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Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

SUSTAINABLE CITIES PROJECT-II
Additional Financing

Republic of Türkiye

Çilimli Municipality

Çilimli Water, Stormwater and Sewerage Network Construction Project

Environmental and Social Management Plan

Final Report

January 2024

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Republic of Türkiye
Çilimli Municipality

Çilimli Water, Stormwater and Sewerage Network Construction Project Environmental and Social Management Plan

Final Report

January 2024

Prepared by ACE Consulting and Engineering Inc.

Client: ILBANK A.Ş.

Project Owner: Çilimli Municipality

Revision No / Date: 03 / 19.01.2024

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ACCOBAMS	:	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
ACE	:	ACE Consulting and Engineering Inc.
AF	:	Additional Financing
AFAD	:	Disaster and Emergency Management Presidency
DIKAB	:	Düzce Provincial Solid Waste Association
AoI	:	Area of Influence
CIMER	:	Presidency Communication Centre
CITES	:	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CM	:	Çilimli Municipality
CO	:	Carbon Oxide
dBA	:	Adjusted Decibels
E	:	East
E&S	:	Environmental and Social
EA	:	Environmental Assessment
EHS	:	Environment, Health, and Safety
EIA	:	Environmental Impact Assessment
EMDA	:	East Marmara Development Agency
EMEP	:	Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe
ESIA	:	Environmental and Social Impact Assessment
ESMF	:	Environmental and Social Framework
ESMP	:	Environmental and Social Management Plan
ESMR	:	Environmental and Social Monitoring Report
EU	:	European Union
EW	:	East west
FI	:	Financial Intermediary
GBV	:	Gender Based Violence
GNSS	:	Global Navigation Satellite System
ha	:	hectare
HCl	:	Hydrochloric acid
HF	:	Hydrogen fluoride

hm	:	Hectometer
IBA	:	Important Bird Areas
ILO	:	International Labor Organization
IFC	:	International Finance Corporation
ILBANK	:	ILBANK A.Ş.
KBA	:	Key Biodiversity Area
kg	:	kilogram
Km	:	Kilometer
KPI	:	Key Performance Indicator
kW	:	kilowatt
L	:	Liter
L&FS	:	Life and Fire Safety
LARAP	:	Land Acquisition and Resettlement Action Plan
LARPF	:	Land Acquisition Resettlement Policy Framework
LC	:	Land cover
Leq	:	Mean Tracheal Sound Energy
LTIR	:	Lost Time Injury Rate
LU	:	Land use
LUC	:	Land Use Capability
m	:	Meter
m^3	:	Meter cube
MEUCC	:	Ministry of Environment, Urbanization and Climate Change
mm	:	Millimeter
MoAF	:	Ministry of Agriculture and Forest
MoTAT	:	Mobile Hazardous Waste Delivery System
MSP	:	Municipal Services Project
NA	:	Not Applicable
NDE	:	Number of Days Exceeded
NE	:	Northeast
NGOs	:	Non-Governmental Organizations
NO_2	:	Nitrogen Dioxide
NO_x	:	Nitrogen Oxides
NS	:	North south
NW	:	Northwest
OG	:	Official Gazette
OHS	:	Occupational Health and Safety

OIZ	:	Organized Industrial Zone
OP	:	Operational Policy
PAP	:	Project Affected People
PDEUCC	:	Provincial Directorate of Environment, Urbanization and Climate Change
pH	:	Potential of Hydrogen
PID	:	Project Information Document
PIF	:	Project Identification File
PIU	:	Project Implementation Unit
PMU	:	Project Management Unit
PM_{10}	:	Particulate matter less than 10 µm
$PM_{2.5}$	:	Particulate matter less than 2.5 µm
PMU	:	Project Management Unit
PPE	:	Personal Protective Equipment
RAMAQ	:	Regulation on Assessment and Management of Air Quality
RAP	:	Resettlement Action Plan
RCIAP	:	Regulation on Control of Industrial Air Pollution
S	:	South
s	:	second
SCP	:	Sustainable Cities Project
SDS	:	Safety Data Sheet
SE	:	Southeast
SEA/SH	:	Sexual Exploitation and Abuse/Sexual Harassment
SEDAŞ	:	Sakarya Electricity Distribution Corporation
SEP	:	Stakeholder Engagement Plan
SO_2	:	Sulphur Dioxide
SOP	:	Series of Projects
SOx	:	Sulphur oxides
SW	:	Southwest
t	:	Tone
TurkStat	:	Turkish Statistical Institute
TÜBİTAK	:	Scientific and Technological Research Council of Türkiye
UNECE	:	United Nations Economic Commission for Europe
VAT	:	Value-added Tax

WB	:	World Bank
WBG	:	World Bank Group
WHO	:	World Health Organization
WPCC	:	Water Pollution Control Regulation
YIMER	:	Foreigners Communication Centre
µg	:	Microgram
µs	:	Micro Siemens

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Executive Summary

ILBANK AŞ. (ILBANK) and the World Bank (WB) designed the Sustainable Cities Project (SCP or the Program) that aim to support improving the sustainability of Turkish cities. The program aims to help municipalities: (i) respond to current and increasing demands for urban services; (ii) plan for future infrastructure service needs in a sustainable manner; (iii) mobilize financing to fund priority investments; and (iv) adhere to new spatial planning mandates and infrastructure service requirements. The Program was designed as a series of projects (SOP), where SCP-I and SCP-II are already implemented. WB has approved SCP-II Additional Financing (AF) as an additional support mechanism for meeting the increasing demand from municipalities for investments in sustainable urban development that has been ongoing under the SCPs. SCP-II-AF aims to support municipalities in improving urban planning, infrastructure, and capital investment planning and strengthening municipal financial capacity (including creditworthiness).

The Çilimli Water, Stormwater and Sewage Network Construction Project will involve the construction and operation of the drinking water, stormwater and sewerage network in Ulucami Neighborhood of Çilimli District in Düzce Province, Türkiye in the scope of SCP-II Additional Financing (AF). The stormwater network also extends to Şerefiye, Mahirağa and Topcular neighborhoods of Çilimli District. The Project will be constructed on existing roads in the zoning plan, and no expropriation/resettlement will occur in relation to the Project based on information provided by Çilimli Municipality (CM), who is the Project owner. The Project components include the construction of 18,016 m of the drinking water network, 15,560 m of stormwater network and 28,163 m of the sewage network in the Ulucami Neighborhood. In addition, the Project will include the construction of 10,105 m of stormwater network on Düzce Street that passes through Ulucami, Şerefiye Mahirağa and Topçular neighborhoods. There are no sensitive areas such as important environmental protection zones, critical natural habitats, natural habitats, etc. in the project area.

This Environmental and Social Management Plan (ESMP) has been prepared by ACE Consulting and Engineering Inc. (ACE) to assess the environmental and social (E&S) impacts/risks of the Project, in line with the WB Operational Policies (OP) for Environmental Assessment (OP 4.01), Environmental and Social Management Framework (ESMF) of ILBANK for SCP-II AF and Turkish legislation. Presented in this ESMP are the legal framework for environmental and social management; project description; environmental and social baseline; environmental and social impacts/risks of the project; mitigation plan; monitoring plan; environmental and social monitoring report (ESMR); institutional arrangements for the project implementation, and the activities for the involvement of the public. A separate Stakeholder Engagement Plan (SEP) will also be developed in compliance with WB Safeguard Policies, including Operational Policies (OPs) (i.e., OP 4.01 - Environmental Assessment and WB's 2010 Policy on Access to Information), ESMF (including Stakeholder Engagement Framework) of ILBANK for SCP-II AF and Turkish legislation to identify the stakeholders, including the potentially vulnerable/disadvantaged

individuals/groups, outline the sub-projects communication and engagement strategy, introduce tools and measures of engagement, and set out the principles of grievance of the Project.

The main potential environmental and social, occupational health and safety (OHS) and community health and safety impacts/risks during construction phase have been identified as the generation of excavated earth and waste, air /noise emissions, traffic safety,, transportation safety, pedestrian safety and occupational incidents/accidents and infectious diseases such as Covid-19. These impacts/risks can be mitigated by taking appropriate measures to suppress dust emissions and decrease construction-related noise levels accordingly. Traffic-related effects can be mitigated with the implementation of a traffic management plan. The operation phase impacts/risks and mitigation will be similar to the construction phase when maintenance/repair work involves pipeline repair works. Additional operational phase environmental and social impacts/risks will be related to routine operation works conducted by the Çilimli municipality and health and safety risks of the Çilimli municipality workers.

This project is **exempt from an Environmental Impact Assessment (EIA) study** according to the repealed Turkish Environmental Impact Assessment Regulation (Official Gazette (OG) numbered 29186 and dated 25.11.2014) and is classified as a **Category B** Project according to the WB OP 4.01. The EIA Exemption Letter issued by Düzce Provincial Directorate of Environment, Urbanization and Climate Change (PDEUCC) for the Project based on the repealed EIA Regulation is provided in Annex-1. This letter is still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed.

1 Introduction

1.1 Overview of the Project

ILBANK AŞ. (ILBANK) and the World Bank (WB) designed the Sustainable Cities Projects (SCP or the Program) that aim to support improving the sustainability of Turkish cities. The Program was designed as a series of projects (SOP), where SCP-I and SCP-II are already implemented. The WB has approved SCP-II Additional Financing (SCP-II-AF) as an additional support mechanism for meeting the increasing demand from municipalities for investments in sustainable urban development that has been ongoing under the SCP. The loan agreement for SCP-II-AF for 500 million Euros was signed on 10.07.2019 between the WB and ILBANK.

ILBANK implements the Program with technical and financial support from the WB and the European Union (EU). The program aims to help municipalities: (i) respond to current and increasing demands for urban services; (ii) plan for future infrastructure service needs in a sustainable manner; (iii) mobilize financing to fund priority investments; and (iv) adhere to new spatial planning mandates and infrastructure service requirements as prescribed by the amended Metropolitan Municipality Law No 6360 in December 2012. Similarly, SCP-II-AF aims to support municipalities in improving urban planning, infrastructure, and capital investment planning and strengthening municipal financial capacity (including creditworthiness).

The components of the SCP-I, SCP-II, and SCP-II-AF include the following:

- SCP I, consists of three components:
  - Component A: Sustainable City Planning and Management Systems aimed at supporting reforms including policies and legislation that improve sustainable urban development planning, including technical assistance support (i) to municipalities/utilities for planning and management and the preparation of feasibility studies, environmental assessments, and engineering designs for municipal sub-projects; and (ii) to ILBANK for management of the grant and capacity building.
  - Component B: Municipal Investments, which finance demand-driven municipal investments.
  - Component C: which finances Project Management of ILBANK.
- SCP II consists of two components:
  - Component A: Municipal Investments which finance demand-driven municipal infrastructure investments. Sectors eligible for investment included public transport, water and wastewater, solid waste management and energy.
  - Component B: Project Management (ILBANK) funds goods and consultancy services for project management, monitoring, evaluation, outreach, and communication. Municipalities under SCP II also benefitted from Technical

Assistance under Component A of SCP I, including the Sustainable Cities Planning and Management component funded by the EU.

- SCP-II-AF will follow the same structure as the SCP-II, having the same two components:
  - Component A: Municipal finance supports demand-driven municipal infrastructure investments to improve public transport, water and wastewater, solid waste management, energy, environment, disaster and climate resilience, and social infrastructure. The component would finance goods, works, and non-consulting and consultant services, including hiring local technical consultants for engineering design and construction supervision.
  - Component B: Project Management (ILBANK) funds goods and consultancy services for project management, monitoring, evaluation, outreach, and communication. Municipalities under SCP II also benefitted from Technical Assistance under Component A of SCP I, which included the component for Sustainable Cities Planning and Management funded by the EU.

SCP-II AF includes the same two components as SCP-II. The SCP-II AF will also be very similar to SCP II in terms of nature of the subprojects (investments).

In the scope of SCP-II AF, ILBANK is responsible for identifying eligible sub-borrowers (district municipalities, metropolitan municipalities, or their affiliated utilities) and ensuring that the sub-project eligibility criteria are met. Potential sub-projects were identified in five different sectors that include environmental infrastructure (water and sanitation and waste management), energy efficiency (geothermal heating and drilling), urban mobility (intercity railway line, bicycle road), social infrastructure (kindergarten, center for disabled and elderly people) and disaster risk management (firefighting services).

Sub-projects should meet a set of eligibility criteria to ensure that all sub-projects supported under the project are financially, economically, and technically viable and meet all environmental and social requirements. The project's sub-borrowers (district municipalities, metropolitan municipalities, or their affiliated utilities) will have to meet the sub-borrower eligibility criteria and be mutually agreed upon by ILBANK and the WB. ILBANK will work with sub-borrowers to appraise sub-projects. The reports and studies of the proposed sub-projects will be reviewed and approved by ILBANK and the Strategy and Budget Office of the Presidency in terms of technical, environmental, social, financial, and economic perspectives and accordance with the WB's environmental and social safeguard policies.

Çilimli Water, Stormwater and Sewerage Network Construction Project (Project) of Çilimli Municipality (CM) is one of the identified sub-projects under the Environmental Infrastructure sector within the scope of SCP-II-AF. The Project is in Çilimli District of Düzce province in northern Türkiye. The Project will involve the construction and operation of the 18,016 m of water network, 15,560 m of stormwater network and 28,163 m of sewage network in Ulucami

Neighborhood of Çilimli District; and also 10,105 m of the stormwater network on Düzce Street that passes through Ulucami, Şerefiye, Mahirağa and Topçular neighborhoods.

This project is exempt from an EIA study according to the repealed Turkish EIA Regulation (Official Gazette (OG) numbered 29186 and dated 25.11.2014). The EIA Exemption Letter is given in Annex 1. The EIA exemption letter is still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed. On the other hand, according to the WB's Operational Policy for Environmental Assessment (OP 4.01), the Project has been categorized as Category B.

1.2 Scope of the Project

Çilimli Municipality has proposed a water, stormwater and sewerage network construction project as part of the SCP II - AF Group 4 to serve Çilimli District. The Project aims to provide integrated and sustainable management of water resources, to improve the quality of water and wastewater services, to ensure access to safe drinking water, to protect water resources, to improve stormwater services. ACE Consulting and Engineering Inc. (ACE) has been assigned to prepare environmental and social reports for this project. The scope of ACE's assignment is as follows:

- Prepare an Environmental and Social Management Plan (ESMP) associated with the risk assessment and anticipated environmental and social impacts based on the principles set out in the Environmental and Social Management Framework (ESMF) (including Stakeholder Engagement Framework) and Land Acquisition and Resettlement Policy Framework (LARPF) of ILBANK[1]. The ESMP aims to cover measures to be taken during construction and operation of the sub-projects to avoid, minimize, mitigate, compensate, and/or offset the identified adverse impacts, as well as the recommended specific actions, indicators for monitoring and evaluation, institutional responsibilities, reporting arrangements, and budget needed to implement these measures covered in the ESMP. A Resettlement Action Plan (RAP) or Ex-Post Social Audit was not deemed necessary for this Project.
- Prepare a separate Stakeholder Engagement Plan (SEP) to identify the stakeholders, including the potentially vulnerable/disadvantaged individuals/ groups, outline the sub-projects communication and engagement strategy, introduce tools and measures of engagement, and set out the principles of grievance regardless of the Project.
- Carry out a Public Consultation Meeting with interested and affected parties and all relevant stakeholders; including the vulnerable/ disadvantaged groups/individuals and analysis of barriers, challenges, constraints to women's participation; about the potential environmental and social impacts and risks associated with the sub-projects.

[1] https://www.ilbank.gov.tr/sayfa/surdurulebilir-sehirler-projesi-ii-ek-finansman

1.3 Purpose and Scope of Environmental and Social Management Plan

In line with the objective and targets, the ESMP addresses parameters, methods, and criteria to monitor and measure activities and/or conditions. Specific actions are described that the Çilimli Municipality and contractor will take charge of implementing the mitigation measures and fulfilling the commitments in defined relevant legislation, subsequently through allowing and finally through adaptive management in response to monitoring and follow-up. The objective and target of these plans are to avoid, remove, or reduce any adverse environmental and social (E&S) impacts/risks to acceptable levels.

The ESMP will cover the activities of the Project, including contractors, subcontractors, and primary suppliers over which the contractor has control or influence. The level of detail and complexity of the plans is proportional to the expected impacts and risks of the Project.

The ESMP documents the Project's environmental and social risk management strategy. In addition, it represents an "Umbrella Document" integrating 1) the findings of all impact/risk studies carried out during land preparation, construction, and operation phases, 2) the plans and other provisions for complying with the requirements of the standards/policies that were triggered and 3) country- and site-specific information relevant for the project's management strategy. The ESMP is an integral part of the project proposal.

The ESMP has the following content:

- A description of the Project including log frame and project activities, location, geographic extent of the project, and any characteristics of the area of particular interest (e.g., near a protected area, area of cultural or historical interest),
- A brief reviewof the legal framework for environmental and social management of the Project,
- The environmental and social baseline of the project area,
- Complete list of identified adverse environmental and social impacts/risks that specific project activities may cause and their significance,
- Planned mitigation measures to avoid adverse environmental and/or social impacts/risks, to minimize them to acceptable levels or compensate them, including responsibilities (staffing) and schedule for implementing the mitigation measures,
- Planned monitoring activities to follow adverse environmental and/or social impacts/risks and measuring the effectiveness of the mitigation measures, including responsibilities (staffing) and schedule for implementing the monitoring activities,
- Description of the executing entities' capacity to implement the ESMP and their responsibilities; where needed, provide for capacity building measures (to be included in the ESMP budget),

- Activities performed/to be performed for consultation with the project-affected groups and non-governmental organizations (NGOs) during the ESMP process. .

This ESMP provides measures intended to be sufficient, feasible, and sustainable for mitigating the impacts. There are instances where a mitigation measure is already conceptualized as an activity in the project's main implementation plan. Such activities are still included in the ESMP along with all other mitigation measures to provide an overall picture of the project's mitigation strategy and to be able to check the list of mitigation measures against the identified impacts.

Environmental and social monitoring provides information on significant environmental and social issues, especially on the efficiency of measures taken and environmental impacts/risks of the project at the implementation stage of the project. Such information enables the assessment of the success of the efforts that are part of project supervision for the Project Owner and supervision mechanism and allows proper action whenever necessary. Therefore, the ESMP defines the purposes and types of monitoring and defines the indicators, thus establishing project measures.

2 Project Description

This chapter provides information on the Project location, describes the Project, and summarizes the key components and activities during the construction and operation phases of the Project and project categorization as per national and international requirements.

2.1 Project Location

The Project is planned to be implemented in Çilimli District of Düzce Province in Türkiye. Düzce Province is in the Black Sea Region of Türkiye and is surrounded by the Black Sea to the north, Sakarya Province to the west, Bolu Province to the south and Zonguldak Provinces to the east. Düzce Province has a total of 405,131 (TurkStat 2022 data, www.tuik.gov.tr/) residents in its eight (8) districts that include Akçakoca, Cumayeri, Çilimli, Düzce, Gölyaka, Gümüşova, Kaynaşlı and Yığılca. Düzce Province has a surface area of 739.1 km^2. The location of Düzce Province, Çilimli District, and surrounding districts are shown in Figure 2-1.

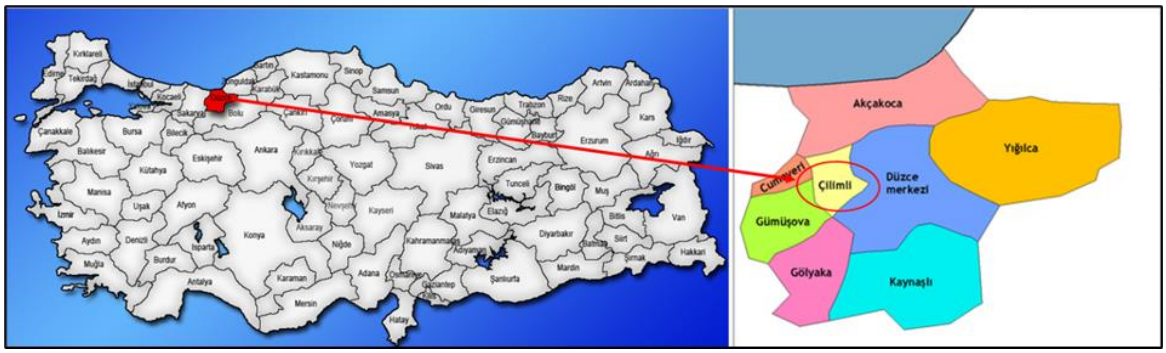

Figure 2-1. Project Location

Çilimli District has a total of 19,648 inhabitants (TurkStat 2022 data, www.tuik.gov.tr/) in its seven (7) neighborhoods and 20 villages with a surface area of 100 km² and an average of 222 m elevation from sea level. Akçakoca District surrounds Çilimli District to the north, Cumayeri and Gümüşova Districts to the west, Gölyaka District to the south, and Düzce District to the east. The satellite view of Çilimli District is shown in Figure 2-2.

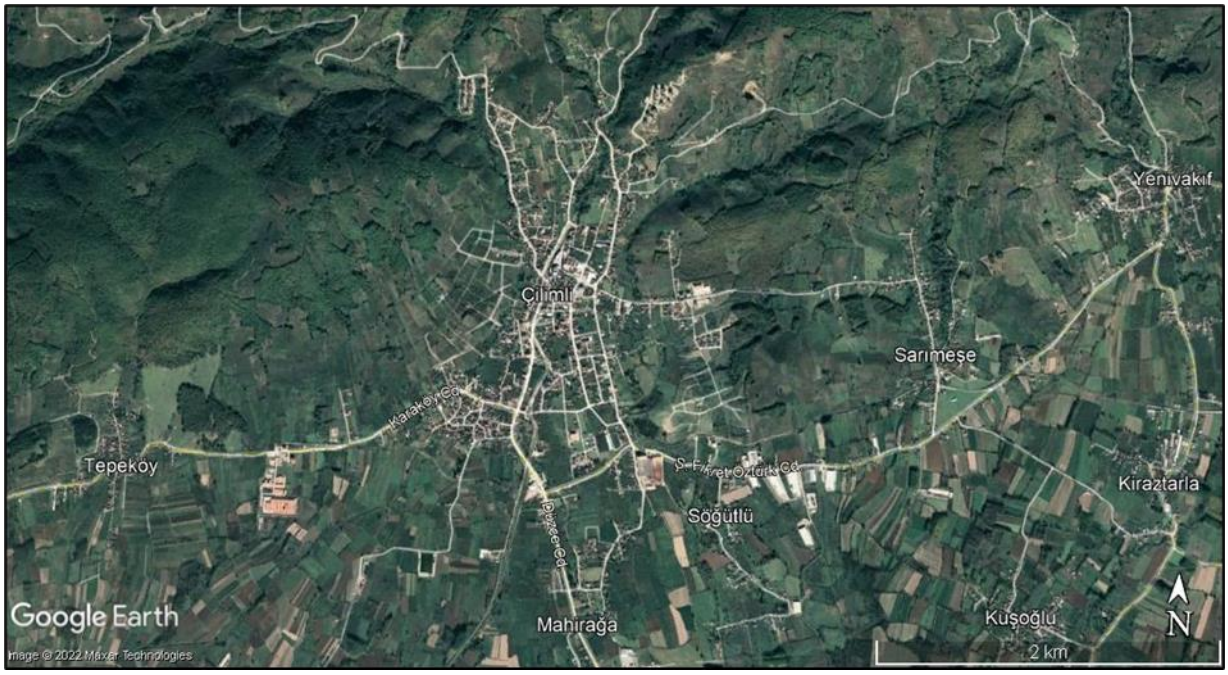

Figure 2-2. Satellite View of Çilimli District

The Project area is not located within any natural habitat or protection zone. Besides, there is no internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance and Alliance for Zero Extinction Sites) within the area of influence.

2.2 Project Characteristics

The Project will involve the construction and operation of the water, stormwater and sewerage network in Ulucami Neighborhood of Çilimli District. The stormwater network also extends to Şerefiye, Mahirağa and Topcular neighborhoods of Çilimli District.The Project will involve the construction and operation of a 18,016 m of water network, 15,560 m of stormwater network and 28,163 m of sewage network in Ulucami Neighborhood of Çilimli District; and also 10,105 m of the stormwater network on Düzce Street that passes through Ulucami, Şerefiye, Mahirağa and Topçular neighborhoods; making in total of 71,844 m of water, sewerage and stormwater network. The water, stormwater and sewerage network will be constructed in areas as shown in Figure 2-3 and Figure 2-4.

The Project will be constructed on existing roads in the zoning plan, and no expropriation/resettlement will occur in relation to the Project based on information provided by CM.

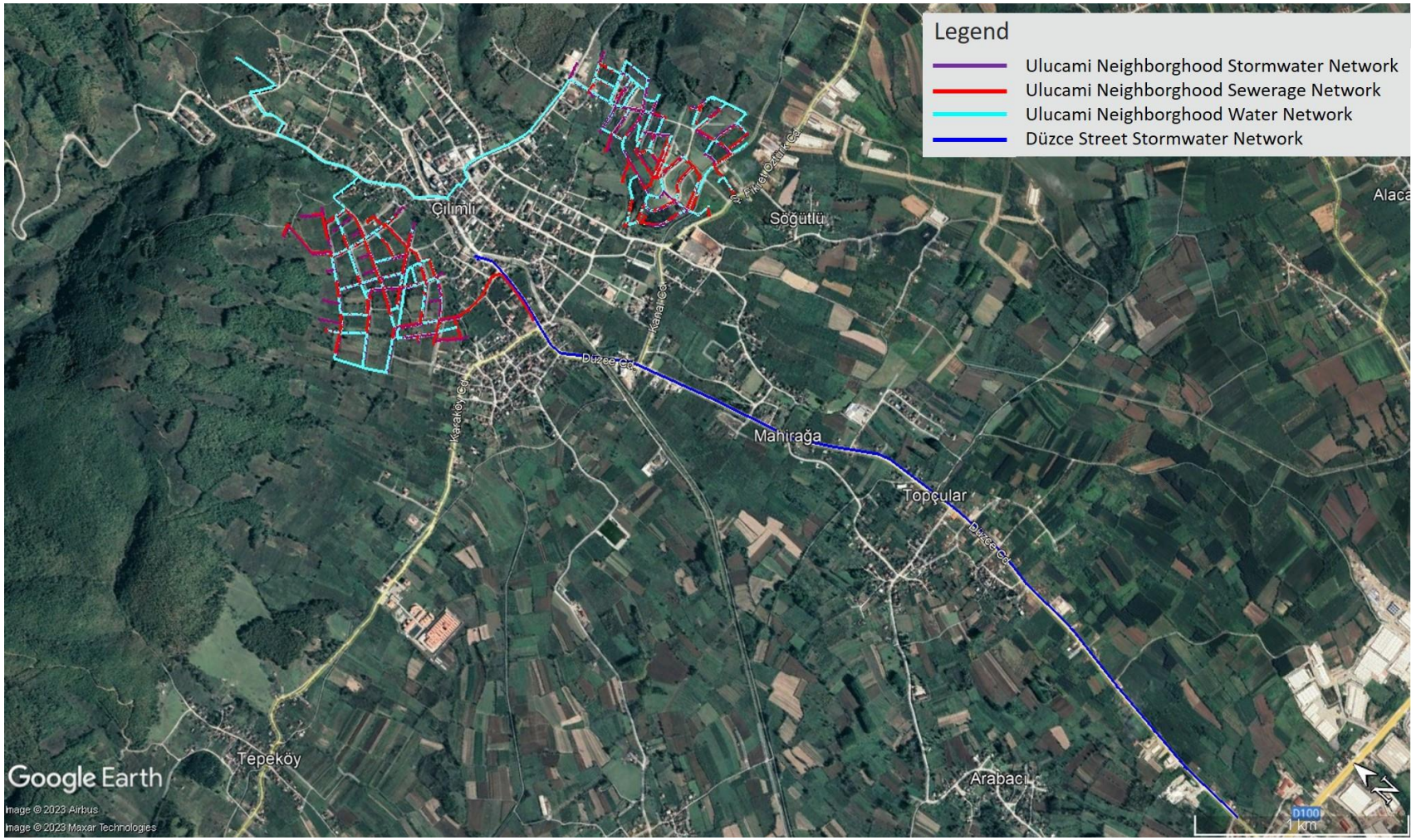

Figure 2-3. Distribution of Pipe Network of the Project

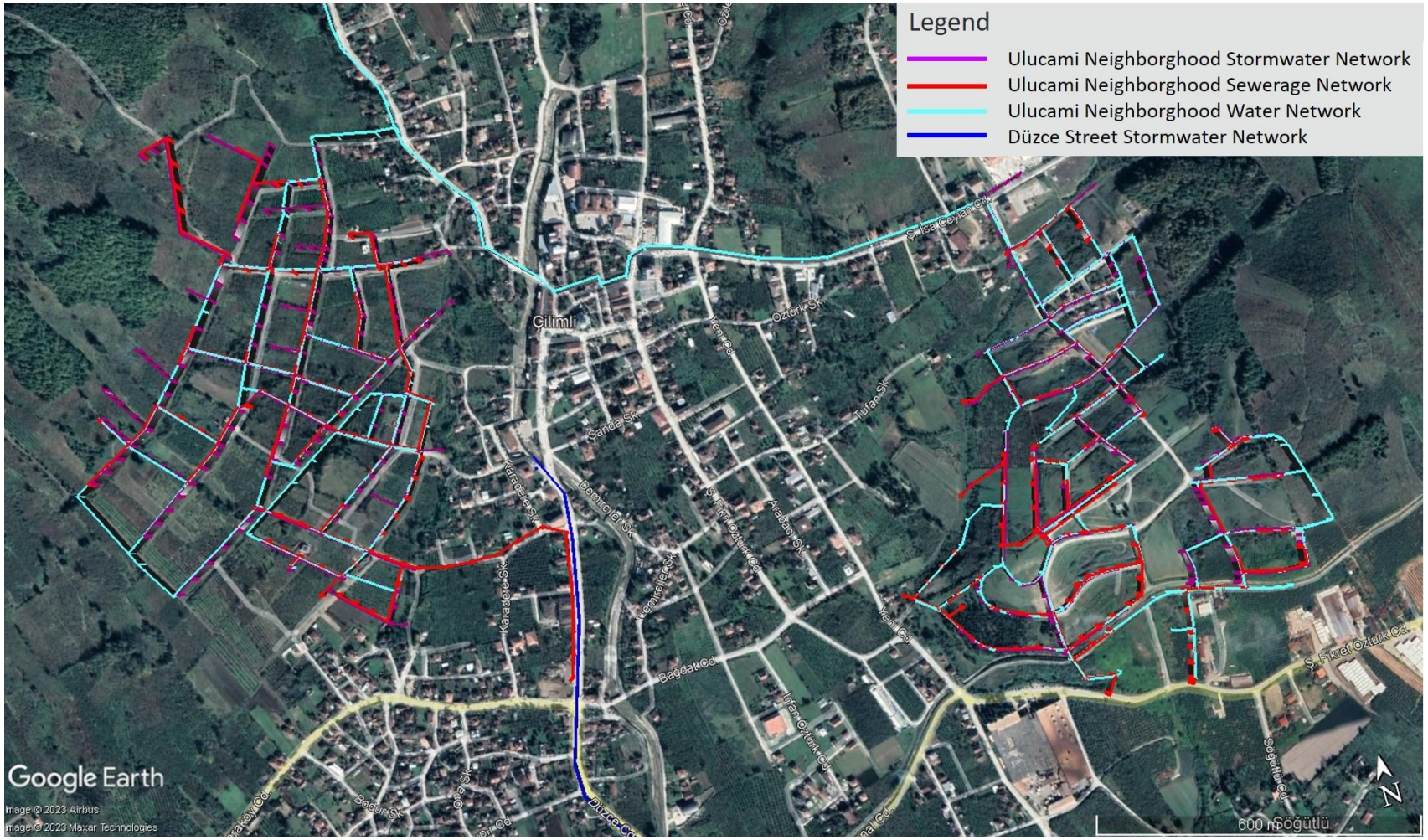

Figure 2-4. Distribution of Pipe Network of the Project – Closer View of Ulucami Neighborhood

Based on the information in the Çilimli (Düzce) Ulucami Neighborhood Western and East Regions Wastewater Final Project Explanation Report (2021), the year 2056 was accepted as the project's target year. Accordingly, the project population is projected as 6,000 people and the following calculations were made:

- The daily water consumption per person was taken as 90 L/day/person for Ulucami Neighborhood in line with the ILBANK specification. The net residential water consumption was accepted to reach 121 L/person/day in 2056 considering that loss and leakage will be reduced in the following years. 30.3 L/person/day was taken for trade, construction and service sectors. Therefore, the total water consumption is calculated as 161 L/person/day. Considering a 20% of loss and leakage value in 2056, the gross human water need is calculated as 202 L/person/day and 14.01 L/s (for a population of 6,000 people).
- Since animal husbandry activities are undertaken at the Ulucami neighborhood, the water need for animals has been considered. There are 80 ovine and 650 bovine animals in the Ulucami neighborhood. The water need is calculated as 1 L/s.
- The total gross water consumption for Ulucami Neighborhood makes 15.01 L/s which is taken as 16 L/s.
- The total area of Ulucami Neighborhood is 2.387 km^2. The Project only covers part of the Ulucami Neighborhood that is approximately 1 km^2. Therefore, the total water need flow rate is taken as 7 L/s.
- The sewerage network is designed considering a wastewater flow for 12 hours. Accordingly, the wastewater flowrate for 35 years is calculated as 14 L/s.

The sewerage and stormwater network pipe lengths and the number of inspection/parcel/screen chambers are presented in Table 2-1 and Table 2-2. The water network pipe lengths are presented in and Table 2-3.

Table 2-1. Sewerage Network Project Pipe Lengths, Inspection and Parcel Chambers

Network	**Sewerage Line (m)**	**Inspection Chambers (in number)**	**Parcel Chambers (in number)**
Pipe Diameter	**200 mm**	**200-500 mm**	**-**
Ulucami Neighborhhod	11,202 (concrete pipe)	304	274
	16,961 (corrugated pipe)		

Table 2-2. Stormwater Network Project Pipe Lengths, Inspection and Screen Chambers

Network	**Stormwater Line (m)**						**Inspection Chambers (in number)**			**Screen Chambers (in number)**
Pipe Diameter	**200 mm**	**300 mm**	**400 mm**	**500 mm**	**600 mm**	**800 mm**	**200-500 mm**	**600 mm**	**600-800 mm**	**-**
Ulucami Neighborhhod	3,698 [a]	6,849 [b]	1,899 [b]	1,199 [b]	1,218 [b]	697 [b]	339	-	63	384
Düzce Street	538 [b]	-	5,186 [b]	2,501 [b]	1,880 [b]	-	218	49	-	248

[a] corrugated pipe, [b] concrete pipe

Table 2-3. Water Network Project Pipe Lengths

Network	**Water Line (m)**				
Pipe Diameter	**75 mm**	**110 mm**	**125 mm**	**200 mm**	**200 mm**
Ulucami Neighborhhod	10,104 [a]	5,188 [a]	1,668 [a]	791 [a]	265 [b]

[a] 10 Above Atmospheric pressure PE100 pipe, [b] 12 Above Atmospheric pressure PE100 .

The other components of the Project include two pressure reducing valve chambers and residual chlorine measurement room within the scope of water network construction project; and 9,800 m of pavement within the scope of stormwater network construction in Düzce Street.

The potable water need of Çilimli District is currently supplied from spring water and groundwater wells in Çilimli District. The potable water need within the scope of the Project will be supplied from the same sources.

The type of equipment used during the construction of the Project will include an excavator, backhoe-loader, vibrator, truck, water sprinkler, asphalt cutting machine, welding machine, electrofusion welding machine, portable generator, portable compressor, crane, motor pump, vibratory compactor, inspection vehicle (4x4) and GNSS (global navigation satellite system) receiver. The quantities of the equipment are not precise at this stage.

The exact number of employees who will work during the construction phase will be determined after the tender phase. It is expected that around 20 people will work during the construction phase. There will be no additional employees who will work continuously during the operation phase, but there will be workers in the field in case of maintenance and repair . The work area of construction phase will include camp facilities, dining hall, dormitory (if necessary), hygienic areas, and office and maintenance areas for machinery and equipment. The location of the camp area will be determined based on the negotiations to be held with Çilimli Municipality and the contractor after the tender phase. The location of the camp area will be an area owned by Çilimli Municipality and be used only for the Project purposes. The camp site to be constructed for the Project will meet the standards for worker accommodation prepared by International Finance Corporation (IFC) and European Bank for Reconstruction and Development (EBRD) and approved by the WB[2] No borrow areas or quarries will be required for the Project. Ready-mix concrete will be used during construction. The Project does not cover asphalting/paving (except for pavement in Düzce Street); these works will be undertaken by Çilimli Municipality through Municipality's contracted firm after the construction phase.

Considering the areas that are of particular interest in the vicinity of the project area, Sarıkyayla Waterfall, Efteni Lake Wildlife Improvement Area, Aydınpınar Waterfall Natural Park and Güzeldere Waterfall Natural Park are located at approximate distances of 9 km to the north, 15 km to the south, 16 km to the south, 18 km to the south, respectively. The Project area is not located within any natural habitat or protection zone. Besides, there is no internationally

[2] https://documents1.worldbank.org/curated/en/604561468170043490/pdf/602530WP0worke10Box358316B01PUBLIC1.pdf

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 Sites) within the area of influence.

2.3 Planned Project Schedule

Çilimli Municipality indicated that the exact planned project schedule has not been determined yet, however approximate duration of the phases is given below:

- Supervision Consultant Selection for Design Review and Revisions (6-9 months),
- Bid preparation, bidding and bid evaluation (4-6 months),
- Contract signing and Construction (18 months),
- Defect Reporting Period (6-9 months).

2.4 Project Categorization

According to the repealed Turkish EIA Regulation (OG numbered 29186 and dated 25.11.2014), this project is exempt from an EIA study. The EIA Exemption Letter issued by Düzce Provincial Directorate of Environment, Urbanization and Climate Change (PDEUCC) for the Project based on the repealed EIA Regulation (OG numbered 29186 and dated 25.11.2014) is given in Annex 1. This letter is still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed. Under the WB's Operational Policy for Environmental Assessment (O.P. 4.01), projects are classified as Category A, B, and C according to the level of their likely impact on the environment, as given in Table 2-4. Çilimli Water, Stormwater and Sewerage Network Construction Project has been categorized as Category B.

Table 2-4. WB Project Categorization

Category Type	WB Categorization
Category A	A proposed project is classified as Category A if it is likely to have significant adverse environmental and social impacts (based on its type, location, sensitivity, scale, and the nature and magnitude of its potential environmental impacts). These impacts are generally large-scale, irreversible, sensitive, diverse, cumulative, or precedent-setting and may affect an area broader than the sites or facilities financed by the project.
Category B	A proposed project is classified as Category B if the potential environmental and social impacts are typically site-specific, reversible in nature, less adverse than those of Category A subprojects, and mitigatory measures can be designed more readily.
Category C	A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts.

2.5 Responsible Parties in the Project

The parties that will be involved in the Project management and construction supervision include the following:

- *World Bank (WB):* WB is the financier of the Project.
- *ILBANK:* ILBANK is the Borrower of the loan and the Project Implementing Agency, serving as a Financial Intermediary.
- *ILBANK Regional Directorate:* Istanbul ILBANK Regional Directorate will cooperate with the municipality to complete the project with responsibilities limited to supporting the Administration and the Project Implementation Unit.
- *Supervision Consultant:* A consultancy firm will make the supervision during the construction phase, who will be selected by tender process to be opened by Çilimli Municipality and approved by ILBANK.
- *Final Beneficiary – Çilimli Municipality (CM):* CM is the Project's final beneficiary, the Project Owner and executive body. CM will be responsible for preparing the design and feasibility studies during the project preparation phase and the practice of tender dossiers, and the tendering process. Upon completion of the construction phase, CM will be the owner of the facilities provided by the Project and is responsible for the proper operation of the facilities.
- *Project Implementation Unit (PIU) – CM:* A PIU will be established within CM to follow the execution of the project on behalf of CM.

2.6 Site Visit

A site reconnaissance visit was conducted on 02.11.2021 and 26.04.2022. Photos taken during the site visit showing streets where water, stormwater and sewerage lines will be constructed, are presented in Figure 2-5.

Figure 2-5. Photographs from Ulucami Neighborhood – western part

Figure 2-6. Photographs from Ulucami Neighborhood – eastern part

Figure 2-7. Photographs from Düzce Street

3 Legal Framework

This chapter provides an overview of the regulatory framework and the standards relevant to the Project, focusing briefly on key national legislation and WB environmental and social policies.

3.1 National Legislation

3.1.1 National Environmental and Social Legislation

Turkish Environmental Law (No: 2872), which came into force in 1983 (Official Gazette (OG) dated 11.08.1983 and numbered 18132), is Türkiye's primary framework for environmental legislation and is supported by a series of regulations that have been developed in line with national and international initiatives and standards, and some of them have been revised recently to be harmonized with the European Union (EU) Directives in the scope of pre-accession efforts of Türkiye.

Labor, health, and safety issues are collectively ruled by the Labor Law (No. 4857), (OG dated 10.06.2003 and numbered 25134), Occupational Health and Safety Law (Law No. 6331), and associated regulations.

The Law on Right to Access to Information (No: 4982) (OG dated 24.10.2003 and numbered 25269) and Law on the Use of the Right to Petition (No: 3071) (OG dated 10.11.1984 and numbered 18571) are the relevant laws allowing individuals to exercise their right of information acquirement and their right to make applications to competent authorities related to their requests and complaints, respectively.

The critical national environmental, health, safety, and social legislation relevant to the Project include but not limited to the following:

National Legislation on Environment

- Environmental Law No: 2872; Official Gazette (OG) Date/Number: 11.08.1983/18132,
- Environmental Impact Assessment Regulation; OG Date/Number: 29.07.2022/31907,
- Regulation on Environmental Permits and Licensing; OG Date/Number: 10.09.2014/29115,
- Environmental Auditing Regulation; OG Date/Number: 12.06.2021/31509 ,
- Regulation on Environmental Management Services; OG Date/Number: 30.07.2019/30847,
- Exhaust Gas Emission Control Regulation; OG Date/Number: 11.03.2017/30004,
- Regulation on Control of Industrial Air Pollution; OG Date/Number: 03.07.2009/27277,
- Air Pollution Control Regulation Originating from Heating; OG Date/Number: 13.01.2005/25699,

- Regulation on Air Quality Assessment and Management; OG Date/Number: 06.06.2008/26898,
- Regulation on the Control of Odor Causing Emissions; OG Date/Number: 19.07.2013/ 28712,
- Waste Management Regulation; OG Date/Number: 02.04.2015/29314,
- Regulation on Control of Waste Electrical and Electronic Equipment; OG Date/Number: 22.05.2012/28300,
- Regulation on the Management of Waste Oils; OG Date/Number: 21.12.2019/30985,
- Regulation on Control of Waste Vegetable Oils; OG Date/Number: 06.06.2015/29378,
- Regulation on the Control of Packaging Wastes; OG Date/Number: 26.06.2021/31523,
- Regulation on the Control of Waste Battery and Accumulators; OG Date/Number: 31.08.2004/25569,
- Zero Waste Regulation; OG Date/Number: 12.07.2019/30829,
- Regulation on Control of Excavated Soil, Construction, and Demolition Wastes; OG Date/Number: 18.03.2004/25406,
- Regulation on Environmental Noise Control; OG Date/ Number: 30.11.2022/32029,
- Regulation on Environmental Noise Emission Created by Equipment Used in Open Area (2000/14/AT); OG Date/Number: 30.12.2006/26392,
- Water Pollution Control Regulation; OG Date/Number: 31.12.2004/25687,
- Regulation on Water Intended for Human Consumption OG Date/Number: 17.02.2005/25730,
- Surface Water Quality Regulation; OG Date/Number: 30.11.2012/28483,
- Law on Groundwater No.167; 23.12.1960/10688,
- Regulation on Protection of Groundwater against Pollution and Deterioration; OG Date/Number: 07.04.2012/28257,
- Regulation on Pits to be Made in Places where Sewer Pipeline Construction is not Possible; OG Date/Number: 19/3/1971/13783,
- Regulation on Soil Pollution Control and Point-Source Contaminated Sites; OG Date/Number: 08.06.2010/27605,
- Regulation on Ozone Depleting Substances; OG Date/Number: 07.04.2017/30031;
- Regulation on the Control of Polychlorinated Biphenyls and Polychlorinated Terphenyls; OG Date/Number: 27.12.2007/26739;
- Regulation on Safety Data Sheets for Hazardous Substances and Mixtures; OG Date/Number: 13.12.2014/29204.

National Legislation on Health and Safety

- Occupational Health and Safety (OHS) Law No. 6331; OG Date/Number: 30.06.2012/28339,
- Regulation on Occupational Health and Safety Risk Assessments; OG Date/Number: 29.12.2012/28512;

- Regulation on Occupational Health and Safety Services; OG Date/Number: 29.12.2012/28512,
- Regulation on Duties, Authorizations, Responsibilities, and Training of Occupational Safety Experts; OG Date/Number: 29.12.2012/28512,
- Regulation on Duties, Authorizations, Responsibilities, and Training of Workplace Doctors and Other Health Officials; OG Date/Number: 20.07.2013; 28713,
- Regulation on Procedures and Principles of Health and Safety Training of Employees; OG Date/Number: 15.05.2013/28648,
- Regulation on OHS Services; OG Date/Number: 29.12.2012/28512,
- Regulation on OHS Committees; OG Date/Number: 18.1.2013/28532,
- Regulation on Use of Personal Protective Equipment in Workplaces; OG Date/Number: 02.07.2013/28695,
- Regulation on Health and Safety Signs; OG Date/Number: 11.09.2013/28762,
- Regulation on Vocational Training for the Workers to be Worked in Dangerous and Very Dangerous Works; OG Date/Number: 13.07.2013 /28706,
- Regulation on Health and Safety Requirements in Use of Work Equipment; OG Date/ Number: 25.04.2013/28628,
- Regulation on Personal Protective Equipment (PPE): OG Date/Number: 01.05.2019/ 30761,
- Regulation on Manual Handling Operations; OG Date/Number: 24.07.2013/28717,
- Regulation on the Protection of Employees from Noise Related Risks; OG Date/Number: 28.07.2013/28721,
- Regulation on Protection of Employees from Vibration Risks; OG Date/Number: 22.08.2013/28743,
- Regulation on Control of Dust; OG Date/Number: 05.11.2013/28812,
- Regulation on Machinery Safety; OG Date/Number: 03.03.2009/27158,
- Regulation on Emergencies at Workplaces; OG Date/Number: 18.6.2013/28681,
- Regulation on OHS in Construction Works OG Date/Number: 05.10.2013/28786,
- Regulation on OHS in Temporary or Fixed-Term Works; OG Date/Number: 23.08.2013/28744,
- First Aid Regulation OG Date/Number: 29.07.2015/29429.

National Legislation on Cultural Heritage Protection

- Law No. 2863 on the Protection of Cultural and Natural Assets; OG Date/Number; 18113/23.07.1983.

National Legislation on Labor Management

- Labor Law No. 4857; OG Date/Number: 10.06.2003/25134,
- Law on Unions and Collective Labor Contract No: 6356; OG Date/Number: 07.11.2012/28460,

- Regulation on Work Durations related to the Labor Law; OG Date/Number: 06.04.2004/25425,
- Regulation on Overtime Work related to the Labor Law; OG Date/Number: 06.04.2004/25425,
- Regulation on Working Time That Cannot Be Divided to Weekly Workdays; OG Date/Number: 16.08.2013/28737,
- Regulation on Principles and Procedures for Employment of Children and Young Workers; OG Date/Number: 06.04.2004/25425,
- Regulation on Sub-Contractors; OG Date/Number: 27.09.2008/ 27010,
- Regulation on Minimum Wage; OG Date/Number: 01.08.2004/25540,
- Regulation on Annual Paid Vacation; OG Date/Number: 03.03.2004/25391,
- Regulation on Certain Procedures and Principles for Works that are conducted in Shifts; OG Date/Number: 07.04.2004/25426.

National Legislation on Stakeholder Engagement and Grievance Redress Mechanism

- Right to Information Law. 4982; OG Date/Number: 24.10.2003/25269,
- Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; OG Date/Number: 27.04.2004/25445,
- Use of the Right to Petition Law. 3071; OG Date/Number: 10.11.1984/18571,
- Protection of Personal Data Law. 6698; OG Date/Number: 24.03.2016/29677.

National Legislation on Traffic

- Highway Traffic Law No. 2918; OG Date/Number: 18.10.1983/18195,
- Regulation on Highway Traffic; OG Date/Number: 18.07.1997/23053.

3.1.2 Turkish Environmental Impact Assessment Regulation

The Environmental Impact Assessment (EIA) Regulation (Official Gazette (OG) numbered 29186 and dated 25.11.2014) governs the environmental impact assessment of investment projects in Türkiye and is largely in line with the EU Directive on EIA.

Screening

The EIA Regulation classifies projects into two categories

- **Annex I projects.** These are projects that have significant potential impacts and require an EIA. Annex I of the EIA Regulation lists these project types, where project proponents are expected to start the EIA procedure without any other screening process.
- **Annex II projects.** These are projects that may or may not significantly affect the environment. Annex II of the EIA Regulation lists these project types. Proponents of Annex II projects must submit a Project Identification File (PIF) to the Provincial Directorate of Environment, Urbanization, and Climate Change (PDEUCC). The PIF is prepared following the General Format for PIF provided in Annex IV of the EIA

Regulation and contains information on (i) project characteristics; (ii) project site and existing environmental characteristics of the impact area; and (iii) significant environmental impacts of the project during construction and operation phases and measures to be taken. A non-technical summary of the above items is also added to the PIF. Based on the PIF and the Selection and Elimination Criteria specified in Annex IV of the EIA Regulation, PDEUCC determines whether an EIA is necessary or not.

