Sayfa No: 55 - 5469
Niteliği: ARSA	

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	496813/ 659413	4.968,13
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ	162600/ 659413	1.626,00

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No: 127803757	E tinme Nedeni: Tevhit İşlemi (TSM)	İşlem Bedeli:
Konum Bilgisi:	Tesc il Tarihi/Yevmiye No: 08/03/2023 - 8671	Siciline Uygundur Veriliş Tarihi : 08/03/2023 Süleyman KAHRAMANOĞLU Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

ANNEX-2: MAPS

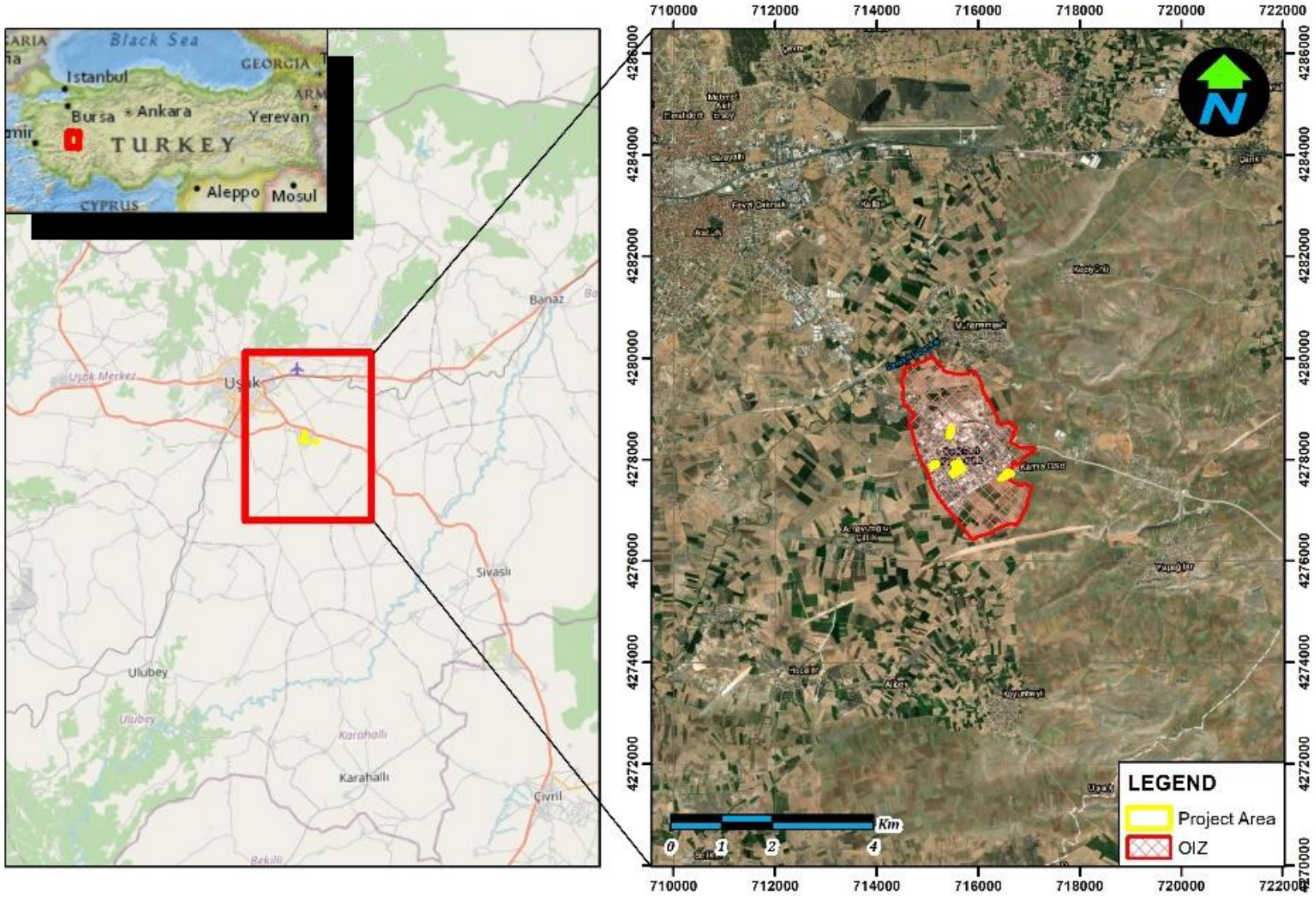


Figure 20 Project Location

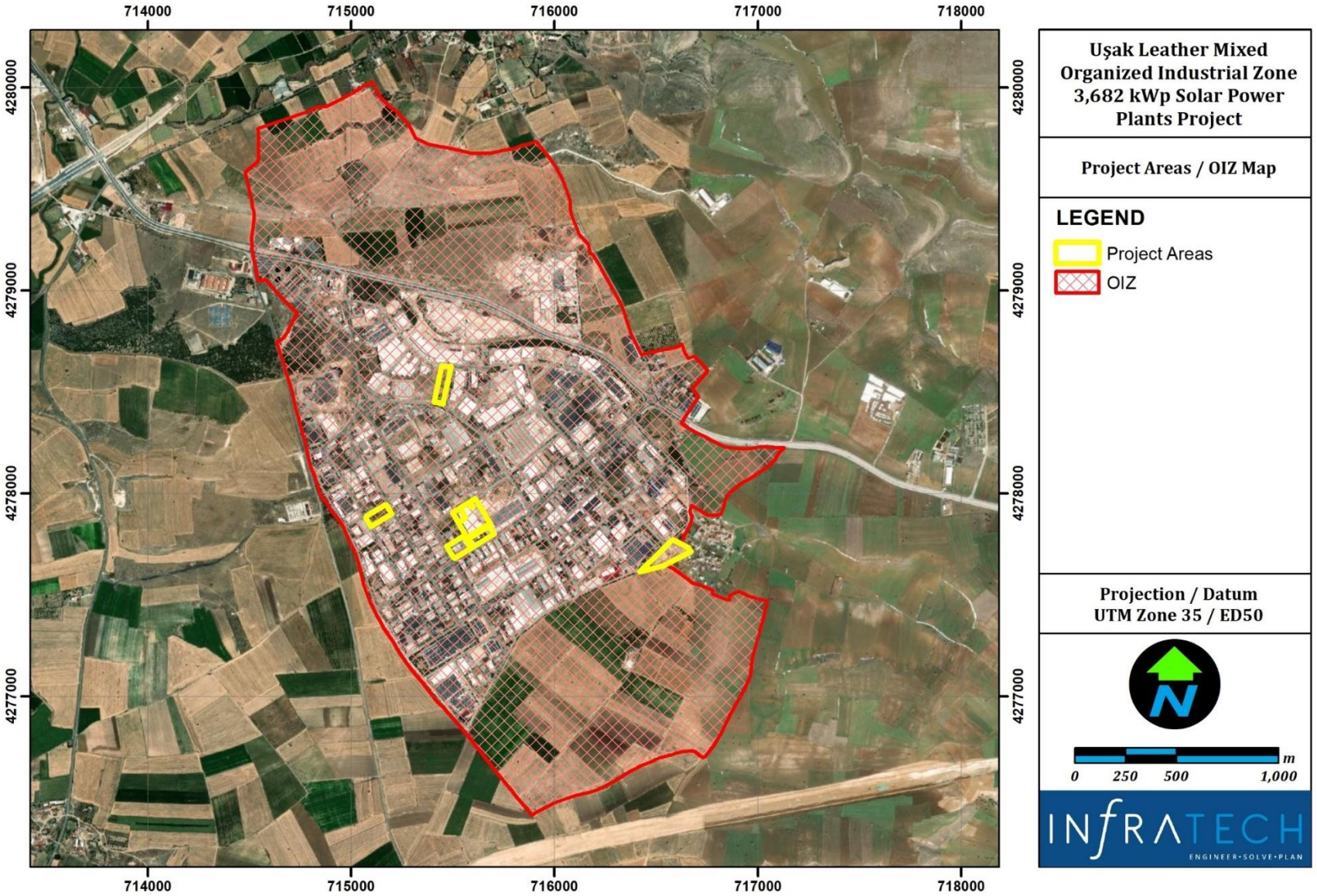


Figure 21 Project Areas Map

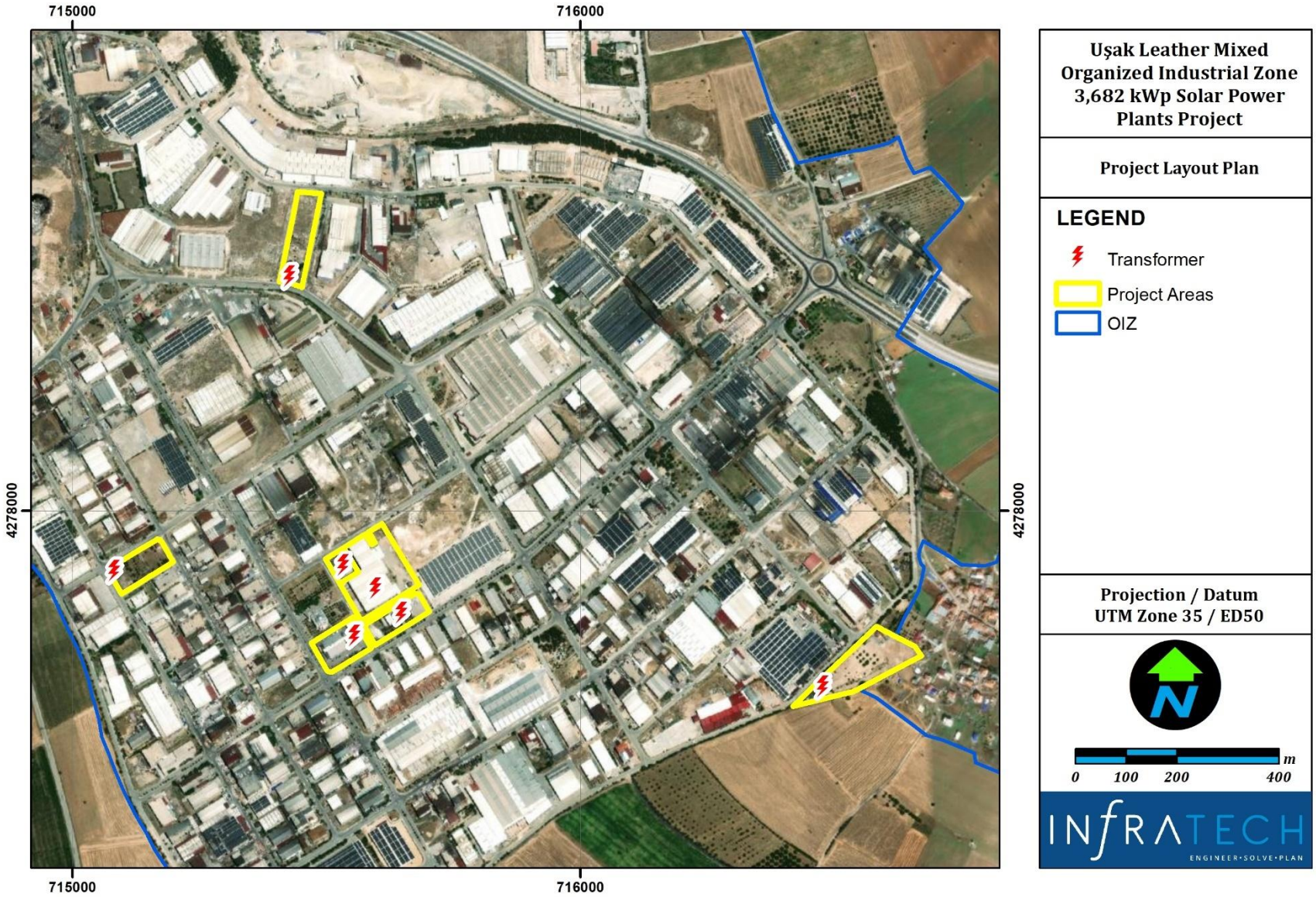


Figure 22 Project Layout Plan

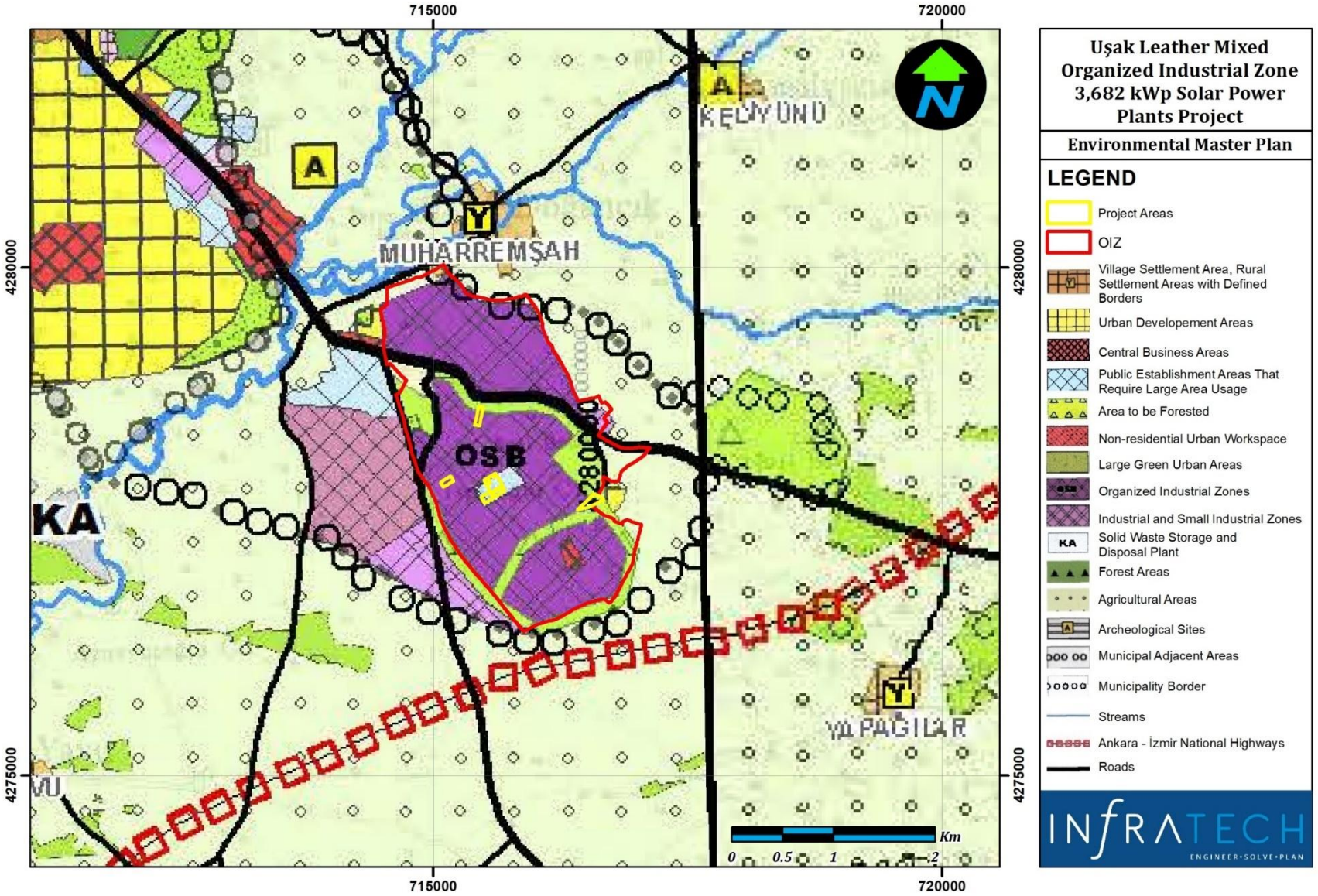


Figure 23 Land Use Map According to Environmental Master Plan

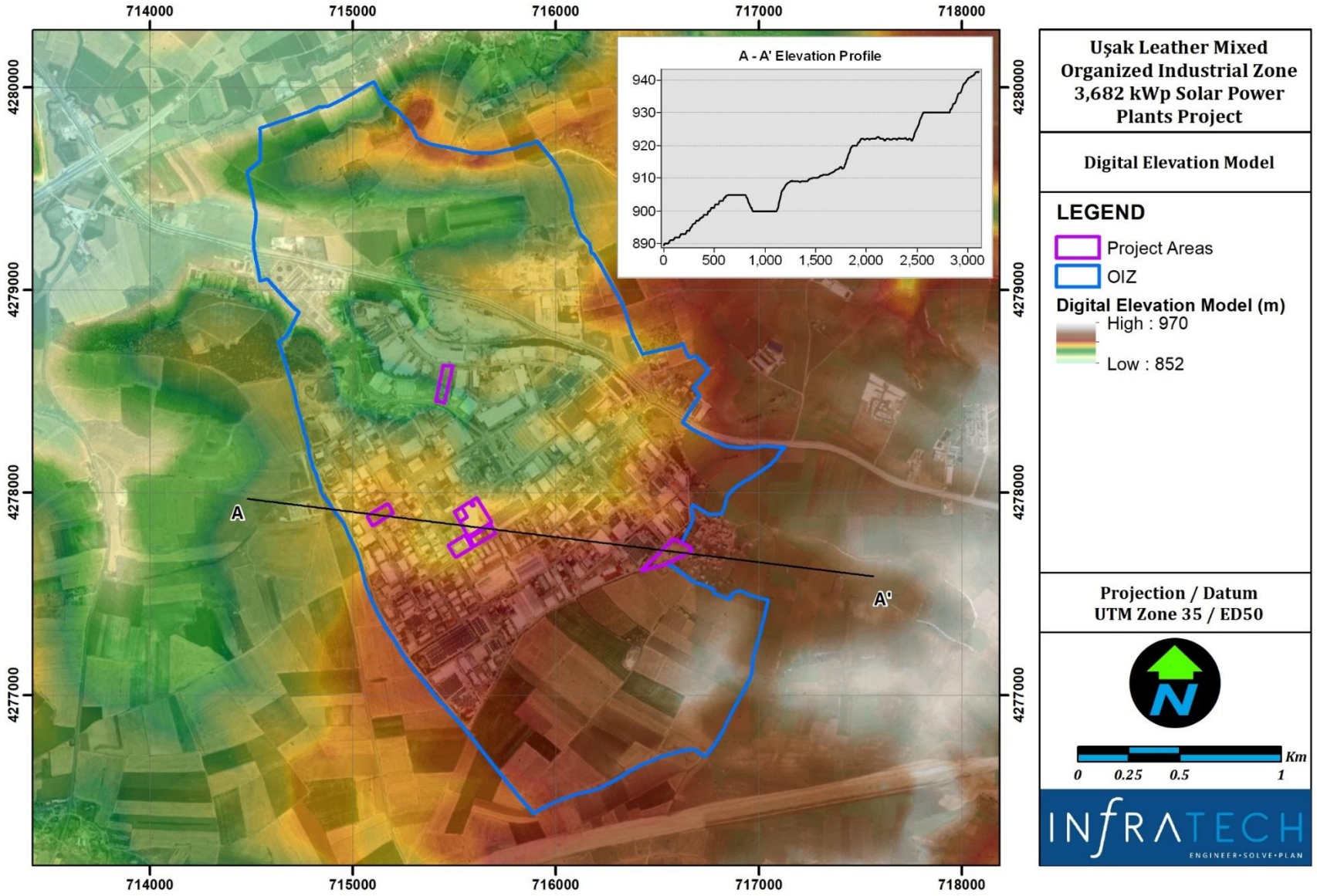


Figure 24 DEM Map of Project Area and Its Vicinity

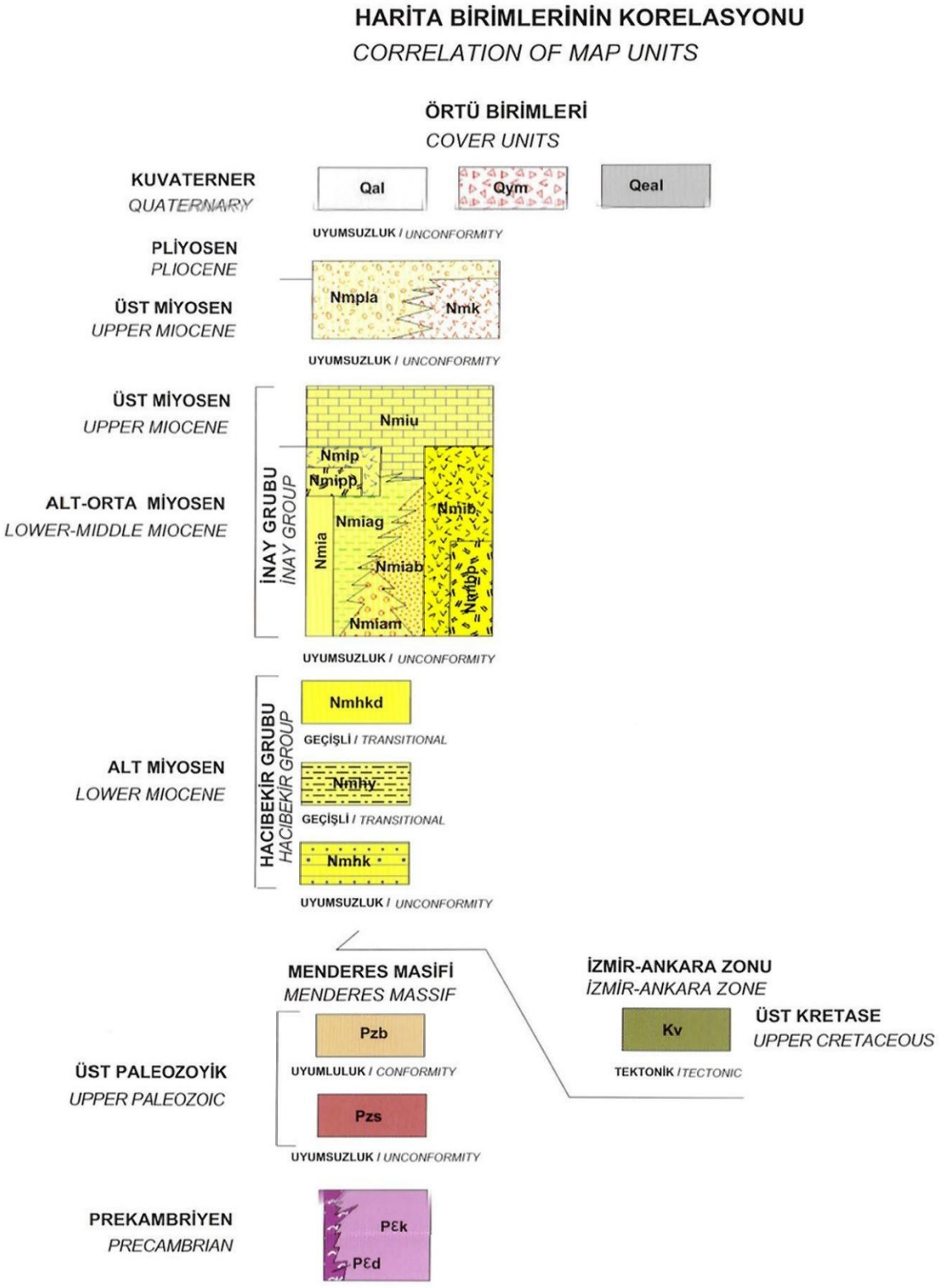


Figure 25 Generalized Stratigraphic Column Section of the Project Area and Its Surroundings

