Federation Road Asset Management Enhancement Project – FRAME (P511815)

Environmental and social management framework- ESMF

2025.

JP CESTE FEDERACIJE BIH

Contents

List of Figures

List of Tables

Abbreviations

B&H / BiH	Bosnia and Herzegovina
CH	Cultural Heritage
CHS	Community Health and Safety
CGC	Central Grievance Committee
CSOP	Construction Site Organization Plan
EA	Environmental Assessment
EIA	Environmental Impact Assessment
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
E&S	Environmental and Social
FIS	Federal Institute of Statistics
FBiH	Federation of Bosnia and Herzegovina
GC	Grievance Committee
GIIP	Good International Industry Practice
GRM	Grievance Redress Mechanism
LMP	Labor Management Plan / Procedures
OHS	Occupational Health and Safety
PAP	Project Affected Person
PC Roads of FBiH	Public Company Roads of Federation of BiH
PIMT	Project Implementation and Management Team
PDO	Project Development Objective
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
RDDR	Resettlement Due Diligence Report
RPF	Resettlement Policy Framework
SEP	Stakeholder Engagement Plan
SE	Supervision Engineer
TCI	Total Condition Index
WB	World Bank

1. EXECUTIVE SUMMARY

Project Background, Objectives

The network of main roads in FBiH extends over 2,466.42 km, with 454 bridges and 57 tunnels on the main roads, and all of it is managed by PC FBiH Roads. The condition of main roads in FBiH is characterized by a low level of service, including average vehicle operational speeds, high operating costs, and the need for significant funding for maintenance. Between 2008 and 2023, two key programs were carried out by PC FBiH Roads: the "Rehabilitation of Main Roads of the Federation of BiH" and the "Modernization of Main Roads of the Federation of BiH." The first program focused on repairing main roads, funded by loans and government funds, while the latter aimed at more advanced upgrades like building urban bypasses and improving road geometry. PC FBiH Roads prepared a new Project for the “Rehabilitation and construction of main roads in the Federation of Bosnia and Herzegovina”(Hereafter: Project).

The overall objective of the Project is to improve the condition of the main road infrastructure and a more efficient management of road assets.

This Project aims to enhance the FBiH main road network for better connectivity, safety, and efficiency.

The Project is expected to facilitate trade, develop tourism, support private sector development, promote regional and national economic growth, and contribute to economic and social cohesion in the region. Additionally, the Project is expected to reduce road accidents, local pollution, and vehicle operating costs, thus having general positive effects at the macro-level in the short and medium term.

The Borrower will be the Ministry of Finance and Treasury of Bosnia and Herzegovina (BiH), whereas the agency responsible for implementing the Project on behalf of FBiH will be PC Roads FBiH.

Expected Outcomes:

- Improved safety for road users
- Reduced travel time
- Enhanced driving experience
- Maintenance Costs Reduction
- Increased resistance of the road infrastructure to climate change

Project Beneficiaries

The beneficiaries of such a Project are diverse and encompass various sectors of society, including government entities, businesses, communities, and individuals, all of whom stand to gain from the improved road infrastructure.

Purpose of the Environmental and Social Management Framework (ESMF)

As the Project will support a wide array of road improvement interventions across FBIH, where sufficient detail is unknown at the time of the Project Appraisal from the World Bank a Framework approach was employed to evaluate the potential impacts of proposed activities. This Environmental and Social Management Framework (ESMF) serves as a guide for conducting environmental and social due diligence procedures, ensuring that the Project adheres to the Environmental and Social Framework (ESF) of the World Bank. The ESMF outlines mandatory screening procedures for each subproject to assess environmental and social risks, develop mitigation measures, and address residual risks in compliance with the WB's ESF Standards. It provides guidance to the Project Implementation and Management Team (PIMT) and Supervision Engineer (SE) to identify risks, anticipate impacts, and implement measures to minimize adverse environmental and social effects. Additionally, it includes requirements for environmental and social monitoring and reporting to track the Project's performance. All activities financed under the Project undergo Environmental and Social due diligence, Environmental and Social (E&S) Screening, and E&S Assessments (ESAs) to ensure their environmental and social soundness and sustainability, aligned with the WB ESF. These assessments are proportionate to the Project's risks and impacts and are conducted using the procedures and tools outlined in the ESMF. Project activities classified in the process of E&S as "high risk" will be excluded from Project financing, while those classified as "substantial risk", "moderate risk", and "low risk" will undergo assessments according to the WB ESF, WB Environmental and Social Standards (ESS), WB Environmental, Health and Safety Guidelines (ESG), Good International Industry Practice (GIIP), and environmental laws of FBiH. This involves preparing site-specific Environmental and Social Management Plans (ESMPs) or ESMP Checklists compliant with the ESMF and relevant WB ESF and Environmental and Soical Standards. When defining requirements and mitigation measures in line with the aforementioned policies and procedures, stricter ones will prevail.

This document provides an overview of the Project's background, policy and regulatory framework, Project activities, associated environmental and social risks and impacts, environmental review procedures, institutional arrangements, consultation and disclosure procedures, as well as monitoring, evaluation, reporting, and supervision procedures, along with the distribution of responsibilities.

Institutional arrangements

The Project will be implemented by the Public Company Roads of the Federation of Bosnia and Herzegovina (PC FBiH Roads) on behalf of the Borrower, which is the government of the Federation of Bosnia and Herzegovina (FBIH) as represented by the Ministry of Finance of FBIH. This initiative, as formulated by PC FBiH Roads, is designed to seek financing from potential international financial institutions (IFIs). Within this broader program, several specific sections have been identified for inclusion. Notably, these selected sections will receive funding through this Project, which is being financed by the World Bank. This strategic collaboration aims to enhance the region's infrastructure by leveraging international financial support, thereby facilitating the successful realization of key transportation projects within the Federation of Bosnia and Herzegovina.

PC FBiH Roads will form the Project Implementation and Management Team (PIMT). PIMT comprises adequately multidisciplinary staff, including, among others:

1. Civil engineers

2. Procurement specialists

3. Finance specialists

4. Land acquisition specialists

5. Environmental and Social framework specialists

6. Traffic safety specialists

7. Public Relations Specialist

PC FBiH Roads will have PIMT throughout the entire project implementation period. PIMT is responsible for coordinating, planning, monitoring, and evaluating all aspects of project implementation following the requirements of the Borrower, the Government of FBiH, and IFIs.

The tasks of PIMT can be summarized as follows:

• Promotion of the Project among municipalities and the public;

• Management and administration of Project implementation;

• Financial management of the Project;

• Quality assurance;

• Procurement process management;

• Ensuring compliance with environmental and social requirements;

• Ensuring all necessary permits for all subprojects and compliance with all local regulations;

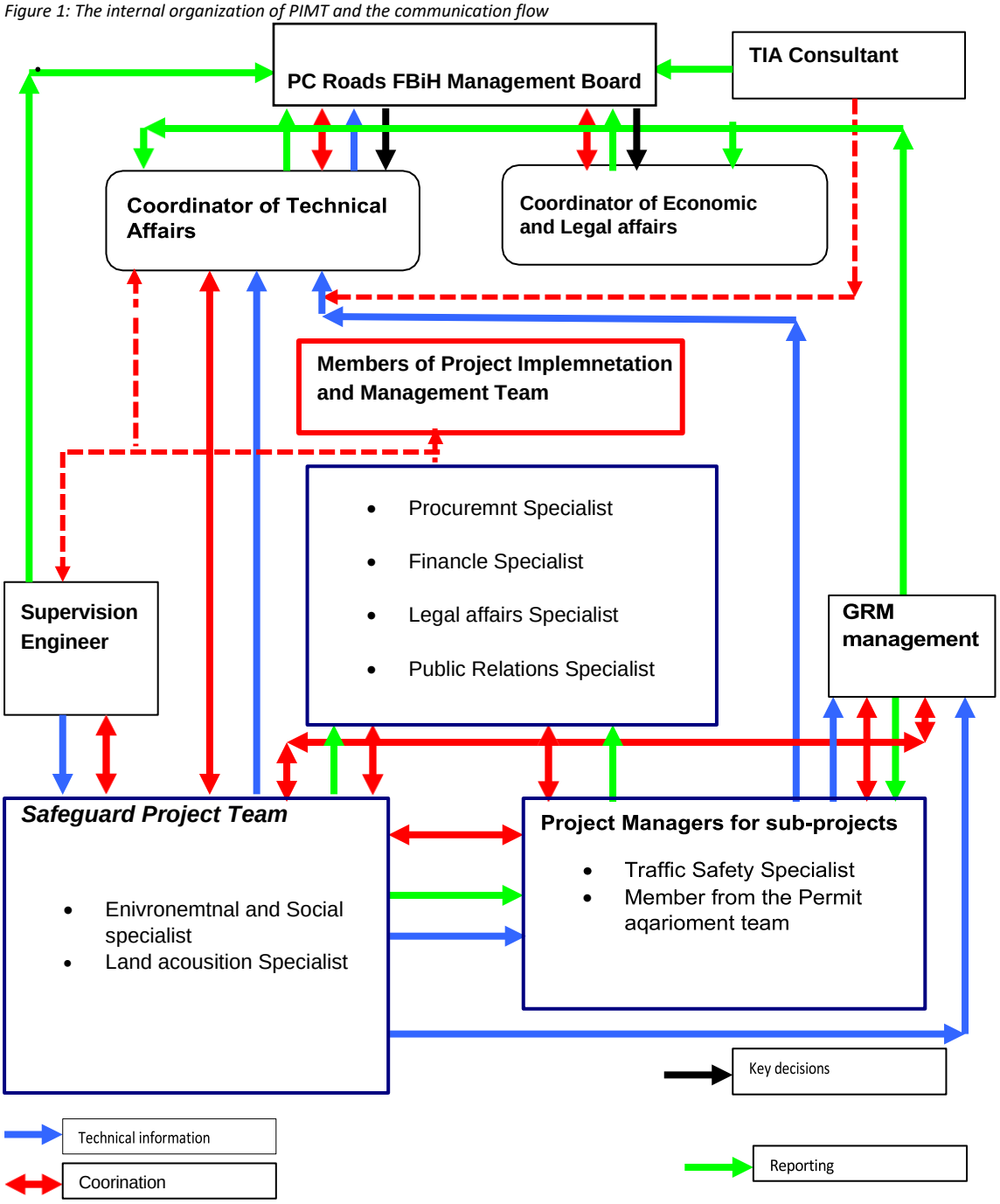
• Monitoring and evaluation of the Project, including regular monitoring and evaluation of subproject results, review and approval of proposed subproject indicators, without objection from the Bank, and timely collection of data for these indicators;

• Taking necessary corrective actions required to maintain or improve progress;

• Coordination with all relevant stakeholders at local and state levels and reporting to the World Bank (particularly semi-annual reports, mid-term review of the Project, and final report). PIMT prepares semi-annual progress reports, using data from established monitoring practices with contributions from contractors, municipalities, and the BFC established for Project needs. These reports will contain details of physical progress and progress in terms of monitoring indicators from the results framework.

Each of the specific project sites will be subject to procurement from external contractors for works and also supervision companies. The obligations to implement the site-specific environmental and social documentation will be relayed to the Contractor through bidding and contractual documents, while the actual supervision of the site-specific due diligence will be tasked to the supervision company.

Figure 1: The internal organization of PIMT and the communication flow



Potential environmental and social impacts

The overall environmental risk of the Project is assessed as substantial, with varying degrees of risk for individual sub-projects, ranging from low to substantial. Project funding will support small to medium-scale civil works. Environmental impacts are anticipated to be manageable, short-term, and localized across all Sub-projects. Civil works may lead to typical construction-related issues such as dust, noise, vibration, demolition, waste management, traffic congestion, and accidental spillage. These impacts are directly linked to machinery operation and construction activities at specific sites. With careful implementation following ESF, WB EHSG and GIIP guidelines, no significant long-term adverse effects are expected. However, as Project activities are not yet fully defined, preliminary environmental impacts identified will require further elaboration.

The Project's social impacts are currently classified as substantial for the rehabilitation component. However, sub-projects implemented by PC Roads are expected to have moderate impacts. Some activities under the Project may require land acquisition, for which a Resettlement Policy Framework (RPF) aligned with the World Bank's Environmental and Social Framework (ESF) is prepared.
While physical displacement is unlikely, if expropriation does occur, it will concern uninhabited plots of land. This may include both permanent and temporary land acquisition. Temporary expropriation may be required for the construction of temporary bypasses during rehabilitation works, wherever feasible, in order to minimize traffic disruptions. The purpose of permanent expropriation would be to implement specific measures aimed at enhancing road safety or mitigating certain climate-related impacts. All aspects related to land acquisition and expropriation will be thoroughly addressed in the RPF.
Regarding the bypasses construction component, an Environmental and Social Management Plan (ESMP) will be prepared, and where necessary, a Resettlement Action Plan (RAP) will also be developed. If the resettlement process has already been completed, a Resettlement Appraisal and Audit will be carried out.

Labor-related risks associated with civil works and working conditions will be mitigated by implementing Labor Management Procedures (LMP) and site-specific Environmental and Social Assessments (ESA). To ensure effective management of these risks, contractors with a proven track record in occupational health and safety management will be engaged. Additionally, a Workers' Grievance Mechanism (GM) will be established as part of the LMP, functioning as a standalone document dedicated to addressing and resolving workers' grievances. This comprehensive approach will help maintain safe and fair working conditions throughout the project's implementation.

The primary community health and safety concern pertains to traffic safety risks for workers and affected communities. Adequate traffic management plans will be enforced to address these risks effectively. Labor influx is not expected.

Environmental and social risk management

The environmental and social review process for sub-projects involves several steps, outlined below:

Step 1: Sub-project Screening and Risk Classification
Each sub-project undergoes screening for eligibility, and risk assessment, categorizing them into high risk, substantial risk, moderate risk, or low risk. Depending on the risk category, relevant Environmental and Social (E&S) instruments are developed:

World Banks Project Risk Classification:

- **Low-risk Projects:** Expected to have minimal environmental and social impacts. ESCOP will be prepared to address E&S issues, and in the case, risks are proven to be negligible no further actions are required.
- **Moderate Risk Projects:** Expected to have manageable, temporary, and localized impacts. An ESCOP, ESMP Checklist or site-specific ESMP is prepared in line with the ESMF.
- **Substantial Risk Projects:** involve sub-projects with some E&S potential impacts that are significant or irreversible, the extent of which is challenging to ascertain during the Project identification phase. An ESIA will more than likely be required inclusive of an ESMP.
- **High-risk Projects:** encompass sub-projects that are likely to yield highly significant, diverse, and/or long-term adverse impacts on human health and the natural environment. Assessing

the magnitude of these impacts during the sub-project identification stage is complex. Furthermore, these impacts may extend beyond the boundaries of the sub-project sites, necessitating complex and costly measures for environmental and social risk mitigation. High risk activities are not eligible for financing under this Project where the overall risk rating is pegged at Substantial.

		WB requirements		Requirements of FBiH legislation		
Component/Subcomponent	**Type of activities**	**Risk category according to WB**	**E&S assessment instrument**	**Environmental protection**	**Water management**	**Physical planning and construction**
Pavement reinforcement	1. Site assessment and evaluation 2. Traffic management 3. Pavement milling 4. Surface preparation 5. Application of reinforcement materials (such as geosynthetics, stabilization agents, and fiber reinforcement) 6. Compaction 7. Surface sealing or overlay 8. Quality control and assurance 9. Environmental Compliance 10. Maintenance and monitoring	To determine the risk, carry out the sub-project screening in line with the procedure in Chapter 7.5. Likely Moderate risk with possible increase to Substantial pending the precise location and surrounding environment.	LMP, SEP, ESIA/ESMP/ESMP Checklist	-	-	-
Replacement or covering with a new worn layer	1. Site evaluation and assessment 2. Traffic management planning 3. Removal of the existing worn pavement layer 4. Surface preparation, which may involve cleaning and repairing the underlying pavement structure 5. Application of a new pavement layer, such as hot mix asphalt (HMA) or concrete, to cover the existing surface 6. Compaction of the new pavement layer to ensure proper density and stability 7. Application of surface treatments, such as sealants or coatings, to enhance durability and performance 8. Quality control and assurance measures to monitor construction and ensure compliance with specifications	To determine the risk, carry out the sub-project screening in line with the procedure in Chapter 7.5. Likely Moderate risk with possible increase to Substantial pending the precise location and surrounding environment.	LMP, SEP, ESIA/ESMP/ESMP Checklist	-	-	-

	9. Environmental compliance efforts, including erosion control and proper disposal of materials 10. Post-construction inspection and maintenance planning to monitor the performance of the new pavement layer over time.					
Bypass construction	1. Feasibility & route selection (surveys, baseline studies) 2. Land acquisition / temporary land use / possible resettlement 3. Detailed design and utility relocation 4. Site clearance (vegetation removal), archaeological survey 5. Earthworks: cut & fill, embankments, slope stabilization 6. Drainage works, culverts, retention ponds, stormwater systems 7. Construction of bridges/overpasses and retaining structures (if required) 8. Pavement construction (subgrade, base, asphalt/ concrete surfacing) 9. Installation of drainage, safety barriers, signage, lighting, ITS elements 10. Borrow pits and aggregate sourcing; material stockpiles and concrete/asphalt plants (temporary) 11. Construction camps, worker accommodation and utilities 12. Traffic management, temporary access roads and crossings 13. Reinstatement, landscaping, erosion control and post-construction monitoring	Most often Substantial (primarily due to land acquisition and resettlement requirements; High is not expected as routes are selected to avoid major ecological constraints).	LMP, SEP, ESIA/ESMP (full ESIA for new alignment), RAP where needed, CEMP, OHS Plan, Traffic Management Plan.	Environmental Permit under Law on Environmental Protection (FBiH) and EIA procedure where applicable; permits for waste management; noise and air protection measures; protection of cultural heritage.	Water Act permits: water consent, water approval and water permit; measures for drainage, discharge and stormwater management; control of construction near watercourses.	Spatial planning approval, urban permit and construction permit under Law on Physical Planning and Construction; expropriation under Expropriation Law; compliance with technical regulations and road standards.

Table 1 E&S Requirements for the Project

Step 2: Environmental Assessment
An ESIA, ESMP or ESMP Checklist will be prepared for each sub-project by the environmental and Social Specialists before bidding, subject to the review and approval of the WB. Technical Assistance also undergoes E&S review.

Step 3: Public Disclosure and Consultations
ESIA, ESMP or ESMP Checklist will be publicly disclosed, and consultations will be conducted as per the requirements of the SEP developed for the Project. Feedback is incorporated into the final version of the documents.

Step 4: Obtain Permits and Approvals
Various permits, opinions, and conditions (e.g., water permits, and cultural heritage conditions) are obtained before construction begins, as required by relevant laws and regulations.

Step 5: Integration of E&S Instruments in Tender Documents
E&S instruments, in particular site-specific ESMP are integrated into tender documents by the PIMTs for selected sub-projects. Contractors must comply with these requirements, ensuring environmentally and socially acceptable implementation.

Step 6: Implementation, Supervision, Monitoring, and Reporting
Contractors implement mitigation measures and conduct environmental and social monitoring as per ESMP or ESMP Checklist. Supervision Consultants oversee environmental and social performance and compliance with E&S Instruments. PC FBIH Roads holds overall implementation and compliance responsibilities, reporting on ESCP implementation and E&S compliance to the WB in Progress Reports.

2. INTRODUCTION

2.1 Overview of the Project

Between 2008 and 2023, the Public Company Roads of the Federation of Bosnia and Herzegovina implemented Projects under the programs "Rehabilitation of Roads in the Federation of BiH" and "Modernization of Road Infrastructure in the Federation of BiH." The "Rehabilitation of Roads in the Federation of BiH" program was successfully executed from 2008 to 2013, with a value of 210.7 million BAM, financed by credit funds from international financial institutions (European Investment Bank, World Bank, and European Bank for Reconstruction and Development), as well as partly by the own funds of the Public Company Roads FBiH. Within this program, besides enhancing traffic safety with a focus on establishing an appropriate institutional framework, approximately 850 km of main roads in the FBiH were rehabilitated, accounting for less than half of the total main road network. Under the "Modernization of the Road Sector in the FBiH" program, Projects were implemented from 2018 to 2023, including the construction of new sections, slow vehicle lanes, rehabilitation/reconstruction of structures on main roads (bridges and tunnels), remediation/reconstruction of hazardous locations, and the initiation of construction of some bypasses around cities. The program was financed by credit funds from international financial institutions (European Investment Bank, World Bank, and European Bank for Reconstruction and Development), as well as partly by the funds of the Public Company Roads FBiH. In the Federation of Bosnia and Herzegovina, the length of categorized main roads is 2,466.42 km.

The Public Company Roads FBiH manages 454 bridges and 57 tunnels on main roads. The average age of bridges is about 45 years, and tunnels are about 40 years. In addition to the implementation of the aforementioned programs, the assessment of the condition of the existing main road network in the Federation of BiH indicates a low level of service with the following indicators:

- Average vehicle speeds range from 40-60 km/h depending on the type of vehicle, resulting in long travel/transport times over relatively short distances;
- Relatively high vehicle operating costs in traffic;
- The need for significant funds, especially for periodic (investment) maintenance to maintain the existing road infrastructure;
- A relatively high number of traffic accidents with various consequences (material damage, injuries, fatalities).

The Project period of use for road surface rehabilitation/reconstruction is relatively short considering exposure to atmospheric and poor hydrological conditions, as well as intensive traffic, which accelerates the deterioration of asphalt layers. According to regulations applied in the EU, the recommended Project period for road surface rehabilitation/reconstruction is 7 years. The Public Company Roads FBiH conducted a comprehensive life-cycle cost analysis of road surfaces to determine the optimal sequence of maintenance or activities under given conditions, which may be monetary constraints or a certain level of service. The life-cycle analysis of road surfaces used data collected in 2020 using RSP vehicles to measure longitudinal and transverse flatness and macrotexture, and visual inspection to determine cracks and surface damage to the road surface. Traffic data per section were also included in the analysis. A Project period of 10 years was used for the analysis. An investment cycle of 10 years involves investment in the first four years, followed by monitoring road surface conditions with regular maintenance, and after 10 years, a new investment program is recommended. A multi-criteria analysis was conducted for road surface rehabilitation based on road surface condition and traffic data, providing different scenarios for road surface rehabilitation in variants of "Do nothing," "Technical optimum without budget constraints," and

"Technical optimum with a limited budget." The goal of rehabilitating the road surface of the main road network in the FBiH is to achieve an estimated road surface condition of at least 60% good and satisfactory according to the TCI (Total Condition Index) after program implementation.

In the proposed investment program for the rehabilitation of main roads in the FBiH, Projects are divided into three groups of sub-projects:

1. Pavement reinforcement aimed at improving road safety, increasing climate resilience, and extending the service life of the road infrastructure.
2. Replacement or overlay of the wearing course, combined with safety upgrades and climate adaptation measures (e.g., improved drainage, road markings, barriers).
3. Bypass construction, primarily to reduce traffic congestion in urban areas and improve road safety.

The Government of the Federation of Bosnia and Herzegovina supports a four-year investment program for the rehabilitation of main roads in the FBiH submitted by the Public Company Roads FBiH through the Federal Ministry of Transport and Communications.

