

**ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN FOR THE
PROJECT OF THE ROAD PAVEMENT
AND AXIS CORRECTIONS ON MAJOR
ROAD M-19.2**

November, 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
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
PCRoadsFBH	- 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 SUMMARY

INTRODUCTION AND OBJECTIVES OF THE ESMP

Reconstruction of roadway and correction of axes on the Major road M-19.2, section 001 Vitalj – Vlasenica, km 6+850 – km 11+670, in Kladanj (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 roadway and correction of axes on the Major road M-19.2, section 001 Vitalj – Vlasenica 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 DESCRIPTION

The Project is situated on the Major road M-19.2, section 001 Vitalj – Vlasenica, km 6+850 – km 11+670 in the municipality Kladanj in the settlement Turalići. The nearest relevant traffic count device is on main road M5 is located in Starić 3,7 km west of the project location and it shows that, in 2015, 1112 vehicles were passing daily.

PROJECT DESCRIPTION

Pursuant to the Terms of Reference compiled by PC Motorways of F B&H, the Consultant “Divel Ltd.” Sarajevo commenced with the compilation of technical documentation for reconstruction and rehabilitation of the Main Road M-19.2, Section Vitalj-Vlasenica 4,82 km long from km marker km 6+850 to km11+760. In its entire length the section runs through the River Drinjača canyon: on the right side it is cut into the side slope and on the left side it mainly rests against existing stone and concrete walls. The main design envisaged the keeping of existing roadway elements. Thus, based on surveyed roadway structure model, correction of longitudinal and cross gradients was implemented. The drainage system was improved.

BASELINE OF PARTICULAR INTEREST

The terrain of the Project is mostly with an altitude ranging from 400 to 700 meters above sea level. It can be said that the entire area is under the influence of the moderate mountain climate which can be concluded from the analysis of thermal and pluviometric regime. Based on geographical features and the fact that there are no significant polluters, it considers that the air quality is good. Drinjača River is the closest surface water flow to the project site. The most important tributaries of Drinjača are Jadar I Tišća. According to Draft Spatial plan of Kladanj, river Drinjača is classified into Class II and Class III according to its quality. In close proximity to the Project area, there are no facilities for residential (houses)

and business purposes (stores), and according to the Law on Noise Protection, they fall under the sixth zone, where allowed noise levels are 70 dBA during day and 70 dBA at night. There are no sensitive receptors (hospitals, health resorts etc.) around the area that could be impacted by an increased noise level. Woodland is the dominant land cover type covering large areas in the wider area of the Project. According to the available data, in higher zones above 600 meters above sea level, we can find beech forests, with maple and hornbeam forest, and with the increase on altitudes, there are also fir, spruce and pine forests. The location of the Project is not located within a protected area according to Spatial plan of FBH and the Draft Spatial plan of Kladanj municipality 2014 – 2034. There are also no recorded archeological findings in the observed area.

The project road section lies in the far eastern part of the Tuzla Canton in the municipality Kladanj. According to the Development Strategy of the Municipality Kladanj, the municipality has the population of 12.348 people who live on the area of 331 km². The population density is 37,3 ppl/km² which makes this municipality sparsely populated in accordance with the average population density in FBH which equals 89 ppl/km². The project road lies on the east entrance to the town and center of municipality Kladanj from the direction of Republic of Srpska and thus has major importance for the local community connecting them with the municipality center Kladanj and the cantonal center Tuzla. The importance of the project lies also in transit traffic because the project road (main road M19.2) connects with the main road M18 and thus represents an important transit corridor which connects Republic of Serbia with Bosnia and Herzegovina.

IMPACTS DURING PRECONSTRUCTION

Socio economic impacts: no permanent land acquisition or resettlement will occur in this project. The walkover survey has been conducted on the November 9th, 2017 and it has been concluded that the public land necessary for the respective project activities, such as material and machinery storage, is not used in any way, neither formally or informally and do not require clearance.

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, soil quality and land use, and traffic 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.

Socio-economic impacts: At this time, it is not expected that it will be necessary to temporarily occupy any privately or publicly owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the Investor.

