JP CESTE FEDERACIJE BIH

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE PROJECT OF THE RECONSTRUCTION OF THE MAJOR ROAD M-17, SECTION TARČIN – KONJIC km 16+800 – km 17+600 BLACK SPOTS

September, 2017

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LIST OF ABBREVIATIONS

BH - Bosnia and Herzegovina
CFD - Central Feedback Desk
CSOP - Construction Site Organization Plan
EIB - European Investment Bank
EIA - Environmental Impact Assessment
EMP - Environmental Monitoring Program
ESMF - Environmental Social Management Framework
ESMP - Environmental and Social Management Plan
EP - Environmental Permit
FBH - Federation of Bosnia and Herzegovina
FMoET - Federal Ministry of Environment and Tourism
HNC - Herzegovina-Neretva Canton
IFI - International Financial Institutions
MP - Main project
MPCA - Management Plan in Case of Accidents
OP - Operational Policy of the World Bank
PAP - Project Affected Person
PPE - Personal Protective Equipment
PC Roads FBH - Public Company Roads of the Federation of Bosnia and Herzegovina
RAP - Resettlement Action Plan
RPF - Resettlement Policy Framework
TD - Tendering Documentation
TMP - Traffic Management Plan
WB - World Bank
WMP - Waste Management Plan

AEHS - Annual Environmental Health and Safety

EXECUTIVE SUMARY

INTRODUCTION AND OBJECTIVES OF ESMP

Reconstruction of the Major road M-17, section 011 Tarčin - Konjic in Podorašac in the municipality of Konjic (the Project) for which this ESMP is developed, is one of the sub-projects under the FBH Road Sector Modernization Project co-financed by the WB and EIB. Reconstruction of the Major road M-17, section 011 Tarčin - Konjic in Podorašac is screened as a category B project according to the Operational Policies (OP 4.01 on Environmental Assessment) of the WB as well as the screening procedure outlined in the project-specific ESMF. As such, this activity needs to have an ESMP developed, whereas pursuant to the local legislation this project does not require an environmental assessment or an environmental permit - whether federal or cantonal. PC Roads FBH will ensure all required local permits for this Project are obtained.

LOCATION AND TRAFFIC DESCRIPTTION

The Project is situated at the major road M-17, section 011 Tarčin – Konjic from km 16+800 to km 17+600 in Konjic municipality in the village Podorašac. According to the Study of priority reconstructions of Dangerous Spots on the project area on the section Bradina – Podorašac on the road M17 there have been 29 traffic accidents from 2010 till 2012. Two of these accidents were with fatal outcome, 2 were with serious injuries, 7 with light injuries and 18 were with material damage. The nearest relevant traffic count device is placed in Raštelica, and the data collected from the device shows that, in 2015, 6.676 vehicles were passing daily.

PROJECT DESCRIPTION

The planned reconstruction includes widening of the pavement in the area of the curves so that the widening meets the national regulations. The purpose of this reconstruction is to create a safer road and eliminate dangerous spots on the project route.

BASELINE OF PARTICULAR INTEREST

This area is characterized by relief with hillocks and hill chains considering that the route of the Project is located at an altitude ranging from 400 to 500 meters above sea level. Meteorological station in Konjic, closest to the site of reconstruction, reports following data: the average multi-annual temperature is 10.8 ° C, the warmest month is July, with an average perennial air temperature of 20.1 ° C and the coldest month is January when the average perennial temperature is 0.8 ° C. The average rainfall measured at the same meteorological station, during multi-year period is 1464 mm per year. The rainiest month is December, when the average precipitation is 222 mm. The least precipitation occurs in August, only 54 mm on average. River Trešanica is situated in the vicinity of the Project. Besides the river Trešanica, the stream Bubanje is nearby, which flows along the route of the major road M-17, and flows into river Trešanica in the village Podorašac. Based on the fact

that there are no significant polluters, and the only polluter is the road traffic in the wider area it can be considered that the air quality is good. In close proximity to the Project area, we can find mostly facilities for business purposes and residential purposes (houses), which are exposed to the traffic noise and according to the Law on Noise Protection; they fall under the fourth zone, where allowed noise levels are 60 dBA during day and 50 dBA at night.

The project section runs through Podorašac, a mixed sparsely populated settlement with a population density of 101-200 people per km². The village has a population of 638 people according to the population census of 2013. Podorašac is a rural-type settlement with mainly ground floor, one-storey and two-storey houses. Commercial activities are not present in the area of construction works envisaged in this project. They are concentrated in either in the settlement center, located about 1 km south, down the M17, from the area of construction works or in the town Konjic.

IMPACTS DURING PRECONSTRUCTION

Socio economic impacts: No land acquisition or resettlement is required under this project.

IMPACTS DURING CONSTRUCTION

The main impacts associated with the construction works include: emissions from the machinery used on site, dust generation from works, potential increases in noise and vibration levels, impact on soil and water from accidental leaks and spills and safety impacts. The contractor is bound by the provisions of this ESMP to conduct a baseline of the biological and natural resources specific to the site, and to adapt the measures of the ESMP and their work performance based on such findings.

Impact on traffic safety and traffic flow: Traffic congestion and obstructions on road section - increased traffic flow, leading to congestion and obstruction is likely to be experienced on major road (M-17) during the construction. During the whole period of construction a two way traffic regime is planned, thus minimizing the impact. Trenches are likely to be made during implementation of construction activities, including earthworks and temporary storage of construction material. Population Safety Impacts: The impact regarding the presence of workers is minor, because, according to local practice no working camp will be set up. Safety issues regarding local population can occur due to the vicinity of the construction site.

Socio-economic impacts: At this time, it is not expected that it will be necessary to temporarily occupy any privately owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the investor. However, if additional temporary occupation of private land in needed during construction activities, this will be agreed upon with respective land owners and compensation will be paid in accordance with provisions determined in the Integrated ressettlement Action Plan (integrated RAP) and the Ressettlement Plan Framework (RPF) before the land is accessed.

New business opportunities are expected to be created for local businesses such as transporters, suppliers and other service providers. This impact is considered to be short-term. Following adverse impacts on living conditions during construction are expected: noise increase, construction waste disposal, short-term disruptions of utilities. Impacts related to road access difficulties to residential structures and small informal businesses are expected to be temporary and are associated with access difficulties due to heavy machinery and construction traffic as well as disposal of construction waste.

MITTIGATION MEASURES

The mitigation measures focus on the major identified impacts during works, such as emissions from the machinery used on site, dust generation from works, potential increases in noise and vibration levels, impact on water and soil from accidental leaks and spills and safety impacts, waste management, impacts on living conditions, temporary occupation and restrictions on land use, impacts on local traffic, impacts on small informal businesses.

ENVIRONMENTAL MONITORING PROGRAM

The monitoring measures focus on the major identified impacts during works, such as emissions from the machinery used on site, dust generation from works, potential increases in noise and vibration levels, impact on soil and water from accidental leaks and spills and safety impacts, waste management, impacts on living conditions, temporary occupation and restrictions on land use, impacts on local traffic, impacts on small informal businesses.

IMPLEMENTATION AND REPORTING

PC Roads FBH is the implementer of the project and will be responsible for the implementation and compliance of the project in line with ESMP. The Contractor will be responsible for the implementation of the environmental mitigation measures during construction.

PUBLIC DISCUSION AND INFORMATION DISCLOSURE

Public consultation of the subject ESMP will be organized in Konjic after the WB and PC Roads FBH approve the draft of the ESMP. The record on public discussion, that is, grievances presented at the public discussion shall be recorded in the Grievance Register, and opinions and suggestions of the public shall be integrated into the final ESMP. ESMP draft will be available on the website of PC Roads of the (www.jpcfbih.ba) in a local language and on the website of the World Bank in English. During the process of public consultation the interested public will obtain all information regarding the project, including social and environmental issues.

Grievance Mechanism: Besides the institutionally available ordinary and extraordinary legal remedy, and existing institutional channels, PC Roads FBH will ensure and form a special Grievance Redress Mechanism in collaboration and direct involvement of those

municipalities under whose administrative authority the project is carried out, in this case with the Konjic municipality.

Requirements for start of works

The Contractor shall establish all required baseline data before the commencement of works. The Baseline – Monitoring data shall include air quality data, surface water quality data, survey of the site for any endangered and endemic species and other environmental issues in zone of corridors of direct and indirect impacts.

The Contractor shall develop a Construction Site Organization Plan (CSOP) that is made up of a Implementation Plan of this ESMP, a detailed Waste Management Plan (WMP), Study on Safety (includes Elaborate on Safety at Work and Elaborate on Protection From Fire and Explosions), and a Traffic Management Plan (TMP) must be developed, which will be created by the Contractor prior to the beginning of construction works.

Social aspects:

- Honey sellers must be informed and relocated to alternative selling point before construction works start;
- Landowner next to drainage canal must be informed/consulted about the scope, duration and anticipated impact of canal reconstruction.

1. INTRODUCTION

Based on the guidance and requirements from the Environmental and Social Management Framework (ESMF has been disclosed and available to the public in local language on the website of PC Roads Federation of Bosnia and Herzegovina (FBH) in March 2016, http://jpcfbih.ba/index.php/bs/aktivnosti/modernizacija-magistralnih-cesta/38), this site-specific Environmental and Social Management Plan (ESMP) has been prepared.

The Public Company Roads of Federation of Bosnia and Herzegovina (further in the document PC Roads FBH) has initiated an overarching program for the project "Modernization of Major roads in the Territory of the Federation of Bosnia and Herzegovina" (The Program) to ensure appropriate road infrastructure by 2020. For this purpose, it has been requested from the Government of the FBH to ensure credit funds from international finance institutions (IFI).

In the framework of the abovementioned umbrella Program, the Public Company "Roads of FBH" (PC Roads FBH), a limited liability company wholly owned by the Government of FBH, has initiated the FBH Road Sector Modernization Project. FBH filed an application for a credit/loan from the European Investment Bank (EIB) and from the World Bank (WB) in total amount of 103,38 million EUR for funding abovementioned Project.

FBH Road Sector Modernization Project comprises several small and mid-sized investment schemes including:

1. Reconstruction of roads, this component includes:
    - Construction works for completion of the construction of major road M17.3 Neum–Stolac (in total 32,9 km);
    - Construction of third lanes for slow vehicles (in total 40 km on 8 sections of major roads);
    - Reconstruction of roadway, correction of axes (in total 18 km on 5 sections of major roads, where a correction of axes is to be done on one section only in the length of 1 km),
    - Reconstruction of 3 tunnels (with a total length of 1,86 km);
    - Reconstruction of 7 bridges (with a total length of 0,55 km).
2. Interventions on improving road safety: The reconstruction of intersections, which are classified as "black spots" on major roads, in total 9;
3. Institutional reforms: Road Management in the FBH with a particular focus on sustainability of investments and road safety;
4. Project Implementation Support: Construction supervision and capacity building of the PC Roads FBH.

Reconstruction of the Major road M-17, section 011 Tarčin - Konjic in Podorašac in the municipality of Konjic (the Project) for which this ESMP is developed, is one of the sub-projects included in the group of sub-projects co-financed by the WB and EIB.

The purpose of this reconstruction is to create a safer road through widening and by eliminating the dangerous spot on the project route.

2. METHODOLOGY AND OBJECTIVES OF ESMP

Reconstruction of the Major road M-17, section 011 Tarčin - Konjic in Podorašac is screened as a category B project according to the Operational Policies (OP 4.01 on Environmental Assessment) of the WB as well as the screening procedure outlined in the project-specific ESMF. As such, this activity needs to have an ESMP developed, whereas pursuant to the local legislation this project does not require an environmental assessment or an environmental permit - whether federal or cantonal[1]. PC Roads FBH will ensure all required local permits for this Project are obtained.

This ESMP aims at identifying all of the potential environmental and social impacts associated with this project activity. As such, the ESMP includes mitigation measures for all identified potential impacts that are to be undertaken throughout the different phases of the project including preparation, implementation and operation of the facilities. The measures set forth in this ESMP are meant to avoid, neutralize or diminish adverse environmental and social impacts if not completely then to an acceptable level.

The ESMP identifies feasible and cost-effective measures which can reduce potentially negative impacts on the environment and society to an acceptable level. If mitigation measures are not possible, profitable or sufficient, compensation should be included as the last measure.