Public Information and Participation Meetings

For projects that require the preparation of an EIA, the Governorate is required to inform the public that a project application has been submitted in a specified locality, that the EIA process has begun, and that the public may submit its comments and suggestions to the Governorate or Ministry of Environment, Urbanization and Climate Change (MEUCC). It is essential to make a publication at least 10 days before the Public Information and Participation Meeting with the date, location, and name of the relevant Project. The announcement is made using various methods, including the internet, bulletin boards, newspapers and loudspeaker announcements. MEUCC informs the public of the same through the internet.

A formal public information and participation meeting occurs for projects that are subject to an EIA after the screening process and prior to scoping. The project proponent organizes a "public information and participation meeting" chaired by PDEUCC in a location that affected local groups can access easily. The invitation to the meeting is published in a national and a local newspaper at least ten days prior to the meeting.

There is no public information and participation meeting process required for Annex II projects, subject to preliminary environmental impact assessment via a PIF. The PDEUCC will inform the public about the decision through announcement in their website.

Scoping

The project proponent presents a project dossier (EIA Application File using the EIA outline (Annex III of the EIA Regulation) for Annex I projects) to a commission, which comprises representatives of MEUCC and relevant organizations identified by MEUCC. A Stakeholder Engagement Plan has to be prepared as an annex to the EIA Application File. Based on the information submitted and the views and suggestions received from the public, the commission determines the scope of the EIA and issues the "project-specific format" for the EIA report to be prepared.

Review and Approval of the EIA Report

The commission reviews the draft version of the EIA Report prepared using the project-specific format issued. A Final EIA Report, which incorporates the commission's assessments, is then submitted to the MEUCC for final review. MEUCC gives the decision whether the "EIA is positive," in which case the project proponent may implement the project, or "EIA is negative," in which case the project may not go forward.

Disclosure

The draft EIA report is made available to the public for comments at MEUCC or the Provincial Directorate. After MEUCC's final evaluation of the EIA report, the Governorate announces to the public MEUCC's decision together with its justifications.

Monitoring and Inspection

According to the EIA Regulation, MEUCC monitors and inspects projects assessed as either "EIA not required" or "EIA is positive" based on provisions specified in the PIF or the EIA, respectively.

According to the repealed Turkish EIA Regulation (OG numbered 29186 and dated 25.11.2014), the project is exempt from an EIA study thereby public information and participation meetings. The EIA Exemption Letter issued by PDEUCC for the Project based on the repealed EIA Regulation (OG numbered 29186 and dated 25.11.2014) is provided in Annex- 1. This letter is still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed.

3.2 International Framework

The international rules, regulations and conventions relevant to the Project are summarized in the sections below.

3.2.1 WB Operational Policies

OP 4.01 - Environmental Assessment

Under the WB's Operational Policy for Environmental Assessment (OP 4.01), projects are classified as Category A, B, and C according to the level of their likely impact on the environment:

- ***Category A.*** A proposed project is classified as Category A if it is likely to have significant adverse environmental and social impacts/risks (based on its type, location, sensitivity, scale, and the nature and magnitude of its potential environmental impacts). These impacts are generally large-scale, irreversible, sensitive, diverse, cumulative, or precedent-setting and may affect an area broader than the sites or facilities financed by the project. For example, Category A projects have one or more of the following attributes: large-scale conversion or degradation of natural habitats; extraction, consumption, or conversion of substantial amounts of forest, mineral, and other natural resources; direct discharge of pollutants resulting in degradation of air, water or soil; production, storage, use or disposal of hazardous materials and wastes; measurable changes in the hydrologic cycle; risks associated with the proposed use of pesticides. Indicative examples in the context of the present project include the construction of a

significant new wastewater treatment plant, a new landfill, and rehabilitation of an existing landfill with significant environmental impact.

- ***Category B.*** A proposed project is classified as Category B if the potential impacts on the environment and society are typically site-specific, reversible, less adverse than those of Category A subprojects, and for which mitigatory measures can be designed more readily. Projects in Category B sometimes differ only in scale from Category A projects of the same type. For example, large irrigation and drainage projects are usually categorized as A; however, small-scale projects of the same type may be classified as B. The same can be true for small-scale, relatively clean (gas or light diesel oil-fired) thermal power plants, micro-hydropower plants, and small sanitary landfills. Similarly, projects that finance rehabilitating or maintaining an existing infrastructure may have adverse impacts but are likely to be less significant compared to a Category A project and would be categorized as B. Indicative examples include rehabilitation or construction of water supply and/or sewerage network, water treatment plants, wastewater treatment plants which does not include an expansion or new construction, construction of small-scale water treatment plants, urban transport and energy efficiency. Although it has not been specified in the OP, Category B projects divide in two within its structure as Low B and High B projects in practice. Category High B projects have more impacts and mitigation measures than Category Low B projects. Yet, the impacts and mitigation measures are not significant enough to be recognized as Category A projects.
- ***Category C.*** A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. For example, technical assistance projects in institutional development, computerization, and training fall in Category C.

When a WB-funded project involves a series of subprojects selected and funded by a financial intermediary (FI) using WB loan proceeds, the project is classified as Category FI. In such projects, the FI screens and organizes the proposed subprojects as Category A, B, or C following the above definitions and ensures that the borrower carries out the corresponding environmental assessment. Since the current project is an FI project, the following discussion will refer to subprojects only.

Unlike the national EIA Regulation, no clear-cut border values distinguish the categories or any ready lists of project types for categorizing projects as A, B, and C; instead, projects are screened on a case-by-case basis. Although the categorization of projects is based on the magnitude of environmental impacts, projects with high-level social risks may also be determinative in categorizing a project.

Scope of Environmental Assessment

For Category A sub-projects, the borrower is required to prepare an ESIA, which examines the subproject's potential negative and positive environmental impacts as well as its social impacts, compares them with those of feasible alternatives (including the "without project" situation),

and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance. Analysis of alternatives is a particularly important feature of an ESIA. ESIA also includes an ESMP that details the measures to be taken during the implementation and operation of a (sub) project to eliminate, reduce or offset adverse environmental and social impacts, the actions needed to implement these measures as well as monitoring indicators and actions and responsibilities.

The scope of Environmental Assessment (EA) for a Category B subproject may vary from subproject to subproject. Still, it is narrower than the ESIA required for Category A. Like Category A ESIA, it examines the subproject's potential negative and positive environmental and social impacts/risks and recommends any measures to prevent, minimize, mitigate, or mitigate compensate for adverse impacts and improve environmental performance. If the project is recognized as a Category B, this information may be contained in an ESMP only unless site-specific issues necessitate a site-specific assessment in addition to the ESMP. An example is modest scale building construction on a site in an urban area which would normally require only an ESMP if it is known that there are no environmental and social issues relating to the site. If it is constructed on a greenfield site, a simple EA would be needed to clarify whether any special environmental or social issues are of concern. The project could turn into Category A if EA work shows the likelihood of significant damage to natural habitat or cases requiring a significant amount of land. On the other hand, if the project is recognized as High B, a partial EA document or partial ESIA must satisfy the expected requirements.

Public Consultation

For all Category A and B subprojects proposed for WB financing, the borrower consults subproject-affected groups and Non-Governmental Organizations (NGOs) about the subproject's environmental and social aspects during the EA process and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, consultations with these groups occur at least twice: a) shortly after environmental screening and before the terms of reference for the ESIA are finalized; and (b) once a draft ESIA report is prepared. The borrower provides for the initial consultation a summary of the proposed subproject's objectives, description, and potential impacts related to both environmental and social issues. For consultation after the draft ESIA report is prepared, the borrower provides a summary of the ESIA's conclusions. For Category B subprojects, at least one consultation is held with affected groups and local NGOs: once the draft EA report (including ESMP) is prepared. The borrower provides a summary of the EA’s conclusions.

In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.

For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B subprojects proposed for WB financing, the borrower provides relevant material (in local language) on time before consultation and in a form and language that is understandable and accessible to the groups being consulted.

Review and Approval of the EA

In FI projects, the responsibility to ensure that OP 4.01 requirements are met rests with the FI. The EA process should generally be completed before the FI approves a subproject for a WB loan financing.

Conditionality

In FI projects, the sub-loan agreement between ILBANK and the borrower must include the conditionality for the borrower to implement the ESMP for Category A and B subprojects. To fulfill its environmental and social obligation, the borrower may incorporate the ESMP into the procurement documents and contracts for works. The borrower must monitor and ensure that the contractor complies with the provisions of the ESMP. Non-compliance may lead to the suspension of WB funding for the subproject.

Disclosure

In addition to the disclosure requirements specified under "c) Public consultation" above, for Category A subprojects, the FI/municipality must make the draft EIA report in local language publicly available to subproject-affected groups and local NGOs before the meeting.

When the ESIA of a Category A subproject is finalized, the FI transmits an English copy of the final report to WB, including an English language executive summary. The Bank distributes the executive summary to its executive directors and makes the information available through its external website.

In the case of Category B subprojects, the FI transmits to WB the final English language Category B EA report, and WB makes it available through its external website.

Implementation

During subproject implementation, the FI reports to WB on (a) compliance with measures agreed with the Bank based on the findings and results of the EA and additional social assessment (if any), including implementation of the ESMP; and (b) the findings of monitoring programs. The Bank bases supervision of the project's environmental and social aspects on the findings and recommendations of the EA and social assessment, including measures set out in the legal agreements, any ESMP, and other project documents.

OP 4.04 - Natural Habitats

Subprojects that have a significant impact on a recognized critical habitat or ecosystem will be identified as ineligible and the key issue in the ESIA will be the identification of alternatives to the subproject in terms of site and scope. If the subproject's likely impact on natural habitats is not significant or the impact is not on critical habitats, then the priority is to solve the situation

through re-siting. If that is not possible, the appropriate mitigation measures will be acknowledged for the related circumstance.

OP 4.11 - Physical Cultural Resources

As the initial stage of baseline studies, literature and surficial studies will be performed. Depending on these studies, the potential impact on these sources and related mitigation measures are assessed in EA/ESIA. However, buried assets (i.e., graves or mounds) may not be determined during baseline studies due to the nature of physical, cultural resources. The principal issue is twofold: (i) "chance finds" identification of during construction and (ii) potential impact of the project on known cultural values. Turkish laws, notably Law on the Protection of Cultural and Natural Assets No. 2863 (OG numbered 18113 and dated 21.07.1983) (revised through the amendment issued on OG numbered 25535 and dated 27.07.2004) and practices meet the WB requirements. The Regulation on Research, Drillings and Excavations concerning the Cultural and Natural Assets, published in the OG numbered 18485 and dated 10.08.1994, defines the procedures and obligations concerning the cultural and natural assets found out during construction. The municipalities are responsible for the application of the said law and regulation. As part of the regular reporting, the municipalities will inform ILBANK of the historical and cultural findings, if any, and the actions are taken. ILBANK is responsible for avoiding or mitigating impacts on the physical or cultural resources of the financed projects. Therefore, ILBANK will not proceed with sub-project funding until all requirements of the Turkish legislation are met.

OP 4.12 - Involuntary Resettlement

ILBANK has prepared a Land Acquisition and Resettlement Policy Framework (LARPF), which meets requirements of the Bank's OP 4.12 during cases of land take. Some of the sub-projects may require additional lands to be acquired for construction. In such cases, municipalities will try to avoid land take by considering alternative lands, which may belong to the municipality itself or any other public lands that may be transferred to the municipality for the Project. Additionally, existing roads and infrastructure lines will be made use of where applicable to avoid taking land in linear sub-project components. When the land take is inevitable, Project design will ensure that minimum land take is realized. In cases where there is a need to acquire additional land, a Land Acquisition and Resettlement Action Plan (LARAP) will be prepared by the borrowing municipality according to the LARPF prepared for the Project. Every sub-project that will require land acquisition shall have an individual LARAP that will be approved by ILBANK and cleared by the WB before construction.

OP 4.37 - Safety of Dams

Any sub-project which results in triggering of the policy will not be eligible for financing under SCP.

OP 7.50 - Projects on International Waterways

ILBANK is responsible for ensuring that the projects financed are located/depending on national waterways only. The waterways identified as NOT an international waterway (do not trigger OP 7.50) in Türkiye are as follows: Susurluk, North Aegean, Gediz, Küçük Menderes, Büyük Menderes, Western Mediterranean, Antalya, Sakarya, Western Black Sea, Yeşilırmak, Kızılırmak, Konya Kapalı, Eastern Mediterranean, Seyhan, Ceyhan, Eastern Black Sea, Burdur, Afyon, Central Anatolia, and Van. Any sub-project that triggers OP 7.50 will not be eligible for Bank financing. In this respect, the Project is not located in the international waterways.

The WB OPs that the Project triggers are presented in Table 3-1.

Table 3-1. WB OPs Triggered by the Project

WB OP	Triggered	Notes
OP 4.01 Environmental Assessment	Yes	There is a need to identify and evaluate the potential environmental and social impacts/risks of the Project and identify relevant mitigation measures to be in line with good international practice and meet the requirements of the OP 4.01, which is the scope of this ESMP study.
OP 4.04 Natural Habitats	No	The Project will be constructed in an urban setting on existing roads. The Project is not located in any vulnerable area such as environmental protection areas, critical habitats and natural habitats etc. The nearest protected area to the project area is Sarıkyayla Waterfall, located at 9 km north of the project area.
OP 4.09 Pest Management	No	The Project does not include any activity that requires pest management.
OP 4.10 Indigenous Peoples	No	This policy is not triggered as there are no people in Türkiye meeting the criteria in OP 4.10 for indigenous people.
OP 4.11 Physical Cultural Resources	No	The Project will be constructed in an urban setting on existing roads where encountering archaeological artifacts is unlikely. A Chance Finds Procedure (Annex 6) will be implemented by the Project during construction phase.
Op 4.12 Involuntary Resettlement	No	The Project will be constructed on existing roads in the zoning plan, and no resettlement will occur in relation to the water, sewerage and stormwater network lines of the Project based on information provided by CM.
OP 4.36 Forests	No	The Project will be constructed in an area where forest does not exist.
OP 4.37 Safety of Dams	No	No dam or dam- like structure will be constructed nor the project will rely on the performance of an existing dam or a dam under construction within the scope of the Project.
OP 7.60 Projects in Disputed Areas	No	The Project is not located within a disputed area.
OP 7.50 Projects on International Waterways	No	OP 7.50 applies to water projects that involve the use or potential pollution of international waterways. The project area is located

WB OP	Triggered	Notes
		in Düzce province which is identified as not an international waterway. Thus, the Project does not trigger OP 7.50.

3.2.2 World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines

The WBG EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice. If national regulations differ from the levels and measures stated in these guidelines, most stringent standards will apply to the Project for all environmental and social standards. The General EHS Guidelines are organized as follows:

1. Environmental
    - 1.1 Air Emissions and Ambient Air Quality
    - 1.2 Energy Conservation
    - 1.3 Wastewater and Ambient Water Quality
    - 1.4 Water Conservation
    - 1.5 Hazardous Materials Management
    - 1.6 Waste Management
    - 1.7 Noise
    - 1.8 Contaminated Land
2. Occupational Health and Safety
    - 2.1 General Facility Design and Operation
    - 2.2 Communication and Training
    - 2.3 Physical Hazards
    - 2.4 Chemical Hazards
    - 2.5 Biological Hazards
    - 2.6 Radiological Hazards
    - 2.7 Personal Protective Equipment (PPE)
    - 2.8 Special Hazard Environments
    - 2.9 Monitoring
3. Community Health and Safety
    - 3.1 Water Quality and Availability
    - 3.2 Structural Safety of Project Infrastructure
    - 3.3 Life and Fire Safety (L&FS)
    - 3.4 Traffic Safety
    - 3.5 Transport of Hazardous Materials
    - 3.6 Disease Prevention
    - 3.7 Emergency Preparedness and Response
4. Construction and Decommissioning
    - 4.1 Environment
    - 4.2 Occupational Health & Safety
    - 4.3 Community Health & Safety

In addition to the WBG General EHS Guidelines, WBG EHS Guidelines for Water and Sanitation is also applicable for this Project. 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.

3.2.3 European Union Environment Policy

EU environment policy rests on precaution, prevention, and rectifying pollution at source, and on the "polluter pays" principle. The precautionary principle is a risk management tool invoked when there is scientific uncertainty about a suspected risk to human health or the environment emanating from a certain action or policy. For instance, should doubts arise about the potentially harmful effects of a product, and should — following an objective scientific evaluation — uncertainty persist, instructions may be given to stop the distribution of the product or remove it from the market. Such measures must be non-discriminatory and proportionate and reviewed once more scientific information is available. The "polluter pays" principle is implemented by the Environmental Liability Directive, which aims to prevent or otherwise remedy environmental damage to protected species or natural habitats, water, and soil. Operators of certain occupational activities, such as the transport of dangerous substances, or activities that imply discharge into waters, have to take preventive measures in case of an imminent threat to the environment. If damage has already occurred, they are obliged to take the appropriate measures to remedy it and pay for the costs. The directive's scope has been broadened three times to include the management of extractive waste, the operation of geological storage sites, and the safety of offshore oil and gas operations, respectively.

Certain projects that are likely to have significant effects on the environment, e.g., constructing a motorway or an airport, are subject to an environmental impact assessment (EIA). Equally, a range of public plans and programs (e.g., land use, transport, energy, waste, or agriculture) are subject to a similar strategic environmental assessment process (SEA). Here, environmental considerations are already integrated at the planning phase, and possible consequences are considered before a project is approved or authorized to ensure a high level of environmental protection. In both cases, consultation with the public is a central aspect. This goes back to the Aarhus Convention, a multilateral environmental agreement under the auspices of the United Nations Economic Commission for Europe (UNECE), which entered into force in 2001 and to which the EU and all its Member States are parties. It guarantees three rights to the public: public participation in environmental decision-making, access to environmental information held by public authorities (e.g., on the state of the environment or of human health were affected by the former), and the right of access to justice where the other two rights have been disregarded. Monitoring is crucial — both state of the environment and the level of implementation of EU environmental law.

3.2.4 International Conventions and Agreements related to Environment to which Türkiye is a Party

Türkiye has ratified several international conventions and agreements to environmental conservation. Those conventions and agreements that are of relevance to the Project are listed below:

- International Convention for the Protection of Birds, Paris 1959 (OG dated 17.12.1966, and numbered 12480),
- Convention for the Establishment of the European and Mediterranean Plant Protection Organization (Amended), Paris 1951 (OG dated 01.07.1965 and numbered 12037)
- European Cultural Convention 19.12.1954 (OG dated 17.6.1957, and numbered 9635),
- Convention on the Protection of the World Cultural and Natural Heritage, Paris 1972 (OG dated 14.2.1983, and numbered 17959),
- Convention for the Conservation of European Wildlife and Natural Habitats, Bern 1979 (OG dated 20.2.1984, and numbered 18318),
- Convention on Long-range Transboundary Air Pollution, Geneva 1979 (OG dated 23.3.1983, and numbered 17996),
- Additional Protocol on Long-term Financing of the Co-operative Program for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), 1979, to the Convention on Long-range Transboundary Air Pollution, Geneva 1984, (OG dated 23.7.1985, and numbered 18820),
- Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances Depleting the Ozone Layer, (OG dated 8-9.9.1990, and numbered 20629),
- Convention on Biological Diversity, Rio de Janeiro, 5.6.1992 (OG dated 27.12.1996 and numbered 22860),
- Convention on Wetlands of International Importance, especially as Waterfowl Habitat (RAMSAR), (OG dated 17.5.1994, and numbered 21937),
- CITES Convention on International Trade in Endangered Species of Wild Flora and Fauna, (OG dated 20.06.1996),
- Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), 2001 (OG dated 04.04.2017 and numbered 30028),
- European Landscape Convention (Florence, 2000) (OG dated 27.07.2003 and numbered 25181),
- Convention on the Protection of the Black Sea Against Pollution, Bucharest 1992, (OG dated 14.12.1993 and numbered 21788),
- ILO Convention on Forced Labour (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 Labour (1957),

- ILO Convention on Discrimination (Employment and Occupation) (1958),
- ILO Convention on Minimum Age (1973),
- ILO Convention on Worst Forms of Child Labour (1999).

4 Environmental and Social Baseline

This chapter presents the environmental and social baseline information for the Düzce Province, and Çilimli District. The baseline is given for the Düzce Province and subsequently for Çilimli District when the data pertinent to the project development is available.

The existing E&S baseline conditions within the Project's Area of Influence (AoI) are briefly summarized in this Chapter. WB OP 4.01 defines AoI as the area likely to be affected by the project, including all its ancillary aspects and unplanned developments induced by the project. Thus, the AoI, which is valid for all environmental and social impacts, is defined as follows and shown in Figure 4-1 :

- The major areas, facilities, and communities potentially to be affected by the Project are listed below:
  - Project area covering the existing roads where the water, stormwater and sewerage network will be constructed.
  - Waste disposal areas/facilities that will be used during the construction and operation phases of the Project, including excavated material disposal areas and licensed waste disposal facilities.
  - Surrounding neighborhoods around the Project area: Ulucami, Şerefiye, Yeşil and Yeşiltepe neighborhoods of Çilimli District.
  - Educational facilities in the Project area including Çilimli Imam Hatip Secondary School, Çilimli Anatolian High School, and Çilimli Anatolian Imam Hatip High School in Ulucami neighborhood of Çilimli District.
- Based on the information provided by CM, there are no ancillary facilities as part of the Project; no concrete batching plant or asphalt plant will be installed, and ready-mix concrete will be used.

Baseline data collection was mainly conducted through desktop studies. In addition, a face-to-face briefing meeting was conducted with Çilimli Municipality on 02.11.2021, and a site reconnaissance visit was conducted on the same date together with a Çilimli Municipality representative. A second site visit was conducted on 26.04.2022. Unofficial interviews with stakeholders who are the project's beneficiaries such as mukhtars and residents were also conducted during the site visits. In addition, phone interviews were conducted on 20.10.2022 with the headman of Ulucami neighborhood, and on 07.09.2023 with the headmen of Mahirağa and Topçular neighborhoodswhere the Project will be realized.

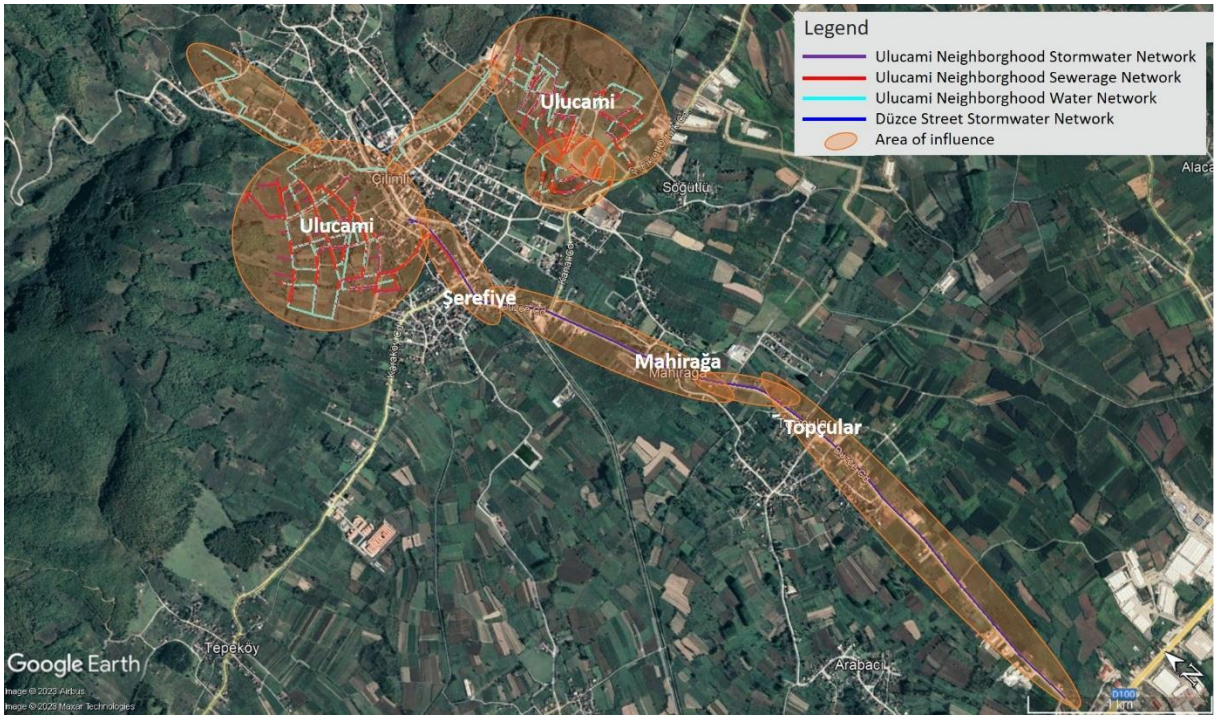

Figure 4-1. Neighbourhoods Where the Major Communities Potentially to be affected by the Project and the Project's Area of Influence

4.1 Environmental Baseline

4.1.1 Land Use and Ownership

The Project will be constructed on existing roads in the zoning plan, and no expropriation/resettlement will occur in relation to the Project based on information provided by Çilimli Municipality.

4.1.2 Landscape

Karadağ and Şenik (2019) developed a landscape sensitivity map for the Düzce Province by considering four ecological processes: erosion sensitivity, landslide sensitivity, water infiltration sensitivity, and habitat fragmentation sensitivity. The erosion sensitivity increases in the mountainous areas to the province's north. It decreases in the southern and inner parts of which. Due to the high slope, elevation, fault lines, and habitat fragmentation, the landslide increases in the mountainous areas to the north. On the other hand, landslide sensitivity is low in the inner parts. Considering the water infiltration, it is generally moderate except in residential areas/artificial surfaces, and the sensitivity increases from the Black Sea coast to the inland. It was finally determined that mixed forests, coniferous forests, pastures, and leafy forests had high, moderate, and low habitat sensitivities. Thus, habitat sensitivity decreases in the eastern and southern parts of the province. Consequently, the province sensitivity map in Figure 4-2 was developed by overlaying four sensitivity parameter data.

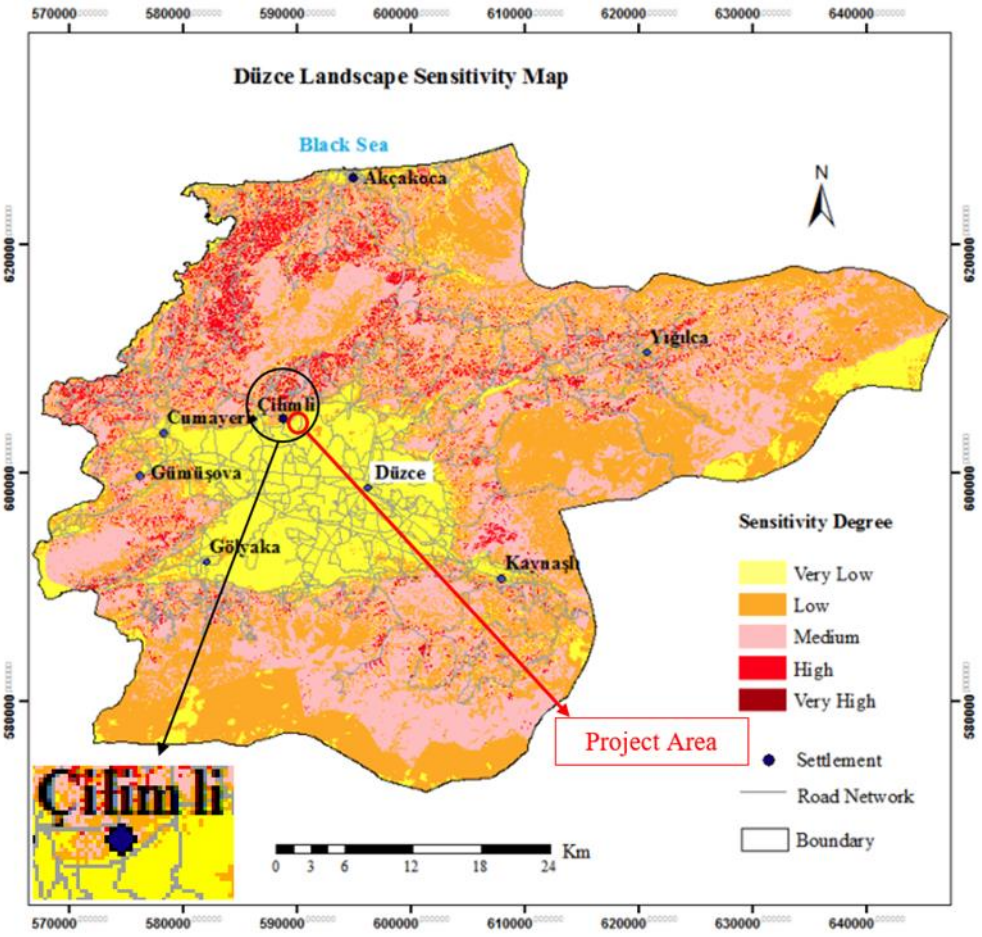

Figure 4-2. Düzce Landscape Sensitivity Map

As shown in Figure 4-2, Çilimli District is in low to medium sensitivity areas in terms of landscape. It is concluded in the study that in the low sensitive areas, the sensitivity is impacted by habitat fragmentation, water infiltration, and rare settlement. Besides, erosion, landslide, and water infiltration affect the sensitivity in the medium-sensitive areas where rural settlements and forests are particularly located.

4.1.3 Soil Structure and Land Capability

Düzce Plain is a depression plain located in the center of Düzce Province. The Limeless Brown Forest soils observed in the mountainous areas around the plain are the most common soil group within the province's borders. These soils, which are generally deciduous in winter and spread in broad-leaved forests, are seen in the mountainous areas around the Düzce plain. The Red Yellow Podzolic soils on the Black Sea coast are another soil group with a wide distribution area dominated by the Black Sea climate, and they spread from the coastal area to the Düzce Plain. Alluvial soils, suitable for agriculture, are present in almost all of Düzce Plain. On the other hand, Brown Forest and Grey Brown Podzolic soils are observed in E and NE, respectively. Additionally, hydromorphic and colluvial soils in thin strips are also found in places in the province (see Figure 4-3) (Siyavuş, 2021).

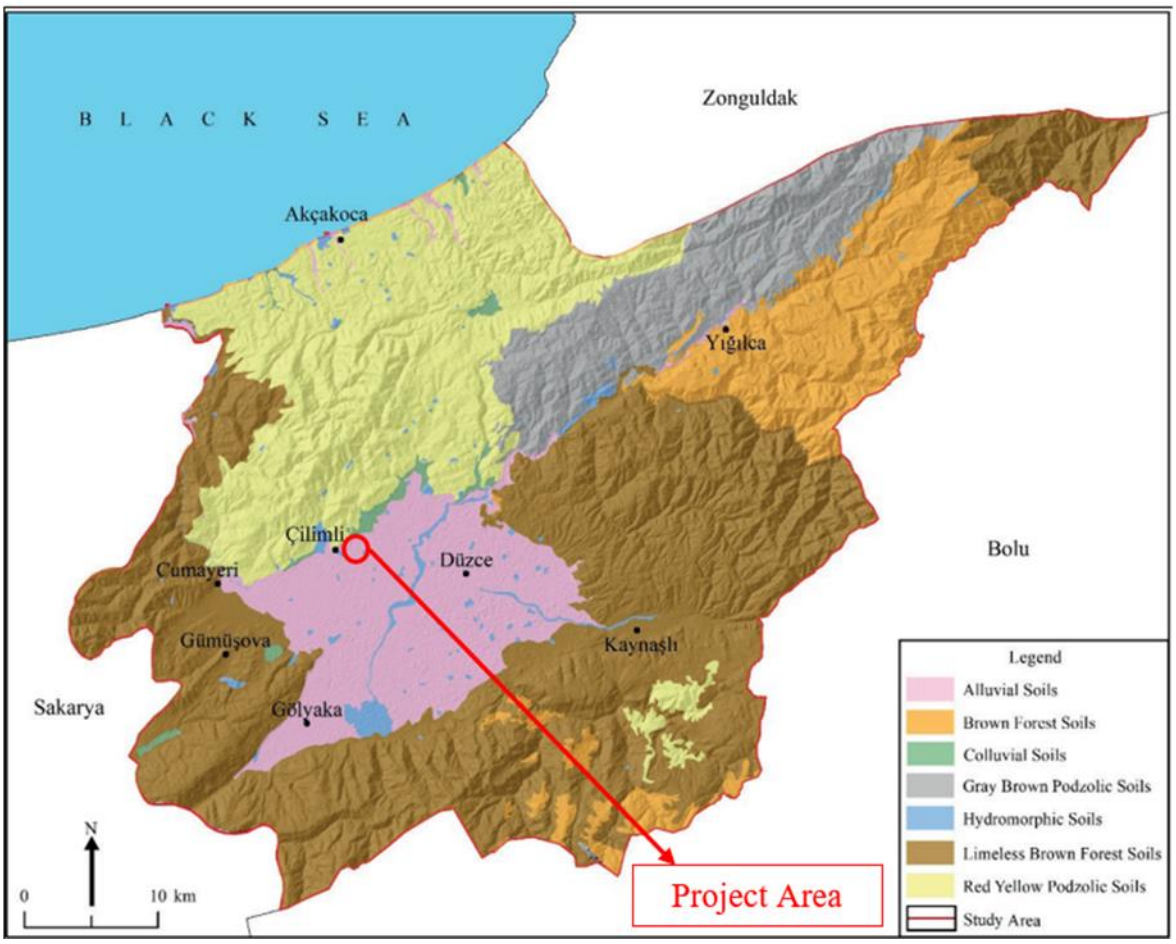

Figure 4-3. Distribution of Large Soil Groups in Düzce Province
Source: Siyavuş, 2021

The area and distribution of Land Use Capability (LUC) classes are other factors impacting the distribution of land use (LU)/land cover (LC). Turkish General Directorate for Rural Services database defines the land use capabilities into eight different classes: soils are categorized between Class I, which represent the arable lands on which agricultural activities can be conducted in the most efficient, economical, 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 people. Considering the land use capability of Düzce Province, while 21% of the land is suitable for cultivated agriculture, 79% consists of areas not suitable for which. Most of the productive lands in cultivated agriculture in Düzce Province exist in the Düzce Plain and its close surroundings. The lands located in high and sloping fields around the Düzce Plain are not suitable for cultivated agriculture (see Figure 4-4) (Siyavuş, 2021). According to Figure 4-4, the land in Çilimli District consists of Class I (arable), IV (arable), VII (non-arable), and a small portion of Class II (arable) lands.

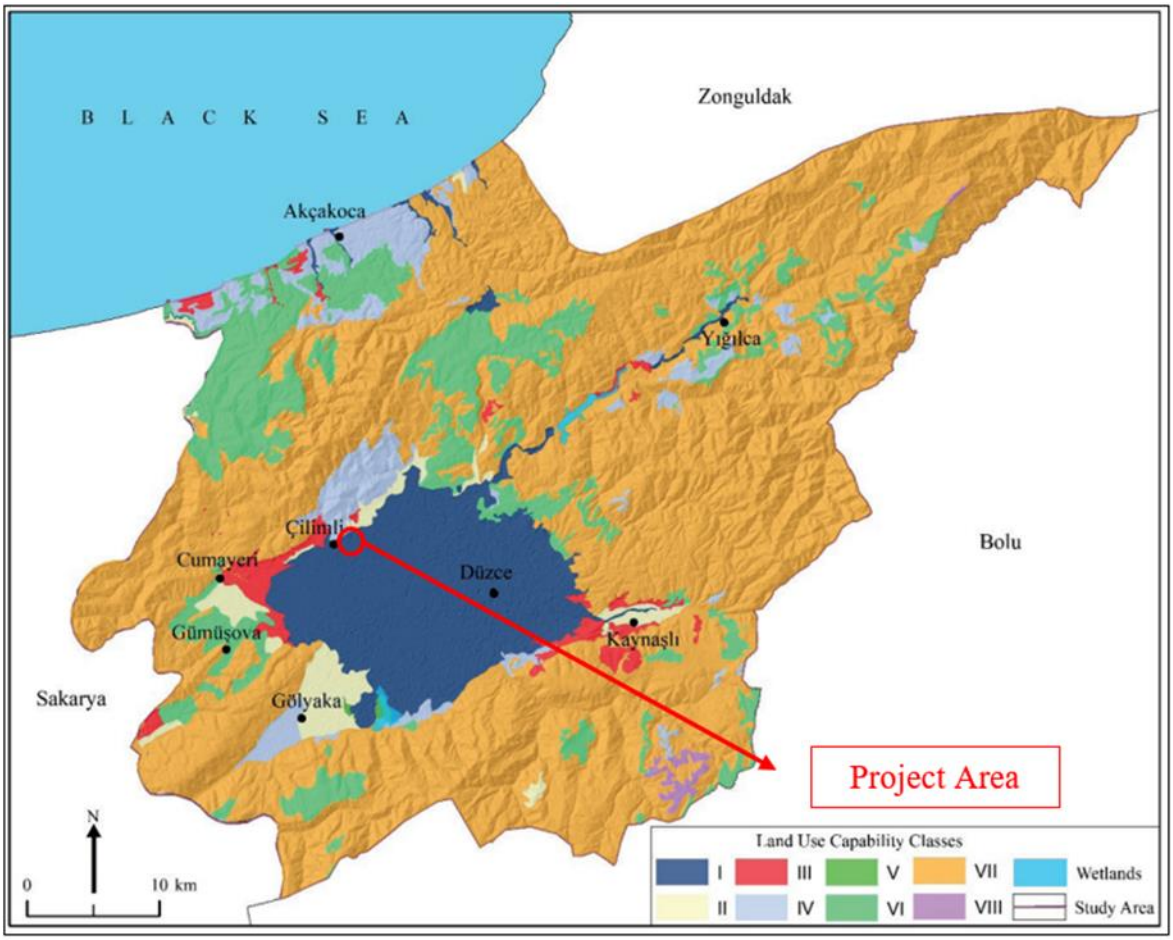

Figure 4-4. Land Capability Class Map of Düzce Province
Source: Siyavuş, 2021

Activity Preliminary Information Form applications submitted to PDEUCC within the scope of "Regulation on Control of Soil Pollution and Point Source Contaminated Sites" are being evaluated. The relevant inspections are ongoing by the authority. There are 193 suspicious areas and 16 areas requiring follow-up, and there is no contaminated area within the province's borders (Düzce Province 2020 Environmental Status Report, 2021). There is no investigation study on soil quality specifically for the project area. The project area is not within the area where industrial activities are conducted; thus, it is not included within the potentially contaminated site as per Regulation on Control of Soil Pollution and Point Source Contaminated Sites.

4.1.4 Topography

Düzce is in the western part of the Black Sea coastal mountains. Approximately 14% of the province area consists of plains and 86% of it consists of mountainous and rugged areas. The mountains are split in many places by deep valleys. Stream valleys outside the plain are generally deep valleys. The northern part of the Elmacık Mountains block in the south of the

plain and the northwestern part of the Bolu Mountains in the east remain within the borders of Düzce province (Düzce Municipality Website- Natural Life, 2022).

Düzce plain is a young depression basin formed by the effect of ground movements in the North Anatolian fault zone. It is roughly square in shape, with an east-west dimension of 23 km and a north-south dimension of 20 km. Considering the rugged indentations on its sides, its area is calculated as 360.5 km^2. The plain is mainly filled with alluvial deposits. Coluvial deposits are also found on the margins (Düzce Municipality Website- Natural Life, 2022).

On the relatively flat parts of the peak of Elmacık Mountains and the high northern slopes, there are major plateaus of Düzce province. Plateaus are lands that are used as healthy living spaces and animal breeding areas, especially in summer, with their high altitudes, green and unspoiled natural environments and water resources. Most of the Düzce plateaus are in the forest, and some of them are on the edge of the forest (Düzce Municipality Website- Natural Life, 2022).

4.1.5 Geology

Düzce Plain forming the mid-section of the Düzce Basin presents a low inclined topography toward the SW (toward Lake Eftani). The drainage network, which has developed based on the morphology of the basin, has NE-SW, east, and west flows. Küçük Melen River and Asarsuyu Creek drain the surface waters of the basin into Lake Eftani, whereas Büyük Melen River subsequently discharges the waters of Lake Eftani to the Black Sea in a south north-flowing direction. The hydrologic and morphologic features in the basin are the results of the intense tectonic activity that controls the basic structure and overall slope of the plain. The geological map of the Düzce Basin and its surroundings is given in Figure 4-5 (Coruk, Karakaş, & Ulutaş, 2012).

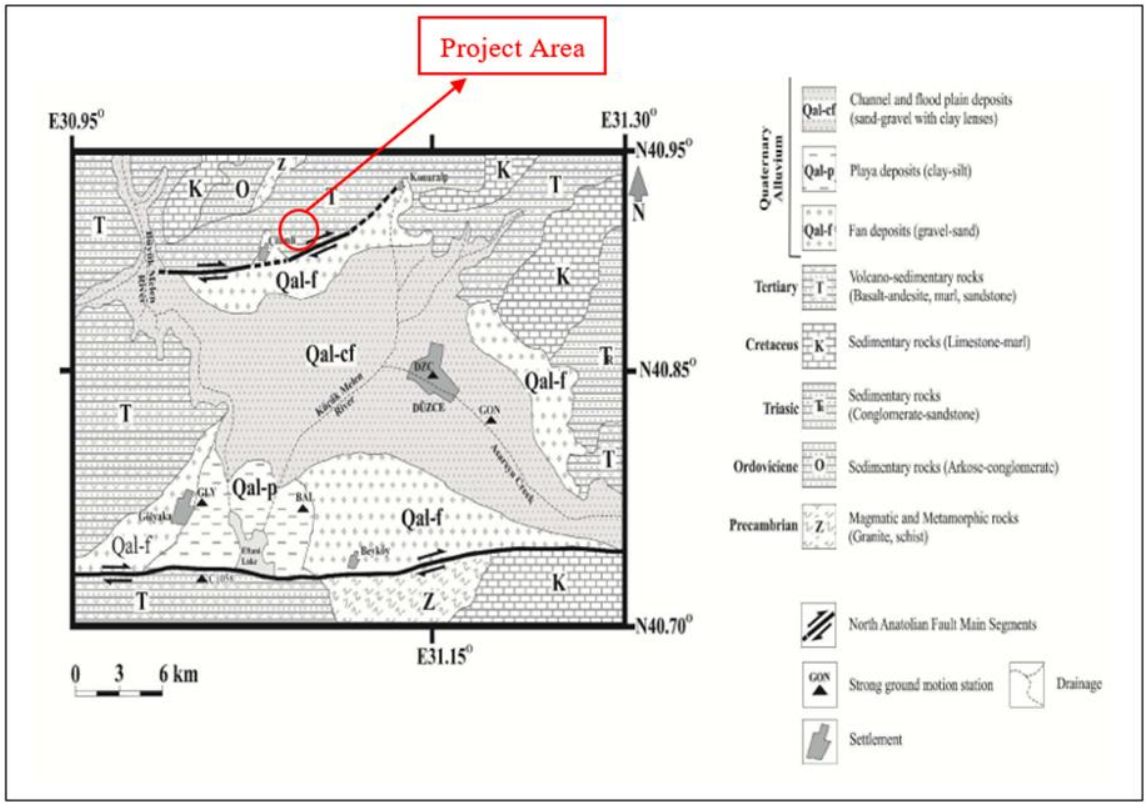

Figure 4-5. Geological Map of the Düzce Basin and Surroundings
Source: Coruk et al., 2012

The base rocks of the Düzce Plain consist of a group of Precambrian magmatic and metamorphic rocks (Z). Schists and granitic rocks are the base rocks with a thick sedimentary sequence. The sequence starts with the Ordovician sedimentary rocks composed of arkose and conglomerate (O). Alternating Triassic sandstone and conglomerate rocks (TR) overlay the Ordovician rocks outcrop in the basin's east. Cretaceous limestone-marl intercalations (K) on the Triassic rocks are widely observed in the region. Tertiary volcano-sedimentary rocks (T) with flysch character in some places were deposited on the Cretaceous rocks. The volcano-sedimentary unit comprises intercalated basalt-andesite, marl, and sandstone lithologies. Basalts and andesites are the dominant lithologies in the southwestern part of the region. The youngest unit is the alluvium deposited in the basin. The thickness and lithological variation of the alluvium depend on the tectonic setting that directly affects the morphology and basin geometry. Alluvial fan deposits (Qal-f) on the north and south slopes of the mountains, channel, and flood plain deposits (Qal-cf) in the impact areas of Küçük Melen and Büyük Melen Rivers and Asarsuyu Creek, and lacustrine-playa deposits (Qal-p) around Lake Eftani were deposited under the effects of tectonic forces. Alluvial fan deposits consist of gravel-sand, channel, and flood plain deposits containing sand-gravel with clay lenses, and lacustrine-playa deposits are composed of clay-silt type sediments [Coruk et al., 2012].

The town center of Çilimli sits on a relatively old alluvial fan embedded in the Çaycuma formation, partly on basement rocks. Just in front of it lies the Çilimli fault. The current stream

has deeply split the fan and created a low relief. This deep drilling also played a role in the formation of the landslides just north of Çilimli. The part where the district is located and its north are very rugged. However, no activity has been observed in the faults here (including the Çilimli fault) in the recent period (Düzce Municipality- Geological Structure).

4.1.6 Hydrology and Hydrogeology

Surface Waters

The streams located in the area outside the coastal part of the Akçakoca District of Düzce Province are part of the Melen Basin, in other words, Efteni Basin, a sub-basin of the Western Black Sea. The Büyük Melen Basin provides drinking water for the Istanbul Province. Except for the Akçakoca District, the entire province is within the Büyük Melen Basin. The main rivers in Düzce Province are the Küçük Melen, Asar Suyu, Uğur Suyu, Aksu, Karadere, Akdere, Büyük Melen and Çilimli. Çilimli Creek has a flow rate of 0.359 m3/h and is a tributary of Büyük Melen Stream (Düzce Province 2020 Environmental Status Report, 2021).

The main lakes in Düzce Province are the Efteni Lake, Kuru Lake, Topuk Plateau Pond, Çamlıpınar Lake, Karagöl and Torkul Lake (Düzce Province 2020 Environmental Status Report, 2021). There are no lakes within the project area. Efteni Lake is located approximately 11.3 km south.

There is one dam in Düzce Province, namely Hasanlar Dam, which is located on Küçük Melen near Yığılca District and was completed in 1992 (Düzce Province 2020 Environmental Status Report, 2021). There are no dams within the project area.

The groundwater resources were being used for drinking water supply until 1994. The Uğur Suyu Stream's surface water resource was commissioned in 1994 and started to meet the province's water needs. The stream is located 9-10 km SW of the Province. The stream water taken from Düzce Province is conveyed to the drinking water treatment plant in Beyköy by gravity via a transmission line of approximately 6.5 km. For the chemical treatment, aluminum sulfate solution is dosed in the raw water to improve the properties, sulphuric acid against microorganisms present in the water, and chlorine for disinfection. After being chemically treated at the treatment plant, the water is fed into the city water supply network. The total network length is 830 km (Düzce Province 2020 Environmental Status Report, 2021).

The list of existing water intake structures in Çilimli District is given in Table 4-1 (Düzce Province 2019 Environmental Status Report, 2020).

Table 4-1. Existing Water Intake Structures

Water source	Type of water intake structure	Water intake capacity (L/s)	Construction year
Bıçkıbaşı Spring	Catchment	10	2005
Kaplandede Tepe Locality	Catchment	6	1995
Kayadelen Spring	Catchment	3.5	1965

Source: Düzce Provincial 2019 Environmental Status Report, 2020

Karadere and Akdere Creeks are within the boundaries of Çilimli District. The Project area does not intersect with Karadere Creek.Akdere Creek passes through the Project area between the western part and eastern part of the Project in Ulucami neighborhood as shown in Figure 4-6. Akdere creek crossing will be made with concrete jacket based on information provided by CM. Akdere Creek is formed by two merging creeks, Bıçkı Creek and Bayramali Creek, that originate from the Kaplandede Mountains.

There is also an irrigation channel intersecting with the stormwater network of the Project in Düzce Street as shown in Figure 4-6. Based on information provided by CM, CM will contact with the relevant Directorate of State Hydraulic Works to decide the crossing method for the irrigation channel.

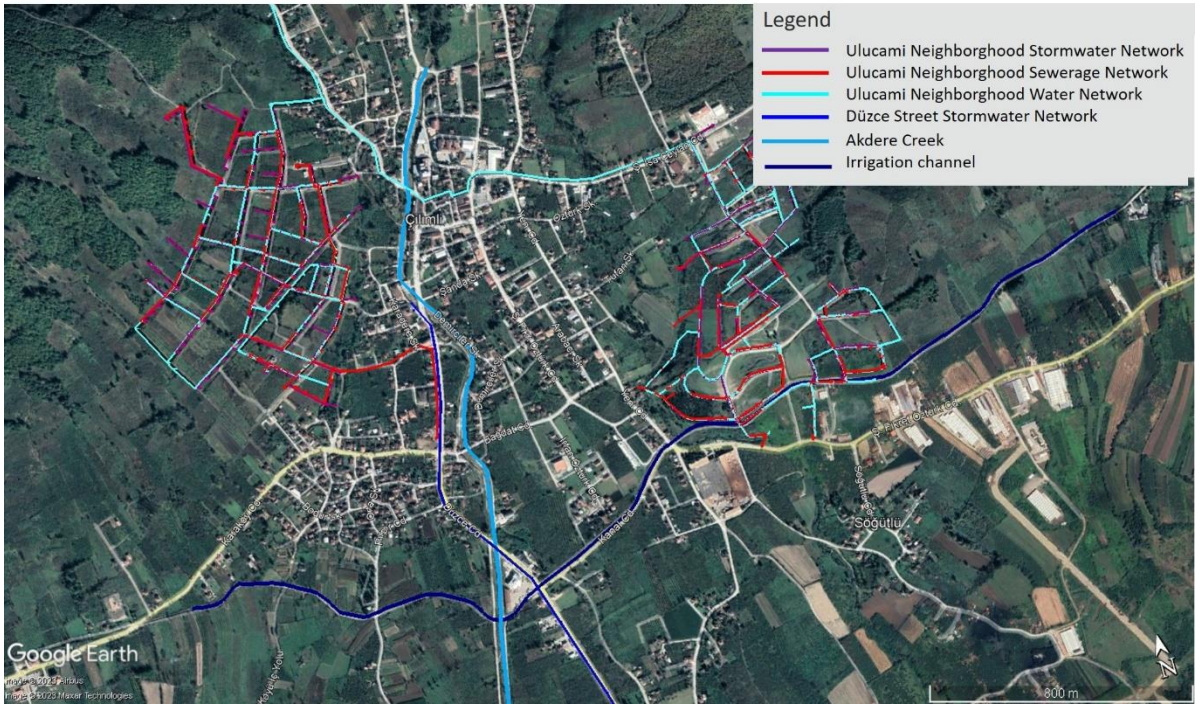

Figure 4-6. Akdere Creek passing through the Project Area

Surface Water Quality

The surface water quality of watercourses in the Sakarya Basin has been studied within the scope of the Sakarya Basin Protection Action Plan prepared by the Scientific and Technological Research Council of Türkiye (TÜBİTAK). The Water Pollution Control Regulation (WPCC) classifies surface water quality into four categories: Class I: High-quality water, Class II: Less polluted water, Class III: Polluted water, and Class IV: Highly contaminated water.