- New business opportunities are expected to be created for local businesses such as transporters, suppliers and other service providers.
- Although the project area is uninhabited the following adverse impacts during construction are expected: Noise increase, Inappropriate disposal of construction waste, Local businesses can be affected in means of late delivery of goods and products.

MITIGATION MEASURES

The mitigation measures focus on the major identified impacts during pre-construction and construction 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, soil quality and land use, traffic safety impacts, waste management, impacts on living conditions and impacts on local traffic.

ENVIRONMENTAL MONITORING PROGRAM

The monitoring measures focus on the major identified impacts during pre-construction and construction 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, soil quality and land use, traffic safety impacts, waste management, impacts on living conditions and impacts on local traffic.

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 DISCUSSION AND INFORMATION DISCLOSURE

Public consultation of the subject ESMP was organized in Kladanj after the WB approved 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. The results of the public consultation are incorporated into the final ESMP.

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 Kladanj 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, soil quality data, survey and analysis of vegetation cover prior to the beginning and upon completion of works on construction site. The Contractor shall develop a Construction Site Organization Plan (CSOP) that is made up of 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), Traffic Management Plan (TMP) must be developed, which will be created by the Contractor prior to the beginning of construction works.

1. INTRODUCTION

Based on the guidance *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/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. This component includes reconstruction of roads:
 - 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 40km 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 roadway and correction of axes on the Major road M-19.2, section 001 Vitalj – Vlasenica, km 6+850 – km 11+670, in Kladanj (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.

2. METHODOLOGY AND OBJECTIVES OF ESMP

Reconstruction of roadway and correction of axes on the Major road M-19.2, section 001 Vitalj – Vlasenica 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 cantonal¹. 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. The measures set forth in this ESMP are meant to avoid, neutralize or diminish adverse environmental and social impacts if not completely then to a satisfying 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 mitigation measures have been implemented, fully or partially, the ESMP sets forth a monitoring plan to be implemented during the specific stages of project preparation/designing and implementation. Monitoring during project preparation and 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 this ESMP, without

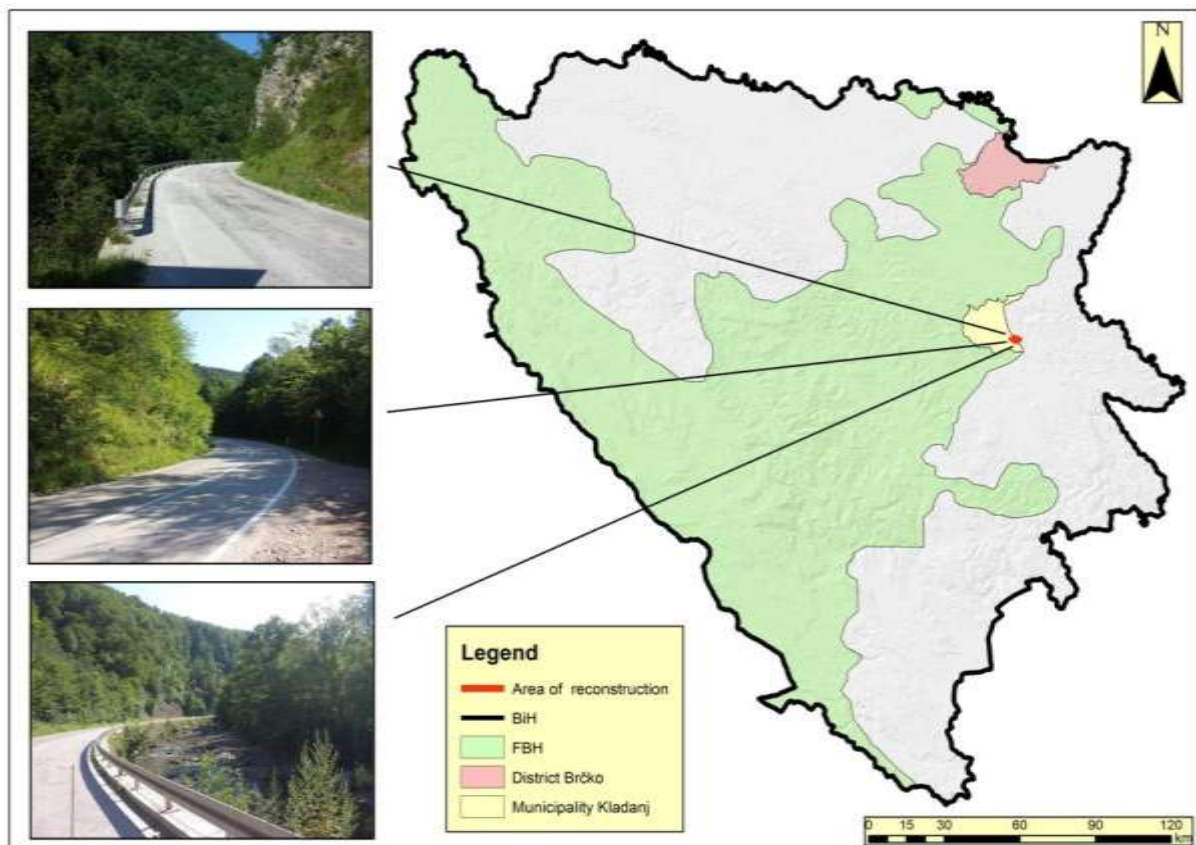
¹ In FBH investments requiring EIA are identified by the Regulation on Plants and Facilities Subject to Obligatory Environmental Impact Assessment, and Facilities Which May be Constructed and Commissioned Only if Granted Environmental Permit (Official Gazette of FBH No. 19/04). Tuzla Canton investments requiring an EP are regulated by Regulation on Activities, Plants and Facilities Which May be Constructed only if Granted Environmental Permit (Official Gazette of Tuzla Canton, No. 3/05 and 9/07).