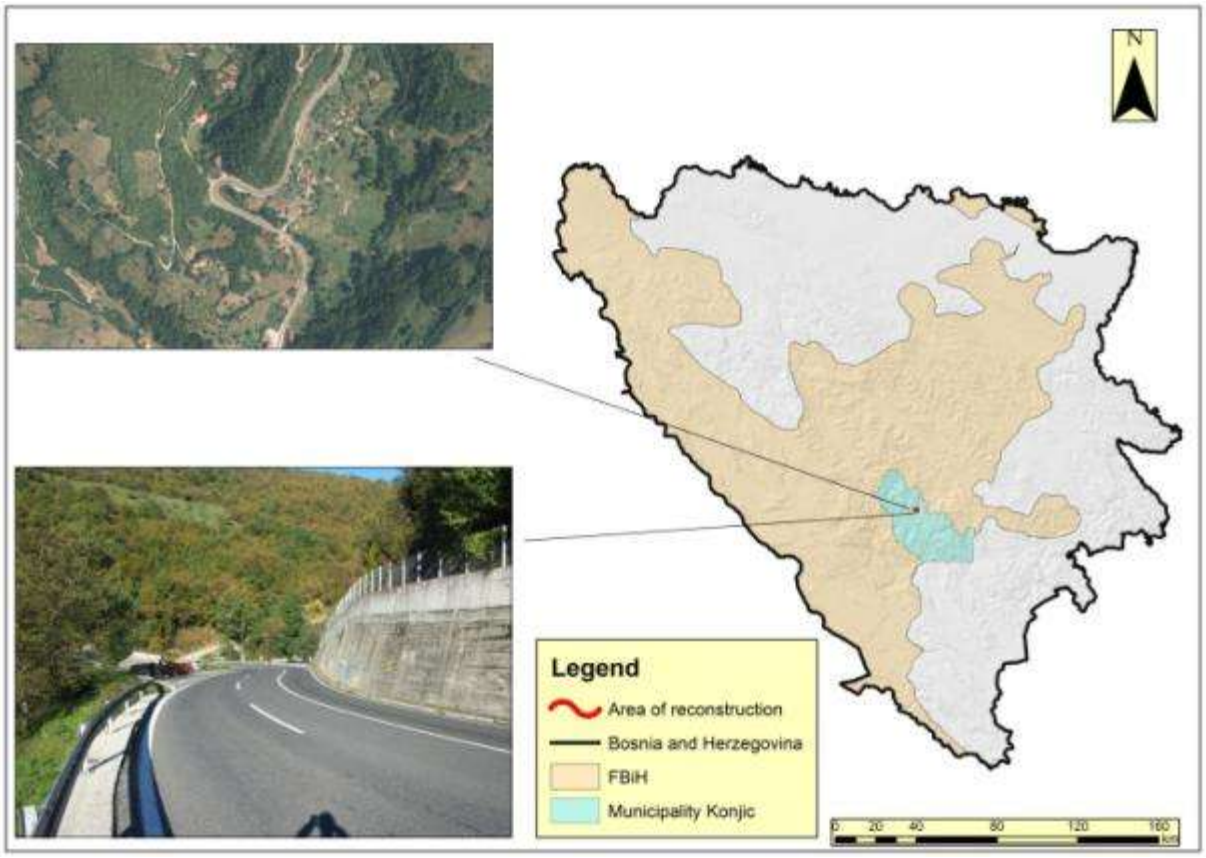
In order to ensure the mitigation measures have been implemented, fully or partially, the ESMP sets forth a monitoring plan to be implemented during the specific stages of project implementation. Monitoring during project implementation provides information on the key environmental and social aspects of the project, particularly on the environmental and social aspects of the project and efficiency of mitigation measures. Prior to commencement of works, in accordance with requirements of the ESMP, and a minimum of monitoring requirements, described in table for Environmental and Social Monitoring Program, without limitation to these requirements, the Contractor shall prepare detailed list of mitigation measures and parameters to be monitored.

[1] *In FBH investments requiring EIA are identified by the Regulation on Plants and Facilities Subject to Obligatory Environmental Impact Assessment, and Facilities Which May be Constructed and Commissioned Only if Granted Environmental Permit (Official Gazette of FBH No. 19/04). In Herzegovina-Neretvian Canton investments requiring an EP are regulated by Regulation on Activities, Plants and Facilities Which May be Constructed only if Granted Environmental Permit (Official Gazette of HNC, No. 10/12). Reconstruction of a crossroad is not a subject to neither a Federal nor a Cantonal EP.*

3. LOCAL DESCRIPTION

The Project is situated at the major road M-17, section 011 Tarčin – Konjic from km 16+800 to km 17+600 in Konjic municipality in the village Podorašac. The reconstruction is positioned nearby and on the important traffic routes for Konjic, as well as for BH. The major road M-17 is a part of the south European route E73 connecting Central Europe i.e. Hungary and eastern Croatia to BH and the Adriatic sea in the area of the port of Ploče, and it is one the most important roads in the country.

Figure 1: The geographical location of the project

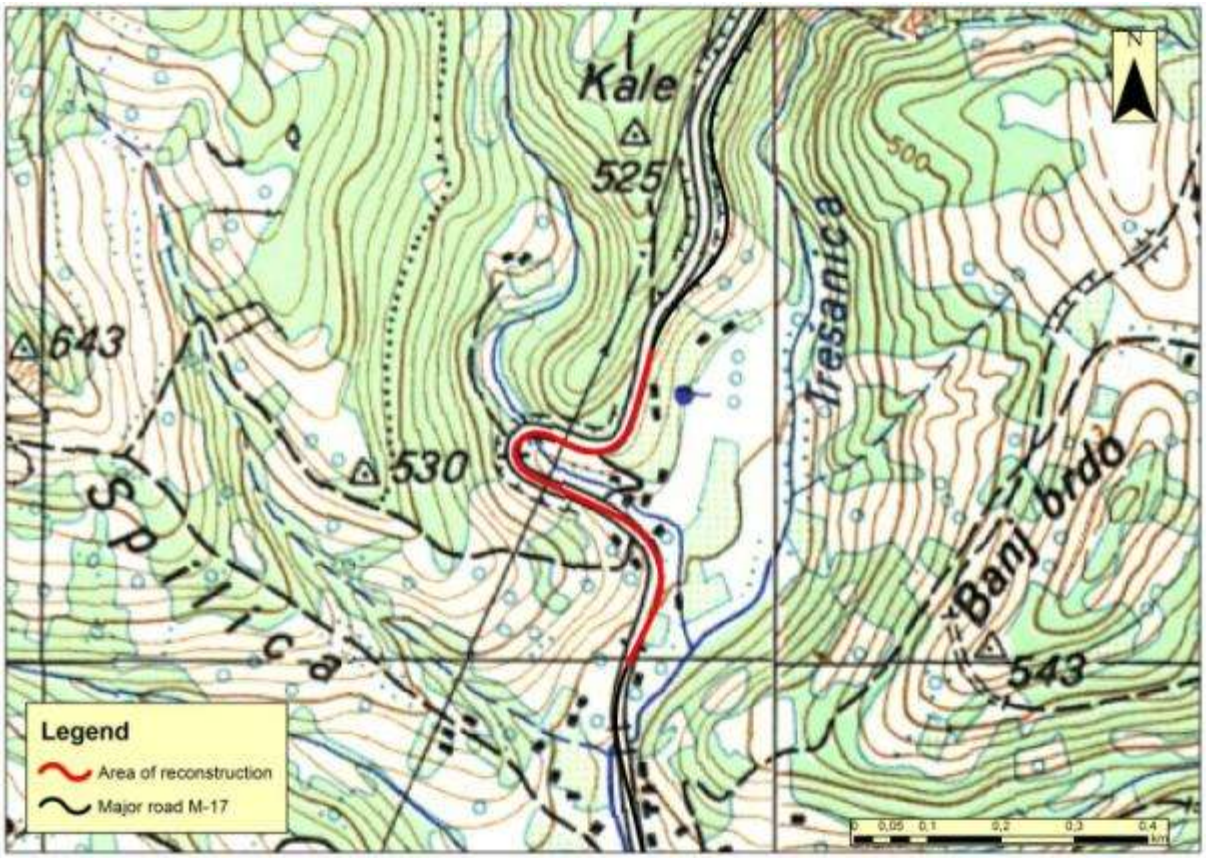


Source: PC Roads Federation of BH (Pictures: October 2016)

The Project area is located 5.2 km from the city of Konjic, and the project area is dominated by rural type settlements with individual houses wich are mostly ground floor, one-story and two-story houses. Some of these houses are located along the major road M-17, while most of them are located along the local road connected with the major road M-17.

The rest of the surrounding area mostly represent forest and agricultural land with some weaker soil bonity.

Figure 2: Lookup Map of Wider Area with the Project Location



Source: PC Roads Federation of BH

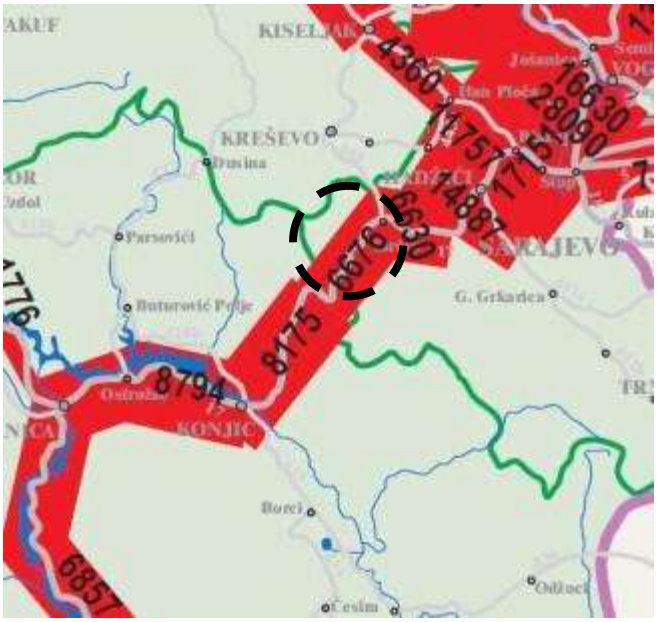
3.1. ROAD SAFETY AND TRAFFIC DATA

According to the Study of priority reconstructions of Dangerous Spots on the project area on the section Bradina – Podorašac on the road M17 there have been 29 traffic accidents from 2010 till 2012. Two of these accidents were with fatal outcome, 2 were with serious injuries, 7 with light injuries and 18 were with material damage.

PC Roads have installed automatic traffic counting along the main traffic network throughout FBH. Automatic traffic counting is done since the 2005 and last report[2] was published 2016 with the data for the previous year. Based on this information the nearest relevant traffic count device is placed in Raštelica, and the data collected from the device shows that, in 2015, 6.676 vehicles were passing daily.

[2] *Traffic count on major roads in Federation of FBH in 2014, PC Roads Federation FBH, Sarajevo 2015*

Figure 3: The average amount of vehicles per day in the year 2015



Source: PC Roads FBH, 2016

By the request of PC Roads FBH, traffic prognosis for the same network was made by IPSA Institute Sarajevo in 2014[3] for the period 2013 to 2040. Analyze of the traffic flow was made for every year applying "equilibrium" procedure. For this particular section the amount of predicted average daily number of vehicles is shown on the *Table 1* below.

Table 1: Traffic prognosis for the main road M17, section Tarčin Konjic

Road	Section name	AADT									
		2016	2018	2020	2022	2023	2025	2030	2035	2037	2040
M17	Tarčin-Konjic	7239	7697	760	804	826	874	1002	1130	1178	1254

Source: PC Roads FBH, 2014

We can see a predicted decrease in the number of vehicles after 2018 on the project section. That is the case due the planned construction of Corridor Vc according to the Motorway in Corridor Vc; Feasibility Study which was took into account in the given prognosis.