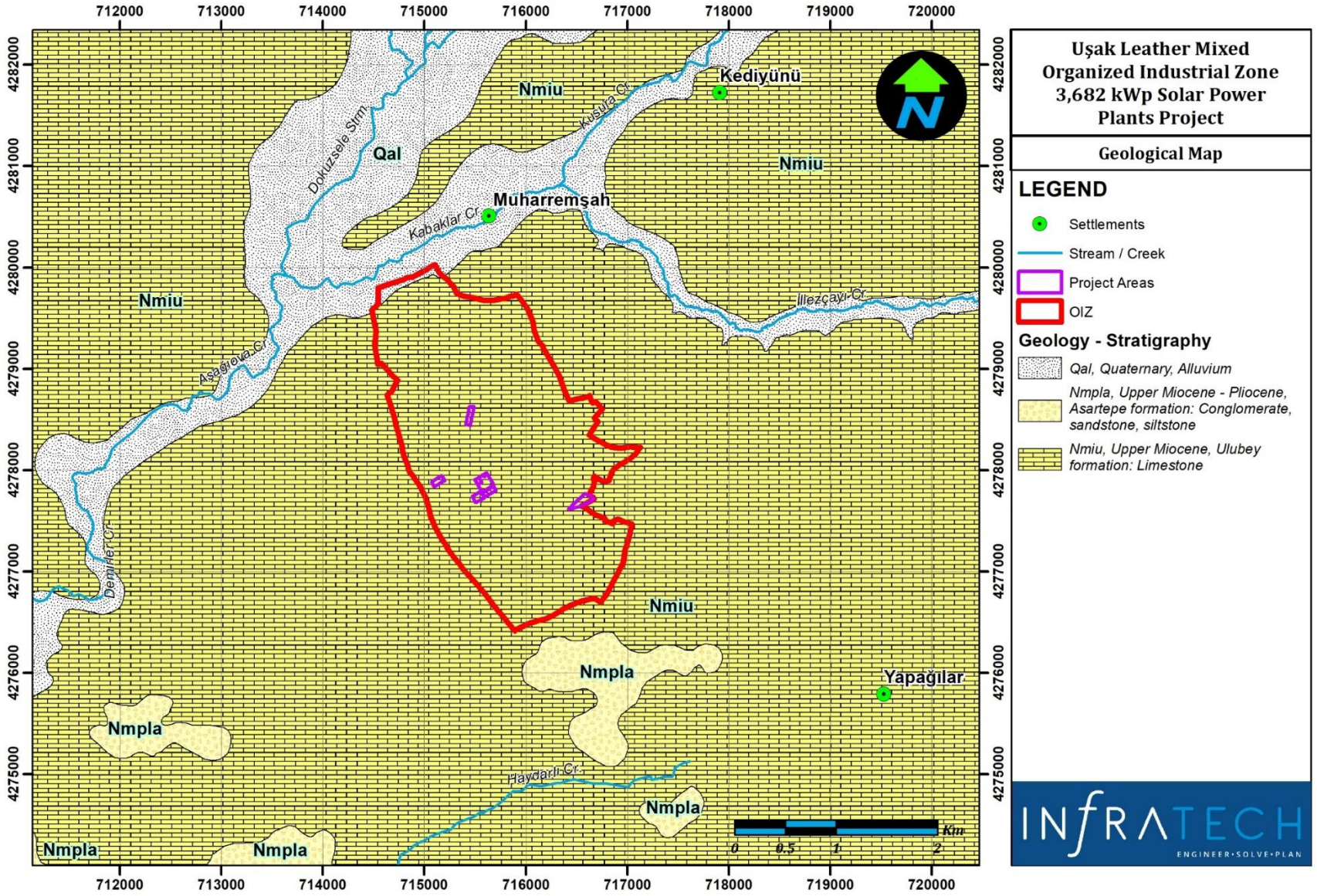


Figure 26 Geology Map of Project Area

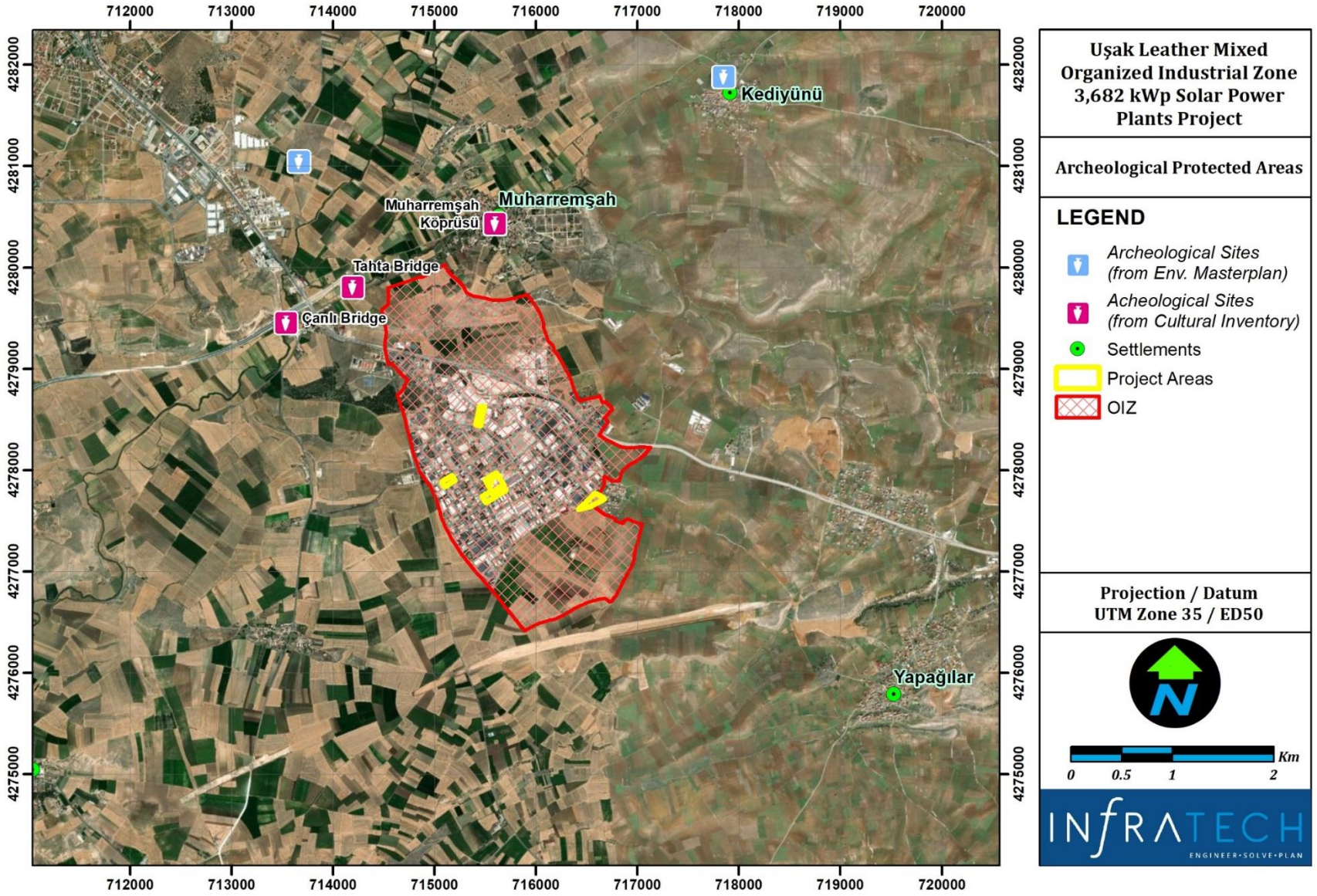


Figure 27 Archeological Protected Areas

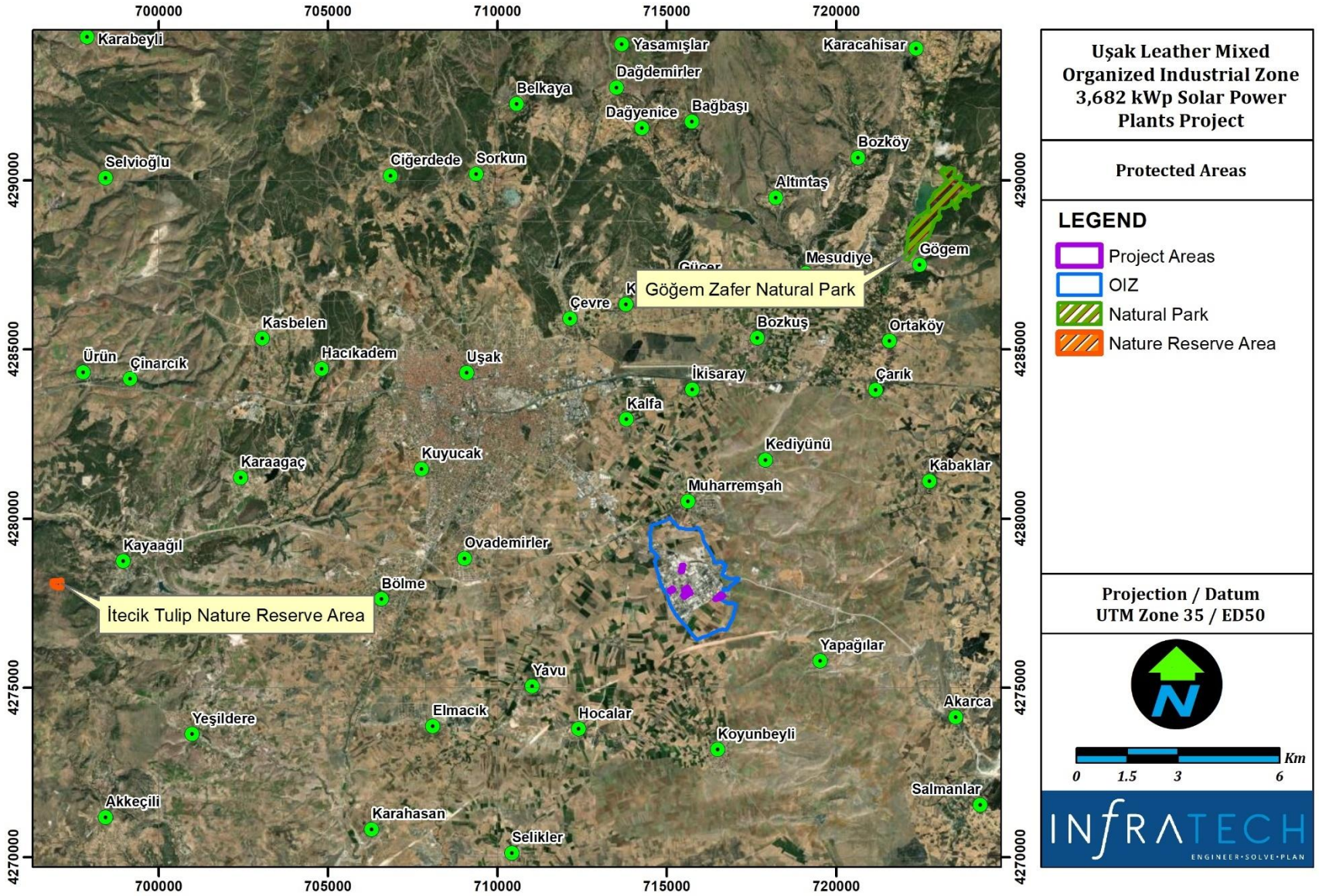


Figure 28 Natural Protected Areas

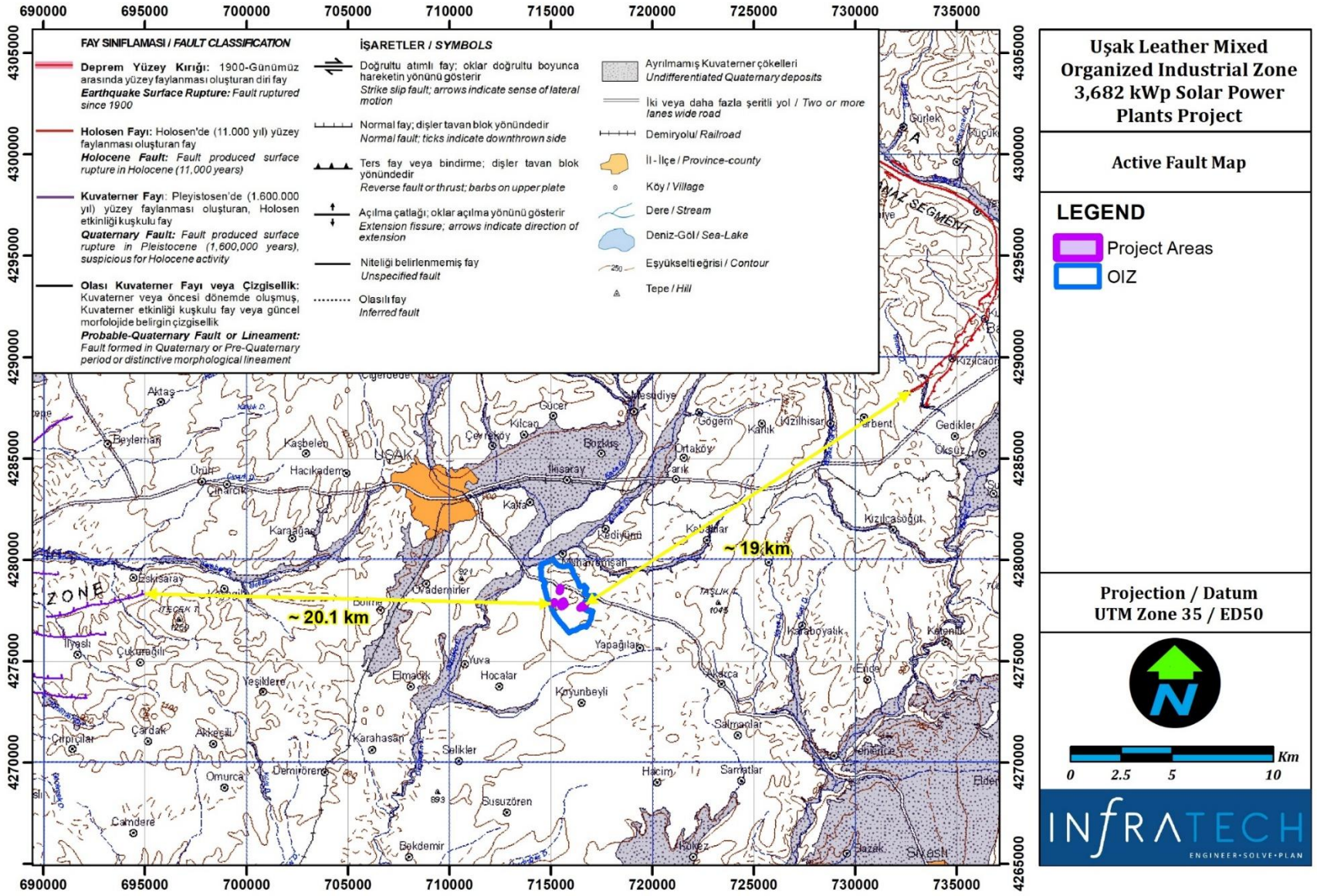


Figure 29 Active Fault Map of the Project Area and Its Vicinity

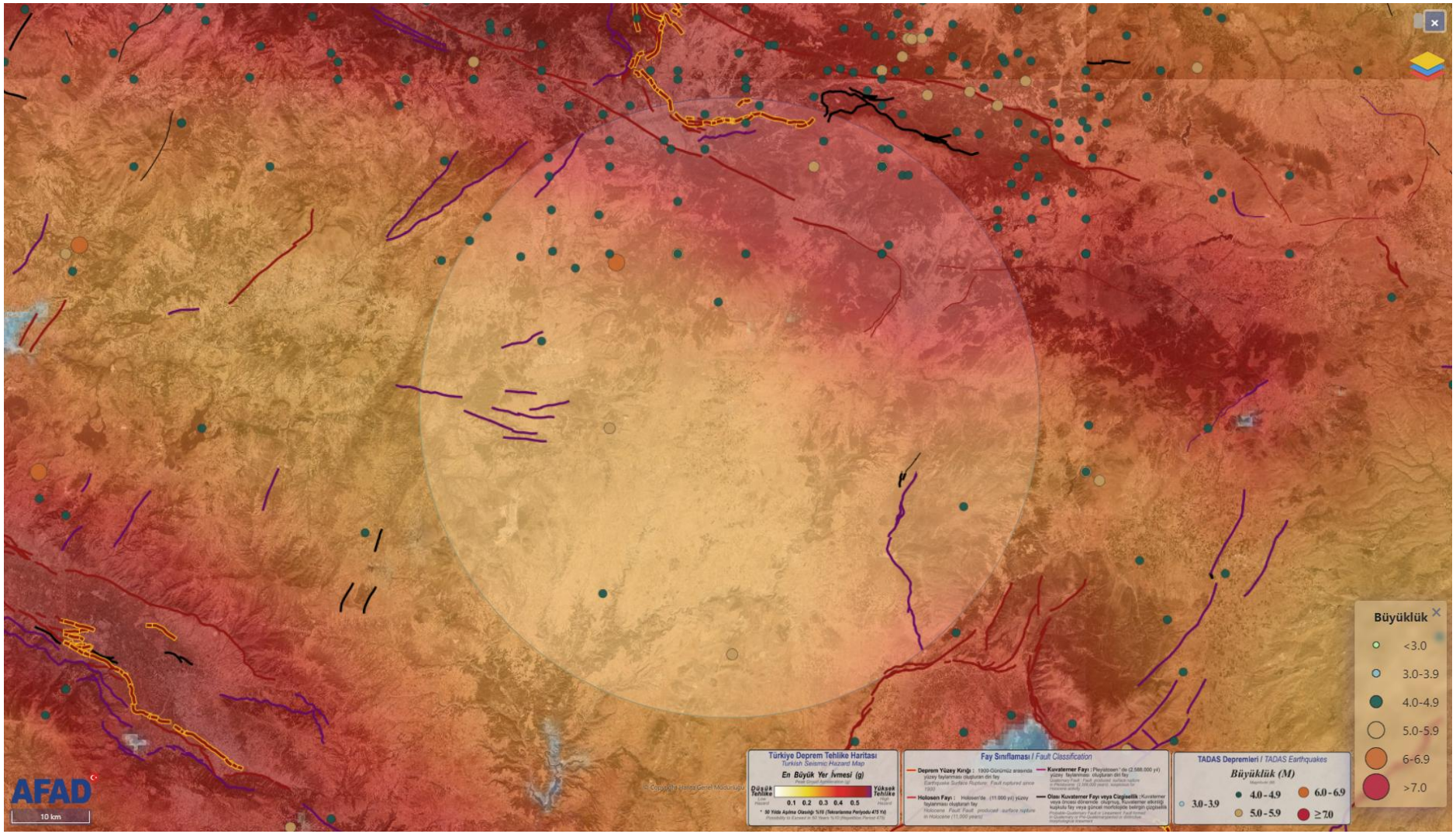


Figure 30 Earthquakes with M>4 with a radius of 50 km and the center point of which is the project area

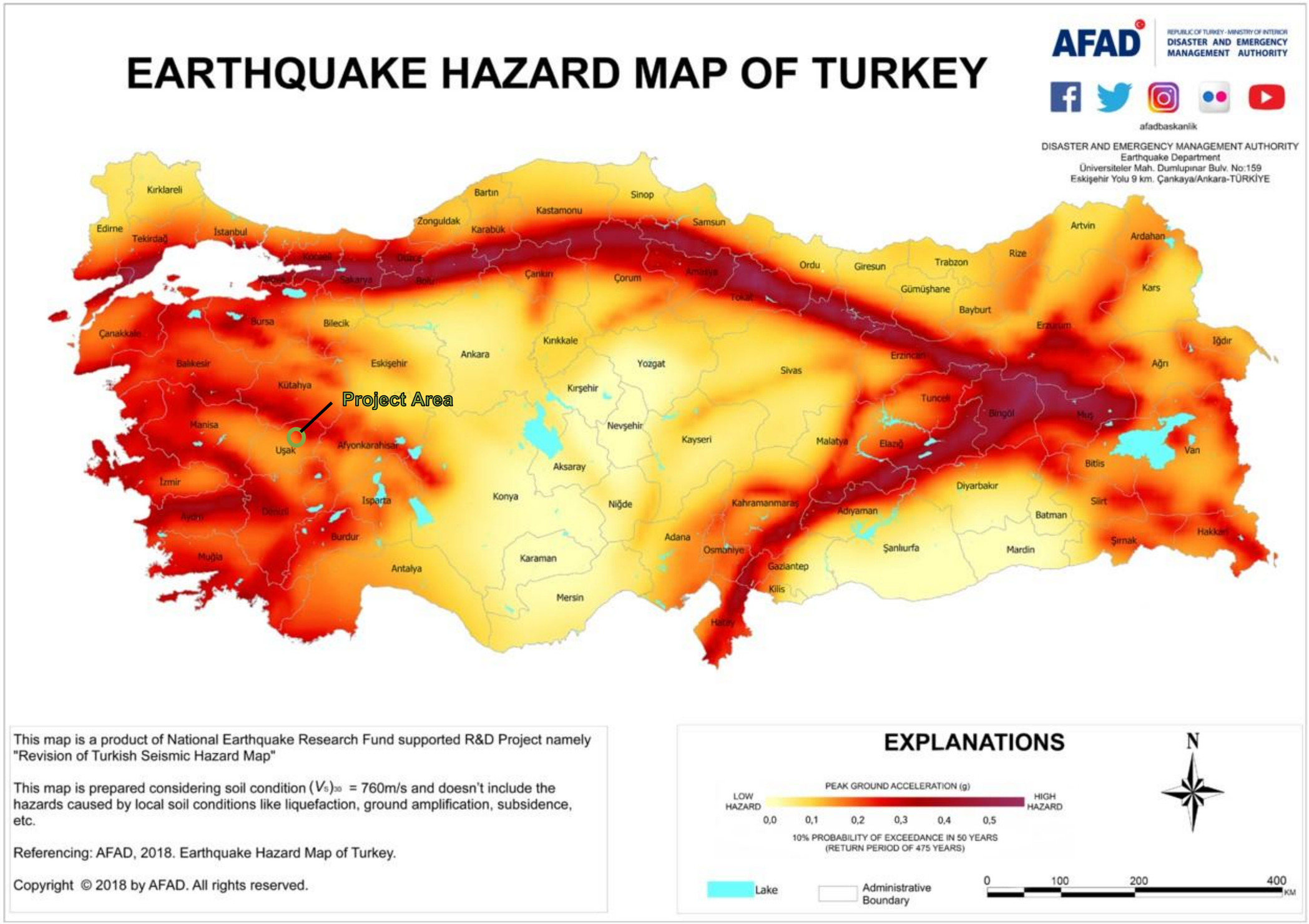


Figure 31 Earthquake Hazard Map of Türkiye

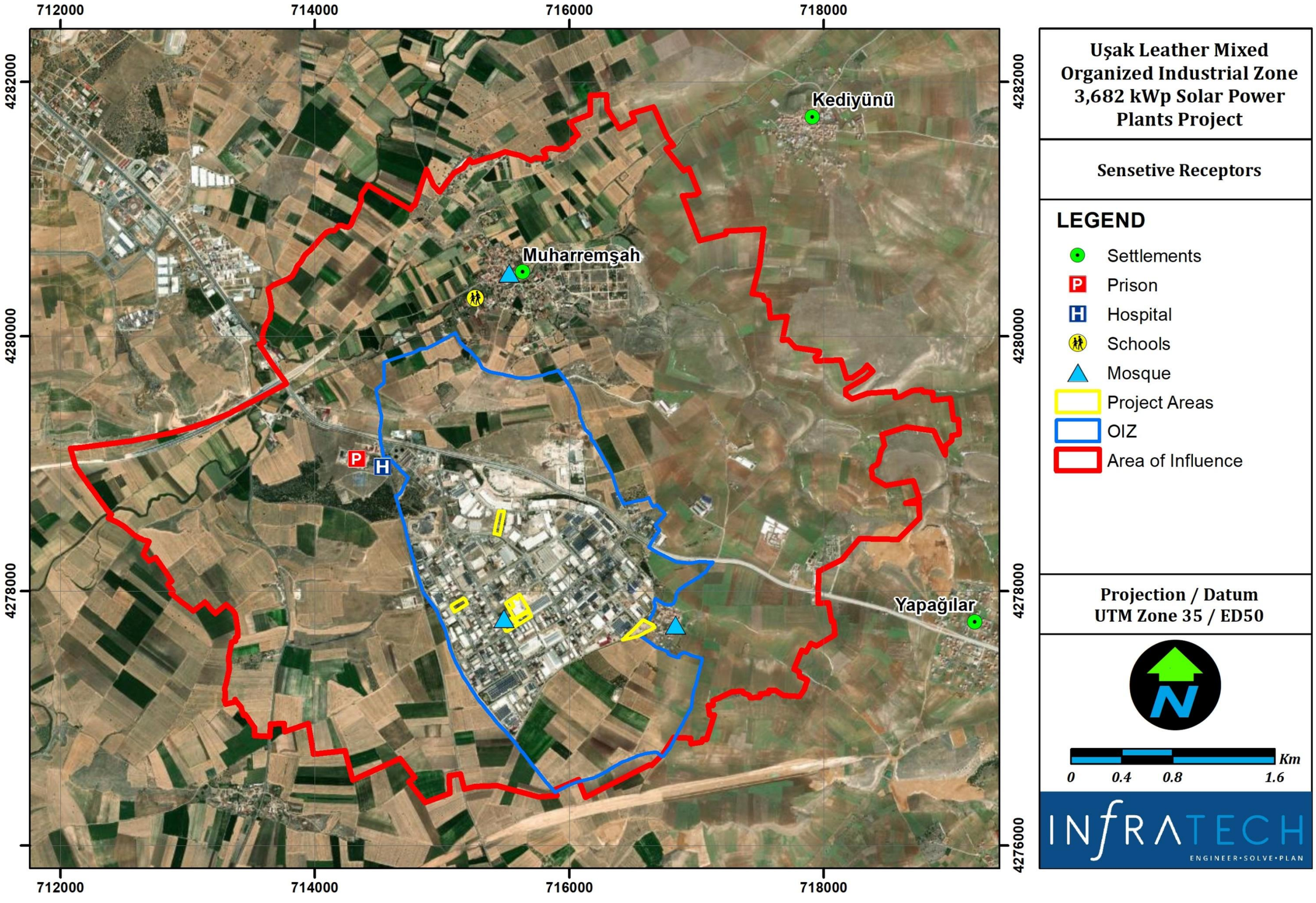


Figure 32 Sensitive Receptors

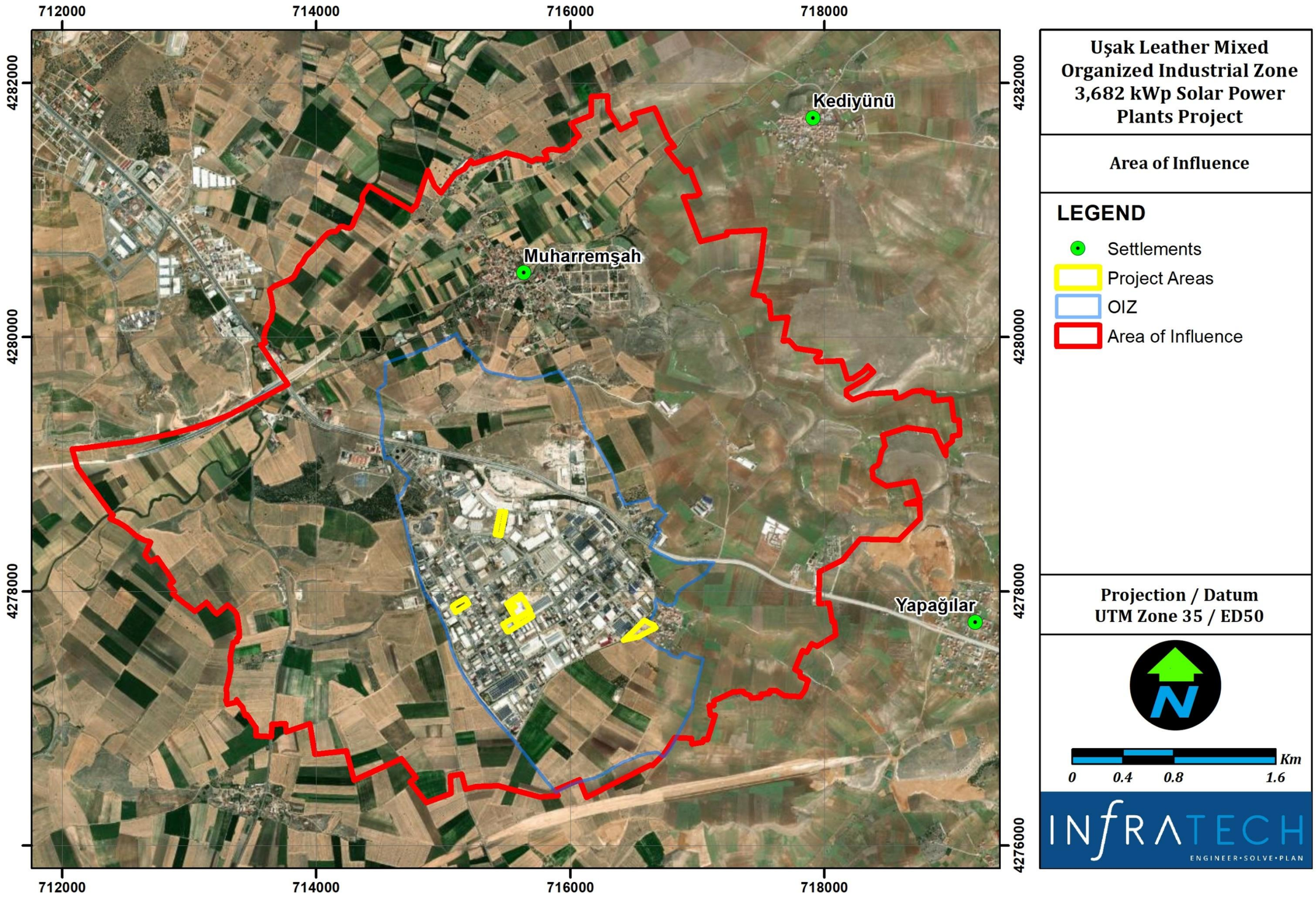


Figure 33 Aol Map

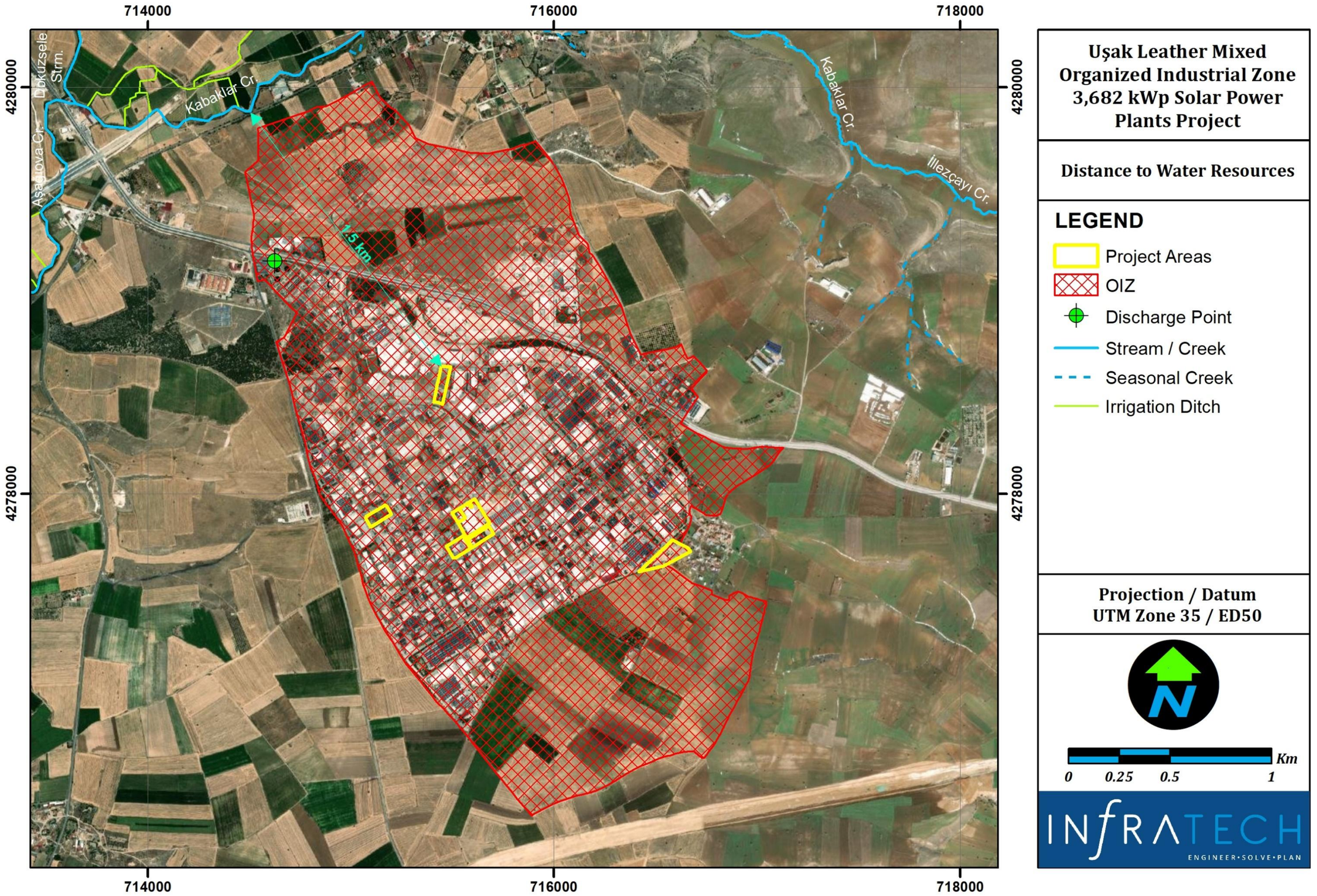


Figure 34 Distance to Water Resources

ANNEX-3: "EIA EXEMPTION DECISION

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-8290139
Konu : 192119 Referans No'lu ÇED Görüşü

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nün 01.12.2023 tarihli ve 2.2023.05.1133 sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi (184 Ada, 5 Parsel) mevkiinde Uşak Karma Organize Sanayi Bölgesi Yönetim Kurulu Başkanlığı tarafından yapılması planlanan Güneş Enerji Santrali (6.594,13 m² alan-250 KWe/281,6 KWp) projesi, 29/07/2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerindeki eşik değerden az olduğu için kapsam dışı olarak değerlendirilmiştir.

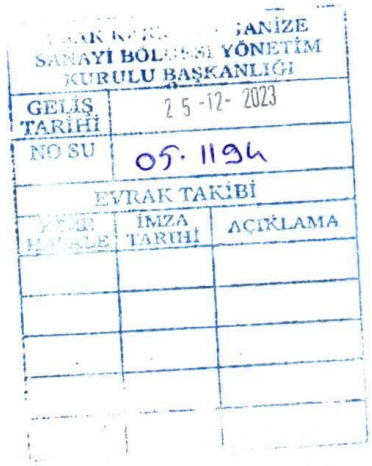
Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 88FF6999-56E3-4D0A-9105-2152323DC4C1 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Bilgi için:Kübra KOÇAK
Mimar



Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri

25-12-2023

Cavit K.

Bekir D.

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-8290256
Konu : 192120 Referans No'lu ÇED Görüşü

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nin 30.11.2023 tarihli ve 2.2023.05.1131 sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi (159 Ada, 5 Parsel) mevkiinde Uşak Karma Organize Sanayi Bölgesi Yönetim Kurulu Başkanlığı tarafından yapılması planlanan Güneş Enerji Santrali (14.281,63 m² alan-625 KWe/721,6 KWp) projesi, 29/07/2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerindeki eşik değerden az olduğu için kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: A4FB8C22-5327-4AD0-B315-CB34A9F92AE1 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Bilgi için:Kübra KOÇAK
Mimar

UŞAK KA... ...GANİZE
SANAYİ BÖLGESİ YÖNETİM
KURULU BAŞKANLIĞI

GELİŞ TARİHİ	25-12-2023
NO SU	05.1195

EVRAK TAKİBİ

...SİL İŞARETİ	İMZA TARİHİ	AÇIKLAMA

Fatih BAŞKARA 25-12-2023
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri

Cevdet Beş

Bekir D.

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-8290040
Konu : 192116 Referans No'lu ÇED Görüşü

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nin 30.11.2023 tarihli ve 2.2023.05.1132 sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi (153 Ada, 5 Parsel) mevkiinde Uşak Karma Organize Sanayi Bölgesi Yönetim Kurulu Başkanlığı tarafından yapılması planlanan Güneş Enerji Santrali (8.308,76 m² alan-500 KWe/578,6 KWp) projesi, 29/07/2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerindeki eşik değerden az olduğu için kapsam dışı olarak değerlendirilmiştir.

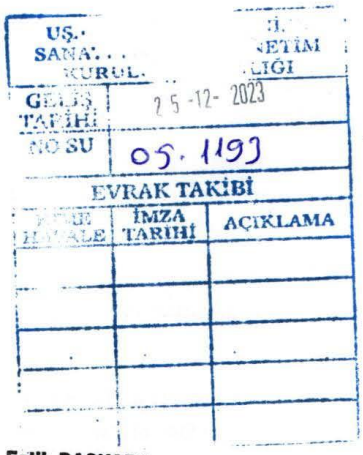
Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: F54AE7C6-0C8B-487B-A2E2-C5A03A593243 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Bilgi için:Kübra KOÇAK
Mimar


UŞ.
SANA...
KURUL.
İ.
NETİM
LİĞİ
GELİŞ TARİHİ
25-12-2023
NO SU
05.1193
EVRAK TAKİBİ
İMZA TARİHİ
AÇIKLAMA
Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri
25-12-2023
Cavit K.
Bekir D.

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-11231150
Konu : ÇED Görüşü 188 ada 12 parsel

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nin 04.12.2024 tarihli ve sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi 188 Ada 12 Parsel adresinde **Uşak Karma Organize Sanayi Bölgesi Başkanlığı** tarafından yapılması planlanan "Çatı Tipi Güneş Enerji Santrali (999 kWe/1265 kWp)" projesi, 29.07.2022 tarih ve 31907 Sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 1A3476B7-9A8B-4D2D-B99E-7E46625F5B24 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Kep Adresi:usakcevrevesehircilik@hs01.kep.tr e-Tebligat Adresi:35116-96110-57683
KEP Adresi : usakcevrevesehircilik@hs01.kep.tr
Bilgi için:Yıldırım YILDIZ
Çevre Mühendisi

UŞAK KARMA ORGANİZE SANAYİ BÖLGESİ YÖNETİM KURULU BAŞKANLIĞI

GELİŞ TARİHİ	16 Aralık 2024
NO SU	05.764

EVRAK TAKİBİ

KİME HAVALE	İMZA TARİHİ	AÇIKLAMA

Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri

16 Aralık 2024

Bekir Dalper

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-11231394
Konu : ÇED Görüşü- 188 ada 11 Parsel

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nün 04.12.2024 tarihli ve sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi 188 Ada 11 Parsel adresinde **Uşak Karma Organize Sanayi Başkanlığı** tarafından yapılması planlanan "Çatı Tipi Güneş Enerji Santrali 66 kWe/79,2kWp" projesi, 29.07.2022 tarih ve 31907 Sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 6A51CB91-FC02-4A45-A72C-C26F51D67E61 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Kep Adresi:usakcevrevesehircilik@hs01.kep.tr e-Tebligat Adresi:35116-96110-57683
KEP Adresi : usakcevrevesehircilik@hs01.kep.tr
Bilgi için:Yıldırım YILDIZ
Çevre Mühendisi

UŞAK KARMA ORGANİZE SANAYİ BÖLGESİ YÖNETİM KURULU BAŞKANLIĞI		
GELİŞ TARİHİ	16 Aralık 2024	
NO SU	05.745	
EVRAK TAKİBİ		
KİME HAVALE	İMZA TARİHİ	AÇIKLAMA

Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri

16 Aralık 2024

Bekir D.

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-11231333
Konu : ÇED Görüşü-356 ada 1 parsel

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nin 04.12.2024 tarihli ve sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi 356 Ada 1 Parsel adresinde **Uşak Karma Organize Sanayi Bölgesi Başkanlığı** tarafından yapılması planlanan "Çatı Tipi Güneş Enerji Santrali (250 kWe /280,5 kWp)" projesi, 29.07.2022 tarih ve 31907 Sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 4892F8B1-0004-4C70-85B9-0BCD14C9E91B Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Kep Adresi:usakcevrevesehircilik@hs01.kep.tr e-Tebligat Adresi:35116-96110-57683
KEP Adresi : usakcevrevesehircilik@hs01.kep.tr
Bilgi için:Yıldırım YILDIZ
Çevre Mühendisi

UŞAK KARMA ORGANİZE SANAYİ BÖLGESİ YÖNETİM KURULU BAŞKANLIĞI

GELİŞ TARİHİ	16 Aralık 2024
NO SU	05.746

EVRAK TAKİBİ

KİME HAVALE	İMZA TARİHİ	AÇIKLAMA

Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri
16 Aralık 2024

Bekir D.

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-11231268
Konu : ÇED Görüşü-355 ada 1 parsel

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
Uşak - Denizli Karayolu 8-10 Km. PK.83 MERKEZ / UŞAK

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nin 04.12.2024 tarihli ve sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi 355 Ada 1 Parsel adresinde **Uşak Karma Organize Sanayi Bölgesi Başkanlığı** tarafından yapılması planlanan "Çatı Tipi Güneş Enerji Santrali (25 kWe/30,8 kWp)" projesi, 29.07.2022 tarih ve 31907 Sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 19FFDF0A-011E-42A5-B69B-B3931042AE94 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Kep Adresi:usakcevrevesehircilik@hs01.kep.tr e-Tebligat Adresi:35116-96110-57683
KEP Adresi : usakcevrevesehircilik@hs01.kep.tr

Bilgi için:Yıldırım YILDIZ
Çevre Mühendisi


UŞAK KARMA ORGANİZE SANAYİ BÖLGESİ YÖNETİM KURULU BAŞKANLIĞI
GELİŞ TARİHİ
16 Aralık 2024
NO SU
05.747
EVRAK TAKİBİ
KİME HAVALE
İMZA TARİHİ
AÇIKLAMA
Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri
16 Aralık 2024
Bekir D.

T.C.
UŞAK VALİLİĞİ
Uşak Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-51634718-220.03-11231210
Konu : ÇED Görüşü-188 ada12-A Parsel

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜNE

İlgi : Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğü'nün 04.12.2024 tarihli ve sayılı yazısı.