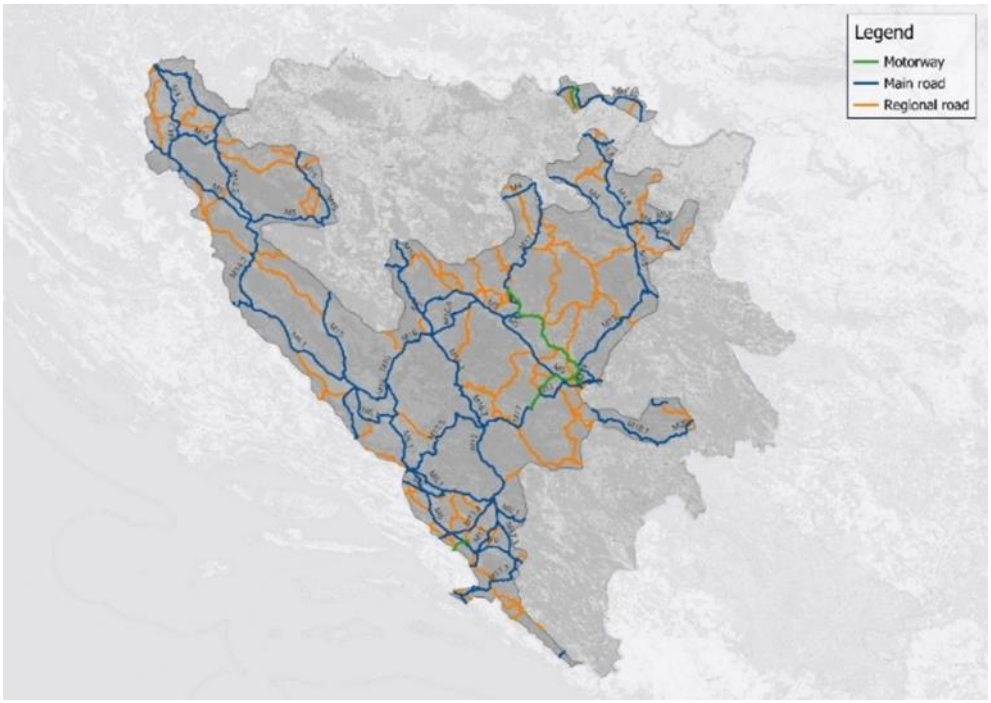


Figure 2: Federation BiH Main Road Network
(Source: publicly available data)

2.2 Project Objectives

The objectives of the program are as follows:

1. Road safety, improvement of road connections, more efficient use of roads
2. Progress in the efficient management of the road network

3. Prioritization of Projects for implementation with a defined timeline.

The expected outcomes following the implementation of the investment program include: enhanced safety for all traffic participants, reduced travel time with an increase in service levels, and improved driving comfort.

2.3 Beneficiaries

The beneficiaries of a Project focused on the rehabilitation of main roads in the Federation of Bosnia and Herzegovina include various stakeholders involved in transportation and infrastructure development within the region. These beneficiaries include:

1. Government Authorities: This includes federal, regional, and local government bodies responsible for transportation and infrastructure development. They benefit from improved transportation networks, which can boost economic activity, enhance connectivity, and improve the overall quality of life for residents.

2. Residents and Communities: Better roads lead to improved accessibility, connectivity, and safety for residents and communities. It can facilitate easier access to markets, healthcare, education, and other essential services.

3. Businesses: Enhanced transportation infrastructure can lower transportation costs, reduce delivery times, and improve supply chain efficiency for businesses operating within the region. This can stimulate economic growth and attract investment.

4. Tourism Industry: Improved roads can enhance accessibility to tourist destinations, facilitating the growth of the tourism industry by attracting more visitors and generating revenue.

5. Transportation Sector: Companies involved in transportation, logistics, and related industries benefit from improved road infrastructure, as it can lead to increased demand for their services and improved operational efficiency.

6. Construction Companies and Workers: The Project creates employment opportunities and stimulates economic activity through construction contracts and related services.

Overall, the beneficiaries of such a Project are diverse and encompass various sectors of society, including, all of whom stand to gain from the improved road infrastructure.

2.4 Objectives of the ESMF

Following the World Bank's Environmental and Social Framework (ESF) (2018) (ESS 1: Assessment and Management of Environmental and Social Risks and Impacts), the Environmental and Social Management Framework (ESMF) serves as a tool for assessing risks and impacts in Projects consisting of programs and/or series of sub-projects, where the specific details of these cannot be determined until later stages. Within the Project rehabilitation of main roads in the Federation of Bosnia and Herzegovina, the implementation of individual sub-projects will be proposed. To facilitate the thorough preparation of such sub-projects, the ESMF is utilized to establish and guide the mechanisms for environmental and social (E&S) due diligence for these activities. The ESMF lays down principles, rules, and procedures for assessing E&S risks and impacts, incorporating measures and plans for their reduction, mitigation, or compensation, along with estimating and budgeting costs for such measures. It also outlines the responsible agency or agencies for addressing Project

risks and impacts, including their capacity to manage E&S risks and impacts. Moreover, it furnishes comprehensive information about the Project area's potential E&S vulnerabilities and the potential impacts and mitigation measures that could be employed. The environmental and social assessment is grounded in current information and environmental and social data, as well project technical scope and details providing an accurate depiction and evaluation of the Project and its associated aspects. This ESMF has been developed with the primary aim of ensuring Project compliance with all relevant local policies, legislation, and WB requirements (as defined in the ESF, ESS and Project E&S Commitment Plan), thereby applying a mitigation hierarchy and ensuring adequate mitigation of all potential adverse E&S impacts of the Project. It furnishes detailed procedures related to the E&S screening, assessment, management, and monitoring of E&S risks and impacts of the sub-projects. All sub-projects to be financed under the Project will undergo E&S screening, an assessment of E&S risks by the Implementing agency, following the procedures delineated in this document, in line with WB Environmental and Social Standards (ESS), WB Environmental, Health and Safety Guidelines (ESG), Good International Industry Practice (GIIP), and environmental laws of FBiH.. For "substantial" risk sub-projects, an Environmental and Social Impact Assessment (ESIA) with/or Environmental and Social Management Plans (ESMPs) will be developed if needed, while for," "moderate," and "low" risk sub-projects, the assessment will encompass the preparation of site-specific Environmental and Social Management Plans (ESMPs), ESMP Checklists, and others (e.g. E&S Code of Practice - ESCOP), all in alignment with this ESMF and provisions set forth under the WB ESS 1 and ESF. The ESMF pertains to both new activities and activities seeking retroactive financing. Activities classified as "high risk" will be excluded from Project financing. When assessing risks and defining requirements and mitigation measures in line with the aforementioned policies and procedures, stricter ones will prevail.

3. BASELINE ENVIRONMENTAL CHARACTERISTICS OF THE PROJECT AREA

3.1 Physical Characteristics

3.1.1. Geographic Location and Size

Bosnia and Herzegovina (BiH) occupies a central position within the Balkan Peninsula, bordered by the Republic of Croatia (RH) to the north, south, and northwest, while it shares its eastern border with the Republic of Serbia and its south-eastern border with Montenegro. The surface area of FBiH encompasses 26,110 square kilometers, comprising 50.94% of the entire territory of Bosnia and Herzegovina, which totals 51,209 square kilometers. FBiH is comprised of ten administrative divisions known as cantons/counties, each containing grouped local self-government units - municipalities (79 in total).

Figure 3: Geographical position of FBiH
(Source: publicly available data)

3.1.2. Climate

Given its specific geographical location and terrain, the climate of Bosnia and Herzegovina is quite complex, leading to the distinction of three separate regions with more or less defined boundaries:

1. in the north - moderately continental, or Central European climate
2. in the central part - Continental Mountain, or Alpine climate
3. in the southwest - Mediterranean, or maritime climate

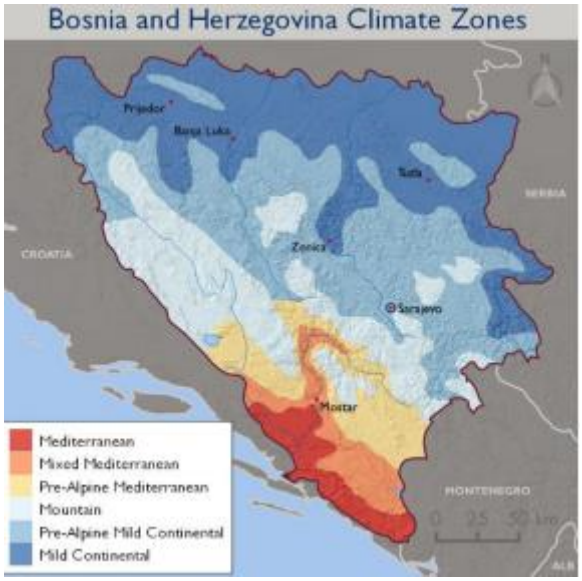


Figure 4: Climate zones of FBiH
(Source: publicly available data)

3.1.3. Geology

The area of FBiH is situated within the central parts of the Dinaric mountain system, located between the Adriatic microplate to the southwest and the Pannonian Basin to the northeast. It comprises several paleogeographic and tectonostratigraphic units that differ in composition, structure, and genesis. In a profile from southwest to northeast, the following geotectonic zones can be distinguished:

1. The Dinaric carbonate platform encompasses the area northeast of the Adriatic Sea coast, known as the High Karst or Outer Dinarides.
2. The Bosnian Flysch Zone, also known as the Sarajevo-Banja Luka Flysch Zone.
3. The ophiolite zone covers the area from Tešanj to Olovo.
4. The Sava-Vardar Zone (active continental margin) is one of the most significant internal units of the Dinarides.
5. In the geological structure of the Dinarides in Bosnia and Herzegovina, allochthonous Paleozoic and Triassic complexes are also included.

3.1.4. Relief Characteristics

The wealth of landscape diversity in Bosnia and Herzegovina can be best explained through geographical zones, which provide conditions for various ecosystems and landscapes. The predominant landscapes from south to north are as follows: Mediterranean landscapes; Supra-Mediterranean landscapes; Mediterranean-mountain landscapes; Mountain landscapes; Hill landscapes; Peri-Pannonian landscapes; and Pannonian landscapes.

In the area of FBiH, mountainous relief exceeding 1,000 meters above sea level predominates, covering 755,622 hectares or 29%, while the least represented are lowland and hilly reliefs up to 200 meters above sea level (159,878.3 hectares or 6.1%).

3.1.5. Land and Soil

The largest land area in the Federation of Bosnia and Herzegovina (FBiH) is categorized and utilized as forest land (55.7%). Within agricultural land, the second agro zone dominates (52.11%), followed by the first agro zone (25.04%), with the third agro zone being the least represented (22.85%).

84.2% of the land in Bosnia and Herzegovina has a slope greater than 13%, 40% of the land is shallower than 30 cm, and 17% of the land is very shallow, categorizing the land in FBiH as sensitive soils that require special attention.

An analysis of soil classes shows that the soil in FBiH is highly heterogeneous. Automorphic soils occupy 86% of the total area, while the remaining 14% are hydromorphic soils. The humus content in agricultural land is about 50% lower than in land covered with forest vegetation. Due to agricultural production and methods used, the humus content in agricultural land tends to further decrease.

In addition to physical limitations, the quality of soils in areas near road infrastructure may be adversely affected by contamination associated with road construction and maintenance activities. One of the most significant contributors is the use of de-icing salts, primarily sodium chloride (NaCl), during winter maintenance. These salts can accumulate in shallow roadside soils, particularly in poorly drained areas, leading to increased salinity, elevated pH levels, and disruption of nutrient balance. Studies from Central Europe (e.g., Czech Republic, Poland, Germany) have shown that road salt exposure can result in reduced microbial biomass, damage to roadside vegetation, and mobilization of trace metals such as zinc, lead, and cadmium into the soil and groundwater (e.g., Czimczik et al., 2024; Greger et al., 2021; Wamelink et al., 2010). Soils with high clay content or shallow profiles, such as those widespread in FBiH, are particularly vulnerable to such degradation. Given the extent of sensitive soils in the region, these factors must be considered in road planning and maintenance strategies to prevent long term soil and water quality deterioration.

Land type (purpose)	km²	%
Agricultural land	9.994,89	38,3
Forest areas	14.526,30	55,7
Other	1.564,67	6,0
Σ FBiH	26.085,87	100

Table 2: Land use in FBiH (from the Spatial basis of the FBiH Spatial Plan 2008-2028)

3.1.6. Water

Bosnia and Herzegovina belongs to the countries with abundant water resources, largely fed by springs, with a dense river network in the Sava River basin and a less developed network in the Adriatic Sea basin, as well as significant underground karstic flows. Bosnia and Herzegovina is moderately rich in water, however, the total quantity of water is not equally distributed spatially or temporally. In Bosnia and Herzegovina, specifically in the Federation of Bosnia and Herzegovina (FBiH), there are two water regions:

- The water region of the Sava River (Black Sea basin) - 67%.
- The water region of the Adriatic Sea (river basins of the Neretva with Trebišnjica, Cetina, Krka - Adriatic Sea basin) - 33%.

In the area of FBiH, there are approximately 43 bodies of underground water, of which 32 are large (surface area > 10 km2). A significant portion of the FBiH surface lies above large bodies of underground water, with most of these areas located in karst zones characterized by highly

pronounced vertical (precipitation) and horizontal (underground channels) water circulation. These water bodies are often interconnected, crossing entity borders (e.g., water bodies in the Trebišnjica basin, etc.) and international boundaries (water bodies in the Cetina River basin, etc.), thereby feeding springs located in these different areas.

3.1.7. Water quality

The monitoring of surface water quality in Bosnia and Herzegovina was established in the 1960s but was interrupted and completely halted during the 1990s. The reintroduction of regular quality monitoring began in 2000, but not on all rivers in Bosnia and Herzegovina, and not with the same frequency. Systematic monitoring of groundwater quality is not carried out adequately and satisfactorily, except for sources of public water supply, where raw water is tested by regulations on the control of drinking water hygiene within the annual monitoring based on the equivalent population (EP) count. However, groundwater quality is still assessed as good, and water for water supply does not need to be purified except for regular disinfection.

The most significant sources of pollution, recognized by their nature and degree of impact, are concentrated, originating from the following sources: urban wastewater, industrial wastewater, and leachate from waste landfills. In addition to these pollution sources, other important contributors include diffuse sources such as rural settlements, agriculture, forestry, and transportation. Information on the type, condition, and vulnerability of water resources in the FBiH area, as well as water protection measures, are further described in the Water Management Strategy of the Federation of Bosnia and Herzegovina, the Environmental State Report in Bosnia and Herzegovina 2012, the Federal Environmental Protection Strategy, the Federal Waste Management Plan, and regulated by the Law on Waters of the Federation of Bosnia and Herzegovina (Official Gazette no. 70/06).

3.1.8. Air quality

Air quality monitoring in the Federation of Bosnia and Herzegovina (FBiH) is conducted only in certain cities (Sarajevo, Tuzla, Zenica, Mostar, Jajce, Kakanj, Ivan Sedlo) and using different methods. However, one fact is evident from the air quality data: poor-quality fuels such as coal, fuel oil, or gasoline contribute to poor air quality.

Air quality measurements in FBiH are carried out by the Federal Hydro-Meteorological Institute and competent authorities of the cantons in FBiH, and in certain cases by local government units. The Federal Hydro-Meteorological Institute issues annual reports on air quality, water, and meteorological data from all mentioned meteorological stations across the entire Federation, available on the website of the Federal Hydro-Meteorological Institute.

Sources of air emissions include Greenhouse gases; Agricultural activities; Transportation; Energy sector; Industry (high emissions of SO2 from thermal power plants and metallurgy); and Improper waste disposal (40% of total collected waste is disposed of in uncontrolled landfills, and 40% of waste is not collected at all and is disposed of in illegal dumps in settlements, along roadsides, and into waterways). The major air pollutants are industry and transportation.

3.2. Biological Characteristics

3.2.1. Flora and Fauna

Flora:

The majority of Bosnia and Herzegovina's territory belongs to the Euro-Siberian-North American region of continental parts, with a smaller portion belonging to the Mediterranean region. Only in

the highest mountain areas is the Alpine-high-northern region represented, which includes vegetation above the upper forest line, as well as partially grassy vegetation of mountain screes and vegetation of rocks and cliffs in the zone of juniper and subalpine forests.

Bosnia and Herzegovina is considered rich in species and habitats. The richness of wildlife in Bosnia and Herzegovina is the result of the ecological heterogeneity of the area, geomorphological and hydrological diversity, special geological history, and climatic diversity. The living world of Bosnia and Herzegovina is characterized by a large number of endemic and relict forms of living organisms. In Bosnia and Herzegovina, more than 5,000 species and subspecies of vascular plants, more than 100 species of fish, and over 320 species of birds and other elements of biological diversity have been identified (Fourth National Report of Bosnia and Herzegovina for the UN Convention on Biological Diversity, 2010).

Fauna:

The Federation of Bosnia and Herzegovina (FBiH), based on the number of individual animal groups and their diversity, belongs to areas of high biodiversity in Europe, which is manifested through a high proportion of endemic and relict species. Detailed data on flora and fauna for the entire Federation area, as well as for specific subject areas, have been processed through the Spatial Plan of the Federation of Bosnia and Herzegovina, Spatial Plans of individual cantons and municipalities, as well as through the 2012 Environmental Status Report of the Federal Ministry of Environment and Tourism.

3.2.2. Rare/Endanger Species

As part of the Project for Protected Forest and Mountain Areas of the Federal Ministry of Environment and Tourism, the Red List of Endangered Flora of the Federation of Bosnia and Herzegovina was compiled in February 2013, as well as the Red List of Fauna of the Federation of Bosnia and Herzegovina in February 2013. This implies that the list from 1996 is still in effect, which is not aligned with the IUCN categories.

Species	Conservation Status	Relevance to Road Projects	Typical Locations / Habitat in FBiH
Balkan lynx (Lynx lynx balcanicus)	Critically Endangered (CR)	Sensitive to habitat fragmentation and road mortality	Remote forested mountain regions (e.g. Prenj, Čvrsnica, Vranica)
Brown bear (Ursus arctos)	Vulnerable (VU)	Large range; roads fragment territories and increase vehicle collisions	Forested areas across central and western FBiH
Martino's snow vole (Dinaromys bogdanovi)	Endangered (EN)	Endemic to rocky alpine habitats; vulnerable to construction disturbance	High-mountain areas (e.g. Bjelašnica, Treskavica, Čvrsnica)
Greater horseshoe bat (Rhinolophus ferrumequinum) and other bat species	Vulnerable (varies by species)	Roosts in caves/buildings; foraging affected by lighting and noise	Karst zones, old structures, tunnels (e.g. Herzegovina, Central Bosnia)
Meadow viper (Vipera ursinii)	Vulnerable (VU)	Sensitive to disturbance and vibration; vulnerable in roadside meadows	Alpine pastures and dry open grasslands (e.g. Dinaric highlands)
Adriatic salmon (Salmo obtusirostris)	Endangered (EN)	Sensitive to sediment runoff and altered hydrology near bridge works	Neretva River basin and its karst tributaries
Endemic cyprinids (Phoxinellus alepidotus, Delminichthys ghetaldii, Telestes metohiensis, Chondrostoma knerii)	Endangered–Vulnerable	Affected by riverbank works and water pollution	Karstic rivers in Herzegovina (e.g. Buna, Trebižat, Bregava)

Invertebrates (Maculinea spp., Saga pedo)	Threatened (EU protected)	Vulnerable to vegetation clearing and microhabitat loss	Grasslands and meadows; scattered throughout low-traffic rural areas

Table 3: Table: Key Protected Species Potentially Impacted by Road Infrastructure Projects in FBiH

3.2.3. Sensitive Habitats

Monitoring biodiversity at the level of the Federation of Bosnia and Herzegovina (FBiH) is at a relatively low level, with limited available data for the most widely recognized indicators of biodiversity. Additionally, there are no specialized institutions at the state level tasked with collecting data on available biodiversity. Location-specific Environmental Impact Assessments (EIAs) for sub-projects will provide more detailed information on biodiversity and sensitive habitats, but only after field research is conducted. This will be mandatory for all activities in areas deemed sensitive, regardless of whether these areas are formally protected or not. A detailed assessment, as part of location-specific EIAs, will be carried out by experts in relevant fields who will propose appropriate measures to be discussed and agreed upon with the local community.

3.2.4. Cultural-Historical and Natural Heritage

Following the Dayton Peace Agreement and the Constitution of Bosnia and Herzegovina (BiH), the Commission for the Preservation of National Monuments of BiH was formed. The normative framework within which decisions to proclaim a property a National Monument are made does not only encompass local legislation but also international declarations and documents ratified by BiH.

According to the list of the Commission for the Preservation of National Monuments of BiH, up to the present day, 566 decisions have been made to list properties as national monuments of BiH in the Federation of Bosnia and Herzegovina (FBiH). As per the Commission's report, there are currently 444 monuments on the temporary list of national monuments throughout BiH.

A detailed overview of national monuments and those on the temporary list can be found on the website of the Commission/Committee for the Preservation of National Monuments (www.kons.gov.ba).

The total area under protected areas in the territory of FBiH does not correspond to the natural potentials and identified natural values and is generally very low. The majority of existing protected areas in FBiH are still regulated by the Law of the Socialist Republic of Bosnia and Herzegovina on the Protection of Natural and Cultural-Historical Heritage from 1985.

In Bosnia and Herzegovina, from 1954 to the present day, 16 strict natural reserves, 9 managed natural reserves, 2 national parks, 5 special reserves, 10 natural landscape reserves, and 110 natural monuments have been protected. Under the Law on Nature Protection and cantonal laws on nature protection, one national park (Una), 1 protected landscape (Bijambare), and 4 natural monuments (Skakavac, Vrelo Bosne, Prokoško Lake, and Tajan) have been established. The declaration of part of the Konjuh Mountain area as a protected landscape is also underway.

3.3. Forests and Forest Management

Forests and forested areas within the Federation of Bosnia and Herzegovina (FBiH) encompass roughly 1,518,466 hectares, constituting approximately 58% of the total land area. Of this, state-owned land accounts for approximately 1,241,336 hectares (82%), with privately owned land covering about 277,130 hectares (18%). Initial findings from the Second State Inventory of Forests on Large Areas indicate that over 60% of both Bosnia and Herzegovina (BiH) and FBiH are forested.

Regarding state-owned forested areas in FBiH, natural regeneration occupies roughly 40% of the space, with degraded forests making up 1%, forest plantations covering 5%, coppice forests

comprising 21%, and productive bare land suitable for afforestation accounting for 13%. Overgrown unproductive areas cover about 1%, while non-productive areas in terms of forestry encompass about 9% of forested land. Additionally, approximately 10% of forested land is affected by mining activities. The total wood stock of state-owned forests in FBiH amounts to 183,005,467 cubic meters, with coniferous stock comprising 77,161,810 cubic meters (about 42%) and broadleaf stock totaling 105,843,657 cubic meters (about 58%). Annually, forests in FBiH experience a volumetric increase of 4,327,493 cubic meters, with conifers contributing 1,886,914 cubic meters (44%) and broadleaf trees contributing 2,440,579 cubic meters (56%). High forests make for 80.8% of this increase, with coppice forests making up the remaining 19.2%. The vulnerability of FBiH forests and forested areas stems from various activities including forest fires, plant diseases and pests, illegal deforestation, mineral resource exploitation, hydro-accumulation, and contamination from mines. Forest management falls under the jurisdiction of the Federal and Cantonal Ministries of Agriculture, Water Management, and Forestry, with key institutions including Federal and Cantonal Forestry Administrations. Wood production is a primary objective of forest management in Bosnia and Herzegovina, resulting in an expansion of forest exploitation and an increase in biodegradable waste production. In 2021, permitted planned cutting amounted to 2,842,502 cubic meters, with actual production reaching 2,309,800 cubic meters, representing a 6% increase from 2020. Of the wood assortments produced in 2021, logs accounted for 48%, mining wood for 3%, cordwood for 13%, and firewood for 36%. The difference between gross wood mass and realized production in 2021 amounted to approximately 322,800 cubic meters, representing biodegradable waste. This waste presents opportunities for energy production and high-value compost. However, illegal and excessive forest exploitation, alongside unplanned construction and adverse climatic conditions, negatively impacts forestry, forest resources, and ecosystem health.

The extent of illegally cut timber in FBiH remains uncertain, with preliminary data suggesting that around 21% of felled wood is unregistered, indicating illegal activity. The majority of logging occurs in tall forests, with 82% of registered logging and 77% of unregistered logging taking place in such areas.