[3] *Justification stud for modernization of major roads in FBH programme, IPSA Institute Srajevo, 2014*

4. PROJECT DESCRIPTION

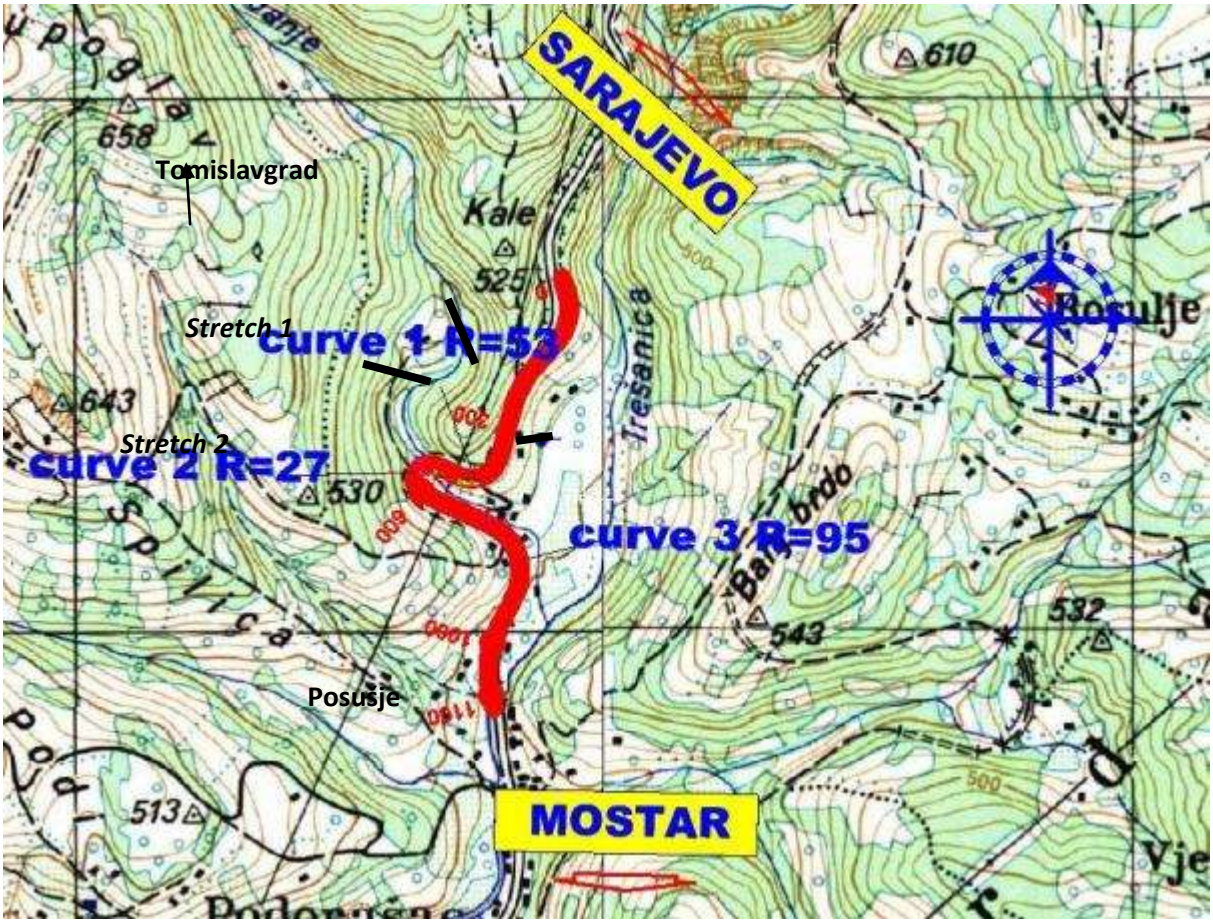
The activities envisaged under this project component is the reconstruction of the main road M17, section Bradina- Podorašac. The main design was created by the company DIVEL ltd. in April, 2014. The construction works will be done on two curves and a tangent in-between. Surveying of the existing road concluded that the width of the existing pavement in all curves where additional lanes exist is smaller than the regulatory demanded width. The existing profile meets the regulations for a two-lane road with a widening for heavy duty vehicles without an additional lane. Due to all of the above, a reconstruction of the road has been envisaged. The planned reconstruction includes widening of the pavement in the area of the curves so that the widening meets the national regulations. (Guidelines for road design, construction, maintenance and supervision Sarajevo/Banja Luka 2005.). The purpose of this reconstruction is to create a safer road and eliminate dangerous spots on the project route.

The area of activities begins with a right curve (curve 1) with a radius of R=53 continuing to a left curve (curve 2) with a radius of R=27m. This curve represents the most dangerous spot on this section. The current width of pavement on this spot is 11,2m which makes it a constriction and a dangerous spot. Therefore, this curve will be widened towards the inner side by adding 1,70m to each lane, making the total width 14.7m. Hereafter, the road represents a 98m long straight tangent which ends in a curve with a radius of R=95m (curve 3). This curve also will be widened by adding 0,5m to each lane which would make it meet the regulations. The total length of reconstruction is 800m.

Figure 4: Road M17 Section: Bradina - Podorašac

Source: Main Design, Divel d.o.o. Sarajevo, April 2014

Figure 5: Location of third lanes shown in the wider area



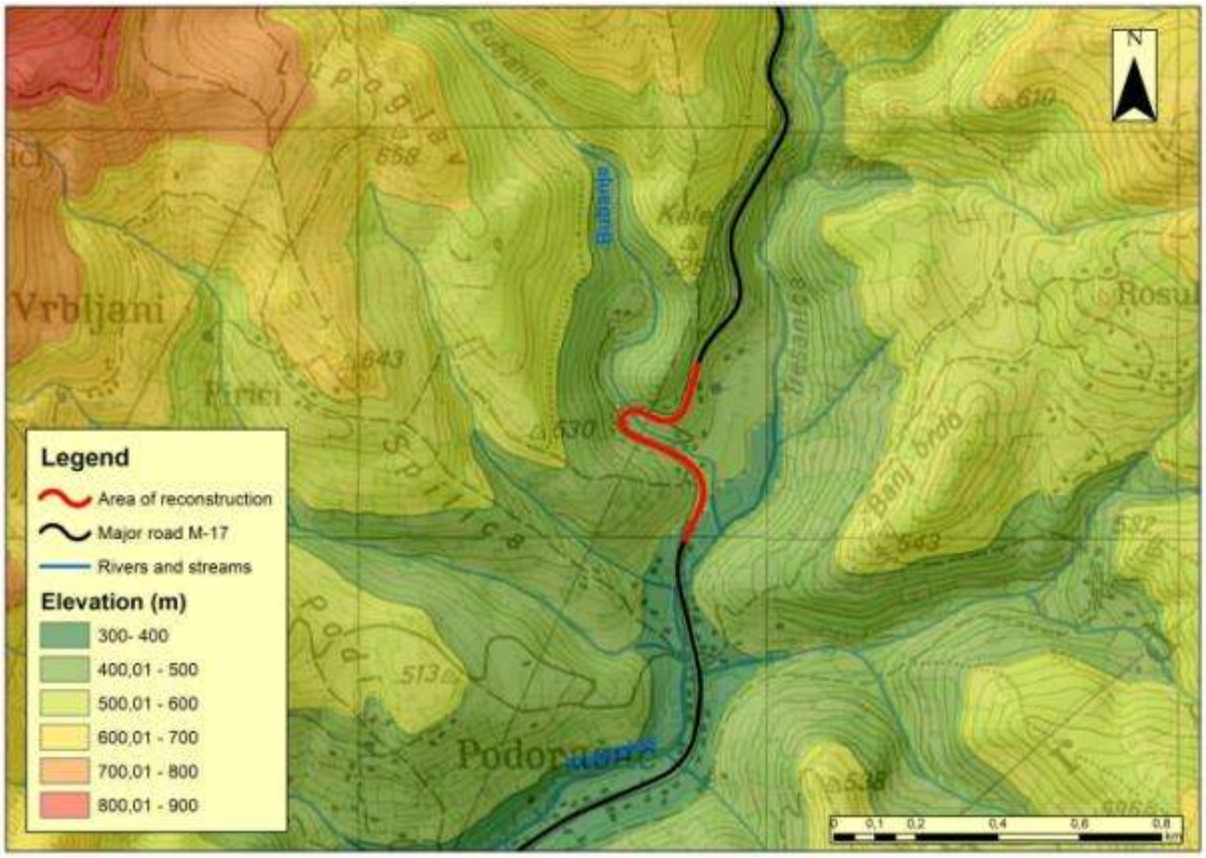
Source: Main design, Divel d.o.o. 2014

5. BASELINE OF PARTICULAR INTEREST

5.1. GEOGRAPHIC CONDITIONS

This area is characterized by relief with hillocks and hill chains considering that the route of the Project is located at an altitude ranging from 400 to 500 meters above sea level, as indicated in Figure 6. From structural geomorphological point of view this type of relief belongs to the accumulation-denudation type of morphostructure.

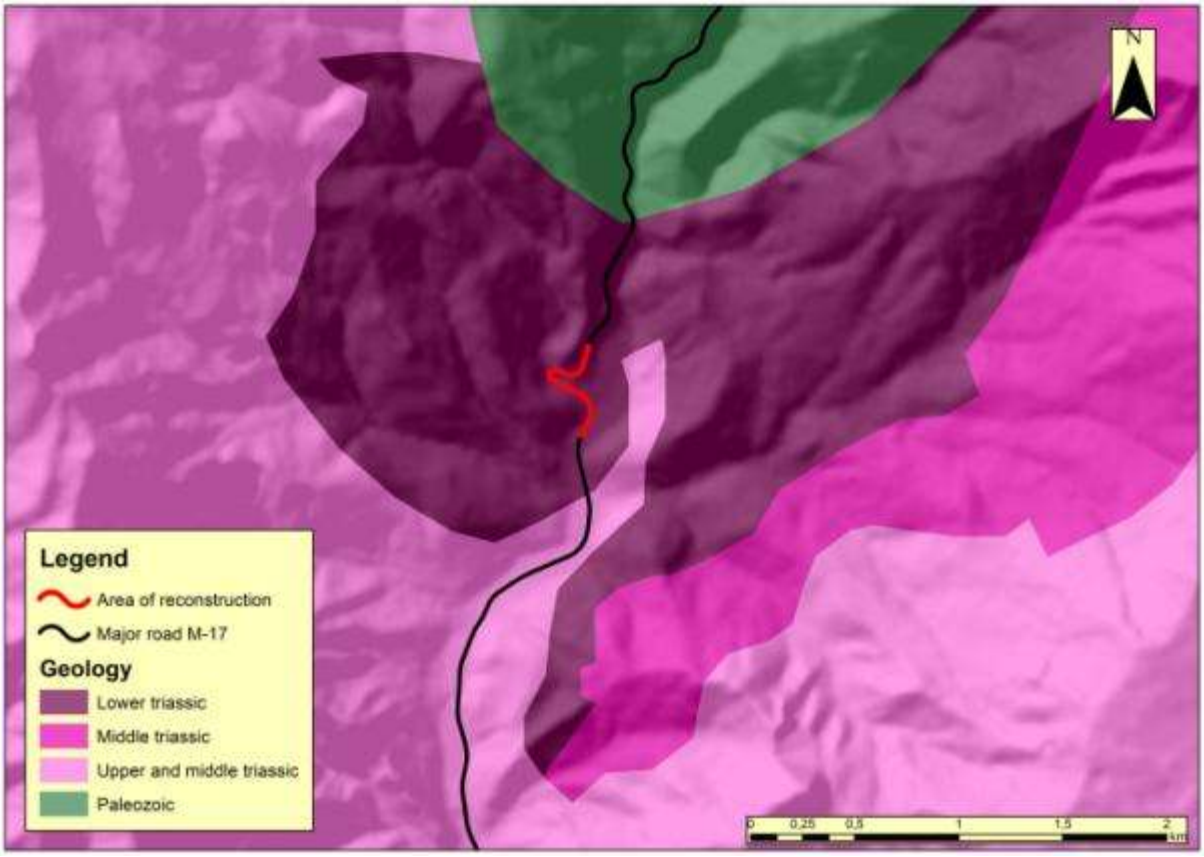
Figure 6: Geographical Map of Wider Area with the Project Location



Source: PC Roads Federation of BH

The geological structure of the wider area is characterized by stable waterproof rocks from the lower triassic period. Triassic sediments are represented through schistose sandy marl, clay alevrolytes, shale alevrolytes, sandy limestone, and metamorphosed quartzmuscovite sandstone. Dolomitic limestones and dolomites with some fossil fauna are lying over the rocks from the lower triassic, and they belong to the middle and upper triassic period. They are without aquifers. Fluvial - denundation landforms are present in the wider area of the project.

Figure 7 : Geologic Map of the wider area of the Project



Source: Draft of Spatial plan of FBiH 2008.-2028.

5.2. CLIMATE FEATURES

Climatic features of subject area are determined by geographic position, relief, height above sea level and other climatic factors. It can be said that the entire area is under the influence of the moderate continental climate, or the Cfb climate (according to Köppen climate classification).

Meteorological station in Konjic, closest to the site of reconstruction, reports following data: the average multi-annual temperature is 10.8 ° C, the warmest month is July, with an average perennial air temperature of 20.1 ° C and the coldest month is January when the average perennial temperature is 0.8 ° C.

The average rainfall measured at the same meteorological station, during multi-year period is 1464 mm per year. The rainiest month is December, when the average precipitation is 222 mm. The least precipitation occurs in August, only 54 mm on average.