Uşak İli, Merkez İlçesi, Karma Organize Sanayi Bölgesi 188 Ada 12- A Parsel adresinde Uşak Karma Organize Sanayi Bölgesi Başkanlığı tarafından yapılması planlanan Çatı Tipi Güneş Enerji Sanrtrali (375 kWe/455 kWp) projesi, 29.07.2022 tarih ve 31907 Sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Bülent GÜNGÖR
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 980206AA-E0B2-419C-88EC-AAAEC43CBAA2 Doğrulama Adresi: https://www.turkiye.gov.tr

Sarayaltı Mah.Ramazan Akar Sk.No:5 Adres No:2016446995 64200 Merkez/UŞAK
Telefon No:(0276) 223 70 67 Faks No:(0276) 223 70 69
e-Posta:usak@csb.gov.tr İnternet Adresi:www.csb.gov.tr
Kep Adresi:usakcevrevesehircilik@hs01.kep.tr e-Tebligat Adresi:35116-96110-57683
KEP Adresi : usakcevrevesehircilik@hs01.kep.tr

Bilgi için:Yıldırım YILDIZ
Çevre Mühendisi


UŞAK KARMA ORGANİZE
SANAYİ BÖLGESİ YÖNETİM
KURULU BAŞKANLIĞI
GELİŞ TARİHİ
16 Aralık 2024
NO SU
05.748
EVRAK TAKİBİ
KİME HAVALE
İMZA TARİHİ
AÇIKLAMA
Fatih BAŞKARA
Uşak Karma Org. San. Böl.
Özel Kalem & Yazı İşleri
16 Aralık 2024

ANNEX-4: ENVIRONMENTAL PERMIT CERTIFICATE

T.C.
ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI
ÇED İzin ve Denetim Genel Müdürlüğü

Sayı : 88303249-150/E.8324
Konu : Çevre İzin Belgesi

24.05.2021

UŞAK DERİ KARMA ORGANİZE SANAYİ BÖLGESİ EVSEL VE ENDÜSTRİYEL ATIKSU ARITMA TESİSİ
Karma Organize Sanayi Bölgesi 1.Cadde No: 2-2/1, Merkez / UŞAK

İlgi : (a)26/06/2016 tarihli İzin Lisans belgeniz.
(b)25/12/2020 tarihli ve 515412 no'lu başvurunuz.

10/09/2014 tarihli ve 29115 sayılı Resmi Gazete'de yayımlanan Çevre İzin ve Lisans Yönetmeliği kapsamında gerçekleştirilen ilgi (a)' da kayıtlı Geçici Faaliyet Belgesi başvurusu uygun bulunmuş ve bu Yönetmeliğin 8 nci maddesi gereğince ilgi (b) yazımız ile Geçici Faaliyet Belgesi verilmiştir.

Bu Yönetmeliğin 9 ncu maddesi gereğince ilgi (c)' de kayıtlı Çevre İzin Belgesi başvurusu yapılmıştır. Söz konusu başvuru Yönetmeliğin 9 ncu maddesi ve ilgili diğer yönetmelikler kapsamında incelenmiş ve Karma Organize Sanayi Bölgesi 1.Cadde No: 2-2/1, Merkez / UŞAK adresinde bulunan işletmeniz için 02.06.2026 tarihine kadar geçerli olmak üzere ÇEVRE İZİN ve LİSANS BELGESİ verilmesi uygun bulunmuştur.

ÇEVRE İZİN ve LİSANS BELGESİ süresi içinde ekte yer alan çalışma şartlarına uygun faaliyet gösterilmesi, aksi durumda ise söz konusu belgenin iptal edileceği ve 2872 sayılı Çevre Kanunu'nun ilgili maddeleri uyarınca idari yaptırım uygulanacağı hususunda;

Bilgilerinizi ve gereğini rica ederim.

e-imzalıdır
Mehrali ECER
Bakan a.
ÇED, İzin ve Denetim
Genel Müdürü

EKLER:
1) Atık ve DR Kodları
2)Çevre İzin Koşulları

5070 sayılı Elektronik İmza Kanunu gereği bu belge elektronik imza ile imzalanmıştır.

T.C.
ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI
ÇED İzin ve Denetim Genel Müdürlüğü

TESİS İZİN KOŞULLARI

Atıksu Deşarjı

- 31/12/2004 tarih ve 25687 sayılı Resmi Gazete'de yayımlanan Su Kirliliği Kontrolü Yönetmeliği (SKKY) "İzleme" başlıklı 54 üncü maddesi gereğince işletmeciler tarafından yapılan ölçüm ve analizlerin sonuçları raporların asılları ile birlikte dijital ortamda da en az beş yıl süreyle saklanmak zorundadır.
- SKKY'nin "Haber Verme Yükümlülüğü" başlıklı 52 nci maddesi gereğince arıtma tesisi olmayanlar, arızalananlar, çalıştığı halde standartları sağlayamayanlar, faaliyetinde kapasite artırımına gidenler, faaliyetlerini geçici veya sürekli olarak durduranlar ilgili idareye derhal haber vermekle yükümlüdürler.
- Deşarj standartlarının sağlanması amacıyla, atıksuların yağmur suları, soğutma suları, az kirli yıkama suları ve buna benzer az kirli sularla seyreltilmesi yasaktır.
- Atık su debisi 500 m3/gün üzerinde olan işletmelerin atıksu arıtma tesisi çıkış noktasında numune alma bacası, otomatik numune alma ve debi ölçme cihazı bulundurması zorunludur. Atık su debisi 200-500 m3/gün arasında olan işletmelerin atıksu arıtma tesisi çıkış noktasında numune alma bacası ve otomatik numune alma cihazı bulundurması zorunludur.
- İşletmeye ait Atıksu Arıtma Tesinde arıtma çamuru oluşması durumunda ilgili yönetmelikler kapsamında yapılacak olan analiz sonucuna göre belirlenecek uygun bertaraf yöntemiyle bertaraf edilmesi gerekmektedir.
- Kapasitesi 10.000 (m3/gün) den büyük olan tesislerde SAİS Tebliği uygulanır.
- SKKY"deki hüküm ve esaslara uyulması gerekmektedir.

T.C.
ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI
ÇED İzin ve Denetim Genel Müdürlüğü

ÇEVRE İZİN BELGESİ

Belge No	: 224770462.0.1
Başlangıç Tarihi	: 02.06.2021
Bitiş Tarihi	: 02.06.2026
Tesis Adı	: UŞAK DERİ KARMA ORGANİZE SANAYİ BÖLGESİ EVSEL VE ENDÜSTRİYEL ATIKSU ARITMA TESİSİ
Tesis Adresi	: Karma Organize Sanayi Bölgesi 1.Cadde No: 2-2/1, Merkez / UŞAK
İşletme Vergi No	: 8960049708
Çevre İzin ve Lisans Konusu	: Atıksu Deşarjı

Yukarıda adı ve açık adresi belirtilen tesise Çevre İzin ve Lisans Yönetmeliği kapsamında ÇEVRE İZİN BELGESİ verilmiş olup 24.05.2021 tarihli ve 88303249-150/E.8324 sayılı yazı ile birlikte geçerlidir. Ayrı kullanılmaz.

e-imzalıdır
Mehrali ECER
Bakan a.
ÇED, İzin ve Denetim
Genel Müdürü

5070 sayılı Elektronik İmza Kanunu gereği bu belge elektronik imza ile imzalanmıştır.

ANNEX-5: LEGAL FRAMEWORK

I. LEGAL FRAMEWORK

This chapter is constructed to elucidate the main aspects of the legal and administrative framework followed in the design of this ESMP. Various national legislation and international conventions and standards explained in the following sections are also to be complied with during different stages of the Project, including pre-construction, construction and operation.

The administrative structure in Türkiye is governed by central and local administrations. The central administration is organized so that the land mass of the country is divided into provinces and the provinces into further smaller divisions (i.e., districts, municipalities, villages/neighborhoods) according to geographic and economic conditions, and the need for public services. For the purpose of meeting collective local needs, the populations of provinces, municipalities, and villages/neighborhoods are administered by units of local government established by law (*Toksoz, F., 2006*).

Ministries are the units of central administration. Local branches of ministries are composed of provincial organizations attached to governors and district organizations attached to the district governors (*Hacettepe University, Department of Political Science and Public Administration, April, 2015*). At the local level, municipality mayors and the headmen of the villages/neighborhoods (mukhtar) are the representatives of the administrative structure.

I.1. National Legislation

The key national laws and regulations presented in this section include the legal requirements to reduce the potential environmental impacts that may arise from the pre-construction, construction and operational activities of the Project. National Legislation related to the Project is presented in the following sections under relevant subtopics.

I.1.1. National Environmental, Health and Safety Legislation

Environmental Law No. 2872, which is ratified in August 1983 (Official Gazette dated 11.08.1983 and numbered 18132), is one of the principal legislations related to the Project. Several by-laws and decrees are enforced under the Environmental Law.

Occupational Health and Safety Law No. 6331, which is ratified June 2012 (Official Gazette dated 30.06.2012 and numbered 28339), is other principal legislation related to the Project. Occupational Health and Safety Law enforces various by-laws and decrees to regulate and uphold health and safety standards.

The Environmental Impact Assessment (EIA) Regulation (Official Gazette dated July 29, 2022 and numbered 31907) defines the administrative and technical procedures and principles to be followed throughout the EIA process and is largely in line with the EU Directive on EIA. When an activity (a Project) is planned, the Project developer is responsible for preparing an EIA Report along with many other permits required to realize the Project. However, facilities are subject to preparation of an EIA Report depending on the type of facility, its capacity, or the location of the activity. The activities that are subject to the provisions of the EIA Regulation are listed in Annex I and Annex II of the Regulation. For Annex I activities, a full EIA Report is required and those projects go through the full EIA process. For Annex II activities, a Project Introduction File (PIF) is prepared in accordance with the outline given in the EIA Regulation and the relevant process has to be conducted. As a result of the submission of PIF, if “EIA is required” decision is given, a full EIA Report is prepared.

According to Annex I of the Environmental Impact Assessment (EIA) Regulation (Official Gazette dated 29/07/2022 and numbered 310907), only the specialized OIZs would conduct an environmental impact

assessment process at the establishment phase. Since the Uşak Leather Mixed OIZ is a mixed type OIZ, an EIA was not required to be undertaken. In addition, article 24, subparagraph c, of the EIA Regulation states that the method regarding the EIA process to be applied for the projects planned to be established in the OIZs shall be determined by the Ministry of Environment, Urbanization and Climate Change. OIZ has received 3 different out of scope decisions dated December 25, 2023 from the Provincial Directorate of Environment, Urbanization and Climate Change regarding the proposed land type SPP project (See Annex 3). RooftopSPP projects are exempt from the EIA Regulation of Türkiye. However, it is necessary to apply to Uşak Provincial Directorate of Environment, Urbanization and Climate Change and obtain an exemption decision letter for the Roof SPPs within the scope of the Project. In this context, the exemption decision letter for roof SPP parcels 356/1, 188/11, 188/12, 355/1 and carport SPP on parcel 188/12 was taken on December 16th, 2024, and provided in Annex-3.

The rest of the Turkish Legislation that the Project will comply with is presented in Table 33.

Table 33 Turkish EHS Legislation Related to the Project

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Phases
National Environmental, Legal and Political Framework			
Waste Management			
Regulation on the Control of Waste Batteries and Accumulators	August 31, 2004	25569	• This regulation applies on battery and accumulator wastes that may occur as a result of office or vehicle use throughout the lifetime of the Project.
Regulation on the Control of Excavation Soil, Construction and Demolition Waste	March 18, 2004	25406	• This regulation applies to activities that will cause to the generation of excavation soil, construction wastes, especially during the construction phase of the Project.
Regulation on the Control of End-of-Life Tires	November 25, 2006	26357	• This regulation applies on waste management of End-of-Life Tires generated during all phases of the project.
Regulation on the Control of End-of-Life Vehicles	December 30, 2009	27448	• This regulation applies on waste management of End-of-Life Vehicles generated during all phases of the project.
Regulation on Waste Management	April 2, 2015	29314	• This regulation is the main regulation applies on regarding the non-hazardous and hazardous wastes that will be generated as a result of all activities to be carried out throughout the lifetime of the Project.
Regulation on the Control of Waste Vegetable Oil	June 6, 2015	29378	• This regulation applies on waste vegetable oils during especially the operation phase of the Project.
Regulation on the Control of Medical Waste	January 25, 2017	29959	• This regulation applies for medical waste to be generated throughout the life of the Project.
Regulation on Zero Waste	July 12, 2019	30829	• This regulation applies on the establishment of zero-waste management system that aims to protect the environment and human health and all resources regarding the wastes that will be generated as a result of all activities to be carried out throughout the life of the Project
Regulation on the Management of Waste Oil	December 21, 2019	30985	• This regulation applies on waste oils that may occur as a result of vehicle/equipment maintenance throughout the lifetime of the Project.
Regulation on the Control of Packaging Waste	June 26, 2021	31523	• This regulation applies on packaging waste that will occur as a result of activities that can be carried out throughout the lifetime of the Project.
Regulation on Management of Waste Electrical and Electronic Equipment	December 26, 2022	32055	• This regulation applies on electrical and electronic equipment waste as a result of activities to be carried out throughout the lifetime of the Project.
Water Quality Control and Management			
Regulation on Control of Water Pollution	December 31, 2004	25687	• This regulation applies on discharge of treated effluent during operation phase, wastewater generated by the site staff during pre-construction and construction phases.
Regulation on the Water Intended for Human Consumption	February 17, 2005	25730	• This regulation applies on the monitoring of the suitability for human consumption of water within the scope of the Project during all phases of the project.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Phases
Regulation on the Control of Pollution Caused by Hazardous Substances in and around Water Environment	November 26, 2005	26005	• This regulation applies on the hazardous substance impacts on the water and its surroundings that may occur during the Project lifetime.
Regulation on Urban Wastewater Treatment	January 8, 2006	26047	• • This regulation applies to effluent quality and treatment efficiencies to be met in the existing WWTP of all phases of the project.
Regulation on the Protection of Groundwater against Pollution and Deterioration	April 7, 2012	28257	• This regulation applies on protection of groundwater sources against pollution during pre-construction, construction and operation phases.
Regulation on Surface Water Quality	November 30, 2012	28483	• This regulation applies on discharge of treated effluent and monitoring of water quality at receiving body during operation phase.
Regulation on the Monitoring of Surface Waters and Groundwater	February 11, 2014	28910	• This regulation applies on procedures and principles for revealing the current status of all surface waters and groundwater throughout the country in terms of quantity, quality and hydromorphological elements, monitoring waters with an approach based on ecosystem integrity, and ensuring standardization in monitoring and coordination between institutions and organizations that carry out monitoring during lifetime of Plan.
Regulation on Determination of Sensitive Water Bodies and the Areas Affecting these Bodies and Improvement of Water Quality	December 23, 2016	29927	• This regulation applies on determination of the receiving body sensitivity during pre-construction phase and discharge of treated effluent during operation phase.
Air Quality Control and Management			
Regulation on the Air Quality Assessment and Management	June 6, 2008	26898	• This regulation applies on activities that may cause the deterioration of the air quality during the lifetime of the Project, especially the construction phase of the Project.
Regulation on Industrial Air Pollution Control	July 3, 2009	27277	• This regulation applies on activities that may cause air pollution during the lifetime of the Project, especially the construction phase of the Project.
Regulation on the Control of Odor Causing Emissions	July 19, 2013	28712	• This regulation applies on odor nuisance that may occur due to activities arising from all phases of the project in the existing WWTP.
Regulation on the Monitoring of Greenhouse Gas Emissions	May 17, 2014	29003	• This regulation applies on greenhouse gas emissions during the lifetime of the Project.
Regulation on Exhaust Gas Emission Control	March 11, 2017	30004	• This regulation applies on exhaust gas emissions sourced from project vehicles, machinery and equipment during the lifetime of the Project.
Noise Control and Management			
Regulation on the Environmental Noise Emissions Caused by Equipment Used Outdoors	December 30, 2006	26392	• This regulation applies on the noise emissions caused by equipment used outdoors within the Project especially throughout the construction phase.
Regulation on Environmental Noise Control	November 30, 2022	32029	• This regulation applies on the management of noise emissions during lifetime of the Project.
Soil Quality Control and Management			
Regulation on Soil Pollution Control and Point Source Contaminated Fields	June 8, 2010	27605	• This regulation applies on the protection of soil against pollution during lifetime of the Project.
Environmental Management, Permitting and Planning			
Environmental Law No: 2872	August 11, 1983	18132	• This general law regulates the main environmental rules for all activities to be carried out during the lifetime of the Project.
Organized Industrial Zones Law No: 4562	April 15, 2000	24021	• This law regulates the principles for the establishment and operation of organized industrial zones should be followed at all phases of the project.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Phases
Regulation on Environmental Permits and Licensing	September 10, 2014	29115	• This regulation applies on the required environmental permits and licenses at all phases of the Project.
Regulation on Wastewater Collection and Disposal Systems	January 6, 2017	29940	• This Regulation applies on the procedures and principles regarding the planning, design and projecting, construction and operation of wastewater collection and disposal systems during the lifetime of the Project.
Regulation on Environmental Impact Assessment	July 29, 2022	31907	• This regulation applies on administrative and technical procedures and principles to be followed during the lifetime of the Project as committed in theproject specific and approved PIF.
National Social, Legal and Political Framework			
Community Health and Safety			
Highways Traffic Law No: 2918	October 13, 1983	18195	• This law applies on ensuring traffic order on the highways during the all phases of the Project.
Regulation on Traffic Signs	June 19, 1985	18789	• This regulation applies on traffic sign for the purpose of ensuring traffic order and safety during all phases of the Project.
Regulation on Highway Traffic	July 18, 1997	23053	• This regulation applies on ensuring traffic order on the highways during the all phases of the Project.
Preparation, Completion and Cleaning Works Regulation	April 28, 2004	25446	• This regulation applies on the working conditions in the preparation, completion and cleaning works that must be carried out in order for the main work carried out in a workplace to be carried out in an orderly, healthy and safe manner during lifetime of the Project.
Labor and Working Conditions			
Labor Law No: 4857	June 10, 2003	25134	• This main law applies on the rights and responsibilities of the workers employed based on the labor contract with the employers, regarding the working conditions and working environment during the lifetime of the Project.
Regulation on the Procedures and Principles of Employment of Children and Young Workers	April 06, 2004	25425	• This regulation applies on determine the basis of the way children and young workers work without endangering their health and safety, physical, mental, moral and social development or education, and to prevent their economic exploitation during lifetime of the Project.
Social Security and General Health Insurance Law No: 5510	June 16, 2006	26200	• This law applies on health and safety measures to be taken during lifetime of the Project.
Regulation on the Protection of Buildings from Fire	December 19, 2007	26735	• This regulation applies on measures to be taken for fire protection during construction and operation phases.
Occupational Health and Safety Law No. 6331	June 30, 2012	28339	• This law applies on occupational health and safety measures to be taken during lifetime of the Project.
Communiqué on Occupational Health and Safety Hazard Classes List	December 26, 2012	28509	• This Communiqué applies on determination of hazard classes during lifetime of the Project.
Regulation on Risk Assessment for Occupational Health and Safety	December 29, 2012	28512	• This regulation applies on preparation of occupational health and safety risk assessment and all related principles to be followed during lifetime of the Project.
Regulation on Health and Safety Conditions Regarding Use of Work Equipment	April 25, 2013	28628	• This regulation applies on ensuring the health and safety conditions for the use of work equipment to be used during life of the Project.
Manual Handling Operations Regulation	July 24, 2013	28717	• This regulation applies on health and safety measures to be taken during manual handling activities at all phases of the Project.
Regulation on the Use of Personal Protection Equipment at Workplaces	July 2, 2013	28695	• This regulation applies on personal protection equipment to be used at lifetime of the Project.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Phases
Regulation on the Protection of Workers Against the Dangers of Explosive Environments	April 30, 2013	28633	• This regulation applies on measures to be taken in case the use of explosive usage during pre-construction and construction phases.
Regulation on Emergency Situations in Workplaces	June 18, 2013	28681	• This regulation applies on measures to be taken during emergency situations in workplaces during lifetime of the Project.
Regulation on Health and Safety Precautions Regarding Working with Chemicals	August 12, 2013	28733	• This regulation applies on chemical handling and necessary precautions in workplaces during lifetime of the Project.
Regulation on the Methods and Essentials of Occupational Health and Safety Trainings for Workers	May 15, 2013	28648	• This regulation applies on health and safety training to be performed during lifetime of the Project.
Regulation on the Protection of Workers from Noise Related Risks	July 28, 2013	28721	• This regulation applies on health and safety measures to be taken against the noise impacts during lifetime of the Project.
Regulation on the Protection of Workers from Vibration Related Risks	August 22, 2013	28743	• This regulation applies on health and safety measures to be taken against the vibration impacts during lifetime of the Project.
Regulation on Management of Dust	November 5, 2013	28812	• This regulation applies on management of to be generated dust during pre-construction and construction phases.
Regulation on Health and Safety Signs	September 11, 2013	28762	• This regulation applies on health and safety signs to be placed during lifetime of the Project.
Regulation on the Occupational Health and Safety for Temporary or Fixed Term Jobs	August 23, 2013	28744	• This regulation applies on health and safety measures to be taken for temporary workers during lifetime of the Project.
Regulation on the Occupational Health and Safety in Construction	October 5, 2013	28786	• This regulation applies on constructional health and safety measures to be taken during construction phase.
First Aid Regulation	July 29, 2015	29429	• This regulation applies on in case of a first aid requirement during construction and operation phases.
Regulation on Personal Protection Equipment	May 1, 2019	30761	• This regulation applies on personal protection equipment to be used during construction and operation phases.
Management of Chemicals and Other Dangerous Substances			
Regulation on the Classification, Labelling and Packaging of Materials and Mixtures	December 11, 2013	28848	• This regulation applies on chemicals and mixtures to be used during lifetime of the Project.
Regulation on Material Safety Data Sheets on Hazardous Materials and Mixtures	December 13, 2014	29204	• This regulation applies on preparation and distribution of safety data sheets in order to ensure effective control and surveillance against the negative human health and the environment effects of hazardous substances and mixtures that may be used during lifetime of the Project.
Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals	June 23, 2017	30105	• This regulation applies on to ensure a high level of protection of human health and the environment during the construction and operation phases, to evaluate the damages of the substances used, to have information on the registration, evaluation, permission and restriction of those chemicals.
Regulation on the Road Transportation of Hazardous Goods	June 18, 2022	31870	• This regulation applies on hazardous goods to be transported during lifetime of the Project.
Land Use			
Soil Conservation and Land Use Law No: 5403	July 19, 2005	25880	• This law applies on management of change in the land use during the planning phase of the Project.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Phases
Regulation on the Protection, Usage and Planning of Agricultural Lands	December 9, 2017	30265	• This regulation applies on management of change in the land use during the planning phase of the Project.
Stakeholder Engagement			
Constitution of the Republic of Türkiye	November 09, 1982	17863	• Citizens and foreigners resident in Türkiye, with the condition of observing the principle of reciprocity, have the right to apply in writing to the administrative authorities and the Grand National Assembly of Türkiye about the requests and complaints concerning themselves or the public. • Regarding with the Project Citizens and foreigners at the AoI have the right to apply in writing to the MoIT and the Grand National Assembly of Türkiye concerning the requests and complaints concerning themselves or the public.
Use of the Right to Petition Law No: 3071	November 10, 1984	18571	• Citizens and foreigners have the right to apply in writing to the MoIT and the Grand National Assembly of Türkiye concerning the requests and complaints concerning themselves or the public.
Right to Information Law No: 4982	October 24, 2003	25269	• Citizens can request information from MoIT and OIZ. • The institutions shall provide the requested information within 15 working days.
Regulation on Environmental Impact Assessment	July 29, 2022	31907	• Inform the investing public, to get their opinions and suggestions regarding the project, Public Participation Meeting. Participants raise issues related to the Project. • As the Project has EIA exemption, the Public Participation Meeting has not been held.
Others			
Law on Conservation of Cultural and Natural Assets No. 2863	July 21, 1983	18113	• The purpose of this Law is to determine the definitions related to movable and immovable cultural and natural assets that need to be protected, to organize the transactions and activities to be carried out, to determine the establishment and duties of the organization that will take the necessary principles and implementation decisions in this regard.
Regulation On Electricity Production Facilities Based on Solar Energy	June 19, 2011	27969	• This Regulation applies on the standards, test methods, and inspections that the equipment used in solar energy-based electricity production facilities must have, as well as the procedures and principles regarding the control of solar energy-based production quantities.
Regulation on the Implementation of the Law Concerning Private Security Services	October 7, 2004	25606	• This regulation applies on private security services to be used during construction and operation services.
Regulation on Contractors and Sub-contractors	September 27, 2008	27010	• This regulation applies on management of the conditions for the establishment of the principal employer-subcontractor relationship, the notification and registration of the workplace belonging to the subcontractor, the issues that should be included in the subcontractor agreement.
Regulation Concerning the Increase in the Efficiencies of Energy Consumption and Energy Resources	October 27, 2011	28097	• This regulation applies on the procedures and principles regarding the effective use of energy, prevention of energy waste, and increasing efficiency in the use of energy resources and energy to protect the environment during lifetime of the Project.
Protection of Personal Data Law No: 6698	April 7, 2016	29677	• This law applies on protection of fundamental rights and freedoms of individuals, especially the privacy of private life, in the processing of personal data during lifetime of the Project.
Regulation Concerning the Ozone Depleting Substances	April 7, 2017	30031	• This regulation applies on ozone depleting substances to be used during construction and operation phases.

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project Phases
Building Earthquake Regulation	March 18, 2018	30364	• This regulation applies on necessary rules and minimum conditions for the design and construction of all or parts of building-type structures under the influence of earthquakes and for the evaluation and strengthening of the performances of existing buildings under the influence of earthquakes during pre-construction and construction phases.

Uşak Leather Mixed OIZ shall comply with the requirements of the current national legislation and codes of practice and fulfil all other legal requirements. Therefore, during each stage of the planned Project and implementation of related management plans, all activities will be carried in accordance with certain standards and limits set by the above-mentioned laws and regulations. Furthermore, any license and/or permit required for the upcoming stages of the Project will be acquired accordingly.

I.2. International Agreements and Standards

International financial institutions follow certain policies and procedures regarding assessment and management of environmental and social impacts/risks of the projects to be financed. As a requirement of international support for the Project, environmental and social impact assessment studies shall be undertaken to guarantee that the Project's design, construction and operation will be satisfactory for international environmental and social standards alongside national legislation.

I.2.1. International Environmental Conventions that Türkiye is a Contracting Party

Turkish national policy on protection of cultural heritage and conservation of biological resources has been constituted on the base of relevant international agreements that Türkiye has ratified or acceded by laws or relevant legislation. In addition to these, there are various laws and regulations on protection and conservation of natural habitats, wildlife and cultural heritage.

The international agreements and conventions on biological, cultural heritage, environmental and wildlife conservation that Türkiye had ratified are:

- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (1972),
- Paris Convention on the Protection of the World Cultural and Natural Heritage (1975),
- Barcelona Convention on the Protection of the Mediterranean Sea Against Pollution (1976),
- The Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) (1981),
- Bern Convention on Protection of Europe's Wild Life and Living Environment (1982),
- Convention on Long Range Transboundary Air Pollution (CLRTAP) (1983),
- Convention on Long-Range Transboundary Air Pollution and the Cooperative Programme for Monitoring and Evaluation of the Long-Range Transmissions of Air Pollutants in Europe (EMEP) (1983),
- Vienna Convention for the Protection of the Ozone Layer (1988),
- Mediterranean Sea Protocol Concerning Specially Protected Areas and Biodiversity (1988), including related protocols,
- Montreal Protocol on Substances Depleting the Ozone Layer (1990),
- Convention on Biological Diversity (Rio Convention) (1992),
- The International Convention on the Established of an International Fund for Compensation for Oil Pollution Damage (FUND 1992),
- International Convention on Civil Liability for Oil Pollution Damage (1992),
- Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (RAMSAR) (1994),

- Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal (1994),
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1996),
- Kyoto Protocol (1997),
- UN Convention to Combat Desertification (CCD) (1998),
- United Nations Europe Economic Commission Convention on Transboundary Effects of Industrial Accidents (2000),
- European Landscape Convention (2001),
- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) (2001),
- UN Framework Convention on Climate Change (UNFCCC) (2004),
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) (2004),
- Stockholm Convention on Persistent Organic Pollutant (POPs),
- Convention for the Protection of the Black Sea Against Pollution (Bucharest) (1994) and its protocols including the Protocol for the Protection of Biological and Landscape Diversity in the Black Sea (2004),
- International Labor Organization (ILO) Conventions;
    - ILO Convention on Forced Labor (1930),
    - ILO Convention on Freedom of Association and Protection of the Right to Organize (1948),
    - ILO Convention on Right to Organize and Collective Bargaining (1949), ILO Convention on Equal Remuneration (1951),
    - ILO Convention on Abolition of Forced Labor (1957),
    - ILO Convention on Discrimination (Employment and Occupation) (1958),
    - ILO Convention on Minimum Age (1973),
    - ILO Convention on Worst Forms of Child Labor (1999).

Aside from the listed ILO Conventions, which are categorized as fundamental conventions; Türkiye also ratified three out of four governance conventions, 48 out of 177 technical conventions, out of 59 Conventions ratified by Türkiye, of which 55 are in force, three Conventions have been denounced which are C 34 Fee-Charging Employment Agencies Convention, C 58 Minimum Age (Sea) Convention (Revised) and C 59 Minimum Age (Industry) Convention (Revised); one instrument abrogated which is C 15 Minimum Age (Trimmers and Stokers) Convention; none have been ratified in the past 12 months.

I.2.1.1. International Legal and Regulatory Framework for Ecology and Biodiversity

Bern Convention

Bern Convention was put forward in 1982 in order to protect the European wildlife and natural habitats. Species to be protected according to the Bern Convention are listed in four appendices, which are presented in Table 34 with their explanations.

Table 34 Annexes to the Bern Convention

Annex	Explanation
I	Strictly protected flora species
II	Strictly protected fauna species
III	Protected fauna species
IV	Prohibited means and methods of killing, capture and other forms of exploitation

The Convention aims at conserving and promoting biodiversity, developing national policies for the conservation of wild flora and fauna and their natural habitats, protection of the wild flora and fauna from the planned development and contamination, developing trainings for protection practices, promoting

and coordinating the researches made regarding this subject. It has been signed by 26member states of the European Council (as well as Türkiye) with the aim of conserving the wildlife in Europe. Species that are not included within the appendices of the Convention are those that do not require any special protection. Species are not listed individually but instead are protected due to the habitat protection approach of the Bern Convention. All the nations that are party to the BERN Convention have signed the Convention on Biological Diversity as well. Parties of this convention are responsible for ensuring sustainable use of resources in line with their national development trends and conserving the threatened species.

CITES

CITES stands for the Convention on International Trade in Endangered Species of Wild Flora and Fauna. It is an international agreement that has been ratified by governments of 164 states (including Türkiye), whose aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The principles of CITES are based on sustainability of the trade in order to safeguard ecological resources (live animals and plants, vast array of wildlife products derived from them, including food products, exotic leather goods, etc.). CITES was signed in 1973 and entered in force on July 1, 1975. Türkiye ratified the Convention in 1996. Categories and species included in CITES are listed in three different appendices based on their protection statuses. These appendices and their explanations are given in Table 35.

Table 35 Appendices to CITES

Appendix	Explanation
I	Covers the species, which are under the threat of extinction. Trade in the specimens of these species is not allowed except extraordinary circumstances
II	Includes species, which are not threatened with extinction, but trade in specimens is restricted in order to prevent utilization incompatible with their survival
III	For which other parties of CITES is applied for assistance in controlling trade and which are conserved at least in one country.

IUCN

The International Union for Conservation of Nature (IUCN) publishes its Red List of Threatened Species, which intends to draw attention to species whose populations are at risk or under threat. The IUCN places a species on the Red List only after studying its population and the reasons for its decline. Some countries pay greater attention to IUCN-listed species than Bern-listed species, since the Red List relies on more research. The 1994 (ver.2.3) and 2001 (ver.3.1) categories and criteria of the IUCN Red List are presented below in Table 36. The Red List Categories and Criteria had been re-formed through evaluating more open and easier to use systems. As a result, the IUCN Commission made revisions in February 2000 and the new set of categories and criteria were published in 2001.

Table 36 IUCN Red List Categories and Criteria

IUCN Red List Categories and Criteria 1994 (ver. 2.3)		IUCN Red List Categories and Criteria 2012 (ver. 4.0)	
EX	Extinct	EX	Extinct
EW	Extinct in the Wild	EW	Extinct in the Wild
CR	Critically Endangered	CR	Critically Endangered
EN	Endangered	EN	Endangered
VU	Vulnerable	VU	Vulnerable
LR	Lower Risk		
CD	Conservation Dependent	NT	Near Threatened
NT	Near Threatened	LC	Least Concern
LC	Least Concern		
DD	Data Deficient	DD	Data Deficient
NE	Not Evaluated	NE	Not Evaluated

I.2.2. World Bank Environmental and Social Framework (ESF)

The project classified as Moderate Risk according to WB's E&S Policy, which states that for moderate risk projects the potential risks and impacts and issues are likely to have the following characteristics: (i) predictable and expected to be temporary and/or reversible, (ii) low in magnitude, (iii) site-specific, without likelihood of impacts beyond the actual footprint of the project and (iv) low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.).