Sakarya Basin water quality was evaluated according to WPCC; the results showed that Sakarya River and the streams feeding the Sakarya river are polluted (Class III) or highly polluted (Class IV) (TÜBİTAK-MAM, 2013). The surface water quality classes in Sakarya River, and the

closest stream to the Project area, which is the Büyük Melen Stream and its branches, according to various parameters, are given in Table 4-2.

Table 4-2. Water Quality Classes of Sakarya River and Büyük Melen Stream

Parameter	Sakarya River	Büyük Melen Stream
Physical Inorganic Chemical Parameters	III-V	III
Ammonium Nitrogen (NH4-N)	II in majority	III-IV
Nitrate (NO3-N)	I in majority	III-IV
Total Phosphorus	I to IV	IV
Organic Parameters	II-III	III-IV
Chemical Oxygen Demand/Biological Oxygen Demand	II-III	III-IV
Inorganic Parameters (metals)	II to IV	III

Source: Tübitak-MAM, 2013

Information on the flow rate, regime and water quality for Akdere Creek that passes through the project area, is not available in the literature. Baseline water quality surveys is included in mitigation table in Section 6.

Groundwater

The main aquifer unit in the Düzce basin is the alluvium extending along the rivers and Düzce plain. The groundwater level is between 0.5 and 5 m in the upper unconfined aquifer, and it is artesian in the confined aquifer below. The amount of groundwater used in the province in 2018 was 20,000 tons/year (Düzce Province 2020 Environmental Status Report, 2021).

In Akçakoca-Kocaali Basin, few wells are present to establish the groundwater table. Since the basin topography is very uneven, it is estimated that there may be significant variations in groundwater levels depending on the quota and hydrogeological conditions. The groundwater depth in the valley alluvium is between 0.5 and 5 m (Düzce Province 2020 Environmental Status Report, 2021).

Çilimli District is located in West Black Sea basin. The list of existing water wells in Çilimli District is given in Table 4-3.

Table 4-3. Existing Water Wells

Well District/Local	Well Yield (L/s)	Pump Power (kW)	Pump capacity (L/s)	Construction year
Türbe Local Well 1	30	55	20	1992
Türbe Local Well 2	15	27	8	1992
Slaughterhouse Well	10	27	10	2007
Sports Field Well	10	37	10	1985

Source: Düzce Provincial 2019 Environmental Status Report, 2020

4.1.7 Natural Disasters and Seismicity

The distribution of natural disasters in Düzce Province between 1950 and 2008 is shown in Figure 4-7. Based on Figure 4-7, Natural disasters in Düzce are mostly earthquakes, landslides and floods. Çilimli District, where the Project area will be located, is affected by earthquakes and landslides.

The landslide and rockfall incidents in Düzce Province between 1950-2019 and 2019 are 182 and 3, respectively. The flooding numbers in Düzce Province between 1950-2019 and in 2019 are 29 and 4, respectively (Disaster and Emergency Management Directorate (AFAD) 2019 Statistics).

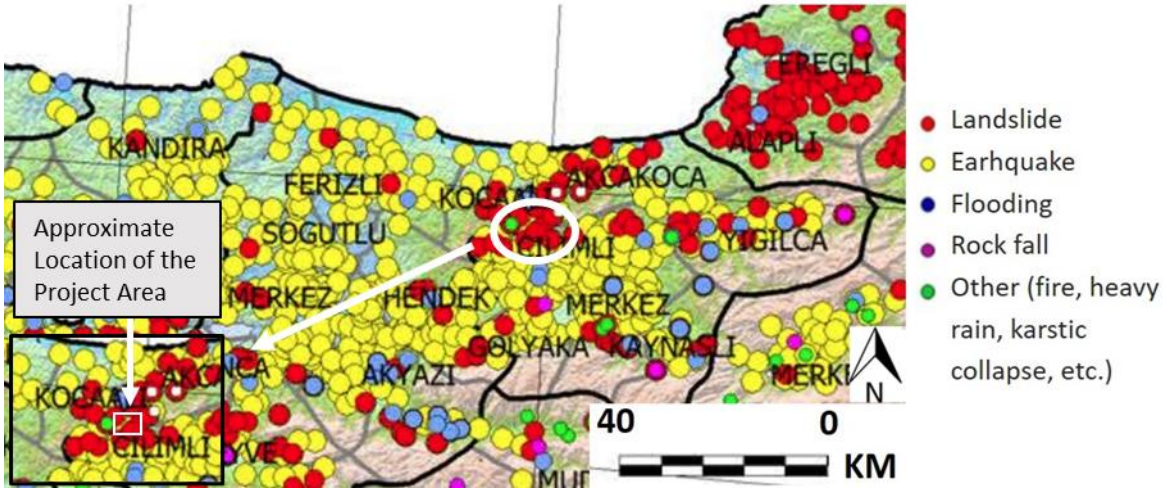

Figure 4-7. Distribution of Disaster Incidents in Düzce Province between 1950-2008
Source: Ministry of Public Works and Settlement (Former Ministry), 2008[3]

Due to the steeply sloped surrounding rocks of the Düzce Basin and the nearly flat topography of the Düzce plain, an alluvial fan has formed in almost all the basin edges. On the other hand, streams in the basin have highly twisted and meandering channels. The low elevation difference between the mean bed slopes of the outer parts of the streams and the alluvial fans and the Efteni Lake causes the stream beds to remain very shallow. These drainage features create a significant flood risk for the Düzce basin (Düzce Province Report. 2001).

Mass movements are common around the Düzce Basin due to its abundant rainy climate and its geological-geomorphological structure. It has been determined that the majority of the shifts from the mass movements gained activity during the heavy rains in May 1998. Around the basin; Yazlık Creek, where Düzce-Akçakoca Highway passes, in the north, and Büyük Melen Stream valley in the north of Cumayeri District are the areas where landslides are most intense. The second region where landslides are concentrated is the skirts of Almacık Mountain, which borders the south of the basin (Düzce Province Report. 2001).

[3] https://www.afad.gov.tr/kurumlar/afad.gov.tr/3504/xfiles/94-201406021514-afetler_tum_dagilim_renkli_2.pdf

The heavy rain that started on 17 July 2019 continued on 18 July 2019 in Düzce Province caused flooding and affected the Akçakoca District. According to the results of the damage status study of Düzce PDEUCC after the flood, 36 houses were demolished, 23 houses were severely damaged, and a landslide risk has been determined for 61 residences in the district. The streams passing through the city center are either covered and taken into the pipes or the water is evacuated with difficulty by taking them into concrete channels with insufficient cross-section. As a result of the overload of the stream with rainwater and the increase in the flow rate, the floodwater could not be conveyed to the sea and the shops and roads in the center were flooded (Bayraktar &Saytiyancı, 2020).

The Türkiye Earthquake Zones Map, which came into force in 1996, was renewed by AFAD Earthquake Department and published in the Official Gazette dated 18 March 2018 and numbered 30364 (repeated). The new map, which is Türkiye Earthquake Hazard Map came into effect on February 1, 2019. The maximum ground acceleration values of Düzce Province vary between 0.4-0.7 g. This value indicates that the earthquake hazard of the region is relatively high. Çilimli district has 0.504 g risk number. The seismicity map of Türkiye is given in Figure 4-8.

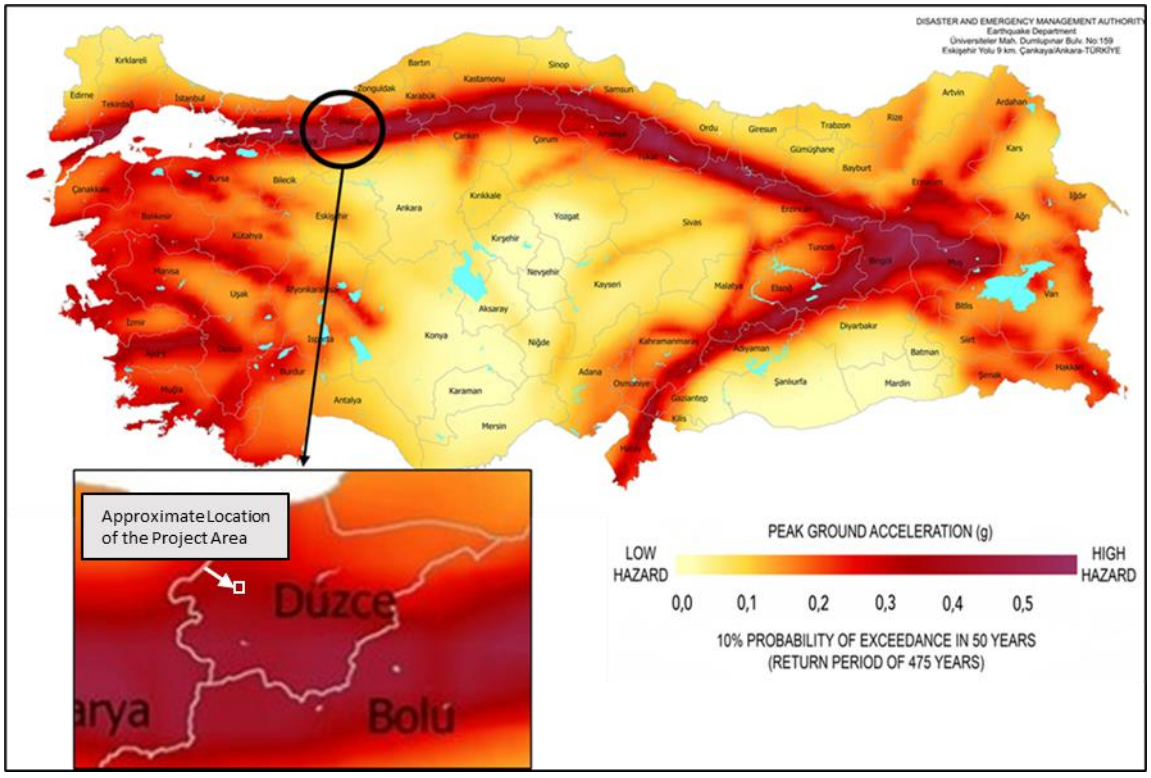

Figure 4-8. Earthquake Risk Map of Türkiye and Closer view of Düzce Region
Source: https://deprem.afad.gov.tr/deprem-tehlike-haritasi

According to General Directorate of Mineral Research and Exploration (MTA), the active fault lines in the project area are given in Figure 4-9[4] .There are no active faults on the Project area, however there are two Holocene faults near the Project area.

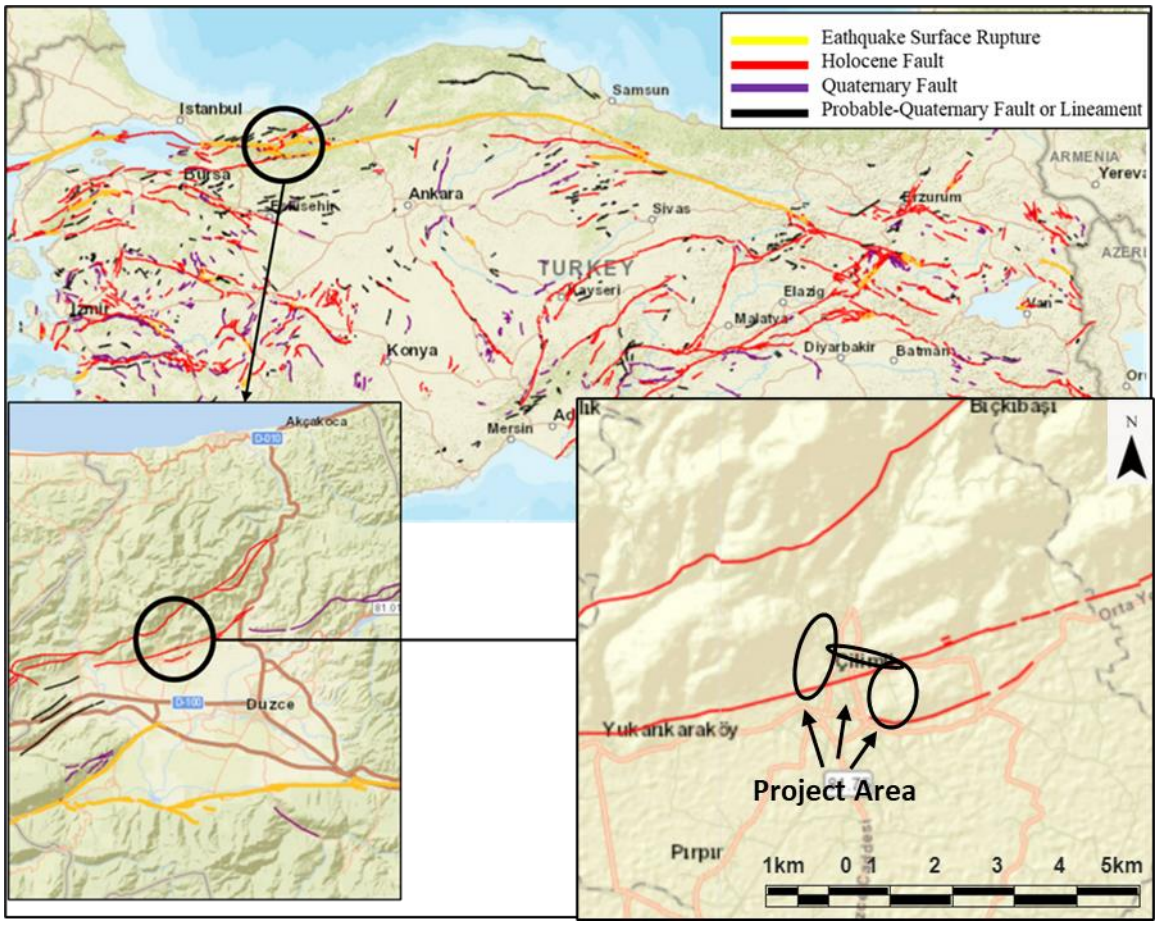

Figure 4-9. The Fault Lines around the Project Area

Source: General Directorate of Mineral Research and Exploration (MTA) GeoScience Map Viewer - http://yerbilimleri.mta.gov.tr/anasayfa.aspx

4.1.8 Climatic Condition and Meteorology

The Köppen-Trewartha climate classification defines six main climate groups. According to Trewartha, climate groups A, C, D, E, and F are the main thermal regions. The sixth group is the dry climate zone that intersects with other climate types except for the B, F arctic climate (Turkish Climate According to Köppen-Trewartha Climate Classification, 2018). Düzce Province has a humid subtropical climate (Cfa) under the Köppen climate classification and an oceanic climate (Do) under the Trewartha climate classification. The province experiences chilly, occasionally snowy winters and hot summers. The annual average temperature is measured as 13.2°C while the coldest month is February (3.7 °C), and the hottest month is July (22.6°C) according to the Long-Term Meteorological Data of the Turkish State Meteorological

[4] http://yerbilimleri.mta.gov.tr/anasayfa.aspx

Service collected at the measurement stations in the Düzce Province (Akçakoca Lighthouse, Gölyaka, Düzce, Akçakoca, Yığılca Cumayeri, Yığılca-Yoğunpelit Village, Gölyaka-Kardüz Plateau, Çilimli, Kaynaşlı and Gümüşova). Abundant precipitation is observed in winter and autumn, while the driest season is summer (Turkish State Meteorological Service, Long-Term Meteorological Data of Düzce Province (1959–2020)). The average annual rainfall is 817.7 mm.

The annual average humidity is 77.5%. The number of days with snowfall is six, and the duration of snow on the ground is five days. The frost event is observed for 44 days, while the fog event occurs 23 days a year, abundantly in November (8 days) (Turkish State Meteorological Service, Long-Term Meteorological Data of Düzce Province (1959–2020)). Further long-term meteorological data is given in Table 4-4.

Table 4-4. Long Term Meteorological Data of Düzce Province (1959-2020)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Highest temperature °C	24.5	26.9	32.2	34.7	39.5	39.0	42.4	42.0	38.7	38.2	30.2	29.2	42.4
Average highest temperature °C	8.7	11.2	14.3	19.3	23.9	27.5	29.7	30.0	26.5	21.5	15.9	10.3	19.9
Average daily temperature °C	4.1	5.5	8.2	12.3	17.0	20.8	23.1	23.2	19.3	14.8	9.5	5.6	13.6
Average lowest temperature °C	0.8	1.5	3.7	7.1	11.5	15.2	17.4	17.8	13.9	10.3	5.3	2.3	8.9
Lowest temperature °C	−20.5	−17.3	−13.6	−3.0	0.4	6.6	8.8	7.6	4.5	−1.2	−6.8	−16.5	−20.5
Average of total monthly precipitation amount mm	87.1	70.7	77.1	60.6	61.5	76.7	39.3	51.1	52.7	82.8	67.6	95.7	822.9
Average number of rainy days	15.00	14.47	14.33	12.60	12.70	10.57	6.70	6.17	8.90	12.00	11.60	16.07	141.1
Average number of monthly sunny hours	58.9	84.8	117.8	162.0	210.8	246.0	272.8	254.2	195.0	136.4	87.0	52.7	1,878.4
Average number of daily sunny hours	1.9	3.0	3.8	5.4	6.8	8.2	8.8	8.2	6.5	4.4	2.9	1.7	5.1

Source: Turkish State Meteorological Service, Long-Term Meteorological Data of Düzce Province (1959–2020)

4.1.9 Air Quality

The air quality of Düzce Province is measured at the air quality measurement station located in the center of the city, which is approximately 8 km southeast to the project location (Düzce Province 2020 Environmental Status Report, 2021).

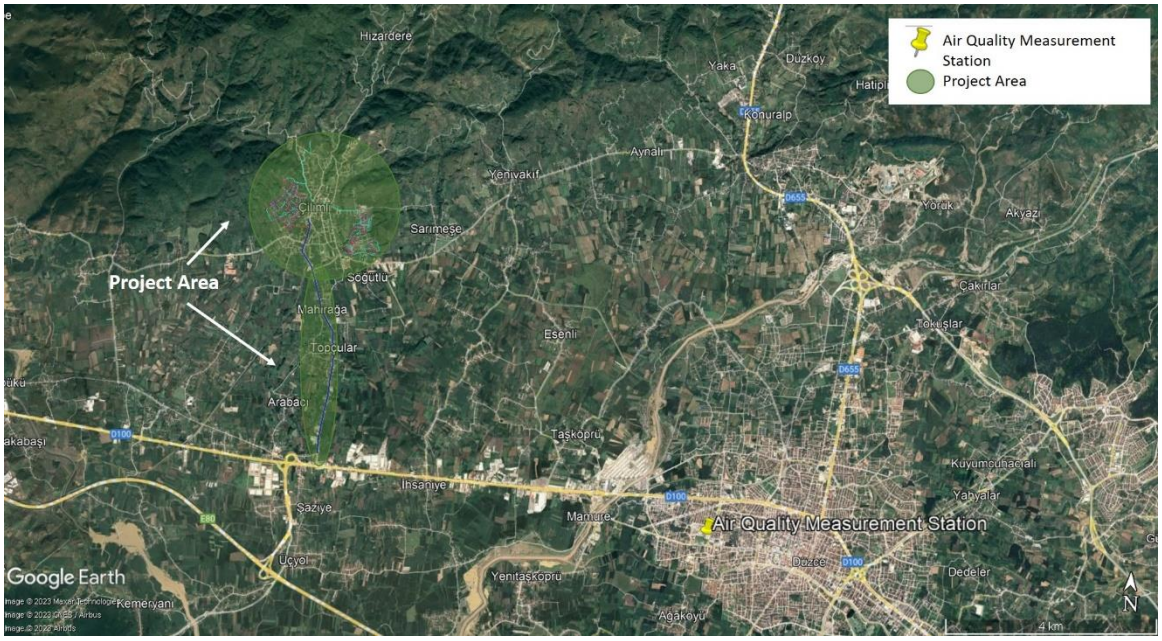

Figure 4-10. Location of Air Quality Measurement Station in the Düzce Province
Source: Düzce Province 2020 Environmental Status Report, 2021

The graphics given in Figure 4-11 and Figure 4-12 show the average daily PM_{10} and SO_2 levels measured in 2020 (Düzce Province Environmental Status Report, 2021).

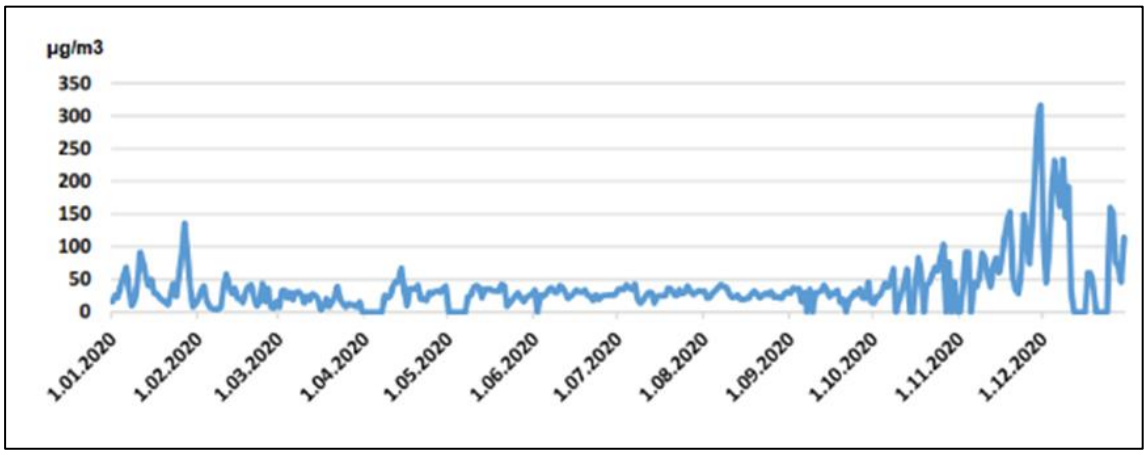

Figure 4-11. Daily Average Values for PM_{10} Parameter
Source: Düzce Province 2020 Environmental Status Report, 2021

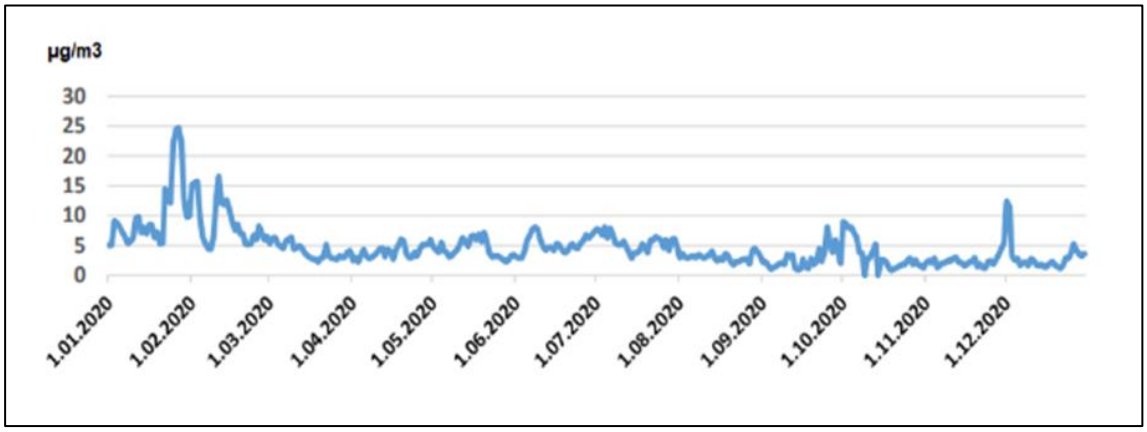

Figure 4-12. Daily Average Values for SO_2 Parameter
Source: Düzce Province 2020 Environmental Status Report, 2021

The nearest air quality monitoring station to the project area is Düzce Central Station, approximately 8 km to the southeast of the Project area. The monthly average values of monitored air quality parameters in 2020 in Düzce Central Station and the limit values according to Air Quality Assessment and Management Regulation (OG numbered 26898 and dated 06.06.2008) are given in

Table ***4-5***. According to

Table ***4-5***, average monthly concentrations of PM_{10} have exceeded the limit values several times; while the other parameters were within the limit values. Düzce province is surrounded by mountains, and the wind speed and duration is meteorologically short in the city; which prevent the dispersion of air pollution generated from heating, industry and traffic, above the city. In addition, increased heating and use of solid fuels in heating during winter months adversely affect the air quality.

Table 4-5. Average Monthly Concentrations of Air Quality Parameters in 2020 in Düzce Central Station

Months	SO_2 (µg/ m^3)	NDE	PM_{10} (µg/ m^3)	NDE	CO (µg/ m^3)	NDE	NO_2 (µg/ m^3)	NDE
February	10.16	-	98.19	21	1,432.79	-	27.49	-
February	8.76	-	60.29	17	896.63	-	32.29	-
March	4.07	-	49.79	14	522.08	-	11.40	-
April	3.93	-	65.51	20	464.34	-	10.13	-
May	4.44	-	54.54	12	278.46	-	9.2	-
June	5.23	-	44.77	7	281.46	-	10.91	-
July	5.51	-	45.54	9	202.1	-	10.98	-
August	3.02	-	45.49	9	340.81	-	14.01	-
September	2.7	-	47.30	9	248.56	-	21.95	-
October	3.47	-	87.78	22	590.75	-	26.94	-
November	2.36	-	148.06	27	1,204.11	-	27.83	-
December	3.12	-	142.09	25	1,296.39	-	27.24	-

Months	SO_2 (µg/ m^3)	NDE	PM_{10} (µg/ m^3)	NDE	CO (µg/ m^3)	NDE	NO_2 (µg/ m^3)	NDE
Limits	**125 µg/m^3 in 24 hours**	**-**	**50 µg/m^3 in 24 hours**	**-**	**10,000 µg/m^3 in 8 hours**	**-**	**200 µg/ m^3 hourly**	**-**

*Source: Düzce Province 2020 Environmental Status Report, 2021. *NDE: Number of days exceeded*

4.1.10 Noise and Vibration

While Düzce Municipality evaluates the complaints from the province's center, the complaints outside the adjacent areas and in the districts are handled by the Düzce Provincial Directorate of Environment, Urbanization and Climate Change (PDEUCC). The PDEUCC received several complaints in 2020 due to industrial activities (Düzce Province 2020 Environmental Status Report, 2021). No concern has been raised during the unofficial interviews with the residents in Çilimli District, on potential noise impacts of the Project activities..

4.1.11 Flora and Fauna

The information on flora and fauna of Düzce Province was collected from the Düzce Provincial Environmental Status Reports (2019 & 2020).

Flora

Düzce Province is under the effect of the Euro-Siberian (Euxine) Floristic Area, Mediterranean Floristic Area and Irano-Turanian Floristic Area spreading in the NW Black Sea region. The province is in the transition zone of Euxine (Mid-West Black Sea) and Xsero-Euxine (Arid Western Black Sea) Floristic Areas. Samandere Valley starts from the Beyköy-Uğur Village in the SE of Düzce Province and stretches to Lake Abant and the Abant Mountains. The effect of the Mid-West Black Sea sub-floristic area (Sub-Euxine) of the Euro-Siberian Floristic Area is observed in the high places of Abant Mountains (1,600 m) facing NW, in the Samandere Valley and along the streams. The effect of the Mediterranean Floristic Area is locally observed in the front valley formed by Uğur Suyu Stream located between Beyköy-Uğur Village-Derdin and the northern part of Düzce Province. Irano-Turanian Floristic area is observed in the Central Anatolian section of Düzce, which is under the effect of steppe climate; transition areas to the Xero-Euxine Floristic Area in the south; the high parts of the Sinekli and Sakarca Plateaus; and the areas of the Abant Mountains (1,500-1,600 m) where subalpine vegetation is found. All these floristic areas are located at the intersection and transition points of the front Uğur Suyu Valley, which is in the Şimşirlik Locality of Uğur Village and the Samandere Valley extending to Abant Lake due to their geographical location and geomorphological structure. The vegetation types in stream, relic maquis, forest, subalpine, and rock, and the rare plant habitats within these vegetation types are spread (Düzce Province 2020 Environmental Status Report, 2021).

Studies conducted by the Düzce University for Düzce Province in 2019 revealed the presence of 102 families, 471 genera, 1200 species, and subspecies taxa. Of the total number of families, 6% fern, 3% Gymnospermae, and 91% Angiospermae families, and the total number of genera,

1.6% were ferns, 1% were Gymnospermae, and 97.4% were Angiospermae. Fern constitutes 1%, Gymnospermae 0.5%, and Angiospermae 98.5% of the total number of species and subspecies taxa. According to the conducted studies:

- Most of the plants have a very wide distribution area. Secondly, the presence of plants belonging to the Euro-Siberian Floristic Area is quite common. Besides, plants belonging to the Mediterranean and Irano-Turanian Floristic Areas are also grown.
- The families with the most genera in Düzce Province are as follows: Asteraceae (12.3%), Poaceae (8.2%), Brassicaceae (6.2%), Apiaceae (5.3%), Fabaceae (5%, 1), Lamiaceae (4.9%), Rosaceae (3.8%), Caryophyllaceae (3.6%), Orchidaceae (2.5%), Boraginaceae (2.3%), and other families (54%).
- The families containing the most species and subspecies taxa are Asteraceae (12.75%), Fabaceae (9.1%), Poaceae (6.8%), Lamiaceae (6.3%), Brassicaceae (4.2%), Caryophyllaceae (3.9%), Rosaceae (3.8%), Apiaceae (3.4%), Orchidaceae (2.5%), Boraginaceae (2.4%) and other families (44%, 85)
- The genera containing the most species and subspecies taxa are Trifolium (2.3%), Euphorbia (1.3%), Vicia (1.3%), Veronica (1.25%), Carex (1%), Medicago (1.16%), Ranunculus (1.08%), Lathyrus (1%), Ornithogalum (1%), Anthemis (0.9%), Salvia (0.9%) and other genera (86.65%).

The centers in Düzce Province where local endangered endemic plants are observed (see Figure 4-13), are as follows (Aksoy & Uzun, 2011):

- Valley slopes in the Scots pine (Pinus sylvestris) forests facing south of the valley formed by Aksu and Emeksiz streams at Elmacık Mountains,
- Rocky and clear areas in Horoz Kaya Locality between Toptepe and Güzel Creek Waterfall,
- Efteni Lake,
- Rocky areas around Hasanlar Dam,
- Cumayeri District, Dokuz Değirmen Village,
- Melenağzı Dune Fields,
- Samandere Valley Uğur Village-Şimşirlik Locality.

The Project area will be located within an urban setting on existing roads where the flora mentioned above are unlikely to be present. None of these localities exist in or vicinity of the project area and/or AoI. As shown in Figure 4-13, no endemic taxa exist in the vicinity of the project area.

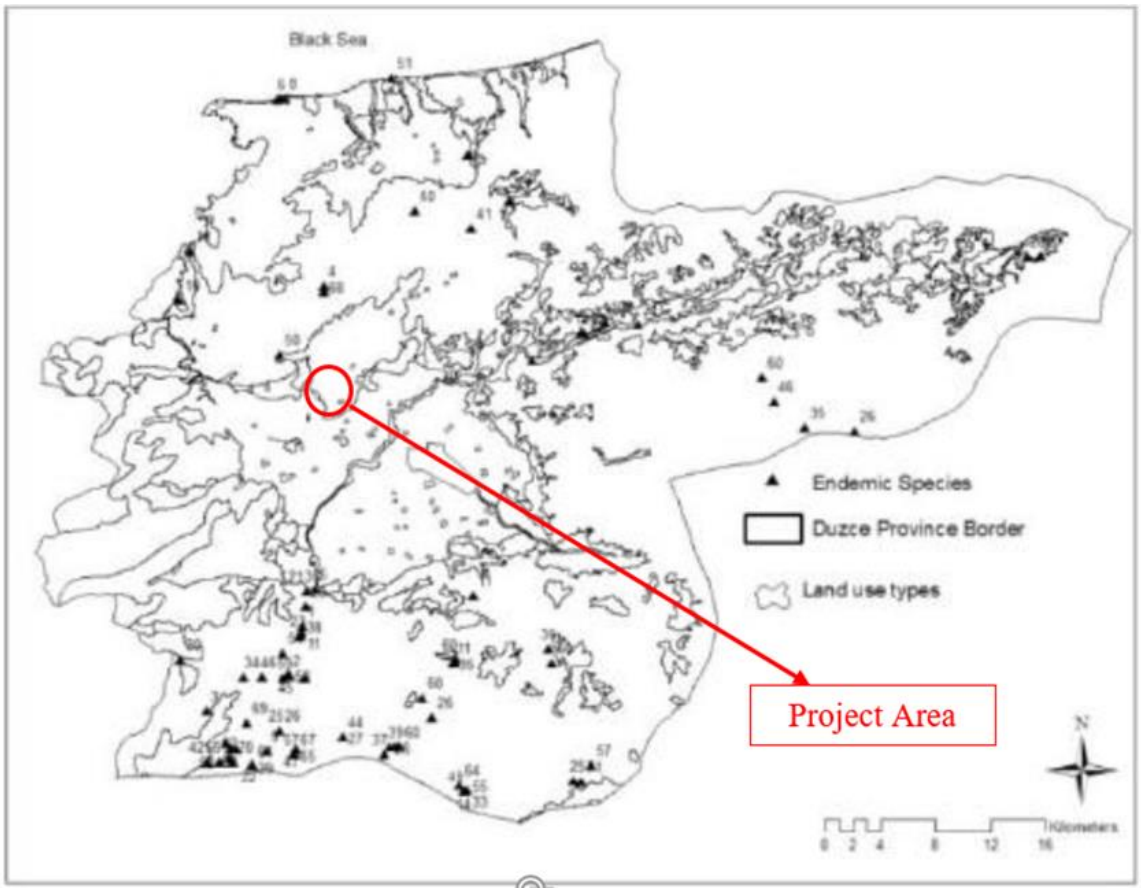

Figure 4-13. Representation of the Project Location in the Map of Distribution of Endemic Taxa in Düzce Province
Source: Aksoy et al., 2011

According to the flora study within the scope of Çilimli Geothermal Well Drilling Project (Project Identification File, 2021) which is close to the Project area, Çilimli District is in the A3 square (Bithyia Region) according to the P.H. Davis's Grid Square System (Flora of Türkiye and The East Aegean Islands). When the general flora characteristics of the Bithyia Region where the project site is located are examined, 11 endemic plant species were detected. However, these species are present among the regional species and not included in the local flora. Due to their wide distribution and high population density, they are not protected as per national and international legislation. Therefore, neither endemic plant nor flora species that fall into the Bern convention or Red Data Book categories are present in the project area and its surroundings. Cyclamen coum ssp Coum species, which is not endemic but under protection as per the Bern Convention, is found in the distant surroundings of the project area. Flora species and endemic plants in the region but not included in the local flora are listed below:

- *Lathyrus tukhtensis*
- *L. Czeczottianus*
- *Trifolium pannonicum var. Elongatum*
- *Jurinea pontica*

- *Onosma tauricum ssp. brevifolium*
- *Verbascum bithynicum*
- *Orobanche hadroantha*
- *S.cretica ssp. anatolica*
- *Asperula lilaciflora ssp. Phygia*
- *Galium fissurence*
- *Iris purpurobracteata*

The plants in question spread widely in the region. Species detected in the local flora are *smilax, Lupinus, taraxacum officinale, trifolium repens, agropyron repens, plantain, thorn graminea,* and *herbaceous* plants belonging to the *Leguminous* family. These plants are not protected or endemic plant species to be affected by the project activities.

Fauna

Rich vegetation, land structure, streams, and suitable climate create a favorable environment for wildlife in Düzce Province. However, systematic inventory studies that determine species, population, and habitats have not been carried out (The Official Website of Düzce Municipality- Natural Life, 2022). According to the survey related to the bird species living in Lake Efteni (which is located approximately 10 km to the south of the project area) carried out by Keten et al., 129 species were identified in the lake area.

Birds such as the cormorant, wild duck, wild goose, flamingo, swan, waterfowl, and Eurasian coot are present in the area, and partridge, dove, quail, freckle, bustard, crane, woodcock, pigeon, hawk, and eagle are frequently observed. In addition, fish species such as trout, carp, coral, and silverfish are present in Lake Efteni. Terrestrial animals such as bear, lynx, wild boar, deer, roe deer, wolf, marten, fox, badger, rabbit, skunk, weasel, beaver, and squirrel are found in forest areas (The Official Website of Düzce Municipality- Natural Life, 2022).

According to all scientific studies, 722 species have been identified throughout the province of Düzce Province. The distribution of fauna species is given in Table 4-6 (Biodiversity Symposium, 2012).

Table 4-6. Distribution of Fauna Species

Phylum	Class	Order	Family	Species
Mollusca	1	2	2	3
Annelida	1	1	3	4
Arthropoda	2	12	95	515
Chordata	5	32	69	200
Total	**9**	**47**	**169**	**722**

Source: Biodiversity Symposium, 2012

The most significant number of species was determined in insects among the total number of species. Considering the distribution of vertebrate species, the abundance of bird species draws

attention. The distribution of vertebrate species by class in Düzce Province is given in Table 4-7 (Biodiversity Symposium, 2012).

Table 4-7. Distribution of Vertebrate Species by Classes in Düzce Province

Chordata	Order	Family	Specie	Total Species in Türkiye	Specie Ratio of Düzce/Türkiye (%)
Fish	5	8	26	127	20
Amphibian	2	4	6	23	26
Reptile	2	5	7	120	6
Bird	17	40	142	466	30
Mammalian	6	12	19	160	12
Total	**32**	**69**	**200**	**896**	**22**

Source: Biodiversity Symposium, 2012

The project area will be located within an urban setting on existing roads where the fauna mentioned above are unlikely to be present.

Based on the fauna study within the scope of Geothermal Well Drilling Project (PIF,2021) which is close to the Project area, the agile frog (*Rana dalmatina*) from amphibians and the rock lizard (*Lacerta saxicola ssp. Tristis*) from reptiles in the region are under protection in accordance with the Bern Convention, however, these species are not included in the local fauna. No important breeding areas for fauna have been identified on the project site. It has been determined that there is no species under protection by international legislation on the project site and no endemic fauna species are present in and/or the surroundings of the project site.

4.1.12 Protected Areas

Legally Protected Areas

Online databases of MEUCC and Google Earth kmz files of the Ministry of Agriculture and Forest (MoAF) have been utilized to identify the protected sites in the vicinity of the Project area, which are under protection by the national legislation:

- Atlas online database of MEUCC

  https://www.atlas.gov.tr/

- Google Earth kmz files of MoAF

  http://veri.tarimorman.gov.tr/layers/?limit=100&offset=0

Based on the database and kmz files as mentioned above, the nearest protected areas to the Project area include the areas as given in Table 4-8 and as shown in Figure 4-14.

Table 4-8. Distances between Protected Areas and the Project Area

Protected Areas	Distance
Sarıkyayla Waterfall	9 km
Sarıkaya Cave District Natural Archeological Site	28 km
Kurugöl Natural Park	22 km
Efteni Lake Wildlife Improvement Area	10 km
Aydınpınar Waterfall Natural Park	16 km
Güzeldere Waterfall Natural Park	18 km

Figure 4-14. Nearest Legally Protected Sites to the Project area

Key Biodiversity Areas (KBAs)

The Key Biodiversity Area (KBA) concept is a prioritization approach used to identify sensitive and unique natural areas. In order to identify such areas, a series of ecological indicators are used including particularly the endangered species and/or living species with a limited geographical distribution. KBAs are selected through standards based on the distribution and populations of species and habitats in need of area protection, and through concrete criteria based on globally applicable thresholds (KBA Brochure - https://www.dogadernegi.org/wp-content/uploads/2019/01/oda-brosur.pdf). Key Biodiversity Areas (KBAs) have been identified in Türkiye, but there are no regulatory provisions for the identified KBAs except for those with legally protected status. The book entitled 'Key Biodiversity Areas of Türkiye' was published by Doga Dernegi (Nature Society) in cooperation with the Turkish Ministry of Environment and Forest (former ministry, now MEUCC) and several conservationists and academics, and it is the most outstanding source for KBAs in Türkiye. According to the book, the closest KBAs to the Project area are Sakarya Delta (approximately 39 km to the northwest), Abant Mountains (about 14 km to the south), and Bolu Mountains (approximately 30 km to the east), as shown

in Figure 4-15. Sakarya Delta is designated as Important Bird Areas (IBA)[5] (Bird Life International).

The closest KBA to the Project area is Abant Mountains. The northern part of the Abant Mountains is covered with dense forests dominated by eastern beech (*Fagus orientalis*) at low altitudes and Uludağ fir (*Abies nordmanniana ssp. bornmuelleriana)* above 1,500 meters. In addition, scotch pine (*Pinus sylvestris*) and boxwood (*Buxus sempervirens*) communities are occasionally encountered in the region. The forest border consists of juniper trees. In Sülüklügöl Nature Reserve, there are pure yellow pine, Uludağ fir, eastern beech and forest communities and mixed forests consisting of these species. There are also the largest and densest boxwood communities in Türkiye. The Abant Mountains, which are very important for plants, are home to two plant species known to live only in this area in the world: *Ornithogalum pascheanum* and *Poa asieae-minoris*. An endemic dormouse subspecies, *Muscardinus avellanarius abanticus*, is found in the region. *Salmo trutta*, a trout subspecies, is endemic to the region. The area meets the KBA criteria for many butterfly species. Of these species, the apollo (*Parnassius apollo*) and Caucasian festoon butterfly (*Zerynathia caucasica*) generations are globally endangered.

The Bolu Mountains are a mountain range north of Bolu city center and extending in the west-east direction. The highest point of the region is Celedorugu (1980 m). The area is bordered by Devrek (Bolu) Stream in the east. The southern slopes of the mountain feed the Büyüksu Stream, one of the main branches of the Bolu Stream. The Northern Slopes feed the Hasanlar Dam in the northwest of the KBA. Yedigöller National Park is located in the area. Old and untouched forest areas stretch across the KBA. Areas close to the center of Bolu are covered with forests where Uludağ fir (Abies nordmanniana ssp. bornmuelleriana) is mixed with pure and eastern beech (Fagus orientalis) and hornbeam (Carpinus betulus). In the northern regions, in mixed forests dominated by eastern beech and hornbeam, oak communities (Quercus petrea ssp. iberica, Q. macranthera ssp. syspirensis), black pine (Pinus nigra), Scots pine (Pinus sylvestris), maple (Acer trautvetteri) and ash ash (Fraxinus)) are found. Beech forests at levels lower than 800 meters towards Melen Stream give their places to black pines. In the southwest of the KBA, fir and yellow pines mix among the beech forests. The Yedigöller basin, located in the northeast of the KBA, consists of seven landslide lakes, which are formed as a result of the sliding masses blocking the valley fronts and have a 50-60 m altitude difference between them and are ordered from north to south. Mixed forests of Scotch pine, larch, Uludağ fir and hornbeam are seen here, where eastern beech is dominant. There are forests formed by Turkish hazelnut (Corylus colurna) individuals reaching monumental dimensions in Kale-Bolu Hazelnut Nature Reserve. Bolu Mountains is a region where the endemic Lathyrus undulatus plant species lives in our country and is endangered on a world scale. Also important to birds, the KBA is home to large populations of temperate forest biome species such as the hydrangea woodpecker (Dendrocopus medius), the forest lark (Lullula arborea), the black woodpecker (Dryocopus martius), and the small green woodpecker (Picus canus). Peregrine falcon (Falco

[5] http://datazone.birdlife.org/country/turkey/ibas

peregrinus) and golden eagle (Aquila chrysaetos) also breed in the area. The Bolu Mountains are also an important area for wildlife and mammals, with its distance from settlements and its untouched forest structure. Apart from large mammal species, the region is important for Muscardinus avellanarius abanticus, a dormouse subspecies endemic to Turkey. The area provides KBA status due to many butterfly species, including the globally endangered Caucasian festoon (Zerynthia caucasica).

Sakarya Delta hosts well-preserved assemblages of globally endangered dune plants such as Black Sea panicle (*Silene sangaria*) and coastal mullein (*Verbascum degenii*). In addition, the Delta is an important wintering area for Siberian goose (*Branta ruficollis*) and velvet duck (*Melanitta fusca*). *Bombina bombina arifiyensis*, an endemic frog subspecies in Türkiye, lives here. It is one of the important areas where *Podarcis muralis kefkenensis*, a subspecies of the wall lizard and endemic in Türkiye, is known to live here. It meets the KBA criteria for ten (10) inland fish taxa living in the delta. The globally endangered fish in the area are *Acipenser gueldenstaedtii, Acipenser nudiventris, Acipenser ruthenus, Acipenser stellatus, Acipenser sturio* and *Huso huso*.

Figure 4-15. The Nearest Key Biodiversity Areas to the Project Area

The Project area is not within any natural habitat or protection zone. There is no internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Important Bird Areas, and Alliance for Zero Extinction Sites) within the AoI.

4.1.13 Waste Management

Düzce Provincial Solid Waste Association (DIKAB) was established between Düzce Province Municipalities with the Council of Ministers Decision dated 27.12.2002 and numbered 2002/5116 to find solutions to environmental problems negatively affecting public health in Düzce Province. Çilimli Municipality is also a member of the union. A Landfill Facility started operations in 2020 within the province to manage municipal wastes. (Düzce Province 2021 Environmental Status Report, 2022).

As of 01.10.2018, the Zero Waste Project has been implemented in the province, starting from the Governor's Office. The wastes have been collected separately in all Public Institutions and sent to recycling/disposal (Düzce Province 2020 Environmental Status Report, 2021).

One disposal site is available within the province boundaries to dispose of excavation soil wastes. The number of waste treatment facilities in Düzce Province as of 2020 is shown in Table 4-9 (Düzce Province 2020 Environmental Status Report, 2021):

Table 4-9. Number of Waste Treatment Facilities in Düzce Province as of 2020

Sanitary Landfill	1
Licensed Packaging Waste Collection, Separation, and Recovery Facilities	27
Hazardous Waste Recovery Facilities	4
Waste Oil Recovery Facilities	-
Waste Vegetable Oil Recovery Facilities	-
Waste Battery and Accumulator Recovery Facilities	1
End-of-Life Tire Recovery Facilities	-
Medical Waste Sterilization Facilities	1
Non-Hazardous Waste Recovery Facilities	39
Waste Electrical and Electronic Goods Processing Plants	1
Mine Waste Disposal Facilities	-

Source: Düzce Province 2020 Environmental Status Report, 2021

Currently, there is no wastewater network in the Project area. The collected wastewater through the sewerage network of the Project will be transferred to Düzce Advanced Biological Wastewater Treatment Plant with a capacity of 50,000 m^3/day, built by İSKİ in 2018. The treatment system includes pretreatment, intermediate precipitation, biological phosphorus removal, denitrification with extended aeration, nitrification and final precipitation. The daily treated water amount is 21,920 m^3 and the annual treatment sludge amount is 1,300 kg. Düzce Advanced Biological Wastewater Treatment Plant has relevant environmental license and permit for operation and operates in compliance with the Water Pollution Control Regulation.

4.2 Social Baseline

4.2.1 Population

Düzce Province is located in the Black Sea Region of Türkiye and is surrounded by the Black Sea to the north, Sakarya Province to the west, Bolu Province to the south, Zonguldak Province to the east. Düzce Province has 405,131 inhabitants according to the "Address-Based Population Census 2022" conducted by the Turkish Statistical Institute (TurkStat) (www.tuik.gov.tr). The population of Düzce since 2010 is shown in Figure 4-16.

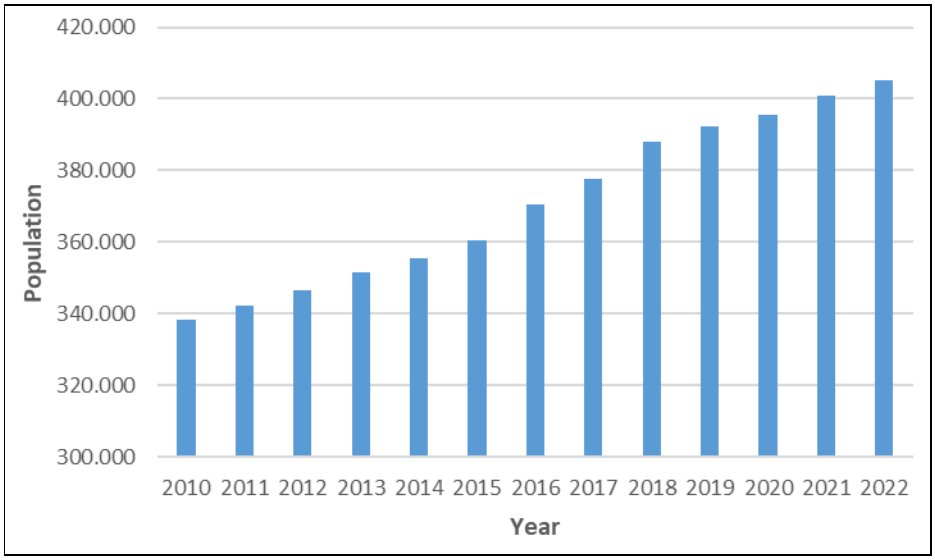

Figure 4-16. Population of Düzce Province between 2010 and 2022
Source: TurkStat 2022 data, www.tuik.gov.tr

There are 8 districts in Düzce Province which are Akçakoca, Cumayeri, Çilimli, Düzce, Gölyaka, Gümüşova, Kaynaşlı and Yığılca.