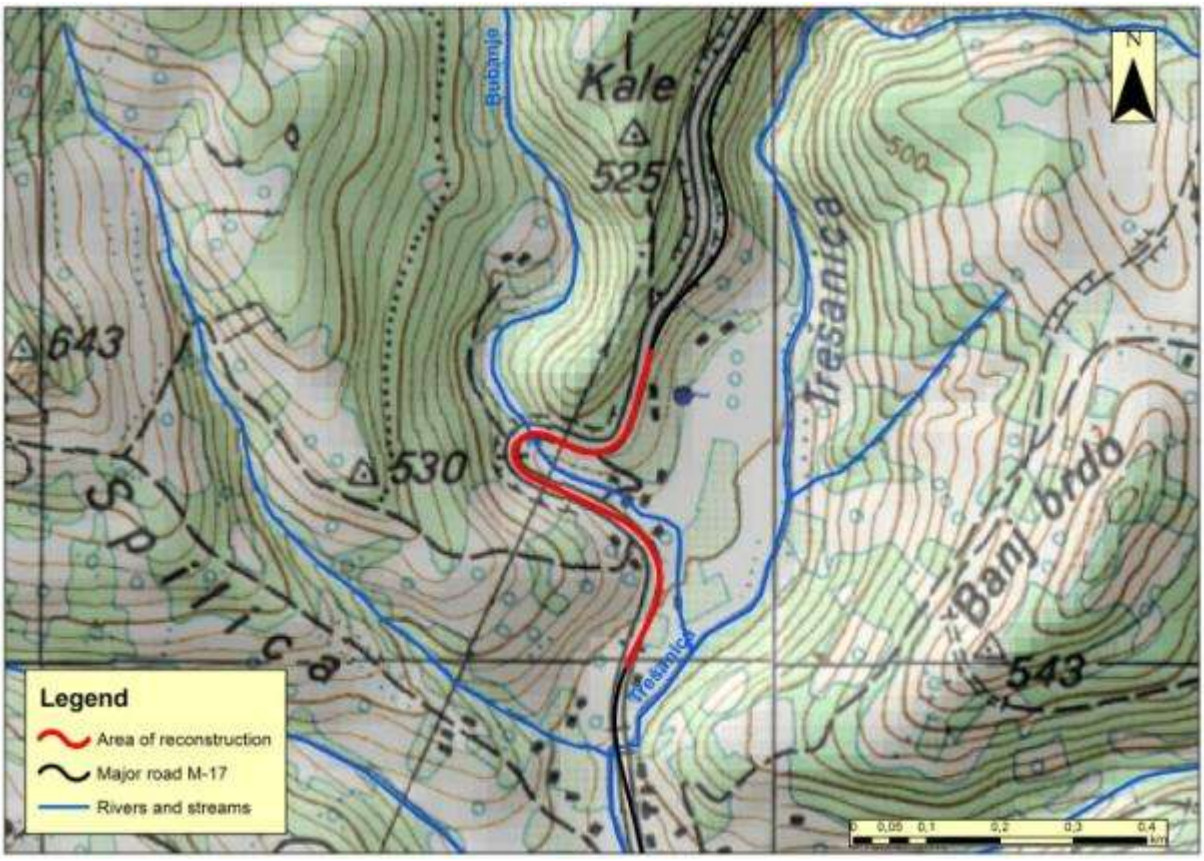
5.3. WATER AND WATER QUALITY

River Trešanica is situated in the vicinity of the Project. River Trešanica is the right side tributary of the Neretva River. Trešanica springs under the mountain Bitovnja, and turns to the west in the village Bradina, where it is joined by the stream Duboki potok. It proceeds to the south, towards the village Podorašac where it is joined by the river Bubanje. Trešanica flows into the Neretva River after 14.5 kilometers flow, in the city of Konjic.

Besides the river Trešanica, the stream Bubanje is nearby, which flows along the route of the major road M-17, and flows into river Trešanica in the village Podorašac.

There is no water quality monitoring system on these watercourses, but it is obvious that the Trešanica River and the stream Bubanje are threatened by human activities such as transport, agriculture, non-sanitary waste disposal and discharging untreated wastewaters from the housing facilities in Podorašac The quality of the Trešanica river is envisaged to be assessed for the Baseline of the project environmental monitoring plan.

Figure 8 : Hydrographic Map of the wider area of the Project



Source: PC Roads Federation of BH

5.4. AIR QUALITY

No particular monitoring of air quality for this location was performed, neither for the area of Konjic. Judging by the location of the Project, it can be concluded that the highest air pollution refers to the traffic of the major road. Also, during the winter time, the air is loaded with the pollution that comes from individual furnaces and boiler units, from facilities that are located nearby the Project, while there are no other major air polluters such as industrial facilities near the site.

Based on geographical features and the fact that there are no significant polluters, it considers that the air quality is good. The Contractor shall conduct a baseline measurement for air quality monitoring prior to the start of works.

5.5. NOISE LEVELS

There was no monitoring of noise levels near the Project area; therefore there is no available baseline data of the impact of the noise on the environment. The largest source of noise, in general, is traffic.

In close proximity to the Project area, we can find mostly facilities for residential purposes (houses) which are exposed to the traffic noise and according to the Law on Noise Protection, they fall under the fourth zone, where allowed noise levels are 60 dBA during day and 50 dBA at night. There are no sensitive receptors (hospitals, health resorts etc.) around the area that could be impacted by an increased noise level.

5.6. LAND AND LAND USE

The soil around the planned project represents automorphic soils like calcocambisols and calcomelanosols, which have some lower soil quality (V and VI category of soil quality).

Besides agricultural land, in the wider area we can find forests in the form of high hardwood forests represented by the beech and sessile oak. In addition, a particular piece of land is urbanized, and is used for residential purposes. There are mostly individual housing facilities which are mainly ground floor, one-story and two story houses.

Figure 9: Land use in the wider area of the project

Source: PC Roads Federation of BH

5.7. FLORA AND FAUNA

There is no literature data on the flora and fauna for the particular location of the Project, but in the wider area of the valley of the Trešanica river, which flows near the site of the Project and the settlement Podorašac, we can find several endangered and vulnerable species such as Alyssum moellendorffianum, Holly oak (Ilex aquifolium), Stachys anisochila, Rock thyme (Acinos orontus), Centaurea kotschyana, Herzegovinian euphorbia (Euphorbia Herzegovina), Silene retzdorffiana, Melampyrum hoermannianum, Thymus richardii Persoon and Bellidiastrum michelii Casso . The endangered and vulnerable animal species that live in this wider area are Rhyacophila vranitzensis, Drusus medianus and Cupido alcetas. However the Contractor shall hire a biologist to conduct a review of the site for the baseline prior to the start of works.

5.8. SETTLEMENTS

The project section runs through Podorašac, a mixed sparsely populated settlement with a population density of 101-200 people per km². The village has a population of 638 people according to the population census of 2013.

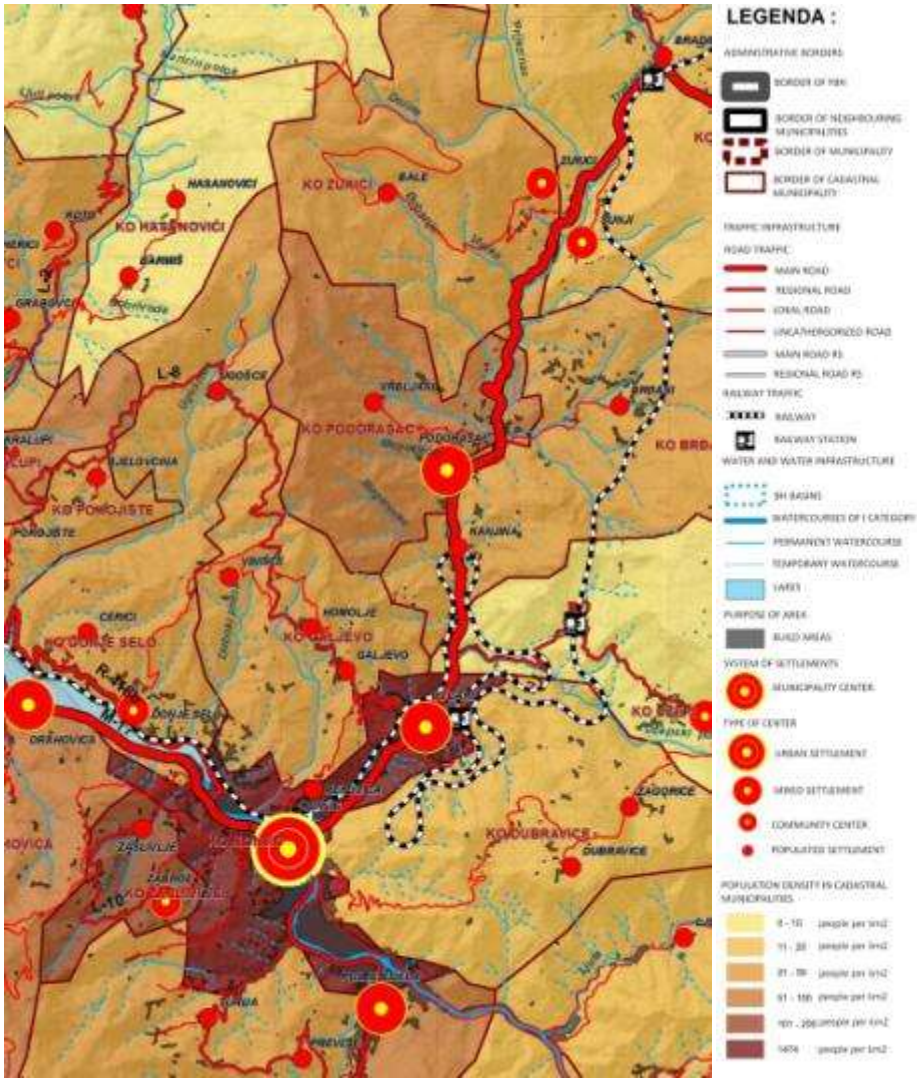
Podorašac is a rural-type settlement with mainly ground floor, one-storey and two-storey houses. Commercial activities are not present in the area of construction works envisaged in this project. They are concentrated in either in the settlement center, located about 1 km south, down the M17, from the area of construction works or in the town Konjic.

A primary school is located in the settlement center with 101 students in 2013. One child from the area in the close proximity of planned construction works goes to that school.

The majority of the population in Podorašac works in the nearby Konjic which is the municipality center.

Figure 10 depicts the system of settlements in the observed area, from which it is visible that the entire settlement gravitates towards the municipality center Konjic and by that to the major road M17, which is the most important traffic road in this area. Therefore, the importance of the reconstruction of this dangerous spot for the local community is very evident.

Figure 10: System of settlements in the Project area

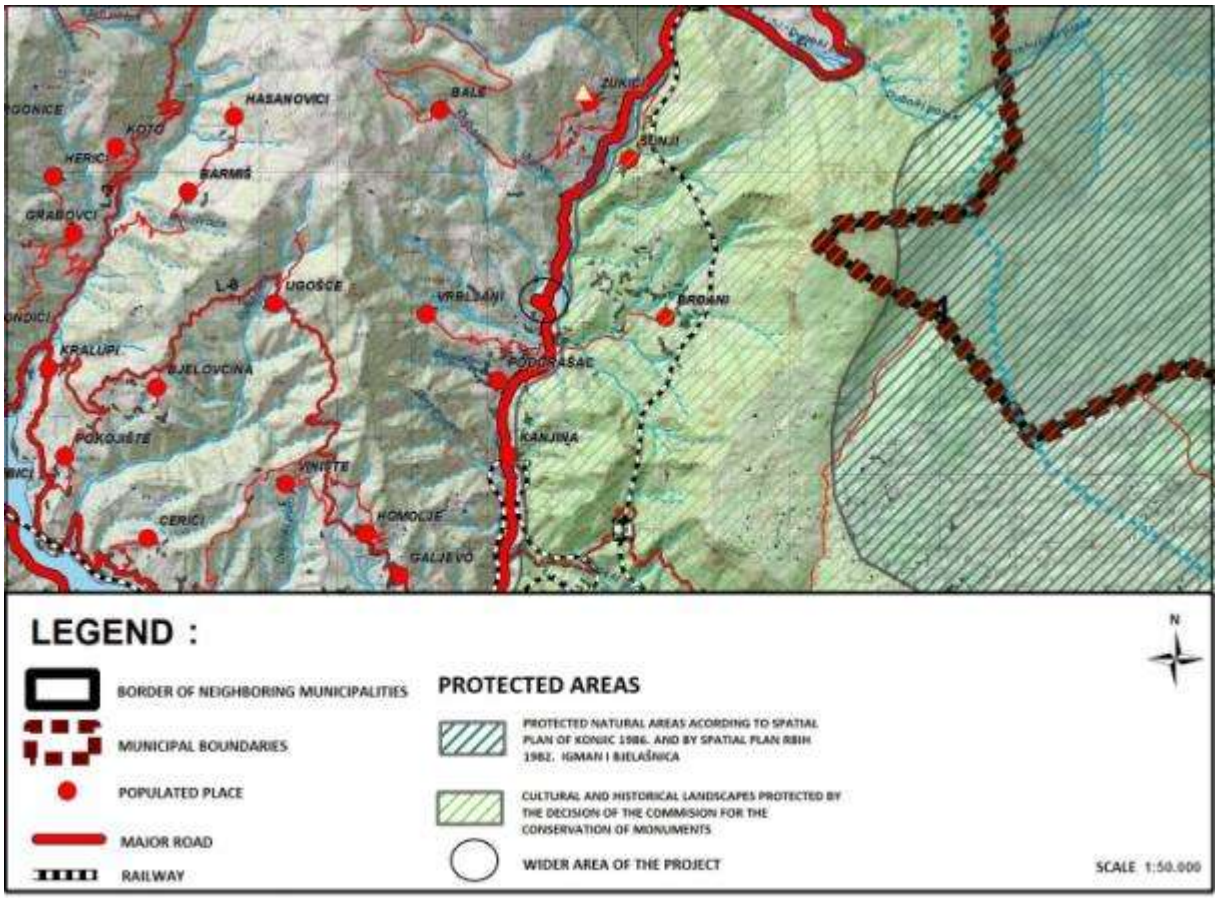


Source: Excerpt from the Physical plan of Municipality Konjic

5.9. PROTECTED AREAS

The location of the Project is not located within a protected area. The nearest protected area is a cultural - historical landscape protected by the decisions of the Commission for the preservation of monuments, whose borders are close to the project site. Since there are no specific protected monuments close to the project site, it is considered that there will not be any negative impacts on this area. Besides this, the border of the natural protected area Igman and Bjelašnica is situated at a distance of about 3 kilometers from the project site, protected by the Spatial Plan of the municipality of Konjic and to the Spatial plan of RBH from 1982. Due to the distance from the project site, there will not be any direct impact on the protected area.