Reasons regarding to the risk characterization of the Project is given below:

- The activities include land preparation, construction and installation works for a ground-mounted solar power plant, which could pose common environmental risks/impacts associated with waste generation, noise nuisance, dust, and exhaust emissions. Those are considered predictable, site-specific, and temporary and can be easily mitigated with adequate mitigation and management measures to be implemented following the provisions given in the national regulation, WB ESSs, and WB Group's Environmental, Health and Safety (EHS) Guidelines.
- The adjacent agricultural land, creek, and groundwater are considered sensitive environmental receptors, and wastes and emissions could pose a risk to the subject receptors. The risks are predictable, mostly temporary, and could be managed once adequate measures are applied to avoid the risks on the subject receptors.
- All activities will be carried out within the OIZ boundaries. The land allocated as a treatment plant area will be used.
- The impact on vegetation, soil, and ecosystem is site-specific, and the associated risk is low in magnitude.
- Land acquisition or resettlement will not be needed,
- There are occupational health and safety risks during the operation stage that can be mitigated through additional measures and precautions,
- Excessive labor influx will not be generated,
- The livelihoods of the households, specifically vulnerable groups and formal-informal users on land, will not be damaged, and
- Impacts will be very low in scale and will not be differentiated on women and men, different ethnic groups, or social classes. National legislation and WB ESSs will be applied to fair employment, equal access, and employment opportunities for women.

The World Bank Group (WBG) Environmental, Health and Safety (EHS) Guidelines constitutes technical reference resources that include general and sector specific examples of international good sector practices. It includes the information on applicable environmental, the health and safety issues for all industrial sectors. WBG uses the EHS Guidelines as a technical source of information during Project appraisal. EHS Guidelines include performance levels and measurements that can be achieved at newly installed facilities using WBG's available technologies at reasonable cost.

WBG General EHS Guidelines include the following main items;

- Environmental
  - Air Emissions and Ambient Air Quality
  - Energy Conservation
  - Wastewater and Ambient Water Quality
  - Water Conservation
  - Hazardous Materials Management
  - Waste Management
  - Noise

- Contaminated Land
- Occupational Health and Safety
  - General Facility Design and Operation
  - Communication and Training
  - Physical Hazards
  - Chemical Hazards
  - Biological Hazards
  - Radiological Hazards
  - Personal Protective Equipment
  - Special Hazard Environments
  - Monitoring
- Community Health and Safety
  - Water Quality and Availability
  - Structural Safety of Project Infrastructure
  - Life and Fire Safety
  - Traffic Safety
  - Transport of Hazardous Materials
  - Disease Prevention
  - Emergency Preparedness and Response
- Construction and Decommissioning
  - Environment
  - Occupational Health and Safety
  - Community Health and Safety

The World Bank's Environmental and Social Framework (ESF) aims to create better long-term development outcomes. Environmental and Social Standards in the ESF have a more comprehensive approach, especially on social issues.

In addition to the World Bank General EHS Guidelines, there is no specific World Bank Industrial Sector Guidelines for Solar Power Plants. However, the Environmental and Social Considerations in the “Utility Scale Solar Photovoltaic Power Plants” guidelines prepared by WB ESSs in 2015 should be considered. Moreover, WB Good Practice Note on Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH), and WB 2010 Access to Information Policy are other specific guides.

I.2.3. Comparison of Turkish EIA Regulation and WB ESSs

The gap analysis between the WB ESSs triggered by the Project and Turkish EIA Regulation is presented in Table 37.

Table 37 The Relevance of WB ESSs with the Project

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	This Standard sets out Borrower's responsibilities for assessing, managing and monitoring Environmental and social risks and impacts related with each phase of the project supported by the World Bank through Investment Project Financing (IPF), so as to accomplish environmental and social results consistent with the Environmental and Social Standards (ESSs). The objectives of ESS1 are as follows: • To identify, evaluate, and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs. • To adopt a mitigation hierarchy approach to: (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) Once risks and impacts have been minimized or reduced, mitigate; and (d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible. • To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project. • To utilize national environmental and social institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of projects, whenever appropriate. • To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.	**Environmental and Social Assessment and Management System (ESMS)** World Bank's ESF The Borrower will carry out an environmental and social assessment of the project to assess the environmental and social risks and impacts of the project throughout the project life cycle. The assessment will be proportionate to the potential risks and impacts of the project, and will assess, in an integrated way, all relevant direct, indirect, and cumulative environmental and social risks and impacts throughout the project life cycle, including those specifically identified in ESSs 2-10. The Borrower will: (a) Conduct an environmental and social assessment of the proposed project, including stakeholder engagement; (b) Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; (c) Develop an Environmental and Social Commitment Plan (ESCP), and implement all measures and actions set out in the legal agreement including the ESCP; and (d) Conduct monitoring and reporting on the environmental and social performance of the project against the ESSs. Turkish EIA Regulation Environmental risks and impacts of the Project are identified to some extent. However, the range of potential environmental and social impacts has not been identified, for example, there is no social assessment, or assessment of landscape and visual impacts, forestry and in many cases operation of the airport has been omitted in assessing impacts.	Conduct a complete assessment of potential environment and social impacts associated with both ground-mounted SPP construction and operation. Complete an assessment of potential cumulative impacts. Establish a Project ESMS that describes mitigation and performance improvement measures and actions that address the identified environmental and social risks and impacts of the Project. Where the identified risks and impacts cannot be avoided, the client should identify mitigation and performance measures and establish corresponding actions to ensure the project will be operated in compliance with applicable laws and regulations, and meet the requirements ESSs.
		Organizational Capacity and Competency World Bank's ESF Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, the ESMS will establish and maintain an emergency preparedness and response system so that the client, in collaboration with appropriate and relevant third parties, will be prepared to respond to	Define project environment and social resources (construction, consortium and operational) in terms of organisation and competency with regard to environment and social issues.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
		accidental and emergency situations associated with the project in a manner appropriate to prevent and mitigate any harm to people and/or the environment. Turkish EIA Regulation Organisational arrangements and the competency of construction personnel have not been incorporated into the EIA.	
		Emergency Preparedness and Response World Bank's ESF Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, the ESMS will establish and maintain an emergency preparedness and response system so that the client, in collaboration with appropriate and relevant third parties, will be prepared to respond to accidental and emergency situations associated with the project in a manner appropriate to prevent and mitigate any harm to people and/or the environment. This preparation will include the identification of areas where accidents and emergency situations may occur, communities and individuals that may be impacted, response procedures, provision of equipment and resources, designation of responsibilities, communication, including that with potentially Affected Communities and periodic training to ensure effective response. The emergency preparedness and response activities will be periodically reviewed and revised, as necessary, to reflect changing conditions. Turkish EIA Regulation No emergency scenarios, including response mechanisms, have been identified within the EIA.	Prepare and implement an emergency response plan for both construction and operational phases.
		Monitoring and Review World Bank's ESF The project owner should establish procedures to monitor and measure the effectiveness of the management program, as well as compliance with any related legal and/or contractual obligations and regulatory requirements. Where the government or other third party has responsibility for managing specific risks	Once adequate baseline data has been captured and potential environmental and social impacts have been assessed for both construction and operational phases, a monitoring plan should be established to capture data to confirm that the project mitigation plans are delivering the desired results and that no unforeseen impacts are occurring.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
		and impacts and associated mitigation measures, the client will collaborate in establishing and monitoring such mitigation measures. Where appropriate, clients will consider involving representatives from Affected Communities to participate in monitoring activities. The client's monitoring program should be overseen by the appropriate level in the organization. For projects with significant impacts, the client will retain external experts to verify its monitoring information. The extent of monitoring should be commensurate with the project's environmental and social risks and impacts and with compliance requirements. <u>Turkish EIA Regulation</u> Although EIA is more limited in scope, it requires some environmental and social management plans. There is also a monitoring plan that indicates whether the environmental impacts of the project (in terms of air, water quality, noise and vibration) will comply with the Turkish Environmental Law and relevant legislation.	
		External Communications and Grievance Mechanisms <u>World Bank's ESF</u> The project owner should implement and maintain a procedure for external communications that includes methods to (i) receive and register external communications from the public; (ii) screen and assess the issues raised and determine how to address them; (iii) provide, track, and document responses, if any; and (iv) adjust the management program, as appropriate. In addition, clients are encouraged to make publicly available periodic reports on their environmental and social sustainability. Where there are Affected Communities, the client will establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the client's environmental and social performance. The grievance mechanism should be scaled to the risks and adverse impacts of the project and have Affected Communities as its primary user. It should seek to resolve concerns promptly, using an understandable and transparent consultative process that is culturally	A communications plan and procedure (including identification of Affected Communities) should be prepared that describe mechanisms for external communications on environment and social topics. The plan should define how grievances and concerns can be made to the project and how these will be investigated, responded to and rectified, if appropriate.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
		appropriate and readily accessible, and at no cost and without retribution to the party that originated the issue or concern. The mechanism should not impede access to judicial or administrative remedies. The client will inform the Affected Communities about the mechanism in the course of the stakeholder engagement process. Turkish EIA Regulation Stakeholder Engagement Plan: It is explained in EIA Regulation as a plan that explains how, what methods and tools will be used to communicate and inform legal/real persons (stakeholders) who may be affected by the project or have an interest in the project, at all stages of the planned project. Regulation does not address the issues of internal, external communication and grievance mechanism.	
		On-going Reporting to Affected Communities World Bank's ESF The project owner should provide periodic reports to the Affected Communities that describe progress with implementation of the project Action Plans on issues that involve on-going risk to or impacts on Affected Communities and on issues that the consultation process or grievance mechanism have identified as a concern to those Communities. If the management program results in material changes in or additions to the mitigation measures or actions described in the Action Plans on issues of concern to the Affected Communities, the updated relevant mitigation measures or actions will be communicated to them. The frequency of these reports will be proportionate to the concerns of Affected Communities but not less than annually. Turkish EIA Regulation The EIA does not define Affected Communities and therefore there is no definition of communication and reporting.	Reporting to Affected Communities should be included within the Communication Plan and Procedure.
ESS2 Labor and Working Conditions	ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker management relationships and enhance the development benefits of	World Bank's ESF ESS2 requirements include the documentation and implementation of workforce management procedures applicable to the project. These procedures will specify how project workers will be managed in accordance with	Prepare a Human Resources Policy. Prepare a project handbook that covers working conditions and employment arrangements.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
	a project by treating workers in the project fairly and providing safe and healthy working conditions. The objectives of ESS2 are as follows: • To promote safety and health at work. • To promote the fair treatment, non-discrimination, and equal opportunity of project workers. • To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers, and primary supply workers, as appropriate. • To prevent the use of all forms of forced labor and child labor. • To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law. • To provide project workers with accessible means to raise workplace concerns.	the requirements of internal law and this ESS and explain the following; (i) working conditions and management of worker relationship including terms and conditions of employment, non-discrimination and equal opportunities, worker's organizations, (such as the preparation and implementation of workforce management procedures applicable to the project); (ii) protection of the workforce, including the establishment of a minimum age for workers and the prohibition of child labor and forced labor; (iii) grievance mechanism (for workers); (iv) occupational health and safety (OHS) ; (v) contracted workers; (vi) community workers and (vii) primary supply workers. The Borrower will develop and implement written labor management procedures applicable to the project. These procedures will set out the way in which project workers will be managed, in accordance with the requirements of national law and this ESS. The project owner should adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of this Performance Standard and national law The project owner should establish a mechanism to maintain, and improve the worker-management relationship and should also promote compliance with national employment and labour laws. The project owner should establish a mechanism to protect workers, including vulnerable categories of workers such as children, migrant workers, forced labour, workers engaged by third parties, and workers in the client's supply chain while it should also provide a tool to promote safe and healthy working conditions, and the health of workers. In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the client will comply with national law. Where national law substantially restricts workers' organizations, the client will not restrict workers from developing alternative mechanisms to express their grievances and protect their rights regarding working	Prepare an Equality and Diversity Programme that defines protection of employees, contractors and suppliers. Establish a mechanism to protect workers. Provide a Grievance Mechanism.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
		conditions and terms of employment. The client should not seek to influence or control these mechanisms. The client will provide a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. The client will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them. The mechanism should involve an appropriate level of management and address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution. The mechanism should also allow for anonymous complaints to be raised and addressed. The mechanism should not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements. <u>Turkish EIA Regulation</u> There is no Human Resources (HR) Policy for the project. There are warnings about how the workers should prevent any harmful effects that may arise during construction and operation phases. However, detailed working conditions or terms of employment are not mentioned in the EIA report The EIA does not address worker employment and therefore, there is no documented or formal policy of non-discrimination, equal opportunity and fair treatment in the EIA.	
ESS3 Resource Efficiency and Pollution Prevention and Management	ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services, and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention, and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable. This ESS sets out the requirements to	<u>World Bank's ESF</u> The project owner should implement technically and financially feasible and cost effective measures for improving efficiency in its consumption of energy, water, as well as other resources and material inputs, with a focus on areas that are considered core business activities. Such measures will integrate the principles of cleaner production into product design and production processes with the objective of conserving raw materials, energy, and water. Where benchmarking data are available, the client will make a comparison to establish the relative level of efficiency.	Prepare an evaluation of potential resource efficiency during construction and operation. Define potential impacts and develop approaches for avoidance, minimisation and use of alternative materials in order to reduce the project impact on natural and scarce resources. Baseline information must be captured for topics such as potential contaminated land and environmental impacts associated with the soil movement required by the earthworks. All assessments should address current conditions and potential future impacts of project construction and operation

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
	address resource efficiency and pollution prevention and management throughout the project life cycle consistent with Good International Industry Practice (GIIP). The objectives of ESS3 are as follows: • To promote the sustainable use of resources, including energy, water, and raw materials. • To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. • To avoid or minimize project-related emissions of short- and long-lived climate pollutants. • To avoid or minimize generation of hazardous and nonhazardous waste. • To minimize and manage the risks and impacts associated with pesticide use.	The project owner should avoid the release of pollutants or, when avoidance is not feasible, minimize and/or control the intensity and mass flow of their release. This applies to the release of pollutants to air (including GHG emissions), water, and land due to routine, non-routine, and accidental circumstances with the potential for local, regional, and transboundary impacts. Where historical pollution such as land or ground water contamination exists, the project should seek to determine whether it is responsible for mitigation measures. It is also important to address potential adverse project impacts on existing ambient conditions, the client will consider relevant factors, including, for example (i) existing ambient conditions; (ii) the finite assimilative capacity of the environment; (iii) existing and future land use; (iv) the project's proximity to areas of importance to biodiversity; and (v) the potential for cumulative impacts with uncertain and/or irreversible consequences. In addition to applying resource efficiency and pollution control measures as required in this Performance Standard, when the project has the potential to constitute a significant source of emissions in an already degraded area, the project should consider additional strategies and adopt measures that avoid or reduce negative effects. These strategies include, but are not limited to, evaluation of project location alternatives and emissions offsets. <u>Turkish EIA Regulation</u> The EIA does not address resource consumption and resource efficiency measures. Baseline information is provided in the EIA on air emissions, wastewater, solid wastes, hazardous wastes and noise. The EIA assessments have focussed on construction phases and have not addressed operational phases for each of these elements. The EIA provides no information regarding the potential contamination of land associated with historical use and does not discuss the environmental and social impacts associated with the volumes of soil movements proposed in the earthworks activities.	

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
ESS4 Community Health and Safety	ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable. The objectives of ESS4 are as follows: • To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and nonroutine circumstances. • To promote quality and safety, and considerations relating to climate change in the design and construction of infrastructure, including dams. • To avoid or minimize community exposure to project-related traffic and road safety risks, diseases, and hazardous materials. • To have in place effective measures to address emergency events. • To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.	<u>World Bank's ESF</u> WB's ESF: The project should anticipate and avoid adverse impacts on the health and safety of the Affected Community and ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities. ESS4 requirements are as follows: (i) community health and safety, including infrastructure and equipment design and safety, safety of services, traffic and road safety, ecosystem services, community exposure to health issues, management and safety of hazardous materials, and emergency preparedness and response and security; and (ii) security personnel. <u>Turkish EIA Regulation</u> The EIA does not address regarding the environmental and social impacts associated with construction camps and the influx of temporary/migrant labour to support construction activities.	Assess the safety and security risks associated with construction and operation of the ground-mounted SPP on the community and develop a plan to mitigate and manage risks..
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources, including inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems. The objectives of ESS6 are as follows: • To protect and conserve biodiversity and habitats. • To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity.	<u>World Bank's ESF</u> The environmental and social assessment as set out in ESS1 will consider direct, indirect, and cumulative project-related impacts on habitats and the biodiversity they support. This assessment will consider threats to biodiversity, for example, habitat loss, degradation and fragmentation, invasive alien species, overexploitation, hydrological changes, nutrient loading, pollution and incidental take, as well as projected climate change impacts. It will determine the significance of biodiversity or habitats based on their vulnerability and irreplaceability at a global, regional, or national level and will also take into account the differing values attached to biodiversity and habitats by project-affected parties and other interested parties. The Borrower will avoid	Robust sampling methodologies and plans should be prepared to inform surveys for all identified habitats and species to ensure that robust baseline data is obtained to inform the assessment of potential impacts, mitigation and compensation strategies.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
	• To promote the sustainable management of living natural resources. • To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.	adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in ESS1 and with the requirements of this ESS. The Borrower will ensure that competent biodiversity expertise is utilized to conduct the environmental and social assessment and the verification of the effectiveness and feasibility of mitigation measures. Where significant risks and adverse impacts on biodiversity have been identified, the Borrower will develop and implement a Biodiversity Management Plan. <u>Turkish EIA Regulation</u> The EIA has provided inadequate baseline data regarding project biodiversity and natural habitats and the potential impacts associated with the project during construction and operation. The EIA reports that ecological species and habitat evaluations were undertaken through habitat evaluation and literature review.	
ESS10 Stakeholder Engagement and Information Disclosure	This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. The objectives of ESS10 are as follows: • To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project affected parties. • To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance. • To promote and provide means for effective and inclusive engagement with project-affected parties	<u>World Bank's ESF</u> Borrowers will engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a time frame that enables meaningful consultations with stakeholders on project design. The nature, scope, and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impactsThe process of stakeholder engagement will involve the following: (i) stakeholder identification and analysis; (ii) planning how the engagement with stakeholders will take place; (iii) disclosure of information; (iv) consultation with stakeholders; (v) addressing and responding to grievances; and (vi) reporting to stakeholders. For all Category A and B subprojects proposed for WB funding, the borrower will consult and consider the views of the project-affected groups and non-governmental organizations regarding the environmental impacts of the subproject during the EA process.	A stakeholder engagement plan should be prepared to address project start up, construction and operation. This should be a two way process of giving and receiving information. It should involve the local, regional and national communities as applicable to the project.

ESS	Scope / Aim of the ESS	Gaps between the Turkish EIA Regulation and World Bank's ESF	Environmental and Social Studies conducted/to be conducted to fill the gap
	throughout the project life cycle on issues that could potentially affect them. • To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format. • To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances.	<u>Turkish EIA Regulation</u> The EIA reports that a single, formal, information disclosure exercise has been carried out regarding the project. This occurred at the start of the EIA process. No further information disclosure activities have been undertaken prior to the EIA report being finalized. The EIA does not describe any stakeholder engagement and therefore it is assumed that none has been undertaken. For the projects included in the list of Annex-I, which therefore require the preparation of an EIA Report, the public information and participation meeting, whose place and date is decided by the Provincial Directorate of Environment, Urbanization and Climate Change, is held not later than 10 days prior to the meeting by disclosing it publicly in local and national newspapers. No public information and participation meeting is held for the projects included in the list of Annex-II. <u>Public Information and Participation Meeting:</u> In the Turkish EIA Regulation, public consultation is required for the purpose of "preliminary scope determination" only for projects requiring EIA, and for this purpose, only the environmental assessment must be announced with its justification. However, ESS 10 does not specify how many times and by what method public consultation and public information will be carried out, instead it is requested to adopt a continuous stakeholder participation approach throughout the project life cycle, which will be decided in proportion to the nature, scale and impact size of the project.	

ANNEX-6: ECOLOGY AND BIODIVERSITY

Studies of the biological environment of this Project Area and the potential impact area were carried out on 13th June, 2024. The studies covered terrestrial environments, including flora and fauna species, vegetation and habitat descriptions.

The distribution of flora and fauna species in the Project Area and their biological activities has been determined through the studies carried out with this ESMP report.

Within the scope of biodiversity baseline detection studies, the Project Area and its immediate surroundings have been researched. Research has been conducted to assess terrestrial flora species and vegetation within the footprint of project components and associated works.

The Biodiversity Study Area, devised based on expert opinions, was chosen to align with the few homogenous fauna components in the Project Area that have adapted to anthropogenic influences.

Flora

The determination of the floristic structure is based on field observations and a detailed literature study on the floristic and ecological structure of the region. In the identification of plant samples, the Flora of Turkey (Davis, P.H., 1965-1988; Güner et al., 2000) was used, and in determining Turkish name equivalents of the plant species, the List of Turkish Plants (Vascular Plants) (Güner et al., 2012) was used. In addition, the up-to-date Plants of Turkey Data Service was used. The Red Data Book of Turkish Plants (Ekim et al., 2000) and the internet site of the IUCN Red List (http://www.iucnredlist.org) were used as the main sources while determining the endangerment category of endemic and non-endemic rare taxa at the species and subspecies level identified in the study area.

Turkey is one of the richest countries of the temperate zone in terms of floristic diversity with nearly 12,000 flowering plant taxa (including subspecies taxa). This diversity is a reflection of climatic, edaphic, topographical, etc. diversity, especially ecosystem diversity.

The flora of Turkey is related to Central Europe on the one hand and Asia on the other. Considering that there are around 11.000 species in the whole continental Europe from the west of the Urals, it can be said that Turkey is a continent in terms of floristic diversity. The flora of Turkey has an important place among other countries with more than 3000 endemic species.

Endemic, Rare and Threatened Plant Species and Threat Categories (IUCN, Bern, CITES)

a) Endemic, Rare or Endangered Plant Species

There are no endemic plants among the identified plant taxa. In addition, there are no non-endemic but rare or endangered plant species in the area. In the floristic list, information about the scientific name of the taxon, phytogeographic region, endemism status, IUCN, Bern, Cites categories, and detection method is included. Turkey is very rich in endemic and rare plants as it is a country located in the transcontinental transition zone. The distribution of endemic plant species in Turkey is presented according to the grid system. (Figure 35).

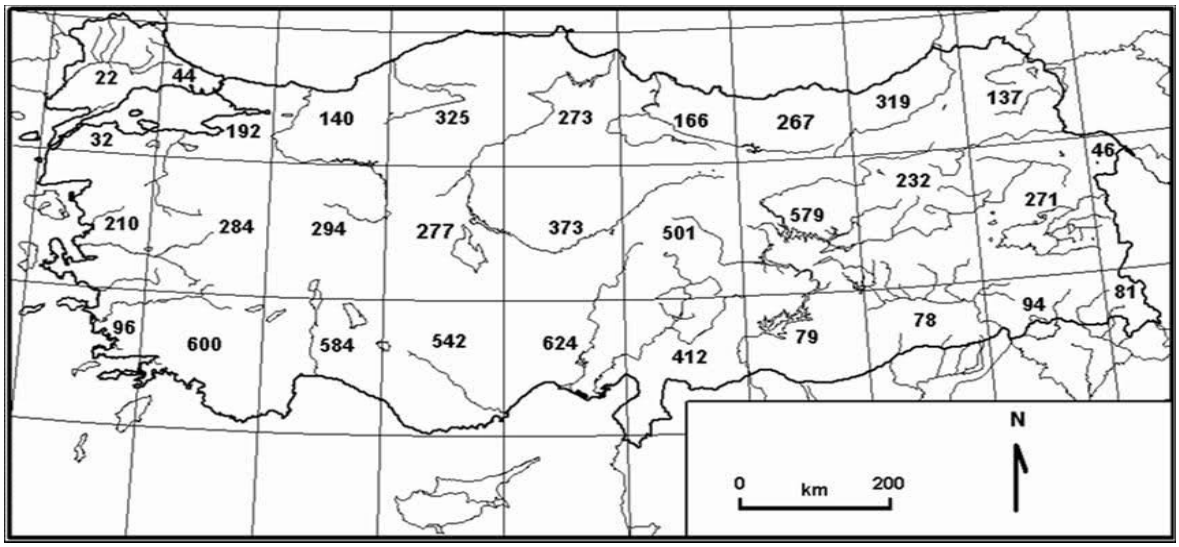


Figure 35 Distribution of endemic plant species according to grid system.

b) IUCN Threat Categories

The IUCN Red Data Book Categories used in the Red Data Book of Plants of Turkey were used to determine the IUCN categories of the plant species identified in the Project area and impact area. The IUCN Red Data Book Categories used in the Red Book of Plants of Turkey and their descriptions are given in Table 38.

Table 38 Red Book of Plants of Turkey IUCN Red Data Book Categories

IUCN CATEGORY	EXPLANATIONS
EX Extinct	This taxon is EX if there is no doubt that the last member has died.
EW Extinct In the Wild	It is placed in this group if the taxon has not been found in the environments where it can be found and in detailed surveys carried out at different times of the year, that is, if it is lost in nature and continues to live only in cultivated form.
CR Critically Endangered (Very Dangerous)	A taxon is placed in this group if it is at risk of extinction in the very near future.
EN Endangered	A taxon is placed in the EN group if it is at very high risk and threatened with extinction in the near future, but not yet in the CR group.
VU Vulnerable	Although they cannot be placed in CR and EN groups; taxa that are under high threat in the medium-term future in nature are placed in this group. In our country, some species known from more than one locality that are thought to be threatened in the medium term have been placed in this category. In addition, some species that are not currently threatened have been placed in this category in order to ensure their protection in the future.
LR Lower Risk (Less Threatened)	Plants with better populations that cannot be placed in any of the above groups are placed in this category. Plants with very good populations and known from at least 5 localities are placed in this category. There are 3 subcategories that can be ranked in terms of threat according to their future status: (cd), (nt) and (lc).
LR/(cd) Conservation Dependent	The taxon will be placed in one of the above categories within 5 years and requires a special conservation status for both species and habitat.
LR/ (nt) Near Threatened	Candidates that cannot be placed in the previous group but are close to being placed in the VU category.
LR/ (lc) Least Concern	Those that do not require any protection and are not threatened.
DD Data Deficient	A taxon is placed in this group if knowledge about its distribution and abundance is insufficient. Even if the biology of a taxon in this category is well known, information on its distribution and abundance is insufficient. Therefore, placing a taxon in the DD category indicates that more information needs to be gathered about it, rather than that it is threatened. Once the information is available, the taxon should be placed in another category appropriate to its status.
NE Not Evaluated	Those that cannot be assessed by any of the above criteria.

Explanatory Information on Some Criteria

Additional criteria accepted for placement in the **CR, EN** and **VU** categories are:

For **CR** Category - Plants that are in danger of disappearing in nature in a very short period of time can be decided according to the following criteria.

A. If the population is declining as a result of the following threats;

80% probability of disappearance in the population within 10 years for the following reasons

a-Change in habitat characteristics and decrease in the degree of closeness of the species;

b - Under the threat of actual and potential collection;

c-Threat of invasion by another taxon, hybridization, disease, seed failure, contamination, competition and parasites;

B. If the total distribution area of the plant is less than 100 km^2 and the single distribution area is less than 10 km^2, very fragmented or known from a single location.

For **EN** Category - At high risk of the above-mentioned threats; population is expected to decline by 50% in the last 10 years or in 3 generations; distribution area is up to 5000 km^2 or 500 km^2 in a single area; number of individuals is below 2500 or known from at most 5 locations.

For **VU** Category - Species whose population is expected to decrease by 20% in the last 10 years or 3 generations in the face of the threats mentioned above; whose distribution area is not more than 10 locations, whose distribution area is 20.000 km^2, the number of mature individuals is less than 10.000, or whose population is expected to decrease by 10% in 100 years during field studies.

c) Convention for the Conservation of Wildlife and Habitats in Europe (Bern)

The Bern Convention is a convention to protect wild flora and fauna and their habitats, to ensure that necessary measures are taken for endangered or endangered species, and to ensure the dissemination of wild flora and fauna education. Annex lists and explanations of the Bern Convention are given in Table II.3.2.

Table 39 BERN Convention Annex Lists and Explanations

LIST OF ANNEXES	EXPLANATIONS
ANNEX I	Strictly protected flora species
ANNEX II	Strictly protected fauna species (SPFS- Strictly Protected Fauna Species)
ANNEX III	Protected fauna species (PFS- Protected Fauna Species)

d) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The CITES Convention is a convention that binds the import, export, in short, international trade of wild animal and plant species between the countries that are parties to the convention to certain permits and documents. Appendix lists and explanations of the CITES Convention are given in Table 40.

Table 40 CITES Convention Appendix Lists and Explanations

LIST OF ANNEXES	EXPLANATIONS

ANNEX I	It covers all species threatened with extinction that are or may be affected by trade. Trade in specimens of these species must be subject to particularly stringent legislation and only permitted in exceptional circumstances to avoid further jeopardizing their continued extinction.
ANNEX II	(a) Species that are not currently in imminent danger of extinction but may become extinct unless trade in their specimens is subject to strict regulations to prevent uses incompatible with their continued extinction; and (b) other species that need to be subject to legislation in order to effectively control the trade in specimens of certain species referred to in subparagraph (a).
ANNEX III	It covers all species that any Party indicates are subject to regulation within its jurisdiction for the purpose of preventing or restricting their use and that it needs to cooperate with other Parties in controlling their trade.

Assessment of the Project Area in terms of Plant Geography (Phytogeography)

Due to its geographical location, our country is under the influence of various climates. As a matter of fact, oceanic climatic conditions prevail on the slopes of the North Anatolian and Yıldız (Istranca) Mountains facing north, especially the Black Sea; Mediterranean in the Marmara Sea, Aegean and Mediterranean regions; and continental climatic conditions prevail in Central, Eastern and Southeastern Anatolia. Thus, the north of Anatolia and Thrace is a country where humid temperate climates prevailing in the west of the continents to the east of the oceans, the Aegean and Mediterranean subtropical, and the central and eastern regions of Anatolia are a collection of continental climates prevailing in the interior of the continents. In the high mountainous areas, cold climatic conditions effective in more northern latitudes are observed. Therefore, the existence of different areas and phytogeographical regions in terms of vegetation in Turkey (Figure 36) is a necessity of natural conditions.

Turkey is located in the Boreal and Tethys Sub-orders of the Holoarctic Realm. In terms of plant geography, Turkey is divided into 3 regions. These are Euro-Siberian, Mediterranean and Irano-Turanian Flora Region.

The eastern Black Sea region of the Euro-Siberian plant geography constitutes the Colchic region, while the western regions constitute the Euxine region. In addition, there is the Anatolian Diagonal that separates 3 different phytogeographic regions in Tukey. The project area is under the influence of the Irano-Turanian phytogeographic region (Figure 36).

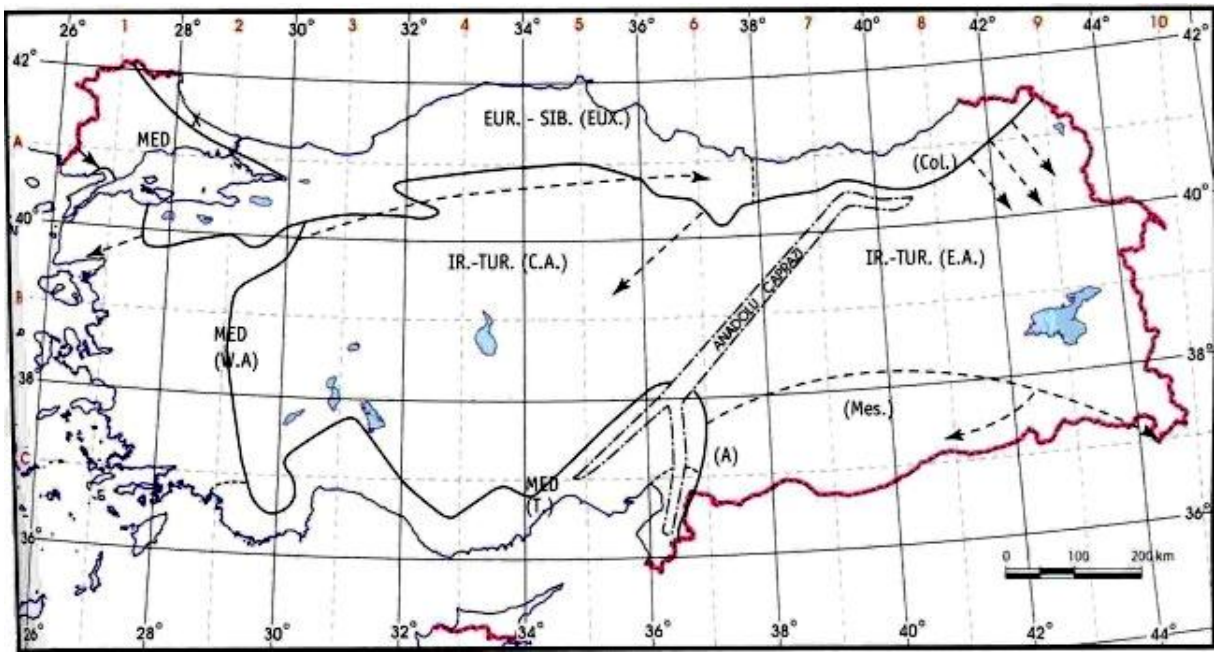


Figure 36 Phytogeographic Regions in Turkey and the Anatolian Diagonal
(EUR.-SIB: European Siberian Plant Geographic Region, MED: Mediterranean Plant Geography Region, IR.-TUR: Iran Turan Plant Geography Region)

The Project area is located in square B2 according to the Grid Quadrature System (Figure 37).