3.4. Critical Environmental, Climate, and Safety Factors for Road Interventions in FBiH

The Federation of Bosnia and Herzegovina is characterized by moderate to high seismic activity, especially in mountainous regions, necessitating earthquake-resilient design for road infrastructure such as bridges and slopes. Climate change trends indicate rising temperatures, more frequent heatwaves, and shifts toward intense rainfall events that increase flood and drought risks, which in turn impact road durability and maintenance needs. The growing frequency of forest fires driven by drought and heat further emphasizes the need for vegetation management along road corridors. Waste management challenges persist due to limited landfill capacity and illegal dumping, requiring strict controls during construction to prevent environmental contamination. Air pollution, particularly particulate matter and nitrogen oxides in urban and valley areas, poses risks to both workers and nearby communities, highlighting the importance of dust and emission mitigation measures. Road projects near mineral extraction zones must account for subsidence and coordinate with mining activities. Noise pollution from increased traffic demands careful assessment and mitigation near sensitive receptors. Finally, occupational health and safety risks are heightened by exposure to extreme weather, dust, and operational hazards, requiring updated protocols to protect workers, especially during heatwaves and winter maintenance operations.

4. BASELINE SOCIO-ECONOMIC CHARACTERISTICS OF THE PROJECT AREA

4.1. Historical and political context

Bosnia and Herzegovina is a state legally structured by the Dayton Peace Agreement signed in December 1995, comprising two entities - the Federation of Bosnia and Herzegovina (FBiH) covering approximately 51% of the territory, and the Republika Srpska (RS) covering about 49% of the territory. By the Arbitration Decision on Brčko, established on March 8, 2000, the Brčko District was created, a territorial-administrative unit outside the composition of the entities. In both entities, the lowest administrative units are municipalities. There are a total of 142 municipalities in BiH. FBiH consists of ten cantons, each with its constitution, laws, parliament, and government. The project encompasses all 10 cantons of FBiH (USK, PK, TK, ZDK, BPK, SBK, HNK, ZHK, KS, and K10) Organizationally, the cantons are divided into municipalities, of which there are a total of 79 in the territory of the FBiH.

Figure 5: Counties in the territory of FBiH
(Source: publicly available data)

4.2. Demographic characteristics

All presented data are secondary and obtained from the Federal Institute of Statistics (FIS), from the Annual Bulletin for the year 2014.

In 2014, the Federation of Bosnia and Herzegovina (FBiH) had a population of 2,336,722. In recent years, FBiH has consistently recorded a negative natural population growth. In 2014, it stood at -403. Positive migrations contribute to economic growth and development through increased trade, investment, and the establishment of developmental ties. Migrations also serve as channels for financial development, skills and ideas transfer, and the establishment of business and cultural networks. However, FBiH records negative migrations. In 2014, the migration balance stood at -3,664.

According to statistics, Bosnia and Herzegovina (including FBiH) consistently records negative natural growth and negative migrations, ranking it among the top three European countries in terms of migration volume. Emigrants are often highly educated individuals. The reasons for migrations are multifaceted. Young people leave for educational purposes and may temporarily stay abroad until obtaining an academic degree. At that point, they may not desire to return to FBiH and choose to remain abroad due to better job opportunities, higher income, and overall better socio-economic conditions. Research on the workforce from 2007 to 2014 shows that between 50 and 70 thousand people emigrated each year. According to FIS data (Annual Bulletin 2014), the population density in FBiH in 2014 was 89.5 inhabitants/km², while the average population density in EU28 countries was 116.4 inhabitants/km² according to EUROSTAT data.

Mid-sized cities perform poorly in almost every indicator, showing emigration, the highest unemployment rates, the lowest wages, and the lowest GDP per capita. Economic development is most needed in these mid-sized municipalities. Rural areas consist of a mixture of smaller towns (several thousand people) and villages (typically several hundred to several thousand people). Most rural municipalities are becoming less and less populated. Rural towns and villages are characterized by older and less economically active populations compared to urban areas. Improving road infrastructure is crucial for connecting and maintaining rural settlements. Most sub-projects are located between these mid-sized cities, and the implementation of these Projects should have positive socio-economic impacts on them, as well as on surrounding rural areas.

4.3. Economic features

In 2014, there were 443,587 (53%) employed and 391,427 (47%) unemployed individuals in FBiH. Of these, according to data from FIS (Annual Bulletin 2014), 177,622 (40%) were employed and 220,447 (52%) were unemployed women.

Transport and Infrastructure

All economic activities and opportunities for economic development are directly linked to transportation infrastructure, so the Project's implementation is expected to have positive impacts on the country's economy. The transportation of goods and passengers in Bosnia and Herzegovina is constantly increasing due to increased mobility and economic growth. The most important forms of transport in BiH are road and rail. Passenger transport mainly occurs through road traffic, while a significant portion of freight transport is done by rail. Water and air transport are poorly developed.

BiH is predominantly a landlocked country, except for its 20 km coastline on the Adriatic Sea, and relies on ports located in Croatia, which creates limitations in market access. Approximately 1,800 km of main roads, 2,500 km of regional roads, and 16,100 km of local roads exist in FBiH. About 47% of the total road network in BiH is paved, with 98% of main roads being asphalted. According to the Global Competitiveness Report of the World Economic Forum, BiH ranked 104th out of 148 countries in 2013-2014. The transportation infrastructure was significantly affected by floods in May 2014, with the most damage and losses occurring in the northern part of the country. Improvements

in road quality, especially for bridges and tunnels, are necessary due to historically insufficient maintenance practices and resources, and the continuation of poor execution of axle load limits contributes to premature road deterioration and significant increases in traffic volume.

Road construction has been one of the main drivers of investment spending and employment, creating around 5,000 jobs and spending €241.2 million in 2013, and an estimated €290 million in 2014 in FBiH alone. A significant portion of road construction is financed through donor support and loans.

Road Safety

Road safety is a major social and public health issue in BiH. In relative terms, BiH performs well compared to the Southeast Europe average, but the number of fatalities is significantly higher than in the EU. Traffic accidents decreased from 40,859 in 2008 to 37,928 in 2011 (due to the implementation of the new Road Safety Law); however, the mortality rate (i.e., the number of deaths per capita) is still about 1.3 times higher than the EU28 average.

According to data from the FBiH Road Safety Action Plan for 2011-2020, an average of 250 people die each year in FBiH, and about 6,500 are injured in traffic accidents. Victims require medical assistance, and many are temporarily or permanently disabled. It is estimated that FBiH loses more than €400 million in medical expenses, lost productivity, administrative costs, and property damage due to traffic accidents. This loss amounts to 5.8% of the annual GDP.

5. LEGAL FRAMEWORK

5.1. International requirements

5.1.1. World Bank Requirements ESF (2018)

In August 2016, the World Bank's Board of Executive Directors approved the implementation of the Environmental and Social Framework (ESF)[1]. This framework officially went into operation in October 2018. Starting from October 1, 2018, the ESF applies to all fresh investment Projects financed by the World Bank. Acknowledged for its robustness, the ESF establishes a high bar for environmental protection and the management of social issues, aligning the World Bank's standards with those of other development institutions and making significant advancements in key areas. The ESF signifies the World Bank's unwavering commitment to sustainable development, articulated through a Bank Policy and a suite of Environmental and Social Standards tailored to support Projects undertaken by Borrowers. Its overarching aim is to alleviate poverty and foster sustainable prosperity while safeguarding the environment and benefiting communities. Furthermore, the ESF emphasizes the importance of bolstering the capacity of borrower governments to address environmental and social challenges.

These standards are crafted to achieve several objectives:

1) Facilitate Borrowers in achieving international best practices concerning environmental and social sustainability
2) Assist Borrowers in fulfilling their domestic and international environmental and social obligations
3) Promote principles of fairness, transparency, participation, accountability, and effective governance
4) Enhance the sustainable development outcomes of Projects by promoting continuous engagement with stakeholders throughout Project implementation

Projects financed by the Bank are classified into one of four groups; (i) High risk, (ii) Substantial risk, (iii) Moderate risk, and (iv) Low risk.

When determining the suitable risk classification, the Bank considers various pertinent factors, including:

- Project type, location, sensitivity, and scale
- Potential environmental and social risks and impacts, assessing their nature and magnitude
- The Borrower's capacity and commitment to managing these risks and impacts in line with Environmental and Social Standards (ESSs)

Additionally, other risk areas may be relevant, depending on the Project and its context. These might encompass legal and institutional factors, proposed mitigation measures and technologies, governance structures and legislation, as well as stability, conflict, or security concerns. The Bank periodically reviews the Project's risk classification, including during implementation, and adjusts it as necessary to ensure its continued appropriateness.

For Projects comprising multiple small sub-projects, the Bank mandates the Borrower to conduct thorough Environmental and Social assessments (ESAs) for each sub-project. These assessments must adhere to national laws and relevant ESS requirements, with the more stringent prevailing. All

[1] Available in English at: http://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf

ESAs undergo prior review and approval until the Bank is satisfied with the quality of Environmental and Social instruments produced for the sub-projects. Ex-post reviews may be conducted for low and moderate-risk sub-projects. In its commitment to environmentally and socially sustainable Projects, the Bank supports Borrowers in enhancing their capacity to assess and manage associated risks and impacts. Specific Environmental and Social Standards (ESSs) have been defined for this purpose, guiding Borrowers towards improved environmental and social performance through a risk and outcomes-based approach. These ESSs are accompanied by mandatory guidelines and practices such as WB Environmental Health and Safety Guidelines (EHSG), International Good Industry Practices (GIIP), Best Practice Notes, Templates, and Checklists[2]. Technical Assistance (TA) activities are also subject to E&S due diligence in line with the WB policies, ESCP and procedures defined in this ESMF (E&S Review section).

Each ESS outlines the desired Project outcomes along with specific requirements to assist Borrowers in achieving them, tailored to the Project's nature, scale, and the level of environmental and social risks and impacts involved. These requirements aim to prevent, minimize, reduce, or mitigate adverse environmental and social effects.

ESS Standards		Relevance to the Project
ESS 1	Assessment and Management of Environmental and Social Risks and Impacts	This standard guides the preparation of environmental and social instruments including those that have been prepared for the Project: (i) ESMF, (ii) SEP, (iii) RPF, (iv) LMP, and appropriate risk assessment for individual activities implemented under the Project.
ESS 2	Labor and Working Conditions	The Project foresees the engagement of direct workers, contracted workers, and primary supply workers, which calls for the application of this ESS. Labor Screening and Compliance Checklist, and Monitoring and Evaluation procedures have been developed to be included as mandatory in the tender documentation providing compliance of third parties i.e., different contractors to the ESS 2 requirements. These issues are addressed in the Project's LMP, ESMF and OHS sections of the site-specific E&S instruments.
ESS 3	Resource Efficiency and Pollution Prevention and Management	Considering that some of the Project activities involve construction works, by applying this ESS the contractors will be aware of best practices to avoid or minimize pollution from Project activities or avoid or minimize adverse impacts on human health and the environment. The site-specific ESMP or ESMP Checklist will guide contractors to implement adequate pollution prevention and management measures.
ESS 4	Community Health and Safety	This standard sets out the requirements to avoid or minimize community exposure to Project-related traffic and road safety risks, diseases, and hazardous materials and to have in place effective measures to address emergency events. The site-specific ESMP or ESMP Checklist will guide contractors to implement adequate community health and safety measures, manage pest use and exercise protection of eco-system services.
ESS 5	Land Acquisition, Restriction on Land Use, and Involuntarily Resettlement	The Project involves the possibility of land acquisition. To minimize the risk, an appropriate RPF has been developed at the Project level, while a site-specific RP will be developed where needed.
ESS 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	This standard applies to the Project as it may include civil works near protected natural areas. Works in the protected areas will not be financed within this Project.
ESS 8	Cultural Heritage	The relevance of the ESS8 will be determined for each subproject based on the E&S screening procedure determined within this ESMF. If relevant, a Cultural Heritage Management Plan (CHMP) will be developed as part of site-specific ESAs.

[2] Available in English at: http://www.worldbank.org/en/Projects-operations/environmental-and-social-framework/brief/environmental-and-social-framework-resources#guidancenotes

ESS 10	Stakeholder Engagement and Information Disclosure	There will be Project-affected people by the activities of the Project. In line with the requirements of this ESS, a Stakeholder Engagement Plan including a Project Grievance Mechanism has been developed for this Project.

Table 3: WB ESSs relevant to the Project

The Projects supported by the Bank must comply with the following ESSs:

ESS 1: Assessment and Management of Environmental and Social Risks and Impacts

Environmental & Social Standard 1 (ESS 1) sets out the Borrower's responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with each stage of a Project supported by the Bank through Investment Project Financing, to achieve environmental and social outcomes consistent with the ESSs.

ESS 1 objectives are:

- To identify, evaluate, and manage the environmental and social risks and impacts of the Project in a manner consistent with the ESSs.
- To adopt a mitigation hierarchy approach to: (i) Anticipate and avoid risks and impacts; (ii) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;(iii) Once risks and impacts have been minimized or reduced, mitigate; and (iv) Where significant residual impacts remain, compensate for or offset them, where technically[3] and financially[4] feasible.
- To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the Project.
- To utilize national environmental and social institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of Projects, whenever appropriate.
- To promote improved environmental and social performance, in ways that recognize and enhance Borrower capacity.

ESS 1 includes the following annexes, which form part of ESS 1, and set out certain requirements in more detail:

- Annex 1: Environmental and Social Assessment
- Annex 2: Environmental and Social Commitment Plan and
- Annex 3: Management of Contractors

The Borrower will assess, manage, and monitor the environmental and social risks and impacts of the Project throughout the Project life cycle to meet the requirements of the ESSs in a manner and within a timeframe acceptable to the Bank.

[3] Technical feasibility is based on whether the proposed measures and actions can be implemented with commercially available skills, equipment, and materials, taking into consideration prevailing local factors such as climate, geography, demography, infrastructure, security, governance, capacity, and operational reliability

[4] Financial feasibility is based on relevant financial considerations, including relative magnitude of the incremental cost of adopting such measures and actions compared to the Project's investment, operating, and maintenance costs, and on whether this incremental cost could make the Project nonviable for the Borrower

As per ESS 1, the Borrower will:

- Conduct an environmental and social screening and assessment of the proposed Project, including stakeholder engagement;
- Undertake stakeholder engagement and disclose appropriate information under ESS 10;
- Develop an Environmental and Social Commitment Plan (ESCP), and implement all measures and actions set out in the legal agreement including the ESCP; and
- Conduct monitoring and reporting on the environmental and social performance of the Project against the ESSs.

ESS 1 is also applied to all Associated Facilities/Activities which must meet ESS requirements to the extent that the Borrower has control or influence over such Associated Facilities/Activities.[5]
The environmental and social assessment will be proportionate to the risks and impacts of the Project and will assess in an integrated way all relevant direct, indirect, and cumulative E&S risks and impacts throughout the Project life cycle.
For Projects that involve a set of sub-projects, identified, prepared, and implemented during the Project, environmental and social assessment is carried out using the instrument of the Environmental and Social Management Framework (ESMF). The ESMF sets out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts of any future sub-projects.

ESS 2: Labor and Working Conditions

Environmental & Social Standard 2 (ESS 2) recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a Project by treating workers in the Project fairly and providing safety and the scope of its application depends on the type of employment relations between the Borrower and Project workers. The term "Project worker" refers to:

- People employed or engaged directly by the Borrower (including the Project proponent and the Project implementing agencies) to work specifically concerning the Project (direct workers)
- people employed or engaged through third parties to perform work related to core functions of the Project, regardless of location (contracted workers)
- People employed or engaged by the Borrower's primary suppliers (primary supply workers)
- People employed or engaged in providing community labor (community workers).

ESS 2 objectives are:

- To promote safety and health at work
- To promote the fair treatment, non-discrimination, and equal opportunity of Project workers.

[5] The term "Associated Facilities" means facilities or activities that are not funded as part of the Project and are: (a) directly and significantly related to the Project; (b) carried out, or planned to be carried out, contemporaneously with the Project; and (c) necessary for the Project to be viable and would not have been constructed, expanded or conducted if the Project did not exist. For a facility or an activity to be defines as associated facility, all three criteria must be fulfilled.

- To protect Project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, following this ESS) migrant workers, contracted workers, community workers, and primary supply workers.
- To prevent the use of all forms of forced labor and child labor
- To support the principles of freedom of association and collective bargaining of Project workers in a manner consistent with national law.
- To provide Project workers with accessible means to raise workplace concerns.

The applicability of ESS 2 is established during the environmental and social assessment according to ESS 1. Written Labor Management Procedures applicable to the Project have been prepared and will be implemented throughout the Project lifecycle. These procedures set out how Project workers will be managed, per the requirements of national law and ESS 2. The Project workers expected in this Project are Direct and contracted workers. OHS procedures and avoidance and mitigation will be defined in the site-specific OHS instruments, in addition to the national requirements.

ESS 3: Resource Efficiency and Pollution Prevention and Management

Environmental and Social Standard 3 (ESS 3) sets out the requirements to address resource efficiency and pollution prevention and management throughout the Project life cycle consistent with Good International Industrial Practice (GIIP). Applicability of this EES is established during environmental and social assessment.

The Borrower is obliged to consider ambient conditions and to apply technically and financially feasible measures to improve efficient consumption of energy, water, and raw material, as well as other resources. Such measures shall integrate cleaner production principles into the product design and production processes to conserve raw materials, energy, water, and other resources. The measures have to be proportionate to the risks and impacts associated with the Project and mandatory and consistent with GIIP, in the first instance the World Bank Group Environmental, Health and Safety Guidelines (EHSGs)[6].

ESS 3 objectives are:

- To promote the sustainable use of resources, including energy, water and raw materials
- To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from Project activities
- To avoid or minimize Project-related emissions of short and long-lived climate pollutants
- To avoid or minimize generation of hazardous and non-hazardous waste
- To minimize and manage the risks and impacts associated with pesticide use

Besides, the Borrower will avoid the release of pollutants or, when avoidance is not feasible, minimize and control the concentration and mass flow of their release using the performance levels

[6] World Bank Group Environmental, Health and Safety Guidelines (EHSG), available at: https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/

and measures specified in national law or the WB Environmental, Health and Safety Guidelines[7], and GIIP, whichever is most stringent. This applies to the release of pollutants to air, water, and land due to routine, non-routine, and accidental circumstances, and with the potential for local, regional, and transboundary impacts.

Pollution prevention and management includes, but is not limited to, the management of:

- Air pollution;
- Water use and pollution;
- Hazardous and non-hazardous waste;
- Chemicals and hazardous material;
- Extraction of materials;
- Energy use;
- Pesticides.

ESS 4: Community Health and Safety

Environmental and Social Standard 4 (ESS 4) recognizes that Project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to Project activities. ESS 4 addresses the health, safety, and security risks and impacts on Project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

Objectives of ESS 4 are the following:

- To anticipate and avoid adverse impacts on the health and safety of Project-affected communities during the Project life cycle from both routine and non-routine circumstances.
- To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams.
- To avoid or minimize community exposure to Project-related traffic and road safety risks, diseases, and hazardous materials.
- To have in place effective measures to address emergency events.
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the Project-affected communities.

The applicability of this ESS is established during the environmental and social assessment under ESS 1. The Borrower will evaluate the risks and impacts of the Project on the health and safety of the affected communities during the Project life cycle, including those who, because of their particular circumstances, may be vulnerable. The Borrower will identify risks and impacts and propose mitigation measures by the mitigation hierarchy.

ESS 5: Land Acquisition, Restriction on Land Use and Involuntarily Resettlement

[7] World Bank Group Environmental, Health and Safety Guidelines (EHSG), available at: https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/

ESS 5 recognizes that Project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land, or loss of shelter), economic displacement (loss of land, assets, or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these previously mentioned impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

ESS 5 objectives are:

- To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring Project design alternatives
- To avoid forced eviction
- To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by:
  - Provide timely compensation for loss of assets at replacement cost, and
  - assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or levels prevailing before the beginning of Project implementation, whichever is higher
- To improve living conditions of poor or vulnerable persons who are physically displaced, through the provision of adequate housing, access to services and facilities, and security of tenure
- To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the Project, as the nature of the Project may warrant
- To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected

A Resettlement Policy Framework has been developed and any sub-project involving land acquisition and involuntary resettlement, regardless of whether physical relocation is present, will develop a Resettlement Plan as per the RPF and this will be approved by the World Bank and disclosed in-country. The screening process will screen for all the sub-projects which may involve involuntary land acquisition.

The applicability of this ESS is established during the environmental and social assessment under ESS 1.

ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Environmental and Social Standard 6 (ESS 6) applies to all Projects that potentially affect biodiversity or habitats, either positively or negatively, directly or indirectly, or that depend upon biodiversity for

their success It is also applied to Projects that involve primary production and/or harvesting of living natural resources[8].

ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services[9].

ESS 6 objectives are:

- To protect and conserve biodiversity and habitats;
- To apply the mitigation hierarchy and the precautionary approach in the design and implementation of Projects that could have an impact on biodiversity;
- To promote the sustainable management of living natural resources, and
- To support the livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.

The Borrower is obliged to avoid adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity per the mitigation hierarchy provided in ESS 1 and with the requirements of this ESS. Measures will be a part of the site-specific E&S instrument (e.g. ESMP). Where significant risks and adverse impacts on biodiversity have been identified, the Borrower will develop and implement a Biodiversity Management Plan[10].

ESS 8: Cultural Heritage

Environmental and Social Standard 8 (ESS 8) recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present, and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge, and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS 8 sets out measures designed to protect cultural heritage throughout the Project life cycle- It also sets out general provisions on risks and impacts to cultural heritage from Project activities.

Objectives of ESS 8 are the following:

[8] Harvesting of living natural resources, such as fish and all other types of aquatic and terrestrial organisms and timber, refers to productive activities that include extraction of these resources from natural and modified ecosystems and habitats.

[9] Requirements related to ecosystem services are set out in ESS.

[10] Depending on the nature and the scale of the risks and impacts, to address cultural heritage as an integral aspect of sustainable development the Project, the Biodiversity Management Plan may be a stand-alone document or it may be included as part of the Environmental and Social Commitment Plan prepared under ESS 1.

- To protect cultural heritage from the adverse impacts of Project activities and support its preservation
- To address cultural heritage as an integral aspect of sustainable development
- To promote meaningful consultation with stakeholders regarding cultural heritage
- To promote the equitable sharing of benefits from the use of cultural heritage

The requirements of this ESS 8 will apply to all Projects that are likely to have risks or impacts on cultural heritage. This will include a Project which:

- Involves excavations, demolition, movement of earth, flooding, or other changes in the physical environment
- Is located within a legally protected area or a legally defined buffer zone
- Is located in, or in the vicinity of, a recognized cultural heritage site
- Is specifically designed to support the conservation, management, and use of cultural heritage.
- May impact cultural or natural heritage that is not officially under institutional protection, but has value and significance for the community. In this case, proper application of ESS10 is crucial.

The requirements of ESS 8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified.

ESS 10: Stakeholder Engagement and Information Disclosure

Environmental and Social Standard 10 (ESS 10) recognizes the importance of open and transparent engagement between the Borrower and Project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of Projects, enhance Project acceptance, and make a significant contribution to successful Project design and implementation.

Stakeholder engagement is an inclusive process conducted throughout the Project life cycle. When properly designed and implemented, it supports the development of strong, constructive, and responsive relationships that are important for the successful management of a Project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the Project development process, and is an integral part of early Project decisions and the assessment, management, and monitoring of the Project's environmental and social risks and impacts.

ESS 10 objectives are the following:

- To establish a systematic approach for stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular, Project-affected parties
- To assess the level of stakeholder interest and support for the Project and to enable stakeholders' views to be taken into account in Project design and environmental and social performance.
- To promote and provide means for effective and inclusive engagement with Project-affected parties throughout the Project life cycle on issues that could potentially affect them

- To ensure that appropriate Project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format.
- To provide Project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances.

ESS 10 applies to all Projects supported by the Bank through Investment Project Financing. The Borrower engages with stakeholders as an integral part of the Project's environmental and social assessment and Project design and implementation, as outlined in ESS 1.

In the terms of this ESS, "stakeholder" refers to individuals or groups who:

- are affected or likely to be affected by the Project (Project-affected parties)
- may have an interest in the Project (other interested parties).