Figure 11: The position of the Project in relation to protected natural and cultural - historical areas (Extract from the Spatial plan of the municipality of Konjic 2013-2033.g.)

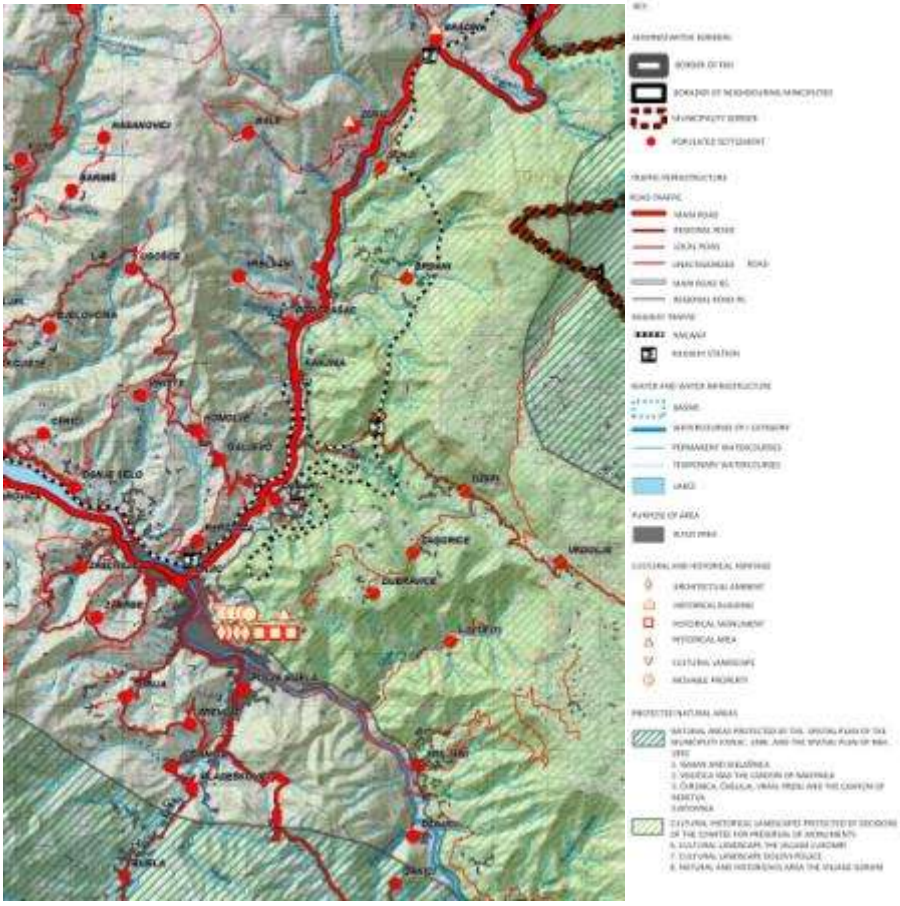


Source: Spatial plan of the municipality of Konjic 2013-2033.g, IPSA Institute, Sarajevo

5.10. Cultural-Historical and Natural Heritage

Although the construction site is not located in areas protected in anyway, the vicinity of the borders of the cultural landscape of village Lukomir is undeniable, as seen from figure 11. At the closest point the construction site is located approximately 100m from the BORDERS of the Cultural Landscape “The Village Lukomir”. The village itself, though, is more than 17 km away. Whatsoever, new archeological findings are not expected during construction works, due to the small amount of excavations planned in the project and the fact that the area is well archeologically mapped and explored.

Figure 12: locations of cultural-historical and natural heritage



Source: Excerpt from the Physical plan of Municipality Konjic

6. DESCRIPTION OF POSSIBLE IMPACTS DURING PRE-CONSTRUCTION, CONSTRUCTION, OPERATION AND MAINTENANCE

6.1. IMPACTS DURING PRE-CONSTRUCTION

Socio-economic Impacts

Land acquisition and resettlement:

According to the main design (April 2014), no land acquisition or resettlement is required under this project. Previously it was anticipated that parts of two publicly owned land plots had to be expropriated for the purpose of the widening of project curves. However, new insight in the project documentation showed that the main design exceeded the necessary width of construction works on two construction profiles. Consultations with the chief engineer of PC Roads FBH concluded that the scope of works can be narrowed according to Guidelines for road design, construction, maintenance and supervision (Sarajevo/Banja Luka 2005) on the respected profiles which would result in avoidance of expropriation altogether.

Such approach is in line with WB OP 4.12 on Involuntary Resettlement which prescribes avoidance as the main mitigation measure for expropriation and land acquisition.

6.2. IMPACTS DURING CONSTRUCTION

Impact on Air Quality

Exhaust gases - The machinery that is used during the construction and delays, i.e. traffic standstills on the road due to works on reconstruction of road will lead to an increased emission of such gasses as SO2, CO2, CO, NOX and Pb.

Dust generation - where the most important polluters are solid particles (PM10 and PM2,5). Possible sources of dust generation include: site preparation activities, especially excavation and levelling, handling of building materials such as excavated earth/substrate, gravel, sand, asphalt, cement and the construction itself. The intensity of this pollution will depend on the weather conditions (wind strength and precipitation). The impact of dust emissions is not significant, it is short-lived and of local character.

Impact on Noise Level and Vibrations

Noise emission is likely to appear during site preparation. Possible sources of noise are: ground preparation activities such as excavation and leveling, use of tools and equipment, assembly of building materials on site; offloading of building materials such as gravel, sand, asphalt etc. and the work of construction machines in general.

Impact on Surface Water Quality

Possible contamination of water – may occur due to general construction activities and malpractice including inappropriate extraction of resource material, handling of hazardous substances (i.e. asphalt, chemicals and paint), inadequate waste handling, liquid and solid, equipment damage which may lead to leakage of lubricants and fuel (increased blurring, input of fats and oils) etc. These impacts can be avoided by working carefully and respecting the construction practices set forth in this ESMP, so the construction will not have a significant negative impact on the water.

Impact on Soil Quality

- Soil compaction due to heavy machinery (vehicles and equipment for construction) moving around the location;
- Uncontrolled (storing, handling and depositing) and untreated waste is one of the major sources of pollution that can disrupt soil quality.

Impact on Biological and Natural Resources

- Pollution of the Trešanica River and soil with hazardous substances (fuel and oils in case of spills) can harm biodiversity of the river and its surrounding area.

Impact on Protected areas

The observed project is not situated in any of the planned protected areas. The closest protected area is the cultural - historical landscape The Village Lukomir, protected by the decisions of the Commission for the preservation of monuments, whose borders are, at the closest point approximately 100m from the project site, but since there are no specific protected monuments close to the project site, it is considered that there will not be any negative impacts on this area.

Impact on Landscape Values

Partial alternation of landscape and visual aspects can be expected with organization of construction sites, presence of personnel and machinery on site. These impacts are temporary and negligible.

Impact on Traffic Safety and Traffic Flow

Traffic congestion and obstructions on road section - increased traffic flow, leading to congestion and obstruction is likely to be experienced on major road (M17) during the construction. This issue is particularly important during summer months when the fluctuation of traffic is increased due to the fact that the main road M17 is the dominant corridor leading to the seaside. During the whole period of construction a two way traffic regime is planned, thus minimizing the impact.

Trenches are likely to be made during implementation of construction activities, including earthworks and temporary storage of construction material.

Population safety impacts

The vicinity of the construction site: safety issues that can occur due to the vicinity of the construction site to the safety of local population includes:

- Inadequate noise levels that can impact the health of the local population
- Ilicit entrance to the construction sites by local population (children)
- Reconstruction also may lead to interruption of land use by inadequate waste management in terms of uncontrolled and untreated waste (e.g. accidental spills from construction machinery, solid waste generated by workers on the construction site) that might be harmful to local communities.

As a result of the limited scope of civil works (i.e., reconstruction and widening of existing road), the impact of workers' presence on local community is minor. All workers will commute daily to the construction site.

Socio-economic Impacts

Temporary land occupation and damage to private property: At this time, it is not expected that it will be necessary to temporarily occupy any privately owned land plots for lodging machines and disposal of materials. Machines and material will be disposed on land adjacent to the road owned by the Investor. However, If additional temporary occupation of private land in needed during construction activities, this will be agreed upon with respective land owners and compensation will be paid in accordance with provisions determined in the RPF before the land is accessed.

Reconstruction also may lead to interruption of land use by inadequate waste management in terms of uncontrolled and untreated waste (e.g. accidental spills from construction machinery, solid waste generated by workers on the construction site) that might be harmful to local communities.

Access restrictions: Impacts related to road access difficulties to residential structures and small informal businesses are expected to be temporary and are associated with access difficulties due to heavy machinery and construction traffic as well as disposal of construction waste.

Impacts on small informal businesses along the road section subject to reconstruction: During the social screening and walkover survey conducted on 12th of April, 2017, informal honey sellers have been detected along the road section subject to future reconstruction, depicted on figure 14[4]. Two of the sellers present on site have been interviewed (April 12th, 2017) and the following information was gathered:

- 2-6 sellers sell their products on that location periodically throughout the year.
- In their opinion, the temporary relocation will not influence their income because it will not cause a disruption to their business
- The project envisages the widening and paving of the location used for selling honey, thus giving the sellers safer working conditions

New workplaces and impacts on local businesses (positive): New business opportunities are expected to be created for local businesses such as transporters, suppliers and other service providers. The Project is expected to have positive impacts on the local employment opportunities with opening new workplaces during road construction. This impact is considered to be short-term.

Impact on neighboring parcel: The drainage canal of the existing road goes along the border of a private land plot (parcel number 29) in the length of approximately 4m. The

[4] *Due to the informal nature of their business, the honey sellers did not permit to be photographed.*

canal was built as an earth drainage canal in 1983/1984[5] as part of the construction of the concerned road for the purpose of draining rain water from the road into the nearby stream without causing any damage to the nearby private land plots. As part of regular maintenance works, the canal was concreted in 2014 to improve water drainage. The reconstruction of M17 Tarčin- Konjic (Podorašac) envisages also the reconstruction of the concerned drainage canal. To minimize disruption to the private landowner of the plot adjacent to the canal during canal reconstruction the landowner will be informed about the canal rehabilitation (i.e., scope, duration, impact) before the civil works start.

Figure 13: Location of the drainage canal

Source: Roads of FBH

Impact on living conditions of local communities:

- Noise increase,
- Traffic disruptions,
- Inappropriate disposal of construction waste,
- Short-term disruptions to water and electricity supply, telephone and Internet connections, waste collection, regular public transport, delivery of mail
- Local businesses can be affected in terms of delayed delivery of goods and products. The impact is short termed and low due to the existence of an alternative route

[5] *Exact data on the drainage canal and the registration of the land it was built on cannot be found and is expected to have been burned either in the fire of the Republic Roads Fond building in 1993, or in the fire of the Archive of Bosnia and Herzegovina in 2014*

Impacts on local traffic: Local traffic will be increased (including heavy machinery and trucks) or with traffic restrictions and speed limits, which will cause traffic delays and limited access.