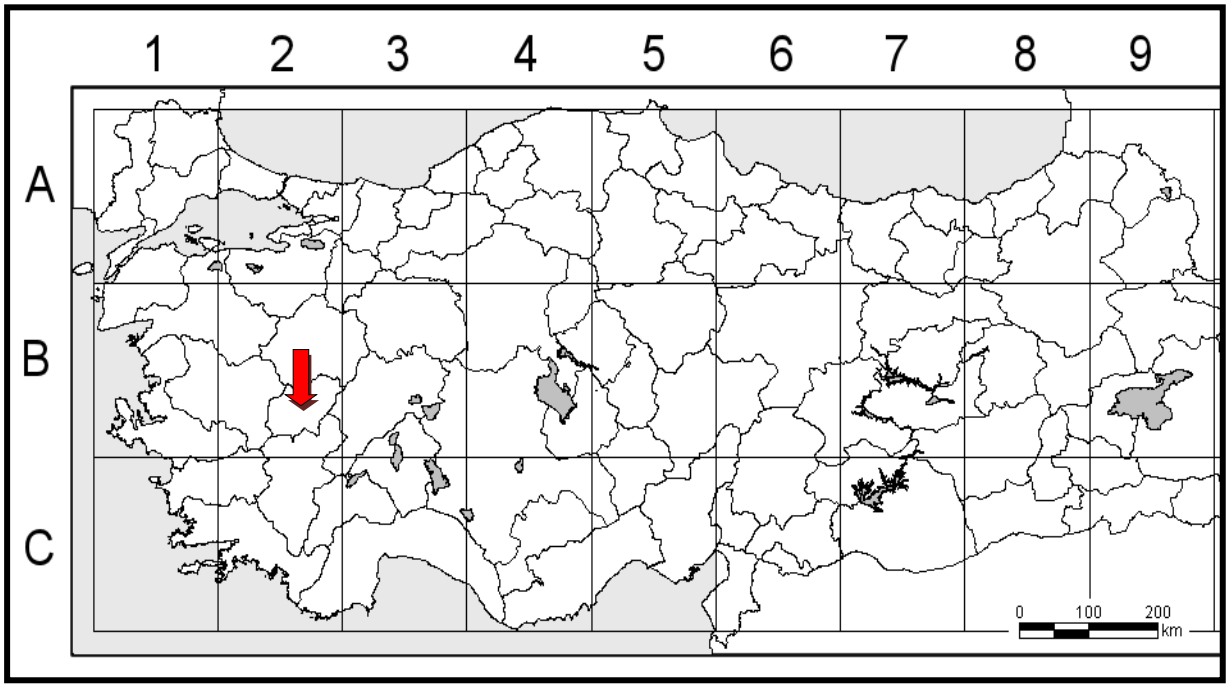


Figure 37 Location of the Project Area in Grid Quadrature System

Floristic Analysis

A total of 26 plant taxa belonging to 13 families have been identified in and around the Project area. There are no endemic species among the plant taxa found and likely to be found in and around the project area. According to the IUCN red list, all plant taxa found and likely to be found in the area are in the "NE" category. Among the plant taxa identified in the project area, there are no plant taxa included in the Annex Lists of the Bern and CITES Conventions. Information on these taxons is presented in Table 41.

Table 41 Plant Taxons found and likely to be found in the Project Area and its immediate surroundings and their Protection Status

Family	Scientific Name	Endemism	IUCN	CITES	BERN	Phytogeographic Region	Form of Detection
Apiaceae	*Bunium ferulaceum*	-	NE	LD	LD	Mediterranean	L
Apiaceae	*Scandix stellata*	-	NE	LD	LD	-	L
Apiaceae	*Scandix pecten-veneris*	-	NE	LD	LD	-	L
Apiaceae	*Tordylium maximum*	-	NE	LD	LD	-	L
Apiaceae	*Eryngiumcampestre L var. virens*	-	NE	LD	LD	-	L
Asteraceae	*Xanthium spinosum*	-	NE	LD	LD	-	L
Asteraceae	*Onopordum tauricum*	-	NE	LD	LD	-	F
Asteraceae	*Lactuca serriola*	-	NE	LD	LD	-	L
Boraginaceae	*Onosma aucheranum*	-	NE	LD	LD	Mediterranean	L
Boraginaceae	*Anchusa barrelieri var. orientalis*	-	NE	LD	LD	-	L
Boraginaceae	*Alkanna tubulosa*	-	NE	LD	LD	Mediterranean	L
Boraginaceae	*Heliotropium europaeum*	-	NE	LD	LD	-	F
Brassicaceae	*Sisymbrium officinale*	-	NE	LD	LD	-	L

Family	Scientific Name	Endemism	IUCN	CITES	BERN	Phytogeographic Region	Form of Detection
Caryophyllaceae	*Silene behen*	-	NE	LD	LD	-	L
Convolvulaceae	*Convolvulus arvensis*	-	NE	LD	LD	-	L
Convolvulaceae	*Convolvulus compactus*	-	NE	LD	LD	-	L
Fabaceae	*Ononis pusilla*	-	NE	LD	LD	Mediterranean	L
Fabaceae	*Trifolium alpestre*	-	NE	LD	LD	Euro-Siberian	L
Iridaceae	*Crocus chrysanthus*	-	NE	LD	LD	-	L
Iridaceae	*Crocus pulchellus*	-	NE	LD	LD	Mediterranean	L
Malvaceae	*Alcea biennis*	-	NE	LD	LD	-	L
Papaveraceae	*Papaver rhoeas*	-	NE	LD	LD	-	F
Pinaceae	*Pinus nigra*	-	NE	LD	LD	-	L
Pinaceae	*Pinus brutia*	-	NE	LD	LD	Mediterranean	L
Portulacaceae	*Portulaca oleracea*	-	NE	LD	LD	-	L
Ranunculaceae	*Ranunculus gracilis*	-	NE	LD	LD	-	L

Abbreviations LD: Unlisted, L: Literature, F: Field.

Fauna

Since fauna species show seasonal changes and it may take several years to determine the fauna inventory of an area, the species given in the fauna lists were prepared by taking into consideration the detailed literature study, observations and hearsay of local people, biotope characteristics of the region, current distribution areas and current biogeography rules.

In the field studies carried out within the scope of the identification of fauna elements (bivalves, reptiles, birds and mammals), areas close to the water source, under stones and rocks, rock crevices, tree hollows, etc. within the project area and impact area were checked. No traps were set in order not to harm the fauna. Fauna data were collected by utilizing literature studies, especially articles and scientific reports on faunistic researches conducted in the areas close to these areas.

Endemic, Rare and Threatened Fauna Species and Threat Categories

a) Endemic, Rare or Endangered Fauna Species

Amphibian, reptile, bird and mammal species, which were determined to be distributed in the project area and impact area as a result of field, literature and survey studies, were evaluated in their own sections.

b) IUCN Threat Categories

The IUCN "Red List of Species in Danger of Extinction" ("IUCN Red List") is the most comprehensive Global Conservation status inventory of plant and animal species in the world. The IUCN Red List is maintained by the International Union for Conservation of Wildlife and Natural Resources.

The categories were classified into 9 groups (Table 42 and Figure 38). In this classification, extinction rate, population size, geographical distribution areas, population and distribution degree criteria were taken into consideration.

Table 42 IUCN Categories and their meanings

IUCN Categories	Meanings
Evaluated	Under evaluation

IUCN Categories	Meanings
Not Evaluated (NE)	Not evaluated
Adequate data	Sufficient data available
Data Deficient (DD)	Not enough data available (data missing)
Extinct (EX)	Completely extinct, extinct species
Extinct in the Wild (EW)	Extinct species in the wild
Critically Endangered (CR)	Species in significant danger of extinction
Endangered (EN)	Species in danger of extinction
Vulnerable (VU)	Species in danger of future extinction unless conservation measures are taken
Near Threatened (NT)	Almost threatened
Least Concern (LC)	Least worried species

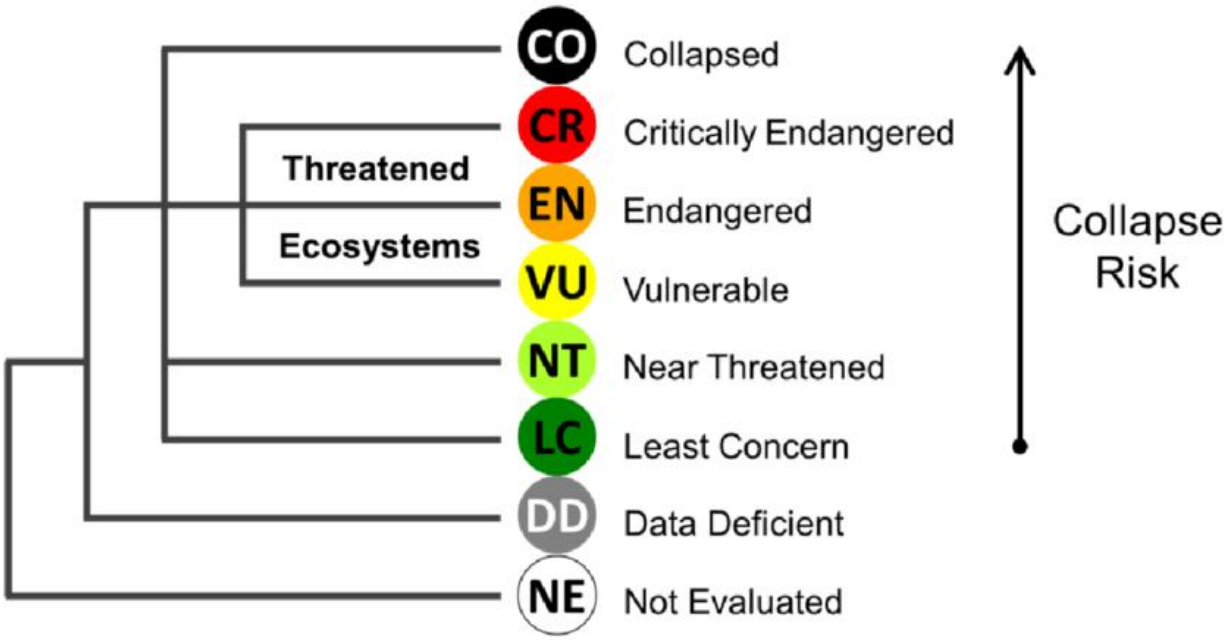


Figure 38 IUCN Risk Classes

c) Convention for the Conservation of Wildlife and Habitats in Europe (Bern)

The Bern Convention is a convention to protect wild flora and fauna and their habitats, to ensure that necessary measures are taken for endangered or endangered species, and to ensure the dissemination of wild flora and fauna education. Annex lists and explanations of the Bern Convention are given in Table 43.

Table 43 BERN Convention Annex Lists and Explanations

LIST OF ANNEXES	EXPLANATIONS
ANNEX I	Strictly protected flora species
ANNEX II	Strictly protected fauna species (SPFS- Strictly Protected Fauna Species)
ANNEX III	Protected fauna species (PFS- Protected Fauna Species)

e) 2023-2024 Central Hunting Commission Decision (MAKK)

In addition; "2023-2024 Central Hunting Commission Decisions" entered into force by the Republic of Turkey Ministry of Agriculture and Forestry General Directorate of Nature Conservation and National Parks have been included in the relevant lists.

The Central Hunting Commission convenes every year within the framework of the authority it receives from the Land Hunting Law No. 4915 and determines the game animals to be protected throughout the country in that hunting period, the game animals to be allowed to be hunted and their hunting periods, times and days, hunting amounts, prohibited hunting tools and equipment, hunting areas to be prohibited, hunting principles and procedures for combat purposes *(*www.milliparklar.gov.tr). Central Hunting Commission Decisions and Explanations are given below (Table 44).

Table 44 Central Hunting Commission Decisions and Explanations (MAK)

MAK LISTS	EXPLANATIONS
ANNEX 1	Game Animals Protected by the Central Hunting Commission
ANNEX 2	Game Animals Permitted to Hunt by the Central Hunting Commission for Specified Periods

f) Red Data Book Categories and Descriptions Used for Ornithofauna

The Red Data Book categories determined by Prof. Dr. İlhami Kiziroğlu for bird species are given below. The explanation of the symbols used for the conservation status and status of the bird species in the table is as follows.

A.1.0= Species that have disappeared beyond any doubt and are no longer seen in their natural habitat.

A.1.1= Domesticated, domesticated species whose natural populations are now extinct or have not been seen in their natural habitat for at least the last fifteen to twenty-five years, but continue to live in voles, cages and other artificial conditions.

A.1.2= Populations of these species are very low throughout Turkey. They are represented by **1 individual - 10 pairs** (=1- 20 individuals) in the regions where they are monitored.

A.2= The numbers of these species range between **11-25 pairs** (22-50 individuals) in the areas where they are observed. They are significantly threatened with extinction.

A.3= Populations of these species in Turkey generally range between (52- 500) individuals in the regions where they are observed. These species are also vulnerable to extinction and have a high risk of extinction in the wild.

A.3.1= Populations of these species are declining in the areas where they are observed. The population of these species also varies between **251- 500 pairs** (502- 1000 individuals).

A.4= The densities of these species according to IUCN and ATS criteria are not yet threatened with extinction in the regions where they are observed, but there is a local decrease in their populations and they are candidates to become threatened with extinction in time. Populations of these species range between **501- 5000 pairs** (=1002- 10 000 individuals) in the regions where they are observed.

A.5= The observed populations of these species are not yet threatened with decline or extinction.

A.6= Includes species that have not been adequately researched and for which there is no reliable data. Since they are based on one or at most two observations only as **"incidental species= RT", there** is currently no chance of a reliable assessment and they need to be researched

A.7= It is not possible to make an assessment of these species at this time because the records of these species in Turkey are not complete and reliable. Species categorized as **NE: (not evaluated)** according

to IUCN criteria are included in this group. These include species whose compliance with the above criteria has not been fully evaluated so far. they are marked with "*" in the relevant tables.

Species in group **"B"** are either winter visitors or transit migrants. These species are significantly threatened with extinction and will be subject to the same assessment as in group "A". Therefore, the criteria in steps B.1.0 - B.7 will also be used for the species in group "B":

B1.0= There are no examples of species in this status that were previously recorded as wintering in Turkey but are now extinct.

B.1.1= These species use Turkey as a wintering or transit area, but their populations are threatened with significant extinction. The natural populations of birds in their wintering grounds are now extinct: they are domesticated species that survive in voliers, cages and other artificial conditions. These species have no chance of surviving in the wild. If they are released into the wild, it is no longer possible for them to adapt to natural living conditions.

B.1.2= The populations of these species are very low throughout Turkey and are represented by **1 individual - 10 pairs** (1- 20 individuals) in the regions where they are monitored. Since these species are under great threat of extinction, they must be protected throughout Turkey.

B.2= The numbers of these species range from **11 to 25 pairs** (22 to 50 individuals) in the areas where they are observed. These species are significantly threatened with extinction.

B.3= Populations of these species in Turkey generally range between **26-50 pairs** (52-500 individuals) in the regions where they are observed. Species in great danger of extinction in the wild. These species are also vulnerable to extinction and in great danger of extinction in the wild.

B.3.1= Populations of these species are declining in the areas where they are observed. Their population also ranges between **251- 500 pairs** (502- 1000 individuals). It includes species that tend to decline in the areas where they are observed, according to previous records.

B.4= Population densities of these species are not yet threatened with extinction in the areas where they are observed, but there is a localized decline in their populations. These species are candidates to be threatened with extinction in time. Populations of these species range between **501- 5000 pairs** (1002- 10 000 individuals) in the areas where they are observed.

B.5= The observed populations of these species are not yet in decline or threatened with extinction.

B.6= Includes under-researched and poorly recorded species. Since they are based on fewer than two observations as **"chance species= RT"** only, there is currently no chance for a reliable assessment and need to be investigated.

B.7= It is not possible to make an assessment of these species at this time because their records are few, uncertain and unreliable.

K: Winter visitors These species are mostly of western origin and come to spend the winter in warmer regions of Turkey, mainly the Lake District and wetlands further south.

T: Transit migrants These species use Anatolia during their spring and fall migrations.

R: Random species These are characterized by irregular records and very low numbers of individuals.

N: Rare species are species that do not fall under the above statuses and for which there is no reliable, sufficient and healthy data.

Faunistic Analysis

a. Bivalves (Amphibia)

The name amphibians, or bivalves, means those with a double life. This is because many amphibian species spend their lives partly in water and partly on land. Amphibians have no scales, plates, bristles, etc. on their skin. In other words, their skin is bare and contains plenty of glands that keep it moist. They usually undergo metamorphosis and turn into a juvenile individual with an adult appearance. Adults are carnivorous. They generally cannot tolerate drought and salinity. There are 3 types of amphibians that are quite different from each other in terms of appearance; Tailless Frogs (Anura), Tailed Frogs (Salamanders) (Urodela) and Legless Frogs (Apoda), which look like snakes or worms at first glance.

It has been determined that 2 amphibian species are distributed in the project vicinity and in areas close to the project vicinity. All 2 species are in the "LC" category according to the IUCN red list. According to the Bern Convention; 1 specie distributed in and around the project area is included in the Annex-III list and 1 specie is included in the Annex-II list. According to the Central Hunting Commission Decisions (MAK); none of these species are included in the additional lists of the Central Hunting Commission Decisions. Information on the amphibian species found and likely to be found in the area after the studies carried out within the scope of the Project is given in Table 45.

Table 45 Species of Bivalves Found and Likely to be Found in the Project Area and its Near Environment and Their Conservation Status

Family	Scientific Name	IUCN	BERN	MAKK	Form of Detection
Bufonidae	*Bufo bufo*	LC	ANNEX III	U	L
Bufonidae	*Bufo viridis*	LC	ANNEX II	U	L

Abbreviations U: Unlisted, L: Literature, F: Field.

b. Reptilia (Reptiles)

The class of reptiles (Reptilia) is composed of six groups, namely the calachians (Rhynchocephalia), turtles (Chelonia, Testudinata), crocodiles (Crocodilia), lizards (Sauria), blind lizards (Amphisbaenia) and snakes (Ophidia, Serpentes). Three of these, lizards, blind lizards and snakes, form the order Squamata. Reptiles are included in the Tetrapoda or "land vertebrates" group of vertebrates, but snakes and some lizards lack feet. Reptiles reproduce by laying eggs, although some are viviparous. Some lizards and snakes also reproduce parthenogenetically.

It has been determined that 8 reptile species are distributed in the project vicinity and in areas close to the project vicinity. According to the IUCN red list, 2 species are in the "NE", 1 species is in the "VU" and 5 species are in the "LC" category. According to the Bern Convention; 5 species distributed throughout the province are listed in Annex-II and 3 species in Annex-III. According to the Central Hunting Commission Decisions (MAK); 3 species are included in the Annex-1, 5 species are not included in the additional lists of the Central Hunting Commission Decisions. Information on the reptile species found and likely to be found in the area after the studies carried out within the scope of the Project is given in Table 46.

Table 46 Reptile Species Found and Likely to be Found in the Project Area and its Vicinity and Their Conservation Status

Family	Scientific Name	IUCN	BERN	MAKK	Form of Detection
Agamidae	*Ophisaurus apodus*	LC	ANNEX II	ANNEX I	L
Colubridae	*Elaphe quatuorlineata saoromates*	LC	ANNEX II	U	L
Colubridae	*Eirenis modestus*	LC	ANNEX III	ANNEX I	L
Lacertidae	*Ophisops elegans macrodactylus*	NE	ANNEX II	U	L
Scincidae	*Mayuba aurata*	NE	ANNEX III	U	L
Scincidae	*Ablepharus kitaibelli kitaibelii*	LC	ANNEX II	U	L
Testudinidae	*Testudo graeca*	VU[24]	ANNEX II	ANNEX I	L + F
Typhlopidae	*Typhlops vermicularis*	LC	ANNEX III	U	L

Abbreviations U: Unlisted, L: Literature, F: Field.

c. Birds (Aves)

Birds belong to the class of vertebrates between reptiles and mammals. Their most characteristic feature is that their front limbs are transformed into wings for flight. They are also warm-blooded (constant temperature) and their bodies are covered with feathers. They have a light skeletal structure because their bones are hollow.

It is known that 9916 bird species live in the world (Green and Moorhouse, 1995). According to the International Union for Conservation of Wildlife and Natural Resources (IUCN), there are 10,064 bird species in the world (Anonymous, 2012). According to some records, there are 10,052 bird species in the world (Anonymous, 2013). According to Newton and Dale (2001), the Palearctic region covers 14% of the world's bird genera and 10% of bird species. Cox (2010) stated that there are 9930 bird species belonging to 204 families in the world, 2600 species from at least 141 families migrate and this number constitutes approximately 26.2 percent of all species.

Although the number of bird species in our country varies according to different sources, it is 474 according to Kuşbank records and 484 according to the updated Turkey's Anonymous Birds (Trakuş) 2015 October records. With the latest updates, this number has increased to 513 (Kiziroğlu, 2015).

It has been determined that 29 bird species belonging to 14 families are distributed in the project vicinity and in the areas close to the project vicinity. Of these species, 1 is winter visitor, 21 are native and 7 are transit. According to the IUCN red list, all of the 29 species are in the "LC" category. According to the Bern Convention; 14 species distributed throughout the province are listed in Annex-II and 10 species in Annex-III. According to the Central Hunting Commission Decisions (MAK); 13 species are on the Annex-I list, 6 species are on the Annex-II list and 5 species are on the Annex-III list. Information on the bird species found and likely to be found in the area after the studies carried out within the scope of the project is given in Table 47.

Table 47 Bird Species Found and Likely to be Found in the Project Area and its Vicinity and Their Protection Status

Family Name	Scientific Name	IUCN	BERN	MAKK	Status	RDB	Form of Detection
Accipitridae	*Accipiter nisus*	LC	ANNEX II	ANNEX I	N	A.4	L
Accipitridae	*Buteo buteo*	LC	ANNEX II	ANNEX I	N	A.3	L
Accipitridae	*Buteo rufinus*	LC	ANNEX II	ANNEX I	N	A.2	L
Accipitridae	*Circaetus gallicus*	LC	ANNEX II	ANNEX I	T	A.1.2	L

[24] Even though tortoise (Testudo graece) categorized as 'VU' according to IUCN, it is a widely spread reptile species found in every region except the Eastern Black Sea region in Turkiye. It is generally found in dry, stony and sandy terrains.

Family Name	Scientific Name	IUCN	BERN	MAKK	Status	RDB	Form of Detection
Alaudidae	*Galerida cristata*	LC	ANNEX III	ANNEX II	N	-	F
Columbidae	*Columba livia*	LC	ANNEX III	ANNEX III	N	A.5	F
Columbidae	*Columba palumbus*	LC	U	ANNEX II	N	A.4	L+F
Columbidae	*Streptopelia decaocto*	LC	ANNEX III	ANNEX II	N	A.5	L
Corvidae	*Corvus cornix*	LC	ANNEX III	U	N	A.5	L
Corvidae	*Corvus frugilegus*	LC	U	ANNEX III	N	A.5	L
Corvidae	*Pica pica*	LC	U	ANNEX III	N	A.5	L
Cuculidae	*Cuculus canorus*	LC	ANNEX III	U	T	A.2	L
Emberizidae	*Emberiza calandra*	LC	ANNEX III	ANNEX I	N	A.4	L
Emberizidae	*Emberiza cia*	LC	ANNEX II	ANNEX I	N	-	L
Emberizidae	*Emberiza melanocephala*	LC	ANNEX II	U	T	A.4	L
Emberizidae	*Miliaria calandra*	LC	ANNEX III	ANNEX II	N	-	L
Falconidae	*Falco tinnunculus*	LC	ANNEX II	ANNEX I	N	A.4	L
Fringillidae	*Carduelis carduelis*	LC	ANNEX II	U	N	A.3.1	L
Fringillidae	*Carduelis chloris*	LC	ANNEX II	ANNEX I	N	A.4	L
Fringillidae	*Fringilla coelebs*	LC	ANNEX III	ANNEX II	N	-	L
Hirundinidae	*Delichon urbicum*	LC	ANNEX II	ANNEX I	T	A.4	L
Hirundinidae	*Hirundo rustica*	LC	ANNEX II	ANNEX I	T	A.5	L
Muscicapidae	*Muscicapa striata*	LC	ANNEX II	U	T	A.3	L
Passeridae	*Passer domesticus*	LC	U	ANNEX III	N	A.5	L+F
Strigidae	*Athene noctua*	LC	ANNEX II	ANNEX I	N	A.3	L
Sturnidae	*Sturnus vulgaris*	LC	U	ANNEX II	N	A.5	L
Turdidae	*Oenanthe oenanthe*	LC	ANNEX II	ANNEX I	T	A.3	L
Turdidae	*Turdus pilaris*	LC	ANNEX III	ANNEX I	WV	B.2	L
Turdidae	*Turdus merula*	LC	ANNEX III	ANNEX III	N	A.3	L

Abbreviations U: Unlisted, L: Literature, F: Field, T: Transit, SV: Summer Visitor, WV: Winter Visitor, N: Native.

g. Mammals (Mammalia)

It has been determined that 15 mammal species are distributed in the Project vicinity and in areas close to the Project vicinity. 12 of them are in the "LC" category and 1 of them is in the “DD” category according to the IUCN red list. According to the Bern Convention; 1 specie is listed in Annex-II and 2 species in Annex-III. According to the Central Hunting Commission Decisions (MAK), 2 species are on the Annex-I list, 2 species are on the Annex-II list and 1 specie is on the Annex-III list. Information on the mammal species found and likely to be found in the area after the studies carried out within the scope of the Project is given in Table 48.

Table 48 Mammal Species Found and Likely to be Found in the Project Area and its Vicinity and Their Conservation Status

Family	Scientific Name	IUCN	BERN	MAKK	Form of Detection
Canidae	*Canis aureus*	LC	U	ANNEX III	L
Canidae	*Canis familiaris*	U	U	U	F
Canidae	*Canis lupus*	LC	ANNEX II	U	L
Canidae	*Vulpes vulpes*	LC	U	ANNEX II	L
Cricetidae	*Cricetulus migratorius*	LC	U	U	L
Cricetidae	*Microtus guentheri*	LC	U	U	L
Erinaceidae	*Erinaceus concolor*	LC	U	ANNEX I	L+F
Leporidae	*Lepus europaeus*	LC	U	ANNEX II	L
Muridae	*Apodemus mystacinus*	LC	U	U	L
Muridae	*Rattus norvegicus*	LC	U	U	L
Muridae	*Mus musculus*	U	U	U	L
Mustelidae	*Mustela nivalis*	LC	U	ANNEX I	L

Family	Scientific Name	IUCN	BERN	MAKK	Form of Detection
Soricidae	*Crocidura leucodon*	LC	ANNEX III	U	L
Spalacidae	*Spalax leucodon*	DD	U	U	L
Vespertilionidae	*Pipistrellus pipistrellus*	LC	ANNEX III	U	L

Abbreviations LD: Unlisted, L: Literature, F: Field.

Protected Areas

Nationally Protected Areas

Desktop studies and literature research were conducted utilizing databases from relevant institutions within the scope of the Project to locate and evaluate protected places within the Project Area and its near vicinity.

The Project Area contains no national parks, nature parks, nature monuments, or nature reserve areas as specified in Articles 2 and 3 of the National Parks Law. The Land Hunting Law in the Project Area does not establish Wildlife Protection Areas, Wildlife Development Areas, or Wild Animal Nestling Areas. The nearest protected areas to the Project area are İtecik Tulip Nature Reserve Area and Göğem Zafer Natural Park. İtecik Tulip Nature Reserve Area Göğem Zafer Natural Park are 18 km and 11 km away from the Project Area, respectively.

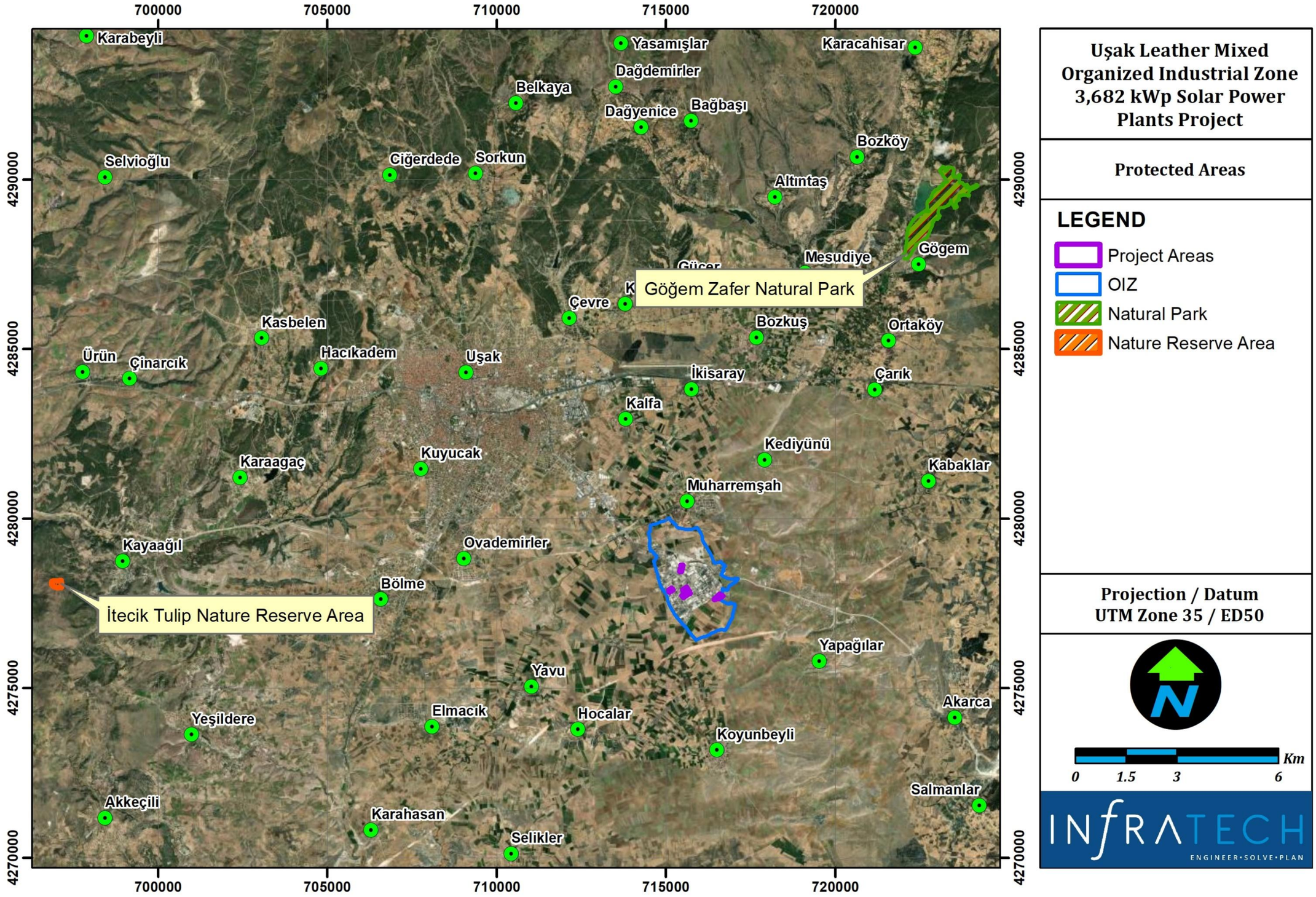
Within the area of influence of the Project, there is no sensitive water body determined in accordance with the provisions of the Regulation on the Determination of Sensitive Water Bodies and Areas Affecting These Water Bodies (Official Gazette dated 23.12.2016 and numbered 29927).

Internationally Recognized Areas

Internationally recognized areas exclusively defined according to WB ESS6 (2012) are UNESCO World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas (KBA), Important Bird Areas, and AZE Sites.

The Project areas will not be located within any internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and AZE Sites. The nearest internationally recognized area is Murat Mountain, 14 kilometres away.