Considering all factors involved, a comprehensive Stakeholder Engagement Plan (SEP) has been meticulously crafted to ensure that the interests, concerns, and perspectives of all relevant parties are thoroughly addressed and integrated into the project framework. This plan will serve as a strategic roadmap, outlining the methodologies and channels through which stakeholders will be engaged and consulted throughout the entirety of the project lifecycle. By fostering open communication, active participation, and transparent decision-making processes, the SEP will not only facilitate a deeper understanding of stakeholder needs but also foster a sense of ownership and collaboration among all involved parties. Moreover, the SEP will be a dynamic document, subject to periodic review and refinement to adapt to evolving circumstances and emerging stakeholder dynamics. Through this proactive and inclusive approach to stakeholder engagement, the project aims to cultivate a conducive environment for constructive dialogue, mutual respect, and ultimately, the successful realization of project objectives while nurturing positive relationships with the communities and individuals impacted by the project.

5.2. Overview of Environmental and Social Requirements in FBiH

5.2.1. Environmental Impact Assessment Procedure

The process of Environmental Impact Assessment (EIA) in FBiH is under the jurisdiction of the Federal Ministry of Environment and Tourism (FMoET), and is regulated by the following regulations:

- Law on Environment Protection of FBiH[11]
- Regulation on Projects for which an environmental impact assessment is mandatory and Projects for which a decision is made on the need for an environmental impact assessment[12]
- Rulebook on the content of Environmental Impact Assessment Study[13]

For Projects for which an environmental impact assessment is mandatory and Projects for which a decision is made on the need for an environmental impact assessment, the assessment procedure begins by submitting a Request for a Preliminary Impact Assessment to FMoET. The Request is prepared by the legal entities authorized by FMET. The context of the Request is prescribed by the Law on Environment Protection.

FMoET publicly disclosed the electronic version of the Request through its website and invited the stakeholders to submit their written comments and suggestions. After the preliminary

[11] Official Gazette of FBiH, No. 15/21
[12] Official Gazette of FBiH, No. 51/21
[13] Official Gazette of FBiH, No. 63/21

environmental impact assessment procedure has been carried out and the factual situation has been established, FMoET issues a Decision that determines:

- that there is no need to carry out an environmental impact assessment (development of EIA Study)
- that environmental impact assessment is obligatory, during which the obligation to develop an Environmental Impact Assessment Study is determined, and the scope and content of the Study are also determined.

The context of the EIA Study is prescribed by the special by-law. FMET also publicly disclosed the electronic version of the EIA Study through its website, informed and invited all the stakeholders to public consultation, and appointed an Expert Committee to evaluate the EIA Study. Within 30 days after completion of the public consultation process, the evaluation by the expert committee must be completed. Once the process of evaluation of the EIA study is completed, the FMoET issues a Decision on Approval or Rejection of the EIA Study within 60 days. If the Study is rejected, the new EIA study can be submitted after 6 months upon the Decision on Rejection of the EIA Study, at the earliest.

Under the FBiH legislation, the envisaged Project activities do not trigger EIA.

Following the Regulation determining plants and facilities that must have an environmental permit[14], the envisaged Project activities do not require an environmental permit.

5.2.2. Waste Management Regulations

In FBiH, waste management is regulated by the Law on Waste Management FBiH[15]. According to the Law on Environment Protection FBiH, the Request for Environmental Permit must be accompanied by a Waste Management Plan. The Waste Management Plan must contain the following:

- documentation on the waste generated by the company (origin, type of waste under waste classification list, composition, volume)
- measures to be taken to limit waste generation, particularly in the case of hazardous waste
- separation of waste, particularly separation of hazardous waste from other types of waste and recyclables
- waste disposal
- waste treatment and/or disposal methods

5.2.3. Water Management Regulations

In FBiH, the Water Law[16] regulates water management, including water protection, water use, protection against the harmful effects of water, and regulation of watercourses and other waters.

The Regulation on Requirements for the Discharge of Wastewater into the Environment and Public Sewerage Systems in FBiH[17] establishes conditions for collection, treatment, and discharge of municipal wastewater; conditions for treatment and discharge of technological wastewater into the environment or public sewage systems; limit values of wastewater emissions when discharged into the environment or public sewage systems; deadlines for reaching limit values; and monitoring and testing wastewater.

[14] Official Gazette of FBiH, No. 51/21
[15] Official Gazette of FBiH, No. 33/03, 72/09 and 92/17
[16] Official Gazette of FBiH, No. 70/06
[17] Official Gazette of FBiH, No. 26/20

The Water Law prescribes that water permits must be obtained, regardless of their impact on water abstraction in all industries and activities, especially for industry and energy, as well as for any other activity that may affect the volume and quality of water.

According to the Water Law of FBiH, the water-permitting process consists of three stages:

1. issuing of Preliminary Water Approval
2. issuing of Water Approval
3. issuing of Water Permit

Preliminary Water Approval sets the conditions, which have to be met by Project documentation, such as Project design. The request for issuing of Preliminary Water Approval should be submitted parallel with the Request for Environmental Permit, as they both are subject to the issuing of Urban Permit. Request for Preliminary Water Approval has to be accompanied by a Study for issuing Preliminary Water Approval. This Study must be prepared by the company licensed by the Federal Ministry of Agriculture, Water and Forestry. Preliminary Water Approval validity is expiring after three years if a Request for Water Approval was not submitted in that period.

Water Approval confirms that Project documentation submitted with the Request for issuing of Water Approval is by Preliminary Water Approval and other planning documentation. Water Approval sets the conditions, that have to be met during construction works, necessary research and observations during the execution of works, obligations to keep records, submit data to the water information system, as well as obligations to compensate third parties for damages incurred as a result of the works and the validity period of the Water Approval. The request for issuing of Construction Permit has to be accompanied by Water Approval. Water Approval validity expires after two years if a Construction Permit was not issued and construction works were not started in that period.

The water Permit confirms that all the requirements set in the Water Approval are met and are issued before the Use Permit. The Water Permit defines the purpose, terms, and conditions of water use, facility and plant operating regime, terms and conditions of wastewater discharge, terms and conditions of solid waste and liquid waste disposal, and other terms and conditions. It also defines the applicant's obligations related to wastewater measurement, measurement frequency, quality control, and records keeping on used water, as well as obligations related to water fees accounting and payment. Water Permit is being issued for a limited time, but not longer than 15 years.

In FBiH, water documentation is issued under the Regulation on Content, Form, Conditions, and Manner of Issuance and Keeping of Water Documentation[18].

In FBiH, the Sava River Water Agency, the Adriatic Sea Water Agency, and Cantonal Ministries are responsible for issuing water management acts.

5.2.4. Nature Protection Regulations

The Law on Nature Protection FBiH[19] prescribes: the responsibilities of nature protection authorities, general nature conservation measures, management of protected areas, assessment of the acceptability of interventions in nature, habitat types and ecologically significant areas, species and subspecies, species protection, protection and preservation of biodiversity, eco-systems, the establishment of the European ecological network of specially protected areas - Natura 2000,

[18] Official Gazette of FBiH, No. 31/15, 55/19, 41/20, 63/22
[19] Official Gazette of FBiH, No. 66/13

protected natural values, compensation for damage, making proposals for concessions on protected natural values, inventory and monitoring, access to information and public participation, etc.

In addition, 13 by-laws regulate different activities concerning the management of nature protection, including:

- Rulebook on the content and method of preparation of the protected area management plan[20]
- Rulebook on the conditions of access to the protected area[21]
- Rulebook on the content and manner of keeping the register of protected areas[22]
- Regulation NATURA 2000 – protected areas in Europe[23]

When project activities occur within or near Natura 2000 sites or designated protected areas, the Law on Nature Protection FBiH requires an Assessment of Acceptability of the proposed intervention. This procedure includes screening to determine potential ecological impacts, followed by a detailed assessment if significant effects cannot be excluded. The process involves consultation with the competent environmental authorities, preparation of ecological studies (as needed), and public participation. Approval must be obtained before proceeding, and mitigation measures may be required to minimize impacts on species and habitats.

Other Key Legislative Areas Relevant to the Project:

- Seismic Resistance: Construction activities must comply with national seismic design standards (aligned with Eurocode 8), especially in high-risk zones prevalent in southern and central FBiH.
- Fire Safety: The Law on Fire Protection and the Rulebook on Technical Norms require fire risk assessments and integration of preventive measures in road design, particularly in forested or drought-prone areas.
- Climate Change Adaptation: Projects must integrate resilience measures under the FBiH Climate Change Strategy, addressing flood protection, slope stabilization, and material durability under extreme weather.
- Mineral Extraction (Quarries, Gravel, Sand): Governed by the Law on Geological Research and the Law on Mining, extraction must be licensed, environmentally assessed[24], and monitored to prevent over-exploitation and land degradation.
- Noise: The Law on Environmental Protection and the Rulebook on Noise Protection require noise assessments for road projects near residential or sensitive zones, with design-based mitigation such as barriers or low-noise pavements.

5.2.5. Construction Regulations

The purpose of spatial planning is the optimal deployment of people, material goods, and activities in space through organization, arrangement, use, and protection of land resources. Spatial planning

[20] Official Gazette of FBiH, No. 65/06
[21] Official Gazette of FBiH, No. 69/06
[22] Official Gazette of FBiH, No. 69/06
[23] Official Gazette of FBiH, No. 43/11
[24] Compliance verification for mineral extraction activities (quarries, gravel, sand) includes valid concessions/licenses issued by the competent ministry or local authorities, evidence of mandatory Environmental Impact Assessments (EIA) or environmental permits, inspection reports, records of past violations, and, where applicable, voluntary certifications such as ISO 14001 (environmental management) or ISO 45001 (occupational health and safety).

adopts an integrated approach that combines natural, anthropogenic, and created spaces to solve spatial conflicts. In legal terms, spatial planning in BiH is the exclusive constitutional competence of entities and cantons. Such division of competencies requires the adoption of laws and bylaws at the entity and cantonal levels. The coverage of the country with spatial plans is incomplete.

In FBiH, construction is governed by the following legislation:

- The Law on Spatial Planning and Land Use of FBiH[25]
- Cantonal Laws on Spatial Planning and Construction

The Law on Spatial Planning and Land Use of FBiH regulates the planning of land use through the development and adoption of planning documents and their implementation; the type and content of planning documents; land use at the entity level; control of the implementation of planning documents relevant for the entity; control over the enforcement of this legislation and penalties for legal entities and individuals.

Planning at all federal levels must be harmonized with specific regulations from the sectors of environment, water, land, forestry, health, etc. as per Article 9 of the Law.

According to this Law and cantonal regulations on spatial planning and construction, to construct facilities, it is necessary to obtain an Urban Permit, Construction Permit, and Use Permit. Depending on the type of construction, these permits are issued by the Federal Ministry of Spatial Planning, the Cantonal Ministries relevant to spatial planning, or by the local self-government units (Cities or Municipalities).

The investor is responsible for the submission of the Request for issuing of Urban Permit. The request has to be accompanied by a Preliminary design and Environmental Permit (if required). The Ministry is obliged to respond to the request within 30 days of submission of the Request. An urban permit is valid for one year, and within that period Request for issuing of Construction Permit has to be submitted.

The party to which the Urban Permit is assigned is responsible for the submission of the Request for issuing of Construction Permit. The request for issuing of Construction Permit has to be accompanied by a detailed design. The Ministry is obliged to respond to the request within 30 days of summation of the Request.

Based on a Request, a Use Permit is issued by the Ministry after the conducted technical inspection.

The Decree on Construction Site Organization, Mandatory Documentation on Construction Site and Construction Participants[26] specifies the documents that must be kept at construction sites, including a Construction Site Organization Plan (CSOP). The CSOP contained the following:

- Map of the location
- Description of preparatory works and site arrangements during and after construction works
- Description of the technological scheme
- Elaborate on Safety (composed of Elaborate on Protection at Work and Fire Fighting and Explosion Protection Elaborate)
- Description of the measures planned for monitoring emissions within the area and/or their impact

[25] Official Gazette of FBiH, No. 2/06, 72/07, 32/08, 4/10, 13/10, 45/10, 85/21, 92/21
[26] Official Gazette of FBiH, No. 25a/22, 42/22, 93/22

The CSOP must be developed by the Contractor for construction works before the commencement of construction works. It has to be controlled and signed by the Supervisory Authority which is the legal entity responsible for the overall supervision of construction works, as stipulated by the above-mentioned Decree. The Plan should correspond to the requirements, safety measures, and obligations contained in the Environmental Permit or environmental protection requirements laid down in the construction approval process.

5.2.6. Land Acquisition

The proposed Project activities are not expected to involve physical displacement; however, certain subprojects may require permanent and/or temporary land acquisition, particularly for safety enhancement measures, climate adaptation interventions, or the construction of temporary bypasses during rehabilitation works. Prior to submission for funding consideration, each subproject will undergo detailed screening to assess whether land acquisition is necessary, its nature (permanent or temporary), and its scope. All land-related impacts will be addressed in accordance with the provisions of the RPF.

The land acquisition in FBiH is regulated by the Law on Expropriation of FBiH[27]. This Law regulates the conditions, manner, and procedure of expropriation of the property for the construction of facilities of public interest. Property can be expropriated for the construction of roads, business and industrial zones, economic, communal, medical, educational, and cultural structures, civil defense structures, and other structures of public interest. The expropriation target includes real property owned by individuals and legal entities.

Property can only be expropriated upon the declaration of public interest for the Projects. Expropriation may be carried out for the needs of the FBiH, cantons, cities, municipalities, public companies, their 100% owned subsidiaries, and public institutions. Exceptionally, expropriation may establish easement in favor of citizens to install water and sewage pipes, electric and telephone cables, gas pipelines, and in other cases determined by Law as defined by Article 6.

Public interest is declared by a special decree or the Law (Art. 14 and 15). The public interest in the construction of a facility or the performance of other works in the area for which a regulatory plan or urban plan has been adopted shall be considered determined by that plan, i.e., Project.

Expropriation may be complete or incomplete.

Complete expropriation allows the beneficiary of expropriation to obtain legal title over the expropriated property, while the rights of the previous owner over the property as well as other rights over that property cease to exist (Art. 7).

Incomplete expropriation does not entail a change of ownership of land. Incomplete expropriation can establish easement on land and buildings as well as lease on land for a certain period (Art. 8)

By expropriating the property, the beneficiary of the expropriation acquires the right to use that real estate for the purpose for which the expropriation was performed. Landowners affected by a partial loss of their property are entitled to request complete expropriation and the corresponding compensation, in case partial expropriation would deteriorate the economic situation of the actual property owner or make the remaining part of the property useless or difficult to use. Owners must be informed of such rights by the municipal/city authority. Such a request may be submitted until

[27] "Official Gazette of FBiH", no. 70/07, 36/10, 25/12, 8/15 and Decision of Constitutional Court 34/16

the Decision on Expropriation is issued in the first instance, as well as during the appeal procedure if the affected owner was not informed of such right. (Art. 11).

Before submitting the proposal for expropriation, the expropriation user is obliged to invite the property owners through a public announcement to acquire the property by mutual agreement as per Art 23. Expropriation can be started only after the required funds have been secured and deposited with the bank in the assessed total sum for payment, or proof of existence of replacement properties provided (Art. 24), and compensation must be provided before formal transfer of ownership (Art. 31).

For reasons of urgency and to avoid major damage, the beneficiary of expropriation may take possession of land even before the Decision on Expropriation becomes final and before compensation is paid, but solely based on a decision by the FBiH Government. Generally, compensation is provided by replacement with another appropriate property corresponding to the market value of the real estate expropriated in the same municipality or city but if the owner refuses such replacement property, or replacement property cannot be provided by the beneficiary of the expropriation, compensation is paid in cash at market value of the property.

The Law on Proprietary Rights[28] stipulates the acquisition, use, disposal, protection, and termination of ownership rights and other proprietary rights as well as possession rights, including issues of restricting such rights, the right of servitude, co-ownership, and joint ownership rights, the procedure for acquiring property rights over land and/or structures build on someone else's land. Protection of ownership rights and other proprietary rights is guaranteed by this Law. According to Article 2, ownership rights and other proprietary rights can only be limited or taken away in the public interest but only under specific conditions defined by the Law following principles of international law. For the protection of natural resources, the environment, human health, cultural and historical heritage, etc., the manner of use and disposal of certain items may be limited or specifically regulated. A significant provision of the Law is that occupants of property acquire ownership rights upon 10 years of conscientious and legal occupancy, or 20 years of conscientious occupancy. In addition, the Law provides that the conscientious builder of a structure on land owned by another person is entitled to acquire such land if the land owner does not oppose the construction. The land owner is in this case entitled to request to be compensated for the market value of the land.

5.2.7. Labor Regulations

The key legislation that regulates the terms and conditions of employment in FBiH are:

- Labor Law of FBiH
- Law on Health Insurance

Labor Law of FBiH[29] regulates the rights, obligations, and responsibilities of employers and workers concerning the implementation and improvement of safety and health protection of workers at work, as well as general principles of prevention and the system of rules of safety and health at work whose application helps in preventing injuries at work, occupational and other diseases related to work, as well as the protection of the working environment, and other issues related to safety and health at work. Law defines the conclusion of an employment contract, working hours, salary, work contract termination, rights and obligations under employment contracts, and collective bargaining. The Law, inter alia, treats the rights of worker and employer to enter an employment contract, the

[28] "Official Gazette of FBiH", No. 66/13, 100/13 and Decision of Constitutional Court 32/19
[29] "Official Gazette of FBiH", No. 29/16, 89/18 and 23/20 - Decision of Constitutional Court

rights of minor and female workers, and safety and health at work. Provisions of this Law are harmonized with International Labor Organization (ILO) Conventions on forced work, discrimination, child work, equal pay, freedom of association, freedom of organization, and collective bargaining.

The laws prescribe in Article 20 the minimum employment age of 18 for concluding an employment contract, except for allowing persons between 15 and 18, with the consent of their legal custodians and based on a medical certificate issued by a health facility, and provided that the given job does not endanger the minor's health, moral and education. Employment contracts can be concluded as open-ended fix-term or part-time (Art. 22).

The terms and conditions provided by this Law include the prohibition of discrimination in terms of employment requirements and selection of candidates, education, training and professional development, promotion, and employment contract termination (Art. 10). Discrimination of workers and job seekers is prohibited concerning sex, sexual orientation, marital status, family obligations, age, disability, pregnancy, language, religion, political and other opinions, ethnic origin, social origin, financial status, birth, race, skin color, membership or lack of in political parties and trade unions, health status, or any other personal characteristic. Harassment and sexual harassment are also prohibited (Art. 8).

Women in the course of pregnancy and childbirth are given special protection. Women are entitled to 52 weeks of maternity leave. Employers cannot refuse to hire a woman because of her pregnancy or maternity leave. Furthermore, it is not allowed to terminate a labor contract with a woman after the expiry of the maternity leave.

Full working hours amount to 40 hours per week and they can be allocated to max. six working days (Art. 36). The Law prescribes breaks during working hours, as well as daily (at least 12 hours) and weekly rest (at least 24 hours). For working longer than 6 hours a day, a worker shall be entitled to rest for at least 30 minutes (Art. 44).

Employers must register workers for pension and disability insurance, health insurance, and insurance in case of unemployment.

The worker is entitled to an increased salary for difficult working conditions, overtime, and night work, and for work on a weekend, holidays, or any other day for which it is determined by law not to work following the collective agreement, work regulations, and employment contract (Art, 76). The Law guarantees the worker's right to a fair salary and full compensation of salary for the period of annual holidays, official holidays, and temporary inability to work due to injury at work or occupational disease (Art. 81).

Workers are entitled to remuneration of salary during temporary inability to work caused by sickness or injury or other reasons provided for by the Law on Health Insurance[30]. Salary compensation is entitled to the worker only for the days for which he would be entitled to salary or salary compensation in terms of employment regulations. Salary compensation is determined in the amount of at least 80% of the base for compensation, provided that it cannot be lower than the amount of the minimum salary valid for the month for which the compensation is determined. Salary compensation during sick leave amounts to at least 80% of the salary, whereas salary compensation during sick leave for injuries at work, for diseases related to pregnancy and birth, and for organ transplantation amounts to 100% of the salary.

[30] "Official Gazette of FBiH", No. 30/97, 7/02, 70/08, 48/11, 100/14 and Decision of Constitutional Court 36/18

The salary of workers and the elements for basic salary based on working performance are determined by the collective agreement, the rulebook, and the employment contract.

5.2.8. Work Safety Regulation

The legislation that regulates occupational health and safety in FBiH is the Law on Protection at Work of FBiH[31]. This Law has been harmonized with the ILO Convention on Occupational Safety and Health, No. 155[32] and Occupational Safety and Health Recommendation No. 164[33] of the ILO, as well as the provisions of the revised European Social Charter relating to the right of workers to safe and healthy working conditions[34], which Bosnia and Herzegovina has accepted and ratified. The provisions of Council Directive 89/391/EEC of 12 June 1989[35] on the introduction of measures to encourage improved security and Occupational Health, which contains general principles regarding the prevention of occupational risks, safety and health at work, and the elimination of risks that may cause accidents, on which all modern European laws governing this area are based, have been used during the preparation of this Law and the said directive has been transposed into legislation of Federation of Bosnia and Herzegovina.

Safety and protection of health at work, in terms of this law, is the provision of such working conditions that prevent the occurrence of occupational injuries, and occupational and work-related diseases as much as possible and which create a precondition for full physical, mental, and social safety of employees.

As per Article 10, the employer who prepares technical documentation for facilities and technical-technological processes is obliged to apply the prescribed safety and health protection measures at work when designing facilities and technical-technological processes, with an indication of all risks and measures for their elimination.

An employer who performs works on construction, installation, replacement of equipment, overhaul or reconstruction of facilities is obliged to prepare a Study on the arrangement of the work site and ensure the performance of works according to that study Art. 12). Work equipment must correspond to the work process being performed and must be appropriately adapted to that purpose so as not to endanger the safety and health of workers.

The employer is obliged to determine the organization of the implementation of occupational safety, and the rules of prevention and protection by its internal act on occupational safety (Art. 23).

The employer is obliged to organize safety and health at work, perform a risk assessment for each job, enable the employee to get acquainted with safety and health measures before starting work, adopt an internal act on occupational safety, inform workers about the introduction of new technologies and means for work, and dangers and harms to the health of workers, prepares workers for safe work and provides workers with means and equipment of personal protection, provides periodic medical examinations, provides periodic examinations means of work and equipment for protection at work, implement fire protection measures, implement measures to

[31] "Official Gazette of FBiH", No. 79/20

[32] Convention on Occupational Safety and Health No. 155, 1981, ILO, Available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312300

[33] Occupational Safety and Health Recommendation (No. 164), 1981, ILO, available at: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312502:NO

[34] European Social Charter 1961, Available at: https://www.coe.int/en/web/european-social-charter

[35] Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work

ensure first aid, and to inform the competent labor inspection of any death, an accident that struck one or more workers, serious injury, occupational disease, any occurrence or diseases affecting more than one worker and any occurrence which could endanger the life or health of workers at work (Art. 22).

Workers are obliged to use personal protection equipment and comply with other instructions related to safety at work.

In cases when workers have to handle hazardous substances, the Law stipulates the obligations of employers to reduce the danger to workers (Art. 26). However, there are no specific asbestos-related OHS requirements. If such risk becomes relevant under the Project WB EHSG and GIIP will guide the definition of specific measures.

Vulnerable groups, such as pregnant women, mothers or nursing mothers, minors, persons with disabilities, as well as workers with changed working capacity in terms of pension and disability insurance regulations, are not allowed to work in jobs where there is a risk to their physical and mental health and life and in a difficult working condition (Art. 70).

5.2.9. Protection of cultural property regulations

The Decision on the Provisional List of National Monuments of BiH[36] adopted the list of national monuments of BiH, and it is stipulated that the Commission for the Protection of National Monuments will make an individual decision on the declaration of a property as a national monument for each property entered on the Provisional List.