6.3. IMPACTS DURING OPERATION AND MAINTENANCE

Since this is an already existing object no new negative environmental impacts, nor deterioration of existing negative impacts, during operation and maintenance are expected. On the contrary, an improvement of the environmental and social aspects is expected, as explained in detail in the next section.

Impacts on traffic: According to the Table 1: Traffic Prognosis for the main road M17, section Tarčin- Konjic Traffic prognosis, an increase to the number of vehicles is expected during the first period of operational phase. Furthermore, an increase of speed of vehicles is expected due to the addition of third lanes.

6.4. POSITIVE IMPACTS

Project implementation will contribute to better environmental and socio-economic conditions and will have positive impacts on the quality of life of the local community. There are several social opportunities that were detected in the project:

- More efficient and safer traffic system which is characterized by decreased traveling time, lower cost of maintenance and management, decreased number of traffic accidents deriving from adding width to the existing profile.
- Improvement of transport system and accessibility of the local community to important institutions: health, education, jobs etc. ;
- Developed road structure with improved access to and out of the project area;
- Benefits to vehicle users and users of public transportation due to improved traffic connections and capacity;
- Increased travel speed and travel quality;
- Direct employment and service opportunities: according to the Procurement guidelines under IBRD loan and EIB loan, the tender will be of international character and for this reason it will be difficult to predict where the contractor will come from; nevertheless, the practice in construction in BH suggests that hiring local contractors will be expected.
- Improved quality of life on the whole (better access to important institutions: health, education, job etc.);

6.5. EHANCEMENT MEASURES

Table 2: Enhancement measures

Impact	Improvements to be achieved	Cost Assessment (US$)		Institutional Responsibility	
		Operative	Implementation	Operative	Implementation
▪ Traffic	▪ Better traffic flow; ▪ Reduction in time travel and cost by enhancing road surface and building a roundabout; ▪ Improved road and travel safety by improving of major road M- 17;	-	-	Contractor	PC Roads FBH
▪ Socio-economic	▪ New job and business opportunities for local construction workers and firms; ▪ Improvement of connections of the municipality Konjic with commercial and trading centers such as Sarajevo, Mostar and port Ploče; ▪ Better access of the local community to important institutions: health, education, job etc.	-	-	Contractor	PC Roads FBH
▪ Visual aesthetic and landscape	▪ Improving visual aspects of the surrounding area with seeding, planting and re-vegetation with species that can tolerate the roadside environment;	Included in construction works	Included in supervision	Contractor	PC Roads FBH

7. MITIGATION MEASURES

The purpose of this ESMP is to set forth mitigation measures associated with the environmental impacts identified for this given project activity. The mitigation measures are included in this section and summarized in Table 3. This chapter includes also the general provisions and mitigation measures that the contractor hired for this task will need to obey and/or perform. The requirements that the Contractor needs to follow, beyond the provisions of the ESMP, will be outlined in a number of planning documents (plans) that will be developed by the contractor prior to any start of works. The development of such documents will allow for adjustments of the ESMP measures based on the potential new findings on the site, as a result of the public consultations or developing the project specific baseline.

As a part of Tendering Documents (TD) for the Contractor, PC Roads FBH will require that the Contractor submits a Construction Site Organization Plan (CSOP), which will highlight certain requirements both for completion of works and implementation of mitigation measures.

CSOP consists of following components:

(i) Description of the preparation works and description of location organization during and after the construction (design of access roads, internal roads, manipulative and parking spaces, layout of installations, design and organization of temporary construction site facilities, terrain rehabilitation upon completion of works). This part of CSOP needs to contain technical description, calculation and graphical appendices, and BoQ.

(ii) Technological scheme (location and operation of the storage and disposal sites of the materials, location of the mechanization maintenance, disposal sites for special types of waste, storage of dangerous and harmful substances). This part of CSOP needs to contain technical description, calculation and graphical appendices, and BoQ.

(iii) Elaborate on safety (Elaborate on safety on work and Elaborate on protection from fires and explosions), which shall include according to provision of this ESMP a Management Plan in Case of Accidents (MPCA); and

(iv) Practical plan of the implementation of this ESMP [that shall include among other a detailed Waste Management Plan (WMP)].

Additional requirement for the Contractor, as stipulated by ESMF and this ESMP, is to design and submit a detailed Traffic Management Plan (TMP) 30 days prior to commencement of works (in accordance with Appendix 4. Road Safety Management of the ESMF). The TMP shall also include management of traffic according to the season, notably

trying to minimize impacts during the summer months where the traffic in this area is exceptionally high.

Within the framework of the project, PC Roads FBH prepared a Resettlement Policy Framework (RPF) which clarifies land acquisition/resettlement and compensation principles, organizational arrangements and procedures for planning land acquisition/resettlement. The RPF also serves as a guide for preparation of site-specific Resettlement Action Plans (RAPs), which are needed when resettlement or land acquisition is planned on a project. In this sub-project no land acquisition is expected.

7.1. MITIGATION MEASURES IN PRE-CONSTRUCTION PHASE

7.1.1. Contractor Management

PC Roads FBH will ensure that the construction intervention is carried out without risk to the health and safety of all workers and local community. Therefore, the Contractor will plan, coordinate, control and monitor the undertaken activities to effectively minimize the risks presented during their work.

The ESMP is an integrated part of the tendering documents and the Contract for Execution of Works. It is the Contractor's obligation to calculate the implementation of environmental and social mitigation measures into the overall cost.

The Contractor will be required to provide a short statement that confirms that:

- The ESMP conditions have been estimated and included into the bid price,
- The Contractor for Execution of Works has a qualified and experienced person on the Contractor's team who will be responsible for the environmental and social compliance requirements of the ESMP.
- The Contractor will comply with applicable BH and FBH laws, EU standards and WB requirements, including the relevant Operational Policies, this ESMP, framework ESMF and the Environment, Health and Safety guidelines, where applicable,
- The following contractual conditions shall apply to the Contractor for Execution of Works employed by PC Roads FBH:
- The Contractor will be required to prepare site-specific CSOP in accordance with the requirements of this ESMP . All submitted CSOPs shall be formally reviewed by PC Roads FBH prior to agreement and signing.
- The Contractor shall provide formal written reports to PC Roads FBH in accordance with requirements set-out in the ESMP which is part of this document;
- PC Roads FBH is responsible to introduce all contractors and sub-contractors and personnel working on the Project on the contents and provisions of this ESMP and any penalties arising from non – compliance therewith;

-

- The Contractor is responsible for notifying PC Roads FBH immediately upon receiving any complaints or grievances, as well as immediately upon identifying and implementing of any corrective actions. The Contractor shall inform the complainant of the Grievance redress mechanism. All grievances will be registered with the Central Feedback Desk (CFD) and logged in the Central Grievance Log. Contractor will fill out the grievance registration template provided in Appendix 2 of this ESMP on regular basis and will make it a part of the monthly reports to the contractor

The Contractor shall provide monthly reports on its management and monitoring of the working conditions of direct and indirect employees on the work site and ensure that systems are in place to monitor compliance with labor and health and safety standards.

The Contractor shall:

- Ensure that all workers are required to comply with all national / federal legislation on labor and health and safety, as well as any other relevant standards, including the World Bank Group EHS guidelines;
- Be responsible for all activities undertaken by his sub-contractors;
- Maintain regular effective two-way communication with all workers, sharing information and assisting in dealing with any unforeseen problems promptly.
- Exchange information and request any plans from sub-contractors which deals with significant health and safety hazards and risks created by or associated with their work activities.

The recommendations and proposed mitigation measures will be attached to the tendering documentation and subsequently the contract with the Contractor. The ESMP is a part of the Contract and as such it must be addressed to the Contractor and carried out as required.

7.2. MITIGATION MEASURES DURING CONSTRUCTION PHASE

7.2.1. Environmental Management

During the construction phase, the Contractor shall award the responsibility of supervising everyday compliance with ESMP to a senior engineer.

The Contractor will be responsible for the implementation of all measures included in the ESMP for all activities undertaken in terms of the construction contract (including work undertaken by sub-contractors).

Compliance of Contractors with provision of ESMP will be assessed by the Construction Supervisor appointed by PC Roads FBH, in accordance with the Ordinance on Construction Site Development, Obligatory Documents on Construction Site and Participants in Construction Work of FBH.

Compliance reviews will be submitted by Contractor to PC Roads FBH on a monthly basis. Non-conformances, incidents and deviations from the ESMP will be communicated to PC Roads FBH, or the Supervisor as soon as possible, within 24 hours form the time of occurrence , where PC Roads FBH shall react to the occurrence a.s.a.p. and impose corrective measures with a deadline for undertaking them.

All mitigation measures are specified in the Table 3. Environmental and Social Impacts Management Plan.

7.2.2. Health and Safety

Works on the reconstruction may pose health and safety risks for construction workers and visitors to the construction site. Population near the construction site, road users and construction workers will be exposed to the risk of: biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, waste water, vector transmitted diseases etc.), and road accidents from construction traffic.

Therefore, the Contractor is obliged to:

- Implement suitable safety standards for all workers and site visitors, which should not be less than those laid down in the international standards in addition to complying with the national standards of the FBH,
  - Make sure basic safety features for visitors are in place, such as construction warning signs for protecting unsafe areas from being accessed or the obligation for every visitor to wear a helmet before entering the construction site
- Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular road rehabilitation activity and specific classes of hazards in the work areas,
- Provide personal protective equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty equipment and by replacing damaged equipment with new one.
- Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job.
- Appoint an environment, health and safety manager to look after the health and safety of the workers.

7.2.2.1. Safety Engagements

The Contract should ensure that all possible risks in the course of work are eliminated or reduced to a minimum. In order to prevent the possibility of higher-scale accidents it is

necessary to plan and develop the measures to help reduce the adverse impacts. The Contractor's duty is to create a Management Plan in Case of Accidents (MPCA).

The MPCA should include organizational structure, responsibilities, procedures, communication, training, resources and other measures needed to provide appropriate reaction of the Contractor in case of accidents which might occur during the project. The most important items of the MPCA are as follows:

- Identify potential hazards and large-scale accidents,
- General procedures for all emergencies and accidents that might occur during the project due to natural disasters, defects on equipment of human errors,
- Description of preventive measures against accidents,
- Workers training for their roles and responsibilities when accident occurs,
- Determining responsible person at the site,
- Urgent communication procedures,
- Information and contacts of important local authorities and emergency services,
- Internal and external alarming,
- Response plans for specific types of hazards, for example medical assistance, fire etc.

The MPCA should include:

- Spill Response Plan
- Emergency Preparedness,
- Response Plan to Accidents.

The contractor is also obliged to:

- The contractor should provide portable toilets at the construction sites. Location of portable facilities should be at least 6 m away from storm drain system and surface waters. These portable toilets should be cleaned once a day and all the sewerage should be pumped from the collection tank once a day and should be brought to the common septic tank for further treatment.
- Contractor should provide bottled drinking water facilities to the construction workers at all the construction sites.

7.2.2.2. First Aid

The Contractor shall:

- Ensure that facilities that provide health care and first aid are easily accessible. Appropriately equipped first aid stations are to be easily accessible in the whole work area;

- Documenting and reporting accidents, diseases and incidents on workplace;
- Prevent accidents, injuries and diseases originating from, in connection with or arising in the course of work, reducing as much as possible the possible cause of danger in the way which is in accordance with good international practice of industry;
- Identify potential dangers for works, particularly those that might pose threat to life, and provide the necessary preventive and protective measures;
- Ensure that construction site drivers strictly comply with the rules of driving;
- Ensure appropriate lighting in city urban area and alongside roads.

7.2.3. Traffic and Road Safety

The Contractor shall ensure traffic and road safety during performance of works.

The Contractor shall develop the CSOP which includes preparation and organization of construction site during and after construction, including roads on the construction site.

Traffic on construction site is to be regulated the same way as public traffic roads.

The Contractor is obliged to:

- Prepare and deliver TMP to PC Roads FBH for its approval, no later than 30 days upon the beginning of works on any component of the project included in traffic redirection and management.
- For the purpose of uninterrupted traffic movement during the construction works, the TMP shall include: detailed drawings of traffic solutions by showing all bypasses, temporary roads, temporary turns, necessary barricades, signalization/lighting, traffic signs etc.
- Ensure signs in strategic parts of traffic roads.
- Install and maintain a sign on each important point on roads which will be used during reconstruction works, which will clearly indicate the following data in a local language:
    - Location: station label and settlement name
    - Duration of construction
    - Name and contact address/telephone number of responsible personnel
    - Name and contact address/telephone number of contractor
    - Sincere apology for the caused inconvenience

TMP should include details about the following:

- Construction plan by phases,
- Beginning and duration of works,
- Overview of the existing conditions near the construction site,

- Identification of affected areas,
- Mitigation measures
- Plan of public transport, for example, timetable, change of timetable, disturbance and the like;
- Circulation plans, including zones of entry and exit, routes for towing of material, turnaround points, parking areas, zones of interlocking with other traffic roads etc.,
- Routes for pedestrians and vehicles,
- Traffic controls for each expected intervention, including illustrations of barriers, paths, signalization plan, warning signs etc.,
- Requirements for special vehicles, for example, those of large dimensions,
- Construction works paths (access, ramps, loading, unloading),
- Connection roads for supply vehicles and storage of material,
- Expected interaction of pedestrians and vehicles,
- Roles and responsibilities of persons on construction site regarding traffic management,
- Instructions on the procedures regarding traffic control, including urgent situations.