The protected areas map showing the Project area and its immediate surroundings is given in Figure 39.



Uşak Leather Mixed Organized Industrial Zone 3,682 kWp Solar Power Plants Project

Protected Areas

LEGEND

- Project Areas
- OIZ
- Natural Park
- Nature Reserve Area

Projection / Datum
UTM Zone 35 / ED50

0 1.5 3 6 Km

INFRATECH ENGINEER•SOLVE•PLAN

Figure 39 Protected Areas

ANNEX-7: AIR QUALITY IMPACT CALCULATIONS

Pre-Construction Phase

In the pre-construction phase of the Project, topsoil stripping will be carried out during the land preparation process. In the feasibility report of the Project prepared in November 2020, the total Project area was given as 25.6 decares and total construction area determined as 22.4 decares. It is estimated that a minimum of 30 cm of topsoil stripping will be carried out. Table 49 showing the dust emission factors is given below to calculate the dust emissions resulting from the topsoil stripping process.

Table 49 Dust Emission Factor

Sources	Emission Factors		Unit
	Uncontrolled	Controlled	
Dismantling/Excavation	0.025	0.0125	kg/ton
Loading	0.010	0.0050	
Unloading	0.010	0.0050	
Storage	5.800	2.9000	
Transportation (total distance of round trip)	0.700	0.3500	kg/km- vehicle

Source: Industrial Air Pollution Control Regulation, Appendix 12.

- Volume of topsoil to be stripped = Area x Height = Volume
- Selected average depth of topsoil stripped is 0.3 m

= 20,183 m^2 (area determined based on desk studies) x 0.30 m = 6,055 m^3

- Density of topsoil: 1.6 ton/m^3 (based on desk studies)
- Amount of topsoil to be stripped: 6,055 m^3 x 1.6 ton/m^3 = 9,688 ton
- Duration of pre-construction phase of Project = 60 days
- Daily amount of topsoil to be stripped: 9,688 ton/60 days = 161.47 ton/day
- One working day = 8 hours;
- Hourly amount of topsoil to be stripped: 161.47 ton/day x 1 day/8 hours = 20.18 ton/hour
- Storage area = Area = Volume / Height

= 6,055 m^3 / 2.5 m (assumed average storage height) = 0.242 ha

Uncontrolled emissions:

Uncontrolled emissions amount of dismantling/excavation works is calculated by multiplying the related dismantling/excavation factor (see Table 49) with working time of topsoil stripping and daily amount of topsoil stripped. Similarly, uncontrolled emissions amount sourced by excavation storage is calculated by multiplying related factor given in Table 49 with the storage area of the excavated material. Storage area is calculated in the previous paragraph by dividing volume of excavated soil (also given in previous paragraph) with assumed average height of the stored excavation (2.5 m).

Amount of PM_{10} emissions (dismantling/excavation):
Dismantling/Excavation emission factor (uncontrolled): 0.025 kg/ton (see Table 49)
One working day = 8 hours;
Hourly excavated mass = 161.47 ton/day x 1/8 day/hour = 20.18 ton/hour (unit conversion)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor
= 20.18 ton/hour * 0.025 kg/ton = **0.50 kg/hour**

Amount of PM_{10} emissions (loading):
Loading emission factor (uncontrolled): 0.010 kg/ton (see Table 49)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor
= 20.18 ton/hour * 0.010 kg/ton = **0.20 kg/hour**

Amount of PM_{10} emissions (Transportation):

Transportation emission factor (uncontrolled): 0.700 kg/km-vehicle (see Table 49)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor x Round trip x Capacity of Vehicle
= (20.18 ton/hour * 0.700 kg/km-vehicle * 0,5 km) / 30 ton/vehicle= **0.124 kg/hour**

Amount of PM_{10} emissions (unloading to storage area):
Unloading emission factor (uncontrolled): 0.010 kg/ton (see Table 49)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor
= 20.18 ton/hour * 0.010 kg/ton = **0.20 kg/hour**

Amount of PM_{10} emissions (storage):
Storage emission factor (uncontrolled): 5.8 kg/ha (see Table 49)
Average storage time = 1 day (assumption)
Amount of PM_{10} emissions = Storage area x Related factor x Average storage time
= 0.242 ha x 5.8 kg/ha x 1 day x 1/24 day/hour = **0.058 kg/hour**

Controlled emissions:

Controlled emissions amount of dismantling/excavation works is calculated by multiplying the related dismantling/excavation factor (see Table 49) with working time of topsoil stripping and daily amount of topsoil stripped. Similarly, controlled emissions amount sourced by excavation storage is calculated by multiplying related factor given in Table 49 with the storage area of the excavated material. Size of the storage area is same with uncontrolled emissions calculations.

Amount of PM_{10} emissions (dismantling/excavation):
Dismantling/Excavation emission factor (controlled): 0.0125 kg/ton (see Table 49)
Amount of PM_{10} emissions: Hourly excavated material amount x Related factor
= 20.18 ton/hour * 0.0125 kg/ton = **0.25 kg/hour**

Amount of PM_{10} emissions (loading):
Loading emission factor (controlled): 0.005 kg/ton (see Table 49)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor
= 20.18 ton/hour * 0.005 kg/ton = **0.101 kg/hour**

Amount of PM_{10} emissions (Transportation):
Transportation emission factor (controlled): 0.350 kg/km-vehicle (see Table 49)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor x Round trip x Capacity of Vehicle
= (20.18 ton/hour * 0.350 kg/km-vehicle * 0,2 km) / 30 ton/vehicle= **0.062 kg/hour**

Amount of PM_{10} emissions (unloading to storage area):
Unloading emission factor (controlled): 0.005 kg/ton (see Table 49)
Amount of PM_{10} emissions = Hourly excavated material amount x Related factor
= 20.18 ton/hour * 0.005 kg/ton = **0.101 kg/hour**

Amount of PM_{10} emissions (storage):
Storage emission factor (controlled): 2.9 kg/ha (see Table 49)
Average storage time = 1 day (assumption)
Amount of PM_{10} emissions = Storage area x Related factor x Average storage time
= 0.242 ha x 2.9 kg/ha x 1 day x 1/24 hours = **0.029 kg/hour**

Exhaust Emissions

In addition to the dust emissions, there will be exhaust emissions of heavy construction machinery. Primary emissions from exhaust gases of vehicles are CO, SO_2, NO_x, PM_{10} and $PM_{2.5}$. Emission characteristics depend on parameters such as; age of the vehicle, engine speed, working temperature, ambient temperature and pressure, type and quality of fuel. The equipment to be used during pre-construction phase is given in Table 50.

Table 50 Equipment List to be Used During Pre-construction Phase

Construction Machinery/Equipment	Number
Truck	1
Loader	1

Dust and gas emission from vehicles are calculated as below. The emission factors for CO, SO_2, NO_x, PM_{10} and $PM_{2.5}$are given in Table 51.

Table 51 Emission Factors for 1 L Diesel Consumption

Pollutant	Emission Factor (g/L)
CO	0.49
SO_2	0.01
NOx	3.0
PM_{10}	0.12
$PM_{2.5}$	0,084[25]

Source: Environmental Protection Agency (EPA), 2023.

The diesel consumption by each construction vehicle is assumed as 25 L/hour. Total diesel consumption for 2 construction vehicles given in Table 51 is 50 L/hour. The results of calculation by using emission factors and diesel consumption of construction vehicles are as:

For CO: 50 L/h x 0.49 g/L = **0.0245 kg/h**
For SO_2: 50 L/h x 0.01 g/L = **0.0005 kg/h**
For NO_x: 50 L/h x 3.0 g/L = **0.15 kg/h**
For PM_{10}: 50 L/h x 0.12 g/L = **0.006 kg/h**
For $PM_{2.5}$: 50 L/h x 0.084 g/L = **0.0042 kg/h**

[25] The EPA recognizes that fine particulate matter ($PM_{2.5}$) generally constitutes a large proportion of PM10, often around **60-70%** in urban environments where combustion processes dominate.

Construction Phase

During the construction phase of the Project, the drying plant will be constructed on a concrete floor. No excavation activities will be carried out on the ground and side concrete walls will be installed for the installation of mixing equipment. The entire sludge drying plant will be constructed using Polycarbonate Sheet and Steel Construction. Therefore, there is an impact on air quality only due to exhaust gas from the machinery and equipment to be operated.

Primary emissions from exhaust gases of vehicles are CO, SO_2, NO_x, PM_{10} and $PM_{2.5}$. Emission characteristics depend on parameters such as; age of the vehicle, engine speed, working temperature, ambient temperature and pressure, type and quality of fuel. The construction machinery and equipment list are given in Table 52.

Table 52 Construction Machinery and Equipment List

Construction Machinery/Equipment	Number
Truck (concrete mixer)	2
Tower crane	2

Dust and gas emission from vehicles are calculated as below. In calculations, the emission factors for CO, SO_2, NO_x, PM_{10} and $PM_{2.5}$given in Table 51 are used.

The diesel consumption by each construction vehicle is assumed as 25 L/hour. Total diesel consumption by 4 construction vehicles given in Table 52 equals to 100 L/hour. The results of calculation by using emission factors and diesel consumption of construction vehicles are as:

For CO: 100 L/h x 0.49 g/L = **0.049 kg/h**
For SO_2: 100 L/h x 0.01 g/L = **0.001 kg/h**
For NOx: 100 L/h x 3.0 g/L = **0.300 kg/h**
For PM_{10}: 100 L/h x 0.12 g/L = **0.012 kg/h**
For $PM_{2.5}$: 100 L/h x 0.084 g/L = **0.0084 kg/h**

ANNEX-8: NOISE LEVEL CALCULATIONS

The total equivalent noise level created by noise sources is calculated with the help of the formula given below.

$$L_{wT} = 10 \times \log \sum_{i=1}^{n} 10^{\frac{L_{wi}}{10}} \qquad (1)\ (METU, 2023).$$

Where;

n: Number of noise sources
Lwi: Noise level (dBA) of each source
LwT: Total equivalent noise level

The noise level originating from the machine/equipment and reaching a certain distance is calculated by the formula below.

$$L_p = L_{wT} + 10 \times \log \frac{Q}{4\pi r^2} \qquad (2)\ (SRL,1988).$$

Where;

Q: 1
r: Distance (m)
Lp: Noise level (dBA)

Pre-construction Phase

The equipment to be used in the pre-construction phase and their noise levels are given below.

Table 53 Noise Levels of Machinery/Equipment

Equipment	Number	Lwi
Loader	1	104
Truck	1	108

Using the information given in Table 53 and the formula numbered 1, total equivalent noise level is calculated as 109.5 dBA.

In addition, using formula numbered 2, the noise levels depending on distance for pre-construction phase are calculated and given in Table 54.

Table 54 Noise Levels of Depending on Distance

Distance (m)	Lp (dBA)	Project Standard (dBA)
15	74.9	55
50	64.5	55
100	58.5	55
200	52.4	55
300	48.9	55
400	46.4	55
500	44.5	55
600	42.9	55
700	41.6	55
800	40.4	55
900	39.4	55
1000	38.5	55
1500	34.9	55
2000	32.4	55
2500	30.5	55

Construction Phase

The equipment to be used in the construction phase and their noise levels are given below.

Table 55 Noise Levels of Machinery/Equipment

Equipment	Number	Lwi
Truck (concrete mixer)	2	104
Tower crane	2	115

Using the information given in Table 55 and the formula numbered 1, total equivalent noise level is calculated as 118.6 dBA.

In addition, using formula numbered 2, the noise levels depending on distance for pre-construction phase are calculated and given in Table 56.

Table 56 Noise Levels of Depending on Distance

Distance (m)	Lp (dBA)	Project Standard (dBA)
15	83.8	55
50	73.4	55
100	67.4	55
200	61.3	55
300	57.8	55
400	55.3	55
500	53.4	55
600	51.8	55
700	50.5	55
800	49.3	55
900	48.3	55
1000	47.4	55
1500	43.8	55
2000	41.3	55
2500	39.4	55

ANNEX-9: CHANCE FIND PROCEDURE

1. Introduction

Uşak Leather Mixed OIZ is responsible to avoid or mitigate any potential impacts of the Activities on the physical or cultural resources. It is anticipated that the project sites are selected such that there would not be any overlapping with archaeological and heritage sites/assets within the project impact area. However, there is still a possibility of encountering some unknown archaeological sites and cultural heritage assets as a Chance Find during project activities. A chance find means potential cultural heritage objects, features or sites that are identified outside of a formal site reconnaissance, normally as a result of construction monitoring. Thus, this document aims to outline the procedure and respective responsibilities in relation to the management of Chance Finds during construction works.

2. Roles and Responsibilities

Uşak Leather Mixed OIZ and all the contractors are responsible to comply with the procedure during the project construction activities. In this regard, Uşak Leather Mixed OIZ would be providing training to their and contractors' employees involved in supervision and construction works regarding the procedure. Mainly a chance find could be encountered during the pre-construction and ground disturbance (e.g., excavation and levelling) activities. Thus, the procedure has to be implemented day to day at this stage.

3. Chance Find Process and Procedure

The step-by-step process and procedure to be followed upon a chance find discovery is provided below. In the case of any chance find, as detailed below, the Contractor will give due consideration and follow the necessary steps.

Step 1 - After the discovery of a chance find:

- All work must cease at the location where discovery is made
- A temporary buffer zone around the chance find will be put in place
- Contractor contacts the Uşak Leather Mixed OIZ and the archaeological museum in the province is informed immediately
- Chance find location is secured through flagging, or no-entry signs, etc.
- Chance find should not be moved, removed or further disturbed

Step 2 – Recording

- Chance Find Form Part A is filled in by the contractor and sent to Uşak Leather Mixed OIZ and a copy is filed for records

Step 3 – Contact with local authority

- The contractor notifies the relevant Governmental Archaeological Museum in the Province for the chance find

Step 4 – Authority's decision

The relevant Museum decides on the following path of actions for chance find area:

Step 4.A - No significance to site or finding

- The museum declares that the site/finding is considered to be of no significance
- Contractor informs the Uşak Leather Mixed OIZ
- Contractor records the decision on Part B of Chance Find form and sends a copy to the Uşak Leather Mixed OIZ
- A copy of Chance Find form Part B is kept for records
- No further actions required
- This step closes out the chance find procedure
- Construction activities may resume

Step 4.B – Significance to site

- The museum declares that the site/finding is considered to be of significance
- Museum decides on further actions and informs the contractor and the contractor informs the Uşak Leather Mixed OIZ
- Contractor records the decision on Part B of Chance Find form
- Proceed to Step 5

Step 5 – Site investigation

Step 5.A - After field investigation Museum declares the site/finding has minor significance

- Contractor informs the Uşak Leather Mixed OIZ
- Contractor records the decision on Part C of Chance Find form and sends a copy to the Uşak Leather Mixed OIZ
- A copy of Chance Find form Part B is kept for records
- No further actions required
- This step closes out the chance find procedure
- Construction activities may resume

Step 5.B - After field investigation Museum declares the site/finding has moderate significance

- Further studies such as test pit/salvage excavations or remote sensing investigation are to be completed
- Museum provides instructions, and/or supervision for the studies
- Contractor informs the Uşak Leather Mixed OIZ
- Uşak Leather Mixed OIZ provides an archaeological work team of qualified archaeologist and workers to work under the supervision of the museum.
- After excavation is completed, team provides a report to the museum directorate
- The museum directorate reports the study outcomes to the relevant Regional Preservation Board of Cultural Assets.
- The relevant Regional Preservation Board of Cultural Assets officially confirms completion of recovery and informs the Uşak Leather Mixed OIZ
- Contractor records the decision on Part C of Chance Find form and sends a copy to the Uşak Leather Mixed OIZ
- A copy of Chance Find form Part B is kept for records
- No further actions required

- This step closes out the chance find procedure
- Construction activities may resume

Step 5.C - After field investigation Museum declares the site/finding has major significance

- Salvage excavation is to be completed
- Site is to be treated according to Law on the Protection of Cultural and Natural Assets Law (No. 2863 dated 21.07.1983)
- Museum provides instructions, and/or supervision for test pit/salvage archaeological excavation
- Contractor informs the Uşak Leather Mixed OIZ
- Uşak Leather Mixed OIZ provides an archaeological work team of qualified archaeologist and workers to work under the supervision of the museum
- Once the excavation is completed, salvage excavation team provides a report to museum directorate
- The relevant Regional Preservation Board of Cultural Assets officially confirms completion of recovery and informs Uşak Leather Mixed OIZ
- Site will be officially recorded and protected according to Turkish regulations
- Contractor records the decision on Part C of Chance Find form and sends a copy to the municipality
- A copy of Chance Find form Part B is kept for records
- No further actions required
- This step closes out the chance find procedure
- Construction activities may resume or further actions need to be taken

It is important to note that in case human remains are found, all project team and the local authorities will be immediately notified.

4. Monitoring and Reporting

The contractor will monitor all construction or other ground disturbance activities for evidence of presence of cultural heritage items. Chance Finds will be recorded on the Chance Find Report form (see Annex-9.1). All Chance Find Report forms will be kept in hard copy at the site and will also be scanned and saved electronically. Any Chance Find will be recorded in the Chance Find Register (see Annex-9.2).

Annex 4-1 Chance Find Report Form

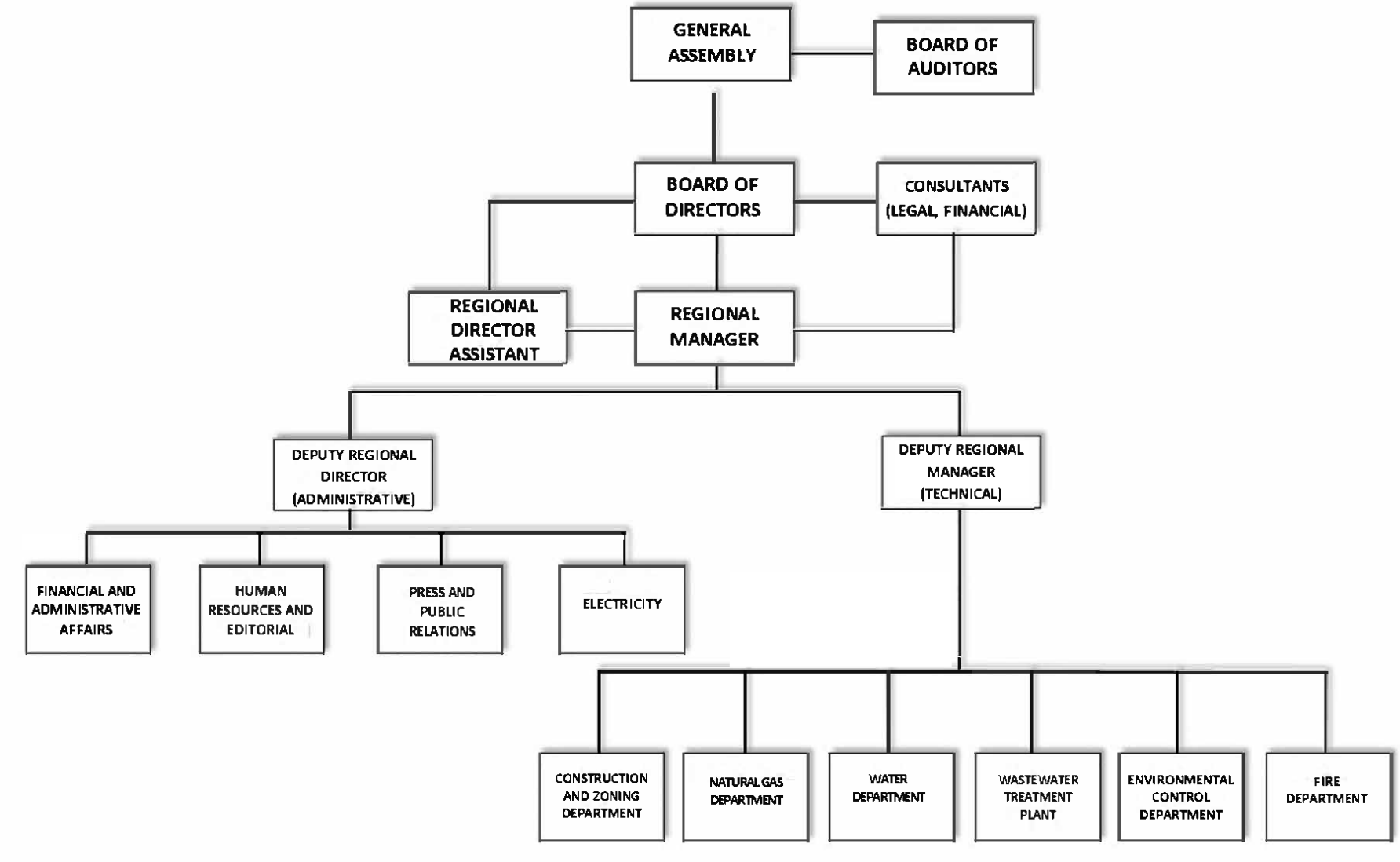
PART A			
Project Location (Province):	District: Neighborhood:	Date:	Form No:
Name of person reporting chance find:			
Was work stopped in the immediate vicinity of the chance find? ☐ Yes ☐ No			
Was a buffer zone created to protect the chance find? ☐ Yes ☐ No			
NOTIFICATION			
Municipality contacted ☐ Yes ☐ No			
CHANCE FIND DETAILS			
GPS coordinates		Photo record ☐ Yes ☐ No If not, explain why: Other records ☐ Yes ☐ No Specify (drawings, videos, etc.):	
Description of chance find:			
Description of site/finding and other specifications of site/finding (e.g. surface sediment type, ground surface visibility, etc.):			

PART B		
NOTIFICATION OF MUSEUM DIRECTORATE		
Contractor contacted museum directorate ☐ Yes ☐ No Date of notification: Name of museum directorate and Name of contact: Contact number of museum directorate representative:		
DECISION OF MUSEUM DIRECTORATE		
Date of site visit:		
☐ Site/Finding of no significance - Construction to proceed with no further action – End of chance find procedure Date of notice to resume work:	☐ Site/Finding of significance - Further actions required Please Fill out Part C	
Name of museum directorate representative/archeologist: Contact information:		
Municipality contacted ☐ Yes ☐ No		
PART C		
FURTHER FIELD INVESTIGATION		
☐ Site/Finding of minor significance	☐ Site/Finding of moderate significance	☐ Site/Finding of major significance
Describe additional work to be conducted:		
Date started:	Date completed:	
Date of notice to resume construction works:		
Name of museum directorate representative/archaeologist: Contact information:		
Municipality contacted ☐ Yes ☐ No		

Annex 4-2 Chance Find Register

Date of Find	Summary of Chance Find	Name of Authority Notified	Action Taken	Chance Find Form Completed	Status Open or Closed	Remarks

ANNEX-10: ORGANISATION CHART OF UŞAK LEATHER MIXED OIZ



ANNEX-11: ISO 9001 CERTIFICATE

SERTİFİKA

Bu Kalite Yönetim Sistemini
aşağıda bilgileri bulunan kuruluş için

UŞAK DERİ (KARMA) ORG. SAN. BÖL.

Karma OSB. 2. Cadde No: 20 Uşak Türkiye

Bağımsız olarak değerlendirmiş ve aşağıda yazılı standardın
gereksinimlerine uyumlu olduğu tespit edilmiştir

ISO 9001:2015

Bu sertifika, aşağıdaki ürün veya hizmet aralıkları için geçerlidir:

UKOSB Sorumlu Olduğu Organize Sanayi Bölgesi'nin; Ana Şebeke Üzerinden Gaz Yakıtların Dağıtımı, Elektrik Dağıtımı ve Satışı, Yol Altyapı ve Üst Yapı İşleri ile Atıksu Arıtma Tesisi İşletmesi Faaliyetlerini Yürütmektedir. Özellikle Sanayinin İhtiyaç Duyduğu Her Türlü Altyapı ve Üst Yapı Faaliyetini Eksiksiz Yerine Getirme, OSB'nin Gelişimine Yönelik Yatırımlar Yapma, Bunları Yaparken Sürdürülebilir Çevrenin Korunmasından Sorumludur.

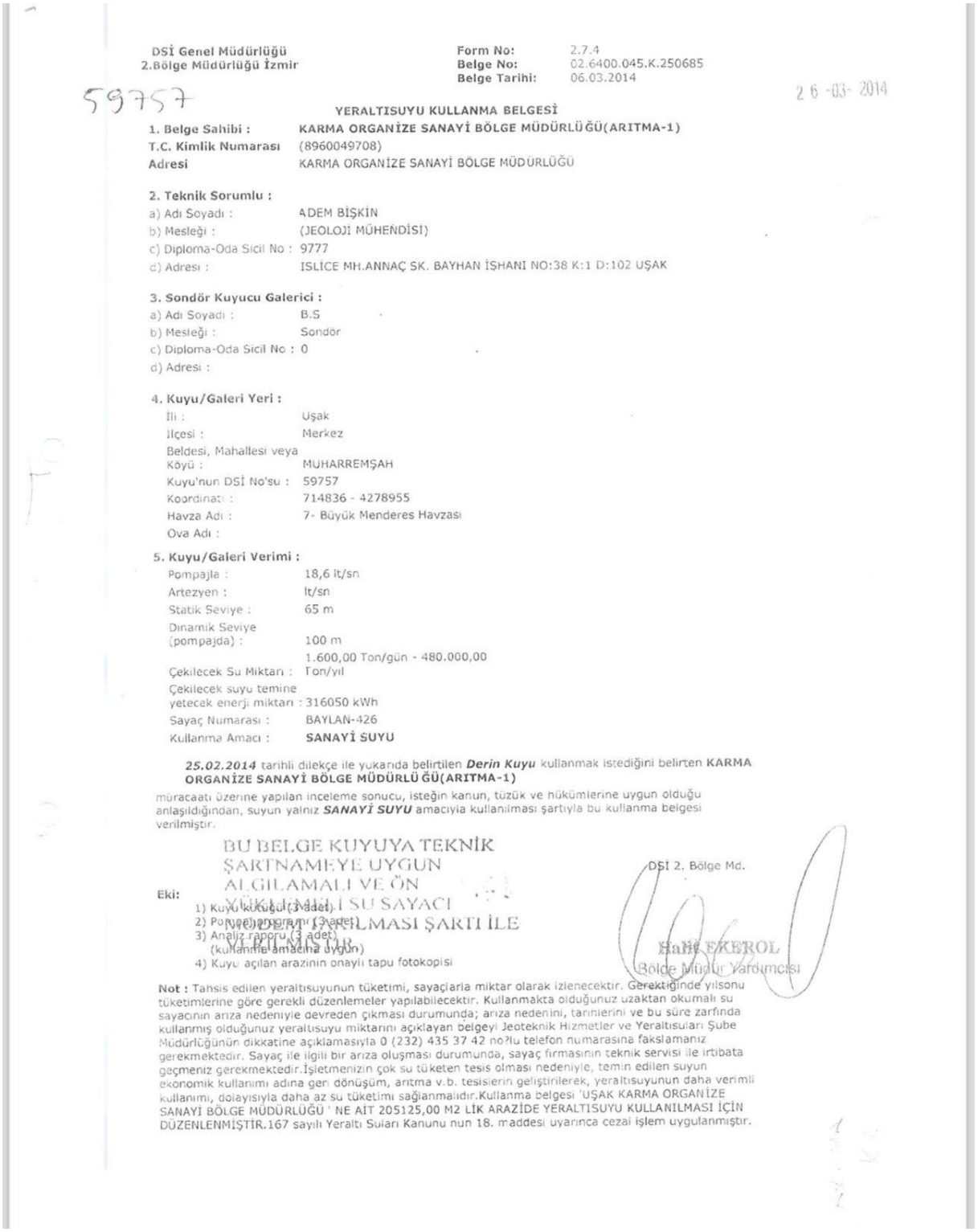
Sertifika No.: TR95426A

İlk kayıt tarihi	10 Ocak 2022
Sertifika tarihi	10 Ocak 2022
Gözetim denetim tarihi	09 Ocak 2023
Yeniden belgelendirme tarihi / Sertifika bitiş tarihi	09 Ocak 2025

Director

KAB-QC-71

ANNEX-12: GROUNDWATER UTILISATION CERTIFICATION



DSİ Genel Müdürlüğü
2.Bölge Müdürlüğü İzmir

Form No: 2.7.4
Belge No: 02.6400.045.K.250685
Belge Tarihi: 06.03.2014

59757

26-03-2014

YERALTISUYU KULLANMA BELGESİ

1. Belge Sahibi : KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ(ARITMA-1)
T.C. Kimlik Numarası (8960049708)
Adresi KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ

2. Teknik Sorumlu :
a) Adı Soyadı : ADEM BİŞKİN
b) Mesleği : (JEOLOJI MÜHENDİSİ)
c) Diploma-Oda Sicil No : 9777
d) Adresi : ISLİCE MH.ANNAÇ SK. BAYHAN İŞHANI NO:38 K:1 D:102 UŞAK

3. Sondör Kuyucu Galerici :
a) Adı Soyadı : B.S
b) Mesleği : Sondör
c) Diploma-Oda Sicil No : 0
d) Adresi :

4. Kuyu/Galeri Yeri :
İli : Uşak
İlçesi : Merkez
Beldesi, Mahallesi veya Köyü : MUHARREMŞAH
Kuyu'nun DSİ No'su : 59757
Koordinatı : 714836 - 4278955
Havza Adı : 7- Büyük Menderes Havzası
Ova Adı :

5. Kuyu/Galeri Verimi :
Pompajla : 18,6 lt/sn
Artezyen : lt/sn
Statik Seviye : 65 m
Dinamik Seviye (pompajda) : 100 m
Çekilecek Su Miktarı : 1.600,00 Ton/gün - 480.000,00 Ton/yıl
Çekilecek suyu temine yetecek enerji miktarı : 316050 kWh
Sayaç Numarası : BAYLAN-426
Kullanma Amacı : **SANAYİ SUYU**

25.02.2014 tarihli dilekçe ile yukarıda belirtilen ***Derin Kuyu*** kullanmak istediğini belirten **KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ(ARITMA-1)** müracaatı üzerine yapılan inceleme sonucu, isteğin kanun, tüzük ve hükümlerine uygun olduğu anlaşıldığından, suyun yalnız ***SANAYİ SUYU*** amacıyla kullanılması şartıyla bu kullanma belgesi verilmiştir.

BU BELGE KUYUYA TEKNİK ŞARTNAMEYE UYGUN ALGILAMALI VE ÖN YÜKLEMELİ SU SAYACI TESİS EDİLMESİ ŞARTI İLE VERİLMİŞTİR

DSİ 2. Bölge Md.

Bahir EKEROL
Bölge Müdür Yardımcısı

Eki:
1) Kuyu kütüğü (3 adet)
2) Pompaj programı (3 adet)
3) Analiz raporu (3 adet) (kullanma amacına uygun)
4) Kuyu açılan arazinin onaylı tapu fotokopisi

Not : Tahsis edilen yeraltısuyunun tüketimi, sayaçlarla miktar olarak izlenecektir. Gerektiğinde yılsonu tüketimlerine göre gerekli düzenlemeler yapılabilecektir. Kullanmakta olduğunuz uzaktan okumalı su sayacının arıza nedeniyle devreden çıkması durumunda; arıza nedenini, tarihlerini ve bu süre zarfında kullanmış olduğunuz yeraltısuyu miktarını açıklayan belgeyi Jeoteknik Hizmetler ve Yeraltısuları Şube Müdürlüğünün dikkatine açıklamasıyla 0 (232) 435 37 42 no?lu telefon numarasına fakslamanız gerekmektedir. Sayaç ile ilgili bir arıza oluşması durumunda, sayaç firmasının teknik servisi ile irtibata geçmeniz gerekmektedir.İşletmenizin çok su tüketen tesis olması nedeniyle, temin edilen suyun ekonomik kullanımı adına geri dönüşüm, arıtma v.b. tesislerin geliştirilerek, yeraltısuyunun daha verimli kullanımı, dolayısıyla daha az su tüketimi sağlanmalıdır.Kullanma belgesi 'UŞAK KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ ' NE AİT 205125,00 M2 LİK ARAZİDE YERALTISUYU KULLANILMASI İÇİN DÜZENLENMİŞTİR.167 sayılı Yeraltı Suları Kanunu nun 18. maddesi uyarınca cezai işlem uygulanmıştır.