Çilimli District has a total of 19,648 inhabitants (2022 data) in its 7 neighborhoods, which include Arabaci, Mahirağa, Şerefiye, Topçular, Ulucami, Yeşil and Yeşiltepe, and 20 villages. The population of Çilimli District since 2010 is shown in Figure 4-17. The population distribution by age group and gender for Çilimli District is given in Table 4-10.

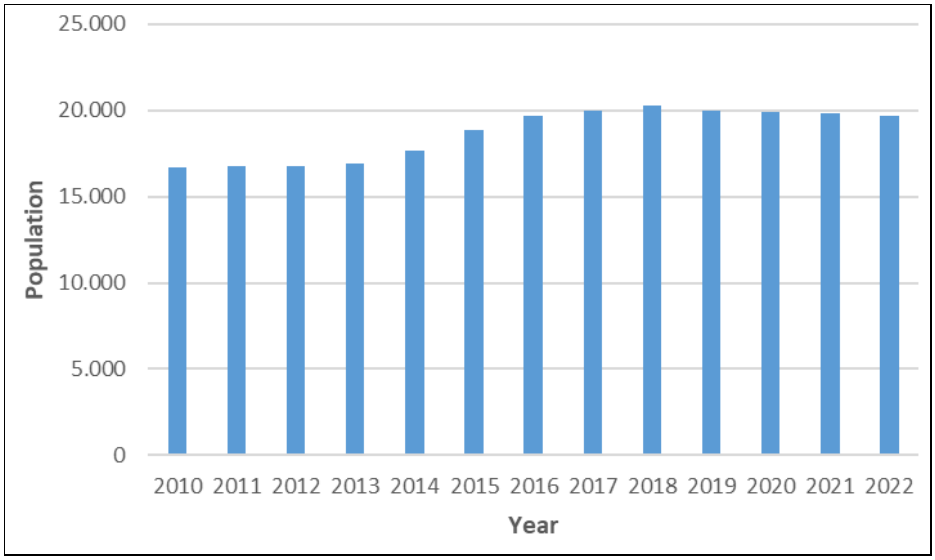

Figure 4-17. Population of Çilimli District between 2010 and 2022
Source: TurkStat 2022 data, www.tuik.gov.tr

Table 4-10. Population Distribution by Age Group and Gender for Çilimli District in 2022

Age Group	Male	Female	Male %	Female %
0-4	478	468	2.43	2.38
5-9	568	499	2.89	2.54
10-14	577	511	2.94	2.60
15-19	556	461	2.83	2.35
20-24	739	532	3.76	2.71
25-29	906	523	4.61	2.66
30-34	936	539	4.76	2.74
35-39	1,056	566	5.37	2.88
40-44	1,070	635	5.45	3.23
45-49	997	538	5.07	2.74
50-54	808	562	4.11	2.86
55-59	752	596	3.83	3.03
60-64	607	573	3.09	2.92
65-69	517	499	2.63	2.54
70-74	348	375	1.77	1.91
75-79	188	240	0.96	1.22
80-84	121	148	0.62	0.75
85-89	50	65	0.25	0.33
90+	8	36	0.04	0.18

(Source: TurkStat 2021 data, www.tuik.gov.tr)

The Project will be mostly realized in Ulucami neighborhood and will pass through Şerefiye, Mahirağa and Topçular neighborhoods. The distribution of population in these neighborhoods is given in Table 4-11.

Table 4-11. Population Distribution in Ulucami, Mahirağa and Topçular Neighbourhoods

Neighborhoods	Male	Female	Total
Ulucami	1,030	994	2,024
Şerefiye	3,292	590	3,882
Topçular	518	538	1,056
Mahirağa	164	171	335

It is essential to identify individuals and groups differentially or disproportionately affected by the Project because of their disadvantaged or vulnerable status. The potential vulnerable/disadvantaged individuals/groups are as follows:

- Households with physically and / or mentally disabled family members,
- People with chronic diseases,
- Elderly people over 70 years of age who live alone and in need of care,
- Female-headed households,
- Households where the head of the household is a child,
- Households with low or no income, and
- Refugee households.

Based on phone interviews conducted with the headmen of Ulucami, Mahirağa and Topçular neighborhoods; the age distribution is mostly between 30-60, between 30-50 and between 30-40, respectively. Based on information provided by the headmen, there are vulnerable/disadvantaged individuals/groups in Ulucami, Mahirağa and Topçular neighborhoods. The list of these groups is given in Table 4-12. Social services, district governorship, and headmen look after these groups if they apply to these institutions. These groups need financial aid, supplies, and shelter.

Table 4-12. Vulnerable/Disadvantaged Individuals/Groups in the Neighbourhoods

Type	Ulucami	Mahirağa	Topçular
People who live with the assistance of others	5 people	1 person	None
Poor people	5 people	5 households	25 households
Old people	5-6 people	1 household	10 households
Female households	1-2 people	3-4 households	2 households
Physically handicapped people	2-3 people	1 person	3 people
Mentally handicapped people	3-4 people	1 person	3 people

4.2.2 Economy

According to the "Socio-Economic Development Ranking Survey of Provinces and Regions - 2017" published by the Ministry of Finance, Economy and Development, Düzce is ranked 34th ("Socio-Economic Development Ranking Survey of Provinces and Regions -2017", Ministry

of Finance, Economy and Development. 2017[6]. Based on the Union of Chambers and Commodity Exchanges of Türkiye 2020 Economic Report, the gross value added per person for Düzce is 43,749 TL in 2019 (The Union of Chambers and Commodity Exchanges of Türkiye 2020 Economic Report, 2021).

According to the Düzce Commercial Life and Production Status Report 2020 prepared by the Düzce Commodity Exchange, the textile and textile product manufacturing, wood products manufacturing and machinery and equipment manufacturing industry sectors in Düzce province come to the fore. Düzce, where 37% of the regional textile industry balance sheet is produced, ranks first in the textile industry in the region. As the most developed industrial sector in Düzce Province, the textile industry covers 20% of the industrial enterprises in the province, 25% of the total industrial workforce and 23% of the industrial sector balance in the province. Another sector in which the province has a high share of regional industry is the wood products manufacturing sector. In total 18% of the balance sheet of the wood products manufacturing sector in the region is produced in Düzce Province, and 17% of the enterprises operating in this sector in the region are in Düzce Province. Although the sector of manufacturing wood products sector has a share of 13% in the total balance of the industrial sector of Düzce province, the share of enterprises operating in this sector in the total enterprises of the province is 10%. However, the ratio of employment provided in this sector to the provincial industrial work ranks sixth at 8% (Duzce Commercial Life and Production Status Report, 2020).

As the most developed industrial sector in Düzce, the textile industry covers 20% of the industrial enterprises in the province, 25% of the total industrial workforce and 23% of the provincial industrial sector. 2020).

Çilimli is one of the districts closest to the city center, and hazelnut and corn are the main economic activities in this district. In addition, hazelnut cracking and forest products factories, which are located within the borders of the district, play an important role in the employment of the district population (Düzce Commercial Life and Production Status Report, 2020).

In Çilimli District, there is one industrial zone, which is Çilimli Specialized Organized Industrial Zone (OIZ). The area of the OIZ is 93 hectares. (Düzce Commercial Life and Production Status Report, 2020).

Çilimli district, which shows a rapid and conscious development in agriculture and animal husbandry, is also evolving in industrialization. Approximately 15% of the population of the district is engaged in agriculture. Of the lands in the district, 86% is arable land, 2% is meadows and pastures, 6% is forest land, 3% is unsuitable land, and 3% is residential land. Hazelnuts are planted on 35,250 hectares of agricultural land, corn on 17,600 hectares, wheat on 250 hectares, rice on 700 hectares, various vegetables on 170 hectares, and other agricultural products on 880 hectares (Çilimli Municipality Website- Economic Condition, 2020).

[6] https://www.sanayi.gov.tr/merkez-birimi/b94224510b7b/sege/il-sege-raporlari

Cattle breeding is generally carried out in the district. This practice is not for commercial purposes but for pasture livestock and family business. In larger enterprises, 1391 large dairy cattle are raised (Çilimli Municipality Website- Economic Condition, 2020).

It can be said that the forest existence in the district is rich. When sparse cutting practices are carried out in forests, it is seen that a source of livelihood and employment is created for landless and low-income families. There is no Forest Management Chief in Çilimli district, it is subordinate to Gümüşova Melen Forest Management Chief as a region. The fuel and food needs of the villages in Çilimli district are met by this chiefdom (Çilimli Municipality Website-Economic Condition, 2020).

There are 5 cooperative organizations in Çilimli district, namely the Hazelnut Agricultural Sales Cooperative, the Agricultural Credit Cooperative and the 3 Motor Carriers Cooperative. There are 592 taxpayers registered with the Ministry of Finance (Çilimli Municipality Website-Economic Condition, 2020).

Based on information obtained during the phone interviews conducted with the headman of Ulucami, Mahirağa and Topçular neighborhoods; livelihoods are agriculture, livestock and industry sectors; the average monthly income in the neighborhoods varies between 10,000-15,000 Turkish Lira; and people living in the neighborhoods are usually owners of their houses.

4.2.3 Employment

According to TurkStat data, the unemployment rate for the whole of Türkiye and the TR42 region between 2016 and 2020 is given in Figure 4-18. It is seen from the figure that the unemployment rate has risen in both Türkiye and TR42 region after 2018. In addition, the unemployment rates of Türkiye and TR42 region are almost the same every year except in 2020. In 2020, there is a 1% difference between those rates (TurkStat 2020 data, www.tuik.gov.tr/).

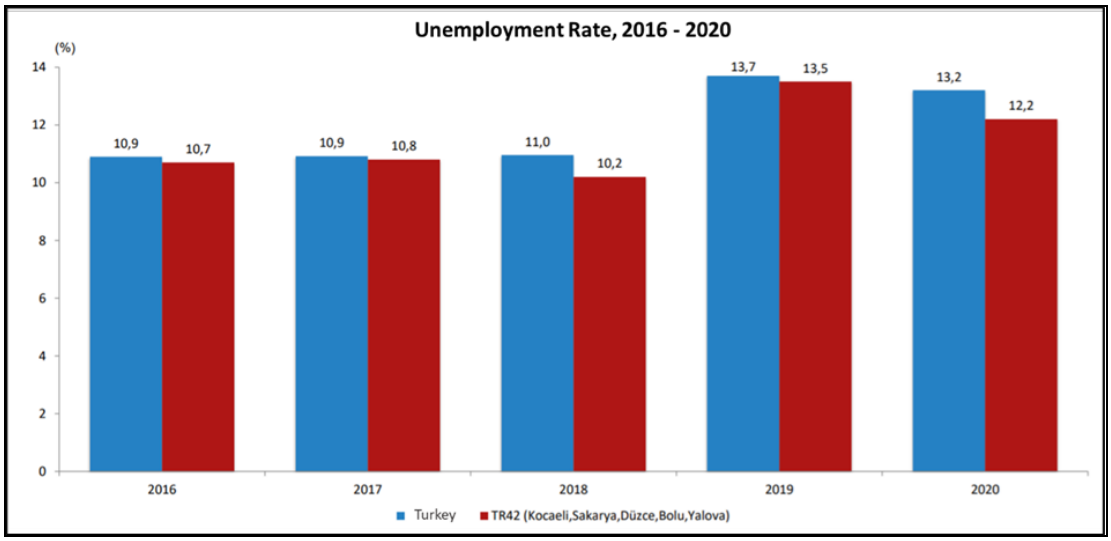

Figure 4-18. Unemployment Rate between 2016 and 2020
Source: TurkStat 2020 data, www.tuik.gov.tr

According to TurkStat data, the service industry is the largest economic activity in TR42 region and Türkiye. The percentage of people employed by economic activities is given in Figure 4-19. The region's shares of service, farming, and industry sectors are 51.2%, 35.9%, and 12.8%, respectively (TurkStat 2020 data, www.tuik.gov.tr/).

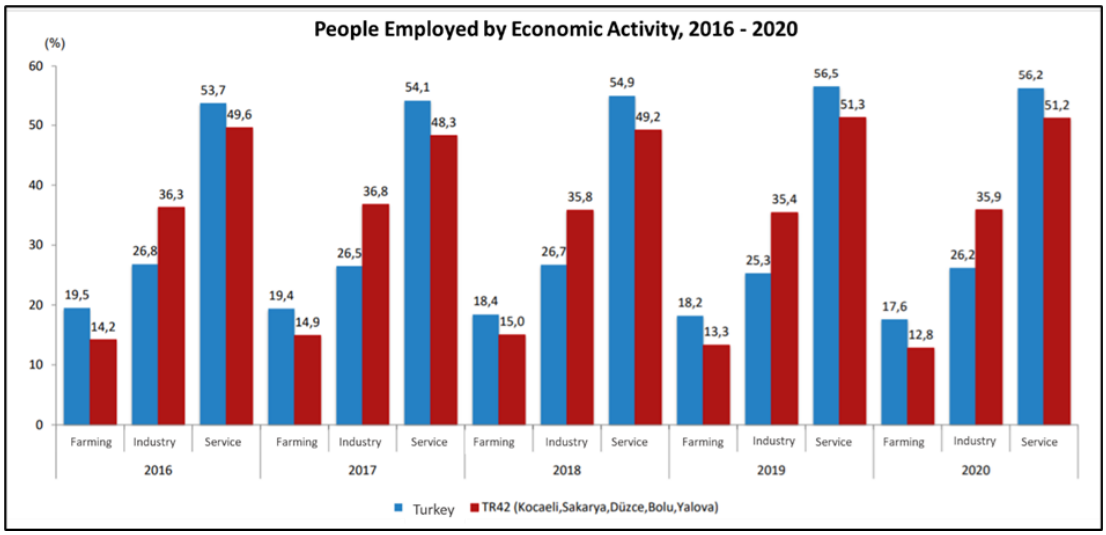

Figure 4-19. Employment Rate between 2016-2020
Source: TurkStat 2020 data, www.tuik.gov.tr

Based on information obtained during the phone interviews conducted with the headman of Ulucami, Mahirağa and Topçular neighborhoods; people tend to work in the private sector and in their own businesses.

4.2.4 Education

According to 2020 TurkStat data, the education level in the Düzce Province is given in Table 4-13, and it can be seen that at least % 97 of the province's population is literate (TurkStat National Education Statistics Database, 2008-2020).

Table 4-13. Attained Education Level in Düzce Province (Population 6 years of age and over), 2020

Total	Illiterate	Literate without a diploma	Primary school	Primary education	Junior and vocational high school	High and vocational high school	Universities and other higher educational institutions	Master (Including 5- or 6-Years Faculties)	Doctorate	Unknown
358,344	8,853	32,600	85,079	34,165	61,912	80,450	47,590	4,104	949	2,642

Source: TurkStat National Education Statistics Database, 2008-2020

According to National Education Statistics Formal Education 2020/2021, the statistics regarding the number of schools and teachers in Düzce province are as follows: (National Education Statistics Formal Education, 2020/'21)

- There are 557 teachers and 7,593 students in 191 schools of pre-primary education.
- There are 1,371 teachers and 20,943 students in 109 schools of primary education.
- There are 1,707 teachers and 21,300 students in 104 schools of secondary education.
- There are 264 teachers and 3,713 students in 20 Imam Hatip schools.
- There are 1,844 teachers 26,737 students in 63 upper secondary education schools (including 1,073 teachers and 12,793 students in 35 vocational and technical education).

In Düzce province, there is one public university namely Düzce University, 32 kindergartens, 97 primary schools, 88 secondary schools, 45 high schools and 17 public education centers (Schools in the Provinces, 2022).

In Çilimli District, there is one kindergarten, 7 primary schools, 8 secondary schools, 3 high schools and one public education centers (Schools in the Districts, 2022).

Based on information obtained during the phone interviews conducted with the headman of Ulucami, Mahirağa and Topçular neighborhoods; there are two kindergartens, one primary school, one secondary school, one high school and one university (2-years) in Ulucami neighborhood; there are one kindergarten, one primary school, one secondary school, two high schools in Topçular neighborhood; there are no schools within the borders of Mahirağa neighborhood.

4.2.5 Recreation and Tourism

Düzce Province has nature beauty settings and the tombs of Prusias and Konuralp Bey, which are ancient cities of the Western Black Sea Region. With its plateaus, lakes, streams and 28 kilometers of coast opening to the Black Sea, Düzce is a city suitable for all types of tourism (Düzce Municipality Website- Culture and Tourism, 2022).

Düzce is one of the rare provinces where cultural diversity meets natural beauty. In Konuralp Museum, which has sculpture, ceramic, coin collections and ethnographic artifacts showing the characteristics of the civilizations that ruled the region in the historical process, a total of 6,207 historical artifacts, including 1,821 archaeological artifacts, 488 ethnographic artifacts and 3,898 coins are available. There are 216 immovable cultural and natural assets and 28 archaeological sites in the province (Düzce Municipality Website- Culture and Tourism, 2022).

Rafting in Cumayeri district, Motocross in Kaynaşlı district, Off-Road races in Darıyeri Yörükler Plateau and Kocayayla in Düzce city centre are some of the touristic activities that can be undertaken in Düzce Province. Cycling sports, camping and caravan, horse riding and

aviation sports are other touristic activities that can be done in Düzce (Düzce Municipality Website- Culture and Tourism, 2022).

Akçakoca is the only tourism center that can receive a blue flag on the Black Sea coast. There are many sandy beaches along its coastline of 28 km. There are seaside cliffs formed by the sea from one side and the majestic waves of the Black Sea in places. The highest of these is the Soyat waterfront, located between the Ceneviz Castle and Değirmenağzı, at an altitude of 30 meters. Akçakoca offers alternatives for those keen on diving, surfing, sailing to the blue world of the sea and angling (Düzce Municipality Website- Culture and Tourism, 2022).

Düzce has very rich potential in terms of Plateaus. It is suitable for nature tourism with its land structure, climate, rich water resources and vegetation. Important Plateaus are as follows; Kardüz Plateau, Topuk Plateau and Pond, Pürenli Plateau, Sinekli Plateau, Kocayayla, Darıyeri Yörükler Plateau, Odayeri Plateau, Torkul Plateau and Pond, Balıklı Plateau, Hira Plateau, Derebalık Plateau and Sakarca Plateau. These plateaus, which lie parallel to each other, have a trans road connection between the plateaus, and the transition distances from each plateau to the other are between 5 and 20 minutes and draw attention with their easy transportation opportunities (Düzce Municipality Website- Culture and Tourism, 2022).

Düzce is a very rich region in terms of water resources. Water springs arise from the mountains surrounding the Düzce Plain, collect in Efteni Lake and are carried by the Büyük Melen River and poured into the Black Sea. Efteni Wetland, which is a nature protection area and a dam lake, is one of the natural riches of the province (Düzce Municipality Website- Culture and Tourism, 2022).

Caves in the province constitute an important potential in terms of tourism diversity. The most important caves in the province, where the development of cave tourism for sportive and touristic trips is aimed, are the Fakıllı cave in the Akçakoca district and the Sarıkaya caves in the Yığılca district (Düzce Municipality Website- Culture and Tourism, 2022).

Dadalı Village is a village of Akçakoca district, 34 km from Düzce, and 2 km from the district center. Dadalı Village is a region that has attracted attention in recent years in rural and eco-village tourism with its unspoiled nature and high organic farming capacity. The village, whose economy is based on agriculture and animal husbandry, became a model village throughout Türkiye with the support of the East Marmara Development Agency (EMDA) with the project themed 'Dadalı Village in Tourism Branding and Quality Management' prepared by the Akçakoca Hazelnut and Chestnut Producers Association (Düzce Municipality Website- Culture and Tourism, 2022).

Efteni Lake and its surroundings, with its rich vegetation and water resources, is one of the important and rare centers on the migration route of migratory birds. In 1992, the Ministry of Forestry, National Parks, Hunting-Wildlife Protection General Directorate, aimed to protect game and wild animals, to secure the migration routes of migratory species, to protect and develop their living environments, to take remedial measures, to provide shelter, nutrition and

suitable living conditions. status and hunting are prohibited (Düzce Municipality Website-Culture and Tourism, 2022).

4.2.6 Health

In addition to the health centers in the district center, Dikmeli, and Pırpır villages, one health center was completed in Yenivakif and Kırkharman villages. Two doctors (one institutional caregiverand one dentist) work in the District Community Health Centre. Besides, four family foctors working at the Family Medicine Centre, and there is one family doctor each in Pırpır and Dikmeli villages. Whereas one Family Health Personnel works in Yenivakif village, there is no personnel in the Kırkharman health center. There are health houses affiliated with the health centers providing health services to the public, and these are in Karaçörtlen, Yukarıkaraköy, and Tepeköy villages in the district. However, only Karaçörtlen Health House is active with one midwife. At the Health House in the Topçular District, 112 Emergency Health Service is provided by eight health personnel, four drivers, and a ambulance. Other health houses are not active due to lack of personnel and family medicine. There is no Private Polyclinic in the district (Düzce Çilimli OIZ Revision Master and Implementation Zoning Plan Explanation Report, 2020) (The Official Website of Çilimli District Governorship-Administrative Structure, 2022).

Based on information obtained during the phone interviews conducted with the headmen of Ulucami, Mahirağa and Topçular neighborhoods; there is one hospital and four pharmacies in Ulucami neighborhood; there are no health facilities in Mahirağa and Topçular neighborhoods.

4.2.7 Public Institutions

As previously mentioned, Uğur Suyu Stream has met the water demand of Düzce Province since 1994. The sewerage network in Düzce Province was completed in 1968. The total length of the network is 620 km. The sewerage system serves 95% of the population of Düzce Municipality, and the sewerage system ends with the Düzce Central Wastewater Treatment Plant (Düzce Province 2020 Environmental Status Report, 2021).

Sakarya Electricity Distribution Corporation (SEDAŞ) provides electrical energy in Düzce Province (The Official Website of SEDAŞ, 2022).

The Local Environment Board Decision (dated 13.07.2017 and numbered 2017/12) has encouraged/recommended using natural gas for heating purposes in the province by considering the meteorological data and topographic structure of the province to protect community and occupational health against the damages of air pollution caused by heating in winter (Düzce Province 2019 Environmental Status Report, 2020).

4.2.8 Cultural Heritage

According to the Turkish Culture Portal website, there is only one cultural heritage in Çilimli District. The cultural heritage in Çilimli District is Tepeköy Mosque. Located in Tepeköy

Village of Çilimli District, the mosque has a rectangular plan, wooden frame, brickwork, and a hipped roof. The mosque inscription states that it was built in 1954. The mosque has a zinc-coated minaret. Woodwork can be seen in the ceiling and balcony section of the mosque, next to the wooden pulpit and mihrab. It has been registered by the Ankara Cultural and Natural Heritage Preservation Board. The distance between Tepeköy Mosque and the Project area is approximately 1.8 km (Turkish Culture Portal website, 2022) (see Figure 4-20).

Based on information obtained during the phone interviews conducted with the headmen of Ulucami, Mahirağa and Topçular neighborhoods; there are no areas/trees/buildings with cultural/religious importance within the neighborhoods.

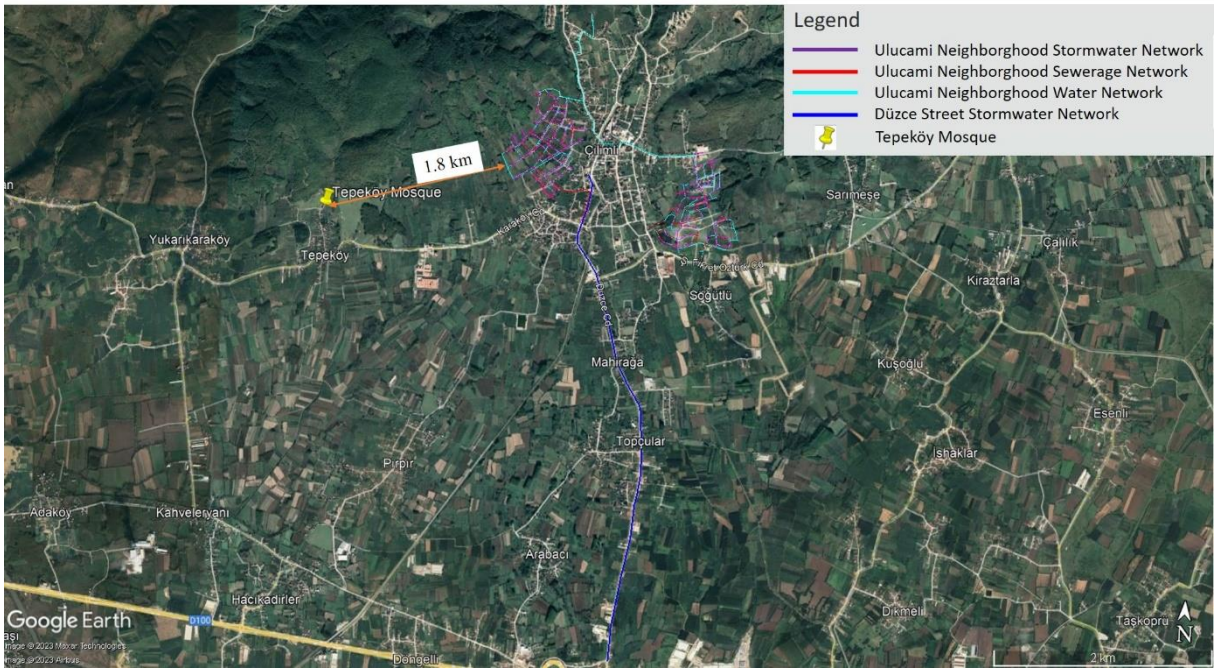

Figure 4-20. Tepeköy Mosque and the Project Area

There is also one natural heritage in Çilimli District: Healing Water Trail in Çilimli Kaplandede. Çilimli is a 35 km track between Kaplandede and Şifalı Su. It is a track of medium difficulty, where every healthy person can walk comfortably, and it can be walked in all seasons. The track mostly follows the forest interior. Snow precautions must be taken in winter (Turkish Culture Portal website, 2022).

4.2.9 Traffic

D-100 Ankara - İstanbul Highway passes through the southern part of Çilimli District. The district is 218 km from Istanbul Province and 253 km from Ankara Province (Düzce Çilimli OIZ Revision Master and Implementation Zoning Plan Explanation Report, 2020). Transportation to Düzce Merkez District is provided by a 20 km vehicle road connected to this D-100 highway. Access to the E80 İstanbul-Ankara Anatolian Motorway is provided by the junction located west of this road connecting to the highway. The distance of the connection is

about 2 km. Similarly, transportation to Çilimli District can be provided by both the D-100 highway and the E80 motorway. As of December 2020, there were 115,814 motor vehicles registered for traffic in Düzce Province (Düzce Province 2020 Environmental Status Report, 2021).

5 Environmental and Social Impacts

In this chapter, the anticipated environmental and social risk and impacts of the project on the area of influence shown in Figure 4-1 are presented.

5.1 Environmental Impacts and Risks

5.1.1 Land Use and Soil Quality

The construction sites covering camp site, material storage areas, etc. to be created to execute the construction works will be determined following the signing of the contract with the construction works contractors. It is envisaged that the construction site facilities covering camp site, material storage areas, etc. can be built on the outer borders of the settlement areas and empty lands within the zoning plan. The location of the camp site will be determined based on the negotiations to be held with Çilimli Municipality and the contractor after the tender phase. The location of the camp area will be an area owned by Çilimli Municipality and be used only for the Project purposes. Therefore, there will be no land acquisition for this area.

During the excavations to be carried out for areas not covered with asphalt or any other cover materials, there might be a loss of a minimum 30 cm deep vegetative soil layer if appropriate mitigation measures such as topsoil stripping are not taken. It is inevitable to cause physical damage to the land during excavations in areas not covered with asphalt.

There is a possibility that the excavation or fill sets located on the sides of the trench or excavation area will be exposed to erosion due to the formation of uncontrolled surface flows during trench excavations in rainy weather.

During trench excavations, there is a possibility of contamination of the exposed soil layers in case of oil and fuel oil flow/leakage from machinery and vehicles due to accident or malfunction.

Sand and gravel will be required during backfilling of pipe trenches. The supply of such natural materials may necessarily lead to soil and land loss. Such materials as necessary will be supplied from borrow areas and quarries having relevant permits.

During operation phase, there will be impacts related to maintenance and repair works that are considered similar to construction phase impacts mentioned above (except presence of a camp site), but at a lower scale.

The mitigation measures against potential impacts of land use and soil within the scope of the Project is provided in Chapter 6 of this plan.

5.1.2 Air Quality

A certain level of dust and vehicle exhaust emissions will be generated during the excavation and filling of pipe trenches, the removal of excavation and filling materials, parquet/curbs, and re-laying works, and during their packing unloading, and transportation of materials by vehicles. People living in the project impact area and the fruit and fruitless trees in the parks, gardens, private gardens, and ornamental plants planted for landscaping might be affected by this dust and emission release.

The construction phase activities will include earthworks, which covers the land arrangement activities of the Project area including opening of trenches. After completion of the land arrangement activities, water network pipes will be laid and the trenches will be backfilled. The significant pollutant of the construction phase will be the dust: generated from excavation, load on trucks and transportation, and the release of engine emissions from construction equipment and vehicles at the construction sites. Proper measures specified in Section 6.1 will need to be taken to prevent (i) exhaust gas emissions such as regular checks and maintenance of construction equipment/machinery and vehicles, and (ii) dust generation during filling, emptying, and transfer works, and the truck haulage will be covered to decrease dust emission. In addition, roads will need to be watered regularly. Moreover, additional measures addressed in the Mitigation Plan will need to be taken in case the emission levels cause negative impacts on the sensitive receiving environments and the communities in the vicinity. It is expected that the impacts will be temporary and minor.

The mass flow rates of the dust emissions that will arise during excavation, loading, and transporting activities are calculated according to controlled and uncontrolled working conditions in other words, under which proactive/mitigation measures are taken and not taken by, using the emission factors specified in *Table 12.6* in Appendix-12 of Industrial Air Pollution Control Regulation and presented in Table 5-1.

Table 5-1. Dust Emissions Factors

Sources	Uncontrolled	Controlled	Unit
Dismantling	0.025	0.0125	kg/ton
Loading	0.010	0.005	
Unloading	0.010	0.005	
Transportation (total distance of round trip)	0.7	0.35	kg/km-vehicle
Storage	5.8	2.9	kg dust/hectare day

Source: Industrial Air Pollution Control Regulation

During the construction phase, the total amount of excavation was calculated as approx. 5,000 m^3. The soil in the region is generally composed of volcano-sedimentary rocks (basalt-andesite, marl, sandstone) . Given the soil properties, average soil-specific gravity was accepted as 1.8 ton/m^3. Excavation calculations are given in Table 5-2.

Table 5-2. Excavation Calculations

Total Amount of Excavation	100 m^3 = 180 tons (d=1.8 ton/m^3)
Excavation Duration	1 days
Working Hours Per Day	8 hours
Amount Duration Per Hour	22.5 ton/h

Results of Uncontrolled Dust Emissions

- Emission from dismantling activities:
  - Dismantling Emission Flow Rate = Production Rate Per Hour x Emission Factor
  - =22.5 ton/h x 0.025 kg/ton = **0.5625 kg/h**
- Emission from storage of excavated material:
  - Dismantling Emission Flow Rate = Production Rate Per Hour x Emission Factor
  - =22.5 ton/h x 0.01 kg/ton = **0.225 kg/h**
- Emission from backfilling the trench
  - Dismantling Emission Flow Rate = Production Rate Per Hour x Emission Factor
  - =22.5 ton/h x 0.025 kg/ton = **0.5625 kg/h**
- Emission from loading activities:
  - Emission Flow Rate from Loading = Production Rate Per Hour x Emission Factor
  - =22.5 ton/h x 0.01kg dust/ton = **0.225 kg dust/h**

Results of Controlled Dust Emission

- Emission from dismantling activities:
  - Dismantling Emission Flow Rate = Production Rate Per Hour x Emission Factor
  - = 22.5 ton/h x 0.0125 kg/ton = **0.281250 kg/h**
- Emission from storage of excavated material:
  - Dismantling Emission Flow Rate = Production Rate Per Hour x Emission Factor
  - =22.5 ton/h x 0.005 kg/ton = **0.1125 kg/h**
- Emission from backfilling the trench
  - Dismantling Emission Flow Rate = Production Rate Per Hour x Emission Factor

- =22.5 ton/h x 0.0125 kg/ton = **0.28125 kg/h**

- Emission from loading activities:
  - Emission Flow Rate from Loading = Production Rate Per Hour x Emission Factor
  - = 22.5 ton/h x 0.005 kg dust/ton = **0.1125 kg/h**

Excavated material taken from the site and loaded on trucks will be transported to one of the disposal sites available within the province. In the calculations made for controlled and uncontrolled conditions, total dust emissions to occur under uncontrolled conditions were calculated as 1.575 kg dust/h. Total dust emissions under controlled conditions were calculated as **0.7875 kg dust/h.**

The total emission value calculated under controlled conditions is below the limit value (dust emission limit value at places other than chimney=1.0 kg/hour) specified in Appendix-2 of the Industrial Air Pollution Control Regulation. According to the regulation, there is no need to conduct an air quality modelling study when the calculated dust emission value is below the emission limit which is 1 kg/hour.

Regarding the ambient air quality, national and international limit values for dust emission relevant to the project are given in Table 5-3.

Table 5-3. National and International Limit Values for Dust Emission

Parameter	Average Duration	Regulation on Assessment and Management of Air Quality (RAMAQ) (µg/m³)	WBG General EHS Guidelines (µg/m³)	EU Directive (µg/m³)
PM_{10}	Daily (24 hours)	50 (Not exceeded more than 35 times a year)	50	50
	Annual	40	20	40
$PM_{2.5}$	Daily (24 hours)	-	25	25

During land preparation and construction phases of the project:

- The truck haulage will need to be covered to decrease dust emission,
- Roads will need to be watered regularly,
- The wheels of the vehicles will be washed periodically to prevent dust emissions. A washing area will be installed at the Çilimli Municipality workshop area to prevent dust emissions.
- Construction equipment will need to be maintained periodically.

The dust generated during the construction phase will be temporary and can be mitigated by taking measures stated in the Mitigation Plan in Chapter 6. If any grievance regarding dust generation is received, dust monitoring will be conducted to assess whether the measured result exceeds the limits. In case the measured emission levels exceed the limits, additional measures addressed in the Mitigation Plan in Chapter 6 will need to be taken.

No impact on air quality is expected during the operation phase except maintenance and repair works. Impacts related to maintenance and repair works will be similar to construction phase but at a lower scale. The mitigation measures against potential impacts of air within the scope of the Project is provided in Chapter 6 of this plan.

5.1.3 Noise and Vibration

Noise and vibration impacts will be generated during the project's construction phase, including trench excavations, heavy-duty machinery, etc.

Construction works will be performed during the daytime (07:00 a.m. - 07:00 p.m.) to minimize the impact. The noise and vibration generated by the construction equipment and vehicles is anticipated to have a negative effect on sensitive receiving environments such as schools, houses, health centers etc. around the project site. These anticipated impacts will be temporary (or short term), expected to be low in magnitude and can be mitigated by measures described in Chapter 6. Similarly, impacts during maintenance and repair works during operation phase will be temporary, expected to be low in magnitude and can be mitigated by measures described in Chapter 6. .

All construction works will need to comply with the Environmental Noise Control Regulation. The Environmental Noise Limit values for different sources provided in Table 1 of Annex-27 in the Environmental Noise Control Regulation are given in Table 5-4.

Table 5-4. Environmental Noise Limit Values for Different Sources

Source	Measured Parameter	Environmental Noise Level		
		Daytime	Evening	Night
Industrial facilities, transportation sources	$LA_{eq,5min}$	65 dB	60 dB	55 dB
Businesses that broadcast music	$LA_{eq\ 63\text{-}250\ Hz}$	60 dB	55 dB	50 dB
Workplaces	$LA_{eq,5min}$	Background + 5 dB		Background + 3 dB
In case of multiple workplaces	$LA_{eq,5min}$	Background + 7 dB		Background + 5 dB
All sources	LC_{max}	100 dB		

The allowed time zones for construction site activities carried out in the open air and causing environmental noise are 10:00-22:00 as per the Environmental Noise Control Regulation. Nevertheless, the construction works will be conducted between 10:00 a.m (i.e. the allowed

start time for construction activities as per the Regulation on Environmental Noise Control) and 19:00 pm (i.e. the end of the daytime period as per the Environmental Noise Control Regulation). Noise limit values for WBG General EHS Guideline considering the receptors in the residential, institutional, educational, industrial, and commercial areas are given in Table 5-5.

Table 5-5. WBG General EHS Guideline Noise Limit Values

Type of the Receptor	WBG General EHS Guideline	
	Daytime (07.00-22.00)	Night-time (22.00-07.00)
Residential	55	45
Institutional, educational		
Industrial	70	70
Commercial		

Additionally, noise impacts should not exceed the levels presented in the WBG General EHS Guidelines (Table 1.7.1), or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

The limit values for environmental vibration considering sensitive receptors are addressed in Table 5 of the Environmental Noise Control Regulation and provided in Table 5-6.

Table 5-6. Maximum Permissible Values of Ground Vibrations to be created by Construction and Construction Machinery outside the Nearest Most Sensitive and Sensitive Usage Area (frequency bands between 1 Hz and 80 Hz)

Area Category	Maximum Permissible Value (mm/s)	
	Continuous Vibration	Intermittent Vibration
Residential	5	10
Commercial	15	30
Historical and natural buildings	2	5

In case any grievance regarding noise and vibration generation is received, monitoring will be conducted to control whether the measured result exceeds the limits or not.

5.1.4 Water Sources and /Wastewater

There is one creek (Akdere Creek) passing through the Project area. The creek crossing will be made with concrete jackets under the creek.. Accordingly, the construction activities and maintenance/repair activities during operation may result in negative impacts to surface water quality and flow characteristics if mitigation measures are not taken.

There is also an irrigation channel intersecting with the stormwater network of the Project in Düzce Street. Based on information provided by CM, CM will contact with the relevant

Directorate of State Hydraulic Works to decide the crossing method for the irrigation channel. The construction activities and maintenance/repair activities during operation may result in negative impacts to water quality in the irrigation channel if mitigation measures are not taken.

During trench excavations, ponding may occur in pipe trenches or manhole, isolation, and measurement rooms due to precipitation or groundwater.

Water sources (including surface waters and groundwater) contamination near the campsites, dining hall, dormitory, hygienic areas, and office and maintenance areas for machinery and equipment may occur due to accidental oil leakages from construction machinery and due to temporary storage of fuel and petroleum in construction sites, containers containing possible additives to be used in construction works, solid wastes and accumulators, if they are not properly stored and disposed of.

Domestic wastewater will be generated during the construction phase of the Project. There are a total of two (2) wastewater treatment plants in the province of Düzce located in the Central and Akçakoca districts. Generated domestic wastewater is envisioned to be collected in a sealed septic tank that will be built in a suitable area in the construction campsite as there is currently no sewerage network in the Project area. The accumulated wastewater in the septic tank will be collected at specific intervals with a vacuum truck and disposed through a manhole indicated by the Municipality to Düzce Central WWTP entrance line. Düzce Central WWTP has all relevant environmental licenses and permits for operation and operates in compliance with the Water Pollution Control Regulation. In addition, treatment sludge is transferred to a licensed disposal facility via licensed waste transportation companies under the Regulation on Waste Management Regulation. All construction activities willbe aligned with Water Pollution Control Regulation.

During the construction phase, the need for drinking water and potable water/water for dust suppression will be provided from bottled water and the municipal water network line, respectively, in compliance with the Regulation on Water Intended for Human Consumption and Public Health Law requirements. A washing area will be installed at the Çilimli municipality workshop area, water will be supplied from the municipal water network line. The washing area will have settlement-oil water separation and wastewater will be collected in a sealed septic tank which will be emptied at specific intervals with a vacuum truck and disposed through a manhole indicated by the Municipality to Düzce Central WWTP entrance line.

No surface water or groundwater contamination is anticipated during the operation phase of the project due to surface runoff as long as all hazardous materials such as oil and grease are stored in designated areas having secondary containment and handled with care by authorized staff to prevent potential spills.

In excavated trenches filled with muddy water, it will not be discharged directly to the receiving environment unless the water passes through filtering process to remove sediments..

The mitigation measures against potential impacts to surface waters, irrigation channel and for wastewater management within the scope of the Project is provided in Chapter 6 of this plan.

5.1.5 Waste Management

Although the soil to be excavated during trench excavations will be used in backfilling, some excavation waste will be generated. If produced, excavation wastes will be transported and disposed of separately by licensed companies by local legislation and WB criteria. The excavation and demolition wastes will be collected with licensed vehicles and transported to the disposal areas used by Düzce Municipality or private companies.

In Düzce Province, there is a Solid Waste Landfill Site that started operation in 2020.

Municipal solid waste (non-hazardous) is expected to be generated during the construction and operation phases. The municipal solid waste produced will be collected by the Çilimli Municipality and disposed of at the Düzce Solid Waste Landfill Site.

Hazardous and special wastes are also expected to be generated from the maintenance of vehicles and machines used during construction and operation phases at the construction and maintenance/repair sites, respectively, such as waste accumulators, waste oil, and waste tires. During the project's construction phase, the maintenance and repair of the construction equipment will be carried out within the construction site and during the operation phase in the machinery park located in the workshops of CM.

Hazardous waste generated in all phases of the Project will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to a licensed disposal facility via licensed waste transportation companies under the Regulation on Waste Management.

Recyclable waste and non-recyclable waste will be separated from each other and from the hazardous waste. There will be bins for recyclable wastes at the project area. These wastes will be collected by the Çilimli Municipality and disposed at the licensed companies.

The protective equipment, such as masks, gloves, etc., willbe used due to pandemic control requirements. All personnel's protective equipment will be considered medical waste. It will be stored and disposed of separately from other wastes as per the Medical Waste Control Regulation.

All employees willbe trained in waste management to raise awareness on waste reduction.

The mitigation measures against potential impacts of above-mentioned wastes to be generated within the scope of the Project are provided in Chapter 6 of this plan.

5.1.6 Landscape

No adverse impact on the landscape is expected since the project area is not included in any agricultural or forest land.

5.1.7 Protected Areas

The project area is not within any natural habitat or protection zone. Besides, there is no 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 Sites) within AoI. In addition, there is no protected and/or highly sensitive species and no significant impact is expected on biodiversity values including these species or protected areas due to construction works to be carried out on existing roads.

5.1.8 Chemicals and Hazardous Materials

Chemicals such as maintenance oils willbe used to maintain vehicles and other machinery equipment during the construction and operation phases.

Fuel oil will be used by vehicles and other machinery during the construction phase and may contaminate the environment unless cars and other machinery equipment are not appropriately kept. During the construction and operation phases, soil and water can be contaminated due to spilling or leaking hazardous materials. Fuel oil willnot be stored at the construction site as informed by the Sub-borrower.

The mitigation measures against potential impacts of above-mentioned materials to be used within the scope of the Project is provided in Chapter 6 of this plan.

5.2 Social Impacts and Risks

5.2.1 Traffic

Traffic density is anticipated to increase due to truck movement and road closing during the construction phase. Information should be given to the public before the closure of roads, and the proper sign should be hung to announce the event. Road closure must be done logically, offering vehicles alternative routes and not blocking a zone completely. All heavy goods vehicles will be equipped with audible reversing alarms. The contractor/supplier will provide appropriate supervision to control traffic flow during work.

Another potential impact is injuries suffered by project personnel and the public due to traffic accidents. These potential impacts can be mitigated as long as the mitigation measures and monitoring requirements addressed in the relevant chapters of this document are implemented effectively.

There will also be potential adverse impacts on traffic safety during the operation phase considering maintenance and repair works since incidents may occur if proper mitigation measures are not taken.

The mitigation measures against potential impacts of traffic that may occur within the scope of the Project is provided in Chapter 6 of this plan.

5.2.2 Working Conditions and Worker Management

There will be workers who will be directly engaged by the Sub-borrower (direct workers), and potentially workers employed through third parties to perform work related to core business processes of the project for a substantial duration (contracted workers), as well as workers engaged by the Sub-borrower's primary suppliers (supply chain workers) during the construction phase of the project. Workers have rights under national labor and employment law and any applicable collective agreements, including the rights related to work hours, wages, overtime, compensation, and benefits upon the beginning of the working relationship and when any material changes occur.

Potential adverse impacts of project activities on workers in terms of working conditions and worker management are as follows:

- Unequal opportunity and unfair treatment adversely affect non-discrimination and equal opportunity conditions such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment, or termination of employment retirement, and disciplinary practices.
- There may be risk of employing migrant workers who are not engaged on substantially equivalent terms and conditions to non-migrant workers carrying out similar work. According to information received from the Sub-borrower, there will be no provision of accommodation services for the workers during the construction and operation phases of the project.
- There may be risk of employing children (under 18) since they are economically exploitable. There may be underage employees who work in a manner that interferes with their education and/or their health. Physical, mental, spiritual, moral, or social development may be affected adversely due to work.
- Women employees may be more vulnerable to harassment, intimidation, and exploitation.

Personnel employed during the operation phase will be subject to working conditions and worker management risks.

The mitigation measures against potential impacts related to working conditions and worker management within the scope of the Project is provided in Chapter 6 of this plan.

5.2.3 Occupational Health and Safety(OHS)

Construction works can cause accidents that may threaten the health and safety of workers if measures are not taken. Thus, CM and the contractor must provide a safe and healthy work environment.

Personnel employed during the construction and operation phases will potentially be impacted by OHS risks including exposure to noise, vibration, dust, eye hazards, welding/hot work, exposure to hazardous chemicals, chlorine gas leakage, working in confined spaces, working with electrical equipment, falls/trips and slips, traffic, machinery and moving equipment, working in open trenches.

The spread of infectious diseases among the workers, particularly Covid-19 and its variants, is another potential adverse impact on OHS and community health. This impact can also result in increased pressure on healthcare infrastructure.

The mitigation measures against potential risks and impacts of project activities on worker health and safety are provided in Chapter 6 of this plan. Moreover, OHS risks and impacts should also be managed and mitigated by OHS Management Plan and Risk Assessment (including Emergency Plans) to be prepared by the Contractor during the construction phase and by the Project Owner during the operation phase.

5.2.4 Community Health, Safety and Security

The impacts that may pose a risk to community health, safety, and security are considered under the following topics for the phases of the Project:

- Dust, vibration, and noise,
- Waterborne diseases,
- Chlorine gas leakage,
- Communicable diseases, i.e., Covid-19 and its variants,
- Community health and exposure to disease,
- Road traffic,
- Safety problem due to the ditches/trenches to be excavated,
- Infrastructure and machine/equipment safety,
- Water interruptions, especially in the network that supplies drinking water, are due to maintenance or insufficient water supply. After these water cuts or maintenance works, hygienic problems occur in the network.
- Gender-based Violence (GBV) and Abuse and Sexual Harassment (SEA/SH).

The potential risks and impacts to the community will need to be managed appropriately during the project's construction and operation phases through the measures addressed in the Mitigation Plan in Chapter 6.

During construction and operation phases, there will be “disadvantaged or vulnerable” individuals/groups, which may be more likely to be adversely affected by the project impacts and/or more limited than others in their ability to take advantage of a project’s benefits. Such individual/group is also more likely to be excluded from/unable to participate fully in the mainstream consultation process and may require specific measures and assistance.

The problem of clogging of the sewer lines which may occur during the operation phase will be handled quickly so that it will be ensured that public health is not affected.

5.2.5 Employment

Personnel will be hired during the construction phase of the project. There will be no additional employees who will work continuously during the operation phase, but there will be workers in the field in case of maintenance and repair. Local workforce and recruitment options will be considered initially. Therefore, labor influx is not anticipated.

5.2.6 Access to Services

Infrastructure such as gas, electricity, telecommunication, etc., is prone to damages during the project's construction phase.

Impacts due to pipe failures and/or during the maintenance and repair works are expected during the operation phase of the project.

5.2.7 Cultural Assets

There are no archaeological sites within the Project area. Since earthworks covering land arrangement activities of the project area will be conducted as a first step within the project's scope, there is a probability to come across any cultural asset during this step of the construction phase. For any chance find, a chance-find procedure will be in place (Annex 6) during construction, according to which the relevant authorities will be informed, and the existing guidelines and rules will be followed.

5.2.8 Land Acquisition

There will be no land acquisition within the scope of this Project as confirmed by CM. The Project will be constructed on existing roads in the zoning plan.

6 Mitigation Plan

6.1 Mitigation Plan for the Pre-Construction and Construction Phase

The mitigation plans for the pre-construction and construction phases are presented in Table 6-1 and Table 6-2, respectively. During the implementation of the mitigation plans, the most stringent requirement/standards among the national legislation and WB standards and also the most up-to-date legislation will be complied with. "Impact Significance" in Table 6-1 and Table 6-2 is determined considering that no mitigation measures are taken. Impact significance is determined considering the value/sensitivity of a resource/receptor that might be affected and the magnitude of potential impacts on that resource/receptor by taking into account various factors such as legislation, policies, standards; area of influence; persistence of impacts; and status of a resource/receptor.