TMP should also include appropriate communication with affected population about traffic and timely information of traffic changes/road blockage.

TMP should be monitored on a regular basis (responsibility of the supervision engineer) and audited to ensure effective implementation and to take into consideration any changes on construction site. All workers on construction site should get acquainted with the TMP.

7.2.4. Construction Site Safety

The Contractor shall secure the construction site. The construction site should be accompanied with a board with information on works and participants in construction (investor's name, contractor's name, project designer's name, name and type of construction being built, beginning and end of works). These measures are necessary so the Contractor could ensure safety of construction site and prohibit entry ensure of unauthorized persons.

The Elaborate on safety on work and Elaborate on protection from fires and explosions should include detailed measures of safety on construction site in order to ensure safety of location and remove possible risks and adverse impacts on employees and unauthorized persons.

In order to ensure safety of the construction site and all those affected, small informal businesses described in chapter 6.2 Impacts during construction, and depicted on figure 14, will have to be temporarily relocated during civil works on the concerned area (approximately 10 days). Three convenient alternative locations for continuing to sell honey

during construction have been identified in consultations with the honey sellers in the vicinity of the concerned area (depicted on figure14).

Figure 14: Location of informal honey selling and alternative locations

Source: Roads of FBH

7.2.5. Land Acquisition, Involuntary Resettlement and Economic Displacement

At this moment, it is not expected that any private land will have to be occupied during construction for lodging machines and disposal of materials. However, If temporary occupation of private land is needed during construction, this will be agreed upon with respective owners and the compensation will be paid in accordance with provisions determined in the RPF before the land is accessed.

The contractor is responsible for keeping the works within the right of way.

7.3. MITIGATION MEASURES IN OPERATION PHASE

It is required from PC Roads FBH to undertake the instructions given in the Table 3. Environmental and Social Impacts Management Plan.

7.4. SUMMARY OF MITIGATION MEASURES

Table 3: Environmental and Social Impacts Management Plan

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
PRE-CONSTRUCTION PHASE						
▪ Restricted access.	▪ Development of the TMP.	Included in the bid	Internal resources	Contractor	PC Roads FBH	
▪ Impacts on living conditions.	▪ Informing the local communities on the extent of works and duration prior to the commencement of construction works via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed.	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH	
▪ Compliance with national legislation.	▪ Obtaining all necessary permits for Project implementation.	Internal resources	Internal resources	PC Roads FBH + Project designer	Competent body for issuing the permit	
▪ Job creation and impacts on local business.	▪ Informing the public in advance about the construction works, in order to enable businesses and workforce in the area to prepare for the demand on the market via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed.	Internal resources	Internal resources	PC Roads FBH	Contractor + PC Roads FBH	Applicable if the Contractor needs new workforce.

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
CONSTRUCTION PHASE						
▪ Restrictions on land use and damages on private property and businesses.	▪ Avoid private properties where possible; ▪ The Contractor will organize the construction site in collaboration and agreement with municipality of Konjic; ▪ In case occasional occupation of private land cannot be avoided, compensation will be provided to affected owners/users (application of RPF), as well as compensation for loss of the possibility to continue to use land and businesses as intended.	Internal resources	Internal resources	Contractor + PC Roads FBH	PC Roads FBH	
▪ Access restriction.	▪ Implementation of the provisions on providing timely information to citizens about upcoming construction works, expected duration of the works, alternative routes, etc. via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed; ▪ Ensuring safe and continuous access to all adjacent residences during construction; ▪ If access restriction cannot be avoided, the owner will be timely notified. The duration of the restriction will be agreed upon with respective owners. All applicable compensations will be paid according to the provisions in the RPF ▪ Implementation of TMP.	Included in construction works	Included in supervision	Contractor	Supervisory body*	Supervisory body is appointed by investor PC Roads FBH

* *Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Impacts on small informal businesses	▪ Temporary relocation of small informal businesses during the construction period on sites that will be agreed upon with the owners in the vicinity of the current location	Included in construction works	Included in supervision	Contractor	Supervisory body*	Supervisory body is appointed by investor PC Roads FBH
▪ Impacts on living conditions of local community;	▪ Providing timely information to the citizens on any type of disruption and inconvenience via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the type and duration of the disruption and inconvenience is known.; ▪ Implementation of TMP; ▪ Implementation of CSOP; ▪ Implementation of ESMP provisions.	Included in construction works	Included in supervision	PC Roads FBH (providing inforjmation to the citizens + Contractor (following the provisions of the TMP, CSOP, ESMP	Supervisory body*	
▪ Impacts on local traffic: ▪ increase of local traffic, including heavy machinery and trucks; ▪ closing one of the traffic lanes for construction purposes causing traffic delays and limited access.	▪ Implementation of TMP; ▪ Introduction of appropriate signalization and warning signs; ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours; ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic; ▪ Provision of safe passages and crossings for pedestrians where traffic interferes.	Included in construction works	Included in supervision	Contractor	Supervisory body*	In collaboration with the local Ministry of the Interior

* *Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Temporary occupation of privately owned land plots for the purpose of construction of access roads and placement of staff, machines and material.	▪ Avoidance of temporary occupation of privately owned plots; ▪ In case avoidance is not possible Implementation of RPF provisions on temporary occupation.	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH*	
▪ Air emissions: - exhaust gasses; - dust generation.	▪ High quality fossil fuels (with low percentage of sulphur and lead) need to be used for construction machinery and equipment; ▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit; ▪ Vehicles need to be regularly maintained ; ▪ Equipment with installed filters to reduce soot emission needs to be used; ▪ When not in use the equipment and machinery need to be shut down; ▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h; ▪ Moistening/ wetting the site to prevent dust occurrence (in areas with dry soils or where activities generate dust); ▪ Sand and gravel materials need to be transported in covered trucks.	Included in construction works	Included in supervision	Contractor	Supervisory body*	

* *Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Increased level of noise and vibration: - noise levels and noise disturbance; - vibration.	▪ Restriction of works to period of day only (period of day: 06:00 to 22:00, period of night: 22:00-06:00) ▪ In the case of noise complaints by local residents, simultaneous use of machines that generate noise over 70 dB needs to be limited; ▪ In the case of noise complaints by local residents, number of trucks per day visiting the site needs to be reduced; ▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit; ▪ When not in use the equipment and machinery need to be shut down; ▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Emissions into water: - possible contamination of surface water.	▪ Monitoring of water quality; ▪ Proper waste disposal and separation of hazardous waste is required, as well as the engagement of authorized companies for final waste disposal; ▪ Oil and fuel collection systems to be fitted to prevent leakage; ▪ Vehicles and machines need to be regularly maintained to prevent leakage.	Included in construction works	Included in supervision	Contractor	Supervisory body*	

* *Supervisor shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Soil degradation and emissions to soil: - soil erosion; - soil contamination by oils, fuels and other hazardous substances.	▪ Control during earthworks to prevent degradation of terrain stability is required; ▪ Proper waste disposal; separation of hazardous waste; engagement of authorized companies for final waste disposal; ▪ Oil and fuel collection systems to be fitted to prevent leakage.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Decrease in the aesthetic value of the landscape due to construction site organization.	▪ The land determined for use by the Project can only be used for the construction activities and no other land is available for i.e. storage of building material, parking of the heavy machinery etc. in terms of soil disruption;	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Inadequate traffic management during construction: - traffic congestion and obstructions on road sections;	▪ Implementation of EMP which includes the: - Design and implementation of the TMP, - Placement of adequate traffic signalization.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Inadequate waste handling.	▪ Implementation of WMP that will enable environmentally acceptable waste collection, its storage, transport and final disposal, or recycle/reuse. ▪ No hidden waste disposal at the site is allowed, nor its incineration. ▪ The waste should be stored for a short period of time and should be removed as soon as possible. ▪ The waste should be primarily recycled or reused where possible and then finally disposed ▪ No open burning of wastes is allowed on site	Included in construction works	Included in supervision	Contractor	Supervisory body*	+ local waste management operator

* *Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	▪ All waste should be handed over to a licensed company or agent. ▪ Disposal sites of construction material are determined by the municipality and should be handled in the most appropriate environmental manner.					
▪ Inadequate organization of construction site.	▪ Implementation of CSOP	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Inadequate workers safety.	▪ Implementation of work safety measures: - Provide workers with a safe and healthy work environment, as defined in the Occupational Health and Safety Management Plan (OHSMP) ,developed as a part of the Construction Site Organization Plan (CSOP) that will be developed for the Project - Provide personal protective equipment, - Respect safety procedures, - Provide portable toilets, - Provide drinking water	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Accidental situations i.e. spills, leakage of oils, fats, fuels and similar hazardous materials.	▪ Implementation of MPCA which includes: - Spill Response Plan, - Emergency Preparedness and Response Plan. ▪ Implementation of Elaborate on protection from fires and explosions	Included in construction works	Included in supervision	Contractor	Supervisory body*	

* *Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Materials supply and transport.	▪ Implementation of CSOP to ensure materials are transported in covered vehicles to reduce impacts on environment and Management Plan on Safety at Work to ensure materials are used in accordance with Bill of Quantities	Included in construction works	Included in supervision	Contractor	Supervisory body*	
CHANCE-FIND PROCEDURES DURING CONSTRUCTION PHASE						
▪ Impacts on cultural heritage.	▪ If archeological findings or other chance finds appear on or near construction site immediate work suspension and local authorities notification is required; ▪ Implementation of CSOP.	Included in construction works	Included in supervision	Contractor	Supervisory body*	In case of finding cultural heritage, supervision is implemented by the competent institution
OPERATION PHASE						
▪ Regular occurrences during road operation	▪ Regular road maintenance	Incl. in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	

* *Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative*

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Decrease in road safety due to the increase of traffic	▪ Regular maintenance of road safety equipment and signage	Incl. in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	

8. ENVIRONMENTAL MONITORING PROGRAM

The table below presents monitoring plan necessary for construction site – development in connection with mitigation measures to avoid or reduce negative impact.

Prior to commencement of works, in accordance with requirements of the ESMP, and a minimum of monitoring requirements, described in table below, without limitation to these requirements, the Contractor shall prepare detailed list of mitigation measures and parameters to be monitored and prepare the site-specific baseline data, as foreseen in the monitoring plan below.

The monitoring plan on construction site will be used by Supervision Engineers and Environmental and Social Specialist of PC Roads FBH. These signed lists will be forwarded to PC Roads FBH, who will be responsible for monitoring and reporting about the compliance.

PC Roads FBH will maintain a registry of grievances, which will contain all information on grievances or complaints received by the community or other interested parties. That will include: type of grievance, time and actions for their resolution and outcome.