DSİ Genel Müdürlüğü
2.Bölge Müdürlüğü İzmir

Form No: 2.7.4
Belge No: 02.6400.045.K.250683
Belge Tarihi: 06.03.2014

59755

26 -03- 2014

YERALTISUYU KULLANMA BELGESİ

1. Belge Sahibi : KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ(ARITMA-2)
T.C. Kimlik Numarası (8960049708)
Adresi KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ

2. Teknik Sorumlu :
a) Adı Soyadı : ADEM BİŞKİN
b) Mesleği : (JEOLOJİ MÜHENDİSİ)
c) Diploma-Oda Sicil No : 9777
d) Adresi : İSLİCE MH. ANNAÇ SOKAK BAYHAN İŞHANI NO:38K:1 D:102 UŞAK

3. Sondör Kuyucu Galerici :
a) Adı Soyadı : B.S.
b) Mesleği : Sondör
c) Diploma-Oda Sicil No : 0
d) Adresi :

4. Kuyu/Galeri Yeri :
İli : Uşak
İlçesi : Merkez
Beldesi, Mahallesi veya Köyü : MUHARREMŞAH
Kuyu'nun DSİ No'su : 59755
Koordinatı : 714838 - 4279073
Havza Adı : 7- Büyük Menderes Havzası
Ova Adı :

5. Kuyu/Galeri Verimi :
Pompajla : 9,3 lt/sn
Artezyen : lt/sn
Statik Seviye : 70 m
Dinamik Seviye (pompajda) : 105 m
Çekilecek Su Miktarı : 800,00 Ton/gün - 240.000,00 Ton/yıl
Çekilecek suyu temine yetecek enerji miktarı : 164609 kWh
Sayaç Numarası : BAYLAN-427
Kullanma Amacı : **SANAYİ SUYU**

25.02.2014 tarihli dilekçe ile yukarıda belirtilen ***Derin Kuyu*** kullanmak istediğini belirten **KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ(ARITMA-2)** müracaatı üzerine yapılan inceleme sonucu, isteğin kanun, tüzük ve hükümlerine uygun olduğu anlaşıldığından, suyun yalnız ***SANAYİ SUYU*** amacıyla kullanılması şartıyla bu kullanma belgesi verilmiştir.

BU BELGE KUYUYA TEKNİK ŞARTNAMEYE UYGUN ALGILAMALI VE ÖN ÖDEMELİ SU SAYACI MONTE EDİLMESİ ŞARTI İLE VERİLMİŞTİR.

DSİ 2. Bölge Md.

Halil EKEROL
Bölge Müdür Yardımcısı

Eki:
1) Kuyu Kütüğü (3 adet)
2) Pompaj programı (3 adet)
3) Analiz raporu (3 adet) (kullanma amacına uygun).
4) Kuyu açılan arazinin onaylı tapu fotokopisi

Not : Tahsis edilen yeraltısuyunun tüketimi, sayaçlarla miktar olarak izlenecektir. Gerektiğinde yılsonu tüketimlerine göre gerekli düzenlemeler yapılabilecektir. Kullanmakta olduğunuz uzaktan okumalı su sayacının arıza nedeniyle devreden çıkması durumunda; arıza nedenini, tarihlerini ve bu süre zarfında kullanmış olduğunuz yeraltısuyu miktarını açıklayan belgeyi Jeoteknik Hizmetler ve Yeraltısuları Şube Müdürlüğünün dikkatine açıklamasıyla 0 (232) 435 37 42 no?lu telefon numarasına faksiamanız gerekmektedir. Sayaç ile ilgili bir arıza oluşması durumunda, sayaç firmasının teknik servisi ile irtibata geçmeniz gerekmektedir.İşletmenizin çok su tüketen tesis olması nedeniyle, temin edilen suyun ekonomik kullanımı adına geri dönüşüm, arıtma v.b. tesislerin geliştirilerek, yeraltısuyunun daha verimli kullanımı, dolayısıyla daha az su tüketimi sağlanmalıdır.Kullanma belgesi 'UŞAK KARMA ORGANİZE SANAYİ BÖLGE MÜDÜRLÜĞÜ ' NE AİT 205125,00 M2 LİK ARAZİDE YERALTISUYU KULLANILMASI İÇİN DÜZENLENMİŞTİR.167 sayılı Yeraltı Suları Kanunu nun 18. maddesi uyarınca cezai işlem uygulanmıştır.

ANNEX-13: INDUSTRIAL WASTE MANAGEMENT PLAN

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

EVSEL VE ENDÜSTRİYEL ATIKSU ARITMA TESİSİ

Uşak ili, Merkez İlçesi, Deri (KARMA) Organize Sanayi Bölgesi 1.Cad. No:2-2/1

ENDÜSTRİYEL ATIK YÖNETİM PLANI

EYLÜL 2024

ATIK ÜRETİCİSİ:

1- Atık Üreticisinin İletişim Bilgileri:-

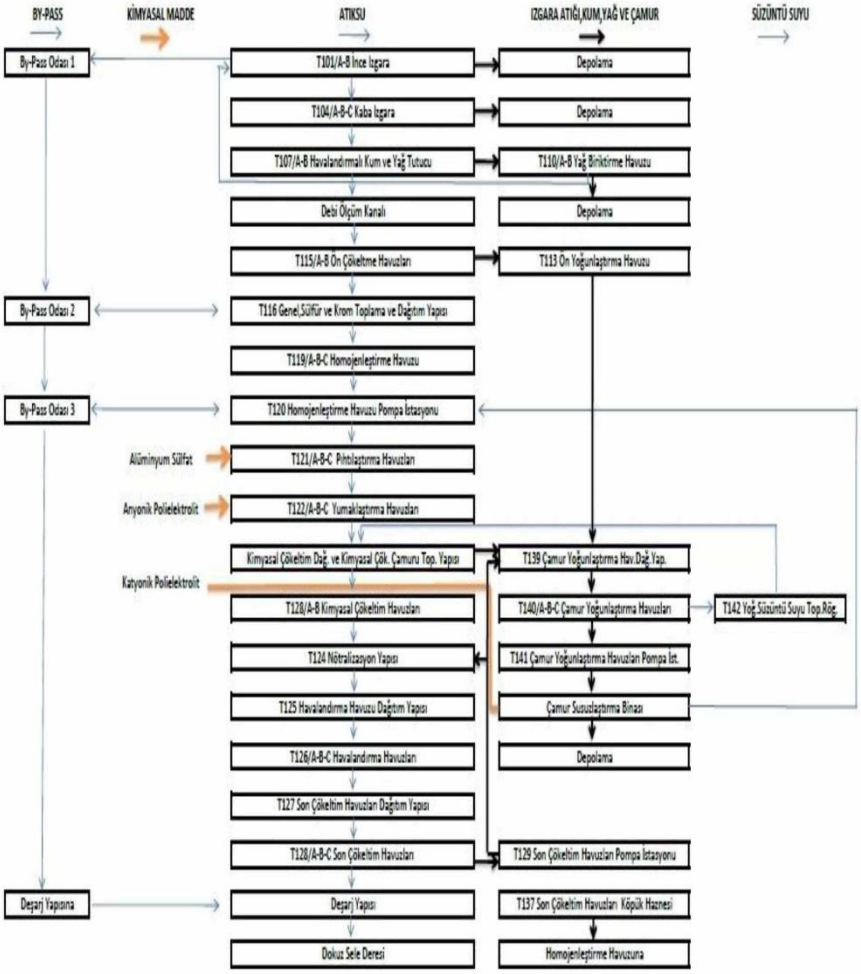
- **Adı Soyadı** : UŞAK DERİ KARMA ORGANİZE SANAYİ BÖLGESİ EVSEL VE ENDÜSTRİYEL ATIKSU ARITMA TESİSİ
- **Adres** : Karma Organize Sanayi Bölgesi 1. Cadde No:2-2/1 Merkez / UŞAK
- **Telefon** : 0276 234 00 01
- **Faks** : 0276 234 00 05
- **Vergi Sicil Numarası** : 8960049708
- **İşletme Sahibi** : UŞAK DERİ KARMA ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ

2- Firmada atık yönetiminden sorumlu kişiye ait bilgiler (İletişim Bilgileri) :

- **Adı SOYADI** : Büşra Nur AYDIN
- **Ünvanı** : Çevre Mühendisi
- **Adres** : Karma Organize Sanayi Bölgesi 1. Cadde No:2-2/1 Merkez / UŞAK
- **Telefon** : 0276 234 00 01

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

3- Atıkların Oluştuğu Proses ve Faaliyete İlişkin Bilgi



Fiziksel Arıtma Üniteleri;

Uşak Deri (Karma) Organize Sanayi Bölgesi Evsel ve Endüstriyel Atıksu Arıtma tesisine gelen kullanılmış sular ilk olarak içerisindeki katı maddelerin ayrılması için tasarlanmış olan ızgara sisteminden geçirilir. Burada bulunan ızgara sistemi iki aşamalıdır; birinci adımda otomatik olarak temizlenen ve özellikle iri parçacıkların tutulmasını sağlayan kaba ızgaralar, ikinci adımda ise daha küçük parçacıkların tutulmasına yarayan otomatik olarak temizlenen ince ızgaralar bulunmaktadır.

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

Değişken boyutlu ızgara sistemleri sayesinde atıksuyun terfisinde veya karışımında kullanılan mekanik ekipmanların zarar görmesi engellenmiş olmaktadır. Izgaralardan ayrılan atıklar ise konveyörler vasıtasıyla römorklara alınarak diğer katı atıklarla birlikte uzaklaştırılmaktadır.

İçindeki katı maddeleri tutulmuş olan atıksuyun bünyesinde fabrikalardan kaynaklanan kum ve yağ bulunmaktadır. Bu maddelerinde atıksudan ayrılması gerekmektedir. Izgara ünitesinden çıkan atıksu havalandırmalı kum-yağ tutucu ünitesine alınır. Burada atıksuyun yatay doğrultuda belirli bir hızla akıtılması sağlanırken aynı zamanda kum-yağ tutucunun tabanından verilen hava yardımıyla akışkanın spiral bir yörünge izlemesi sağlanır. Bunun sonucunda özgül ağırlığı yüksek olan kum tanecikleri havuz tabanına çökerken, özgül ağırlığı az olan yağlı maddeler verilen havanında yardımıyla yüzeydeki kirişlerde biriktirilir. Havuzda bulunan köprüye monteli kum pompası vasıtasıyla kum ve köprünün yüzeyindeki paletler vasıtasıyla kirişlerde biriken yağ alınarak, kum-yağ biriktirme havuzunda toplanır. Böylece atıksu içindeki yüzebilen ve çökebilen tüm maddeler fiziksel olarak sistemden ayrılmış olur.

Kum-yağ tutucu ünitesindeki işlemlerden sonra açık kanalda debisi ölçülen atıksu ön çökeltme havuzlarına alınır. Piston akışlı sisteme göre tasarlanan bu havuzlarda atıksu içerisinde yüzen ve ızgara ünitelerinin tutamadığı küçük çaplı katı maddelerin sadece akış hızı yavaşlatılarak bir kısmının çökmesi sağlanır. Bu havuzlarda suya herhangi bir kimyasal ilavesi yapılmamaktadır. Dipte kendiliğinden çöken çamur, pompalar vasıtasıyla ön yoğunlaştırma havuzuna ve oradanda çamur yoğunlaştırma havuzlarına basılır. Yüzeyden süzülen su gerek hacimsel olarak gerekse kirletici madde konsantrasyonunun homojen hale gelmesi amacıyla belirli süre bekletilmek üzere Dengeleme (homojenleştirme) havuzuna alınır. Bu havuzun hacmi günlük atıksu debisini 12 saat karşılayacak kadardır. Dengeleme havuzunun tabanında bulunan difüzörler yardımıyla havuza sürekli olarak hava verilir.

Böylece atıksuyun içinde bulunan ve ön çökeltme havuzlarında tutulamayacak kadar ince olan katı maddelerin havuz tabanına çökelmesi önlenir, verilen havanın karıştırma etkisiyle de atıksuyun homojenizasyonu sağlanmış olur. Bu havuzdaki uzun bekletme süresi nedeniyle atıksuyun bozunması sonucunda oluşabilecek kokular havuza verilen hava yardımıyla önlenmiş olur. Ayrıca atıksuyun içinde bulunan sülfürlü maddeler sisteme verilen havanın içindeki oksijen ile oksitlenerek biyolojik arıtmaya zarar vermesi önlenir.

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

Kimyasal Arıtma Üniteleri ;

Dengeleme havuzundan çıkan atıksu, arıtma tesisinin diğer ünitelerini 24 saat boyunca sabit debiyle besleyen terfi pompaları vasıtasıyla kimyasal arıtma ünitesine aktarılır. Kimyasal arıtma işleminin yapılması için atıksuyun içerisine gerekli kimyasal maddelerin verilmesi ve atıksuyla homojen olarak karıştırılması gerekir. Bu amaçla sistemde kullanılacak tüm kimyasal maddelerin çözelti halinde hazırlandığı bir istasyon bulunmaktadır. Burada bulunan kimyasallar polietilen malzemeden imal edilmiş tanklarda mikserler yardımıyla karıştırılarak uygun konsantrasyonda çözelti haline getirilir ve daha sonra sisteme otomatik olarak dozlanır.

Hızlı karıştırma havuzunda dozlanan Alüminyum Sülfat (Al2SO4)3 'ın oluşturduğu etkiyle atıksudaki kolloidal parçacıklar arasında elektriksel bir çekim oluşur ve bunun sonucu olarak parçacıkların boyutları büyür. Büyüyen parçacıkların yerçekimi etkisiyle çökebilecek kadar büyütülmesi için sisteme yavaş karıştırma havuzunda anyonik polielektrolit dozlaması yapılır. Bu kimyasal, uzun molekül yapısı olan polimerlerden oluştuğu için atıksudaki kolloidal parçacıkları birbirine bağlayarak çökelmelerini sağlar.

Hızlı-yavaş karıştırma ünitesinden çıkan atıksu kimyasal çökeltim havuzlarına transfer edilir. Bu havuzlarda, hızlı-yavaş karıştırma ünitesinde oluşturulan büyük parçacıklar hidrolik koşulların değişimi sonucunda yerçekiminin de etkisiyle havuz tabanına çökerler. Yüzeyden savaklanan duru su biyolojik arıtım için havalandırma havuzuna aktarılırken, tabandan alınan çamur ise yoğunlaştırılmak üzere çamur yoğunlaştırma havuzuna aktarılır. Kimyasal arıtma sonunda fiziksel arıtma ile sistemden ayrılamayacak kadar küçük parçacıklar ve bu parçacıklara bağlı şekilde bulunan organik maddelerin bir kısmı arıtılmış olur. Kimyasal arıtmadan geçmiş olan atıksu içerisinde sadece çözünmüş organik maddeler bulunduğundan, bu kirleticilerin giderilmesi için atıksu Biyolojik arıtmaya alınır.

Biyolojik Arıtma Üniteleri ;

Biyolojik arıtmada temel prensip KOİ, TKN, TN parametrelerinin oksik ve anoksik ortamlarda mikroorganizmalar (bakteriler) tarafından son ürünlere dönüştürülmesidir. Burada blower-difüzör sistemi yardımıyla havalandırılan atıksu, havuzlarda bulunan dalgıç mikserler yardımıyla mikroorganizma kütlesiyle homojen olarak karıştırılır. Havalandırma havuzlarında bulunan çözünmüş oksijen ölçme sistemleri ile havuzlardaki çözünmüş oksijen konsantrasyonları sürekli kontrol edilir. Elde edilen değerler neticesinde gerek duyulmuyorsa sisteme hava üreten blowerlardan bazıları durdurularak enerji tasarrufu sağlanır.

Biyolojik arıtımı tamamlanan atıksu, içerisindeki mikroorganizmaların atıksudan ayrılması için havalandırma havuzlarından sonra son çökeltim havuzlarına transfer edilir. Buradaki hidrolik koşullar gereği yerçekiminin etkisiyle birlikte mikroorganizmalar havuz tabanlarında toplanırken duru su yüzeyden savaklanarak deşarj edilir. Tabanda toplanan mikroorganizmalar, pompalar vasıtasıyla çekilerek havalandırma havuzundaki mikroorganizma konsantrasyonunun sabit tutulması amacıyla havalandırma havuzuna geri devrettirilmek üzere terfi istasyonuna aktarılır.

Aynı anda bu terfi istasyonunda bulunan fazla çamur pompalarıyla çamurun fazlası yoğunlaştırma işlemi için yerçekimi ile çalışan çamur yoğunlaştırıcılara aktarılır. Burada kimyasal çamur ile karışan biyolojik çamur birlikte yoğunlaştırılır.

Yoğunluğu (kuru madde muhtevası) arttırılan çamur ise çamur susuzlaştırma ekipmanında (dekantör) sıkıştırılarak kuru madde muhtevası maksimum hale getirilir. Bu işlem sonunda kurutulan arıtma çamuru, kek olarak sistemden uzaklaştırılırken oluşan süzüntü suyuda dengeleme havuzuna aktarılır.

4-Atık Miktarı ve Planlanan Yönetimi

MEVCUT YIL
Tarih Aralığı : 01/09/2024- 31/12/2024

Atık kodu	Atık kodu tanımı	Açıklama (-/M/A)	Toplam Atık Miktarı (Kg)	Toplama-Ayırma Yapılan Miktarı (Tehlikesiz Atıklar için)	Ara Depolama Miktarı	Geri Kazanım		Bertaraf	
						Geri Kazanım Yöntemi	Geri Kazanıma Gönderilecek Miktar (Kg)	Bertaraf Yöntemi	Bertarafa Gönderilecek Miktar (Kg)
130113*	Diğer Hidrolik Yağlar*	A	200	-	-	R9	200	-	-
150101	Kağıt ve Karton Ambalaj	-	500	-	-	R12	500	-	-
150102	Plastik Ambalaj	-	500	-	-	R12	500	-	-
150106	Karışık Ambalaj	-	3000	-	-	R12	3000	-	-
150110*	Kontamine Ambalaj*	M	300	-	-	R12	300	-	-
160506*	Laboratuvar kimyasalları karışımları dahil tehlikeli maddelerden oluşan ya da tehlikeli maddeler içeren laboratuvar kimyasalları*	M	40	-	-	-	-	D10	40
160605	Diğer Piller ve Akümülatörler	-	3	-	-	-	-	D5	3
190813*	Endüstriyel Atıksuyun diğer yöntemler ile arıtılmasından kaynaklanan tehlikeli maddeler içeren çamurlar*	M	900.000	-	-	R12	900.000	-	-
19 08 14	19 08 13 dışındaki endüstriyel atık suyun diğer yöntemlerle arıtılmasından kaynaklanan çamurlar	-	200.000	-	-	R12	200.000	-	-
200121	Floresan lambalar ve diğer civa içeren atıklar	-	1	-	-	R12	1	-	-
200133	Ömrünü tamamlamış piller	-	1	-	-	-	-	D5	1
200101	Kağıt Karton	-	100			R12	100	-	
200139	Plastikler	-	200	-	-	R12	200	-	-
200140	Metaller	-	200		-	R7	200	-	-

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

İKİNCİ YIL
Tarih Aralığı : 01/01/2026 - 31/12/2026

Atık kodu	Atık kodu tanımı	Açıklama (-/M/A)	Toplam Atık Miktarı (Kg)	Toplama-Ayırma Yapılan Miktarı (Tehlikesiz Atıklar için)	Ara Depolama Miktarı	Geri Kazanım		Bertaraf	
						Geri Kazanım Yöntemi	Geri Kazanıma Gönderilecek Miktar (Kg)	Bertaraf Yöntemi	Bertarafa Gönderilecek Miktar (Kg)
130113*	Diğer Hidrolik Yağlar*	A	200	-	-	R9	200	-	-
150101	Kağıt ve Karton Ambalaj	-	500	-	-	R12	500	-	-
150102	Plastik Ambalaj	-	500	-	-	R12	500	-	-
150106	Karışık Ambalaj	-	3000	-	-	R12	3000	-	-
150110*	Kontamine Ambalaj*	M	300	-	-	R12	300	-	-
160506*	Laboratuvar kimyasalları karışımları dahil tehlikeli maddelerden oluşan ya da tehlikeli maddeler içeren laboratuvar kimyasalları*	M	40	-	-	-	-	D10	40
160605	Diğer Piller ve Akümülatörler	-	3	-	-	-	-	D5	3
190813*	Endüstriyel Atıksuyun diğer yöntemler ile arıtılmasından kaynaklanan tehlikeli maddeler içeren çamurlar*	M	900.000	-	-	R12	900.000	-	-
19 08 14	19 08 13 dışındaki endüstriyel atık suyun diğer yöntemlerle arıtılmasından kaynaklanan çamurlar	-	200.000	-	-	R12	200.000	-	-
200121	Floresan lambalar ve diğer civa içeren atıklar	-	1	-	-	R12	1	-	-
200133	Ömrünü tamamlamış piller	-	1	-	-	-	-	D5	1
200101	Kağıt Karton	-	100			R12	100	-	
200139	Plastikler	-	200	-	-	R12	200	-	-
200140	Metaller	-	200		-	R7	200	-	-

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

BİRİNCİ YIL
Tarih Aralığı : 01/01/2025- 31/12/2025

Atık kodu	Atık kodu tanımı	Açıklama (-/M/A)	Toplam Atık Miktarı (Kg)	Toplama-Ayırma Yapılan Miktarı (Tehlikesiz Atıklar için)	Ara Depolama Miktarı	Geri Kazanım		Bertaraf	
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150101	Kağıt ve Karton Ambalaj	-	500	-	-	R12	500	-	-
150102	Plastik Ambalaj	-	500	-	-	R12	500	-	-
150106	Karışık Ambalaj	-	3000	-	-	R12	3000	-	-
150110*	Kontamine Ambalaj*	M	300	-	-	R12	300	-	-
160506*	Laboratuvar kimyasalları karışımları dahil tehlikeli maddelerden oluşan ya da tehlikeli maddeler içeren laboratuvar kimyasalları*	M	40	-	-	-	-	D10	40
160605	Diğer Piller ve Akümülatörler	-	3	-	-	-	-	D5	3
190813*	Endüstriyel Atıksuyun diğer yöntemler ile arıtılmasından kaynaklanan tehlikeli maddeler içeren çamurlar*	M	900.000	-	-	R12	900.000	-	-
19 08 14	19 08 13 dışındaki endüstriyel atık suyun diğer yöntemlerle arıtılmasından kaynaklanan çamurlar	-	200.000	-	-	R12	200.000	-	-
200121	Floresan lambalar ve diğer civa içeren atıklar	-	1	-	-	R12	1	-	-
200133	Ömrünü tamamlamış piller	-	1	-	-	-	-	D5	1
200101	Kağıt Karton	-	100			R12	100	-	
200139	Plastikler	-	200	-	-	R12	200	-	-
200140	Metaller	-	200		-	R7	200	-	-

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

ÜÇÜNCÜ YIL
Tarih Aralığı : 01/01/2027 - 31/12/2027

Atık kodu	Atık kodu tanımı	Açıklama (-/M/A)	Toplam Atık Miktarı (Kg)	Toplama-Ayırma Yapılan Miktarı (Tehlikesiz Atıklar için)	Ara Depolama Miktarı	Geri Kazanım		Bertaraf	
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150101	Kağıt ve Karton Ambalaj	-	500	-	-	R12	500	-	-
150102	Plastik Ambalaj	-	500	-	-	R12	500	-	-
150106	Karışık Ambalaj	-	3000	-	-	R12	3000	-	-
150110*	Kontamine Ambalaj*	M	300	-	-	R12	300	-	-
160506*	Laboratuvar kimyasalları karışımları dahil tehlikeli maddelerden oluşan ya da tehlikeli maddeler içeren laboratuvar kimyasalları*	M	40	-	-	-	-	D10	40
160605	Diğer Piller ve Akümülatörler	-	3	-	-	-	-	D5	3
190813*	Endüstriyel Atıksuyun diğer yöntemler ile arıtılmasından kaynaklanan tehlikeli maddeler içeren çamurlar*	M	900.000	-	-	R12	900.000	-	-
19 08 14	19 08 13 dışındaki endüstriyel atık suyun diğer yöntemlerle arıtılmasından kaynaklanan çamurlar	-	200.000	-	-	R12	200.000	-	-
200121	Floresan lambalar ve diğer civa içeren atıklar	-	1	-	-	R12	1	-	-
200133	Ömrünü tamamlamış piller	-	1	-	-	-	-	D5	1
200101	Kağıt Karton	-	100			R12	100	-	
200139	Plastikler	-	200	-	-	R12	200	-	-
200140	Metaller	-	200		-	R7	200	-	-

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

5 –Tesis İçi Geri Kazanım/Bertaraf

- Tesise ait araçların bakımları servislerde yapıldığı için araç bakımından kaynaklanan herhangi bir atık oluşumu yoktur. Araçlar ile ilgili bakımların servislerde yapıldığına dair yazı ekte verilmiştir.
- Tesiste makine-ekipman arıza ve bakımlarından kaynaklanan atık yağlar Lisanslı Firmaya verilmektedir. İlgili belgeler eklerdedir.
- Piller, pil toplama kutularında toplanarak ve Uşak Çevre Birliğine ait Katı Atık Düzenli Depolama Tesisine gönderilmektedir. İlgili belgeler eklerdedir.
- Personel yemek ihtiyacını kendi imkanları ile sağlamakta olup kendi imkanları ile karşıladığına dair yazı ekte verilmiştir.
- Tesiste kimyasal kullanımı sonucunda oluşan tehlikeli atıklar lisanslı firmaya verilmektedir.
- Tesis içerisinde revir bulunmamakta olup tıbbı atık oluşmuyor yazısı ekte verilmiştir.
- Tesiste oluşan evsel atıklar OSB Müdürlüğü personeli ve araçları ile toplanarak Uşak Çevre Birliği Katı Atık Depolama Alanı'na sevk edilmekte olup ilgili protokol yazı ekte verilmiştir.
- Tesiste kazan olmadığı için cüruf oluşmamaktadır.
- Tesis Endüstriyel Nitelikli Atıksu Arıtma Tesisi olduğundan dolayı arıtma çamuru oluşumu söz konusu olup, arıtma tesisinden kaynaklı çamurlar Lisanslı Firmaya gönderilmektedir.
- Tesis faaliyetleri sonucu oluşan tüm tehlikesiz atıklar, lisanslı firmalara verilmektedir.
- Tesis faaliyetleri sonucu oluşan tüm ambalaj atıkları, lisanslı firmalara verilmektedir.
- Tesis laboratuvarında yapılan çalışmalardan dolayı oluşan tüm atıklar, lisanslı firmaya gönderilmektedir.

6 -Önleme Ve Azaltım Bilgileri

- Tesiste atık minimizasyonuna yönelik onaylanmış bir uygulama yoktur. Fakat ambalaj atıkları, çıkması muhtemel plastik ambalaj, kağıt-karton ambalaj lisanslı geri kazanım firmalarına verilerek atık azaltımına gidilmektedir.
- Metal nitelikli hurdalar lisanslı firmaya gönderilmektedir. Böylece kullanılabilir nitelikli olanlar ayrıştırılıp bertarafa giden miktar azaltılmaktadır.

7- Atıkların Bertarafa Gönderilme Gerekçesi

- Tesisten çıkan diğer tehlikesiz ambalaj atıkları geri kazanım amaçlı piyasaya tekrar vermek için lisanlı firmaya gönderilmektedir.

8- Geçici Depolama

- Tesiste tehlikeli atıklar; betonarme zemin üzerinde üzeri kapalı alanda biriktirilmektedir. Tehlikeli madde atık alanı yönetmeliğe uygun şekilde kilitli olarak depolanmaktadır.
- Tehlikesiz atıklar ise yine aynı şekilde betonarme zemin ve üzeri kapalı atık alanlarında depolanmaktadır.
- Metal nitelikli hurdalar toprak zemin üzerinde depolanmayacaktır.

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

9 -Ekler:

1. Atık depolama alanlarının gösterildiği İşletme Vaziyet Planı,
2. Kapasite Raporu Muafiyet Yazısı
3. Çevre İzin Lisans Belgesi
4. İşletmenin Güncel Çevresel Etki Değerlendirmesi Yönetmeliği kapsamındaki değerlendirme yazısı.
5. Geçici Atık Depolama Alanına ilişkin bilgiler/fotoğraflar.
6. Tesiste oluşan atıkların Toplanılması, Taşınması, Bertaraf ve Geri Dönüşüm işlemlerini yapan firmalar ile yapılan sözleşmeler ve firmaların lisans veya uygunluk belgeleri

İşletmemiz faaliyetleri sonucu oluşan Tehlikeli ve Tehlikesiz Atıkların 2024 / 2025 / 2026 /2027 yıllarına yönelik atık yönetimi bilgilerinin beyanı amacı ile Setalp Mühendislik San. Tic. Ltd. Şti. tarafından hazırlanmıştır.

ANNEX-14: WASTE DECLARATION

ATIK BEYAN FORMU

YIL 2023 (7997020)

TESİS ADI UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ EVSEL VE ENDÜSTRİYEL ATIKSU ARITMA TESİSİ

TESİS ADRESİ UŞAK,KARMA OSB Mahallesi, 1 CADDE, No: 2-2/1-, MERKEZ,Türkiye

TESİS SORUMLUSU MEHMET ALİ ŞİMŞEK

BEYAN KONTROL NO	ATIK KODU	ATIK ADI	ATIK YAĞ KATEGO.	MİKTAR	ÖLÇÜ BİRİMİ	İŞLEMİN NEREDE YAPILDIĞI	ATIK İŞLEME YÖNTEMİ	ATIK İŞLEME TESİSİ / TIBBİ ATIK ALAN BELEDİYE / İHRACATÇI
8408117	150110	Tehlikeli maddelerin kalıntılarını içeren ya da tehlikeli maddelerle kontamine olmuş ambalajlar		200,00	Kilogram	Tesis Dışı	R12	111577
8407731	160506	Laboratuvar kimyasalları karışımları dahil tehlikeli maddelerden oluşan ya da tehlikeli maddeler içeren laboratuvar kimyasalları		9,00	Kilogram	Tesis Dışı	D10	10514
8408009	190813	Endüstriyel atıksuyun diğer yöntemlerle arıtılmasından kaynaklanan tehlikeli maddeler içeren çamurlar		51.650,00	Kilogram	Tesis Dışı	R1	9502
8408052	200135	20 01 21 ve 20 01 23 dışındaki tehlikeli parçalar içeren ve ıskartaya çıkmış elektrikli ve elektronik ekipmanlar		400,00	Kilogram	Tesis Dışı	R12	20234
8701961	200135	20 01 21 ve 20 01 23 dışındaki tehlikeli parçalar içeren ve ıskartaya çıkmış elektrikli ve elektronik ekipmanlar		400,00	Kilogram	Tesis Dışı	R12	20234
8405846	200140	Metaller		43.400,00	Kilogram	Tesis Dışı	R12	1004920

Nace Bilgisi

NACE KODU	NACE ADI	KAPASİTE	BİRİM
37.00.01	Kanalizasyon (kanalizasyon atıklarının uzaklaştırılması ve arıtılması, kanalizasyon sistemlerinin ve atık su arıtma tesislerinin işletimi, foseptik çukurların ve havuzların boşaltılması ve temizlenmesi, seyyar tuvalet faaliyetleri vb.)	8760000	kg/yıl

28.08.2024 15:59:19 Sayfa 1 / 1

ANNEX-15: ZERO WASTE CERTIFICATE

T.C.
UŞAK VALİLİĞİ
Çevre ve Şehircilik İl Müdürlüğü

Belge No: TS/64/B2/15/11

Tarih: 16/04/2021

SIFIR ATIK BELGESİ
(Temel Seviye)

Adı	:	**UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ EVSEL VE ENDÜSTRİYEL ATIKSU ARITMA TESİSİ**
Adresi	:	**UŞAK,KARMA OSB Mahallesi, 1 CADDE, No: 2-2/1-, MERKEZ,Türkiye**
Vergi No	:	**8960049708**

12/07/2019 tarihli ve 30829 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren Sıfır Atık Yönetmeliği'nce Sıfır Atık Yönetim Sistemi'ni kurarak **Sıfır Atık Belgesi**'ni almaya hak kazanmıştır.

e-imzalıdır

Mehmet Fatih Namık ÖZTÜRK

Çevre ve Şehircilik İl Müdürü

Belge Son Geçerlilik Tarihi: 16/04/2026

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Adresi: https://www.turkiye.gov.tr/cevre-ve-sehircilik-bakanligi Belge Doğrulama Kodu : BJDYIVBZ

ANNEX-16: PROJECT BASE MAP (PLANKOTE) APPROVAL

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu 8-10 km
UŞAK

Sayı : 2.2023.01.1245

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ 28-12-2023
355 ada 1 No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 355 ada 1 No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 550 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

Uşak - Denizli Karayolu üzeri 8-10 km. Pk. 83 / UŞAK
Tel: (0 276) 234 00 01-02-03 Faks: (0 276) 234 00 05
e-mail: info@ukosb.org.tr www.ukosb.org.tr

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu
8-10 km
UŞAK

Sayı : 2-2023-01-1250

28-12-2023

Konu: GES İMAR ONAY H.K.

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
184 ada 5 No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 184 ada 5 No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 250 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında 22.12.2021 tarih 1372 sayılı sanayi ve teknoloji bakanlığı tarafından teknik donatı alanı olarak imara işlenmiş olup ges kurulumunda , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

Uşak - Denizli Karayolu üzeri 8-10 km. Pk. 83 / UŞAK
Tel: (0 276) 234 00 01-02-03 Faks: (0 276) 234 00 05
e-mail: info@ukosb.org.tr www.ukosb.org.tr

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu 8-10 km
UŞAK

Sayı : 2.2023.01.1251
Konu: GES İMAR ONAY H.K.