Table 6-1. Mitigation Plan for the Pre-Construction

PRE-CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Physical Environment						
Waste Management	Wastes	Direct and indirect	Medium	• Prepare "Waste Management Plan." • Train employees on waste management issues. • Contract with licensed companies for recycling/disposal of wastes. • Build a sealed septic tank in a suitable area in the construction campsite to collect wastewater originating from construction area.	To be covered within the project budget	Contractor
Surface Water Quality	Surface water quality in Akdere	Direct	High	• Prepare "Creek Crossing Procedure". • Train employees on the relevant procedure. • Undertake surface water quality sampling at Akdere creek according to the parameters set forth in Surface Water Quality Regulation prior to the start of construction works to establish baseline conditions.	To be covered within the project budget	Contractor
Water quality	Water quality in the irrigation channel	Direct	High	• Prepare "Irrigation Channel Crossing Procedure". • Train employees on the relevant procedure.	To be covered within the project budget	Contractor
Chemicals and Hazardous Materials Management	Chemicals and hazardous materials	Direct and indirect	Medium	• Prepare "Chemicals and Hazardous Materials Management Plan." • Train employees in chemical and hazardous material management.	To be covered within the project budget	Contractor
Noise & Vibration	Noise &, Vibration Levels	Direct	Medium	• Prepare "Noise & Vibration Management Plan." • Train employees in noise mitigation measures.	To be covered within the project budget	Contractor
Air Quality	Dust and exhaust gases	Direct	Medium	• Prepare "Air Emissions Management Plan." • Train employees in dust suppression measures.	To be covered within the project budget	Contractor

PRE-CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Land use	Management of excavation materials	Direct	Medium	• Prepare "Topsoil Management Plan." • Train employees in the relevant plan.	To be covered within the project budget	Contractor
Soil and Land	Backfilling material	Indirect	Low	• The determination of the quarry where the sand and gravel material to be used for backfill will be taken, by considering the availability of all relevant licenses and/or permits such as EIA positive certificate, the restoration plans, operation license, etc. (i.e. such materials will only be supplied from quarries having relevant permits and/or licenses). .	To be covered within the project budget	Contractor
Soil Quality	Soil erosion	Direct	Low	• Prepare and implement "Erosion Control Procedure". • Train employees on the relevant procedure.	To be covered within the project budget	Contractor
Socio-Economic Environment						
Community Health & Safety and Security	Transportation, pedestrian, and traffic safety	Direct	High	• Prepare "Community Health & Safety and Security Management Plan" including traffic management issues. • Train employees on the relevant plan.	To be covered within the project budget	Contractor
Access to Services	Existing infrastructure	Direct	Medium	• Inform the relevant institutions (gas, electricity, telecommunication, fuel lines, etc.) before commencing the construction works and obtain necessary permits to avoid damage to the other structures. • Prepare "Community Health & Safety and Security Management Plan." • Train employees on the relevant plan.	To be covered within the project budget	Contractor
Cultural Assets	Cultural heritage	Direct	Low	• Share the Chance Find Procedure given in Annex 6 with potential contractors as part of the bidding documents	To be covered within the project budget	Çilimli Municipality
				• Train employees on the procedure of chance find management.		Contractor

PRE-CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Community Health & Safety and Security	Stakeholders	Direct	High	• Disclose ESMP on the various communication platforms, i.e., municipality website and neighborhood headman's offices, to get public suggestions and comments. • Prepare disclosure documents (Posters, brochures, leaflets, vb.) regarding the project, including the construction schedule. • Hold consultation meetings with the local communities regarding the project components and activities before construction. • Contact with mukhtars within the AoI and ensure that vulnerable/disadvantaged individuals/groups in their neighborhoods have participated fully in the mainstream consultation process. • A grievance redress mechanism will be in place that will enable the community to raise concerns during the construction phase of the project. • Keep Grievance Register. • Prepare "Stakeholder Engagement Plan," including External Grievance Redress Mechanism. (GRM). • Train employees on the SEP and GRM.	To be covered within the project budget	Çilimli Municipality
Employment	Local labor	Direct	Low	• Prioritize local workforce and recruitment options as much as possible. • Prepare "Human Resources Management Plan and Procedures," including "Internal Grievance Redress Mechanism." • Train employees on human resources policy together with the internal GRM. • Compliance with the code of conduct rules, including GBV and SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel.	To be covered within the project budget	Contractor
Labor and Working Conditions						
Labor and Working Conditions	OHS	Direct	High	• Prefer people with appropriate education/training in the work area they will be recruited for as per "Regulation on Procedures and Principles of Health and Safety Training of Employees."	To be covered within the project budget	Contractor

PRE-CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Inform workers about job descriptions, responsibilities, relationships with the local community, and risks about OHS before the commencement of works. • Workers will be issued a written contract with a job description, information about work hours, wages and their rights and obligations. • Have a full-time OHS Expert as per "Regulation on Duties, Authorities, Responsibilities, and Training of Occupational Safety Experts?" with relevant certification and experience in charge of occupational health and safety and s/he will monitor the site implementations. • Ensure that workers are equipped with all required Personal Protective Equipment (PPE) (helmet, safety belt, safety outfit, goggles, mask, steel cap boots, gloves, etc.) for OHS as per "Regulation on Use of Personal Protective Equipment in Workplaces." • Ensure that the following documentation is prepared by the contractor and sub-contractor(s). – OHS Management Plan and Procedures, – Risk Assessment Reports are prepared for all works to be carried out, and necessary measures will be taken to avoid these risks as per "OHS Risk Assessment Regulation." – "Emergency Plans" are prepared for a possible accident as per "Regulation on Emergencies at Workplaces" and "First Aid Regulation." Emergency teams will be built, and pieces of training/drills will be carried out in line with the emergency scenarios. • Both the Risk assessment and Emergency Response Plans will take into consideration the COVID-19 risks and other communicable disease risks, as relevant. • Project and site-specific OHS Management Plan based on construction site OHS risk assessment and that will also cover measures to address		

PRE-CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				COVID-19 and/or any other pandemic/communicable disease risk, which will be in line with the WBG EHS guidelines (both general and sector specific) should be developed before the commencement of works and implemented on site.		
Labor and Working Conditions	Labor management	Direct	High	• Prepare "Human Resources Management Plan and Procedures," including "Internal Grievance Redress Mechanism." • Train employees on human resources policy together with the internal grievance redress mechanism. • Compliance with the code of conduct rules, including GBV and SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel.	To be covered within the project budget	Contractor

Table 6-2. Mitigation Plan for the Construction Phase

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Physical Environment						
Waste Management	Wastes	Direct and indirect	Medium	• Undertake measures for minimum waste generation, i.e., training personnel to raise awareness, and manage in accordance with waste management hierarchy (prevent, reduce, reuse, recycle, recover, dispose). • Conduct the temporary storage of all non-hazardous wastes generated due to construction works at the designated temporary storage areas without harming the environment and by defining the waste categories (recyclable, hazardous, inert, non-hazardous, etc.) in line with the "Waste Management Regulation," "Regulation on Control of Excavated Soil, Construction, and Demolition Wastes" and WBG General EHS Guidelines Environmental (Waste Management) criteria. • Impermeability will be provided on the floors of the Temporary Storage Area and a suitable drainage system and a roof will be installed to provide protection from rain, snow, etc. 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. • Recyclable waste, non-recyclable waste, and hazardous waste will be separated. There will be bins to collect recyclable wastes. These wastes will be collected by the Çilimli Municipality and disposed at the licensed companies. Hazardous waste, generated in all project phases, will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to a licensed disposal facility via licensed waste transportation companies following the "Waste Management Regulation." In this respect the mitigation measures for temporary storage area listed below will be taken:	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				- Wastes will be temporarily stored in a manner that they do not react with each other. - Hazardous and non-hazardous waste storage areas will be segregated also the waste code, the amount of waste stored and the date of storage will be defined on the stored wastes. - Except for medical wastes, hazardous wastes will be stored in the temporary storage area for a maximum of six (6) months and non-hazardous wastes for a maximum of one (1) year. - If more than one thousand kilograms or more of hazardous waste is produced per month, a temporary storage permit will be obtained from the PDEUCC. - Dangerous Goods and Hazardous Waste Compulsory Liability Insurance will be taken out for hazardous waste temporary storage area/containers. • Personnel's protective equipment will be considered medical wastes and stored and disposed of separately from other wastes as per the "Medical Waste Control Regulation" and guides published by the Ministry of Health. • Domestic solid waste generated will be stored in containers by the contractor and will be collected by Çilimli Municipality and transported to licensed Düzce sanitary landfill that has sufficient capacity for disposal of such waste. Waste generation, storage, and disposal records will be kept • Training the employees regarding waste management practices to raise awareness on waste reduction will be provided. • Excavation waste will be reused for backfilling purposes as much as possible, and recovery and other re-use options will be considered as appropriate. Excess excavation wastes will be transported by licensed transport vehicles and disposed of separately following "Regulation on Control of Excavated Soil, Construction, and Demolition Wastes" and WBG General EHS Guidelines Environmental (Waste		

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				Management). The project will make use of existing licensed excavation waste storage areas in the district. • Incineration or burying of waste by any means and/or dumping to nearby water resources will not be allowed. • Other special wastes such as batteries, waste vegetable oil, waste tires, etc. will be stored separately at the construction site, transported by licensed transport vehicles to licensed waste collector companies. • "Waste Management Plan" will be implemented.		
Wastewater Management	Domestic Wastewater in the Campsite	Direct	Medium	• Collect the wastewater in the camping area without damaging the receiving environment. • Generated domestic wastewater is envisioned to be collected in a sealed septic tank that will be built in a suitable area in the construction campsite. The accumulated wastewater in the septic tank will be collected at specific intervals with a vacuum truck and disposed through a manhole indicated by the Municipality to Düzce Central WWTP entrance line. Düzce Central WWTP has all relevant environmental licenses and permits for operation and operates in compliance with the Water Pollution Control Regulation. • The wheels of the vehicles will be washed periodically at the washing area to be installed at the Çilimli municipality workshop area. Water will be supplied from municipal water network line. Washing station will have settlement-oil water separation and wastewater will be collected in a sealed septic tank which will be emptied at specific intervals with a vacuum truck and disposed through a manhole indicated by the Municipality to Düzce Central WWTP entrance line discharged into the wastewater collection line. • Use portable toilets for the needs of workers when digging trenches in densely populated urban areas. The wastewater will be transported by licensed trucks to the Düzce Central WWTP. • Ensure that wastewater is not discharged to nearby watercourses or to soil.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Ensure that muddy water accumulated in excavated trenches is not discharged directly to the receiving environment unless the water is eliminated through filtering process to remove sediments.		
Water resources	Contamination of surface waters and groundwater near campsite	Direct	Low	• Ensure that wastewater is not discharged to nearby watercourses or to soil. • Re-fueling of all vehicles and machinery will be avoided to the extent possible. If needed, re-fueling will be carried out at minimum 30 m of a surface water if present near the campsite. • Storage and handling of fuels, oils and other hazardous chemicals near a surface water will be limited to the extent possible. These materials will be stored on sealed surfaces and within secondary containment; • Training will be provided to machine operators regarding the working procedures, with attention to machine and equipment inspection for leaks prior to use, safe storage and handling of fuels/oils near a watercourse and/or precautionary measures to prevent contamination of the watercourses. • Chemicals and Hazardous Materials Management Plan" will be implemented. • All mitigation measures under Waste Management row will be implemented to prevent soil and groundwater contamination. • Waste Management Plan will be implemented.	To be covered within the project budget	Contractor
Water Use	Need for drinking water and potable water	Direct	Low	• The need for drinking water will be provided as bottled water, and potable water and water for dust suppression will be provided from the municipal water network line, in compliance with the Regulation on Water Intended for Human Consumption and Public Health Law requirements.	To be covered within the project budget	Contractor
Surface Water Quality	Surface water quality in Akdere Creek	Direct	High	• Creek Crossing Procedure will be implemented. • Periodic surface water quality monitoring will be conducted during construction at Akdere Creek according to the parameters set forth in Surface Water Quality Regulation.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Size of the working area in the creek will be reduced and limited as much as practicable. • Water flow in the creek will not be fully blocked, and continuity of the flow will be maintained as much as possible. • The duration of creek crossing activities will be limited as far as reasonably practicable. • Creek crossing works will be undertaken in accordance with good industry practices. • Standard pollution control measures will be implemented i.e. to prevent silt contamination by keeping water out of the work area using appropriate isolation techniques. • Re-fueling of all vehicles and machinery will be avoided to the extent possible. If needed, re-fueling will be carried out at minimum 30 m of the creeks. • Storage and handling of fuels, oils and other hazardous chemicals near the creek will be limited to the extent possible. These materials will be stored on sealed surfaces and within secondary containment. • The working area will be fenced. • Movement of equipment inside the creeks will be prevented to the extent possible. • Training will be provided to machine operators regarding the working procedures, with attention to machine and equipment inspection for leaks prior to use, safe storage and handling of fuels/oils near the watercourse and/or precautionary measures to prevent contamination of the creeks. • Chemicals and Hazardous Materials Management Plan" will be implemented.		
Water quality	Water quality in the	Direct	High	• "Irrigation Channel Crossing Procedure" will be implemented. • The duration of crossing activities will be limited as far as reasonably practicable.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
	irrigation channel			• Crossing works will be undertaken in accordance with good industry practices. • Re-fueling of all vehicles and machinery will be avoided to the extent possible. If needed, re-fueling will be carried out at minimum 30 m of the irrigation channel. • Storage and handling of fuels, oils and other hazardous chemicals near the irrigation channel will be limited to the extent possible. These materials will be stored on sealed surfaces and within secondary containment. • The working area will be fenced. • Training will be provided to machine operators regarding the working procedures, with attention to machine and equipment inspection for leaks prior to use, safe storage and handling of fuels/oils near the irrigation channel and/or precautionary measures to prevent contamination of the irrigation channel. • Chemicals and Hazardous Materials Management Plan will be implemented.		
Chemicals and Hazardous Materials Management	Chemicals and hazardous materials	Direct and indirect	Medium	• To prevent potential spills, all hazardous materials will be stored in designated areas with secondary containment and handled by authorized staff. Leak-proof containers labelled with information on their composition, properties, and handling information will be used for temporary storage to avoid spillage and leaching. • The conditions of the vehicles and other machinery equipment to be used during the works will be regularly reviewed/checked. • The actions to be taken in an emergency and assigned to emergency teams will be defined. Appropriate cleaning equipment for spills and accidents will be procured and maintained at the site, and cleaning teams will be transferred to use the equipment. • Temporary storage of waste oils and other hazardous wastes will comply with the “Regulation on the Management of Waste Oils” in	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				addition to "Waste Management Regulation" and disposed to the licensed facilities (recycling, recovery or final disposal) according to the related regulations. • Employees will be trained on the management of chemicals and hazardous materials. • "Chemicals and Hazardous Materials Management Plan" will be implemented.		
Noise & Vibration	Noise &, Vibration Levels	Direct	Medium	• All construction works will be planned in line with the Environmental Noise Control Regulation provisions to minimize potential noise impacts on the nearby communities. • Construction equipment will not be operated simultaneously. • Working hours will be limited between 10:00 a.m (i.e. the allowed start time for construction activities as per the Environmental Noise Control Regulation) and 19:00 pm (i.e. the end of the daytime period as per the Environmental Noise Control Regulation) to minimize the impact. • A schedule and/or other restrictions will be defined for the works carried out. • Regular maintenance of equipment and vehicles to be used in excavation, construction will be performed, • The residents of nearby settlements will be informed about the time of construction activities. • Compliance will be ensured with the (daytime) 55 dBA limit value (WBG General EHS Guidelines Environmental Noise) for continuous worksite noise at the vicinity of the project site and sensitive receptors, such as schools, houses, health centers, etc. • Regular maintenance of the construction equipment and vehicles will be performed. • Employees will be trained on noise mitigation measures and reducing noise generation.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Drivers of trucks and vehicles will adhere to defined speed limits and be warned against creating unnecessary noise by using horns during the construction phase. • Noise screen will be used where these limit values are exceeded around the work area. • Ensure that equipment and parts are selected to comply with the ground vibration velocity values given in Table-5 of Annex II as specified in Article 15 of the Environmetal Noise Control Regulation. • Project Grievance Redress Mechanism will be implemented. • Noise measurements will be conducted accordingly if any grievance regarding noise generation is received from the nearest receptors. If measured levels are above previously mentioned limit values, mitigation measures here will need to be enhanced in this respect, i.e., selecting equipment with lower sound power levels, installing acoustic barriers/vibration isolation for mechanical equipment, limiting the hours of operation for specific pieces of equipment or operations, etc. • "Noise & Vibration Management Plan" will be implemented.		
Air Quality	Dust and exhaust gases	Direct	Medium	• Compliance will be ensured with the air emission limit values addressed in "Regulation on Assessment and Management of Air Quality" and WBG General EHS Guidelines Environmental Air Emissions and Ambient Air Quality. • The trucks that transport materials will be covered to decrease dust emission. • The road will be wetted as needed to settle dust during filling, emptying, and transfer works. • Excess material will be removed, and the work site will be cleaned after completing works. • The top of excavated material temporarily stored will be wetted to prevent dust formation.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Loading/unloading and excavation/backfilling will be carried out with care and without scattering, as appropriate. • Transportation routes will be determined considering the densely populated areas (i.e. densely populated areas will be avoided as much as possible). • Use of wind shield and barriers, protective covers or curtains for the areas where most of the dust is formed. • Speed limitation will be followed strictly. • The wheels of the vehicles will be washed periodically at the washing area to be installed at the Çilimli Municipality workshop area. • The construction equipment and vehicles need to be regularly checked, and the maintenance of appropriate equipment will be performed to reduce exhaust emissions. • New and well-maintained vehicles will be used to control the gas emissions generated within the activity's scope. • Unnecessary use of machinery and equipment causing emissions will be prevented. • Project Grievance Redress Mechanism will be implemented. • Employees will be trained on the management of air emissions. • "Air Emissions Management Plan" will be implemented. • It will be ensured that every vehicle used for transportation during construction has a 'Motor Vehicles Exhaust Emission Measuring Stamp' and it has not been expired. • Dust measurements will be conducted by an authorized environmental laboratory accordingly if any grievance regarding dust generation is received from the nearest receptors. If measured levels are above background levels, mitigation measures here will need to be enhanced in this respect, i.e., increasing wet suppression/watering activities, applying non-toxic chemicals, further reducing speed/traffic if deemed		

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				necessary, considering both national and WBG EHS Guidelines limit values.		
Land use	Management of excavation materials	Direct	Medium	• Although the soil to be excavated during trench excavations will be used in backfilling, some excavation waste will be generated. If produced, the excavated material will be transported to one of the licensed excavation waste storage areas designated by the Municipality in compliance with the national "Regulation on Control of Excavation Soil, Construction and Demolition Waste" and WB criteria (WBG General EHS Guidelines (Construction and Decommissioning)). • "Waste Management Plan" and "Topsoil Management Plan" will be implemented.	To be covered within the project budget	Contractor
	Topsoil	Direct	Medium	• Topsoil will be stripped about 30 cm during construction and stored separately for landscaping activities. • The areas where the vegetation is required to be removed will be minimized. • Stripped topsoil stored for landscaping activities within the area for a short time will be covered with canvas or plastic material to avoid erosion or washouts for landscaping activities. The height of topsoil stack will be maximum 2 m and its side slope will not exceed 3:1. • Re-lay the topsoil removed following the completion of works or re-vegetate the area. • The designated worksites and routes will be minimized and only these areas will be used to avoid soil compaction. • Implement "Topsoil Management Plan."	To be covered within the project budget	Contractor
	Damages to neighboring lands	Direct	Medium	• The lands used for campsite will belong to Çilimli Municipality. The campsite will be fenced and all activities will be performed within the boundaries of the camping site.Precautions will be taken by the contractor to prevent damages to neighboring lands.	To be covered within the project budget	Contractor, Çilimli Municipality

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Damages to neighboring lands (if any) will be detected by CM. Necessary procedures according to relevant regulations will be implemented by the contractor and CM.		
Soil Quality	Soil erosion	Direct	Low	• Activities during periods of heavy rainfall will be avoided to the extent possible. • Clean/Storm water flow will be separated or diverted. • Adequate road drainage based on road width, surface material, compaction, and maintenance will be ensured. • "Erosion Control Procedure" will be implemented.	To be covered within the project budget	Contractor
	Soil contamination	Direct	High	• During trench excavations and construction works, oil and fuel oil filling process to machinery and vehicles will be made in an impermeable area or a dike. • The conditions of the vehicles and other machinery equipment to be used during the works will be regularly checked. • The actions to be taken in an emergency case and assigned to emergency teams will be defined. Appropriate cleaning equipment for spills and accidents will be procured and maintained at the site, and cleaning teams will be transferred to use the equipment. • Employees will be trained on the management of chemicals and hazardous materials. • "Chemicals and Hazardous Materials Management Plan" will be implemented.	To be covered within the project budget	Contractor
Biological Environment						
Landscape	Visuality	Direct	Low	• Good housekeeping at the construction site will be implemented. • Visual pollution will be reduced by using curtains (separators) related to the inconvenience caused during the works. • The materials used during the construction will be stored in a closed and protected environment.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• All kinds of roads, pavements, walls, poles, etc., deteriorated during the works. Elements will be corrected and restored.		
Socio-Economic Environment						
Community Health & Safety and Security	Transportation safety	Direct	High	• Place visible warning and informative signs on the construction site as per "Regulation on Health and Safety Signs," • Limit working hours between 10:00 a.m (i.e. the allowed start time for construction activities as per the Environmental Noise Control Regulation) and 19:00 pm (i.e. the end of the daytime period as per the Environmental Noise Control Regulation) not to disturb local community. Inform the residents about the works to be executed at least one week in advance. • Identify alternative roads for material transportation not to cause any problems in the streets used by the local public during working hours. • Build temporary pedestrian walks or walkways for safety in compliance with the requirements for the passage of individuals with physical challenges and other vulnerable/disadvantaged individuals/groups, such as pregnant, elderly, children. • Take measures to avoid trespassing animals, such as cats, dogs, etc., from the excavation area. • Conform to speed limits. • Inform the drivers who work during construction and work machine operators about safe driving. • During transportation activities, the existing roads will be tried not to be damaged and compensate the cost, in the event of any damage. • Implement "Community Health & Safety and Security Management Plan," including traffic management issues.	To be covered within the project budget	Contractor
Community Health & Safety and Security	Pedestrian safety	Direct	High	• Perimeter safety of the worksite will be established to restrict unauthorized access to the construction site, and audio and flashing warning signs will be installed to sustain safety and security.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Measures (fences, warning signs, etc.) will be taken to prevent unauthorized access to the construction site to minimize potential adverse impacts on the community. • Build temporary pedestrian walks or walkways for safety in compliance with the requirements for the passage of individuals with physical challenges, and other vulnerable groups, such as pregnant, elderly, children • If a trench needed to be left open for night, sufficient illumination of the area will be ensured, necessary signs will be placed' and the area will be enclosed with barriers. • Implement "Community Health & Safety and Security Management Plan," including traffic management issues		
Community Health & Safety and Security	Traffic safety	Direct	High	• Take safety measures for the traffic flow in line with the approved traffic circulation projects and install warning signs as per "Highway Traffic Law." • When road closures or traffic diversions are necessary, official permits will be obtained from relevant authorities and advance notification will be provided to local people to be affected thereof. • Inform drivers about the alternative passage routes. • Time traffic flows to avoid periods of heavy traffic along main access roads. • Equip all heavy goods vehicles with audible reversing alarms. • Provide appropriate supervision through the contractor to control the flow of traffic when machinery needs to crossroads. • Provide training on safe driving techniques to the drivers. • Check driver licenses. • Ensure that speed limits are in a place where necessary. • Adhere to defined speed limits. • Implement good practices to avoid overtiredness, i.e., adopting limits for trip duration and arranging driver rosters.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Ensure that vehicle maintenance is regularly conducted and manufacturer-approved parts are used against equipment malfunction or premature failure. • Ensure that the emergency response plan includes traffic-related emergencies. • Implement "Community Health & Safety and Security Management Plan," including traffic management issues.		
Community Health & Safety and Security	Stakeholder engagement	Direct	Low	• Implement the Grievance Redress Mechanism for the community (external) and workers (internal), which is developed specifically for the Project and presented in SEP. • Keep Grievance Register. • Implement "Stakeholder Engagement Plan".	To be covered within the project budget	Contractor
Access to Services	Existing infrastructure	Direct	Medium	• Ensure that all necessary permits are in place to avoid damage to the other structures. • Implement "Community Health & Safety and Security Management Plan."	To be covered within the project budget	Contractor
Cultural Assets	Cultural heritage	Direct	Low	• In case of findings, stop all activities and contact Conservation Board or experts of the Museum Directorate to find historic artifacts and materials with cultural or historical value as per Chance Find Procedure in Annex 6. • Organize all necessary measures to protect the related area. • Stop all activities and secure the site until an official instruction is received • For any findings, a "Chance Finds Procedure" will be in place and implemented, in which communication with the relevant authorities and application of the "Law on the Protection of Cultural and Natural Assets" are addressed. • Train employees on the chance find procedure.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Community Health & Safety and Security	Stakeholders	Direct	High	• Disclose ESMP on the platforms, i.e., municipality website and neighborhood headman's offices, to be able to get public suggestions and comments • Prepare disclosure documents (Posters, brochures, leaflets, vb.) regarding the project, including the construction schedule • Hold consultation meetings with the local communities regarding the project components and activities before construction. • Inform the public regularly about the latest traffic arrangements and construction schedule • Ensure that vulnerable/disadvantaged individuals/groups participate fully in the mainstream consultation process. • A grievance redress mechanism will be in place that will enable the community to raise concerns during the construction phase of the project. • Implement a "Stakeholder Engagement Plan." • External Grievance Redress Mechanism within the scope of SEP will be disclosed to the public and implemented. • Inform the relevant institutions and organizations (Municipality, Electricity Distribution Company, natural gas distribution, and operating company, etc.) before the construction starts • If a water cut is required during construction, inform the public 24 hours before the water cut.	To be covered within the project budget	Contractor
Employment	Local labor	Direct	Low	• Local workforce and recruitment options will be considered as much as possible. • Implement "Human Resources Management Plan and Procedures," including "Internal Grievance Redress Mechanism." • Employees will be provided with training on critical issues, human resources policy, and the internal grievance redress mechanism. • Internal Grievance Redress Mechanism will be implemented.	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Labor and Working Conditions						
Labor and Working Conditions	OHS	Direct	High	• Follow all regulations, procedures, and principles published regarding OHS as part of OHS Law throughout the construction phase. • Prefer people with appropriate education/training in the work area they will be recruited for as per "Regulation on Procedures and Principles of Health and Safety Training of Employees." • Inform workers about job descriptions, responsibilities, relationships with the local community, and risks about OHS before the commencement of works. • Workers will be issued a written contract with a job description, information about work hours, wages and their rights and obligations. • Have a full-time OHS Expert as per "Regulation on Duties, Authorities, Responsibilities, and Training of Occupational Safety Experts." with relevant certification and experience in charge of occupational health and safety and s/he will control and monitor the site implementations. • Provide a safe and healthy work environment for the employees. • Ensure that workers are equipped with all required PPE (helmet, safety belt, safety outfit, goggles, mask, steel cap boots, gloves, etc.) for OHS as per "Regulation on Use of Personal Protective Equipment in Workplaces." • Provide equipment that meets international standards in terms of performance and safety. • Provide orientation and periodical training to the personnel on OHS issues as per "Regulation on Procedures and Principles of Health and Safety Training of Employees." • Inform all personnel about the required safety rules, risks, and related regulations to be followed at the construction site throughout the construction period	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Develop and implement permit-to-work system and follow work procedures for which i.e. exposure to noise, vibration, dust, eye hazards, welding/hot work, exposure to hazardous chemicals, working in trenches, working with electrical equipment, rotating and moving equipment, confined areas, work at height, falls/trips and slips, traffic, etc., • Areas where excavation work is to be carried out will not be accessible other than the authorized personnel. • The loading and unloading activities will be carried out together with the persons to oversee the personnel to carry out the activity. • Ensure that the following documentation is implemented by the contractor. – Site-specific OHS Management Plan and Procedures, – Risk Assessment Reports are prepared for all works to be carried out, and necessary measures will be taken to avoid these risks as per "OHS Risk Assessment Regulation." – "Emergency Preparedness and Response Plans (ERRPs)" are prepared for a possible accident as per "Regulation on Emergencies at Workplaces" and "First Aid Regulation." Emergency teams will be built, and training/drills will be carried out according to the emergency scenarios. • Provide appropriate signposting of the sites and then inform the workers of key rules and regulations to follow. • Provide toolbox talks to the employees including the code of conduct indicating the possible risks regarding the worksite and works to be carried out. These will include regular trainings to workers on COVID-19 symptoms, how to be protected and what to do when symptoms appear.		

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.). • The Contractor will immediately notify Çilimli Municipality in case of any significant environmental (including OHS) or social events (e.g., fatalities, loss of time incidents, environmental spills, etc.), and Çilimli Municipality will inform ILBANK and WB about the incident within three (3) business days. A report on the root causes of the incident and the corrective actions to be taken will be submitted to ILBANK and WB within 30 days. • Ensure that the following mitigation measures are in place due to particularly Covid-19 and its variants' outbreak: – Following Guidance, directives and recommendations of Ministry of Health, Ministry of Family, Labor and Social Services, World Health Organization and the World Bank – Providing surveillance and active screening and treatment of workers, – Conducting training for employees on prevention from Covid-19 and its variants, – Immunizing workers to improve health and guard against infection, – Getting medical clearance is required for return to work for all employees diagnosed with Covid-19 and its variants, – Conducting track and trace investigation following Covid-19 and its variants' control program • Areas where smoking is prohibited will be determined. • Suitable hand and face washing facilities will be provided to the employees, and shower facilities will be provided for dusty jobs.		

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• If a trench needed to be left open for night, sufficient illumination of the area will be ensured, necessary signs will be placed' and the area will be enclosed with barriers. • Construction areas will be fenced/surrounded with appropriate materials and necessary security measures will be taken that no one will be allowed to enter the construction areas except the workers/staff. • Project owner will ensure that all OHS measures are taken by the Contractor and enforce necessary actions/sanctions in case lack of these measures on sites.		
Labor and Working Conditions	Labor management	Direct	High	• Follow all regulations, procedures, and principles published regarding labor and working conditions as part of Labor Law throughout the construction phase. • Workers will be issued a written contract with a job description, information about work hours, wages and their rights and obligations. • Train employees on human resources policy together with the internal grievance redress mechanism. • Ensure employees work in a fair-treated work environment with no discrimination and offer equal opportunities for all personnel employed. • Ensure that child labor is not employed during the project's construction phase. • Implement "Human Resources Management Plan and Procedures," including "Internal Grievance Redress Mechanism." • Compliance with the code of conduct rules, including GBV and SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel. • Ensure that all workers have easy access to GRM and can raise their grievances/concerns/demands without feeling the risk of retaliation	To be covered within the project budget	Contractor

CONSTRUCTION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Ensure that informative material about grievance mechanism and the grievance boxes/forms is placed in working areas that are visible and accessible to workers • Ensure that Contractor has assigned a GRM focal point to receive/record the grievances and take necessary actions		
Labor and Working Conditions	Working Conditions in the Construction Camp Sites	Direct	Medium	• The work area will include camp facilities, dining hall, dormitory, hygienic areas, and office and maintenance areas for machinery and equipment. • All necessary measures due to the pandemic will be implemented in the facilities, considering the provisions published by the Ministry of Health and all other relevant institutions. Hygiene and cleaning of living areas and all machinery and equipment will be ensured. General cleaning frequency will be increased for the hygiene of frequently used and touched surfaces. It is expected that the workers who will live in this area will meet all their social needs in the city center of Düzce.	To be covered within the project budget	Contractor

6.2 Mitigation Plan for the Operation Phase

The mitigation plan for the operation phase is presented in Table 6-3 below. During the implementation of the mitigation plans, the most stringent requirement/standards among the national legislation and WB standards and also the most up-to-date legislation will be complied with. During the implementation of the mitigation plans, the most stringent requirement/standards among the national legislation and WB standards and also the most up-to-date legislation will be complied with. "Impact Significance" in Table 6-3 is determined considering that no mitigation measures are taken. Impact significance is determined considering the value/sensitivity of a resource/receptor that might be affected and the magnitude of potential impacts on that resource/receptor by taking into account various factors such as legislation, policies, standards; area of influence; persistence of impacts; and status of a resource/receptor.

Table 6-3. Mitigation Plan for the Operation Phase

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Physical Environment						
Waste Management	Wastes	Direct and indirect	Medium	• Undertake measures for minimum waste generation, i.e., training personnel to raise awareness and manage in accordance with waste management hierarchy (prevent, reduce, reuse, recycle, recover, dispose). • Dispose of wastes at licensed facilities according to their category in compliance with "Waste Management Regulation". • Implement "Waste Management Plan". • Training to the employees regarding waste management practices to raise awareness on waste reduction will be provided. • Conduct the temporary storage of all non-hazardous wastes generated due to maintenance and repair works at the solid waste storage area	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				without harming the environment and by defining the waste categories (recyclable, hazardous, inert, non-hazardous, etc.) in line with the "Waste Management Regulation," "Regulation on Control of Excavated Soil, Construction, and Demolition Wastes" and WBG General EHS Guidelines Environmental (Waste Management) criteria. • Impermeability will be provided on the floors of the Temporary Storage Area and a suitable drainage system and a roof to provide protection from rain,snow etc. 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. • Recyclable waste, non-recyclable waste and hazardous waste will be separated. There will be bins to collect recyclable wastes. These wastes will be collected by the Çilimli Municipality and disposed at the licensed companies. Hazardous waste, generated in all Project phases will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to a licensed disposal facility via licensed waste transportation companies following the "Waste Management Regulation". In this respect the mitigation measures for temporary storage area listed below will be taken: – Wastes will be temporarily stored in a manner that they do not react with each other. – Hazardous and non-hazardous waste storage areas will be segregated also the waste code, the amount of waste stored and the date of storage will be defined on the stored wastes. – Except for medical wastes, hazardous wastes will be stored in the temporary storage area for a maximum of 6 months and non-hazardous wastes for a maximum of 1 year.		

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				– If it is produced one thousand kilograms or more of hazardous waste per month, a temporary storage permit will be obtained from the PDEUCC. – Dangerous Goods and Hazardous Waste Compulsory Liability Insurance will be taken out for hazardous waste temporary storage area/containers. • Personnel's protective equipment will be considered medical wastes and stored and disposed of separately from other wastes as per the "Medical Waste Control Regulation" and guides published by the Ministry of Health. • Domestic solid waste generated will be stored in containers and collected by Çilimli Municipality and transported to licensed Düzce Sanitary Landfill that has sufficient capacity for disposal of such waste, • Waste generation, storage, and disposal records will be kept. • Excavation waste will be reused for backfilling purposes as much as possible, and recovery and other re-use options will be considered as appropriate. Excess excavation wastes to be originated during the maintenance and repair works will be transported and disposed of separately following "Regulation on Control of Excavated Soil, Construction, and Demolition Wastes" and WBG General EHS Guidelines Environmental (Waste Management). The project will make use of existing licensed excavation waste storage areas in the district. • Incineration or burying of waste by any means and/or dumping to nearby water resources will not be allowed. • Other special wastes such as batteries, waste vegetable oil, waste tires, etc. will be stored separately at the construction site, transported by licensed transport vehicles to licensed waste collector companies. • "Waste Management Plan" will be implemented.		

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Waste Management	Pipe wastes	Direct	Medium	• After evaluating the recycling possibilities of the pipe wastes that are formed as a result of replacing the existing pipes in the network during the operation phase (for example, delivery of some existing valves and metal parts to scrap dealers, etc.), the remaining part will be disposed of in accordance with the national Waste Management Regulation.	To be covered within the project budget	Çilimli Municipality
Chemicals and Hazardous Materials Management	Chemicals and hazardous materials	Direct and indirect	Medium	• To prevent potential spills, all hazardous materials will be stored in designated areas with secondary containment and handled by authorized staff. Leak-proof containers labelled with information on their composition, properties, and handling information will be used for temporary storage to avoid spillage and leaching. • For the storage of hazardous materials, up-to-date Safety Data Sheets (SDSs) on each chemical will be maintained within the station area, an inventory of hazardous materials in both English and Turkish will be prepared, and appropriate PPE will be made available for relevant personnel. • The conditions of the vehicles and other machinery equipment to be used during the works will be regularly checked. • The actions to be taken in an emergency and assigned to emergency teams will be defined. Appropriate cleaning equipment for spills and accidents will be procured and maintained at the site, and cleaning teams will be transferred to use the equipment. • Temporary storage of waste oils and other hazardous wastes will comply with the “Regulation on the Management of Waste Oils” in addition to “Waste Management Regulation” and disposed to the licensed facilities (recycling, recovery or final disposal) according to the related regulations. • Written safe work procedures should be in place for chlorine gas usage, chlorine gas cylinder/container change, leak detection and control, checking protocol, respiration protocol, disposal of damaged containers and routine maintenance of equipment.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Chlorine gas cylinders/containers should be stored in a dedicated, well-marked, well-ventilated, detector-equipped secure area that is away from heat sources. • The equipment and lines should be checked frequently due to the corrosive nature of chlorine. • Emergency and first-aid protocols should be in place related to chlorine gas spills and leakages and specific drills for chlorine gas spill/leak scenario should be conducted. • Employees will be trained on the management of chemicals and hazardous materials. • "Chemicals and Hazardous Materials Management Plan" will be implemented.		
Muddy water	Muddy water accumulated in excavated trenches (if any, during maintenance and repair works)	Direct	Medium	• Ensure that muddy water accumulated in excavated trenches is not discharged directly to the receiving environment unless the water is eliminated through filtering process to remove sediments.	To be covered within the project budget	Çilimli Municipality
Surface Water Quality	Surface water quality in Akdere Creek (in case maintenance and repair works are conducted)	Direct	High	• Creek Crossing Procedure will be implemented. • Periodic surface water quality monitoring will be conducted during maintenance and repair works at Akdere Creek according to the parameters set forth in Surface Water Quality Regulation. • Size of the working area in the creek will be reduced and limited as much as practicable. • Water flow in the creek will not be fully blocked, and continuity of the flow will be maintained as much as possible.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• The duration of creek crossing activities will be limited as far as reasonably practicable. • Creek crossing works will be undertaken in accordance with good industry practices. • Standard pollution control measures will be implemented i.e. to prevent silt contamination by keeping water out of the work area using appropriate isolation techniques. • Re-fueling of all vehicles and machinery will be avoided to the extent possible. If needed, re-fueling will be carried out at minimum 30 m of the creeks. • Storage and handling of fuels, oils and other hazardous chemicals near the creek will be limited to the extent possible. These materials will be stored on sealed surfaces and within secondary containment. • The working area will be fenced. • Movement of equipment inside the creeks will be prevented to the extent possible. • Training will be provided to machine operators regarding the working procedures, with attention to machine and equipment inspection for leaks prior to use, safe storage and handling of fuels/oils near the watercourse and/or precautionary measures to prevent contamination of the creeks. • Chemicals and Hazardous Materials Management Plan" will be implemented.		
Water quality	Water quality in the irrigation channel (in case maintenance	Direct	High	• "Irrigation Channel Crossing Procedure" will be implemented. • The duration of crossing activities will be limited as far as reasonably practicable. • Crossing works will be undertaken in accordance with good industry practices.	To be covered within the project budget	Contractor

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
	and repair works are conducted)			• Re-fueling of all vehicles and machinery will be avoided to the extent possible. If needed, re-fueling will be carried out at minimum 30 m of the irrigation channel. • Storage and handling of fuels, oils and other hazardous chemicals near the irrigation channel will be limited to the extent possible. These materials will be stored on sealed surfaces and within secondary containment. • The working area will be fenced. • Training will be provided to machine operators regarding the working procedures, with attention to machine and equipment inspection for leaks prior to use, safe storage and handling of fuels/oils near the irrigation channel and/or precautionary measures to prevent contamination of the irrigation channel. • Chemicals and Hazardous Materials Management Plan will be implemented.		
Noise & Vibration	Noise &, Vibration Levels (due to maintenance and repair works)	Direct	Medium	• All maintenance and repair works will be planned in line with the Environmental Noise Control Regulation provisions to minimize potential noise impacts on the nearby communities. • Construction equipment will not be operated simultaneously. • Working hours will be limited between 10:00 a.m (i.e. the allowed start time for construction activities as per Environmental Noise Control Regulation) and 19:00 pm (i.e. the end of the daytime period as per Environmental Noise Control Regulation) to minimize the impact during maintenance and repair works unless there is an urgent problem/breakdown that needs to be intervened. • A schedule and/or other restrictions will be defined for the works carried out. • Perform regular maintenance of equipment and vehicles to be used in maintenance and repair activities,	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• The residents of nearby settlements will be informed about the time of maintenance and repair activities. • Compliance will be ensured with the (daytime) 55 dBA limit value (WBG General EHS Guidelines Environmental Noise) for continuous worksite noise at the vicinity of the project site and sensitive receptors, such as schools, houses, health centers, etc. • Regular maintenance of the maintenance and repair equipment and vehicles will be performed. • Employees will be trained on noise mitigation measures and reducing noise generation. • Drivers of trucks and vehicles will adhere to defined speed limits and be warned against creating unnecessary noise by using horns during the maintenance and repair activities. • Noise screens will be used where these limit values are exceeded around the maintenance and repair area. • Ensure that equipment and parts are selected to comply with the ground vibration velocity values given in Table-5 of Annex II as specified in Article 15 of Environmental Noise Control Regulation. • Project Grievance Redress Mechanism will be implemented. • Noise measurements will be conducted accordingly if any grievance regarding noise generation is received from the nearest receptors. If measured levels are above previously mentioned limit values, mitigation measures here will need to be enhanced in this respect, i.e., selecting equipment with lower sound power levels, installing acoustic barriers/vibration isolation for mechanical equipment, limiting the hours of operation for specific pieces of equipment or operations, etc.. • “Noise & Vibration Management Plan” will be implemented.		

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Air Quality	Dust and exhaust gases (due to maintenance and repair works)	Direct	Medium	• Compliance will be ensured with the air emission limit values addressed in "Regulation on Assessment and Management of Air Quality" and IFC-WB General EHS Guidelines Environmental Air Emissions and Ambient Air Quality; most stringent among national legislation IFC-WB standards will comply. • The trucks that transport materials will be covered to decrease dust emission. • The road will be wetted as needed for to settle the dust during transfer works in maintenance and repair activities. • Excess material will be removed, and the maintenance and repair site will be cleaned after completing works. • The top of excavated material temporarily stored will be wetted to prevent dust formation. • Loading/unloading and excavation/backfilling will be carried out with care and without scattering, as appropriate. • Transportation routes will be determined considering the densely populated areas (i.e. densely populated areas will be avoided as much as possible). • Unnecessary use of machinery and equipment causing emissions will be prevented. • Use of wind shield and barriers, protective covers or curtains for the areas where most of the dust is formed • Speed limitation will be followed strictly. • The wheels of the vehicles will be washed periodically at the washing area to be installed at the Çilimli Municipality workshop area. • The maintenance and repair equipment and vehicles need to be regularly checked, and the maintenance of appropriate equipment will be performed to reduce exhaust emissions. • Project Grievance Redress Mechanism will be implemented.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Employees will be trained on the management of air emissions. • "Air Emissions Management Plan" will be implemented. • It will be ensured that every vehicle used for transportation during maintenance and repair activities has a valid 'Motor Vehicles Exhaust Emission Measuring Stamp'. • Dust measurements will be conducted accordingly if any grievance regarding dust generation is received from the nearest receptors. If measured levels are above background levels, mitigation measures here will need to be enhanced in this respect, i.e., increasing wet suppression/watering activities, applying non-toxic chemicals, further reducing speed/traffic.		
Land use	Management of excavation materials (due to maintenance and repair works)	Direct	Medium	• Excess excavation material will be classified separately as asphalt, curbs, parquet, concrete and soil, recovered, re-evaluated, and re-use opportunities must be evaluated. Rest of the excavated material will be transported to one of the areas designated by the Municipality inconsistent with the national "Regulation on Control of Excavation Soil, Construction and Demolition Waste" and WB criteria (WBG General EHS Guidelines (Construction and Decommissioning)). • Stripped topsoil (if any) will be stored within the area for a short time, covered with canvas or plastic material to avoid erosion or washouts and re-laid following the completion of maintenance and repair activities. • "Waste Management Plan" and "Topsoil Management Plan" will be implemented.	To be covered within the project budget	Çilimli Municipality
Biological Environment						
Landscape	Visuality	Direct	Low	• Good housekeeping at the maintenance and repair sites will be implemented.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Visual pollution will be reduced by using curtains (separators) related to the inconvenience caused during the maintenance and repair works. • The materials used during the maintenance and repair activities will be stored in a closed and protected environment. • All kinds of roads, pavements, walls, poles, etc., deteriorated during the maintenance and repair works will be corrected and restored.		
Socio-Economic Environment						
Community Health & Safety and Security	Transportation	Direct	High	• Place visible warning and informative signs at the site where maintenance and repair works will be carried out as per "Regulation on Health and Safety Signs," • Inform the residents about the maintenance works to be executed at least one week in advance or as early as possible about repair works. • Identify alternative roads in order not to cause any problems in the streets used by the local public during maintenance and repair hours. • Build temporary pedestrian walks or walkways for safety in compliance with the requirements for the passage of individuals with physical challenges and other vulnerable /disadvantaged individuals/groups, such as pregnant, elderly, children during maintenance and repair works. • Implement "Community Health & Safety and Security Management Plan," including traffic management issues. •	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Community Health & Safety and Security	Pedestrian safety	Direct	High	• Perimeter safety of the worksite will be established to restrict unauthorized access to the maintenance and repair sites, and audio and flashing warning signs will be installed to sustain safety and security. • Measures (fences, warning signs, etc.) will be taken to prevent unauthorized access to the maintenance and repair site to minimize potential adverse impacts on the community. • Build temporary pedestrian walks or walkways for safety in compliance with the requirements for the passage of individuals with physical challenges and other vulnerable/disadvantaged individuals/groups, such as pregnant, elderly, children during maintenance and repair works. • If a trench needed to be left open for night during maintenance and repair works, sufficient illumination of the area will be ensured, necessary signs will be placed' and the area will be enclosed with barriers. • Implement "Community Health & Safety and Security Management Plan," including traffic management issues.	To be covered within the project budget	Çilimli Municipality
Community Health & Safety and Security	Traffic safety	Direct	High	• Take safety measures for the traffic flow in line with the approved traffic circulation projects and install warning signs as per "Highway Traffic Law." • When road closures or traffic diversions are necessary for maintenance and repair works, official permits will be obtained from relevant authorities and advance notification will be provided to local people to be affected thereof. • Inform drivers about the alternative passage routes. • Time traffic flows to avoid periods of heavy traffic along main access roads. • Equip all heavy goods vehicles with audible reversing alarms.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Provide appropriate supervision to control the flow of traffic when machinery needs to crossroads. • Provide training in safe driving techniques to drivers. • Check driver licenses. • Ensure that speed limits are in a place where necessary. • Adhere to defined speed limits. • Implement good practices to avoid overtiredness, i.e., adopting limits for trip duration and arranging driver rosters. • Ensure that vehicle maintenance is regularly conducted and manufacturer-approved parts are used against equipment malfunction or premature failure. • Ensure that the emergency response plan includes traffic-related emergencies. • Implement "Community Health & Safety and Security Management Plan," including traffic management issues.		
Community Health	Drinking-Water Quality/ Waterborne diseases	Direct	High	• Monitor the quality of drinking water for suitability of human consumption within the Regulation on Water Intended for Human Consumption framework. The monitoring results should be announced to the public. • Perform routine control, cleaning and maintenance activities in the water supply system including water reservoirs, pumping stations, suction and outlet chambers. • If the drinking water quality does not meet the requirements of the mentioned regulation, check whether there is a failure in the water network and related units or in water treatment and remedy the cause.	To be covered within the operation budget	Çilimli Municipality
Community Health	Pipeline Blockage	Direct	High	• The channel cleaning-opening equipment and the team will be ready with pressurized water and similar methods to quickly clear channel blockages that may occur during the operation phase.	To be covered within the operation budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
Community Health	Deterioration of the Hygienic Environment in the Network	Direct	Medium	• Cleaning and disinfection of all kinds of environments that have lost their hygienic environment due to interruptions and maintenance works, such as the network and such, will be done, and sanitary conditions will be provided. The inner surfaces of tanks and tanks will be cleaned. Particular attention will be paid to cleaning corners and joints.	To be covered within the operation budget	Çilimli Municipality
Community Health & Safety and Security	Stakeholders	Direct	Low	• Implement a "Stakeholder Engagement Plan." (SEP) • External Grievance Redress Mechanism within the scope of SEP will be implemented and publicized. • If a water cut is required during maintenance and repair works, inform the public 24 hours before the water cut.	To be covered within the project budget	Çilimli Municipality
Community Health & Safety and Security	Stakeholder engagement	Direct	Low	• Implement the Grievance Redress Mechanism for the community (external) and workers (internal), which is developed specifically for the Project and presented in SEP. • Keep Grievance Register. • Implement "SEP".	To be covered within the project budget	Çilimli Municipality
Labor and Working Conditions						
Labor and Working Conditions	OHS	Direct	High	• Follow all regulations, procedures, and principles published regarding OHS as part of OHS Law throughout the operation phase. • Prefer people with appropriate education/training regarding the work area they will be recruited for as per "Regulation on Procedures and Principles of Health and Safety Training of Employees." • Workers will be issued a written contract with job description, information about work hours, wages, their rights and obligations etc. • Inform workers about job descriptions, responsibilities, relationships with the local community, and risks about OHS before the commencement of maintenance and repair works.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• An adequate OHS organizational structure, as defined in relevant legislation, will be defined and the required number of OHS officers/experts should be appointed. • Provide a safe and healthy work environment for the employees. • Ensure that workers of the maintenance and repair works are equipped with all required PPE (helmet, safety belt, safety outfit, goggles, mask, steel cap boots, gloves, etc.) for OHS as per "Regulation on Use of Personal Protective Equipment in Workplaces." • Store potentially contaminated PPE in a dedicated and well-ventilated room • Provide orientation and periodical training to the personnel on OHS issues as per "Regulation on Procedures and Principles of Health and Safety Training of Employees" and record all provided trainings. • Inform all personnel about the required safety rules, risks, and related regulations to be followed at the maintenance and repair sites. • Develop and implement permit-to-work system and follow work procedures for operation activities (including maintenance and repair works) such as exposure to noise, vibration, dust, eye hazards, welding/hot work, exposure to hazardous chemicals (including chlorine), working in trenches, working with electrical equipment, rotating and moving equipment, falls/trips and slips, traffic, etc. • Areas where excavation work is to be carried out (during maintenance and repair activities) will not be accessible other than the authorized personnel • The loading and unloading activities will be carried out together with the persons to oversee the personnel to carry out the activity (during maintenance and repair activities). • During the maintenance and repair works of the water/stormwater lines and manholes during the operation phase;		

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				– The necessary PPE will be provided to the employees, – Information on work and work safety will be given through regular pieces of training, • During the maintenance and repair works of the wastewater lines and manholes during the operation phase; – The necessary PPE will be provided to the employees against the risk of hydrogen sulfide and methane gas formation due to anaerobic conditions, – Information on work and work safety will be given through regular pieces of training, • It will not be possible to enter the manhole without providing sufficient ventilation by opening the manhole cover. A methane and hydrogen sulfide measuring equipment will be provided and measurements will be made in the manhole before entering. • Ensure that the following documentation is prepared and implemented by Çilimli Municipality – OHS Management Plan and Procedures, – Risk Assessment Reports are prepared for all works to be carried out, and necessary measures will be taken to avoid these risks as per “OHS Risk Assessment Regulation.” – "Emergency Preparedness and Response Plans" are prepared for a possible accident as per “Regulation on Emergencies at Workplaces” and “First Aid Regulation.” Emergency teams will be built, and training/drills will be carried out according to the emergency scenarios. • Provide appropriate signposting of the operation sites and then inform the workers of key rules and regulations to follow. • Provide toolbox talks to the employees indicating the possible risks regarding the worksite and works to be carried out.		