The Law on the Implementation of the Decisions of the Commission for the Protection of National Monuments established under Annex 8 of the General Framework Agreement for Peace in BiH[37] establishes measures for the protection and rehabilitation of assets that have been established as national monuments of BiH. This Law stipulates that the competent Ministry is obliged, before issuing an approval, to obtain an expert opinion from the competent institution for the protection of cultural and historical heritage on the Project of rehabilitation of national monuments.

The Law on Culture of Tuzla Canton[38] regulates, among other things, the preservation of cultural heritage and cultural values. This Law stipulates that the Cantonal Assembly adopts a Program in the field of culture, which, among other things, establishes measures for the preservation of cultural and natural heritage.

The Law on the Protection of the Cultural Heritage of ZDC[39] regulates cultural heritage assets, measures for their protection, use and restoration, rights and obligations of owners, subjects of protection, financing of activities, supervision, local self-government affairs, and penalties for offenses in the territory of ZDC. According to this Law, without the consent of the Cantonal Institute for Cultural Heritage Protection, works may not be carried out on: (i) a protected site, asset and in the protective zone, which could directly or indirectly change the appearance, authenticity, originality or other properties of the cultural heritage assets, (ii) the area where it is reasonably assumed that cultural heritage assets can be found. The Decision by which the Cantonal Institute gives consent for the execution of works on a protected site, asset, and protective zone must also contain protective measures. When an unforeseen danger to a protected cultural asset appears

[36] "Official Gazette of BiH", No. 03/02
[37] "Official Gazette of FBiH", No. 2/02, 08/02, 27/02, 06/04, 51/07
[38] "Official Gazette of TC", No. 08/98
[39] "Official Gazette of ZDC", No. 02/02

during the execution of works or a potential cultural asset is discovered, the contractor is obliged to stop the works without delay and inform the Cantonal Institute. The suspension of works lasts until the Cantonal Institute establishes protective measures, but not longer than 60 days. Protection measures are borne by the contractor.

The Law on the Protection of the Cultural Heritage of HNC[40] regulates the term cultural-historical heritage and the unique basis for the protection, preservation, use, and restoration of cultural heritage, the obligations and rights of owners of cultural heritage assets, the performance of professional and administrative tasks, the financing of the protection and preservation of cultural heritage and other issues on the territory of HNC. According to this Law, without the consent of the Cantonal Institute for the Protection of Cultural-Historical Heritage of HNC, it is forbidden to make changes to the cultural heritage assets, as well as in its immediate vicinity, that is, to damage the integrity of the cultural heritage assets. These activities include conservation, restoration, reconstruction, rehabilitation, and adaptation of heritage assets. Without the consent of the Cantonal Institute, works may not be carried out on (i) a protected site, asset and in a protective zone, which could directly or indirectly change the appearance, authenticity, originality, or other properties of the cultural heritage asset, (ii) the area where it is reasonably assumed that cultural heritage assets can be found. The Decision by which the Cantonal Institute gives consent for the execution of works on a protected site, asset, and protective zone must also contain protective measures. When an unforeseen danger to a protected cultural asset appears during the execution of works or a potential cultural asset is discovered, the contractor is obliged to stop the works without delay and inform the Cantonal Institute. The suspension of works lasts until the Cantonal Institute establishes protective measures, but not longer than 60 days. Protection measures are borne by the contractor.

The Law on the Protection of the Cultural Heritage of SC[41] regulates cultural heritage assets, measures for their protection, use and restoration, rights and obligations of owners, subjects of protection, financing of activities, supervision, local self-government affairs, and penalties for offenses in the territory of SC. According to this Law, without the consent of the Cantonal Institute for Cultural Heritage Protection, works may not be carried out on: (i) a protected site, asset and in the protective zone, which could directly or indirectly change the appearance, authenticity, originality or other properties of the cultural heritage assets, (ii) a recorded potential cultural heritage asset, (iii) the area where it is reasonably assumed that cultural heritage assets can be found. The Decision by which the Cantonal Institute gives consent for the execution of works on a protected site, asset, and protective zone must also contain protective measures. When an unforeseen danger to a protected cultural asset appears during the execution of works or a potential cultural asset is discovered, the contractor is obliged to stop the works without delay and inform the Cantonal Institute. The suspension of works lasts until the Cantonal Institute establishes protective measures, but not longer than 60 days. Protection measures are borne by the contractor.

5.2.10. Traffic safety regulations

The Law on the Basics of Road Traffic Safety in Bosnia and Herzegovina[42] establishes basic principles of mutual relations and behavior of road users and other traffic subjects, basic conditions that must be met by roads in terms of road traffic safety, maintenance of the Central Register of drivers and vehicles, road traffic rules, the system of traffic signs and signs given by authorized persons, duties in

[40] "Official Gazette of HNC", No. 02/06
[41] "Official Gazette of SC", No. 02/02, 37/08
[42] "Official Gazette of BiH", No. 6/06, 75/06, 44/07, 84/09, 48/10, 48/10 – other law, 18/13, 8/17, 89/17 and 9/18

the event of a traffic accident, driver's training, requirements for acquiring the right to drive motor vehicles, taking driver's tests, requirements for vehicle devices and equipment, dimensions, total weight and axle load of vehicles, the basic conditions that must be met by vehicles in traffic, the work of professional organizations in BiH, and other issues in the field of road traffic safety that are unique to the entire territory of BiH.

The Law on Road Transportation[43] regulates the conditions and manner of carrying out the activity of transporting persons and cargo by motor vehicles, trailers, and carts in road transport; operation of technical inspection stations in the territory of the FBiH; activity of public transport of passengers and cargo in regular and non-regular road transport; transportation for own needs; operation of bus stations; and inspection supervision. Public transport and transport for personal needs can only be carried out if the special operating conditions for certain types of transport are met and if the vehicle meets the technical and operating conditions. The technical and operating conditions are prescribed by the Ordinance on the technical and operating conditions under which certain types of transport are performed[44].

5.2.11. Regulations on air quality and protection

FBiH has adopted an appropriate set of laws and rulebooks regulating the area of air quality management. Among the most important laws, the following stand out:

- Law on Air Protection[45]
- Rulebook on Air Quality Monitoring[46]
- Rulebook on the manner of monitoring air quality and defining the types of pollutants, limit values, and other air quality standards[47]
- Rulebook on emission limit values of pollutants into the air[48]

The Law on Air Protection regulates technical conditions and measures for preventing or reducing emissions into the air caused by human activities that must be observed in the production process, in the territory of FBiH, air quality protection planning, special sources of emissions, emissions cadaster, air quality, supervision and penalties for misdemeanors for legal and natural persons. The provisions of this Law do not apply to air emissions from domestic activities or domestic combustion sources whose thermal power is less than 250 KW. Only fuels (solid and liquid) listed in the standards established by the Institute for Standards of BiH can be used in domestic emission sources. Fuels for motor vehicles must comply with the quality standards published by the Institute for Standards of BiH.

The Rulebook on Air Quality Monitoring establishes that the authorized institution for managing the air monitoring system is the Federal Hydrometeorological Institute (FHMI), which is responsible for the following:

- establishment, organization, and management of the air quality monitoring system in FBiH, as part of monitoring in BiH

[43] "Official Gazette of FBiH", No. 28/06, 2/10, 57/20
[44] "Official Gazette of FBiH", No. 51/06, 79/06, 11/09
[45] "Official Gazette of FBiH", No. 33/03 and 04/10
[46] "Official Gazette of FBiH", No. 12/05 and 09/16
[47] "Official Gazette of FBiH", No. 01/12, 50/19 and 3/21
[48] "Official Gazette of FBiH", No. 12/05

- establishment of an air quality information system to report on monitoring results in prescribed formats

The air quality monitoring network can be 1) federal (as part of the national), 2) cantonal, 3) city/municipal, 4) operators of plants and facilities, and 5) special areas. Monitoring of federal significance is conducted by the FHMI. The choice of the location of the Federal monitoring stations and their type and number, as well as the measurement frequency, are determined in the Federal Air Pollution Protection Strategy.

The FHMI is obliged to report on the monitoring results to the FMoET, the Federal Ministry of Health, i.e. within it the Federal Institute for Public Health FBiH, the Federal Institute for Statistics, and the public in BiH. FHMI is also obliged to submit the monitoring results to the BiH institutions which are responsible for reporting to the European Environment Agency (EEA) and the Secretariat of Relevant Conventions which BiH has ratified, signed, or acceded to.

5.3. Comparison of National Legislation, and World Bank Environmental & Social Safeguards

Topic	National Legislation (FBiH)	World Bank ESS	Key Differences	Gaps / Actions
Environmental Impact Assessment (EIA)	Law on Environmental Protection (OG FBiH 33/03, 38/09, 63/10, 66/13). EIA required for projects above thresholds; limited social scope.	ESS1 – risk-based (High/Substantial/Moderate/Low), requires cumulative, indirect, transboundary, and social impact analysis.	FBiH law = biophysical focus; WB = broader (social, cumulative, alternatives).	Apply WB scope in ESMF; require cumulative and social aspects in ESIA/ESMPs.
Biodiversity	Law on Nature Protection (OG FBiH 66/13). Protects species/habitats, permits for protected areas.	ESS6 – requires protection of modified, natural, and critical habitats + ecosystem services.	National law = protected areas only; WB = also critical habitats + ecosystem services.	Apply WB approach; screen for ecosystem services and critical habitats.
Noise & Air Quality	Law on Air Protection (OG FBiH 33/03, 04/10, 81/09); Law on Protection against Noise (OG FBiH 110/12).	ESS3 – resource efficiency, pollution prevention, GIIP.	FBiH = numeric limits; WB = GIIP + continuous monitoring.	Apply WB standards; ensure contractors follow GIIP.
Labour & Working Conditions	Labour Law FBiH (OG 26/16, 89/18). OHS regulated, union rights recognized, but no GRM or supply chain due diligence.	ESS2 – covers direct, contracted, community, and primary supply workers; requires GRM, OHS, supply chain due diligence.	FBiH = no GRM/supply chain oversight; WB = require GRM + broader worker coverage.	Prepare LMP with worker GRM; extend oversight to supply chain as per WB.
Land Acquisition & Livelihoods	Law on Expropriation (OG FBiH 70/07, 36/10). Compensation at replacement cost, but only for formal owners.	ESS5 – requires avoidance/minimization, livelihood restoration, support for informal/vulnerable users.	FBiH = limited to legal owners; WB = include informal users + livelihoods.	Prepare RPF/RAP per WB; ensure vulnerable/informal users supported.
Cultural Heritage	Law on Cultural Heritage (OG FBiH 66/88, 2/90, 20/02). Focus on physical heritage; permits for monuments.	ESS8 – tangible + intangible heritage, chance finds, community consultation.	FBiH = physical only; no chance finds; WB = tangible + intangible + chance finds.	Include chance finds procedure in ESMPs; consider intangible heritage in screening.

For the purpose of this ESMF and all other safeguard documents prepared under the Project (including the LMP, RAP, and SEP), the stricter criteria between FBiH legislation, and World Bank ESSs will be applied.

6. INSTITUTIONAL FRAMEWORK

6.1. BiH Level Institutions

According to the Dayton Agreement, issues such as foreign policy, foreign trade policy, and customs policy fall within the area of competence of BiH institutions. All governmental functions and authorities that are not expressly assigned to the institutions of BiH are those of the entities/District. This includes water management, environmental protection, agriculture, land and forestry. However, the national level does have some competencies in the fields related to the implementation of international treaties, environmental protection, and water management.

At the state level, the Ministry of Foreign Trade and Economic Relations (MoFTER) is responsible for, among others, tasks and duties falling within the competence of BiH which are related to the definition of policy, basic principles, coordination of activities, and harmonization of plans of entity-level authorities and institutions on the international level in the areas of agriculture, energy, environmental protection, development and use of natural resources and tourism. The sector for water resources, tourism, and environmental protection within MoFTER, among the other tasks, is in charge of the definition of policy, basic principles, coordination of activities, and harmonization of plans of entity bodies and institutions on an international level in the fields of environmental protection, development and use of natural resources, and tourism in BiH.

6.2. FBiH Level Institutions

According to the objective of the Project to support the improvement of main road interventions in selected areas of Bosnia and Herzegovina, an overview of institutions and their responsibilities relevant to this Project are provided in the table below.

Institution	Responsibilities
Federal Ministry of Environment and Tourism (FMoET)	The Ministry performs administrative, professional, and other tasks within the competence of FBiH related to air, water, and soil protection; drafting environmental strategy and policy, standards for air, water, and soil quality, environmental monitoring and control of air, water, and soil. The Ministry is also a main authority for environmental protection (including nature protection) and environmental permitting at the FBiH level. The following activities are performed by the Environmental Sector of this ministry: • preparation and coordination of development of long-term strategic documents in the field of environmental and nature protection, including all components of the environment and their interaction (air, water, soil, biodiversity) to prevent environmental pollution, prevention of damage, reduction and/or removal of damages caused to the environment, and restoration of the environment to the state before the damage occurred • coordinating the preparation and implementation of short-term and long-term plans for the protection and improvement of the existing state of the environment for the FBiH • participation in the preparation and implementation of strategic and planning documents at the level of the state of BiH that are relevant to the environment • creation of programs and management measures for protected areas of FBiH • preparation of expert bases for the drafting of laws, by-laws, and other regulations in the field of environmental and nature protection, with their harmonization with the legal acquis of the EU • monitoring the compliance of environmental regulations in FBiH/BiH with the acquis of the EU for chapter 27 - Environment and Climate Change • participation in the process of strategic environmental impact assessment • elaboration and undertaking of prevention measures aimed at the complete preservation of the environment, natural communities (biocenoses), and rational use of natural resources and energy following the principles of sustainable development

	• monitoring of international instruments (conventions, protocols, contracts, agreements, etc.), especially those signed and ratified by BiH, for which the Federal Ministry has the role of national focal point • performance of other tasks within the competence of the Sector. •
Federal Ministry of Transport and Communications	Performs administrative, professional, and other tasks within the competence of FBiH related to transport and communications which include, among others, river and lake traffic. It monitors the state of development and the safety of water navigation and combined transport, initiates and cooperates in the development of development plans and maintenance programs in individual forms of transport, initiates the achievement of international treaties, conventions, agreements, and other acts, participates in the drafting of legislation and by-laws in the field of transport.
Federal Ministry of Spatial Planning	Responsible for spatial planning and land use at FBiH level, long-term plans for the exploitation of natural resources, and protection of national monuments and areas of exceptional natural, architectural cultural, and historical importance. Also responsible for issuing Urban Consents, Construction Permits, and Use Permits at the FBiH level.
Federal Ministry of Agriculture, Water Management and Forestry	In terms of water management and protection, performs the following: preparation of strategies and development policies for water management; coordinates the monitoring of the state of water resources; proposes measures to improve the state of water in the Federation; implements procedures for awarding concessions within the competence of the Sector; resolves, upon request, the issuance of water acts and decisions (water management conditions, consents, permits and orders); supervises the work of Water Agencies; supervises the legality of acts passed by the cantons; coordinates water management with cantons.
Ministry of Labor and Social Policy	Performs administrative, professional, and other tasks related to: labor and employment policy; labor relations and rights from labor relations; protection at work; pension disability insurance; international conventions following the Constitution of BiH, contracts and bilateral agreements in the field of employment; social security and solidarity; social protection and other tasks established by laws in these areas.
Federal Ministry of Culture and Sports, Department for Cultural and Historical Heritage	The Department for Cultural-Historical Heritage and Culture performs administrative, professional, and other tasks related to coordination in the field of protection and use of cultural-historical heritage, in museum, archival, library, publishing, theatrical, musical, visual arts, and film activities, activities of institutions, associations, foundations, and other legal entities in the field of culture, monitors and studies the state and occurrences in these areas based on data collection and processing of that data with proposals for measures to address identified issues, prepares analyses, reports, information, reports, studies, programs, plans, assessments, and other professional, informational, planning, documentation, and analytical materials in these areas, carries out expert processing of systemic solutions of importance for these areas, initiates and participates in the drafting of laws and other regulations in the field of cultural-historical heritage and culture, maintains a database of legal entities in culture, keeps records of cultural events in the Federation of Bosnia and Herzegovina, plans, initiates and participates in the development of standards in the field of culture, prepares proposals for funding plans, proposals for the allocation of funds, and finds methods to improve the distribution of budgetary funds for the financing of protection of cultural-historical heritage and culture in the Federation of Bosnia and Herzegovina, and performs other tasks in the field of culture and cultural-historical heritage.
Federal Administration for Inspection Affairs	It consists of, among others, the following relevant inspectorates: labor inspectorate, forestry, urban-environmental, traffic, water, and energy inspectorate. Supervised the implementation of regulations in the relevant fields at the federal level: labor, forestry, environment, traffic, water, energy, etc.

Table 4: FBiH-level institutions relevant to this Project

6.3. Canton and Municipality Level Institutions

The list of the institutions at the cantonal level relevant to the Project is provided in the table below.

Institution	Responsibilities
Cantonal Ministries in charge of the environment	Performs administrative, professional, and other tasks within the competence of cantons related to environmental protection, such as:

	• tasks related to the general policy of environment protection in achieving conditions for sustainable development, protection of soil, water, air, flora and fauna, and waste management • preparation of draft laws, other regulations, and general acts related to environmental protection in Canton • tasks of first-level administrative resolution in the process of issuing environmental permits and permits for waste management • creation of strategic plans of the Canton in the field of environment and participates in the preparation of plans of importance for the FBiH • monitoring and proposing measures to improve the situation in the field of environmental protection • management of the environmental protection information system • assessment of conditions for the work of legal and natural persons in the field of environmental protection • achieving cooperation with other entities in environmental protection • proposing the financing of Projects of special importance for the state of the environment and the protection of natural heritage areas and supervising the implementation of these Projects • provides support for education and improvement of citizens' environmental awareness and support for non-governmental environmental organizations.
Cantonal Ministries in charge of spatial planning	Performs administrative and professional tasks determined by the Constitution, law, and other regulations, which relate to the exercise of Canton's competencies in the field of spatial planning. Ministries of the cantons in charge of spatial planning are also responsible for issuing urban permits, construction permits, and use permits at the cantonal level for the buildings of interest to the Canton, or which are being built in the area of two municipalities that are not part of the City or in the area of a municipality that is not part of the City and Canton, or which can have negative effects to the environment of the canton.
Ministry of Transport	The Sector for Transport, which operates within the Ministry, performs the following tasks: • monitor the functioning of transportation • performs analysis, planning, and development of transportation, organization, and improvement of passenger and cargo transportation in Canton • participates in the development of ToRs or technical characteristics for tender documentation in the public procurement process • monitors the situation and prepares proposals for solutions for other forms of transportation in Canton, such as bicycle traffic, transportation for other purposes (mobiles, skates, skateboards, etc.), pedestrian traffic • prepares and harmonizes traffic plans for the development of mobility • determining the network of transportation lines and timetables in the area of Canton • control and supervision of public passenger transportation in the Canton area • defines the minimum conditions for the establishment of new lines, as well as stops • monitors the work of all carriers in Canton • performs tasks of managing, controlling, and developing traffic and introducing new technologies in the field of public transportation • achieves cooperation with competent inspections and other bodies with the aim of uninterrupted flow of traffic.
Cantonal Ministries in charge of labor	Performs administrative and professional tasks at the cantonal level related to the execution of laws and other regulations in the field of labor, labor relations, and employment at the cantonal level; monitoring the implementation of legislation in the field of labor and employment and legislation related to the rights and social security of unemployed persons; proposing and participating in the drafting of laws and by-laws in the field of work, labor relations and employment at the cantonal level, etc.
Cantonal institutions for the protection of nature, cultural and historical heritage	Responsible for: taking care of the protection, use, and restoration of heritage assets, establishing protection measures, maintaining the register of heritage assets, giving an opinion in the process of restricting the right to use protected heritage assets, etc.
Cantonal inspections	Supervised the implementation of legislation in the relevant fields at the cantonal level: labor, forestry, environment, traffic, water, energy, etc.

Local Governments (Municipalities and Cities - including line sectors/departments	Serve as the first point of contact, conduct field outreach, disseminate Project-related materials, facilitate public meetings and consultations, and liaison between targeted groups and PIMT. Administratively manage the land acquisition process.
Veterinary inspections and local utility companies	At canton level, veterinary inspections oversee compliance with the Veterinary Law and ensure safe removal of animal carcasses. At municipal level, communal utility companies are responsible for the actual removal and disposal of roadkill, in line with applicable veterinary and environmental regulations. Road authorities (JP Ceste FBiH for main roads, municipalities for local roads) must notify and coordinate with these institutions to ensure timely and safe handling of carcasses.

Table 5: Cantonal-level institutions relevant to this Project

7. ENVIRONMENTAL AND SOCIAL RISK ASSESSMENT OF THE PROJECT

7.1. ESSs Relevant to the Project

The WB has defined specific ESSs, that are designed to help Borrowers manage the risks and impacts of a Project and improve their environmental and social performance, through a risk and outcomes-based approach. The WB ESSs are accompanied by non-binding Guidelines, Best Practice Notes, Templates, and Checklists[49].

A brief overview of the WB ESSs considered applicable to the Project is presented in the table below.

WB E&S Standards		Relevance
ESS 1	Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 2	Labor and Working Conditions	Relevant
ESS 3	Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4	Community Health and Safety	Relevant
ESS 5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7	Indigenous Peoples	Not Relevant
ESS 8	Cultural Heritage	Relevant
ESS 9	Financial Intermediaries	Not Relevant
ESS 10	Stakeholder Engagement and Information Disclosure	Relevant

Table 6: Relevance of ESS to this Project

7.2. Risk classification

As part of the environmental and social procedures, a categorization system for subprojects is established with clearly defined risk categories in line with the WB ESF. The risk categorization will inform the scope and nature of the environmental and social due diligence and risk management of activities and sub-projects.

The Banks classify all Projects into one of the four following groups,

- High Risk
- Substantial Risk
- Moderate Risk
- Low Risk.

To determine appropriate risk classification, the following issues are and will be taken into account:

- Type, location, sensitivity, and scope of the Project;
- Nature and magnitude of potential environmental and social risks and impacts;
- Borrower's (including any other agency responsible for Project implementation) capacity and commitment to manage environmental and social risks and impacts in a manner consistent with ESSs;
- Other areas of risk that may be relevant to the delivery of the ES mitigation measures and outcomes.

The general guidance for risk classification is provided in Table 7.

[49] Available in English at: http://www.worldbank.org/en/Projects-operations/environmental-and-social-framework/brief/environmental-and-social-framework-resources#guidancenotes

Table 7: Risk Classification for Sub-projects WB

Project type, location, sensitivity, scale	Nature & magnitude of ES risks & impacts, available mitigation	Borrower capacity and commitment	Context risk relevant to ES measures
HIGH RISK-as such won't be eligible for financing			
• **Complex** • **large to very large scale** • **in sensitive location(s)**	• wide range of significant adverse risks and impacts; • long-term, permanent, and/or irreversible, impossible to avoid entirely; • some cannot be mitigated or require complex, unproven mitigation, sophisticated social analysis; • high in magnitude and/or spatial extent (large to very large area or population); • significant adverse cumulative or transboundary impacts; • high probability of serious adverse effects on human health and/or the environment; • high value and sensitivity (eg. protected and internationally recognized areas); • high value, sensitive lands or rights of Indigenous Peoples and other vulnerable minorities; • Intensive or complex involuntary resettlement or land acquisition; • Impacts on cultural heritage or densely populated urban areas; • may give rise to significant social conflict, harm, or human security risks; - a history of unrest in an area or sector, concerns about the use of security forces.	• uncertain, conflicting agency jurisdiction; • legislation, regulations not addressing risks and impacts; • changes to applicable legislation are being made; • enforcement is weak; • limited experience in implementing agencies; • challenges and concerns about track record regarding ES issues; • significant stakeholder engagement capacity, commitment, track	• factors outside Project control impacting ES performance and outcomes
SUBSTANTIAL RISK			
• **not as complex** • **large to medium scale** • **not such sensitive location**	• some significant risks and impacts; • mostly temporary, predictable, and/or reversible; • possibility of avoiding or reversing but with substantial investment and time; • may give rise to a limited degree of social conflict, harm, and human security risk; • medium in magnitude and/or in spatial extent (medium to large area and population); • less severe, more readily avoided/mitigated cumulative and/or transboundary impacts; • medium to low probability of serious adverse effects to human health and/or the environment (with known and	• uncertain, conflicting agency jurisdiction; • legislation, regulations not addressing risks and impacts; • changes to applicable legislation are being made; • enforcement is weak; • in some respects, limited experience in implementing agencies; • some concerns about track record regarding ES issues readily addressed; • some stakeholder engagement concerns are readily addressed.	

	reliable mechanisms to prevent or minimize); • lower effects on areas of high value or sensitivity; • more readily available and reliable mitigatory and/or compensatory measures.
MODERATE RISK	
• no activities with a high potential for harming people or the environment **• located away from sensitive areas**	• risks and impacts not likely to be significant; • not complex and/or large; • predictable and expected to be temporary and/or reversible; • low in magnitude; • site-specific, without the likelihood of impacts beyond the Project footprint; • low probability of serious adverse effects on human health and/or the environment; • routine safety precautions are expected to be sufficient to prevent accidents; • easily
LOW RISK	
	• minimal or negligible risks to and impacts on human populations and/or the environment; • few or no adverse risks and impacts and issues; • no further assessment after screening.