Table 4: Environmental and Social Monitoring Program

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
PRE-CONSTRUCTION PHASE								
▪ Job creation and impacts on local businesses.	▪ Number of employed persons from local communities; ▪ Timely informing the local communities about the forthcoming works.	Wider area of construction	Inspection	Prior to construction	Included in performance	Included in performance	Contractor	Contractor
▪ Temporary occupation of privately owned land plots for the purpose of construction of access roads and placement of staff, machines and material.	▪ if unavoidable, Implementation of RPF	Construction site	Visual inspection and inspection	Prior to construction and during construction when necessary	Included in supervision	Included in supervision	Supervisory body + PC Roads FBH	Supervisory body + PC Roads FBH
CONSTRUCTION PHASE								
▪ Access restrictions.	▪ Provided alternative access, ▪ TMP in place, ▪ If access restrictions are unavoidable, implementation of RPF	Construction site	Visual inspection	Random checks at least once a week during the construction	Included in supervision	Included in supervision	Supervisory body + PC Roads FBH	Supervisory body + PC Roads FBH
▪ Restrictions on land use and damage to the private property (agricultural plots, horizontal infrastructure, fences and railings) due to disposal of	▪ CSOP in place; ▪ Implementation of RPF provisions on compensation procedures in case occasional land use cannot be avoided, compensation will be provided	Construction site	Visual inspection	Prior to construction and random checks at least once a week during the	Included in supervision + Included in RPF (RAP)	Included in supervision + included RPF (RAP)	Supervisory body + PC Roads FBH	Supervisory body + PC Roads FBH

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
construction waste, work camps and parks of heavy machinery	to affected owners/users ▪ grievances			construction				
▪ Impacts on local traffic (increase of local traffic, including heavy machinery and trucks, operation of roads with only one lane causing traffic delays and limited access)	▪ TMP in place; ▪ Traffic patterns; ▪ Timely information to the citizens.	On construction site and nearby	Visual inspection and inspection	random checks during the week	Included in supervision	Included in supervision	Supervisory body	Supervisory body
▪ Air emissions: - exhaust gasses; - dust generation	▪ Level of dust (amount of particles of sediment and floating particles); ▪ Emissions of exhaust gases from vehicles and equipment; ▪ (SO_2, NO_2, dim and PM_{10}).	Construction site	Measuring devices	As s baseline and during construction when needed and upon complaints by the citizens	-	500 USD/measuring	Contractor	Authorized laboratory
▪ Increased level of noise and vibration: - noise emission, - vibration.	▪ Level of noise.	In populated places near the construction site	Measuring devices	Upon order by supervisory organ or upon complaints by the citizens	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory
▪ Emissions into water: ▪ possible contamination of surface water and groundwater	▪ Analysis of parameters of surface water quality: - Chemical analysis (PH, turbidity, conductivity, temperature, suspended particles, COD, BOD_5, ingredients with nitrogen);	In watercourse near construction site (Trešanica River) downstream	Standard laboratory equipment and methods of water quality monitoring	As a baseline and upon order by supervisory organ or upon complaints by the citizens	-	1000 USD /measuring	Contractor + Supervision	Authorized laboratory

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
	- Standard bacteriological analyses.							
▪ Pollution of surface watercourses.	▪ Presence of oil film in surface watercourses.	In watercourse near construction site (Trešanica River) downstream	Visual inspection + Standard laboratory equipment and methods of water quality monitoring	Upon order by supervisory organ or upon complaints by the citizens	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory
▪ Emissions into water and soil due to improper waste handling.	▪ CSOP in place, ▪ Waste generation and management.	Construction site	Visual inspection, disposal records or receipts from landfills	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Soil degradation: - soil erosion; - borrow pit excavation;	▪ Implementation of CSOP, ▪ Implementation of WMP. ▪ Remediation of the borrow pit site to its previous state.	Construction site	Visual inspection	Regularly during construction	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Removal of vegetation cover	▪ Number and type of planted vegetation and analysis of vegetation cover prior to the beginning and upon completion of works.	Construction site	Visual inspection and record-taking	Prior to beginning (baseline) and upon completion of	Included in performance	Included in performance	Contractor + Supervision	Contractor

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
				works				
▪ Degradation of biological and ecological resources	▪ All excavated trenches over 0.5 min depth will be sloped or have escape ramps installed which are suitable for the escape of animals. All trenches shall be inspected for wildlife prior to backfilling.	Construction site	Visual inspection	As a baseline and regularly during Construction.	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Waste management.	▪ Implementation of CSOP and WMP.	Construction site	Visual inspection, disposal records or receipts from landfills	Regularly during construction. Amount and disposal records internal reports will be made daily and monthly	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Accidental situations i.e. spills, leakage.	- Implementation of MPCA which includes: - Spill Response Plan,	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
	- Emergency Preparedness and - Response Plan.							
▪ Materials supply.	▪ Implementation of CSOP (the origin of material, material approvals etc.).	Construction site	Reports	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Material transport.	▪ Implementation of CSOP (the origin of material, licenses etc.).	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Workers safety.	▪ Implementation of work safety measures (protection equipment, toilets, drinkable water etc.). ▪ Implementation of World Bank Occupational Health and Safety Guidelines	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor

9. IMPLEMENTATION AND REPORTING

9.1. PROJECT IMPLEMENTATION

PC Roads FBH is the implementer of the Project and shall be responsible for the implementation and compliance of the Project in line with the ESMP.

The public has the right to participate directly or indirectly, with a possibility to state their interests and opinion in decision-making process during all project activities

The application of all identified environmental and social mitigation measures and the environmental monitoring program will be ensured. The Contractor will be responsible for the implementation of the environmental mitigation measures during construction. The supervisor will employ environmental experts to supervise the implementation of Contractor's responsibilities and will be in communication with the investor and with the FMoET. PC Roads FBH will constitute a Grievances Committee which will receive all grievances during Project implementation in accordance with grievance mechanisms as prescribed in the ESMF. Furthermore, the Project Implementation Unit of PC Roads FBH includes an environmental and a social expert. During project implementation, PC Roads FBH will supervise compliance of the Contractor with provisions and ESMP.

Upon project completion, PC Roads FBH will be in charge of structures' management and maintenance. Regular and timely payment will be carried out in accordance with monitoring plan.

9.2. REPORTING PROCESS

9.2.1. Contractor to PC Roads FBH

The Contractor shall prepare a Report on compliance with ESMP in form of a monthly progress report and submit it to PC Roads FBH in a local language (C/S/B) and in English, in analogue and digital form.

If there shall be any accidental situations or jeopardizing the environment and society the reporting process must be immediate. The Contractor is obliged to inform the PC Roads FBH and local community immediately after any accidental situations that happened over the phone +387 33 250 370 or via email form at the PC Roads FBH website: http://www.jpcfbih.ba/ba/kontakti/kontakti.shtml.

The Contractor's reports to PC Roads FBH are to include a list and description of the performed activities, as well as recommendations and planned future activities and protection measures.

9.2.2. Supervision Engineer to PC Roads FBH

The Supervision Engineer shall prepare a Report on compliance with ESMP in form of a monthly progress report and submit it to PC Roads FBH in a local language (C/S/B) and in English, in analogue and digital form.

9.2.3. PC Roads FBH to WB

PC Roads FBH shall prepare Annual Environmental Health and Safety Reports (AEHS), including monitoring indicators and reports on the implementation of their requirements set in ESPM and submit them to the WB for review.

PC Roads FBH shall prepare and submit progress reports to WB every six months.

In case of higher-scale accidents or deaths on construction site, PC Roads FBH shall promptly notify the WB thereof.

10.PUBLIC DISCUSSION AND INFORMATION DISCLOSURE

10.1. PUBLIC CONSULTATION

Public consultation of the subject ESMP will be organized in Konjic after the WB and PC Roads FBH approve the draft of the ESMP.

The public consultations will be announced in the local newspaper, on the web page of the municipality and on the web page of PC Roads FBH minimum 15 days prior to the set date. The public consultations are foreseen to be held prior the bidding documents have been issued.

The record on public discussion, that is, grievances presented at the public discussion shall be recorded in the Grievance Register, and opinions and suggestions of the public shall be integrated into the final ESMP.

After public discussion the documents shall be disclosed again.

10.2. INFORMATION DISCLOSURE

ESMP draft will be available on the website of PC Roads of the (www.jpcfbih.ba) in a local language and on the website of the WB in English. During the process of public consultation the interested public will obtain all information regarding the project, including anticipated social and environmental impacts. The findings of the assessment will be presented in a simple way.

During construction period, the Contractors will submit monthly information to PC Roads FBH regarding process of work, which will be published on the websites of PC Roads FBH and BHAMK (Car Association of BH) regarding temporary traffic regulation.

Schedule of works and potential changes to the schedule will also be reported two weeks prior to the beginning of works on the website of PC Roads FBH and in local newspapers, radio and television stations for disclosure. The schedules will provide information on the beginning and end of works, which can impact the affected groups (such as changes to traffic/water/regime of electric energy supply and access, noise and dust due to construction).

10.3. GRIEVANCE MECHANISMS

Besides the institutionally available ordinary and extraordinary legal remedy, and existing institutional channels, PC Roads FBH will ensure and form a special Grievance Redress Mechanism in collaboration and direct involvement of those municipalities under whose administrative authority the project is carried out, in this case with the municipality of Konjic.

Grievance Redress Mechanism designed for this project is the **Central Feedback Desk (CFD)** at the level of the implementing agency PC Roads FBH which shall serve as both Project level information center and grievance mechanism, available to those affected by implementation of all project sub-components. The CFD shall serve the persons affected directly or indirectly by construction works.

The Grievance Registration Sheet (Appendix 1) as print out shall be available at municipal administration, at the construction site and in the offices of PC Roads FBH and shall be available for download on the website of JP Roads FBH (www.jpcfbih.ba) and the municipality's website.

The grievance can be logged in writing with the Contractor, at the construction site as well as in the contractor's offices. The contractor is obliged to hand out the Grievance Registration Sheet, explain the grievance mechanism to the concerned citizen and forward the filled in Grievance Form to the central Feedback Desk in PC Roads FBH. The grievance can also be filled in within PC Roads FBH, by phone, by fax, and by e-mailing it to the designated e-mail address zalbena@jpcfbih.ba, or by mail to the address Terezija 54, 71000 Sarajevo.

An information leaflet concerning the grievance mechanism will be available at the construction site at all times, weather the construction site is closed or open. The information leaflet will be plasticized and hung on the construction site information board to be available to road users at all times.

All grievances will be recorded in the register and assigned a number, and acknowledged within 3 working days.

The CFD will make all reasonable efforts to address the complaint upon the acknowledgement of grievance. If the CFD is not able to address the issues raised by immediate corrective action, a long-term corrective action will be identified. The complainant will be informed about the proposed corrective action and follow-up of corrective action within 14 working days upon the acknowledgement of grievance.

If the particular issue raised through the grievance mechanism cannot be addressed or if action is not required, a detailed explanation/ justification will be provided to the complainant on why the issue was not addressed. The response will also contain an explanation on how the person/ organization that raised the complaint can proceed with the grievance in case the outcome is not satisfactory.

At all times, complainants may seek other legal remedies in accordance with the legal framework of FBiH.

Further information on Grievances can be found in the ESMF and RPF for the FBH Road Sector Modernization Project.

11. Requirements for start of works

11.1. Environmental aspects

The Contractor shall establish all required baseline data before the commencement of works. The Baseline – Monitoring data shall include air quality data, surface water quality data, survey of the site for any endangered and endemic species and other environmental issues in zone of corridors of direct and indirect impacts. The Contractor is also obliged to ensure these measurements during and after completion of the construction works. The Contractor will ensure that the measurements are conducted by authorized agencies and that they are based on the findings and recommendations of a qualified expert.

The Contractor shall develop:

1.) A Construction Site Organization Plan (CSOP) that is made up of:

a. Implementation Plan of this ESMP,

b. a detailed Waste Management Plan (WMP)],

c. Study on Safety (includes Elaborate on Safety at Work and Elaborate on Protection From Fire and Explosions),

d. Traffic Management Plan (TMP) must be developed, which will be created by the Contractor prior to the beginning of construction works.

These studies are to be developed in accordance with federal acts[6], before starting the execution of works, while the Contractor's legal obligations defined in the Bidding Documents and Contract shall be based on provisions of this ESMP. The Contractor shall submit these studies to the PC Roads FBH supervisory engineer, Environmental and Social Specialists, before beginning of works, and the company has to accept and approve them prior to start of works. The public consultations are foreseen to be held prior the bidding documents have been issued.

11.2. Social aspects

- Honey sellers must be informed and relocated to alternative selling point before construction works start;
- Landowner next to drainage canal must be informed/consulted about the scope, duration and anticipated impact of canal reconstruction.

[6] Provision on arrangements of construction site, mandatory documentation at the construction site and participants in construction, Official Gazette of FBH 48/09, 75/09 and 63/12

APPENDICES

APPENDIX 1. GRIEVANCE FORM

	REFERENCE NUMBER (Filled by the office)	
CATEGORY OF COMPLAINTS	A) Affected by expropriation	
	b) All others	

PARTICIPANT INFORMATION OF GRIEVANCE			
FULL NAME			
YEAR OF BIRTH			
GENDER	M	F	
ADDRESS			
TELEPHONE/MOBILE NUMBER			
E-MAIL			

Description of Incident for Grievance
(What happened? Where did it happen? Whom did it happen to? What is the result of the problem?)

Date of the Incident?

- One-time incident/grievance – Date: _____
- Happened more than once (How many times?) _____
- On-going (currently experiencing problem)

What would you like to see happen?

DATE:	SIGNATURE:

RETURN THIS FORM TO:

CENTRAL FEEDBACK DESK

PC ROADS OF THE FBH
Terezija 54,
71000 Sarajevo
Note: All copies are returned to PIU

APPENDIX 2. GRIEVANCE REGISTRATION TEMPLATE TABLE

No.	Date of receipt	Type of grievance	Description of grievance	Complainant		Date of acknowledgement of receipt	Description of actions undertaken	Date of solvation of grievance
				Status	Sex			

APPENDIX 3. REPORT ON PUBLIC DISCUSSION