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.). • Çilimli Municipality will inform ILBANK and WB in case of any significant environmental (including OHS) or social events (e.g., fatalities, loss of time incidents, environmental spills, etc.), within three (3) business days. A report on the root causes of the incident and the corrective actions taken will be submitted to ILBANK and WB within 30 days. • Ensure that the following mitigation measures are in place due to particularly Covid-19 and its variants' outbreak during the operation phase: – Providing surveillance and active screening and treatment of workers, – Conducting training for employees on prevention from Covid-19 and its variants, – Immunizing workers to improve health and guard against infection, – Getting medical clearance is required for return to work for all employees diagnosed with Covid-19 and its variants, – Conducting track and trace investigation following Covid-19 and its variants' control program		
Labor and Working Conditions	Labor management	Direct	High	• Follow all regulations, procedures, and principles published regarding labor and working conditions as part of Labor Law. • Train employees on human resources policy together with the internal grievance redress mechanism. • Ensure employees work in a fair-treated work environment with no discrimination and offer equal opportunities for all personnel employed.	To be covered within the project budget	Çilimli Municipality

OPERATION PHASE						
Issue	**Potential Impact**	**Type of Impact (Direct and/or Indirect)**	**Impact Significance (Low, Medium, High, Extremely High)**	**Mitigation Measures**	**Cost**	**Responsible Party**
				• Implement "Human Resources Management Plan and Procedures," including "Internal Grievance Redress Mechanism."		
Labor and Working Conditions	COVID-19 pandemic	Direct	Extremely High	• Follow all the guidance, directives and recommendations of Ministry of Health, Ministry of Family, Labor and Social Services, World Health Organization and the World Bank and Implement all relevant necessary measures, both for occupational health and safety of employees and for workplaces, in case of an outbreak of any other pandemic/communicable disease including COVID-19. • Develop and implement COVID-19 Control Action Plan and inform employees/workers/visitors on infection control policies.	To be covered within the project budget	Çilimli Municipality

7 Monitoring Plan

Çilimli Municipality will monitor the environmental and social impacts/risks of the project activities on a regular basis against Environmental, Social and Occupational/Community Health and Safety Key Performance Indicators (KPIs) clarified considering relevant national legislation and international standards by CM. Monitoring procedures and subsequent reporting in an appropriate format to be developed in this respect will be clarified and conducted by the CM. Moreover, during the implementation of the monitoring plans, the most stringent requirement/standards among the national legislation and WB standards and also the most up-to-date legislation will be complied with.

7.1 Monitoring Plan for the Pre-Construction and Construction Phase

The monitoring plans for the pre-construction phase and construction phase are presented in Table 7-1 and Table 7-2, respectively.

Table 7-1. Monitoring Plan for the Pre-Construction Phase

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Permitting	Project Area	Before commencement of works	All permit issues regarding the project	A permit register	Comply with the Environmental Law and Relevant Regulations	Environmental Law and Relevant Regulations	Completed permitting processes	To be covered within the project budget	Contractor, Çilimli Municipality
Physical Environment									
Soil Quality	Project area	Before the commencement of works	Alterations in the land structure because of excavation works and debris collection (erosion)	Preparation of Erosion Control Procedure, training of employees/ workers on the procedure	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by ensuring erosion control	WBG General EHS Guidelines: Construction and Decommissioning	Erosion Control Procedure and training records in place	To be covered within the project budget	Contractor
Waste Management	Project Area	Before the commencement of works	Identification of the management of solid and liquid wastes	Preparation of Waste Management Plan, training of employees and workers on the Plan, agreements with licensed companies for recycling	Comply with the Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Waste Management Plan and training records in place	To be covered within the project budget	Contractor
Surface Water Quality	At Akdere Creek	Before the commencement of works	Identification of creek crossing management and surface water quality	Preparation of Creek Crossing Procedure, training of employees and workers on the procedure,	Comply with the Surface Water Quality Regulation and WBG General EHS Guidelines: Construction and Decommissioning	Surface Water Quality Regulation WBG General EHS Guidelines: Construction and Decommissioning	Creek Crossing Procedure and training records in place Surface water quality sampling conducted and	To be covered within the project budget	Contractor

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
							analysis results in place		
Water Quality	At the irrigation channel	Before the commencement of works	Identification of irrigation channel crossing management	Preparation of Irrigation Channel Crossing Procedure, training of employees and workers on the procedure	Comply with WBG General EHS Guidelines: Construction and Decommissioning	WBG General EHS Guidelines: Construction and Decommissioning	Irrigation Channel Crossing Procedure and training records in place	To be covered within the project budget	Contractor
Chemicals and Hazardous Materials Management	Project Area	Before the commencement of works	Identification of the management of chemicals and hazardous materials	Preparation of Chemicals and Hazardous Materials Management Plan, training of employees and workers on the Plan	Comply with the Environmental Law and WBG General EHS Guidelines: Environmental (Hazardous Material Management) by providing appropriate storage, transportation, and disposal	Environmental Law Regulation on Safety Data Sheets Regarding Harmful Substances and Mixtures WBG General EHS Guidelines: Environmental (Hazardous Material Management)	Chemicals and Hazardous Materials Management Plan and training records in place	To be covered within the project budget	Contractor
Noise and Vibration	Project Area	Before the commencement of works	Identification of the management of noise and vibration	Preparation of Noise and Vibration Management Plan, training of employees and workers on the Plan	Comply with the legal limits addressed in the Environmental Noise Control Regulation WBG General EHS Guidelines – Noise Level Guidelines	Environmental Noise Control Regulation and WBG General EHS Guidelines: Environmental (Noise and Vibration Management)	Noise and Vibration Plan and training records in place	To be covered within the project budget	Contractor

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Air Quality	Project Area	Before the commencement of works	Identification of the management of air emissions	Preparation of Air Emissions Management Plan, training of employees and workers on the Plan	Comply with the legal limits addressed in the RAMAQ (Regulation on Assessment and Management of Air Quality) World Health Organization (WHO) Ambient Air Quality Guidelines	RAMAQ and WBG General EHS Guidelines: Environmental (Air Emissions and Ambient Air Quality)	Air Emissions Management Plan and training records in place	To be covered within the project budget	Contractor
Land Use	Project Area	Before the commencement of works	Identification of the management of topsoil	Preparation of Topsoil Management Plan, training of employees and workers on the Plan	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by protecting topsoil	WBG General EHS Guidelines: Construction and Decommissioning	Topsoil Management Plan and training records in place	To be covered within the project budget	Contractor
Socio-Economic Environment									
Community Health & Safety and Security	Project Area	Before the commencement of works	Identification of the management of transportation, pedestrian, and traffic safety	Preparation of Community Health & Safety and Security Management Plan, training of employees and workers on the Plan	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Community Health & Safety and Security Management Plan and training records in place	To be covered within the project budget	Contractor
Cultural Assets	Project Area		Identification of the		Comply with Law No. 2863	Law No. 2863 on the Protection of	Chance Finds Procedure and	To be covered	Çilimli Municipality

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
		Before the commencement of works	management of cultural heritage	Training of employees and workers on the Procedure	protecting archaeological and cultural heritage Chance Find Procedure	Cultural and Natural Assets WB OP Physical Cultural Resources (OP 4.11)	training records in place	within the project budget	Contractor
Community Health & Safety and Security	Project Area	Before the commencement of works	Identification of the management of stakeholders	Announcements from the various communication platforms, i.e., municipality website and neighborhood headman's offices, to the public, Preparation of disclosure documents (posters, brochures, leaflets, vb.), Number of consultation meetings with the local communities and mukhtars, establishing of a grievance management system, Preparation of Stakeholder Management Plan including Grievance Redress Mechanism (GRM) and training of employees and workers on the Plan,	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with stakeholders with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Copies of announcements made, disclosure documents in place, meeting minutes, Number and nature of grievances and Percentage of Closed Grievances, SEP and training records in place	To be covered within the project budget	Contractor
Employment	Project Area	Before the commencement of works	Identification of the management of local labor	Identification of local workforce and recruitment options,	Best Practice	Best Practice	Number of local workers employed	To be covered within the	Contractor

Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
								project budget	
Labor and Working Conditions									
Labor and Working Conditions (OHS)	Project Area	Before the commencement of works	Identification of OHS requirements	Preparation of an OHS Management Plan, maintain all required PPEs	Comply with the OHS Law and the related regulations	OHS Law and regulations WBG General EHS Guidelines: OHS	OHS Management Plan and PPEs in place	To be covered within the project budget	Contractor
Labor and Working Conditions (Labor management)	Project Area	Before the commencement of works	Identification of labor management practices	Preparation of Human Resources Management Plan and Procedures, training of employees and workers on the Procedure.	Comply with Labor Law Law and regulations	Labor Law and regulations	Human Resources Management Plan and training records in place	To be covered within the project budget	Contractor

Table 7-2. Monitoring Plan for the Construction Phase

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Physical Environment									
Soil Quality	Areas where topsoil stripped	Continuously /Daily	Topsoil storage	Visual inspection	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by protecting topsoil	WBG General EHS Guidelines: Construction and Decommissioning	Preserved topsoil	To be covered within the project budget	Contractor
	Project area	During heavy rainy weathers	Taken measures during pre-construction, i.e., site-specific erosion control, sediment control, landscaping, and reinstatement	Visual inspection	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by controlling erosion	WBG General EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment. WBG EHS Guidelines: Community Health and Safety	Controlled erosion	To be covered within the project budget	Contractor
	Project area and nearest access roads	During summertime with high temperature	Wind erosion	Observation and records on water spraying against dust	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by preventing wind erosion	WBG General EHS Guidelines: Construction and Decommissioning	Suppressed dust emission	To be covered within the project budget	Contractor
	Relayed areas with the stored topsoil	During revegetation and/or topsoil	Relayed topsoil and/or revegetation	Visual inspection	Comply with the WBG General EHS Guidelines:	WBG General EHS Guidelines:	Controlled soil erosion	To be covered within the	Contractor

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
	and/or revegetated areas	relaying activities			Construction and Decommissioning by preventing soil erosion and landscape	Construction and Decommissioning	Protected landscape	project budget	
Air quality	Sensitive receptors	In case of any grievance During excavation works/Daily	Dust emission	Dust measurement (via an authorized environmental laboratory) Visually (based on the irritation in the respiratory system)	Comply with the legal limits addressed in the RAMAQ (Regulation on Assessment and Management of Air Quality) World Health Organization (WHO) Ambient Air Quality Guidelines	RAMAQ and WBG General EHS Guidelines: Environmental (Air Emissions and Ambient Air Quality)	Air emission levels complied with the national and international limits	To be covered within the project budget	Contractor
	Project area	During construction /Monthly	Exhaust emissions	Maintenance and inspection documents of vehicles will be checked. The exhaust gas emission measurement documents will be checked.	Comply with the legal limits addressed in the RCIAP	RCIAP and Regulation on Control of Exhaust Gas Emissions	Air emission levels complied with the national limits	To be covered within the project budget	Contractor
Waste Management and Pollution Prevention	Project area	Continuously/ Daily	Waste generation (including excavation waste/soil)	Visual inspection regarding proper collection and temporary storage of wastes and records kept regarding their coordinated recycle /	Comply with the Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Wastes properly temporarily stored and delivered to recycle/disposal Protected environment, OHS, and	To be covered within the project budget	Contractor

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
				disposal via licensed firms			community health		
	Project area	Each waste delivery operation	Hazardous & non-hazardous waste amounts	Mobile Waste Tracking System (MoTAT) records	Comply with the Waste Management Regulation by taking remedial actions if generations dramatically increase to minimize the adverse impact on natural resources	Waste Management Regulation	Waste minimization as much as possible	To be covered within the project budget	Contractor
Surface water quality	At Akdere Creek	Once in a month	Parameters specified in Regulation on Surface Water Quality	Water analysis done by licensed laboratory	Comply with the Regulation on Surface Water Quality	Regulation on Surface Water Quality	Water quality parameters complied with the national limits	To be covered within the project budget	Contractor
Water quality	At the irrigation channel	Daily during crossing works	Monitoring of working conditions	Visual inspections of site conditions	Comply with WBG General EHS Guidelines: Construction and Decommissioning	WBG General EHS Guidelines: Construction and Decommissioning	Irrigation Channel Crossing Procedure and training records in place	To be covered within the project budget	Contractor
Noise and vibration	Sensitive receptors	In case of any grievance	Noise & vibration levels	24-hour noise measurements/ handheld device (via an authorized environmental laboratory)	Comply with the legal limits addressed in the Environmental Noise Control Regulation	Environmental Noise Control Regulation and WBG General EHS Guidelines: Environmental	Noise emission levels complied with the national and international limits	To be covered within the project budget	Contractor

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					WBG General EHS Guidelines – Noise Level Guidelines	(Noise Management)			
Management of chemicals and hazardous materials	Below and around the storage or usage locations for the materials. Near the vehicles and around the vehicles	Daily	Chemicals and hazardous materials such as fuel oil, maintenance oil, antifreeze, etc.	Visual inspections (any leakages, etc.) Site inspections (i.e., storage conditions, handling operations) and document control (i.e., SDSs, training records)	Comply with the Environmental Law and WBG General EHS Guidelines: Environmental (Hazardous Material Management) by providing appropriate storage, transportation, and disposal	Environmental Law Regulation on Safety Data Sheets Hazardous Materials and Mixtures WBG General EHS Guidelines: Environmental (Hazardous Material Management)	Non-contaminated environment	To be covered within the project budget	Contractor
Spills/ Leakages	Project Area	In the event of an incident	Environmental incidents	Incident logs	Comply with the Environmental Law by preventing further incidents	Environmental Law	Zero Incident	To be covered within the project budget	Contractor
Enforcement Actions by Regulatory Authorities	Project area	In the event of environmental prosecution – non-regulatory compliance	Environmental prosecutions - regulatory non-compliances	Enforcement records (audit reports, etc.)	Comply with the Environmental laws and regulations	Not Applicable (NA)	Zero Environmental prosecution regulatory noncompliance	To be covered within the project budget	Contractor
Socio-Economic Environment									
Cultural heritage	Project area and its vicinity	Continuously/ Daily	Finding historical artifacts and other materials that have historical values	To be monitored during the activities, visually, records kept during the construction period	Comply with Law No. 2863 the by protecting archaeological and cultural heritage and	Law No. 2863 on the Protection of Cultural and Natural Assets	Protection of any material having a historical value which is found	No cost	Contractor

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					Chance Find Procedure	Physical Cultural Resources (WB OP 4.11)	Information to General Directorate of Cultural Assets and Museums		
Pedestrian safety	Project area	Daily	Monitoring of safety conditions at the site, fencing of construction areas, audio and flash warning signs as necessary	Visual control of the signs	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Safe pedestrian transportation conditions	To be covered within the project budget	Contractor
Traffic and Transportation	All drivers	Weekly	Driver and vehicle competency	Checking employment (driver licenses) and vehicle maintenance records, visual control of installed warning signs, checking speed limits, records of trainings	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Safe traffic and transportation conditions Number of fines due to exceeding the speed limit	To be covered within the project budget	Contractor
Community Health & Safety and Security	Project area and its vicinity	Weekly	External grievances	Project Specific GRM	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and	Number and nature of grievances and Percentage of closed grievances	To be covered within the project budget	Çilimli Municipality

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with nearby communities and other stakeholders with addressing their concerns	Use of the Right to Petition Law. 3071			
	A location where an incident occurs due to project activities	In the event of an incident (accidents and near misses)	Incidents accidents and near misses	Incident accident and near miss logs, accident types and if necessary Lost Time Injury Rates (LTIR)	To prevent further incidents, accidents and near misses	NA	Zero incident, accident and near miss	No cost	Contractor, Çilimli Municipality
Labour and Working Conditions									
OHS	Project area	In the event of a prosecution / regulatory non-compliance	Health and Safety prosecutions - nonregulatory compliance	Prosecutions, audit reports, etc.	Comply with the OHS Law and regulations	OHS Law and regulations	Zero prosecution/ regulatory non-compliance	To be covered within the project budget	Contractor, Çilimli Municipality
	Project area and places where workers	In the event of an incident (accidents and near misses)	Incidents, accidents and near misses	Incident accident and near miss logs, accident types and if necessary LTIR	Comply with the OHS Law by preventing further incidents	OHS Law	Zero incident, accident and near miss	To be covered within the	Contractor

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
	exist related to work							project budget	
	Project area	Daily	Site OHS implementations (safe conditions on the construction site, risk analysis and procedures, EPRP, toolbox talks and trainings, etc.)	Site check records, i.e., periodic health screening records of personnel, risk assessments, PPE delivery forms, training and toolbox records, drill records etc. Observations/on-site inspections Interviews with employees	Comply with the OHS Law and regulations WBG General EHS Guidelines: OHS by taking corrective actions to prevent incidents	OHS Law and regulations WBG General EHS Guidelines: OHS	Number and nature of OHS non-compliances and percentage of closed corrective actions	To be covered within the project budget	Contractor,
	Project area	Weekly	Internal grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982. Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Contractor

CONSTRUCTION PHASE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					with addressing their concerns				
Working Conditions and Worker Management	Project area	Weekly	Internal grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Contractor

7.2 Monitoring Plan for the Operation Phase

The monitoring plans for the operation phase are presented in Table 7-3 and Table 7-4 for maintenance and repair activities operation stage, respectively.

Table 7-3. Monitoring Plan for the Operation Phase – Maintenance and Repair Activities

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Physical Environment									
Soil Quality	Areas where topsoil stripped	Continuously/Daily during the maintenance and repair works	Topsoil storage	Visual inspection	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by protecting topsoil	WBG General EHS Guidelines: Construction and Decommissioning	Preserved topsoil	To be covered within the project budget	Çilimli Municipality
	Project area	During heavy rainy weathers during the maintenance and repair works	Taken measures during pre-construction, i.e., site-specific erosion control, sediment control, landscaping, and reinstatement	Visual inspection	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by controlling erosion	WBG General EHS Guidelines: Construction and Decommissioning	Controlled erosion	To be covered within the project budget	Çilimli Municipality
	Project area and nearest access roads	During summertime with high temperature	Wind erosion	Observations and records on water spraying against dust	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by preventing wind erosion	WBG General EHS Guidelines: Construction and Decommissioning	Suppressed dust emission	To be covered within the project budget	Çilimli Municipality
	Relayed areas with the stored topsoil and/or revegetated areas	During revegetation and/or topsoil relaying activities	Relayed topsoil and/or revegetation	Visual inspection	Comply with the WBG General EHS Guidelines: Construction and Decommissioning by preventing soil	WBG General EHS Guidelines: Construction and Decommissioning	Controlled soil erosion Protected landscape	To be covered within the project budget	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					erosion and landscape				
Air quality	Sensitive receptors	In case of any grievance during the maintenance and repair works During excavations for maintenance and repair works (if any)	Dust emission	Dust measurement (via an authorized environmental laboratory) Visually (based on the irritation in the respiratory system)	Comply with the legal limits addressed in the RAMAQ World Health Organization (WHO) Ambient Air Quality Guidelines	RAMAQ and WBG General EHS Guidelines: Environmental (Air Emissions and Ambient Air Quality)	Air emission levels complied with the national and international limits	To be covered within the project budget	Çilimli Municipality
Waste Management and Pollution Prevention	Project area	Continuously/daily during the maintenance and repair works	Waste generation (Including excavation waste/soil)	Visual inspection regarding proper collection and temporary storage of wastes and records kept regarding their coordinated recycle / disposal via licensed firms	Comply with the Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Wastes properly temporarily stored and delivered to recycle/disposal Protected environment, OHS, and community health	To be covered within the project budget	Çilimli Municipality
	Project Area	When pipe waste comes out during maintenance/repair activities	Pipe waste materials	Visual inspection regarding proper collection and temporary storage of pipe waste materials and records kept regarding their coordinated recycle / disposal via licensed firms	Comply with the Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management	Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Wastes properly temporarily stored and delivered to recycle/disposal Protected environment, OHS, and	To be covered within the project budget	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
				Checking whether the waste pipe material is put in the containers that need to be collected Estimation of the waste amount by looking at the fullness and number of temporary collection containers for waste pipe material			community health		
	Project area	Each waste delivery operation	Hazardous & non-hazardous waste amounts	Mobile Hazardous Waste Delivery System (MoTAT) records	Comply with the Waste Management Regulation by taking remedial actions if generations dramatically increase to minimize the adverse impact on natural resources	Waste Management Regulation	Waste minimization as much as possible	To be covered within the project budget	Çilimli Municipality
Surface Water Quality	At Akdere Creek	Prior to and during maintenance/ repair works at these locations (if any)	Parameters specified in Regulation on Surface Water Quality	Water analysis done by licensed laboratory	Comply with the Regulation on Surface Water Quality	Surface Water Quality Regulation	Water quality parameters complied with the national limits	To be covered within the project budget	Çilimli Municipality
Water quality	At the irrigation channel	During maintenance/ repair works at these locations (if any)	Monitoring of working conditions	Visual inspections of site conditions	Comply with WBG General EHS Guidelines:	WBG General EHS Guidelines: Construction and Decommissioning	Irrigation Channel Crossing Procedure and	To be covered within the	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					Construction and Decommissioning		training records in place	project budget	
Noise and vibration	Sensitive receptors	In case of any grievance during the maintenance and repair works	Noise & vibration levels	24-hour noise measurements/handheld device (via an authorized environmental laboratory)	Comply with the legal limits addressed in the Environmental Noise Control Regulation WBG General EHS Guidelines – Noise Level Guidelines	Environmental Noise Control Regulation and WBG General EHS Guidelines: Environmental (Noise Management)	Noise emission levels complied with the national and international limits	To be covered within the project budget	Çilimli Municipality
Management of chemicals and hazardous materials	Below and around the storage or usage locations for the materials. Near the vehicles and around the vehicles	On occasion during the maintenance and repair works	Chemicals and hazardous materials such as fuel oil, maintenance oil, antifreeze, etc	Visual inspections (any leakages, etc.) Site inspections (i.e., storage conditions, handling operations) and document control (i.e., SDSs, training records)	Comply with the Environmental Law and WBG General EHS Guidelines: Environmental (Hazardous Material Management) by providing appropriate storage, transportation, and disposal	Environmental Law Regulation on Safety Data Sheets Regarding Harmful Substances and Mixtures WBG General EHS Guidelines: Environmental (Hazardous Material Management)	Non-contaminated environment	To be covered within the project budget	Çilimli Municipality
Spills/Leakages	Project Area	In the event of an incident during the maintenance and repair works	Environmental incidents	Incident logs	Comply with the Environmental Law by preventing further incidents	Environmental Law	Non-contaminated environment Zero Incident	To be covered within the project budget	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Enforcement Actions by Regulatory Authorities	Project area	In the event of environmental prosecution - regulatory non-compliance	Environmental prosecutions - regulatory non-compliances	Enforcement records (audit reports, etc.)	Comply with the Environmental laws and regulations	NA	Zero Environmental prosecution - regulatory noncompliance	To be covered within the project budget	Çilimli Municipality
Socio-Economic Environment									
Traffic and Transportation	All drivers	Weekly	Driver and vehicle competency	Checking employment (driver licenses) and vehicle maintenance records, , visual control of installed warning signs, checking speed limits, records of trainings	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Safe traffic and transportation conditions Number of fines due to exceeding the speed limit	To be covered within the project budget	Çilimli Municipality
Pedestrian safety	Project area	Daily	Monitoring of safety conditions at the site, fencing of maintenance and repair areas, warning signs and flashlights	Visual control of the signs	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Safe pedestrian transportation conditions	To be covered within the project budget	Çilimli Municipality
Community Health & Safety and Security	Project area and its vicinity	In the event of a grievance/suggestion during the maintenance and repair works	External grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the	Number and Percentage of Closed Grievances	To be covered within the project budget	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with nearby communities and other stakeholders with addressing their concerns	Law on the Right to Information; and Use of the Right to Petition Law. 3071			
	A location where an incident occurs due to project activities	In the event of an incident (accidents and near misses)	Incidents, accidents and near misses	Incident, accident and near miss logs	To prevent further incidents	NA	Zero incident, accident and near miss	No cost	Çilimli Municipality
Labor and Working Conditions									
OHS	Project area	In the event of a prosecution / regulatory non-compliance during the maintenance and repair works	Health and Safety prosecutions - nonregulatory compliance	Prosecutions, audit reports, etc.	Comply with the OHS Law and regulations	OHS Law and regulations	Zero prosecution / regulatory non-compliance	To be covered within the project budget	Çilimli Municipality
	Project area and places where workers exist related to work	In the event of an incident (accidents and near misses) during the maintenance and repair works	Incidents, accidents and near misses	Incident, accidents and near misses logs	Comply with the OHS Law by preventing further incidents	OHS Law	Zero incident, accident and near miss	To be covered within the project budget	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
	Project area	Daily during the maintenance and repair works	Site OHS implementations (safe conditions on the maintenance and repair site, risk analysis and procedures, EPRP, toolbox talks and trainings, etc.)	Site check records, i.e., periodic health screening records of personnel, risk assessments, PPE delivery forms, training and toolbox records, drill records, etc. Observations/ on-site inspections Interviews with employees	Comply with the OHS Law and regulations WBG General EHS Guidelines: OHS by taking corrective actions to prevent incidents	OHS Law and regulations WBG General EHS Guidelines: OHS	Number and nature of OHS non-compliances and percentage of closed corrective actions	To be covered within the project budget	Çilimli Municipality
	Project area	In the event of a grievance/ suggestion during the maintenance and repair works	Internal grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Çilimli Municipality

MAINTENANCE AND REPAIR ACTIVITIES									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Working Conditions and Worker Management	Project area	In the event of a grievance/ suggestion during the maintenance and repair works	Internal grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Çilimli Municipality

Table 7-4. Monitoring Plan for the Operation Phase-Operational Stage

OPERATIONAL PHASE-OPERATIONAL STAGE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
Physical Environment									
Pipe damage and water leakage or outburst	Throughout the supply line and distribution network	Continuously	Pressure in supply lines and distribution network Water leakages/outburst	Visually during site visits, pressure measurements (if any), electronic monitoring systems (SCADA), and public complaints	Operational pressures provided in Çilimli Municipality operational guidelines	Regulation on Water Loss Control in Water Supply and Distribution Systems Çilimli Muniçcpality operational guidelines	Pressure leakage and outbursts	To be covered within the project budget	Çilimli Municipality
Traffic and Transportation	All drivers	Yearly	Driver and vehicle competency, Speed limits, Trainings	Checking employment (driver licenses) and vehicle maintenance records, traffic fines related to speed, records of trainings	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Safe traffic and transportation conditions	To be covered within the project budget	Çilimli Municipality
Waste Management and Pollution Prevention	CM workshops	Continuously/ Daily	Waste generation	Visual inspection regarding proper collection and temporary storage of wastes and records kept regarding their coordinated recycle / disposal via licensed firms	Comply with the Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Regulation on Waste Management and WBG General EHS Guidelines: Environmental (Waste Management)	Wastes properly temporarily stored and delivered to recycle/disposal Protected environment, OHS, and	To be covered within the project budget	Çilimli Municipality

OPERATIONAL PHASE-OPERATIONAL STAGE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
							community health		
	Between the manholes	Once or twice within a year	Pipeline blockage	Using pipeline monitoring equipment (remote control camera and TV)	Control procedures provided in CM operational guidelines	CM operational guidelines	No blockage in the channels	Additional cost is required if camera and TV are used.	Çilimli Municipality
Management of chemicals and hazardous materials	CM workshops	Daily	Chemicals and hazardous materials such as fuel oil, maintenance oil, antifreeze, etc	Visual inspections (any leakages, etc.) Site inspections (i.e., storage conditions, handling operations) and document control (i.e., SDSs, training records)	Comply with the Environmental Law and WBG General EHS Guidelines: Environmental (Hazardous Material Management) by providing appropriate storage, transportation, and disposal	Environmental Law Regulation on Safety Data Sheets Regarding Harmful Substances and Mixtures WBG General EHS Guidelines: Environmental (Hazardous Material Management)	Non-contaminated environment	To be covered within the project budget	Çilimli Municipality
	Chlorine gas cylinders/ containers storage area	Continuously	Chlorine gas	Chlorine gas detectors	Comply with the Environmental Law and WBG General EHS Guidelines: Environmental (Hazardous Material Management) by	Environmental Law Regulation on Safety Data Sheets Regarding Harmful Substances and Mixtures WBG General EHS Guidelines:	No leakage	To be covered within the project budget	Çilimli Municipality

OPERATIONAL PHASE-OPERATIONAL STAGE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					providing appropriate storage, transportation, and disposal	Environmental (Hazardous Material Management)			
Socio Economic-Environment									
Community Health & Safety and Security	Project area and its vicinity	In the event of a grievance/suggestion	External grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with nearby communities and other stakeholders with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Çilimli Municipality
	Within the project area boundaries	Weekly basis	Availability of manhole caps	By checking whether the manhole caps are in place or not.	Control procedures provided in CM	Control procedures provided in CM	Available manhole caps	To be covered within the	Çilimli Municipality

OPERATIONAL PHASE-OPERATIONAL STAGE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					operational guidelines	operational guidelines		project budget	
	A location where an incident occurs due to project activities	In the event of an incident (accidents and near misses)	Incidents accident and near miss	Incident accident and near miss logs, accident types, and if necessary Lost Time Injury Rates	To prevent further incidents	NA	Zero incident, accident and near miss	No cost	Çilimli Municipality
Community Health (Drinking Water Quality)	Project area	Continuously	Drinking water quality	Water sampling	Comply with the Regulation on Water Intended for Human Consumption	Regulation on Water Intended for Human Consumption	Threshold limits met	To be covered within the project budget	Çilimli Municipality
Labor and Working Conditions									
OHS	Project area	In the event of a prosecution / regulatory non-compliance	Health and Safety prosecutions - nonregulatory compliance	Prosecutions, audit reports, etc.	Comply with the OHS Law and regulations	OHS Law and regulations	Zero prosecution / regulatory non-compliance	To be covered within the project budget	Çilimli Municipality
	Project area and places where workers exist related to work	In the event of an incident (accidents and near misses)	Incidents, accidents and near misses	Incident accident and near-miss logs, accident types, and if necessary Lost Time Injury Rates logs	Comply with the OHS Law by preventing further incidents	OHS Law	Zero incident, accident and near miss	To be covered within the project budget	Çilimli Municipality
	CM workshops	Daily	Site OHS implementations (safe conditions, risk analysis and procedures, EPRP, trainings, etc.)	Site check records, i.e., periodic health screening records of personnel, risk assessments, PPE delivery forms, training and toolbox records, drill records, etc.	Comply with the OHS Law and regulations WBG General EHS Guidelines: OHS by taking corrective actions	OHS Law and regulations WBG General EHS Guidelines: OHS	Zero incident, accident and near miss	To be covered within the project budget	Çilimli Municipality

OPERATIONAL PHASE-OPERATIONAL STAGE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
				Observations/on-site inspections Interviews with employees	to prevent incidents				
	Project area	In the event of a grievance/ suggestion	Internal grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Çilimli Municipality
Working Conditions and Worker Management	Project area	In the event of a grievance/suggestion	Internal grievances	Project Specific Grievance Redress Mechanism	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Çilimli Municipality

OPERATIONAL PHASE-OPERATIONAL STAGE									
Issue	**Monitoring Location**	**Timing / Frequency of Monitoring**	**Parameters Monitored**	**Monitoring Method**	**Target/ threshold values**	**Legal Requirements for monitoring**	**Key Performance Indicators**	**Cost**	**Responsible Party**
					of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Law on the Right to Information; and Use of the Right to Petition Law. 3071			

8 Institutional Arrangements

The responsible parties of the project, which put forward the project, are the Project Management Unit (PMU) of ILBANK acting as a financial intermediary as Borrower, WB, and EU providing technical and financial support as Lenders, Çilimli Municipality, which is the Project Owner, in other words, the Sub-borrower of the project, Supervision Consultant to assist Çilimli Municipality and the Contractor to be awarded for the project activities. Table 8-1 summarizes roles and responsibilities.

Çilimli Municipality (Main Beneficiary Institution/Sub-borrower/Project Owner) and its General Responsibilities

The general responsibilities of Çilimli Municipality are as follows:

- Provide health and social aid, including public hygiene,
- Enable public works covering the construction of urban roads, bridges, and similar infrastructure defined in the development plan, and land expropriations for the construction work,
- Provide culture and training activities,
- Maintain welfare of people including public health and sanitation installation practices as well as agriculture and economy,

Main duties of Çilimli Municipality Technical Works:

- Responsible for construction and operation of the required infrastructure and upper structure in principle.
- Responsible for getting required permits, including pre-construction, during construction, and post-construction permits.
- Responsible for the construction, operation, and maintenance of buildings, roads, and urban wastewater infrastructure within their service areas.

Çilimli Municipality (Main Beneficiary Institution/Sub-borrower/Project Owner)

In addition to the general responsibilities mentioned above, Çilimli Municipality is responsible for managing the environmental and social risks and impacts originating from the project during the project activities. Çilimli Municipality will ensure adequate resources are distributed on an ongoing basis to meet the requirements of ESMP and that the personnel responsible for accomplishing tasks and needs of the system are capable of the cause of training and experience. Based on information provided by Çilimli Municipality, the upper management will undertake necessary works after the tender phase for appointing necessary environmental and social experts/teams.

During the tender stage for the construction phase, which will be carried out according to the Public Procurement Authority Legislation and will follow the legal requirements of the WB, Çilimli Municipality will include the ESMP in the tendering documents and ensure that the Contractor is aware of the environmental and social commitments made. Reflecting any revisions made by the Contractor on the relevant project documents, informing ILBANK about the process, and conducting the necessary consultation process about implemented and approved changes are among the duties of Çilimli Municipality.

The Municipality is also responsible for ensuring the organization of the stakeholder consultation meeting to receive the opinions of the possible affected communities, together with the Supervision Consultant. A GRM will be structured and applied.

The other roles and responsibilities of Çilimli Municipality are as follows:

- Disclose the ESMP document on the Municipality website and at neighborhood headman's offices before the commencement of construction activities;
- Provide technical and data support during the supervision of Contractors and the preparation of technical and financial feasibility reports regarding projects;
- Supervise works realized by consultants during the project activities in line with the ESMP.
- If ILBANK identifies any problem in the implementation of ESMP, agree on the measures that must be taken for solving the subject issues;
- Check both the technical and administrative progress of contract packages and the implementation of the points provided in ESMP and SEP on site together with Environmental, Social and OHS Experts (at least one Environmental & Social Expert and one OHS Expert);
- Establish, implement, and monitor GRM in coordination with ILBANK;
    - Provide appropriate procedures to effectively solve the problems of the affected people on time and without causing any unjust suffering,
    - Take special measures to provide equal accession of vulnerable/disadvantaged individuals/groups (e.g., senior citizens, disabled, etc.) to grievance resolving mechanisms,
    - Exert all necessary efforts to announce the project's GRM to affected people and settlement(s) and other interested stakeholders through all types of disclosure and consultation meetings throughout the project duration.
- Review of the Environmental and Social Monitoring Reports (ESMRs) to be submitted by contractors monthly, introduce them to ILBANK quarterly after being reviewed, in addition to on-site inspections.

ILBANK (Borrower)

ILBANK is the related institution of MEUCC. The Bank has two core functions, namely, (i) support infrastructure development at the local level through technical assistance, grants, and loans, (ii) transfer central tax revenues to local authorities.

Municipalities are the stakeholders of ILBANK. ILBANK plans to build and finance water supply, sewage networks, water and wastewater treatment plants, solid waste management systems, geothermal applications, and building constructions needed by municipalities. ILBANK will ensure the execution of the following specifically for this project:

- Auditing the Project Owner's performance regarding compliance with the provisions set out in the ESMP during the project activities;
- Guide public consultation and announcement requirements, as well as Çilimli Municipality's project documents in compliance with WB requirements,
- Guide Çilimli Municipality officials and consultants about WB operational policies (documents and procedures) on environmental assessment, physical cultural resources, land acquisition and involuntary resettlement, natural habitats, forests, and international waterways,
- Re-submission of the relevant documents for the approval of WB after the necessary revisions are made, if any of the approved project documents require modification, and follow up consultation and publication of the approved documents by Çilimli Municipality on time,
- Monitoring environmental and social issues included in the mitigation plan through the experts assigned by ILBANK. Potential negative environmental impacts are planned to be prevented or mitigated during the project activities. Environmental and Social Monitoring System will include but not limited the following:
    - General Environment
    - Air Emissions
    - Noise
    - Waste
    - Grievance
    - Health and Safety
    - Community Health and Safety
- Regularly supervise during the project activities to ensure proper implementation of ESMP. If any problem is identified in the implementation of ESMP, inform Çilimli Municipality accordingly and agree on the measures that must be taken for solving the subject issues,

- Review quarterly Environmental and Social Monitoring Reports (ESMRs) prepared and submitted to ILBANK by CM and submission of ESMRs to WB after reviewing,
- Preparation and submission of Project Progress Reports to WB once every six months,
- Review documents related to the environmental and social assessment of the project, and approve these documents and procedures by the requirements of the WB safety measures,
- Document the performance, recommendations, and additional steps to be taken as part of the overall project inspection to be monitored and inspected by Çilimli Municipality to implement ESMP requirements,
- Have an opinion about the thoughts of the relevant groups and local environmental/social experts on the environmental and social aspects of the project actions and, if necessary, meet with them during site visits,
- Facilitate coordination and communication with the WB's monitoring missions on project implementation's environmental and social safety measures.

World Bank

WB will approve the use of the loan obtained from the Bank as part of the relevant work and compliance of the Tenders and Contracts with the WB tender, contract documents, and procedures. The transactions to be made will be checked by the Bank in specific periods. Moreover, WB will audit the Project Owner's compliance with the provisions set out in the ESMP managed by the Project Owner during the project activities via the Project Progress Reports and ESMRs to be submitted by ILBANK every six months. The WB project team will visit project sites to conduct its own monitoring at certain intervals or when necessary. To bring any other problems to WB's attention, they can also present reports whenever necessary at shorter intervals.

E&S Consultant

ACE, who prepared the ESMP and the SEP for the Project, is the E&S Consultant and will provide necessary information to the Project Owner and take part in organizing the ESMP introduction meeting to be held for the stakeholders and finalizing the ESMP and this SEP as per the concerns/opinions of the stakeholders of the Project.

Supervision Consultant

The roles and responsibilities of the Supervision Consultant are as follows;

- Guide public participation and announcement requirements, as well as the project documents of Çilimli Municipality in compliance with WB requirements;
- If the consultation process coincides with the COVID-19 pandemic period, monitoring and auditing the consultation process to ensure that it is managed with additional

measures in line with the government's restrictions valid for the relevant period. According to the "*Interim Advice for IFC Clients on Safe Stakeholder Engagement in The Context of COVID-19*"[7] published by the IFC on May 15, 2020. In this respect, stakeholder engagement activities will be carried out through safe and effective channels, considering the relevant national and local regulations as well as the health-related recommendations and guidelines of national and international health authorities due to the COVID-19 outbreak;

- Guide Çilimli Municipality officials about WB operational policies (documents and procedures) on environmental assessment, physical cultural resources, land acquisition and involuntary resettlement, natural habitats, forests, and international waterways;
- Provide necessary information to Çilimli Municipality at the ESMP introduction meeting to be held for the stakeholders and non-governmental organizations as part of the project,
- Monitor GRM and review the complaints to Çilimli Municipality,
- Inspect and monitor the contractor's activities on site on a daily basis. Supervision Consultant will have the authority to ensure all E&S (including OHS) measures are duly taken by the contractor on site and may stop the construction works and/or issue fine to the contractor, etc. in case of non-compliances.
- Prepare quarterly ESMRs based on site observations, including non-compliances and relevant corrective actions taken and submit these reports to CM.

To fulfill the roles as mentioned above and responsibilities, the Supervision Consultant will appoint the personnel given below:

The **Contract Manager** will be responsible for inspecting the Contractor to ensure that the recommendations and requirements given in the Project disclosure package (ESMP and SEP) are fulfilled. The Contract Manager will be responsible for continuously supervising and monitoring processes and actions undertaken by the Contractor and identifying the measures to deal with any areas of non-conformity. This includes periodic audits, inspections and/or on-site checks of project areas or worksites and/or records and reports compiled by the Contractor.

The **Environmental and Social Expert** will be responsible for supervising the implementation of all environmental and social mitigation measures provided in the Project disclosure package and reporting to the Contract Manager regularly. Besides, the Expert will be responsible for supervising the implementation of SEP. The expert is expected to be a graduate of a university or similar institution in relevant disciplines (a master's degree would be an asset) and fluent in English and Turkish (both written and spoken).

[7] https://www.ifc.org/wps/wcm/connect/30258731-0e7d-4cb2-863c-a6fb4c6d0d95/Tip+Sheet_Interim+Advice_StakeholderEngagement_COVID19_May2020.pdf?MOD=AJPERES&CVID=n9s.b9a

The **Occupational Health and Safety Expert** will be responsible for supervising the OHS issues at the site and will have the National General Certificate of Occupational Health and Safety or equivalent. Graduation from a university or a similar institution in the relevant discipline would be an asset.

Contractor

The roles and responsibilities of the Contractor are as follows:

- Practice all the conditions and rules mentioned in the ESMP document, which is a part of the contract document on-site and at the technical office and revise it with Çilimli Municipality if required;
- Provide necessary training to the staff, who will work during the construction phase;
- Manage GRM (assign a GM focal point and set up a recording system) and regularly report the complaints to Çilimli Municipality;
- Regularly monitor the project activities and drafting monthly ESMRs based on-site observation, including non-compliances and submitting those reports to Çilimli Municipality every month;
- Ensure compliance with project standards and obtain relevant permits and licenses;
- Immediately notify Çilimli Municipality immediately of any significant environmental (including OHS) or social events (e.g., fatalities, loss of time incidents, environmental spills, etc.), and Çilimli Municipality will inform ILBANK and WB about the incident in three (3) business days. A report on the root causes of the incident and the corrective actions to be taken will be submitted to ILBANK and WB within 30 days;
- Develop and implement Human Resource Management Procedure including working conditions, fair treatment, non-discrimination, equal opportunity, vulnerable/disadvantaged workers, sexual exploitation and abuse and sexual harassment (SEA/SH), prevention of child labor and forced labor issues under the project's Labor and Employment Policy for the construction phase;
- Ensure other agreements regarding the implementation of the requirements of ESMP and other environmental and social protection measures are signed;
- Ensure healthy and safe working conditions for all employees.

To fulfil the roles as mentioned above and responsibilities, the Contractor at least will appoint the personnel given below:

- A full time **Environmental and Social Expert** will be responsible for ensuring and supervising the implementation of all environmental and social mitigation measures provided in the Project disclosure package at site and reporting to the Contractor management regularly. Besides, the Expert will be responsible for supervising the implementation of SEP. The expert is expected to be a graduate of a university or similar

institution in relevant disciplines (a master's degree would be an asset) and fluent in English and Turkish (both written and spoken).

- A **full-time Occupational Health and Safety Expert** will be responsible for supervising the OHS issues at the site and be certified for recognized international safety competency, such as the National General Certificate of Occupational Health and Safety or equivalent. Graduation from a university or a similar institution in the relevant discipline would be an asset.

Table 8-1. Summary of the Roles and Responsibilities in the Project

Project Party	Contractor	Çilimli Municipality	ILBANK
Financial Roles	-	Beneficiary	Financial Instrument
Application Process	Construction of request-based applications	Provision of request-based applications	Review and analysis of the applications to be submitted to WB
Preparation Process	Implementation of the laws, regulations, and other related policies brought by WB and ILBANK through CM and required to be complied with	Implementation of the laws, regulations, and other related policies brought by WB through ILBANK and required to be complied with	Establish coordination among the selected municipalities to ensure compliance with all the rules and regulations throughout the project Forming an internal working structure for the investment options
Number of Personnel	Assigning an environmental and social expert and an occupational health and safety expert and also approximately 20 employees during the construction phase	Assigning a social expert and an environmental expert	Determination of the team structure
Roles in the Project	Construction of the Project, Preparing ESMRs and establishing GRM	Preparing ESMP, consultation, and publication of the document, establishing GRM, and announcing it to the stakeholder	Main responsible for the monitoring of ESMP and the GRM
Reporting	Carry out the construction phase in accordance with the tender conditions determined by CM	Put all the project construction works and consultancy services on the tender as part of the previously determined rules	Supervise and monitor all the processes to ensure that all the environmental and social operational policies of WB are properly implemented

Submission periods for ESMRs, Project Progress Reports and Grievance Register according to each project party is provided in Figure 8-1, while the organigram presenting the roles and responsibilities of the project parties regarding ESMP implementation, monitoring and reporting is given in Figure 8-2.

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

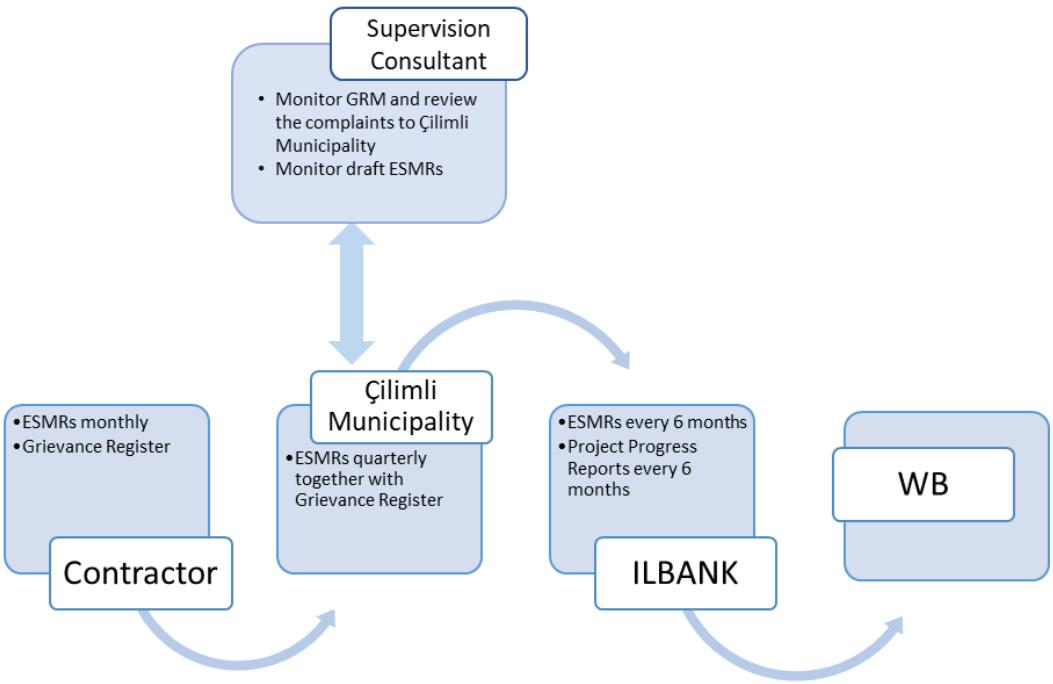

Figure 8-1. Submission Periods for ESMR, Project Progress Report and Grievance Register during ESMP Implementation

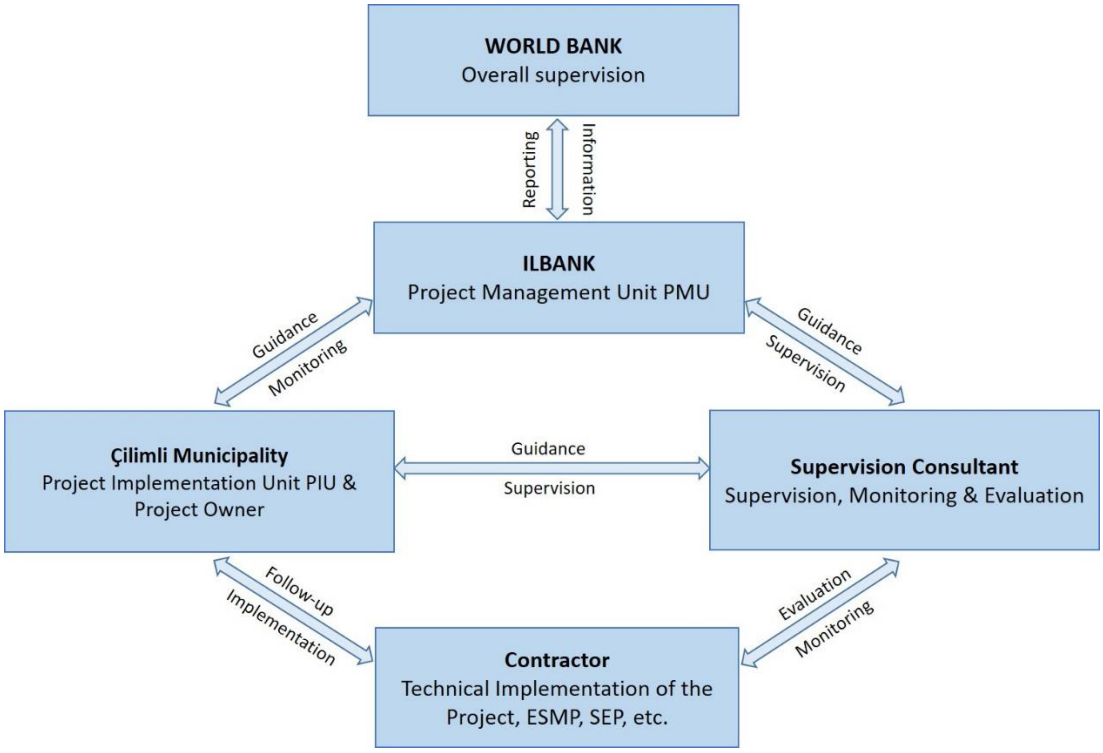

Figure 8-2. Organigram presenting Roles and Responsibilities of Project Parties for ESMP Implementation, Monitoring and Reporting

8.1 Training

The Sub-borrower will implement a training and awareness program covering ESMP expectations and commitments. ACE will organize, together with the Sub-borrower, a workshop for this training by the scope of work in its current contract. As a minimum requirement, this program will be implemented as training for employees and contractors responsible for the implementation of ESMP. The Sub-borrower will provide training to employees and subcontractors before the construction phase. The training will last at least two (2) days and be organized twice a year. Depending on the level of responsibility for implementing ESMP, further training programs may need to be implemented.