All Projects that are submitted for approval will further be assessed as per the definition of high and substantial risk given in Table 7 and Table 1.

7.3. Preliminary Identification of Potential E&S Impacts with Proposed Mitigation Measures

The environmental and social impacts identified in this phase are preliminary and require further elaboration at the level of the sub-project and its specific area. The probability of their occurrence must be assessed during the sub-project "design phase" and at the stage of environmental and social assessment (preparation of EIA and/or only ES)

The Project envisages rehabilitation works, improvement of the existing conditions of roads, and their technical characteristics either due to the requirements for the level of serviceability of main roads or due to deterioration of already functioning facilities. Environmental and social impacts may include, but are not limited to:

- Waste Generation (Road resurfacing activities generate construction waste such as asphalt, concrete, and excavation materials)
- Air Quality (Dust emissions from road resurfacing activities can affect air quality in the vicinity of the Project site)
- OHS safety risks
- Traffic disruptions (Traffic congestion and detours during road rehabilitation may disrupt local communities and businesses)

- Impact to soil (landslides, erosion, winter maintenance, etc.)
- Impact to groundwater and surface waters
- Noise emissions

An overview of the potential environmental and social impacts of the Project, as well as mitigation measures is given in Table 8 below.

Component	E&S impacts	Phase I: During Project Preparation	Phase II: Construction phase						Phase III: During facility use	Impact assessment	Mitigation measures
			Earthworks including quarrying	Asphalt laying	Machine operation	Concrete and crushing plants	Hygienic conditions and waste	Improper disposal of liquid and solid waste			
Rehabilitation of main road surfaces	Waste Generation	-	Possible contamination of waters due to leakage of fuels and lubricants	Possible water contamination from asphalt batch plants	Possible water contamination	Possible water contamination in equipment maintenance areas	Possible water contamination	Possible water contamination	possible water contamination as a consequence of accidents and emissions accumulation	Road resurfacing activities generate construction waste such as asphalt, concrete, and excavation materials	By implementing a waste management plan. Construction site supervision is obliged to report monthly on the disposal of such materials and ensure that the asphalt is not deposited on purpose or accidentally somewhere besides the assigned spot. Prohibit and prevent illegal dumping.
	Air and noise pollution	-	Dust generation	Dust generation	Suspended particles, NO2, SO2	Dust pollution	Odor/smoke	-	Suspended particles, NO2, SO2	Potential air pollutants are maintenance of machines, movement of machines, execution of earthworks, and similar. Dust emission is a certain occurrence in the quarries during the whole technological process. Rehabilitation works include breaking up, digging, crushing, transport, and disposal of the material. Locally, air quality can be disturbed due to the traffic of machines and the increase in exhaust NOx and SO2 gases from construction machines.	Water spraying is the main way to control dust. Water spraying of road surfaces, including roads in quarries and borrow pits, should be carried out regularly during the execution of works, especially in the vicinity of settlements and during dry seasons. During the blasting works in the quarries vacuums to collect dust shall be used; the blasting works shall be performed during silent winds; transported material shall be covered to prevent dust emission. Queries shall be licensed with a concessions and valid environmental permit.

		-	Noise pollution and vibration	-	Noise pollution and vibration	Noise pollution	-	-	Noise pollution	Works at the construction site may cause noise, which is temporary. However, although of a temporary nature and moderate importance, noise can cause long-term adverse consequences in the vicinity of settlements if not mitigated.	In the case of disturbance by noise, when noise levels exceed the permissible limits, temporary noise barriers should be implemented as a mitigation measure. The ESMPs shall assess in more detail the site-specific noise impacts on the local population and the Contractor shall follow the instructions from the ESMP plans.
	OHS and OHS risks	-	Impact due to inhalation of dust Dangers od H&S due to blasting works Noise issuesRock-fall, land slides and erosion dangers	Asphalt odor and dust	Collisions with vehicles, pedestrians, and livestock. Accidental injury/death of workers.	Impact due to inhalation of dust	Increase in sources of contagious diseases	Increase in sources of contagious diseases	-	Negative impacts during the execution of works can happen to workers due to a hazardous business environment, that is, exposure to dust, noise, blasting works, rockfall, erosion, and unsafe movement of machines. Moreover, the safety of road users during the execution of works may be endangered. Work camps ie influx of foreign workers are very unlikely to occur due to small-scale investments and small scope of work per sub-project. Duration of work will be relatively short with a relatively small number of workers concerning the population of the local community. The local companies will likely be hired to execute the work. Hence the health and safety risks to the local community are small.	The contractor is obliged to provide the workers with a safe and healthy work environment. The Contractor is obliged to implement safety measures and to provide and instruct the workers on how to use properly the protective equipment. All operators of construction machines must be qualified and certified for that working place. Administering first aid in case of accidents and fast transport to the nearest hospital must be also available. All construction machines must be in good order, and abide by the directional movements within the construction site as well as the regulations on public roads. Safety of road users will be provided through temporary traffic regulations and the application of the Traffic Management Plan during the execution of works. All queries must be licensed with a valid environmental permit. The contractor is responsible for the safety of the workers and their behavior.

	Traffic Generation	During project preparation, we assess potential environmental and social impacts related to traffic safety. This includes evaluating how construction activities may affect local traffic patterns, pedestrian safety, and road conditions. Measures are taken to mitigate risks, such as implementing temporary traffic management plans, ensuring clear signage, and communicating with the community to minimize disruptions and enhance safety for all road users.	During the execution of works, there will be a temporary disruption of traffic flows.	The road users shall be informed about the disruption of traffic flows before the commencement of works. Traffic Management Plan shall be prepared and implemented to ensure ongoing traffic circulation and minimize negative impacts of civil works on the regular traffic flow.
	Community opposition to the subproject	During project preparation, we consider community opposition to the subproject. We engage with the community, listen to concerns, and work to address them transparently. This helps build trust and ensures that the project respects both the environment and the community's needs.	During project preparation and early implementation phases, there is a potential risk of community opposition due to perceived negative impacts such as increased noise, dust, traffic disruptions, or concerns about land use. Lack of transparent communication or exclusion from decision-making can escalate tensions and delay project implementation.	To mitigate this, the project will ensure early and inclusive stakeholder engagement, with particular attention to potentially affected groups. A Stakeholder Engagement Plan (SEP) will be developed and implemented to provide structured, ongoing communication with the community. Project information will be shared in formats that are accessible and understandable to all stakeholders, including materials in the local language and, where needed, visual aids. In addition, a Grievance Redress Mechanism (GRM) will be established and made operational prior to the start of physical works, providing a channel for community members to express concerns and receive timely, fair responses. Where appropriate, the project design or methods of implementation will be adjusted to accommodate valid community feedback. All engagement activities and concerns raised will be documented and included in periodic project reports.

	Chance finds	This includes thorough evaluation and consideration of any unforeseen discoveries or occurrences that could arise during project implementation and construction phase.	-	During construction activities involving excavation or earthworks, there is a potential for the discovery of culturally or historically significant artefacts, structures, or human remains. If not managed appropriately, such chance finds may result in the loss of valuable cultural heritage and cause work stoppages or legal issues.	To address this risk, a formal Chance Finds Procedure will be incorporated into all construction contracts, aligning with both national legislation and international good practice. Contractors and site supervision teams will be trained to recognize and report any potential chance finds. In the event that such items are discovered, construction works will be immediately suspended in the affected area, and the relevant cultural heritage authorities will be notified. The area will be secured to prevent further disturbance until the appropriate authorities assess the discovery. Work will resume only upon receiving official clearance and guidance from these authorities. All discoveries and subsequent actions will be recorded and reported as part of project documentation.

Table 8 Potential environmental and social impacts of the Project and mitigation measures and potential Environmental and Social Impacts per Project Phase

The rehabilitation of main roads holds the potential to significantly impact both the environment and local communities. However, by implementing a comprehensive array of mitigation measures encompassing, but not limited to, erosion control, noise and dust management, habitat protection, resource efficiency, waste management, and traffic management, adverse effects can be effectively mitigated. Through these measures, the Project endeavors to proceed in a socially and environmentally responsible manner, prioritizing the well-being of both the ecosystem and the communities it serves. Continuous monitoring and evaluation will remain integral to ensure adherence to environmental and social safeguards throughout the Project's lifecycle, underscoring the commitment to sustainable development and fostering long-term benefits for commuters and the surrounding environment alike.

7.4. Environmental and Social Risk Management

7.4.1. Projects Consisting of Multiple Smaller Sub-projects

For Projects comprising multiple sub-projects, the WB mandates a compulsory review of the environmental and social (E&S) risks associated with each sub-project.

The Borrower is required to conduct thorough environmental and social assessments for all sub-projects and to prepare and execute these sub-projects (including those categorized as substantial, moderate, and low-risk) by local laws and the relevant Environmental and Social Standards (ESSs) identified by the WB.

The implementation unit will oversee the integration of environmental management throughout the planning, design, implementation, and maintenance phases of each sub-project. It will also be responsible for screening, monitoring, and reporting on the environmental and social performance of each sub-project, ensuring compliance with national legislation and adherence to the Environmental and Social Framework (ESF). Additionally, it will ensure the effective implementation of measures outlined in the appropriate Environmental and Social Management Instruments (ESMP/ESMP Checklist).

7.4.2. Associated Facilities

The Environmental and Social Policy for Investment Project Financing set forth by the World Bank also stipulates the application of Environmental and Social Standards (ESSs) to Associated Facilities. These facilities must comply with the requirements outlined in the ESSs to the extent that the Borrower has control or influence over them. The World Bank will request the Borrower to demonstrate any limitations on its ability to exert control or influence over these Associated Facilities by providing relevant details, which may include legal, regulatory, and institutional factors.

The term "Associated Facilities" refers to facilities or activities that are not funded as part of the Project but are deemed by the World Bank to: (a) have a direct and significant relationship with the Project; (b) be conducted concurrently with the Project or planned to be; and (c) be essential for the Project's viability and would not have been constructed, expanded, or conducted if the Project did not exist. For a facility or activity to be considered an Associated Facility, it must meet all three criteria.

Facilities not financed by WB will undergo an initial assessment to determine if they fall under the category of Associated Facilities. If deemed applicable, appropriate Environmental and Social (E&S) due diligence will be conducted, and E&S instruments will be prepared or applied to manage the associated risks following the Environmental and Social Framework (ESF) and the Environmental and Social Standards (ESS) .

7.4.3. Environmental and Social Requirements of the Project

Given that the Project encompasses a series of sub-projects to be identified, prepared, and executed during its course, in line with the Environmental and Social (E&S) requirements specified in ESS 1 of the World Bank, the Supervision Engineer (SE) will ensure the evaluation of E&S impacts for each sub-project using the Environmental and Social Management Framework (ESMF). For each sub-project, the SE will ensure the development of appropriate E&S instruments guided by the instructions provided in the ESMF. The selection of the E&S instrument will be based on the outcomes of the screening process and the identified E&S risks associated with the sub-project.

Table 1 presents an overview of the activities planned under the four Project components in comparison with the E&S requirements set forth by both the World Bank (WB), and the Federation

of Bosnia and Herzegovina (FBiH). The FBiH requirements are rooted in the legal framework governing environmental protection, water management, spatial planning, and construction, as elaborated in Chapter 5.2: Overview of Environmental and Social Requirements in FBiH.

In the event of the development of strategic or other reference documents, the Borrower will incorporate social and environmental risk management aspects in an integrated manner as part of the design.

For activities and procurements proposed for retroactive financing (i.e., seeking funds from the Project after their initiation or completion), the E&S Focal Points engaged by the PIMT will conduct screening following the ESMF and develop due diligence as if the activity were to be financed. Subsequently, the E&S Focal Points will assess the current situation on the ground against the due diligence findings, identify any non-compliance or gaps, and present an action plan for addressing these shortcomings within a specified timeframe.

While screening will be carried out before or in parallel with a concept design, a site-specific E&S instrument will be prepared contemporaneously with the development of the main design. The design and E&S instrument will inform each other, both aligned with the ESSs, WB EHSG, GIIP and national legislation, stricter one prevailing. This will ensure that all sub-project life-cycle phases are implemented in line with the ESF and ESMF.

7.5. Environmental and Social Review

7.5.1. E&S Environmental and Social Review procedures for Investments

To identify the type and scale of potential social and environmental risks and impacts, and to determine the appropriate WB risk classification for each sub-project as per Table 7, an E&S assessment will be conducted at the sub-project level. The significance of impacts and risks, which contribute to the resulting E&S assessment classification, will depend on the type and scale of the sub-project, its location, the sensitivity of E&S issues, and the nature and magnitude of potential risks and impacts. The E&S assessment will be proportionate to the project's risks and impacts and will comprehensively evaluate all relevant direct, indirect, and cumulative E&S risks and impacts throughout the project lifecycle.

Step 1: Sub-project Screening and Risk Classification

Sub-project screening and risk classification are conducted before or during preliminary design to identify the required Environmental and Social (E&S) instrument for each sub-project. The ESSQ, with a suggested sub-project risk rating for E&S and an appropriate E&S instrument will undergo review by the PIMT, subject to WB approval. Once approved, the finalized ESSQ and the E&S Screening report will be submitted by the PIMT to the WB through the E&S specialist for final endorsement. Template for ESSQ and Screening Report is available in the Annex C. The template will be adjusted to cover all relevant risks, in line with the activity scope and location specifics.

This form ensures a standardized approach to identifying and mitigating environmental and social risks specifically for the rehabilitation of roads in FBiH. Adjustments can be made.

Step 2: Environmental and Social Assessment

Environmental and Social Impact Assessments (ESIA), Environmental and Social Management Plans (ESMP), ESCOPs, or ESMP Checklists are to be developed for each sub-project (unless differently agreed with the WB) by the E&S specialist and environmental and Social Focal Points, in parallel with the main design and before the bidding process. Additionally, the E&S specialist will be responsible

for preparing a site-specific Resettlement Plan and SEP, as needed, implementing a Labor Management Plan, conducting stakeholder engagement, preparing a Cultural Heritage Management Plan, and other E&S instruments as agreed in the E&S Screening.

E&S Assessment for substantial risks shall be carried out by an E&S experts, different than the designers, as per requirements of the ESF.

Step 3: Public Disclosure and Public Consultations

Environmental and Social Impact Assessments (ESIA), ESMP or ESMP Checklists, and Cultural Heritage Management Plans, another required E&S Instruments, will be publicly disclosed at least 4 weeks before public consultations. The PC FBiH Roads, Cantonal Governments, and the WB will publish the disclosure packages, including Project announcements and draft documents at their or Project web-sites, and web sites of municipalities/cantons. Also, hard copy will be available for consultations at municipality, cantonal or PC FBiH Roads premises. Public consultation meetings will be held (towards the end of disclosure period), inviting stakeholders and the general public to participate pro-actively. Call for comments, published along the disclosed document will provide all necessary information for the successful and meaningful consultations. Feedback received during public consultations will be reviewed and incorporated into the final documents, which will be disclosed along with a feedback report. All relevant comments will be addressed.

In the case of ESIA, the PIMT E&S experts will always explore ways to integrate the national and WB procedures and not duplicate assessment, consultations or any other effort. The integrated procedures are subject to approval of the WB E&S Specialists.

Step 4: Obtain Various Permits and Approvals

All technical assistant documents and reports must be reviewed and approved by PIMT E&S experts before they can be considered complete.

Permits such as Water permits and Construction-related permits, and other shall be obtained as required by regulations before the commencement of works.

Step 5: Integration of E&S Instruments in Tender Documents

Finalized E&S instruments will be integrated into tender documents for the implementation of the selected sub-projects by the PIMT before the bidding process. They will be a part of contracting documentation as well. Contractors will be obligated to comply with the requirements specified in the E&S instruments as part of the works contract. Contractors will also be required to provide information on implementation of E&S instrument and ESF compliance of works, including Occupational Health and Safety (OHS) issues in their monthly reports. Alternatively, the monthly reports can be compiled by the supervising engineer, however, the Contractors remain obliged to provide all required information.

The Contractors will be required to demonstrate that all mitigation measures have been accounted for in C-ESMP/ESMP Checklist/C-ESCOP, C-CHMP to ensure sub-project implementation in environmentally and socially acceptable manner.

Step 6: Implementation, Supervision, Monitoring, and Reporting

Contractors will implement mitigation measures and conduct environmental and social monitoring as defined in the E&S instruments. The contractor, along with all its sub-contractors, is responsible for implementing the mitigation measures and monitoring plan outlined in the applicable E&S

Instruments (ESIA, ESMP, etc.). This also includes any corrective measures prescribed by the PIMT and WB.

The PIMT will regularly supervise the works through site visits, document reviews, and other available means for moderate-risk subprojects. The Supervision Consultant engaged by the PIMT will supervise the Contractor's performance and verify compliance with the E&S instruments. The PC FBIH ROADS will oversee overall implementation and compliance and report on the Environmental and Social Compliance Plan (ESCP) implementation to the WB in regular semi-annual progress reports and for sub-projects in accordance with the ESCP and the timelines agreed upon in the ESMP or ESMP Checklists.

The PIMT will notify the WB without delay and within 24 hours of any incident or accident related to the project that has or could have a significant adverse effect on the environment, affected communities, the public, or workers. This includes occupational accidents that could result in serious injury, minor injuries, falls, vehicle accidents, and larger spills of chemicals, oils, or fuels. The PIMT will adhere to the ESCP and the reporting procedures developed for the project, as outlined in the World Bank's Environment and Social Incident Response Toolkit (ESIRT), and ensure that their own response procedures align with the ESIRT. The PIMT will provide sufficient detail regarding the incident or accident, including immediate measures taken to address it, and any information provided by any contractor, subcontractor, or supervising engineer. Upon the Bank's request, PC FBiH Roads will also prepare a report on the incident or accident, including a detailed Root Cause Analysis (RCA), to be submitted within 30 business days of the incident, unless otherwise agreed with the Bank.

7.6. Environmental and social reviews procedure for Technical Assistance (TA)

Although TA activities carry E&S risk in the Project implementation phase, they can have significant E&S impacts further downstream regardless the time and source of financing. Therefore, TA is the correct time to address all risks and potential impacts, that can be avoided or mitigated in the TA scope, plans and design.

TA envisaged under this Project under all components, including design of ne road sections, new tunnels, design of climate change resistant measures, monitoring of slopes and tunnels, etc. and even internship program is a subject to environmental and social due diligence (compliant to ESF). Specific steps to be taken include:

Step 1: PIMT E&S Specialists screen ToR prepared for TA against ESF ESS end determine its potential E&S risk for the implementation phase. If the risk is low, no further action needs to be taken. If the future risk is moderate or substantial, E&S Specialists notify the PIMT (and the WB in a regular Progress Report) that a particular TA needs further E&S assessment. TA with potential downstream high risk will not be supported under this Project.

Step 2: When TA documents are in high draft, they will be shared with PIMT Environmental Specialist and PIMT Social Specialist for E&S assessment against ESF ESSs. PIMT E&S Specialists carry out assessment and make recommendations to mitigate identified E&S risks and make recommendations for further E&S performance of TA. Assessment results and recommendations are presented in the E&S Assessment Report.

Step 3: E&S Assessment Report is reviewed (also revised by PIMT E&S Specialists if needed) and approved by the WB. Approved E&S Assessment Report is disclosed for 14 days at Project/FBiH Roads web site with a call for comments. E&S Assessment Report is considered final when it addresses all relevant comments, feedback is provided to public, and consultation minutes are included (e.g. as an annex).

7.7. Environmental and social reviews for Associated Facilities

World Bank (WB) requires the application of environmental and social standards to Associated Facilities.

Under the WB Environmental and Social Framework (ESF), Associated Facilities are defined as facilities or activities that are not financed under the Project but which, in the Bank's judgment:

(a) are directly and significantly related to the Project;
(b) are carried out, or planned to be carried out, contemporaneously with the Project; and
(c) are necessary for the Project to be viable and would not have been constructed, expanded, or conducted if the Project did not exist.

For a facility or activity to qualify as an Associated Facility under the WB definition, all three criteria must be met. The Borrower must apply the Environmental and Social Standards (ESSs) to such facilities, to the extent that it has control or influence over them. Where limitations exist (legal, regulatory, or institutional), the Borrower is required to demonstrate and document these constraints.

Associated Facilities not financed by WB will be subject to an initial screening to determine whether they fall within this category. Where they do, the Borrower will undertake the necessary environmental and social due diligence, and prepare or apply the relevant E&S instruments to ensure risks are identified, mitigated, and managed in a manner consistent with the ESF/ESSs.

A template for screening Associated Facilities is provided in Annex D.

7.8. Labor Management Procedures

Following WB regulations, a Labor Management Plan (LMP) has been crafted as an independent document, aimed at ensuring equitable treatment of workers and the provision of safe and healthy working conditions.

The LMP primarily focuses on two categories of workers: Direct workers, who are directly engaged by the PMU/PIMT for Project-related tasks, and Contracted workers, employed by third parties such as contractors, subcontractors, and service providers. Direct workers include civil servants and external consultants engaged through standard consultancy contracts provided by the Bank. Civil servants working on the Project remain subject to national legislation governing their employment status and rights, with exceptions related to workforce protection, Occupational Health and Safety (OHS), and the prohibition of child and forced labor.

A rough assessment of Contracted workers is 5-7 per site. It is anticipated that primary suppliers may be engaged due to the nature of the Project and its construction requirements. These primary suppliers must adhere to high standards and ensure that their workers, referred to as primary supply workers, comply with the provisions outlined in the LMP.

The LMP ensures strict prohibition of child and forced labor throughout the Project. Measures are put in place to mitigate the risk of informal labor, including the requirement for compliance reports

on labor and working conditions, statements of legal and regulatory compliance, and the establishment of a grievance mechanism accessible to all workers.

Contractors engaging Contracted workers are mandated to design and implement grievance mechanisms, ensuring access to protective measures and effective resolution of disputes. Bidders are required to submit statements affirming their commitment to compliance with labor laws and the LMP. Contractors are expected to provide their own Labor Management Procedures aligned with the LMP and ensure compliance of subcontractors, suppliers, and partners with labor and OHS regulations.

Quarterly compliance reports on labor-management are to be submitted by third parties employing Project workers, detailing various aspects such as workforce status, hours worked, payment regularity, OHS incidents, grievances, and training. Any non-compliance with labor laws or the LMP will be addressed through the Project's grievance mechanism, with the potential involvement of labor inspection authorities if irregularities are identified.

7.9. Resettlement Policy Framework

In compliance with World Bank (WB) regulations, a Resettlement Policy Framework (RPF) has been meticulously developed as an independent document. The RPF outlines detailed procedures for effectively managing land acquisition and resettlement, including the establishment of an Entitlement Matrix for individuals affected by the Project. Moreover, this document furnishes guidance on the preparation of resettlement plans for sub-projects, along with specifying the essential components these plans must incorporate.