limitation to these requirements, the Contractor shall prepare detailed list of mitigation measures and parameters to be monitored.

3. LOCAL DESCRIPTION

The Project is situated on the Major road M-19.2, section 001 Vitalj – Vlasenica, km 6+850 – km 11+670 in the municipality Klananj in the settlement Turalići. The major road M-19.2 connects the municipality centres of Klananj and Vlasenica in Republika Srpska. The major road M-19.2 is 30 kilometers long and in Klananj it is connected to the Major road M-18, and in Vlasenica on the Major road M-19.

Figure 1: The geographical location of the project

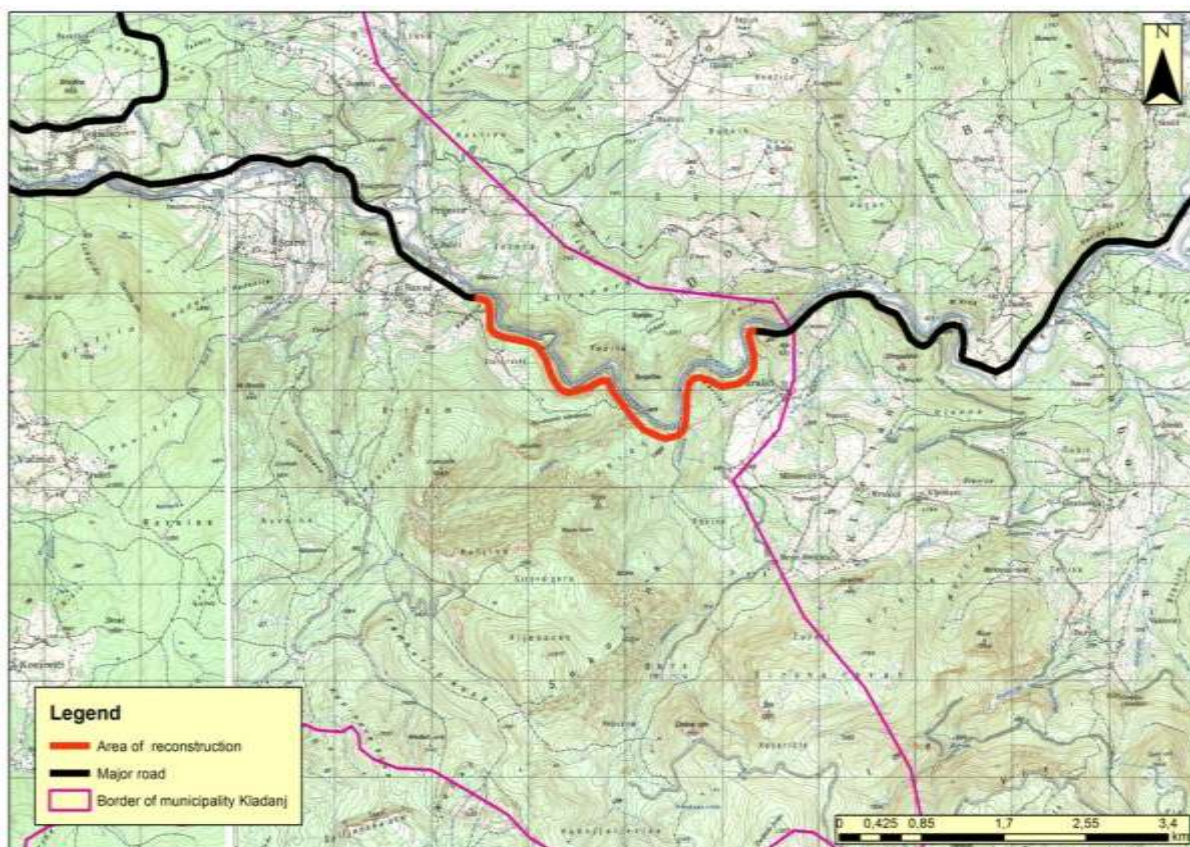


Source: PC Roads Federation of BH (Pictures: July 2017)

The subject of the project is the reconstruction of roadway and axes of the section Vitalj – Vlasenica in the settlement Turalići in the Municipality of Klananj. The area of reconstruction is located outside of the urban area of Klananj, and no residential, public or commercial facilities are situated near the project.

Figure 2 shows the location of the project site in a wider surrounding area on a topographical map.

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



Source: PC Roads Federation of BH

3.1. TRAFFIC DATA

PC Roads FBH has installed automatic traffic counting devices along the main traffic network throughout FBH. Automatic traffic counting is done since the 2005 and, last report² was published in 2016 with data for the previous year. The nearest relevant traffic count device on main road M5, located in Starić, 3,7 km west from the location of the project section, in 2015, the average annual daily traffic (AADT) on the project location was 1112 (Figure 3). During summer months this number increases to 2025 vehicles a day (Average Summer Daily Traffic-ASDT)