Necessary training will be given to the person before the recruitment process. Compliance with the code of conduct rules, including GBV, SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel. The contract will clearly state the sanctions for non-compliance with the code of conduct.

Measurement and evaluation should be done at the end of the training given to the personnel. This is intended to enhance the personnel's competency. According to the review results, the training program can be modified, trainers can be replaced or training can be repeated, if needed, upon determining whether the training is effective.

The training program/modules will address a range of issues, including but not limited to:

- Purpose and content 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 of the project activities,
- GRM developed within the scope of the project for public,
- GRM developed within the scope of the project for project personnel,
- Community health and safety risks and measures,
- OHS, first aid, emergency preparedness,
- COVID-19 related measures and protection measures,
- Code of conduct and clothing,
- Communication with the local community,
- Code of conduct training, including GBV, SEA/SH,
- Traffic and road safety principles, and
- Training aiming at the sorting, storage, and environmental planning of waste.

The Sub-borrower will ensure that all personnel responsible for implementing this ESMP are competent in education, training, and experience. All personnel will be provided with environmental and social training appropriate to their scope of activity and level of responsibility.

8.2 Grievance Redress Mechanism (GRM)

The purpose of the GRM is foremost to give access to a problem-solving procedure to stakeholders, including affected communities and project workers. Grievances can indicate growing stakeholder concerns and escalate if not identified and resolved. Identifying and responding to grievances supports the development of positive relationships between Project workers, local communities, and other stakeholders.

The structured GRM will ensure that grievances associated with the Project are addressed through a transparent and impartial process. From the early stages of the project lifecycle, the grievance procedure will continue to be disclosed to the public through individual or group meetings, printed materials, notice boards. Employees will be provided training on internal GRM.

All municipalities adopted a 'White Desk' system to have feedback from citizens. While the White Desk system is not regarded as a GRM, it is recognized as a general grievance system adopted by municipalities within their organizations. Currently, the Sub-borrower handles public grievances and views through the White Desk system managed by Çilimli Municipality. This municipal unit is established to receive grievances and requests from local citizens and intended to produce possible solutions within the municipality for reported concerns. For this reason, the White Desk system will be maintained as the primaryGRM for this Project.

During unofficial interviews with stakeholders who are the project's beneficiaries such as mukhtars and citizens conducted on 02.11.2021 and 26.04.2022 during the site visits, it was identified that the stakeholders know the 'White Desk' system and use this communication channel. In addition, they remarked that they would prefer it as the communication channel for this Project. However, a central system will be established by the Municipality that will be integrated to the White Desk system to effectively monitor the grievances regarding the Project. There will be a common GRM system under this Project for Çilimli Municipality, subcontractors, workers/employees.

In addition to the White Desk channel, an officer from the municipality will be appointed to transfer to the central system all grievances and suggestions that are communicated to the Municipality and personally left in grievance boxes in the Municipality building, conveyed by stakeholders who want to communicate based on the project documentation, conveyed by the personnel during the project activities, and communicated to subcontractors and inserted in a petition. The said officer will be responsible for recording and following up on each grievance and/or suggestion until resolved. The White Desk officers and the officer appointed by the

Municipality will constantly contact and ensure that grievances are recorded and followed up in a central system.

The Contractor will inform the GRM to the direct and subcontracted employees and stakeholders explaining the channels for internal communication and raising grievances. The workers will be informed of the mechanism and procedures at the time of hire in their local language. As a best practice, options of anonymous grievance redress mechanisms will be established to encourage concerns to be raised freely. A detailed procedure to explain the use of suggestion and grievance boxes to the employees and the Municipality will be developed. There will be a designated person within the Contractor management that will collect the grievances and submit them to the municipality. Internal grievances will be assessed by the Contractor management and remedial actions will be implemented. Remedial measures for the external grievances will be developed and submitted to the municipality for review and then implemented.

Stakeholders will be able to communicate their grievances and views via the channels presented below:

- Çilimli Municipality Website (https://www.cilimli.bel.tr/iletisim): The municipality website enables citizens to communicate electronically with public relations specialists. Citizens can further communicate their requests In-person to resolve any issues quickly.
- Contact Details of Çilimli Municipality GRM Officer to be assigned (i.e., Name-Last Name, E-mail, and Phone),
- Call Center 153 (Alo 153): The White Desk system is reachable via call center (Alo 153), website, or personal application. Alo 153 call center aims to provide higher quality assistance and faster solutions to citizens with the help of the White Desk solution team. For each opinion/grievance, a tracking number will be assigned, which allows the status of the opinion/grievance to be followed up.
- Contact Number of Contractor GRM Officer to be assigned,
- Çilimli Municipality Address for Petition Service (Ulucami Mah. Pazaryeri Sk. No: 01 Çilimli / DÜZCE),
- Grievance Form and Grievance Close-Out Form (see sample for Annex 3 and Annex 4) provided for grievance and request boxes to be installed in the Municipal building,
- Grievance/notice boxes to be installed by the Contractor at the project site during the project activities.

In cases when stakeholders fail to reach a satisfactory solution through the channels provided above, they will be able to reach ILBANK's communication channels listed below, the CIMER, the Foreigners Communication Center (YIMER), and the relevant legal institutions.

ILBANK's Communication Channels:

- ILBANK Website (https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi)
- ILBANK Contact number for Complaints, Wishes, Suggestions 0 312 508 7979
- ILBANK E-mail (bilgiuidb@ilbank.gov.tr)
- ILBANK Address for Petition Service (ILBANK International Relations Department, GRM Team - Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA

CIMER:

- CIMER Website (www.cimer.gov.tr)
- CIMER Call Center (150)
- CIMER Phone Number: +90 312 525 55 55 - Fax Number: +90 0312 473 64 94
- Mail addressed to the Republic of Türkiye, Directorate of Communications
- Individual applications at the community relations desks at governorates, ministries, and district governorates

YIMER has been providing a centralized complaint system for foreigners:

- YIMER Website (www.yimer.gov.tr)
- YIMER Call Center (157)
- YIMER Phone Number: +90 312 5157 11 22 - Fax Number: +90 0312 920 06 09
- Mail addressed to the Republic of Türkiye, Directorate of Communications
- Individual applications at the Republic of Türkiye General Directorate of Migration Management

Applicants, whose complaints could not be resolved through existing GRM or whose complaints contain sensitive issues can always apply to the relevant legal institutions. Relevant Legal Institutions: Relevant Institutions can be summarized as, but are not limited to, follows.

- Civil Courts of First Instance,
- Administrative Court,
- Commercial Courts of First Instance,
- Labor Courts, and
- Ombudsman (https://ebasvuru.ombudsman.gov.tr/)

Relevant legal process will be monitored through GRM.

In cases when stakeholders fail to reach a solution for sensitive grievances (SEA/SH in the workplace or potential child abuse in project areas) by applicable means, they will be able to seek the help of ILBANK in line with ILBANK's sensitive grievances policies.

- ILBANK Website (https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi)
- ILBANK E-mail (etikuidb@ilbank.gov.tr)
- ILBANK Address for Petition Service (ILBANK International Relations Department, GRM Team - Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA

During the project activities, the GRM described above will continue to be driven by stakeholders' views, making this procedure accessible to all affected stakeholders. Requests that require urgent remedy and/or support will be responded to and given support within the same day. All outstanding grievances/requests will be recorded within two (2) business days, reviewed, assessed within ten business days, and concluded no later than 15 business days. Corrective actions willbe taken to resolve the grievance.

The uptake, flow and processing of complaints are represented in Figure 8-3.

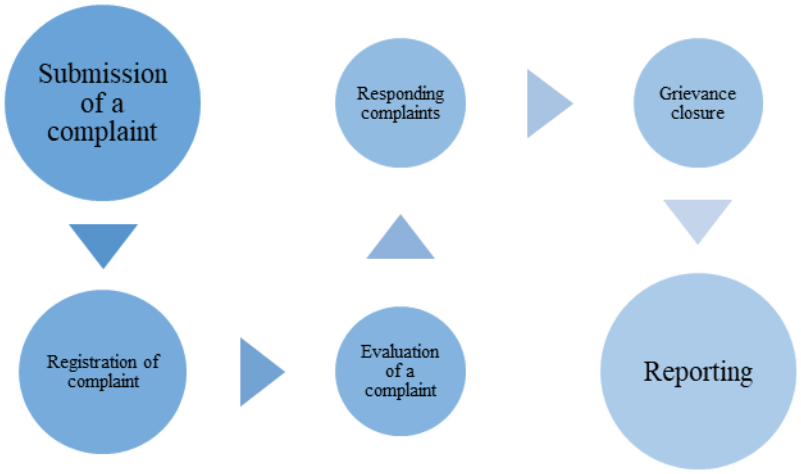

Figure 8-3. Uptake, Flow and Processing of Complaints

GRM flow charts explanation for public and project personnelare provided in Table 8-2 and Table 8-3.

Table 8-2. Grievance Redress Mechanism Flow Chart for Public

Grievance Redress Process	Requirement/Action
Submission of a complaint	Receiving the grievance by any communication channel explained above. (At this point, if the grievance is a sensitive complaint involving child abuse, SEA/SH, immediate action will be taken within 48 hours after receiving the complaint.)
Registration of complaint	Registering/recording through making an entry in the register table (Annex 5 for a sample) filling of the Grievance Form (see Annex 3 for a sample). All the complaints will be registered within two (2) days, and feedback will be given to the complainant. If the complainant requests that this complaint be treated anonymously, this complaint will be recorded anonymously, and the request will be met.

Grievance Redress Process	Requirement/Action
Evaluation of a complaint	Evaluate the complaints within 10 working days and determine whether the complaint meets the admissibility criteria. If the complaint is not valid, provide a relevant explanation to the complainant.
Responding complaints	Grievance will be assessed by Çilimli Municipality. The affected community representatives such as from local Civil Society Organization (CSO)/NGOs and/or headmen will be consulted depending on the type of grievance. If needed, the grievance will be examined on-site. Response/redress of grievance will be communicated to the petitioner via telephone or email, whichever is preferred. If it cannot be resolved, the complainant will have the right to apply to ILBANK or the Court of First Instance, depending on a grievance.
Grievance closure	Grievances are closed within fifteen (15) Business Days as of date of application unless an alternative agreement is made with the Complainant and filling of the Grievance Close Out Form (see Annex 4 for a sample). Note that if complaints are not closed within fifteen (15) business days, the extenuating circumstances are documented and reported. It should be noted that the action is taken, and the result of this anonymously recorded grievance should be shared on the Çilimli Municipality website, so that anonymous complainants are informed about their complaint and the results.
If a complaint cannot by resolved	GRM procedure is monitored by ILBANK. This is as follows: -Lodging of grievance will be confirmed. -Grievance will be assessed by the municipality and ILBANK will be informed. -Response / redress of grievance will be communicated to petitioner by the municipality. ILBANK will monitor the municipality to run the GRM smoothly. The response time in this level is 30 days. -If cannot be resolved, petitioner will be referred to Court of First Instance.
Reporting	Ensure that all process conducted in compliance with Grievance process by responsible department The grievances will be analyzed at regular intervals to analyze the frequency of different types of complaints, who most frequently lodge complaints, and how complaints have been resolved. Such analysis may for example, reflect that there are far more complaints in relation to specific contractors, or that certain works results in comparatively many complaints, etc. Report the results to management

Table 8-3. Grievance Redress Mechanism Flow Chart for Project Personnel

Grievance Redress Process	Requirement/Action
Submission of a complaint	Receiving the grievance by any communication channel explained above. (At this point, if the grievance is a sensitive complaint involving child abuse, SEA/SH, Contractor Officer will be contacted immediately and immediate action will be taken within 48 hours after receiving the complaint.)
Registration of complaint	Registering/recording through making an entry in the grievance register table (see Annex-5 for a sample) filling of the Grievance Form to be developed by the Contractor. All the complaints will be internally registered and subsequently registered to the Municipality record via the Contractor Officer within two (2) days, and feedback will be given to the complainant. If the complainant requests that this complaint be treated anonymously, this complaint will be recorded anonymously, and the request will be met.

Grievance Redress Process	Requirement/Action
Evaluation of a complaint	Evaluate the complaints within ten (10) working days and determine whether the complaint meets the admissibility criteria. If the complaint is not valid, provide a relevant explanation to the complainant.
Responding complaints	The grievance will be assessed by the Contractor and Contractor Officer and as needed, Çilimli Municipality. The affected community representatives, such as from local CSO/NGOs and/or mukhtars will be consulted depending on the type of grievance. If needed, the grievance will be examined on-site. Response/redress of grievance will be communicated to the petitioner via telephone or email. If it cannot be resolved, the complainant will have the right to apply to ILBANK depending on a grievance.
Grievance closure	Grievances are closed within fifteen (15) Business Days as of date of application unless an alternative agreement is made with the Complainant. Note that if complaints are not closed within fifteen (15) business days, the extenuating circumstances are documented and reported to the Contractor Officer
If a complaint cannot by resolved	GRM procedure is monitored by ILBANK. This is as follows: -Lodging of grievances will be confirmed. -Grievance will be assessed by the municipality and ILBANK will be informed. -Response/redress of grievance will be communicated to the petitioner by the municipality. ILBANK will monitor the municipality to run the GRM smoothly. The response time at this level is thirty (30) days. -If it cannot be resolved, the petitioner will be referred to the Court of First Instance.
Reporting	Ensure that all processes are conducted in compliance with the Grievance process by the Contractor responsible department Contractor Officer The grievances will be analysed at regular intervals to analyse the frequency of different types of complaints, who most frequently lodges complaints, and how complaints have been resolved. Such analysis may, for example, reflect that there are far more complaints in relation to specific contractors, or that certain works result in comparatively many complaints, etc. Report the results to management

The grievances are currently categorized by the White Desk system when the grievance is received. If urgent support is required, White Desk officers offer solutions by immediately contacting the relevant departments. The officer will adopt the same approach to be assigned by the Municipality.

In cases where a long-term program is required for a satisfactory resolution, this will be discussed in detail in the registration file for specific grievances. The complainant will be informed about the new schedule for resolving the grievance.

Both the officers managing the White Desk system and the officer appointed by the Municipality to record grievances in a central system will be trained and become knowledgeable about the guidelines prepared by the WB to prevent sexual exploitation, abuse, and harassment cases for the projects financed under construction works[8]. Grievances of GBV,

[8] https://thedocs.worldbank.org/en/doc/741681582580194727-0290022020/original/ESFGoodPracticeNoteonGBVinMajorCivilWorksv2.pdf

SEA/SH can result in a culture of silence due to negative reactions from the community. To avoid this, the complainant will be assured confidentiality when raising grievances involving these issues about the project. In addition, the authorities handling the grievances should address such issues confidently and by an unbiased approach.

CM will submit reports on its environmental and social performances in the periods agreed with ILBANK, along with a summary of the grievances and how they are resolved. Besides, Grievance Register will be provided to ILBANK during quarterly monitoring studies. Further details will be given in the SEP.

9 Stakeholder Engagement

A stakeholder is defined as any individual, organization, or group 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").

A SEP will be prepared for this project to identify project stakeholders and establish engagement methods for the future of the Project. Efforts must be made to identify disadvantaged and vulnerable stakeholders who may be differentially or disproportionately affected by the Project or who may have difficulty participating in the engagement and development processes. Stakeholder identification is also an ongoing process and will require regular review and update. Further details will be given in the SEP.

This will be under the responsibility of a person from the Public Relations Unit who will be assigned for the implementation of SEP by the Sub-borrower or under the responsibility of a specifically designated person with the qualifications required to perform the task. The SEP responsible will also perform the following tasks:

- Liaise with the Supervision Consultant, the Contract Manager, the sub-borrower and Contractor Environmental and Social Expert and Occupational Health and Safety Expert
- Follow progress of the preconstruction, construction phases
- Conduct regular meetings with project parties as above to discuss outcome of the stakeholder engagement and issues emerging or likely to emerge
- Assess the effectiveness of the engagement process of the above parties and as needed revise the process

The Sub-borrower has ultimate responsibility for the implementation of this SEP. During the project activities, the Sub-borrower will keep the information below up-to-date and accessible by providing information on the development of and practices under the Project. The information will include:

- Key Project phases and schedules (e.g., obtaining permits, starting the project activities, construction schedule, etc.) as discussed in the ESMP
- Any disruption related to the project (e.g., road closures, access, and infrastructure disruptions) as discussed in the ESMP and reflected in the SEP and GRM
- Important consultations/meetings with potential consequences that may affect the community and local people (see Annex 2 for a sample consultation form), and
- EHS performance (e.g., Information about accidents, monitoring results).

The Consultation Form used during the stakeholder engagement process is provided as Annex-2 of this plan.

9.1 Announcements during the Project Activities

The Sub-borrower will notify the headman's office in the AoI two days before any possible temporary road closure during project activities. Similarly, the Sub-borrower will inform the affected local people of the future works in the Municipal building and/or on the notice platforms two (2) days in advance.

Likewise, businesses, schools and/or hospitals potentially affected by project activities will be notified of the works two days in advance. Activities will be driven by the feedback received from stakeholders so that businesses and/or services are not disrupted.

9.2 Further Stakeholder Engagement Activities

For all Category A and B subprojects proposed for the WB financing, the Borrower consults project-affected groups and local NGOs about the project's environmental aspects and takes their views into account during the EA process. The borrower initiates such consultations as early as possible. For Category B subprojects, at least one consultation with affected groups and other relevant/affected stakeholders is anticipated after the draft ESMP report is completed. This consultation will include, but is not necessarily limited to, the following topics anticipated:

- Objective of the Project,
- Social, environmental, and ecological impacts that are determined to occur upon the Project,
- Impacts and the mitigation or enhancement measures that are being implemented,
- Roles and responsibilities,
- Monitoring and management measures, and
- Information on the GRM for the Project.

Apart from that, the Sub-borrower will be responsible for engagement with stakeholders as an ongoing process throughout the life of the Project. Identifying and responding to grievances supports the development of positive relationships between projects, communities, and other stakeholders. Grievances can indicate growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved.

Internal and external stakeholders will share their opinions and grievances via a range of options such as the Sub-borrower's website, letters, and face-to-face meetings to implement the SEP.

The GRM will be advertised and announced to affected stakeholders to know the process, know they have the right to submit a grievance and understand how the mechanism will work and how their grievance will be addressed. In most cases, a grievance or complaint will be submitted

by a stakeholder or resident by phone, in writing, or by speaking with one of the company's grievances officers. Further information on the Sub-borrower's GRM is presented in Section 8.2.

9.3 Disclosure of Information and Stakeholder Engagement during the COVID-19 Process

The unprecedented nature of the COVID-19 Pandemic process implies that all elements of Project activities, including stakeholder engagement, may be affected. Given the compulsory restrictions and social distancing measures associated with COVID-19, alternative approaches to stakeholder engagement emerged in the short term.

In efforts to disseminate information, the Sub-borrower will try to communicate reliable and accurate information to all stakeholders by ensuring that the information is in a form and language that is easily understandable and culturally appropriate.

It is recommended to use the following tools to interact with stakeholders during the pandemic period if they are not limited to:

- Brochures
- E-mail
- Notice boards intended for the public
- Phone interviews and messaging
- Sub-borrower 's website

Additionally, changes in the operations of the Sub-borrower, which are caused by COVID-19 and which may have an impact on the public, will be reported accordingly. These include, but are not limited to:

- Changes in the project resulting from COVID-19
- Changes in the presentation of social development programs
- Changes in employment, procurement from local businesses, etc.
- Changes in timeframes to solve public grievances
- New or modified public awareness communication campaigns on COVID-19, which are coordinated with relevant authorities and based on the information from recognized sources such as the WHO, "Guidance to COVID-19 Outbreak Management and Working" published by Ministry of Health of Türkiye and "Interim Advice for IFC Clients on Safe Stakeholder Engagement in the Context of COVID-19" published by IFC.

Lastly, the Project will consider the new approaches shown below to engage during COVID-19 effectively.

Table 9-1. Alternative Information Disclosure and Stakeholder Engagement Measures during the COVID-19 Restrictions

Stakeholder Groups	Topics	Frequency	Methods and Materials	Lead and Supporting Responsibility
Government / Authorities • Düzce Provincial Directorate of Environment, Urbanization and Climate Change	• Updates on project activities and progress • Local procurement and employment data • Updates on social distancing restrictions and Covid-19 related measures	When necessary	Teleconference Virtual meetings Written up-to-date information Project Owner's website GRM	Sub-borrower
Municipalities / Neighborhoods • Çilimli Municipality • Ulucami, Şerefiye, Mahirağa and Topçular Neighborhoods	• Required updates on project activities and progress • Updates on social distancing restrictions and Covid-19 related measures	When necessary	Teleconference Virtual meetings Written up-to-date information Project Owner's website GRM	Sub-borrower
Internal Stakeholders • All employees	• Updates on the project progress and planning • Changes in project operational procedures and emergency response plans • Changes in occupational safety and labor conditions and (if any) guidance on access to subsidies • Measures to be taken in case of Covid-19 symptoms	When necessary	E-mail / sms to be sent to all personnel Virtual meetings Teleconference Sub-borrower 's websites Written up-to-date information	Sub-borrower, Contractor and Sub-contractor(s)

Stakeholder Groups	Topics	Frequency	Methods and Materials	Lead and Supporting Responsibility
	• Locations of centers specific to Covid-19 cases • Updates on new labor regulations regarding Covid-19 measures			

9.4 Consultation Meetings with the Municipality and Site Visits during Preparation of the ESMP

The Project site was visited on 02.11.2021 by ACE experts. A meeting was held with Civil Works Director from the CM in the Municipality building. The CM representative was informed about ACE's job description, the scope of studies to be performed, and which data will be asked during the preparation of ESMP. A second site visit was conducted on 26.04.2022.

Unofficial interviews with stakeholders who are the project's beneficiaries such as mukhtars and citizens were conducted during the site visits. They were informed about the Project and GRM. Information was gathered about their concerns and opinions. The general view about the Project was positive and no concern was raised related to the Project. There are no photographs available from the unofficial interviews. The photographs from the site visits are given in Section 2.6. In addition, phone interviews were conducted on 20.10.2022 with the headman of Ulucami neighborhood and on 07.09.2023 with the headmen of Mahirağa and Topçular neighborhoods.

9.5 Preliminary Public Participation Activities

A stakeholder consultation meeting was conducted on 4th of January 2024 after the submission of the draft ESMP of the Project to ILBANK/WB and its approval. Minutes of meeting and other information related to the meeting are presented in Annex 7. Information given in Annex 7 is also included as an annex to the SEP.

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Annex 1 EIA Exemption Letter

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

Sayı : E-96738833-220.03[202289]-3825746
Konu : İçme Suyu, Yağmur Suyu ve Pis Su Hatlarının Tamamlanması

ÇİLİMLİ BELEDİYE BAŞKANLIĞINA

İlgi : a) 06/06/2022 tarihli ve 162463 Referans No'lu Başvuru.
b) 16.05.2022 tarihli ve sayılı Çevre Düzeni Planı Görüşü.

İlgi (a) başvuru ile İlimiz Çilimli İlçesi Merkez ve Mahallelerinde Çilimli Belediye Başkanlığı tarafından yapılması planlanan "İçme Suyu, Yağmur Suyu ve Pis Su Hatlarının Tamamlanması" projesi, 25/11/2014 tarih ve 29186 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerinde yer almadığından kapsam dışı olarak değerlendirilmiştir.

İlgi (b) görüşte; "Bahse konu alanların, Çilimli Belediyesi yetki sınırları içerisinde ve onaylı Uygulama İmar Planı bulunan alanlar içerisinde yer aldığı anlaşılmaktadır. Ayrıca, söz konusu alanların, Melen Baraj Gölü Özel Hükümlerinde belirtilen koruma kuşaklarından "Uzak Mesafe Koruma Alanı-2" ve "Yaygın ve Zengin Akiferler (Alüvyon Akifer) Alanı" sınırları içerisinde kaldığı anlaşılmıştır. 1/25.000 Ölçekli Düzce Merkez İlçesi ve Yakın Çevresi Çevre Düzeni Planı Plan Hükümlerinin 5.9. maddesinde "Bu plan sınırları içerisinde ihtiyaç olması halinde güvenlik, sağlık, eğitim v.b. sosyal donatı alanları, belediye hizmet alanları, büyük kentsel yeşil alanlar, kent veya bölge/havza bütününe yönelik her türlü atık bertaraf tesisleri ve bunlarla entegre geri kazanım tesisleri, arıtma tesisleri, sosyal ve teknik alt yapı, karayolu, demiryolu, denizyolu, havaalanı, baraj, yenilenebilir enerji üretim alanları, enerji iletimi ve doğalgaz depolamasına ilişkin imar planları; bu planın koruma, gelişme ve planlama ilkelerine, İlgili kurum ve kuruluşların görüşlerine uyularak ilgili idaresince yapılır ve onaylanır. Kullanımlardan ÇED Yönetmeliği kapsamında kalanlar için "Çevresel Etki Değerlendirmesi Olumlu" veya "Çevresel Etki Değerlendirmesi Gerekli Değildir" kararının bulunması, ÇED Yönetmeliği kapsamı dışında olanlar için ise ilgili kurum ve kuruluşların uygun görüşü olması kaydı ile hazırlanacak olan imar planları çevre düzeni planı değişikliğine gerek olmaksızın ilgili idaresince hazırlanır ve onaylanır. Onaylanan planlar sayısal ortamda veri tabanına işlenmek üzere Bakanlığa gönderilir. Söz konusu tesisler/tesis alanları amacı dışında kullanılamazlar." denilmektedir. Buna göre, söz konusu alanların Çilimli Belediyesi yetki sınırları içerisinde ve onaylı Uygulama İmar Planı bulunan alanlar içerisinde kalması sebebiyle, yukarıda belirtilen tüm hususlara, anılan plan hükümlerine, Çevre Düzeni Planının ilgili hükümlerine, Melen Baraj Gölü Özel Hükümlerinin "Uzak Mesafe Koruma Alanı-2" başlığı altında belirtilen ilgili hükümlere uyularak ve konu ile ilgili kurum ve kuruluşların uygun görüşleri alınarak, mer'i mevzuat hükümleri kapsamında konu ile ilgili gerekli değerlendirmenin Çilimli Belediyesince yapılması gerekmektedir." denilmektedir.

Bu doğrultuda planlanan yatırım ile ilgili olarak ilgi (b) Çevre Düzeni Planı Görüşü ekte gönderilmekte olup; bahse konu Çevre Düzeni Planı Hükümlerine ve Melen Baraj Gölü Özel Hükümleri'nin "Uzak Mesafe Koruma Alanı-2" başlığı altında belirtilen ilgili hükümlerine uyulması, konu ile ilgili olarak ilgili Kurumların görüşünün alınması ve 5491 sayılı kanunla değişik 2872 sayılı

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: E99AD965-4659-4066-97D9-9AA247643D2B Doğrulama Adresi: https://www.turkiye.gov.tr

Hükümet Konağı Binası F - Blok Kat: 1 Merkez / DÜZCE
Tel No: (0380) 524 58 27 - (0380) 524 58 28 Faks No: (0380) 524 16 21
e-posta: duzce@csb.gov.tr İnt: https://duzce.csb.gov.tr/
Bilgi için:Ayşe ERDOĞAN
Mühendis

Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengeninbozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinize ve gereğini rica ederim.

Gürbüz SALTAŞ
Vali a.
Vali Yardımcısı

Ek: İlgi (b) görüş

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: E99AD965-4659-4066-97D9-9AA247643D2B Doğrulama Adresi: https://www.turkiye.gov.tr

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Bilgi için:Ayşe ERDOĞAN
Mühendis

Annex 2 Consultation Form

	CILIMLI MUNICIPALITY Project Code:…….. Çilimli Water and Sewage Network Construction Project
	CONSULTATION FORM

Person Filling out the Form:	Date and time:
Meeting Agenda:	Consultation Registration No:
1. CONSULTATION INFORMATION	
Interviewed Institution:	Communication Type
Name-Surname of the Interviewee:	Phone / Hotline ☐
Phone:	Face to Face Meeting ☐
Address:	Website / E-mail ☐
Email:	Other (Explain) ☐

Stakeholder Type

Public Institution ☐	PAP ☐	Private Enterprise ☐	Professional Chamber ☐	NGO ☐
Interest Groups ☐	Industry Associations ☐	Labor Unions ☐	Media ☐	University ☐

2. CONSULTATION DETAILS	
Questions about the Project:	
Project concerns/feedback:	
Responses to the views expressed above:	
Recorded by *Name-Last Name/Signature*	*Complainant* *Name-Last Name/Signature*

Annex 3 Grievance Form

	ÇİLİMLİ MUNICIPALITY Project Code:…….. Çilimli Water and Sewage Network Construction Project
	GRIEVANCE FORM

Person Filling the Form:	Date:
Interview Agenda:	Reference No:

1. INFORMATION ABOUT THE COMPLAINANT

Name Surname:	**How to receive the complaint**
Turkish ID Number:	Phone ☐
Phone:	Face to face ☐
Address:	Web-site/ E-Mail ☐
Email:	Other (Explain) ☐

Stakeholder Type

Public Institution ☐	Project Affected People ☐	Private Enterprise ☐	Trade Association ☐	NGO ☐
Interest Groups ☐	Industry Associations ☐	Workers' Union ☐	Media ☐	University ☐

2. DETAILED INFORMATION ON THE GRIEVANCE

Description of the Grievance:	
Resolution method requested by the Complainant	
Registered Person Name Surname/Signature	**Complainant Name Surname/Signature**

Annex 4 Grievance Close Out Form

	ÇİLİMLİ MUNICIPALITY Project Code:…….. Çilimli Water and Sewage Network Construction Project
	GRIEVANCE CLOSE OUT FORM
Reference No:	
1. DETERMINATION OF CORRECTIVE ACTION	
1	
2	
3	
4	
5	
Responsible Departments	
2. CLOSE OUT OF THE GRIEVANCE	
This section will be filled and signed by the Complainant in case the grievance stated in the "Grievance Registration Form" is resolved.	

Date: ...../……/……..	**Name Surname / Signature of the Person Closing the Grievance**	**Name Surname / Signature of Complainant**

Annex 5 Grievance Register Table

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

No		
1		
	Complaint Register Number	
	How Complaint is Received (Grievance Form, Community Meeting, Telephone)	
	Level of Grievance (Municipality/Utility Level, Regional)	
	Date of Complaint Received	
	Location of Complaint Received	
	Name of Person Receiving Grievance	
	Land Parcel # (If complaint is related to land)	
	Name/ Surname	Complainant Information
	ID Number	
	Telephone/ email	
	Village-District	
	Gender	
	Project Component Related to Complaint	
	Grievance Category (expropriation/land acquisition related, environmental issues, damages to structures etc.)	
	Complaint Summary	
	Grievance Status (open, closed or pending)	
	Responsible Person/Department	Action Taken
	Action Planned	
	Due Date of the Addressing the Grievance	
	Date of Action Taken	
	Supporting Documents for Grievance Closeout (bank receipt for compensation, grievance closure protocol)	

Annex 6 Chance Find Procedure

Çilimli Municipality

Çilimli Water, Stormwater and Sewerage Network Construction Project

Chance Find Procedure

1 Scope

This Chance Finds Procedure (CFP) will be implemented for the Çilimli Water, Stormwater and Sewerage Network Construction Project in order to manage any chance finds that may be encountered during the construction activities. The purpose of the CFP document is to:

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

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

- topsoil stripping
- excavation and earthworks

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

2 Legislation and Standards

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

- World Bank Operational Policy (OP 4.11) Physical Cultural Resources
- applicable Turkish laws and national standards
- other commitments to and requirements of Turkish government authorities
- other industry guidelines with which the project has committed to comply

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

- all natural assets and immovable cultural assets constructed up until the end of the 19th century,
- any immovable cultural asset from after the end of the 19th century, identified by the Ministry of Culture and Tourism as an important asset worthy of preservation,
- all immoveable cultural assets located within archeological sites,
- buildings/areas that have witnessed significant historical events during the National War and the foundation of the Turkish Republic and dwellings that have been used by Mustafa Kemal ATATÜRK, regardless of time and registration.

The Ministry of Culture and Tourism is the responsible body to take decisions for protection of cultural heritage in Turkey at the national level. As part of the Ministry, the High Commission for the Protection of Cultural Assets is responsible for protecting and restoring immovable cultural assets. Implementation of the decisions and regulations issued by the Ministry are undertaken by local administrations. At local level, there are Cultural Assets Protection Regional Boards defined by the Ministry of Culture and Tourism, which are responsible for preservation, registration and classification of cultural heritage within their respective jurisdictions. The relevant Regional Boards for the project is the "Istanbul 5th Cultural Assets Protection Regional Board Directorate and Istanbul 6th Cultural Assets Protection Regional Board Directorate".

According to Law 2863, all the natural and cultural assets qualified for legal preservation are properties of the State. Therefore, regional boards have the power and authority to provide legal protection to the preservation sites and to approve or reject all the activities which have potential negative impacts on the preservation sites such as construction, demolition and excavation activities.

3 Roles and Responsibilities

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

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

4 Impact Avoidance and Mitigation

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

- All staff involved in land clearance and excavation activities will take the responsibility for managing archaeological protection and will be trained in these aspects by the E&S Expert.
- In case any potential chance find is encountered, all construction activities will cease immediately in the vicinity of the chance find.
- The Site Manager will be contacted immediately. The discovered site location, the characteristics of the potential archaeological material and photos will be recorded by the Site Manager, who in turn will inform the E&S Expert.
- Düzce Konuralp Museum Directorate will be notified at the latest within three days after the chance find is encountered. Contact details of the Düzce Konuralp Museum Directorate are given below:
  Address: Konuralp Çiftepınarlar Mahallesi No: 50 Düzce
  Telephone: (0380) 541 37 70
  E-mail: konuralpmuzesi@ktb.gov.tr
- The site and its vicinity will be secured 24 hours a day against damage or loss, until inspection by the authority.
- The E&S Expert will fill up a "Chance Find Report Form" for each confirmed chance find and inform the Project Manager about the date that the construction work can resume, which is determined by the authorities concerning the conservation of the heritage.
- Further steps to be followed and proper plan to be implemented for the management of the finds (Changes in the layout, conservation, preservation, restoration and salvage) will be decided and reported in writing by the authorities in charge.
- Photographs of the potential artifacts that are likely to be encountered in the construction site are presented in the following pages to be used during the training of the relevant staff.

5 Verification and Monitoring

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

Çilimli Water, Stormwater and Sewerage Network Construction Project Chance Find Reporting Form		
REGISTRATION		
Name of recorder:		
Date and time of discovery:		
Site Name:	**Coordinates** **X**	**Y**
Description of find:		
Photograph numbers:		
Estimated weight and dimensions:		
CONTACT PERSON		
Name/Title/Duty:		
Date and Time:		
Contact information:		
Details of conversation:		
DECISIONS		
Any protection measures to be implemented:		
Movable or immovable: If moved, please specify the new location.		
Further actions required:		
Recommence date and time:		
Notes:		
SUBMISSION		
Name:	**Date:**	

Annex 7 Information Related to Stakeholder Consultation Meeting

Çilimli Water, Stormwater and Sewerage Network Construction Project
Public/Stakeholder Consultation Meeting Minutes
04 January 2024

The Public/Stakeholder Consultation Meeting was conducted on 4th of January 2024 at Çilimli Municipality Conference Hall. The meeting was held with the participation of 19 people. 14 out of 19 participants were employees of Cilimli Municipality, one (1) participant was an engineer at Çilimli Organized Industrial Zone, three (3) participants were citizens of neighborhoods and there was one (1) mukhtar who attended the meeting.

The meeting was announced via newspaper advertisements in Türkiye and Manşet Newspapers on 28th December 2023. The meeting was also announced through flyers placed at certain locations (such as mukthar offices, public places) by Çilimli Municipality. Çilimli Municipality informed all the project mukhtars about the date/time and location of the planned public consultation meeting.

The Draft Environmental and Social Management Plan and the Draft Stakeholder Engagement Plan were disclosed in the Çilimli Municipality website as of 22nd of December 2023.

Brochures were provided to mukhtars to be distributed to the residents in their neighborhoods. Brochures were distributed to participants during the meeting. Çilimli Municipality representatives and ACE Experts were available during the meeting. A presentation was given to the participants by ACE. The presentation covered the following main headings:

- Project Executor, Implementer and Financier
- Project Description
- Expected benefits of the Project
- Environmental and Social Studies
- Potential environmental and social impacts
- Mitigation measures and management strategies
- Stakeholder engagement and how stakeholders can be involved in the process
- Questions and answers

At the end of the meeting, there was a question/answer session. However, none of the participants raised a question. There was only one comment raised by a participant who stated that the construction of the water, storm water and sewerage network lines is an important and urgent need for the area.

The newspaper announcements, the flyer, the disclosure page of ESMP and SEP, the brochure, the presentation given at the meeting, the photographs taken during the meeting and the participant list are provided below.

Newspaper Advertisements of Public/Stakeholder Consultation Meeting

gündem
28 Aralık 2023 Perşembe
11

ERDOĞAN: NE KADAR KURUM VARSA HEPSİ SINIFTA KALDI

Netanyahu'nun Hitler'den farkı yok

Cumhurbaşkanı "Gözlerimizin önünde insanlığa ait tüm değerler kurşuna dizildi. Sizin Hitler'den ne farkınız var" diye sordu.

Cumhurbaşkanı Recep Tayyip Erdoğan, Beştepe Millet Kongre ve Kültür Merkezinde, 100. Yıl TÜBİTAK ve TÜBA Bilim Ödülleri Töreni'nde konuştu. Erdoğan, Türkiye Yüzyılı'nın inşası için bilim alanında emek veren, fikir ve yürek teri döken akademisyenlere, hocalara, araştırmacılara şükranlarını sundu. Erdoğan, 12 askerin şehit olduğu saldırıya değindi. 36 saatte 54 teröristin yok edildiğini ifade eden Erdoğan "Şehitlerimizin kanları yerde kalmayacak" dedi. İsrail'in Gaze'ye yönelik saldırılarına değinen Erdoğan, gösterilmesi alınan Filistinlilerin stadyumda teşhir edilmesine tepki gösterdi. Erdoğan açıklamalarında öne çıkanlar şöyle:

■ İçinde bulunduğumuz asrın, Allah'ın izniyle milletimizin ve devletimizin asrı olacağından zerre kadar şüphe duymuyorum. Türkiye'nin şahlanışına set çekmeyi amaçlayan menfur terör saldırılarının, kutlu yürüyüşimizi asla durduramayacağının bilinmesini istiyorum.

■ TEKNOFEST, bir teknoloji festivalinden öte bu ülkenin gençlerine öz güven aşılamış, hayallerinin önüne kimsenin geçemeyeceğini göstermiştir.

■ (Bilim insanlarına) Siz bir Türkiye ve Türkiye Yüzyılı için, insanlık için çalıştıkça endişeniz olmasın biz de sizin gibi bilim insanlarına sahip çıkacağız.

■ Siyasi, ekonomik, diplomatik, askeri olarak tam bağımsız Türkiye'yi hedefliyorsak, bilimde ve teknolojide zirveyi hedeflemek mecburiyetindeyiz.

■ Sayıları giderek artan öncül AR-GE laboratuvarlarımız, tersine beyin göçü konusunda önemli rol oynuyor.

■ (Uluslararası lider ve genç araştırmacılar programı) Şimdiye kadar 199 lider bilim insanı ülkemize geldi.

■ (İsrail'in Gazze saldırıları) BMGK'den basın kuruluşlarına, AB'den gazetecilik örgütlerine demokrasi havariliği yapan ne kadar kurum varsa hepsi sınıfta kaldı. Gözlerimizin önünde insanlığa ait tüm değerler kurşuna dizildi. Stadyumlarda İsrail'in Nazi kamplarını itiraz değil mi? Bu nasıl bir iştir?

■ Büyük laflar eden büyük bütçeler harcayan kurumların, söz konusu İsrail ve İsrail'in zulümleri olunca içlerinin tamamen boş olduğunu anladık.

■ Sizin Hitler'den ne farkınız var? Bunlar bize Hitler'i de aratacak. Bu Netanyahu'nun yaptıklarının Hitler'den geri kalır yanı var mı? Yok.

21 farklı üniversite ve araştırma kurumundan bilim insanına 7 bilim ödülü, 1 özel ödül, 1 hizmet ödülü ve 18 teşvik ödülü verildi.

15 Aralık 2023

KAPILARIMIZ SİZE AÇIKTIR

Geçtiğimiz günlerde Gaze'ye desteğini açıkladığı için Batı üniversitelerin istifaya zorladığı akademisyenleri gündeme getirerek 'Özgürlüğe açık davet' diyerek manşetten çağrıda bulunmuştuk. Benzer bir çıkışı Cumhurbaşkanı Erdoğan da yaptı: Sadece uluslararası örgütler değil, Batı'daki kerli ferli üniversiteler de Gazze soykırımına maalesef ilâs etmiştir. 80 yıl önce Nazi Almanya'sında olduğu gibi bugün de Gazze'deki zulme 'zulüm' deme cesareti gösteren bilim insanları baskıya ve tehdide maruz bırakılmaktadır. Gazze'de insanlık onurunu savunduğu için baskıya maruz kalan bilim insanlarına çağrı yapıyorum. Türk üniversitelerinin kapıları sizlere sonuna kadar açıktır.

51 VEKİLE DANIŞILACAK

81 ilin temayülü bugün bitiyor

Yerel seçim hazırlıklarını sürdüren AK Parti'de çalışmalar yoğun bir şekilde devam ediyor. 28 büyükşehrin temayülünü gerçekleştiren Cumhurbaşkanı Recep Tayyip Erdoğan, dün de Mardin ve Manisa teşkilatı ile görüştü. Böylelikle Erdoğan 30 büyükşehrin temayülünü bitirerek, aday belirleme çalışmalarında sona geldi. Erdoğan bugün de 51 ilin milletvekili ile AK Parti Genel Merkezinde görüşerek, temayül gerçekleştirecek. Erdoğan, burada milletvekillerinin görüşünü alacak. 30 büyükşehir teşkilatına uygulandığı mini temayülü 51 ilin vekillerine de uygulayacak. Vekillere bölgelerinde kimleri aday olarak görmek istedikleri sorulacak. 31 Mart 2024'te tüm il ve ilçelerde zafer hedefleyen AK Parti'de diğer partilerle ittifak görüşmeleri de devam ediyor. Edinilen bilgilere, Yeniden Refah ile görüşmeler sürerken HÜDA PAR ile temaslarda her hangi bir pürüz bulunmuyor.
Emrah Özcan AVAKARA

KÜRESEL DİPLOMASİNİN MERKEZİ OLUYORUZ

BM İstanbul'da 'eş güdüm ofisi' kuracak

Esma Altın ANKARA

Birleşmiş Milletler (BM) İstanbul'da Kalkınma Eşgüdüm Ofisi açacak. İstanbul'da kurulacak ofisle ilgili uluslararası anlaşma TBMM Dışişleri Komisyonunda kabul edildi. Kalkınma Eşgüdüm Ofisinin bölgesel temelde koordinasyonu sağlamak amacıyla dünya genelinde 5 bölgesel ofisinin olduğunu hatırlatan Dışişleri Bakan Yardımcısı Burak Akçapar "Bunlardan birisi de İstanbul. Diğer bölgesel ofisler Panama, Addis Ababa; Orta Doğu için Amman ve Bangkok" dedi. "Söz konusu ofisin kuruluşu aynı zamanda İstanbul'un New York veya Cenevre gibi bir BM merkezi hâline gelmesi vizyonumuzla da uyumlu, ona hizmet eder nitelikte" diyen Akçapar "İstanbul'da kurulacak BM Kalkınma Eşgüdüm Bölgesel Ofisi, Avrupa ve Orta Asya'da görev yapan 18 BM mukim koordinatörünü destekleyecek" bilgisini verdi. AK Parti Gaziantep Milletvekili ve Dışişleri komisyonu üyesi Ali Şahin de "Bu anlaşma Türkiye'nin, ülkemizin küresel diplomasi merkezlerinden birisi hâline gelmesi bakımından da son derece önemli ve mühim değerlendirmesinde bulunduk.

DEM PARTİ ÖNÜNDE PROTESTO

Sarı torba bıraktılar

■ Şehit ve gazi yakınları PKK'nın siyasi kolu olan DEM Parti önünde eylem yaptı. Terörü kınayan tezahüratlar yapıldığı eylemde, DEM Parti'nin terör örgütü PKK ile ilişkisine vurgu yapıldı. Genel Merkez'e sarı torba bırakıldı.

MEHMET ASLAN: İZNE GELECEKTİ, TEMELLİ GELDİ

Şehit babası oldum hain babası değilim

Irak'ın kuzeyinde Pençe-Kilit Harekât bölgesinde teröristlerle çıkan çatışmada şehit düşen piyade sözleşmeli Er Kemal Aslan'ın babası Mehmet Aslan, oğlu ile son görüşmesini anlattı. Baba Mehmet Aslan şunları söyledi: Şehidimiz ile en son konuşmamız, aynı gün oldu. Saat 14.00 civarında konuştuk. Beni görüntülü aradı. Ne yapıyorsun diye sorduğumda, 'Bugün burada yağmur ve sis var' dedi. Konuşuyorduk ama telefon tam çekmiyordu. 'Üç gündür hava açmadı' dedi. İzne gelmek istiyordu, gelemedi. Sabırlı ol, inşallah gelirsin dedim. 'Yağışlar kesilir, yollar düzelirse bana söz vermişler beni izne göndereceklerdi. Temelli izne geldi, gurur duyuyorum. Allah ondan razı olsun, en azından şehit babası oldum, hain babası değilim. Öyle olsaydım kimse buraya gelmezdi. Şu an her taraftan arıyorlar. Telefonlara yetişemiyorum.

Mehmet Aslan

Kemal Aslan

İSMAİL KAPAN
NOKTALAR
twitter.com/kapanismail
ismail.kapan@ttg.com.tr

Türkiye'nin önünü kesemeyecekler...

Bugüne kadar Türkiye'nin büyümesine, güçlenmesine set çekmek için akla hayale gelmedik kalleşliklere başvuran dış düşmanlar ve onların yerli iş birlikçileri, hedeflerine ulaşamadı. Asla ve kata ulaşamayacaklar...

Türkiye ne zaman önemli bir siyasi veya ekonomik hamle yapsa, şer güçler derhâl sabote etmek için harekete geçer... 22 ve 23 Aralık günlerinde, Irak'ın kuzeyinde askerlerimize karşı girişilen kalleş saldırı da bu çerçevede değerlendirilmeli. Türkiye Orta Doğu, Balkanlar, Kafkaslar ve Kuzey Afrika'da, bölgesel ve küresel barışa hizmet eden çok önemli bir rol oynuyor. Gelgelelim Türkiye'nin bu derece etkili olmasını bazıları hiç hazmedemiyor. Bu gerçeği on yıllardır hep görüyor ve izliyoruz. Ülkemizi kendi iç problemlerine hapsederek, sadece kendi derdleriyle meşgul ederek, uluslararası arenada önemli bir aktör olmasını önlemeye çalışıyorlar. Bunun için de fitne üstüne fitne çıkarıyorlar. Türk-Kürt, Alevi-Sünni, laik-anti laik vb. kirli tezgâhlarla, ülkemizin enerjisini çok büyük oranda bu alanlarda tüketmeye mecbur bırakıyorlar. Tam kırk yıldan beri bölücü örgüt PKK'nın, arkasındaki bölgesel ve küresel güçlerin desteğiyle memleketimize verdiği hasarın büyüklüğü ortada. Devletimizin kararlı ve başarılı mücadelesi, bölücü terör örgütü ve onu hep arkalayan çevrelerin beklentilerini boşa çıkardı. Ancak bir kısmı dost ve müttefik kisvesi çindeki güçlerin, milli birlik ve bütünlüğümüze yönelik hasmane politikaları hiç de sonlanacak gibi görünmüyor. Bu demektir ki, yakın ve uzak gelecekte, bölücülük fitnesiyle daha çetin şartlarda mücadele etme mecburiyeti doğabilir. Bunu herhangi bir karamsarlık ifadesi olarak almayın. Bilakis tehlikenin boyutlarına ve ona karşı yapmamız gereken ciddi hazırlıklara bir işarettir sadece. Daha açıkçası, bu meselede bazı büyük güçlerle doğrudan çok kritik hesaplaşmaların içine girebiliriz...