Resettlement plans will be meticulously crafted for all sub-projects that involve resettlement activities, ensuring full adherence to the stipulations outlined in WB Environmental and Social Standard 5 (ESS5) and domestic legislation about land acquisition. No Project endeavors that could result in physical or economic displacement will commence until these specific plans have been thoroughly finalized, approved by the Bank, disclosed, consulted upon, and ultimately implemented.

7.10. Chance Find Procedures

The Chance Find Procedure is a Project-specific protocol designed to address the discovery of previously unknown heritage resources, particularly archaeological artifacts, during Project construction or operation. It serves as a preventive measure to ensure that chance finds are not disturbed until they have been assessed by a qualified specialist and appropriate actions are taken by established requirements.

This procedure outlines the steps to be taken when a potential heritage item or site is unexpectedly uncovered during construction activities. It delineates the roles and responsibilities of Project personnel and relevant heritage authorities, as well as the necessary response times. Chance Find procedures for each site will adhere to both federal and cantonal regulations.

General Chance and Find Procedure for Cultural Heritage:

1. Cease all work in the vicinity of the discovery until a solution is determined for the preservation of the artifacts or until guidance is received from relevant authorities.
2. Mark and secure the discovered site or area to prevent damage. If objects are removable, arrange for nighttime security until local authorities take over.
3. Notify the Site Supervisor, who will inform the Competent Authority (Cantonal Institution for the protection of cultural heritage).

4. Document details in a Cultural Heritage Findings Report and photograph the discovery. Inform the World Bank.
5. The responsible local authorities and the Competent Authority will oversee the protection and preservation of the site while determining subsequent procedures.
6. Decisions regarding the handling of the discovery will be made by the Competent Authority, which may involve layout changes, conservation, restoration, or salvage efforts.
7. The Competent Authority must investigate the discovery within two months of notification and provide a written response as per cantonal law. Construction cannot resume until written approval is obtained.
8. Construction activities may only recommence after receiving permission from the Competent Authority regarding heritage safeguarding measures.

A key aspect of this procedure is meticulous record-keeping. All discoveries must be registered, and documentation including a photo log, copies of communications with decision-making authorities, conclusions, recommendations/guidance, and implementation reports must be maintained.

These procedures must be incorporated as standard provisions in construction contracts. Contractors are responsible for ensuring that all personnel, including subcontractors and vendors, are fully informed of the requirements outlined in the Chance Find Procedure. During Project supervision, the Site Supervisor will oversee compliance with these regulations concerning any chance finds encountered.

8. GRIEVANCE REDRESS MECHANISMS (GRM)

The Grievance Mechanism (GM) serves as a platform for receiving, addressing, and managing complaints, comments, and suggestions related to the Project. Its primary goal is to ensure an efficient means of addressing grievances. As per World Bank requirements outlined in ESS10, each project must establish such a mechanism early in the project preparation stage to promptly address specific issues.

The Project has developed a grievance mechanism to record and monitor all grievances systematically. This initiative aims to enhance transparency and accountability while minimizing the risk of adverse environmental and social impacts.

The Project's GM is comprised of two tiers: Grievance Committees (GCs) established and managed by the PC Roads FBiH, and a Central Grievance Committee (CGC) overseen by the Federal Ministry of Transport and Communication, commonly known as the Project's Grievance Mechanism.

To ensure access to the GM, potential beneficiaries, communities, and other stakeholders can submit grievances through specified channels. The GM will facilitate ongoing feedback on project activities and provide resolutions for individual grievances during implementation. Thus, the GM will serve as both an information center and grievance mechanism at the project level, accessible to all affected by project components and relevant to local communities impacted by project activities.

The GM will handle grievances and comments from the following groups: individuals or entities directly affected by the project, potential beneficiaries, those impacted by land acquisition and resettlement, stakeholders with an interest in the project, and residents or communities affected by project activities.

Furthermore, legal remedies available under national legislation, such as courts, inspections, and administrative authorities, will remain accessible.

However, the grievance mechanism for project workers required under ESS2 will be provided separately, with details outlined in the Labor Management Procedure.

Despite the Project's low assessed risk of Sexual Exploitation and Abuse (SEA)/Sexual Harassment (SH) the GM will be equipped to address SEA/SH grievances as a precautionary measure. These grievances will be managed separately by trained experts, following the same process value chain and timeframes detailed in Chapter 8.2.

PC Roads FBiH is responsible for establishing operational GMs and informing stakeholders about their roles, contact persons, and complaint procedures in affected areas. Information regarding the GM will be disseminated through various channels, including the websites of the PC Roads FBiH, social media campaigns, and leaflets detailing the GM process.

8.1. Raising Grievances

Efficient grievance management hinges on a set of core principles crafted to uphold the fairness of both the process and its outcomes. The grievance procedure is designed to be accessible, efficient, straightforward, comprehensible, and free of charge for the complainant. Any grievance can be brought to the attention of the GM in person, via telephone, or in writing by completing the grievance form online, or by sending it via email, post, fax, or personal delivery to the designated addresses. Anonymity is maintained for all grievances, and details regarding admission points will be widely disseminated as part of awareness-building efforts. A sample grievance form is provided in Annex 1 of this ESMF for reference.

8.2. Grievances Administration

Grievances will be handled and managed at the initial tier grievance level – the Grievance Committees (GCs). Each grievance must follow a set of mandatory steps: receipt, assessment and assignment, acknowledgment, investigation, response, follow-up, and closure.

Upon receipt, the GM will swiftly conduct an initial assessment to ascertain the nature and severity of the grievance. Within three days of receiving the grievance, the GM will acknowledge its registration and provide the grievant with basic next steps. Subsequently, the GM will delve into the issue from the perspective of the grievant, aiming to understand their concerns and desired actions. It will then proceed to investigate the facts and circumstances, providing a final decision to the grievant no later than 15 days after the grievance was lodged. Closure of the grievance occurs once the implementation of the resolution has been confirmed. Even in cases where no agreement is reached or the grievance is rejected, all efforts and actions taken toward resolution will be documented.

For anonymous grievances, after acknowledgment within three days of logging, the GM will investigate the grievance and issue a final decision within 15 days of logging, which will be disclosed on the PC Roads FBiH website.

The GM will maintain a grievance register log, documenting grievances received through all admission channels while protecting the personal data of each grievant under the Law on Personal Data Protection. Each grievance will be recorded in the register with essential details including a description of the grievance, date of acknowledgment returned to the grievant, actions taken (such as investigation or corrective measures), date of resolution or provision of feedback, verification of implementation, and closure.

If a grievance cannot be satisfactorily resolved, the grievant has the right to appeal. The Central Grievance Committee (CGC) will handle such appeals, serving as the second-tier grievance level. The

CGC will acknowledge receipt of the appeal, including a detailed explanation of the resolution process and the final decision, along with guidance if the outcome is still unsatisfactory to the grievant.

If resolution cannot be achieved through the CGC, the grievant may resort to formal judicial procedures available under the legal framework of FBiH. Logging a grievance with the GM does not prevent seeking resolution from official authorities, judicial or otherwise, at any time as provided by the FBiH legal framework.

8.3. Grievance and Beneficiary Feedback Reporting

In addition to addressing grievances, the GM will also be responsible for retaining and organizing comments/grievances received and maintaining the Central Grievance Log, which will be administered by the E&S Specialist. To ensure a comprehensive understanding of this tool and its outcomes, updates from the GM will be accessible on the websites of the PC Roads FBiH. These updates will be regularly refreshed and will provide a breakdown by gender and type of grievances.

8.4. Grievance Log

PC Roads FBiH will maintain the Central Grievance Log to ensure that each grievance is assigned an individual reference number and is accurately tracked and recorded until actions are completed. When receiving feedback, including grievances, the following information will be defined:

- Type
- Category
- Deadline for resolving the appeal
- Agreed action plan

The log will contain the following details:

- Name of the grievant, location, and details of the grievance
- Date of submission
- Date when the Grievance Log was uploaded onto the project database
- Details of proposed corrective action
- Date when the proposed corrective action was sent to the grievant (if appropriate)
- Date when the grievance was closed out
- Date when the response was sent to the grievant

8.5. Grievance Admission Channels

Any grievance can be brought to the attention of the GM by completing the grievance form either in hard copy or online, or in any other preferred format by the grievant. A sample grievance form is provided in Annex 1. Grievances of any type can be submitted by mail, fax, phone, email, or in person using the following access details:

Attention: PIMT, Workers' Grievance Mechanism
Address: Terezija br. 54, 71000 Sarajevo
Phone: +387 33 250 370; Fax: +387 33 250 400
E-mail: info@jpcfbih.ba
https://jpdcfbh.ba/bs/kontakt

This avenue will be utilized until the aforementioned GMs are established. Details regarding each GC will be provided at later stages and disseminated accordingly. Information on these details will be

incorporated into the Engagement Strategy and will be published following the information disclosure procedure outlined in this ESMF.

8.6. Monitoring and Reporting on Grievances

The Grievance Committee (GC) will have the following responsibilities:

- Collecting, summarizing, and analyzing grievances, acting as local entry points for recording the quantity, substance, and status of complaints, and inputting them into the Project GM database.
- Monitoring unresolved issues and recommending actions for their resolution.
- Compiling reports on GM activities.
- Maintaining the Central Grievance Log.

The Central Grievance Committee (CGC) will be tasked with:

- Addressing grievances that were not satisfactorily resolved at the GC level.

PC Roads FBiH will be responsible for including a section related to GM in the monitoring reports submitted to the WB. This section will provide updated information on the following:

- Status of GM implementation, including procedures, training, public awareness campaigns, and budget allocation.
- Qualitative data on the number of received grievances (applications, suggestions, complaints, requests, positive feedback) and the number of resolved grievances.
- Quantitative data on the types of grievances received and responses provided, as well as issues addressed and grievances that remain unresolved.
- Level of satisfaction with the measures taken in response.
- Any corrective actions implemented.

8.7. WB Grievance Redress System

Communities and individuals who believe that they are adversely affected by a WB-supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project-affected communities and individuals may submit their complaints to the WB's independent Inspection Panel, which determines whether harm occurred, or could occur, as a result of non-compliance with WB policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the WB's attention, and Bank Management has been allowed to respond. For information on how to submit complaints to the WB's corporate Grievance Redress Service (GRS), please visit *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the WB Inspection Panel, please visit *www.inspectionpanel.org*.

9. PUBLIC CONSULTATIONS PROCESS

The IFI standard regarding Stakeholder Engagement and Information Disclosure acknowledges the significance of fostering open and transparent interaction between the Borrower and stakeholders as a fundamental aspect of international best practices. Effective engagement with stakeholders holds the potential to enhance the environmental and social sustainability of Projects, foster acceptance of the Project, and greatly contribute to successful Project design and execution.

Aligned with World Bank requirements, stakeholder engagement is a continual process integrated throughout the Project life cycle, with optimal effectiveness when initiated in the early stages of

Project development. Commencing engagement during Project preparation allows for timely identification and consultation with stakeholders, ensuring that their perspectives and opinions are considered in Project design and implementation.

To adhere to these guidelines, a set of documents is prepared in both English and the local language, comprising:

- The Environmental and Social Management Framework (ESMF)
- The Environmental and Social Commitment Plan (ESCP)
- The Stakeholder Engagement Plan (SEP)
- The Resettlement Policy Framework (RPF)
- The Labor Management Plan (LMP)

Will be posted on the PC FBiH Roads website. Documents will be available on the website during Project life and a grievance mechanism for questions and answers will be active in that period.

10. ANNEXES

ANNEX A: Template for ESMP Checklist for Project Components

Environmental and Social Category

[Briefly explain the environmental and social risk category of the subproject following the environmental and social review.]

Work Planned

[Briefly explain the types of works foreseen under the subproject.]

Potential Environmental and Social Impacts

[List the main potential environmental and social impacts that derive from the foreseen works under the subproject.]

The scope and objective of the ESMP Checklist

The ESMP Checklist is applied for minor rehabilitation or small-scale construction works. It provides “pragmatic good practice” and it is designed to be user-friendly and compatible with WB safeguard requirements. The checklist-type format attempts to cover typical preventive and mitigation approaches to common civil works contracts with temporary and localized impacts.

ESMP Checklist structure

The ESMP Checklist consists of:

(a) Part 1 constitutes a descriptive part ("site passport") that describes the Project specifics in terms of institutional aspects, the Project description and physical location, the legislative aspects and list of permitting procedures, the public consultation process, and the need for a capacity building program.

(b) Part 2 includes the environmental and social screening in a simple Yes/No format, as well as a list of mitigation measures for any given activity; and

(c) Part 3 is a site-specific monitoring plan for activities carried out during the civil works (installation, rehabilitation, construction).

Application of the ESMP Checklist

The design process for the envisaged civil works should be conducted in three phases:

1) General identification and scoping phase, in which the objects for rehabilitation or construction are selected and an approximate program for the potential work typologies elaborated. At this stage, the ESMP Checklist is filled. The ESMP Checklist can be used to select typical activities from a "menu" and relate them to the typical environmental and social issues and mitigation measures.

2) Detailed design and tendering phase, including specifications and bills of quantities for individual objects by integrating the environmental and social provisions in tabular format. This phase also includes the tender and award of the works contracts. This phase finally defines the contractual obligations of the Contractor on environmental and social measures to be taken during the construction process. The whole ESMP Checklist filled in the table should be attached as an integral part of work contracts and as an analog with all technical and commercial conditions which should be signed by the contracting parties. Mitigation measures presented in the ESMP Checklist equally apply to contractors and subcontractors. The ESMP Checklist should be submitted publicly at the tendering stage.

3) During the works implementation phase environmental and social safeguard compliance are checked on the respective site by the site-certified inspector(s) / authorized works supervisor(s). The mitigation measures and the monitoring plan are the basis for verifying the Contractor's compliance with the required environmental and social provisions.

Monitoring and Reporting

For the monitoring of the Contractor's safeguards due diligence, the construction inspector and the supervising site engineer will work with the ESMP Checklist, i.e. the monitoring plan. The monitoring plan is developing the site specifically and in necessary detail, defining clear mitigation measures and monitoring which can be included in the works contracts, which reflect the status of environmental and social practices on the construction site and which can be observed/measured/quantified/verified by the inspector during the construction works.

Thus it needs to be updated and revised during the design process to practically reflect key monitoring criteria which can be checked during and after work for compliance assurance and ultimately the Contractor's remuneration.

Such mitigation measures include the use of Personal Protective Equipment (PPE) by workers on site, dust prevention, the amount of water used and discharged on site, presence of proper sanitary facilities for workers, waste collection of separate types (mineral waste, wood, metals, plastic, hazardous waste, e.g. asbestos, paint residues, spent engine oil), waste quantities, proper organization of disposal pathways and facilities, or reuse and recycling wherever possible. In addition to the mitigation measures, the site engineer should check whether the contractor complies with the mitigation measures in safeguarding information.

An acceptable monitoring report from the site inspector or site supervising engineer would be a condition for full payment of the contractually agreed remuneration, the same as technical quality criteria or quality surveys. To assure a degree of leverage on the Contractor's environmental and social performance an appropriate clause will be introduced in the works contracts, specifying penalties in case of noncompliance with the contractual environmental and social provisions, e.g. in the form of withholding a certain proportion of the payments, its size depending on the severity of

the breach of contract. For extreme cases, a termination of the contract shall be contractually tied in.

SAFEGUARDS INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following??	**Activity**	**Status**	**Triggered Actions**
	A. Small-scale construction works	[ ] Yes [ ] No	See Sections **A, and B** below
	B. Equipment installation works	[ ] Yes [ ] No	See Sections **A, and B** below
	C. Individual wastewater treatment system	[ ] Yes [ ] No	See Section **C** below
	D. Historic building(s) and districts	[ ] Yes [ ] No	See Section **D** below
	E. Acquisition of land[50]	[ ] Yes [ ] No	See Section **E** below
	F. Hazardous or toxic materials[51]	[ ] Yes [ ] No	See Section **F** below
	G. Impacts on protected natural areas	[ ] Yes [ ] No	See Section **G** below
	H. Traffic and Pedestrian Safety	[ ] Yes [ ] No	See Section **H** below

[50] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

[51] Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
A. General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works). (c) Contractor and subcontractors have valid operating licenses. All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and the environment. (e) Workers' Personal Protective Equipment (PPE) will comply with international good practice (always hardhats and gloves, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow. (g) The workers are adequately trained and experienced for the work performed. (h) Fire prevention and fire protection measures are in place. Workers are well-informed and trained to use the available equipment. (i) Emergency procedures are in place and known to workers. (j) Implementation of COVID-19 prevention measures in line with the WHO and national recommendations (ensure asufficient number of masks is available, distance is applied, disinfectants are available at the site, etc.). (k) In the case of the COVID-19 outbreak, the Contractor will promptly notify the PMU.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
B. General Rehabilitation and /or Construction Activities	Air Quality	(a) During interior demolition debris chutes shall be used above the first floor (b) Demolition debris shall be kept in a controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at the site (d) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust (e) There will be no open burning of construction/waste material at the site (f) There will be no excessive idling of construction vehicles and machinery at sites, (g) All machinery and vehicles are equipped with appropriate emission control equipment, regularlymaintained and attested. (h) While transporting dust-prone materials the load must be covered or sprayed. (i) The machinery and vehicles use petrol from official sources (licensed gas stations) and run on fuel determined by the machinery/vehicle producer. (j) Capacity of transport will be harmonized with the waste generation pace and quantities.
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit. Night work will be avoided and if necessary relevant permits must be obtained and the public informed. (b) During operations the engine covers of generators, air compressors, and other powered mechanical equipment shallbe closed, and equipment placed as far away from residential areas as possible. (c) Contractor should use state-of-the-art machinery with low levels of noise emission.

	Water and Soil Quality	(a) The site will establish appropriate erosion and sediment control measures (including surface runoff management and disposal) such as e.g. hay bales and/or silt fences to prevent sediment from moving off-site and causing excessive turbidity in nearby streams and rivers, but also jeopardize surrounding land or buildings or other constructions. (b) Asphalt, soil, and other works will be isolated from watercourses. (c) Stored materials and waste stored outside must be placed on concrete or asphalted surfaces with the collection system or fully covered and protected from weather conditions. (d) Machinery and transport vehicles shall not be washed, parked (for long hours), or maintained at the site, but atpredefined suitable areas (equipped by grease and oil separators). (e) If fuel, oil, lubricants, or other hazardous or toxic liquids are stored at the site they should be kept in secondarycontainment system tanks (e.g. double-walled or bund containers). (f) Existing water sources should be used. (g) A plan in the case of emergencies /accidental pollution should be developed and workers informed on procedures. (h) In the case of leakage, the contaminated soil or water should be retained collected, and disposed of as hazardous waste.
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid, and chemicalwastes by on-site sorting and stored in appropriate containers. (c) Waste types will be collected separately. All waste will be collected and disposed of properly by licensed collectorsand following waste regulations, including existing waste at the site (which will be removed before the works start). The records of waste disposal will be maintained as proof of proper management as designed. (d) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos). (e) Discarding any kind of waste (including organic waste) in the surrounding (especially watercourses) is strictly forbidden and so is the burning of waste.
	Resource efficiency and landscape conservation	(a) Only existing licensed asphalt and cement plants and stone quarries will be used. (b) Only suppliers of sand and gravel with valid licenses and concessions will be used.

ACTIVITY	**PARAMETER**	**MITIGATION MEASURES CHECKLIST**
		(c) Suppliers must obtain/hold and present all required working and emission permits and quality certifications as well as proof of conformity with all national environmental and H&S legislation. (d) All materials need to be approved by the site engineer.
C. Individual wastewater treatment system	Water Quality	(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities. (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment. (c) Monitoring of new wastewater systems (before/after) will be carried out. (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.

D. Historic building(s) and districts	Cultural Heritage	(a) If the works are very close to a designated historic structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. (b) It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and work activities delayed or modified to account for such finds.
E. Acquisition of land	Resettlement Plan / Resettlement Policy Framework	(a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, the Bank's Task Team Leader shall be immediately consulted. (b) The approved Resettlement Plan (if required by the Project) will be implemented.
F. Toxic Materials	Toxic/hazardous substances/waste management	(a) Temporary storage on site of all hazardous or toxic substances and wastes will be in safe containers with secondary containment system tanks (e.g. double-walled or bund containers), labeled with details of composition, properties, and handling information. Hazardous materials should be kept on impermeable surfaces and adsorbents like sand orsawdust should be kept for handling small spillage. (b) Hazardous waste is collected separately. (c) The containers of hazardous substances/wastes shall be placed in a leak-proof container to prevent spillage and leaking. The containers must be kept closed, except when adding or removing materials/waste. (d) All hazardous waste should be weighed, recorded (in waste manifests), and records archived. The wastes shall betransported by specially licensed carriers, temporarily stored, and disposed of in a licensed facility. (e) Paints with toxic ingredients or solvents or lead-based paints will not be used. (f) The containers holding ignitable, hazardous, explosive, or reactive substances must be located at least 15m from thefacility and 30 from the water line. (g) Contractors/subcontractors' employees and individuals employed for the construction works have received training in relevant toxic or hazardous waste/substances-related issues. (h) All hazardous waste will be temporarily stored at the storage facility which shall be designated before any works and approved by the Competent Authority. The designated building must be kept secured/locked. The stored waste must be well protected from weather impacts (wind, rain). (i) Eating, drinking, and smoking are prohibited in the working area.
G. Affected protected natural areas	Protection	(a) All recognized natural habitats and protected areas near the activity will not be damaged orexploited. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided. (c) Adjacent streams shall be protected from construction site run-off with appropriate erosion and sediment control features to include by not limited to hay bales and silt fences.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		(d) There will be no unlicensed borrow pits, quarries, or waste dumps in adjacent areas, especially not in protected areas.
H. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(a) In compliance with national regulations the contractor will ensure that the construction site is properly secured andconstruction-related traffic regulated. This includes but is not limited to: ▪ Signposting, warning signs, barriers, and traffic diversions: the site will be visible and the public warned ofall potential hazards. ▪ Comply with the national traffic safety regulation. ▪ Only identified and agreed roads can be used. ▪ No materials or wastes should be kept on the roads or pavement. ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops, and residences during work, if the buildings stay open to the public.

MONITORING PLAN

Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter tobe monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in the Project budget)	**Who** (Is responsible for monitoring?)
During activity **preparation**	Permits and valid operation licenses (including ADR, if applies)	On-site	By checking whether all permits according to the law are available on site	Before works commencement	It is recommended to make sure that all good practices apply	Project cost	Site supervising engineer
	Site organization	On-site	By checking proper fencing, installation of temporary sanitary facilities	Before works commencement	To ensure safety	Project cost	Site supervising engineer
	Plan for emergencies /accidental pollution	Contractor's office	Check if the documents are in place	Before works commencement	To ensure the safety ofworkers and the local population	Project cost	Site supervising engineer
During activity **implementation**	Air quality (dust)	On-site	Visual observation – check if spraying is applied, visibility, presence of dust on site, load covered or sprayed	Continuous daily, however, special attention should be put during the transport ofmaterials and wastes	To keep the dust level at a minimum to protect health and prevent irritations and to keep visibility for safety purposes	Project cost	Site supervising engineer
	Noise	On-site, Contractor's office	Checking if there is non-authorized night work, if engines are covered, if noise abatement equipment is in place, if there were complaints or negative inspection findings	Regularly	Managing health hazards and preventing disturbance of local population and users of space	Project cost	Site supervising engineer

	Workers' safety	On-site	Random safety inspection	Continuously checking if the PPE is available to workers, in sufficient quantities	To prevent accidents and healthhazard	Project cost	Site supervising engineer, Inspection

Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter to be monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in the Project budget)	**Who** (Is responsible for monitoring?)
				and it is used/worn at all times. The workers have been adequately trained.			
	Hazard to public traffic and pedestrian safety	On-site and on roads permitted to use for accessing the site, traffic plans	Visual observation and potential complaints from the public	Daily checking of the signs, fences, accesses,and traffic signalization and patterns	To prevent traffic disruption and accidents	Project cost	Site supervising engineer, Inspection
	General waste management	On-site	Visual observation if there is littering, inadequate disposal, burning, separate collection	Regularly	Preventing pollution	Project cost	Site supervising engineer
	Hazardous waste management (separate collection, labeling, transport)	On-site	Checking if the waste is collected separately, stored appropriately, and labeled. Transport is carried out by licensed companies. Temporarily stored in a designated building. The workers handling this waste are adequately trained. Lead paint dust and materials are packed in adequate bins.	Regularly	Preventing pollution and managing health hazards	Project cost	Site supervising engineer

	Waste pollution (non-hazardous and hazardous such as Asbestos including – paints, chemicals, coatings or construction	On-site pollution assessment	Waste accompanying documentation that is submitted to the Ministry of Environment in which typeand quantities of the waste are identified	Continuous during construction, i.e. each time waste is taken from the site	Required by a seriesof regulations on waste	Project cost	Site supervising engineer Ministry of Environment (inspection)

Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter to be monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in the Project budget)	**Who** (Is responsible for monitoring?)
	material on which these are used)						
	Materials management	Contractor's office	Check if suppliers are properly licensed hold valid concessions and conform to relevant regulations.	Before works commencement	Preventing unauthorized non-renewable resources use, nature protection, landscape preservation	Project cost	Site supervising engineer
	Toxic / Hazardous material	On-site visual assessment	Proper handling and storage is checked according to Material Safety Data Sheets (MSDS)	Regularly	To prevent accidental spilling or injuries	Project cost	Site supervising engineer, Inspection

ANNEX B: GRM templet

Grievance Form

Protocol Number	
Name and Last name (*optional*)	
Contact Info We urge you to check the box in which way you want to be contacted	☐ By post (Address): _____ ☐ By phone: _____ ☐ By e-mail: _____
Preferred language	☐ Bosnian/Croation/Serbian ☐ English
Grievance description	What happened? Where did it happen? Who did it? What was the result?
Date of grievance and the number of times it occurred	
☐ One time (date:_____) ☐ It happened more than once (How many times did it happen? ___) ☐ Ongoing (It happened recently)	
Preferred outcome?	