28-12-2023

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
159 ada 5 No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 159 ada 5 No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 625 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında 22.12.2021 tarih 1372 sayılı sanayi ve teknoloji bakanlığı tarafından teknik donatı alanı olarak imara işlenmiş olup ges kurulumunda , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

Uşak - Denizli Karayolu üzeri 8-10 km. Pk. 83 / UŞAK
Tel: (0 276) 234 00 01-02-03 Faks: (0 276) 234 00 05
e-mail: info@ukosb.org.tr www.ukosb.org.tr

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu
8-10 km
UŞAK

Sayı : 2-2023-01-1249
Konu: GES İMAR ONAY H.K.

28-12-2023

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
153 ada 5 No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 153 ada 5 No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 500 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında 22.12.2021 tarih 1372 sayılı sanayi ve teknoloji bakanlığı tarafından teknik donatı alanı olarak imara işlenmiş olup ges kurulumunda , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

Uşak - Denizli Karayolu üzeri 8-10 km. Pk. 83 / UŞAK
Tel: (0 276) 234 00 01-02-03 Faks: (0 276) 234 00 05
e-mail: info@ukosb.org.tr www.ukosb.org.tr

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu
8-10 km
UŞAK

Sayı : 2.2023.01.1247

28-12-2023

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
356 ada 1 No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 356 ada 1 No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 250 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

Konu: GES İMAR ONAY H.K.

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu 8-10 km
UŞAK

Sayı : 2.2023.01.1244

28-12-2023

Konu: GES İMAR ONAY H.K.

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
188 ada 12-A No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 188 ada 12-A No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 375 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında 22.12.2021 tarih 1372 sayılı sanayi ve teknoloji bakanlığı tarafından teknik donatı alanı olarak imara işlenmiş olup ges kurulumunda , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

U.K.O.S.B
UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ

Vergi Dairesi : Uşak V.D.
Vergi No : 896 004 9708
Adres : Uşak – Denizli Karayolu
8-10 km
UŞAK

Sayı : 2.2023.01.1246

28-12-2023

UŞAK DERİ (KARMA) ORGANİZE SANAYİ BÖLGESİ MÜDÜRLÜĞÜ
188 ada 11 No'lu parsel,MERKEZ/UŞAK

Uşak Deri Karma Organize Sanayi Bölgemiz içerisindeki Uşak İli, Muharremşah Köyü 188 ada 11 No'lu parsel'de bulunan Uşak Deri (Karma) Organize Sanayi Bölgesi Müdürlüğünün kurmayı planladığı çatı üzeri 66 kwe güneş enerjisine dayalı elektrik üretim sistemi için, 4652 sayılı OSB Kanunu , planlı alanlar imar yönetmeliğinin yapı ruhsatı gerekmeyen inşai faaliyetler başlıklı 59 uncu maddesi hükmünce ruhsata tabi değildir ve bina yüzeyi ve arazide dahil 3194 sayılı İmar Kanununca 22.12.2010/309-14.01.2013/473-31.03.2022/691ve 28.08.2006/189 sayılı yapı ruhsatı ile Gazi üniversitesi Mühendislik Fakültesi 17.11.2023 tarih ve 234668 sayılı rapor una istinaden üretim santrali kurulmasında , işletilmesinde imar kanunu yönünden sakınca yoktur.

Gereğini bilgilerinize rica ederiz.

Mahmut ÖZTÜRK
Yönetim Kurulu Üyesi

Cebrail TAŞCAN
Yönetim Kurulu Başkan YRD

Konu: GES İMAR ONAY H.K.

ANNEX-17: DECISION PAGE OF FEBRUARY 2024 SITE CLEANUP ACTIVITY IMPLEMENTATION MONITORING REPORT

INTERGEO

SAHA TEMİZLEME FAALİYETİ UYGULAMA İZLEME RAPORU – V

Uşak – Denizli Karayolu 8-10 km Merkez/Uşak

INTERGEO ÇEVRE TEKNOLOJİLERİ
SAN. TİC. LTD. ŞTİ.
Çınardere Mah. Olimpiyat Cad. No:11
Pendik-İSTANBUL
Yakacık V.D. 465 016 4742

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sınıflandırılmıştır. ***Kadmiyum*** parametresi ***İtfaiye Mutfak Çeşme Suyu ve Koyunbeyli İlkokulu*** kuyularından alınan yeraltı suyu numuneleri analiz sonuçlarında mevzuat limit değeri üzerinde ölçülmüş dolayısıyla UYGUN DEĞİL olarak sınıflandırılmıştır. ***Kurşun*** parametresi ***Hocalar Köy Konağı*** kuyusundan alınan yeraltı suyu numunesi analiz sonuçlarında mevzuat limit değeri üzerinde ölçülmüş dolayısıyla UYGUN DEĞİL olarak sınıflandırılmıştır.

08.12.2023 tarihli analiz sonuçlarına göre; ***Arsenik*** parametresi ***tüm (İtfaiye Mutfak Çeşme Suyu, KOSB AAT, Cezaevi, Hocalar Köy Konağı, Koyunbeyli İlkokulu, Susuzören İlkokulu ve Uşak-Ulubey Dutluca Köyü)*** kuyulardan alınan yeraltı suyu numuneleri analiz sonuçlarında mevzuat limit değeri üzerinde ölçülmüş dolayısıyla UYGUN DEĞİL olarak sınıflandırılmıştır. ***Demir, Kadmiyum ve Nikel*** parametreleri ***Susuzören İlkokulu*** kuyusundan alınan yeraltı suyu numunesi analiz sonuçlarında mevzuat limit değeri üzerinde ölçülmüş dolayısıyla UYGUN DEĞİL olarak sınıflandırılmıştır.

7.2.3 Analiz Sonuçlarının Karşılaştırılması

Uşak Valiliği Çevre Şehircilik ve İklim Değişikliği İl Müdürlüğü başkanlığında gerçekleştirilen Kirlenmiş Sahalar İzleme ve Değerlendirme komisyonu kararına istinaden yalnızca İletkenlik, Amonyum, Florür (F-), Klorür (Cl-), Nitrat (NO3), Nitrit, Siyanür (CN-), Sülfat (SO4-2), pH, Klorlu Pestisitler (Endosülfan), Klorlu Pestisitler (HCH (BHC-alfa, beta, delta, gama)), Klorlu Pestisitler (Hegzaklorobenzen), Klorlu Pestisitler (Toplam Pestisit), Alüminyum (Al), Arsenik (As), Bakır (Cu), Bor (B), Civa (Hg), Çinko (Zn), Demir (Fe), Kadmiyum (Cd), Kalay, Kurşun (Pb), Nikel (Ni), Toplam Krom (Cr) parametrelerinin takibine karar verilmiştir.

2017'den bu yana sahada proje kapsamında gerçekleştirilen örneklemelere ait analiz sonuçlarının değerlendirilmesine ait özet Tablo 7-1'de verilmiştir.

Tablo 7-1 Yeraltı Suyu Numuneleri Analiz Sonuçlarının Değerlendirilmesi Özet Tablosu

Kirletici Gösterge Parametreleri	İtfaiye Mutfak Çeşme Suyu	KOSB AAT	Cezaevi	Hocalar Köy Konağı	Koyunbeyli İlkokulu	Susuzören İlkokulu	Uşak-Ulubey Dutluca Köyü	Açıklamalar
İletkenlik	Stabil	Stabil	Stabil	Stabil	Stabil	Yükselişte	Stabil	1 kuyuda yükseliş gözlemlendi
Amonyum	T.E.*	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Florür (F-)	Düşüşte	Düşüşte	Düşüşte	Düşüşte	Düşüşte	Düşüşte	Yükselişte	1 kuyuda yükseliş gözlemlendi
Klorür (Cl-)	Stabil	Stabil	Düşüşte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	4 kuyuda yükseliş gözlemlendi
Nitrat (NO3)	Düşüşte	Düşüşte	Stabil	Yükselişte	Stabil	Yükselişte	Yükselişte	3 kuyuda yükseliş gözlemlendi
Nitrit	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Siyanür (CN-)	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Sülfat (SO4-2)	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Tüm kuyularda yükseliş gözlemlendi
pH	Stabil	Stabil	Stabil	Stabil	Stabil	Stabil	Stabil	Stabil
Klorlu Pestisitler (Endosülfan)	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil

Kirletici Gösterge Parametreleri	İtfaiye Mutfak Çeşme Suyu	KOSB AAT	Cezaevi	Hocalar Köy Konağı	Koyunbeyli İlkokulu	Susuzören İlkokulu	Uşak-Ulubey Dutluca Köyü	Açıklamalar
Klorlu Pestisitler (HCH (BHC-alfa, beta, delta, gama))	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Klorlu Pestisitler (Hegzaklorobenzen)	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Klorlu Pestisitler (Toplam Pestisit)	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Alüminyum (Al)	Düşüşte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	T.E.	5 kuyuda yükseliş gözlemlendi
Arsenik (As)	Yükselişte	Yükselişte	Stabil	Yükselişte	Yükselişte	Düşüşte	Yükselişte	5 kuyuda yükseliş gözlemlendi
Bakır (Cu)	Düşüşte	Stabil	Düşüşte	Düşüşte	Düşüşte	Düşüşte	Yükselişte	1 kuyuda yükseliş gözlemlendi
Bor (B)	Düşüşte	Yükselişte	Stabil	Yükselişte	Yükselişte	Yükselişte	Yükselişte	5 kuyuda yükseliş gözlemlendi
Civa (Hg)	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	T.E.	Stabil
Çinko (Zn)	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Düşüşte	Düşüşte	Yükselişte	5 kuyuda yükseliş gözlemlendi
Demir (Fe)	Düşüşte	Yükselişte	Yükselişte	Yükselişte	Düşüşte	Yükselişte	Yükselişte	5 kuyuda yükseliş gözlemlendi
Kadmiyum (Cd)	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Yükselişte	Tüm kuyularda yükseliş gözlemlendi
Kalay	Düşüşte	Stabil	Düşüşte	Yükselişte	T.E.	T.E.	T.E.	1 kuyuda yükseliş gözlemlendi
Kurşun (Pb)	T.E.	Yükselişte	Stabil	Yükselişte	T.E.	Yükselişte	T.E.	3 kuyuda yükseliş gözlemlendi
Nikel (Ni)	Yükselişte	Stabil	Yükselişte	Yükselişte	Yükselişte	Düşüşte	Yükselişte	5 kuyuda yükseliş gözlemlendi
Toplam Krom (Cr)	Düşüşte	Düşüşte	Düşüşte	Yükselişte	Düşüşte	Düşüşte	Düşüşte	1 kuyuda yükseliş gözlemlendi

*T.E.: Laboratuvar tespit limitleri altında kalmıştır.

7.3 Karar

İş bu çalışma kapsamında Uşak KOSB çamur yayılım alanı ve vahşi atık depolama alanı çevresinde bulunan ve Uşak Valiliği Çevre Şehircilik ve İklim Değişikliği İl Müdürlüğü Başkanlığı'nda toplanan Kirlenmiş Sahalar İzleme ve Değerlendirme Komisyonu kararınca belirlenen kuyulardan (İtfaiye Mutfak Çeşme Suyu, KOSB AAT, Cezaevi, Hocalar Köy Konağı, Koyunbeyli İlkokulu, Susuzören İlkokulu ve Uşak-Ulubey Dutluca Köyü) alınan yeraltı suyu numuneleri aylık periyotlarla analiz edilmiş ve Ekim, Kasım ve Aralık ayları analiz sonuçları bu rapora konu edilmiştir.

Bu rapor kapsamında 20.10.2023, 14.11.2023 ve 08.12.2023 tarihlerinde ilgili yeraltı suyu kuyularında numuneler toplanmış analiz edilmiştir. TKKNKKSDY kapsamında raporlama döneminde ölçülen maksimum analiz sonuçları kullanılarak kanser ve kanser dışı sağlık riskleri hesaplanmıştır.

Kanser riski için 1,0E-06 ve tehlike indeksi için 1,0E+00 sınır değerinin üzerinde hesaplanan ve Temizlenmesi Gereken Saha olarak belirlenen hedef kirletici parametre Arsenik olup, sahaya özgü risk değerlendirmesi sonucu Temizlenmesi Gereken Saha olarak nitelendirilen kuyular İtfaiye Mutfak Çeşme Suyu, KOSB AAT, Cezaevi, Hocalar Köy Konağı, Koyunbeyli İlkokulu, Susuzören İlkokulu ve Uşak-Ulubey Dutluca Köyü kuyusudur.

Tablo 7-2 Her Bir Maruziyet Noktası İçin Sahanın Takip Gerektirmeyen Ya Da Kirlenmiş Saha Kararının Verilmesi

Alıcı	Kuyu Adı	Kanser Riskleri Toplamı	Kanser Dışı Sağlık Riskleri Toplamı	Değerlendirme Sonucu
Yönetmelik Sınır Değeri	-	**1,0E-06**	**1,0E+00**	-
Saha Çalışanları	İtfaiye Mutfak Çeşme Suyu	**6,4E-06**> 1,0E-06	3,3E-01 <1,0E+00	Kirlenmiş Saha
	KOSB AAT	**1,4E-05**> 1,0E-06	5,5E-01 <1,0E+00	Kirlenmiş Saha
	Cezaevi	**8,5E-06**> 1,0E-06	3,3E-01 <1,0E+00	Kirlenmiş Saha
	Hocalar Köy Konağı	**6,4E-06**> 1,0E-06	5,1E-01 <1,0E+00	Kirlenmiş Saha
	Koyunbeyli İlkokulu	**8,5E-06**> 1,0E-06	4,2E-01 <1,0E+00	Kirlenmiş Saha
	Susuzören İlkokulu	**3,5E-05**> 1,0E-06	**1,4E+01**> 1,0E+00	Kirlenmiş Saha
	Uşak-Ulubey Dutluca Köyü	**1,5E-05**> 1,0E-06	6,3E-01 <1,0E+00	Kirlenmiş Saha
Taşeron Çalışanlar (Numune Alma Personelleri)	İtfaiye Mutfak Çeşme Suyu	9,6E-10 <1,0E-06	4,1E-04 <1,0E+00	Takip Gerektirmeyen Saha
	KOSB AAT	2,1E-09 <1,0E-06	6,7E-04 <1,0E+00	Takip Gerektirmeyen Saha
	Cezaevi	1,3E-09 <1,0E-06	4,2E-04 <1,0E+00	Takip Gerektirmeyen Saha
	Hocalar Köy Konağı	9,6E-10 <1,0E-06	3,4E-04 <1,0E+00	Takip Gerektirmeyen Saha
	Koyunbeyli İlkokulu	1,3E-09 <1,0E-06	5,2E-04 <1,0E+00	Takip Gerektirmeyen Saha
	Susuzören İlkokulu	5,2E-09 <1,0E-06	1,8E-03 <1,0E+00	Takip Gerektirmeyen Saha
	Uşak-Ulubey Dutluca Köyü	2,3E-09 <1,0E-06	7,8E-04 <1,0E+00	Takip Gerektirmeyen Saha
Yetişkin Yerleşikler	İtfaiye Mutfak Çeşme Suyu	1,6E-07 <1,0E-06	3,8E-02 <1,0E+00	Takip Gerektirmeyen Saha
	KOSB AAT	3,5E-07 <1,0E-06	1,2E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Cezaevi	2,2E-07 <1,0E-06	9,4E-03 <1,0E+00	Takip Gerektirmeyen Saha
	Hocalar Köy Konağı	1,6E-07 <1,0E-06	1,5E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Koyunbeyli İlkokulu	2,2E-07 <1,0E-06	4,2E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Susuzören İlkokulu	8,7E-07 <1,0E-06	6,3E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Uşak-Ulubey Dutluca Köyü	3,9E-07 <1,0E-06	2,7E-02 <1,0E+00	Takip Gerektirmeyen Saha
Çocuk Yerleşikler	İtfaiye Mutfak Çeşme Suyu	2,3E-07 <1,0E-06	7,1E-02 <1,0E+00	Takip Gerektirmeyen Saha
	KOSB AAT	4,9E-07 <1,0E-06	2,4E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Cezaevi	3,0E-07 <1,0E-06	1,8E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Hocalar Köy Konağı	2,3E-07 <1,0E-06	2,9E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Koyunbeyli İlkokulu	3,0E-07 <1,0E-06	7,9E-02 <1,0E+00	Takip Gerektirmeyen Saha
	Susuzören İlkokulu	**1,2E-06**> 1,0E-06	1,2E-01 <1,0E+00	Kirlenmiş Saha
	Uşak-Ulubey Dutluca Köyü	5,5E-07 <1,0E-06	5,1E-02 <1,0E+00	Takip Gerektirmeyen Saha

ANNEX-18: EFFLUENT ANALYSIS RESULTS

T.C.
UŞAK ÜNİVERSİTESİ REKTÖRLÜĞÜ
Bilimsel Analiz ve Teknolojik Uygulama ve Araştırma
Merkez Müdürlüğü

Sayı : E-79673368-920-189868 25.01.2024
Konu : Atıksu Analiz Raporları

UŞAK ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ İL MÜDÜRLÜĞÜNE

İl müdürlüğünüz gözetiminde; 09/01/2024 ve 12/01/2024 tarihlerinde. Karma Organize Sanayi Bölgesi 1. Cadde No: 2-2/1 Merkez/UŞAK adresinde faaliyet gösteren Uşak Deri (Karma) Organize Sanayi Bölgesi Evsel ve Endüstriyel Atıksu Arıtma Tesisi SAİS kabininden alınan atıksu numunesine ilişkin analiz raporları ekte bilgilerinize sunulmuştur. İlgili firmanın tabi olduğu S.K.K.Y. Tablo 19 'a (Toplam Kjeldahl Azotu Tablo 12) göre analiz sonucunun uygun olmadığı tespit edilmiştir.

Gereğini arz ederim.

Prof. Dr. Kenan TAŞ
Rektör Yardımcısı

Ek:Uşak Deri Karma OSB_SA24005-SA24007_Analiz Raporları (10 Sayfa)

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Unvanı: Öğretim Görevlisi Doktor

UBATAM
Ölçüm ve Analiz Laboratuvarı

AB1285-T
R242309
01 - 24

Parametre *Parameter*	**Birim** *Unit*	**Sonuç** *Result*	**S.K.K.Y. 12 2 saatlik**	**S.K.K.Y. 19 2 saatlik**	**SAİS Kabin Değerleri**	**% SAİS Sapma Oranı**	**Metot** *Method*
Çözünmüş Oksijen Tayini (Çözünmüş Oksijen)	mg/L	5,94	-	-	5,08	- 14,48	SM 4500 – OG
İletkenlik Tayini (İletkenlik)	µS/cm	16710	-	-	16341,78	- 2,20	SM 2510 B
Sıcaklık Tayini (Sıcaklık)	°C	17,9	-	-	18,22	+ 1,79	SM2550 B
Toplam Kjeldahl Azotu Tayini (Kjeldahl Azotu)	mg/L	115,22	60	20	-	-	SM 4500 Norg B
Askıda Katı Madde Tayini (AKM)	mg/L	23	125	200	16,69	-	SM 2540 D
Bakır Tayini (Cu)	mg/L	< 0,0040	-	3	-	-	EPA 200.8
Çinko Tayini (Zn)	mg/L	< 0,011	-	5	-	-	EPA 200.8
Florür (İyon)	mg/L	0,284	-	15	-	-	SM 4110 B
Kadmiyum Tayini (Cd)	mg/L	< 0,0040	-	0,1	-	-	EPA 200.8
Kimyasal Oksijen İhtiyacı Tayini (KOİ)	mg/L	182	250	250	139,86	- 23,15	SM 5220 C
Krom (VI) Tayini (Krom (VI))	mg/L	< 0,20	0,5	0,5	-	-	SM 3500 Cr B
Toplam Krom Tayini (Cr)	mg/L	0,055	3	2	-	-	EPA 200.8
Kurşun Tayini (Pb)	mg/L	< 0,020	-	2	-	-	EPA 200.8
pH Tayini (pH)	-	7,47	6-9	6-9	7,34	- 1,74	SM 4500 H+B
Renk Tayini (Renk)	CU	227	280	280	-	-	SM2120 C
Sülfat (İyon)	mg/L	< 0,25	-	1500	-	-	SM 4110 B
Toplam Siyanür Tayini (Toplam Siyanür)	mg/L	0,035	-	1	-	-	SM 4500 CN C-E
Yağ ve Gres Tayini (Yağ-Gres)	mg/L	< 10,00	30	20	-	-	SM 5520 D
Demir (Fe) **	mg/L	1,560	-	10	-	-	EPA 200.7
Balık Biyodeneyi (ZSF) **	-	2	4	10	-	-	TS 5676 SKKY
Toplam Fosfor (P (Toplam)) **	mg/L	< 0,01	-	2	-	-	EPA 200.7

UBATAM
Ölçüm ve Analiz Laboratuvarı

AB1285-T
R242314
01 - 24

Parametre *Parameter*	Birim *Unit*	Sonuç *Result*	S.K.K.Y. 12 2 saatlik	S.K.K.Y. 19 2 saatlik	SAİS Kabin Değerleri	% SAİS Sapma Oranı	Metot *Method*
Çözünmüş Oksijen Tayini (Çözünmüş Oksijen)	mg/L	5,40	-	-	5,28	- 2,22	SM 4500 – OG
İletkenlik Tayini (İletkenlik)	µS/cm	15000	-	-	15508,34	- 3,39	SM 2510 B
Sıcaklık Tayini (Sıcaklık)	°C	17,1	-	-	16,58	- 3,04	SM2550 B
Toplam Kjeldahl Azotu Tayini (Kjeldahl Azotu)	mg/L	116,34	60	20	-	-	SM 4500 Norg B
Askıda Katı Madde Tayini (AKM)	mg/L	25	125	200	16,79	-	SM 2540 D
Bakır Tayini (Cu)	mg/L	< 0,0040	-	3	-	-	EPA 200.8
Çinko Tayini (Zn)	mg/L	0,017	-	5	-	-	EPA 200.8
Florür (İyon)	mg/L	0,261	-	15	-	-	SM 4110 B
Kadmiyum Tayini (Cd)	mg/L	< 0,0040	-	0,1	-	-	EPA 200.8
Kimyasal Oksijen İhtiyacı Tayini (KOİ)	mg/L	176	250	250	148,33	- 15,72	SM 5220 C
Krom (VI) Tayini (Krom (VI))	mg/L	< 0,20	0,5	0,5	-	-	SM 3500 Cr B
Toplam Krom Tayini (Cr)	mg/L	0,048	3	2	-	-	EPA 200.8
Kurşun Tayini (Pb)	mg/L	< 0,020	-	2	-	-	EPA 200.8
pH Tayini (pH)	-	7,44	6-9	6-9	7,34	- 1,34	SM 4500 H+B
Renk Tayini (Renk)	CU	202	280	280	-	-	SM2120 C
Sülfat (İyon)	mg/L	< 0,25	-	1500	-	-	SM 4110 B
Toplam Siyanür Tayini (Toplam Siyanür)	mg/L	0,030	-	1	-	-	SM 4500 CN C-E
Yağ ve Gres Tayini (Yağ-Gres)	mg/L	< 10,00	30	20	-	-	SM 5520 D
Demir (Fe) **	mg/L	0,041	-	10	-	-	EPA 200.7
Balık Biyodeneyi (ZSF) **	-	2	4	10	-	-	TS 5676 SKKY
Toplam Fosfor (P (Toplam)) **	mg/L	0,022	-	2	-	-	EPA 200.7

KOSB Analiz Sonuçları

Parametre	Birim	08.12.2023 Tarihli BKT Sonuçları *	09.01.2024 Tarihli Numunenin Analiz Sonuçları **	12.01.2024 Tarihli Numunenin Analiz Sonuçları **	Ortalama Değerler	Alıcı Ortam Deşarj Standartları	
						SKKY Table 19	SKKY Table 12
Toplam Kjeldahl Azotu (TKN)	mg/L	106,00	115,22	116,34	112,52	-	60***
Askıda Katı Madde (AKM)	mg/L	27,00	23,00	25,00	25,00	200	-
Bakır (Cu)	mg/L	<0,0040	<0,0040	<0,0040	<0,0040	3	-
Çinko (Zn)	mg/L	<0,010	<0,010	0,017	0,012	5	-
Florür (F^-)	mg/L	0,274	0,284	0,261	0,27	15	-
Kadmiyum (Cd)	mg/L	<0,0040	<0,0040	<0,0040	<0,0040	0,1	-
Kimyasal Oksijen İhtiyacı (KOİ)	mg/L	205,00	182,00	176,00	187,67	250	-
Krom (Cr^{+6})	mg/L	<0,20	<0,20	<0,20	<0,20	0,5	-
Toplam Krom	mg/L	0,085	0,055	0,048	0,06	2	-
Kurşun (Pb)	mg/L	<0,020	<0,020	<0,020	<0,020	2	-
pH	-	7,57	7,47	7,44	7,49	6-9	-
Renk	(Pt-Co)	215,00	227,00	202,00	214,67	280	-
Sülfat (SO_4^{-2})	mg/L	<0,25	<0,25	<0,25	<0,25	1500	-
Toplam Siyanür (CN^-)	mg/L	0,035	0,035	0,030	0,03	1	-
Yağ ve Gres	mg/L	<10,00	<10,00	<10,00	<10,00	20	-
Demir (Fe)	mg/L	0,163	1,560	0,041	0,59	10	-
Balık Biyodenevi (ZSF)	-	2	2	2	2,00	10	-
Toplam Fosfor (P)	mg/L	0,030	<0,01	0,022	0,020	2	-

* KOSB AAT Sais kabininden SAİS Tebliği - Bütünleşik Karşılaştırma Testi Kapsamında Alınanan Numuneye ait Analiz Sonuçları

** KOSB AAT Sais kabininden SAİS Tebliği - Bütünleşik Karşılaştırma Testi kapsamında 08.12.2023 tarihinde alınan numunenin analiz sonuçlarından, TKN (Toplam Kjeldahl Azotu) parametresinin Yönetmelik değerlerini sağlamamasından dolayı, Bakanlığımızın 17.07.2020 tarihli ve 41234558-110.03.03-E.149462 sayılı "Sürekli Atıksu İzleme Sistemleri Bütünleşik Karşılaştırma Testi Uygulamaları" konulu yazısı kapsamında İl Müdürlüğümüz gözetiminde alınan numunelere ait analiz sonuçları.

*** *"SKKY Tablo 19 kapsamında; Atıksuların miktarca %20'si ve üzeri deri sektöründen kaynaklanan karışık endüstriler için Tablo 12'deki TKN limitleri uygulanır. Ayrıca SKKY Tablo 12 kapsamında; Küçükbaş hayvan derisi işleyen endüstriler ile atıksularının miktarca %20-65'i deri sektöründen kaynaklanan karışık endüstriler için uygulanır."* hükümleri gereği ve KOSB'nin belirtilen şartlarda olmasından dolayı anılan standart esas alınmaktadır.

<u>Not:</u> Numuneler anlık olup; SKKY 29. Maddesinde yer alan *"..... alınan anlık atıksu numune analiz sonuçlarının bu Yönetmeliğin ekinde yer alan deşarj standartlarını %20'den fazla aşması durumunda yapturma esas olmak üzere değerlendirme yapılır."* hükmü kapsamında değerlendirme yapılmış olup; TKN parametresinde, SKKY 12 tablosunda yer alan standartın (60 mg/L) %20'den (72 mg/L) fazlasını aştığı tespit edilmiştir.

ANNEX-19: CONTACT INFORMATION AT NATIONAL LEVEL

Presidency's Communication Center: The Presidency's Communication Centre (CİMER) provides a centralized complaint system for Turkish citizens, legal persons and foreigners. CİMER only allow applications in Turkish.

Through CİMER, applicants can direct their requests directly to the relevant authorities. The requests submitted to CİMER are resolved within 30 days. If the applicants do not receive feedback within this period, they can re-submit their grievance to CİMER or elevate it to the Ombudsman Institution (www.ombudsman.gov.tr).

Webpage:	www.cimer.gov.tr/ www.turkiye.gov.tr/
Call Centre (hotline):	150
Phone number:	+90 312 590 20 00
Fax number:	+90 0312 473 64 94
Official Letter/Petition:	Republic of Türkiye, Directorate of Communications T.C. Cumhurbaşkanlığı Külliyesi 06560 Beştepe/ Ankara
Individual Application:	Community relations desks at governorates, ministries and district governorates.

CİMER will be available to Project stakeholders as an alternative and well-known channel for conveying their Project-related grievances and feedback directly to state authorities.

Foreigners Communication Center: The Foreigners Communication Center (YİMER) provides a centralized complaint system for foreigners. YİMER will be available to Project stakeholders as an alternative and well-known channel for conveying their Project-related grievances and feedback directly to state authorities.

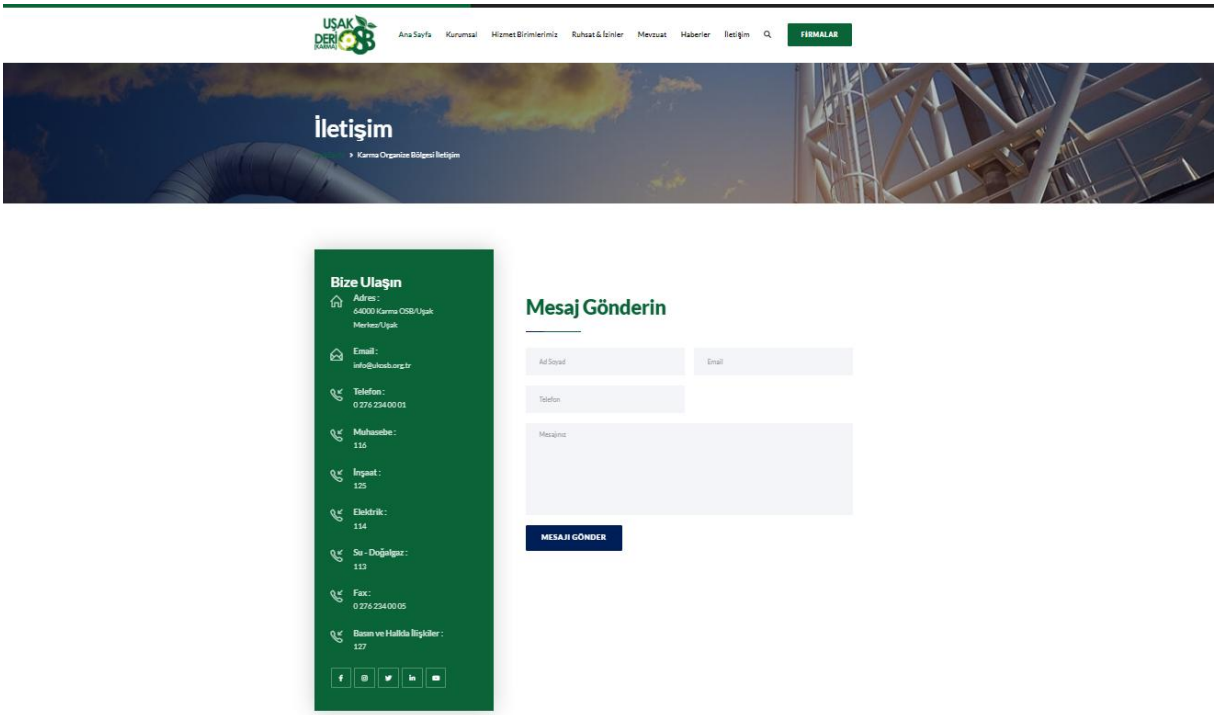
Webpage:	www.yimer.gov.tr
Email:	yimer@goc.gov.tr
Call Centre (hotline):	157
Phone number:	+90 312 515 11 22
Fax number:	+90 312 920 06 09
Official Letter/Petition:	Republic of Türkiye General Directorate of Migration Management, Çamlıca Mahallesi 122. Sokak No: 4 Yenimahalle/ Ankara
Individual Application:	Republic of Türkiye General Directorate of Migration Management

MoIT Level GM: All stakeholders can submit individual applications to the MoIT grievance mechanism established specifically for the Main Project via ways given below.

E-mail	info@sanayi.gov.tr dboneri@sanayi.gov.tr
Website	www.sanayi.gov.tr
Address	Mustafa Kemal Mahallesi Dumlupınar Bulvarı (Eskişehir Yolu 7.km) 2151. Cadde No:154/A 06530 Çankaya/ANKARA
Phone	444 6 100
Fax	+90 (312) 201 58 23

Project Level Contact Information

On the website of Uşak Leather Mixed OIZ, there is a Contact page which is available in Turkish. The grievances/requests related to Uşak Leather Mixed OIZ's activities can be communicated through this page and the resolution process is followed. The page includes information on email, phone number and mailing address of Uşak Leather Mixed OIZ. There is also an Online Contact Form menu on the page. Name, phone number, e-mail address and explanation/message/grievance are entered in the online Contact Form. Filling all fields is obligatory on this form.



ANNEX-20: CONTRIBUTORS

Name-Surname	Profession
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Sinem Otlu	Business Development, Analytics and Planing
Banu Ergin	Civil Engineer
Göze Doğu	Sociologist, Ph.D.