Irak'ın Kuzeyinde, Hakurk-Gara, Zap ve Metina bölgelerinde kahraman askerlerimize karşı yapılan kalleş saldırının mahiyeti, bu konuda birçok ipucu veriyor. Ele geçen silah ve malzeme net olarak adresi gösteriyor. Bu menfur hadiseden kısa bir müddet önce, Irak cenahından ülkemize; Başbakan-Dışişleri ve Savunma Bakanlığı seviyesinde ziyaretlerin gerçekleşmesi, iki ülke arasında güvenlikle ilgili çok önemli kararların alınması ve Türkiye-Irak Kalkınma Yolu projesine dair oldukça adımların atılması, birilerini fena [illegible] Hint Baharat Koridoru ile Çin'in [illegible] mahkûmdur.

Kuşak-Yol projesine engel koymaya çalışan ABD ve sürekâsının bu rahatsızlığı, değişik yer ve zamanlarda ama devamlı surette dışa vuruyor... Eylül ayı başındaki G-20 zirvesinde, birdenbire gündeme sokulan ve devamında da, İsrail Başbakanı Netanyahu'nun BM Genel Kurulu'nda; Filistin'in yer almadığı bir haritayı göstererek, "**İşte Yeni Orta Doğu...**" diye pazarlamaya devam ettiği bahse konu "**Baharat Koridoru**" (Hindistan-Orta Doğu-İsrail ve Avrupa) güzergâhıyla hayata geçirilmeye çalışılıyor. Türkiye'nin Gazze savaşında, Filistin halkının haklarına sahip çıkmak için İsrail'e karşı sergilediği nevi şahsına münhasır duruş, Siyonist çevreleri tam manasıyla çileden çıkarmış durumda. Öteden beri bölücü örgüte destek veren İsrail'in son kalleş saldırıdaki ayak izleri elbette tespit ve not edilmiş bulunmaktadır.... ABD'nin PKK ve türevlerine verdiği askerî ve siyasi destek zaten ortada. Şüphesiz sırası geldiğinde bütün bu hususlar masaya yatırılacaktır. Ama şunu peşinen bir kere daha hatırlatmakta fayda var: Planlayıcı ve uygulayıcıları kim olursa olsun, hangi bölgesel veya küresel güç olursa olsun fark etmez, Türkiye'ye karşı sahnelenen her oyunun hesabı görülür. Bunun için uygun zaman ve zemin elbette kollanmaktadır.

Cumhurbaşkanı Erdoğan'ın dün TÜBİTAK ve TÜBA Bilim Ödülleri töreninde söylediği şu sözler meselenin özetidir: "**Ekonomisiyle, ticaretiyle, teknolojisiyle, her alanda elde ettiği başarılarıyla ülkemiz bölgesel oyuncu olmaktan çıkıp küresel aktör hâline gelmektedir. Türkiye'nin şahlanışına set çekmeyi amaçlayan menfur terör saldırılarının, kutlu yürüyüşümüzü asla durduramayacağının bilinmesini istiyorum...**" Evet, düşmanlarımızı ve rakiplerimizi rahatsız eden şey de zaten Türkiye'nin bu kutlu yürüyüşüdür. Bölücü terör, kırk yılda bize çok büyük faturalar yükledi. Velakin bu faturalar ne kadar büyük olursa olsun, Türkiye'nin birlik ve bütünlüğü, parlak istikbali ve dahi bu istikbale başka milletlerin de bağladığı ümitler, asıl neticedir. Hüküm de neticeye göre verilir zaten!.. Türkiye'nin önünü kesmeye kimsenin gücü yetmeyecek. Çünkü Türkiye sahip olduğu güç ve yüce değerlerle, insanlık için eşsiz hizmetler sunuyor. Dahası insan haysiyetine, hak ve hürriyetlerine sahip çıkıyor. Hem de bunu ne zaman yapıyor? Dünya genelinde, büyük çoğunluğun maalesef, zulüm ve insanlık suçlarına, aşağılık soykırıma karşı gözünü kapatıp dilini yuttuğu bir dönemde yapıyor. Çünkü Türkiye'nin Siyonistlere de emperyalistlere de borcu yok. O sebeple bu kararlı ve haysiyetli tavrı ortaya koyabiliyor. Mağaralarda vahşi hayvanlar gibi saklanmaya çalışan teröristler ve onlara destek [illegible]

Manşet HABER 28 Aralık 2023 Perşembe 3

Düzce'de eğitimcilerin sesine kulak verilecek

Eğitimdeki sorunların asgariye düşürülmesi amacıyla bakanlık heyeti Düzce'ye gelecek. Milli Eğitim Bakanlığı, okul yöneticileri ve öğretmenlerle istişarelerde bulunulmak üzere bakan yardımcıları ve tüm genel müdürleri önümüzdeki günlerde şehre gönderecek. Merkez ve ilçelerdeki eğitim kurumlarını ziyaret edecek olan üst düzey bürokratlar, öğretmenlerin fikir ve önerilerini dinleyecek.

Milli Eğitim Bakanlığı'nın hayata geçirdiği eğitim politikalarına ilişkin başta okul yöneticileri ve öğretmenlerle istişarelerde bulunulmak üzere karşılaşılan problemleri çözüme kavuşturmak amacıyla bakan yardımcıları ile bütün genel müdürlerin katılımıyla 81 ile ziyaretler başlatıldı.Milli Eğitim Bakanı Yusuf Tekin'in talimatıyla önümüzdeki günlerde Düzce'ye gelecek olan 4 bakan yardımcısı ile 20 genel müdür, eğitim öğretim faaliyetlerine ilişkin idareci ve eğitimcilerle istişarelerde bulunacak. Toplantılarda, eğitim öğretim süreçlerinin değerlendirilmesinin yanı sıra yerelde karşılaşılan problemlerin çözüme kavuşturması için yol haritası belirlenecek.
İl ziyaretinde genel müdürler, daire başkanları ile birlikte il ve ilçe yöneticileri, okul müdürleri, öğretmen ve öğrencilerle buluşma fırsatı yakalayacak. Sınıflarda derslere katılacak olan genel müdürler, öğretmenler odasında da öğretmenler ile bir araya gelecek. Ayrıca her kademedeki yöneticilerin katılımıyla toplantılar yapılacak.
Yapılan toplantılarda yönetici ve öğretmenlerin görüş, Önerileri ve talepleri alınarak eğitim öğretime ilişkin yürütülen faaliyetler değerlendi-rilecek.Ayrıca bakanlığın yürüttüğü politikalar ve Öğretmenler Odası Buluşmaları'nda alınan kararlara bağlı olarak yapılan değişiklikler ile gerek yerel gerekse ulusal düzeyde yapılabilecekler üzerine görüş alışverişinde bulunulacak.
Haber:Canan Üstüner

Sinema öğrencilerinden başarı

Düzce Üniversitesi Sanat, Tasarım ve Mimarlık Fakültesi Radyo, Televizyon ve Sinema Bölümü 4. Sınıf öğrencisi Güner Tuncer, bitirme projesi kapsamında Dr. Öğr. Üyesi Mehmet Emrah Erkanı danışmanlığında gerçekleştirdiği "Mola" isimli kısa filmiyle İstanbul, Ankara ve İzmir'de düzenlenen festivallere damga vurdu. Güner Tuncer'in filmi Mola, 15-17 Aralık 2023 tarihlerinde Ankara'da düzenlenen 7. Afsad Uluslararası Kısa Film Festivali'nden Jüri Özel Ödülü ile dönerken, Yeditepe Üniversitesi ile Ay Yapım ortaklığında İstanbul'da düzenlenen 3. Luma Kısa Film Festivali'nde Finalist olma başarısı gösterdi. Festival kapsamında İstanbullu sinemaseverlerin beğenisine sunulan filmin bir diğer başarısı ise İzmir'den geldi. Mola, Uluslararası 3. Bornova Kısa Film Günleri'ne seçilerek, Kurmaca Film Seçkisi başlığı altında 15-17 Aralık 2023 tarihleri arasında İzmir'de izleyicilerin beğenisine sunuldu.Radyo, Televizyon ve Sinema Bölümü 4. sınıf öğrencisi Duhan Kavakoğlu'nun yönetmenliğini yaptığı "Şikar" adlı kısa film ise, 2. Kocaeli Film Festivali kapsamında Öğrenci Filmleri gösterdi. Duhan Kavakoğlu'nun filmi, 3-9

Kasım 2023 tarihleri arasında Kocaeli'de gösterime girdi.Radyo, Televizyon ve Sinema Bölümü ilk mezunlarımızdan ve bölümümüzü birincilik derecesiyle tamamlayan Aslı Şura Akyol'un kısa filmi İş'sizlik Kapısı, 24. Randevu İstanbul Uluslararası Film Festivali kapsamında 22 Aralık 2023 tarihinde Taksim AKM Yeşilçam Sinemasi'nda gösterime girdi. Film, Dr. Öğr. Üyesi Mehmet Emrah Erkanı ve Öğr. Gör. Turgay danışmanlığında 2022 yılı TÜRSAK 19. Geleceğin Sinemasi'na seçilen finalist projeler arasında yer almıştı. Filmin kurgusu Arş. Gör. Korhan Topcu tarafından gerçekleştirilirken, projede lisans ve yüksek lisans öğrencileri aktif görev aldılar.Çekimleri Düzce'de gerçekleştirilen üç filmde de Sanat, Tasarım ve Mimarlık Fakültesi Radyo, Televizyon ve Sinema Bölümü öğrencileri ve akademisyenleri aktif rol üstlendiler. Dr. Öğr. Üyesi Mehmet Emrah Erkanı'nın ortak yapımcısı olduğu film Mola'nın sanat yönetmenliğini Arş. Gör. Korhan Topcu üstlenirken, Duhan Kavakoğlu'nun filmi Şikar'ın ekipman desteği Dr. Öğr. Üyesi Evren Günevi Uslu ve Öğr. Gör. Murat Uslu tarafından sağlandı.Kaynak:Düzce Belediyesi

Ek ödenek konulması talebi kabul edildi

Düzce Belediye Meclisi aralık ayı toplantılarının tamamlanmasının ardından olağanüstü toplantıda bir araya geldi.
Kabul edilen ek ödenek konulması talebi başta olmak üzere 3 gündem maddesi meclis üyelerinin oyları ile karara bağlandı.
Düzce Belediyesi'nden yapılan açıklamaya göre, Düzce Belediyesi Meclisi aralık ayı 4 birleşimi olağanüstü toplantı şeklinde 3 gündem maddesinin görüşülmesi ile gerçekleştirildi. Meclisin ilk gündem maddesinde ek ödenek konulması talebi meclis üyeleri tarafından kabul edildi.
Meclis, aralık ayı toplantılarının tamamlanmasının ardından gerçekleştirilen ikinci olağanüstü toplantıda başkanvekili Hüdaver Gösterişli başkanlığında bir araya gelirken, ilk olarak bir önceki meclis toplantısının tutanak özeti oylandı. Tutanak özetinin oy birliği ile kabul edilmesinin ardından geçilen, gündem maddelerinde ilk olarak, ek ödenek konulması talebi meclis üyeleri ile paylaşıldı.
Yapılan oylamada madde kabul edilirken, ikinci gündem maddesinde Çerkeztaşköprü ve Kadıoğlu mahalleleri sınırları içinde kalan alana yönelik kamu, yararı kararı maddesi görüşülerek karara bağlandı.
Olağanüstü toplantın son gündem maddesinde ise Akyazı, Kirazlı, Otluoğlu ve Taşköprü köylerinin belediye sınırları içerisine katılması meclis üyelerinin oylamasının ardından kabul edildi.
Meclisin bir sonraki toplantısı 2 Ocak 2024 Salı günü saat 18.00'da yapılacak.
Kaynak:Düzce Belediyesi

Çilimli Jeotermal Kuyu Sondajı Projesi
Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi
ÇİLİMLİ BELEDİYE BAŞKANLIĞI

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISINA DAVET

İller Bankası Sürdürülebilir Şehirler Projesi-II Ek Finansman kapsamında T.C. Çilimli Belediyesi tarafından yapılması planlanan "Çilimli Jeotermal Kuyu Sondajı Projesi" ve "Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi" için Çevresel ve Sosyal Yönetim Planı çalışmaları ile ilgili olarak halkı bilgilendirmek, halkın görüş ve önerilerini almak üzere aşağıda detayları verilen "Halkın Bilgilendirilmesi ve Katılımı Toplantısı" düzenlenecektir.
Tüm halkımıza saygıyla duyurulur.

T.C. Çilimli Belediyesi
Toplantı Tarihi : 04.01.2024
Toplantı Saati : 11:00
Toplantı Yeri : T.C. Çilimli Belediye Başkanlığı Hizmet Binası Konferans Salonu
Proje Sahibi : T.C. Çilimli Belediye Başkanlığı
Tel: +90 (380) 681 50 04- Fax: +90 (380) 681 66 66 - E-posta: bilgi@cilimli.bel.tr

'Resmi ilanlar: www.ilan.gov.tr'de (Basın:01958231) (Www.bik.gov.tr)

Flyer for Public Informing about the Public/Stakeholder Consultation Meeting

Çilimli Jeotermal Kuyu Sondajı Projesi
Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISINA DAVET

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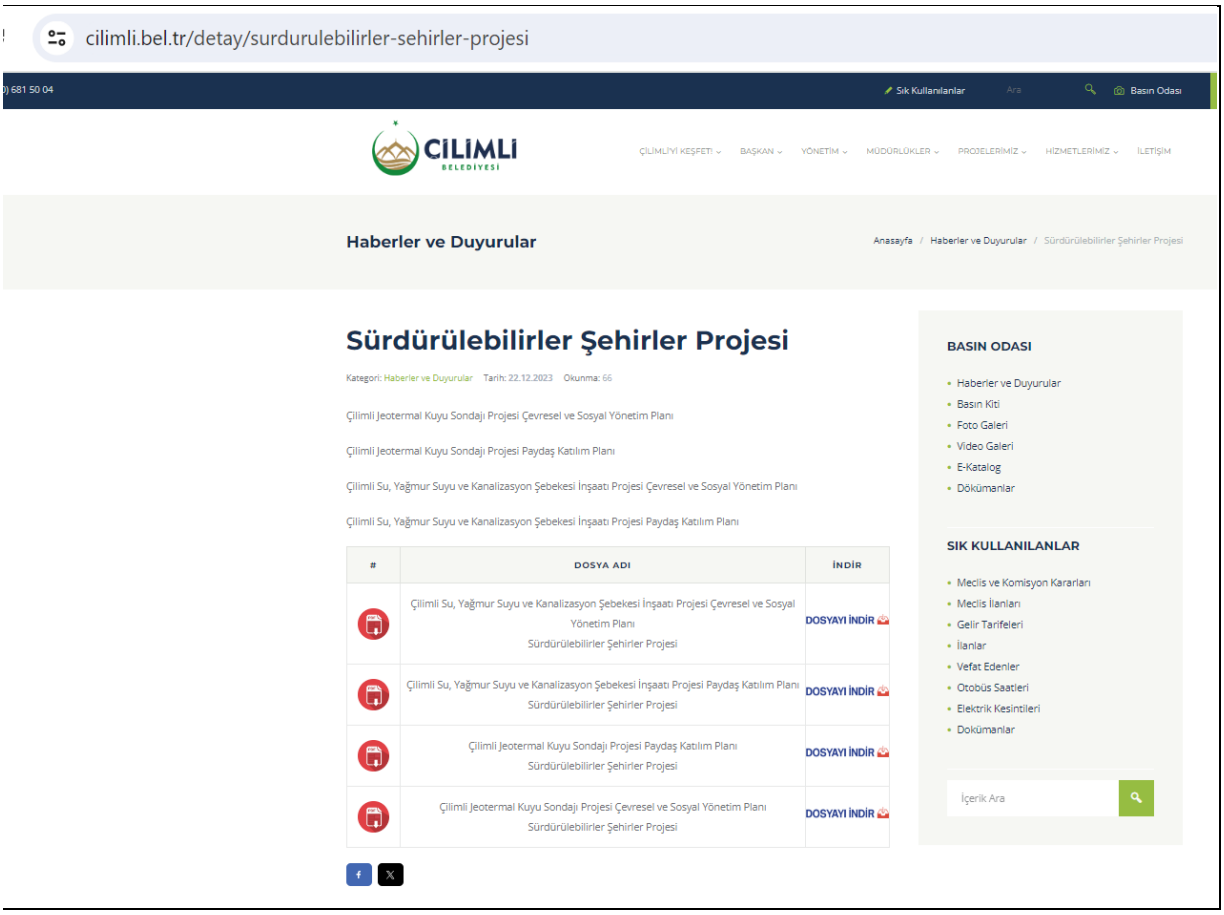
Tel: +90 (380) 681 50 04- Fax: +90 (380) 681 66 66- E-posta: bilgi@cilimli.bel.tr

Çilimli Municipality Website - Disclosure Page for ESMP and SEP



This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

Project Information Brochure

ÇSYP'de inşaat öncesi dönem, inşaat ve işletme aşamaları dikkate alınarak tüm potansiyel etkiler için etki azaltma planları ve izleme planları hazırlanmıştır. Çilimli Belediyesi, proje faaliyetlerinin çevresel ve sosyal etkilerini, ilgili ulusal mevzuat ve uluslararası standartları da dikkate alarak izleyecek ve raporlayacaktır.

ÇSYP'nin uygulanmasından sorumlu ana kurum Çilimli Belediyesi'dir. Projenin sorumlu tarafları arasında Çilimli Belediyesi tarafından açılacak ihale süreci ile belirlenecek ve İller Bankası A.Ş. tarafından onaylanacak olan Denetim Danışmanı ve proje faaliyetlerinin uygulanması için ihalenin verileceği Yüklenici'de olacaktır.

Paydaş Katılımı ve Şikayet Mekanizması

Projenin paydaşlarının belirlenmesi, paydaşlarla katılım yöntemlerinin tanımlanması ve Çilimli Belediyesi ile paydaşlar, etkilenen topluluklar ve ilgili gruplar arasında bir diyalog kurulması ve bu diyaloğun korunmasını amaçlayan bir Paydaş Katılım Planı (PKP) hazırlanmıştır.

Projenin inşaat ve işletme aşamalarında tüm paydaşların görüşlerini, endişelerini, şikayetlerini ve önerilerini almak üzere bir Şikayet Mekanizması kurulacaktır. Bu mekanizma aracılığı ile iletilen şikayetler, hızlı ve hassas bir şekilde ele alınacaktır. Şikayet mekanizmasının kurulmasından ve uygulanmasından Çilimli Belediyesi sorumlu olacaktır.

Paydaşlar, şikayetlerini ve görüşlerini aşağıda belirtilen kanallar aracılığıyla iletebileceklerdir:

- **Paydaş Katılım Toplantıları**
- **T.C. Çilimli Belediyesi**

  İnternet sitesi: https://www.cilimli.bel.tr/
  E-posta: bilgi@cilimli.bel.tr
  Telefon: +90 380 681 50 04
  Resmi yazışma adresi: Ulucami Mah. Pazaryeri Sk. No: 01 Çilimli / DÜZCE
- **İller Bankası A.Ş.**

  İnternet sitesi: https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi
  E-posta: bilguidb@ibank.gov.tr ve etkuidb@ilbank.gov.tr
  Telefon : +90 312 508 79 79
  Resmi yazışma adresi: İLBANK Uluslararası İlişkiler Dairesi, ŞÇM Ekibi Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA
- **Cumhurbaşkanlığı İletişim Merkezi (CİMER)**

  İnternet sitesi: www.cimer.gov.tr
  Çağrı Merkezi: 150
  Telefon numarası: +90 312 525 55 55
  Faks numarası: +90 312 473 64 94
  E-posta: cumhurbaskanligi@tcbb.gov.tr
  Resmi Yazışma Adresi: T.C. İletişim Başkanlığı Kızılırmak Mah. Mevlana Bulvarı No:144 Çankaya/ANKARA

This project is co-funded by the European Union, the Republic of Turkey and the World Bank
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir

SÜRDÜRÜLEBİLİR ŞEHİRLER PROJESİ-II Ek Finansman

ÇİLİMLİ SU, YAĞMUR SUYU VE KANALİZASYON ŞEBEKESİ İNŞAATI PROJESİ

BİLGİLENDİRME BROŞÜRÜ

ÇİLİMLİ BELEDİYESİ

ARALIK 2023

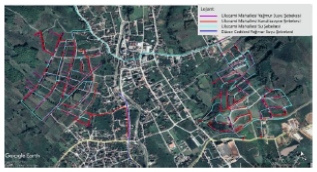
ACE

Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi (Proje), Dünya Bankası desteği ile İller Bankası A.Ş. tarafından şehirlerdeki sürdürülebilir kalkınmayı desteklemek için yürütülen Sürdürülebilir Şehirler Projesi-II-Ek Finansman (SŞP-II-EF) programı kapsamındaki alt projelerden biridir.

Proje, Dünya Bankası tarafından finanse edilecek olup, İller Bankası A.Ş. aracılığı ile T.C. Çilimli Belediyesi tarafından yürütülecektir.

Proje, Çilimli İlçesi Ulucami Mahallesinin su, yağmur suyu ve kanalizasyon şebekesinin inşaatını ve işletilmesini içerecektir. Yağmursuyu şebekesi, Çilimli İlçesinin Şerefiye, Mahirağa ve Topçular mahallelerine de uzanmaktadır. Proje, Çilimli İlçesi Ulucami Mahallesinde 18.016 m su şebekesi, 15.560 m yağmursuyu şebekesi ve 28.163 m kanalizasyon şebekesi inşaatı ile Ulucami, Şerefiye, Mahirağa ve Topçular mahallelerinden geçen Düzce Caddesi üzerindeki 10.105 m yağmursuyu şebekesi olmak üzere, toplamda 71.844 m'lik su, kanalizasyon ve yağmursuyu şebekesi inşaatı ve işletmesini içerecektir.

Proje, imar planındaki mevcut yollar üzerine inşa edilecek olup, Proje ile ilgili herhangi bir kamulaştırma/yeniden yerleşim olmayacaktır.



Şekil 1. Projenin Boru Şebekesinin Dağılımı - Ulucami Mahallesinin Yakından Görünümü

Su, yağmur suyu ve kanalizasyon şebekesi inşaatı projeleri ÇED Yönetmeliği kapsamına girmediğinden, Proje Düzce Çevre, Şehirclik ve İklim Değişikliği İl Müdürlüğü tarafından kapsam dışı olarak değerlendirilmiştir.

Kesin proje takvimi henüz belli değildir. Proje aşamalarının yaklaşık süreleri tasarımın gözden geçirilmesi ve revizyonları ile ilgili denetim danışmanı seçimi için 6-9 ay; ihale hazırlığı, ihale ve değerlendirme süreci için 4-6 ay; sözleşmenin imzalanması ve inşaat için 18 ay ve kusur bildirme dönemi için 6-9 aydır.

İnşaat aşamasında çalışacak olan net işçi sayısı ihale aşamasından sonra belirlenecektir. İnşaat aşamasında yaklaşık 20 kişinin çalışması beklenmektedir. İşletme aşamasında sürekli olarak çalışacak ilave personel bulunmayacak, ancak bakım ve onarım olması durumunda sahada çalışanlar bulunacaktır.

Proje, ulusal mevzuat ve Dünya Bankası koruma önlemi politikaları ile uyumlu olarak yönetilecektir.

Çevresel ve Sosyal Yönetim Planı

Projenin inşaat ve işletme faaliyetlerinin çevresel ve sosyal etkilerinin olması beklenmektedir. Projenin potansiyel çevresel ve sosyal etkilerini ve ilgili etki azaltma önlemlerini belirlemek amacıyla bir Çevresel ve Sosyal Yönetim Planı (ÇSYP) geliştirilmiştir.

Projenin inşaat aşamasındaki ana potansiyel çevresel ve sosyal, iş sağlığı ve güvenliği, halk sağlığı ve güvenliği etkileri/riskleri; kazı toprağı ve atık oluşumu, hava/gürültü emisyonları, trafik güvenliği, ulaşım güvenliği, yaya güvenliği ve iş olayları/kazaları olarak belirlenmiştir. İşletme aşaması etkileri/riskleri inşaat aşamasına benzer olacaktır ve bakım/onarım işleri boru hattı onarım işlerini içerecektir. Ek işletme aşaması çevresel ve sosyal etkiler/riskler Çilimli Belediyesi tarafından yürütülen rutin işletme faaliyetleriyle ve Çilimli Belediyesi çalışanlarının sağlık ve güvenlik riskleriyle ilgili olacaktır.

Presentation Given in the Public/Stakeholder Consultation Meeting

SÜRDÜRÜLEBİLİR ŞEHİRLER PROJESİ-II Ek Finansman

ÇİLİMLİ SU, YAĞMUR SUYU VE KANALİZASYON ŞEBEKESİ İNŞAATI PROJESİ

Halkın Bilgilendirilmesi ve Katılımı Toplantısına Hoşgeldiniz

04.01.2024

1

Kapsam / Gündem

- Proje Yürütücüsü, Uygulayıcısı ve Finansörü kimdir?
- Projenin Tanıtımı
- Projenin beklenen faydaları nelerdir?
- Çevre ve Sosyal Çalışmalar nedir?
  - ➢Olası çevresel ve sosyal etkiler
  - ➢Etki Azaltıcı Önlemler ve Yönetim Stratejileri
- Paydaş Katılımı
  - ➢Sürece Nasıl Dahil Olabilirsiniz?
- Sorular ve Cevaplar (Proje ile ilgili soru, beklenti, görüş ve öneriler)

2

Proje Yürütücüsü, Uygulayıcısı ve Finansörü

İLBANK	CİLİMLİ BELEDİYESİ	THE WORLD BANK
Proje Yürütücüsü	Proje Uygulayıcısı	Proje Finansörü

3

Projenin Tanıtımı

- Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi (Proje), Dünya Bankası desteği ile İller Bankası A.Ş. tarafından şehirlerdeki sürdürülebilir kalkınmayı desteklemek için yürütülen Sürdürülebilir Şehirler Projesi-II-Ek Finansman (SŞP-II-EF) programı kapsamındaki alt projelerden biridir.
- Proje, Çilimli İlçesi Ulucami Mahallesinin su, yağmur suyu ve kanalizasyon şebekesinin inşaatını ve işletilmesini içerecektir.
- Yağmursuyu şebekesi, Çilimli İlçesinin Şerefiye, Mahiraǧa ve Topçular mahallelerine de uzanmaktadır.
- Proje, Çilimli İlçesi Ulucami Mahallesinde **18.016 m su şebekesi**, **15.560 m yağmursuyu şebekesi** ve **28.163 m kanalizasyon şebekesi** inşaatı ile Ulucami, Şerefiye, Mahiraǧa ve Topçular mahallelerinden geçen Düzce Caddesi üzerindeki **10.105 m yağmursuyu şebekesi** olmak üzere, **toplamda 71.844 m'lik** su, kanalizasyon ve yağmursuyu şebekesi inşaatı ve işletmesini içerecektir.

4

Projenin Tanıtımı

- Su, yağmur suyu ve kanalizasyon şebekesi inşaatı projeleri ÇED Yönetmeliği kapsamına girmediğinden, Proje Düzce Çevre, Şehirclik ve İklim Değişikliği İl Müdürlüğü tarafından kapsam dışı olarak değerlendirilmiştir.
- Kesin proje takvimi henüz belli değildir. Proje aşamalarının yaklaşık süreleri tasarımın gözden geçirilmesi ve revizyonları ile ilgili denetim danışmanı seçimi için 6-9 ay; ihale hazırlığı, ihale ve değerlendirme süreci için 4-6 ay; sözleşmenin imzalanması ve inşaat için 18 ay ve kusur bildirme dönemi için 6-9 aydır.
- İnşaat aşamasında çalışacak olan net işçi sayısı ihale aşamasından sonra belirlenecektir. İnşaat aşamasında yaklaşık 20 kişinin çalışması beklenmektedir. İşletme aşamasında sürekli olarak çalışacak ilave personel bulunmayacak, ancak bakım ve onarım olması durumunda sahada çalışanlar bulunacaktır.

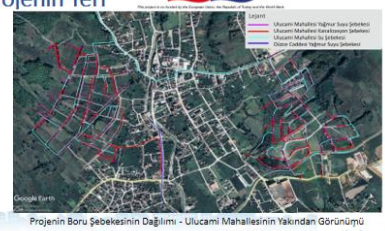
5

Projenin Yeri

Projenin Boru Şebekesinin Dağılımı

6

Projenin Yeri



Projenin Boru Şebekesinin Dağılımı - Ulucami Mahallesinin Yakından Görünümü

7

Projenin Amacı

- Proje, su ve atıksu hizmetlerinin kalitesini iyileştirmek, güvenli içme suyuna erişimi güvenceye almak, su kaynaklarını korumak ve yağmursuyu hizmetlerini iyileştirmek için su kaynaklarının entegre ve sürdürülebilir yönetimini sağlamayı amaçlar.

8

Proje Arazileri

- Proje, imar planındaki mevcut yollar üzerine inşa edilecek olup, Proje ile ilgili herhangi bir kamulaştırma/yeniden yerleşim olmayacaktır.

9

Çevresel ve Sosyal Yönetim Planı (ÇSYP)

- Projenin inşaat ve sondaj faaliyetleri ile ilgili olarak potansiyel çevresel ve sosyal risklerini ve etkilerini (fiziksel, doğal, kültürel, sosyal ve sosyo-ekonomik çevre üzerine etkiler/riskler) ve ilgili etki azaltma önlemlerini belirlemek amacıyla bir Çevresel ve Sosyal Yönetim Planı (ÇSYP) geliştirilmiştir.
- ÇSYP çalışması ACE Danışmanlık ve Mühendislik A.Ş. tarafından yürütülmüştür.
- ÇSYP'de inşaat öncesi dönem, inşaat aşaması ve işletme aşaması dikkate alınarak tüm potansiyel etkiler için etki azaltma planları ve izleme planları hazırlanmıştır. Çilimli Belediyesi, proje faaliyetlerinin çevresel ve sosyal etkilerini, ilgili ulusal mevzuat ve uluslararası standartları da dikkate alarak izleyecek ve raporlayacaktır.
- ÇSYP'nin uygulanmasından sorumlu ana kurum Çilimli Belediyesi'dir. Projenin sorumlu tarafları arasında Çilimli Belediyesi tarafından açılacak ihale süreci ile belirlenecek ve İller Bankası A.Ş. tarafından onaylanacak olan Denetim Danışmanı ve proje faaliyetlerinin uygulanması için ihalenin verileceği Yüklenici'de olacaktır.

10

Toprak Ortamı — Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

Olası Etkiler

- Üst toprağın sıyrılması, hafriyat ve dolgu faaliyetleri
- Yağmurlu havada hendeğin veya kazı alanının kenarlarında bulunan kazı veya dolgu setlerinin erozyona maruz kalma ihtimali
- Kaza veya arıza sebebiyle iş makineleri ve araçlardan yağ ve yakıt sızıntısı ve toprak kirliliği riski

Alınacak Önlemler

- Üst Toprak Yönetim Planı hazırlanacak ve uygulanacaktır.
- Erozyon Kontrol Prosedürü hazırlanacak ve uygulanacaktır.
- Kimyasal ve Tehlikeli Madde Yönetim Planı hazırlanacak ve uygulanacaktır.
- Şiddetli yağış dönemlerinde çalışma yapmaktan mümkün olduğunca kaçınılacaktır.
- Geri dolgu işleminde kullanılmayan hafriyat atıkları Belediye tarafından belirlenen lisanslı hafriyat atığı depolama alanlarından birine taşınacaktır.
- Olası dökülmeleri önlemek için, tüm tehlikeli maddeler, ikinci bir muhafaza ile belirlenmiş alanlarda depolanacak ve yetkili personel tarafından taşınacaktır.

11

Hava Kalitesi ve Gürültü — Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

Olası Etkiler

- Boru hendeklerinin kazı ve dolgu işlemleri sırasında toz ve egzoz emisyonları oluşumu
- İnşaat aşamasında hendek kazıları ve iş makineleri kullanımı sırasında gürültü oluşumu

Alınacak Önlemler

- Egzoz emisyonlarını önlemek için inşaat ekipmanı/makineleri ve araçların düzenli kontrolleri ve bakımı yapılacaktır.
- Doldurma, boşaltma ve aktarma işleri sırasında toz oluşumunu önlemek için kamyonların üzeri kapatılacaktır.
- Yollar düzenli olarak sulanacaktır.
- İnşaat çalışmaları gündüz saatlerinde gerçekleştirilecektir.
- İnşaat ekipmanları aynı anda çalıştırılmayacaktır.
- Hava Emisyonları Yönetim Planı hazırlanacak ve uygulanacaktır.
- Gürültü ve Titreşim Yönetim Planı" hazırlanacak ve uygulanacaktır.

12

Su Kaynakları — Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

Olası Etkiler

- Proje alanından geçen bir dere (Akdere) vardır. Dere geçişi, dere altında beton gömleklerle yapılacaktır. Düzce Caddesinde Projenin yağmur suyu şebekesiyle kesişen bir sulama kanalı da vardır. Etki azaltma önlemleri alınmadığı takdirde inşaat faaliyetleri ve işletme sırasındaki bakım/onarım faaliyetleri su kalitesi üzerinde olumsuz etkiler yaratabilir.

Alınacak Önlemler

- Dere Geçiş Prosedürü hazırlanacak ve uygulanacaktır.
- İnşaat sırasında Akdere Deresinde, Yerüstü Suları Kalitesi Yönetmeliği'nde ortaya konan parametrelere uygun olarak periyodik yerüstü suyu kalitesi izleme çalışmaları yapılacaktır.
- Deredeki çalışma alanının boyutu azaltılacak ve mümkün olduğu kadar sınırlandırılacaktır.
- Deredeki su akışı tümüyle engellenmeyecektir ve akışın devamlılığı mümkün olduğu kadar korunacaktır.
- Çilimli Belediyesi sulama kanalı için geçiş yöntemine ilgili Devlet Su İşleri Müdürlüğüyle irtibata geçerek karar verecektir.
- Sulama Kanalı Geçiş Prosedürü hazırlanacak ve uygulanacaktır.

13

Atık Oluşumu — Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

Olası Etkiler

- Hendek kazılarından kaynaklı hafriyat atığı oluşumu
- Çalışanlardan kaynaklı evsel katı atık oluşumu
- İnşaat ve işletme aşamalarında sırasıyla inşaat ve bakım/onarım sahalarında atık akümülatörler, atık yağ ve atık lastikler gibi araçlar ve makinelerin bakımından dolayı tehlikeli ve özel atıkların oluşumu

Alınacak Önlemler

- Atık Yönetim Planı hazırlanacak ve uygulanacaktır.
- Oluşacak atıklar belirlenmiş geçici depolama sahalarında çevreye zararı olmayacak şekilde, atıkların sınıfları belirlenecek şekilde (geri kazanılabilir, tehlikeli, inört, tehlikesiz vb.), geçici olarak depolanacaktır.
- Tüm atıklar kategorilerine göre lisanslı taşıyıcılar ile lisanslı bertaraf/geri kazanım tesislerine iletilecektir.

14

Trafik — Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

Olası Etkiler

- Gerçekleşecek inşaat faaliyetleri sebebiyle trafiğin aksaması
- İnşaat aşamasında, kamyon hareketleri ve olası yol kapatılması sebebiyle trafik yoğunluğunun artma ihtimali.
- Çalışanlar ve yayaların kaza yapma ihtimali

Alınacak Önlemler

- İhtiyaç olması halinde yolların kapatılmasından önce halka bilgi verilecektir. Yollarda gerekli işaretler yerleştirilecektir.
- Araçlara alternatif yollar sunulacak ve bir bölge tamamen kapatılmayacktır.
- Tüm ağır yük taşıtlarına sesli geri vites uyarısı takılacaktır.
- Çalışma sırasında trafik akışını kontrol etmek için yüklenici/tedarikçi uygun denetimi sağlayacaktır.
- Halk üzerinde muhtemel olumsuz etkileri en aza indirmek için inşaat sahasına izinsiz girişi engelleyecek önlemler (çit, uyarı levhaları vb.) alınacaktır.

15

Çalışma Koşulları, İş Sağlığı ve Güvenliği, Toplum Sağlığı ve Güvenliği — Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

Olası Etkiler

- Çalışma koşulları ve çalışan yönetimi ile ilgili riskler ve etkiler
- İş Sağlığı ve Güvenliği ile ilgili riskler ve etkiler
- Toplum Sağlığı, Güvenliği ve Emniyeti ile ilgili riskler ve etkiler

Alınacak Önlemler

- İnşaat aşaması boyunca, İş Kanunu kapsamında işgücü ve çalışma koşulları ile ilgili olarak yayınlanan tüm yönetmelik, usul ve esaslara uyulacaktır.
- İşçilere iş tanımını ve çalışma saatleri, maaşlar ve hakları ve yükümlülükleri hakkında bilgileri içeren yazılı bir sözleşme verilecektir.
- Sahaya özgü İSG Yönetim Planı ve Prosedürleri hazırlanacak ve uygulanacaktır.
- Yapılacak tüm çalışmalar için Risk Değerlendirmesi Raporları hazırlanacak, belirlenen risklerden kaçınmak için gerekli önlemler alınacaktır.
- Trafik yönetimi ile ilgili konuları da içeren Halk Sağlığı, Güvenliği ve Emniyeti Yönetim Planı hazırlanacak ve uygulanacaktır.

16

Biyoçeşitlilik – Korunan Alanlar

Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

- Proje Sahası herhangi bir doğal yaşam alanı veya korunan alan içerisinde yer almamaktadır.
- Etki Alanı içerisinde uluslararası düzeyde kabul görmüş yüksek biyoçeşitlilik değerine sahip herhangi bir alan (Dünya Mirası Doğal Sit Alanları, Biyosfer Rezervleri, Uluslararası Öneme Sahip Ramsar Sulak Alanları, Önemli Biyoçeşitlilik Alanları, Önemli Kuş Alanları ve Sıfır Yok Oluş İttifakı sahaları gibi) bulunmamaktadır.
- Mevcut yollar üzerinde yürütülecek inşaat işleri sebebiyle biyolojik çeşitlilik üzerinde herhangi önemli bir etki olması beklenmemektedir.

17

Kültürel Miras

Çevresel ve Sosyal Etkiler ve Etki Azaltma Önlemleri

- Proje alanı içerisinde herhangi bir arkeolojik alan bulunmamaktadır.
- Proje kapsamında ilk adım olarak proje alanının arazi düzenleme faaliyetlerini kapsayan hafriyat işleri yapılacağından, inşaat aşamasının bu etabında bir kültür varlığına rastlanma olasılığı bulunmaktadır.
- Her türlü rastlantısal buluntu için inşaat sırasında bir rastlantısal buluntu prosedürü mevcut olacak ve buna göre ilgili makamlar bilgilendirilecek ve mevcut kılavuz ilkeler ve kurallara uyulacaktır.

18

Paydaş Katılımı

- Projenin paydaşlarının belirlenmesi, paydaşlarla katılım yöntemlerinin tanımlanması ve Çilimli Belediyesi ile paydaşlar, etkilenen topluluklar ve ilgili gruplar arasında bir diyalog kurulması ve bu diyaloğun korunmasını amaçlayan bir Paydaş Katılım Planı (PKP) hazırlanmıştır.
- Projenin inşaat, sondaj ve kapatma aşamalarında tüm paydaşların görüşlerini, endişelerini, şikayetlerini ve önerilerini almak üzere bir Şikayet Mekanizması kurulacaktır.

19

Paydaş Katılımı

Paydaşlar, şikayetlerini ve görüşlerini aşağıda belirtilen kanallar aracılığıyla iletebileceklerdir:

- **Paydaş Katılım Toplantıları sırasında**
- **Şikayet mekanizmasını kullanarak**
- **T.C. Çilimli Belediyesi**
  İnternet sitesi:https://www.cilimli.bel.tr/
  E-posta: bilgi@cilimli.bel.tr
  Telefon: +90 380 681 50 04
  Resmi yazışma adresi: Ulucami Mah. Pazaryeri Sk. No: 01 Çilimli / DÜZCE
- **İller Bankası A.Ş.**
  İnternet sitesi: https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi
  E-posta: bilgiidb@ibank.gov.tr ve etkiidb@ilbank.gov.tr
  Telefon : +90 312 508 79 79
  Resmi yazışma adresi: İLBANK Uluslararası İlişkiler Dairesi, ŞÇM Ekibi Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA

20

Paydaş Katılımı

Paydaşlar, şikayetlerini ve görüşlerini aşağıda belirtilen kanallar aracılığıyla iletebileceklerdir:

- **Cumhurbaşkanlığı İletişim Merkezi (CİMER)**
  İnternet sitesi: www.cimer.gov.tr
  Çağrı Merkezi: 150
  Telefon numarası: +90 312 525 55 55
  Faks numarası: +90 312 473 64 94
  E-posta: cumhurbaskanligi@tcbb.gov.tr
  Resmi Yazışma Adresi: T.C. İletişim Başkanlığı Kızılırmak Mah. Mevlana Bulvarı No:144 Çankaya/ANKARA
- **Yabancılar İletişim Merkezi (YİMER)**
  İnternet sitesi : www.yimer.gov.tr
  Çağrı Merkezi : 157
  Telefon numarası : +90 312 5157 11 22
  Faks numarası : +90 312 920 06 09
  E-mail: yimer@goc.gov.tr
  Resmi Yazışma Adresi: Türkiye Cumhuriyeti, Göç Yönetimi Genel Müdürlüğü, Çamlıca Mahallesi 122. Sokak No: 4 Yenimahalle/ANKARA

21

SÜRDÜRÜLEBİLİR ŞEHİRLER PROJESİ-II Ek Finansman

ÇİLİMLİ SU, YAĞMUR SUYU VE KANALİZASYON ŞEBEKESİ İNŞAATI PROJESİ

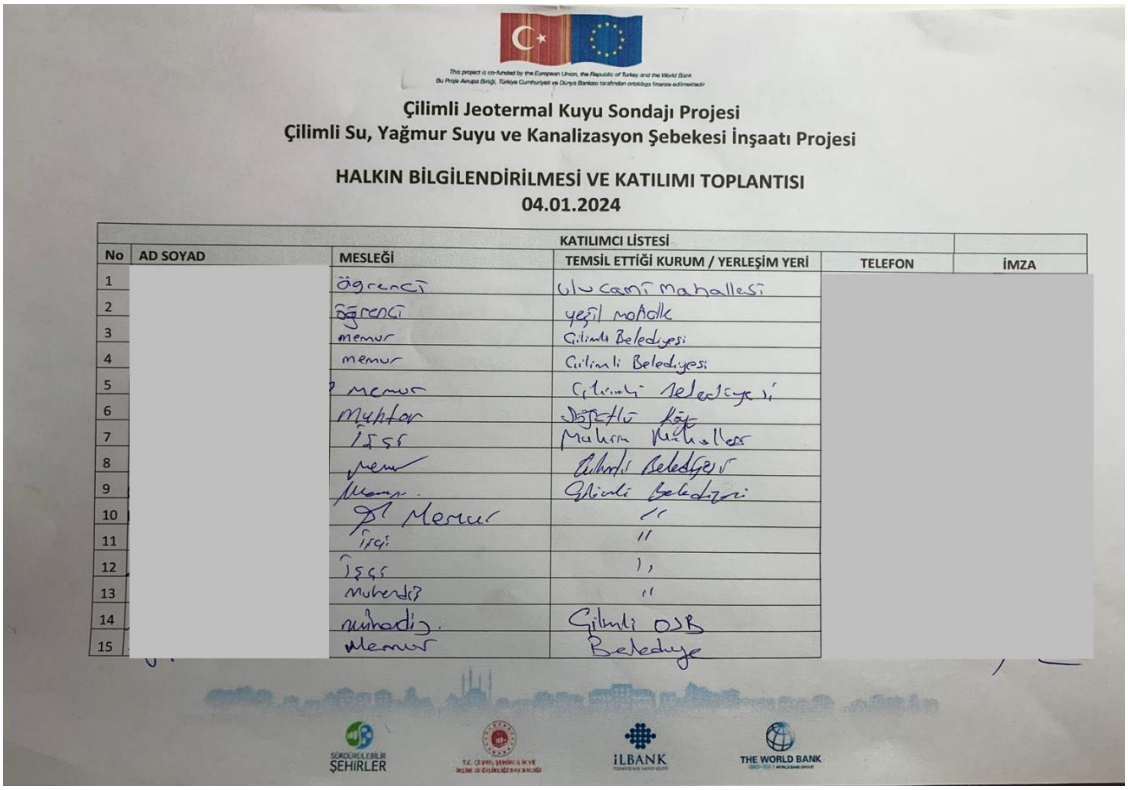
Katılımınız ve İlginiz için Teşekkür Ederiz.

Sorular ve Görüşler

22

Photographs from the Public/Stakeholder Consultation Meeting

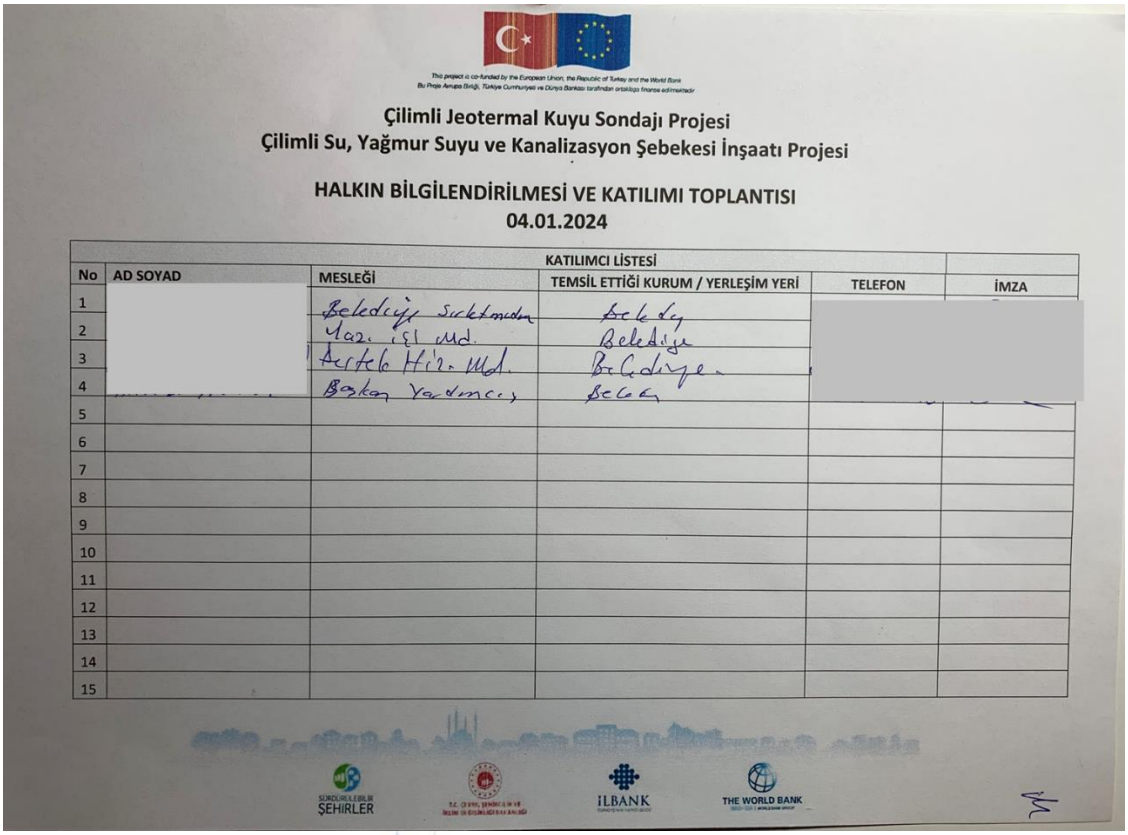
Participant List



Çilimli Jeotermal Kuyu Sondajı Projesi
Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
04.01.2024

No	AD SOYAD	KATILIMCI LİSTESİ MESLEĞİ	TEMSİL ETTİĞİ KURUM / YERLEŞİM YERİ	TELEFON	İMZA
1		öğrenci	Ulu camii Mahallesi		
2		öğrenci	yeşil mahalle		
3		memur	Çilimli Belediyesi		
4		memur	Çilimli Belediyesi		
5		memur	Çilimli Belediyesi		
6		Muhtar	Değirmenlik köyü		
7		İşçi	Mahalle Muhtarlığı		
8		Memur	Çilimli Belediyesi		
9		Memur	Çilimli Belediyesi		
10		Memur	"		
11		İşçi	"		
12		İşçi	"		
13		Mühendis	"		
14		mühendis	Çilimli OSB		
15		Memur	Belediye		



Çilimli Jeotermal Kuyu Sondajı Projesi
Çilimli Su, Yağmur Suyu ve Kanalizasyon Şebekesi İnşaatı Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
04.01.2024

No	AD SOYAD	KATILIMCI LİSTESİ MESLEĞİ	TEMSİL ETTİĞİ KURUM / YERLEŞİM YERİ	TELEFON	İMZA
1		Belediye Sekreteri	Belediye		
2		Yazı İşl. Md.	Belediye		
3		Arşiv Hiz. Md.	Belediye		
4		Başkan Yardımcısı	Belediye		
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