Table for the register of grievances

Serial number	Method of the due date of complaint	Project	Date of receipt	Complaint type	Complaint description	Applicant		Date of confirmation of receipt	Description of actions taken	Date of resolution
						Age	Gender			

ANNEX C: Subproject Screening Form for Environmental and Social Risks and Impacts – TEMPLATE

Subproject Name: _____

Subproject Location: _____

Subproject Proponent: _____

Project Implementation and Management Team (PIMT): _____

Date: _____

Prepared By: _____

Section 1: Subproject Description

1. **Brief Description of Subproject**:
   - _____
   - _____
2. **Subproject Objectives**:
   - _____
   - _____
3. **Key Activities**:
   - _____
   - _____

Section 2: Environmental Screening

Activity Compliance Check

1. **Is the subproject involved in any of the following activities? (Check all that apply)**:

☐ Production or trade in illegal products/activities under host country laws or international conventions.
☐ Production or trade in weapons and munitions.
☐ Production or trade in alcoholic beverages (excluding beer and wine).
☐ Production or trade in tobacco.
☐ Gambling, casinos, and equivalent enterprises.
☐ Production or trade in radioactive materials (excluding medical/quality control equipment).
☐ Production or trade in unbounded asbestos fibers.
☐ Activities involving harmful or exploitative forms of forced/child labor.
☐ Commercial logging in primary tropical moist forest.
☐ Trade in wood or forestry products from non-sustainably managed forests.
☐ Production, trade, storage, or transport of significant volumes of hazardous chemicals.

☐ Activities impinging on lands owned/claimed by Indigenous Peoples without documented consent.

☐ Affecting lands or rights of minorities.

☐ Significant adverse social impacts leading to social conflict.

Initial Environmental Screening

Question	Yes	No	Comments / Notes
1. Will the activity generate water effluents (wastewater) requiring special treatment, control, or permits?	☐	☐	
2. Will the activity generate air emissions requiring special controls to ensure compliance with local standards?	☐	☐	
3. Will the activity generate noise levels requiring control measures to ensure compliance with local standards?	☐	☐	
4. Will the noise levels impact sensitive receptors (natural habitats, hospitals, schools, local population centers)?	☐	☐	
5. Will the activity involve hazardous materials needing special permits, licensed personnel, or risk of pollution?	☐	☐	
6. Will the activity generate solid waste that is hazardous, difficult to manage, or beyond regular household waste?	☐	☐	
7. Will the activity be located near protected areas or impact cultural heritage sites?	☐	☐	
8. Will the activity involve import of living organisms or impact	☐	☐	

sensitive environmental receptors?			
9. Have local populations or NGOs expressed concern about the activity's environmental aspects?	☐	☐	
10. Any other aspects causing environmental risk or impact?	☐	☐	

Permits and Compliance

Question	Yes	No	Comments / Notes
1. Does the proposed activity require a FULL Environmental Impact Assessment under local law?	☐	☐	
2. Does the proponent have valid operating permits/licenses?	☐	☐	
3. Does the proponent have a valid environmental permit?	☐	☐	
4. Does the activity fall under the permitted scope?	☐	☐	
5. Does the proponent have a valid water management permit for wastewater releases?	☐	☐	
6. Does the proponent need to follow specific regulations for air emissions, water use, wastewater, and solid waste?	☐	☐	
7. Are there significant outstanding environmental fees, fines, or liabilities?	☐	☐	
8. Have there been complaints from local people, groups, or NGOs regarding the facility?	☐	☐	
9. Does the proponent ensure primary suppliers'	☐	☐	

environmental and social performance?			
10. Does the proponent ensure associated facilities' environmental and social performance?	☐	☐	

Section 3: Social Screening

Question	Yes	No	Comments / Notes
1. Will the subproject require land acquisition (temporary or permanent)?	☐	☐	
2. Will the subproject use land currently occupied/used for productive purposes?	☐	☐	
3. Will the subproject physically displace individuals, families, or businesses?	☐	☐	
4. Will the subproject result in the loss of crops, fruit trees, or household infrastructure?	☐	☐	
5. Will the subproject restrict access to legally designated parks or protected areas?	☐	☐	
6. Will the subproject result in loss of livelihood?	☐	☐	
7. Will the subproject negatively impact vulnerable individuals or groups?	☐	☐	
8. Will the subproject impact informal shops, traders, or nomadic commercial activities?	☐	☐	

Section 4: Risk Classification and Recommendations

1. **Proposed Initial Environmental and Social Risk Rating (High, Substantial, Moderate, Low)**: _____
2. **Summary of Key Risks and Impacts**:

- _____
- _____

3. **Recommendations for Further Action**:
   - _____
   - _____
4. **Proposed ES Management Plans/Instruments**:
   - _____
   - _____

Review and Approval:

1. **Reviewed By**:
   - Name: _____
   - Position: _____
   - Signature: _____
   - Date: _____
2. **Approved By**:
   - Name: _____
   - Position: _____
   - Signature: _____
   - Date: _____

Notes and Justifications:

- **Land Acquisition Needs**:
  - _____
  - _____

- **Stakeholder Engagement Plan**:
  - _____
  - _____
- **Grievance Mechanism**:
  - _____
  - _____
- **Labor Risks and OHS Standards**:
  - _____
  - _____
- **Sexual Exploitation and Abuse (SEA) and Sexual Harassment Risks**:
  - _____
  - _____
- **Natural and Cultural Heritage Protection**:
  - _____

ANNEX D: Identification of Associated Facilities – FORM

According to the World Bank's, the term „*Associated Facilities*" means facilities or activities that are not funded as part of the project and are:

(a) directly and significantly related to the project; and

(b) carried out, or planned to be carried out, contemporaneously with the project; and

(c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist.

For facilities or activities to be Associated Facilities, they must meet all three criteria.

Associated Facilities should meet the requirements of the ESSs, to the extent that the Borrower has control or influence over such Associated Facilities.[52]

In order to identify, in a timely manner, the potential environmental and social risks of Associated Facilities and to apply adequate environmental and social standards, it is necessary to determine as soon as possible which individual investments could be qualified as Associated Facilities. This requires the following information:

1. Source of financing
2. Basic information on the project (purpose, functional improvements, etc.)
3. Scope of the project (reconstruction / renovation / construction, etc.)
4. Describe how the project is functionally related to the World Bank project and explain if it is not
5. Current status of the project (preparation phase / design phase/ construction phase, etc.)

Planned implementation dynamics with emphasis on planned construction time (start and end)

		[Name of the Facility]
1.	Nacin financiranja *[Source of financing]*	
2.	Osnovne informacije o projektu (namjena, obuhvat, i sl.) *[Basic information on the project (purpose, scope, etc.)]*	
3.	Obuhvat projekta (nova gradnja/ rekonstrukcija/ obnova?)	

[52] The Borrower will be required to demonstrate the extent to which it cannot exercise control or influence over the Associated Facilities by providing details of the relevant considerations, which may include legal, regulatory, and institutional factors. Where the Borrower has limited or no control or influence over other entities or third parties, the environmental and social assessment will identify these parties and their roles with respect to the Associated Facilities. The risks and impacts that the Associated Facilities, and such lack of control or influence present to the project, should be considered in the assessment of the environmental and social risks and impacts of the project.

	[Scope of the project (new construction/ reconstruction / renovation etc.)]	
4.	Opisati na koji nacin je (funkcionalno) povezana s projektom Svjetske banke? Ako nije – obrazložiti *[Describe how the project is (functionally) related to the World Bank project and explain if not]*	
5.	Navesti akt temeljem kojeg se gradnja planira (građevinska dozvola, , dr.) *[Indicate the act on the basis of which the construction is planned (building permit, etc.)]*	
6.	Planirana dinamika, s posebnim naglaskom na planirano vrijeme gradnje (pocetak i kraj), trenutna faza *[Planned implementation dynamics with emphasis on planned construction time (start and end)], current status*	
7.	Procijenite je li objekt neophodan da bi projekt bio održiv i ne bi bio izgrađen, proSiren ili proveden da projekt nije postojao. Molimo pojasnite. *Please assess if the facility is necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist. Please elaborate.*	

ANNEX E: Template for the preparation of ESIA

Terms of Reference (ToR)
For the Preparation of an Environmental and Social Impact Assessment (ESIA)
For the [Insert Project Name]

1. Background

The proposed Project [brief description of project purpose and scope] requires a comprehensive assessment of its environmental and social implications. The objectives of this assignment are to:

1. **Prepare an Environmental and Social Impact Assessment (ESIA) and a General Environmental and Social Management Plan (ESMP)** covering the entire Project. These documents will outline the key procedures and responsibilities necessary to manage environmental and social risks throughout Project implementation. The ESMP will also provide guidance for developing site-specific management plans for road sections whose detailed design may not be available during the early stages of Project preparation.
2. **Conduct a Social Assessment**, which will include:
    - Review of existing socio-economic studies relevant to the road alignment;
    - A census of settlements, businesses, households, vendors (including informal vendors and squatters), farms, and agricultural enterprises along the road corridor;
    - Public consultations with Project Affected Persons (PAPs) to identify potential social impacts and community concerns.
3. **Prepare ESIA Reports and Management Plans** for all road sections supported by the Project. These reports will identify and assess potential environmental and social risks and propose appropriate mitigation measures to address identified impacts.

All work must comply with:

- **World Bank Environmental and Social Standards**, with due consideration of FBiH environmental and social procedures;
- **World Bank guidance on public consultations** with PAPs along the proposed right-of-way;
- **World Bank guidance and methodology** for Social Assessments and ESIAs;
- **World Bank Environmental, Health, and Safety (EHS) Guidelines** for General and Toll Roads.

2. Required Contents of the ESIA

The ESIA Report shall include the following sections, subject to amendments or additions as advised by relevant national environmental authorities:

- Title Page
- Executive Summary
- Abbreviations and Acronyms
- Table of Contents
- List of Tables
- List of Figures

- List of Annexes

Section 1: Description of the Project
This section provides a detailed overview of the Project background, scope, and key components. The following information should be included:

- **Project Overview:** Description of the project purpose, objectives, and expected outcomes.
- **Study Area:** Geographic location, boundaries, and scale of the Project.
- **Project Components and Infrastructure:** All associated facilities required for construction and operation, including workforce accommodations, water supply, gravel and aggregate sources, batching plants, machinery yards, maintenance areas, temporary roads, borrow pits, and building material depots.
- **Construction and Operation Activities:** Detailed description of phased construction works, workforce requirements (size, skills, and opportunities for local employment), hazardous materials management (diesel, fuel, lubricants), emergency preparedness and response (including community notification), temporary construction sites, clean-up measures, and operational schedule.
- **Site Alternatives:** Discussion of site location alternatives considered, including rationale for preferred option.
- **Maps and Spatial Data:** GIS-based maps showing project-related development sites, pre-construction and construction activities, and surrounding areas potentially affected. Maps should include topographic contours, surface water bodies, roads, railways, villages, administrative boundaries, existing land use, critical habitats (including parks and recreational areas), and cultural or historic resources.

Section 2: Legal, Regulatory and Policy Framework
This section outlines the environmental and social requirements applicable to the Project:

- **World Bank Requirements:** Applicable WB policies, Environmental, Health and Safety (EHS) Guidelines, and Environmental and Social Framework (ESF) standards. A gap analysis should highlight additional measures required to meet WB requirements, including emissions thresholds, monitoring, and compliance.
- **National and Regional Regulations:** Compliance with Environmental Impact Assessment regulations, relevant EU Directives transposed into national legislation, and requirements of competent national environmental institutions. Include references to BiH and FBiH environmental laws where relevant.
- **Social and Legal Framework:** Applicable laws governing land acquisition, expropriation, land tenure, building codes, accessibility, ethnic minority rights (including Roma), labor laws, and consultation requirements.

Section 3: Environmental and Social Baseline Information and Data
The Consultant shall gather, analyze, and present baseline data relevant to the Project area to inform impact assessment and mitigation planning. Key components include:

- **Physical Environment:** Geology, topography, soils, climate, meteorology, ambient air quality, surface and groundwater hydrology, existing noise and air emissions, water quality, and current or past industrial activities.
- **Biological Environment:** Flora and fauna, rare or endangered species, sensitive habitats (parks, preserves, significant natural sites), commercially important species, and potential pest or vector species.
- **Socio-Economic Baseline:** Update previous social assessments and establish a baseline for directly and indirectly affected communities. Data collection should include:
    - Population size, age and gender distribution, migration trends, cultural and ethnic composition, languages, livelihood sources, employment, income distribution, access to goods and services, education and literacy, public health, and social networks.
    - Infrastructure assessment (roads, traffic patterns, public health, and education facilities).
    - Poverty and social vulnerability analysis, including risks related to sexual exploitation and abuse, child or forced labor, high-risk behaviors among youth, and community cohesion.
    - Identification of cultural, historical, archaeological, and spiritual resources within the project impact area.
    - Identification of marginalized or vulnerable groups, including indigenous communities, ethnic/religious minorities, persons with disabilities, and other disadvantaged groups.
- **Legacy and Land Issues:** Review land use, property rights, and historical claims, including involuntary resettlement or livelihood impacts. Ensure comprehensive documentation of affected persons, households, and businesses to support compliance with World Bank ESS5 standards.

Notes:

- All field surveys, interviews, and consultations necessary to fill critical data gaps should be conducted.
- Baseline data should be supported by maps and visual representations at appropriate scales.
- Socio-economic data must be disaggregated by gender, disability, and other relevant vulnerability criteria where feasible.

Section 4: Assessment of Environmental and Social Impacts

This section presents the methodology and findings for assessing environmental and social impacts associated with the Project. The Consultant shall:

- **Risk and Impact Assessment Methodology:** Describe the approach used to identify and assess likely environmental and social impacts, including cumulative and associated impacts. Impacts should be quantified where possible, distinguishing between:

  - Positive vs. negative impacts
  - Direct vs. indirect impacts
  - Immediate vs. long-term impacts
- **Scenario Analysis:** Evaluate potential impacts under:
  - Normal operating conditions
  - Start-up and shut-down activities during construction and commissioning
  - Emergency or accident scenarios
- **Hazard Identification:** Identify potential major hazards, their likelihood, and broad consequences, including accidents or incidents that could affect workers, communities, or the environment.
- **Mitigation and Residual Impacts:**
  - Propose mitigation measures to reduce identified impacts.
  - Identify residual impacts that cannot be mitigated.
- **Environmental Enhancement Opportunities:** Identify areas for improving environmental quality and socio-economic benefits.
- **Key Areas of Assessment:**
  - Impact on natural protected areas, including land occupation, habitat degradation or fragmentation, and potential increases in visitor numbers.
  - Land use and access impacts, particularly on businesses, households, informal vendors, squatters, farms, and agricultural enterprises. (This will be further elaborated under the RPF preparation.)
  - Labor influx: Estimate additional labor requirements, potential social impacts of incoming workers, and locations of construction camps.
  - Data quality and gaps: Evaluate available quantitative data, uncertainties, and topics that do not require further attention.
- **Categorization of Impacts:** Impacts shall be organized by project phase:
  - **Construction Phase:** Air quality, noise, OHS, involuntary resettlement/land acquisition, road safety, and other relevant social and environmental impacts.
  - **Operational Phase:** Noise, OHS for maintenance activities, traffic safety, and other relevant impacts.
- **Cumulative and Associated Effects:** Discuss cumulative impacts on air, soil, water, biodiversity, and human settlements, including projections of environmental and livelihood changes. Include:
  - Scoring or weighting of magnitude and significance of cumulative impacts
  - Identification of potential actions to avoid, minimize, or mitigate cumulative effects

  - Integration of these measures into the Environmental and Social Management Plan (ESMP)

- **Social Mitigation Measures:** Suggest actions to address community safety, vulnerable groups, labor camp management, and other social risks.
- **Timeframe:** Provide indicative schedules for implementation of social and environmental mitigation measures.

Section 5: Analysis of Alternatives

The Consultant shall:

- Compare alternative project designs in terms of environmental and social impacts, assuming implementation of mitigation measures.
- Identify impacts that are irreversible or unavoidable, and distinguish them from those that can be mitigated.
- Quantify environmental and socio-economic costs and benefits for each alternative, including mitigation costs.
- Include the “no-project” alternative.
- State the rationale for selecting the proposed design over alternatives.
- Present results with diagrams, maps, tables, and descriptive text. A simplified version for public consultations should also be prepared for non-technical audiences.

Section 6: Environmental and Social Mitigation Measures

For each significant impact identified in Section 4, mitigation measures shall be developed and compiled into a **Mitigation Plan**. The Consultant shall provide:

- **Impact-Mitigation Matrix:** For all key project components and for construction and operational phases, including:
  1. Potentially significant impact
  2. Proposed mitigation measure(s)
  3. Timeframe for implementing the measure
  4. Responsible party for implementation
  5. Associated costs of mitigation
- **Spatial Representation:** Where relevant, present mitigation measures on maps or diagrams indicating precise locations.
- **Residual Impacts:** Identify impacts that remain after mitigation and assess their significance.
- **Integration with ESMP:** The Mitigation Plan will serve as the basis for the Environmental and Social Management Plan (ESMP) in Section 7.

Section 7: Environmental and Social Monitoring and Management Plan (ESMP)

7.1 Overview

Based on the Mitigation Plan (Section 6), the Consultant shall prepare a general Environmental and Social Management Plan (ESMP) applicable to the entire road or to individual segments as determined during design and build options. The ESMP shall clearly define roles, responsibilities, and reporting lines to ensure effective implementation of all mitigation measures.

7.2 Organizational Structure and Responsibilities

The ESMP shall include:

- An organogram outlining reporting lines for all mitigation responsibilities.
- Mitigation responses for all identified potentially adverse impacts.
- Institutional strengthening required to implement mitigation measures effectively.
- Clear allocation of responsibilities for each mitigation measure.
- A monitoring program to verify compliance and measure impacts.
- Emergency response procedures for construction accidents.

Each mitigation measure should be described in detail, including:

- Type of impact being addressed.
- Conditions under which the measure applies.
- Design specifications, equipment requirements, and operating procedures.
- Feasibility evaluation and recommendations to improve effectiveness.
- Compensation measures for residual impacts where applicable.
- Forecast of residual negative impacts and their significance, including acceptability of remaining risks.

7.3 Phase-Specific Measures

Construction Phase: The ESMP shall address at a minimum:

- Construction Spoils Management Plan (environmentally sound disposal).
- Erosion and Sediment Control Plan.
- Fugitive Dust Control Plan.
- Noise Control Plan.
- Occupational Health and Safety (OHS) Plan for workers and communities.
- Re-vegetation and Natural/Wildlife Habitat Management Plan.
- Traffic Control, Public Safety, and Communications Plan.
- Archaeology and Cultural Resources Mitigation Plan.
- Worker Safety Plan (training and protective equipment).

- Labor Influx / Workers' Management Plan.
- Grievance Redress Mechanism (GRM).
- Public Consultation and Community Communications Plan during construction.
- Resettlement and livelihood restoration measures under RAPs where applicable.

Operations Phase: The ESMP shall address at a minimum:

- Traffic Safety Plan (road transport and pedestrian safety).
- Updated Public Consultation and Community Communications Plan for operations.

7.4 Environmental and Social Monitoring Plan

The Consultant shall prepare a Monitoring Plan to ensure:

- Implementation of all mitigation measures during construction and operation.
- Early detection of conditions requiring corrective measures.
- Progress reporting on mitigation implementation and results.

The Monitoring Plan shall include:

- Monitoring indicators, parameters, and frequency of measurements.
- Responsibilities for implementation of each monitoring activity.
- Quantitative performance standards (e.g., noise levels, dust control, area re-vegetation) based on FBiH and EU regulations.
- GRM and reporting systems.
- Necessary inputs, including training and institutional strengthening.
- Monthly progress reports during construction and an annual synthesized report during operation for submission to NEPA.

7.5 Independent Supervision

The ESMP shall define the scope of work for an independent Environmental and Social Supervision Contractor (ESSC), covering:

- Construction and operations supervision.
- Responsibility allocation, budget, and funding sources.
- Monitoring, evaluation, and measures for non-compliance.
- Supervision of social mitigation measures including RAP implementation, livelihood restoration, GRM performance, and stakeholder engagement.
- Capacity building and training for SEPA, MCTI, other relevant state bodies, NGOs, and other interested parties.

Section 8: Public Participation and Consultation Plan (PCPP)

8.1 Overview

The Consultant shall prepare a Public Consultation and Participation Plan (PCPP) to guide stakeholder engagement throughout the Project. The plan shall:

- Address substantive issues with authorities, local government, residents, NGOs, academic institutions, and other stakeholders.
- Build public confidence through transparent communications and participatory processes.
- Include timing, methods, and minimum requirements for information disclosure.
- Ensure inclusion of vulnerable and disadvantaged groups (e.g., persons with disabilities, Roma, indigenous communities).

8.2 Consultation Process

The Consultant shall:

- Disclose the TOR and ESIA drafts in Bosnian and English on the MCTI website and other relevant media.
- Organize and advertise consultation meetings, invite participants, arrange venues, and provide presentation equipment.
- Engage with custodians/conservators of natural protected areas.
- Chair meetings, present project information, and participate in discussions.
- Prepare PowerPoint presentations in Bosnian and distribute concise summaries at each meeting.
- Produce written records of all meetings in Bosnian and English, including attendance, stakeholder affiliations, discussion points, and responses.
- Document how each consultation point was addressed in the ESIA or engineering design, providing rationale for any points not addressed.

8.3 Coordination

The Consultant shall coordinate with:

- The client (PC Roads of FBiH)
- The World Bank
- The engineering design team
- Consultants conducting involuntary resettlement work

Coordination ensures environmental and social impacts are incorporated into final road designs and permits compliance with national and international standards.

8.4 Reporting Requirements

- **Inception Report:** Within three weeks of contract award, presenting work plan, task schedules, submission dates, personnel allocation, and a proposed ESIA table of contents.
- **Monthly Progress Reports:** Maximum 5 pages, summarizing progress, challenges, proposed alternatives, milestones, and other relevant information.

- **Draft and Final ESIA Reports:** Submitted in Bosnian and English, with two hard copies and two electronic copies, in accordance with the Work Plan.