² "Traffic count on major roads in Federation of BiH in 2015", PC Roads Federation BiH, Sarajevo 2016

Figure 3: AADT in 2015



Source: PC Roads FBH, 2016

By the request of PC Roads FBH, traffic prognosis for the traffic network was developed by IPSA Institute Sarajevo in 2014³ for the period 2013 to 2040. Analysis of the traffic flow was made for every year by applying “equilibrium” procedure. For this particular section, the amount of predicted annual average daily number of vehicles is shown in the Table 1 below.

- Table 1: Traffic prognosis for M19.2, section Kladanj-Vlasenica

Major road	Section name	AADT									
		2016	2018	2020	2022	2023	2025	2030	2035	2037	2040
M 19.2	<i>Kladanj-Vlasenica</i>	1936	1978	2061	3152	3146	3250	3791	4276	4488	4792

Source: PC Roads FBH, 2014

An even and stable rise of the number of vehicles on the project section can be detected from table 1. The rise of the AADT in year 2040 will be almost 150% compared to the AADT in 2016 which shows the need for modernization with the aim of better traffic flow.

³ „Justification studstudy for modernization of major roads in FBiH programme“, IPSA Institute Sarajevo, 2014

4. PROJECT DESCRIPTION

Pursuant to the Terms of Reference compiled by PC Motorways of F B&H, the Consultant “Divel Ltd.” Sarajevo commenced with the compilation of technical documentation for reconstruction and rehabilitation of the Main Road M-19.2, Section Vitalj-Vlasenica 4,82 km long from km marker km 6+850 to km11+760.

4.1. Existing road

In its entire length the section runs through the River Drinjača canyon: on the right side it is cut into the side slope and on the left side it mainly rests against existing stone and concrete walls.

Inspection of the section revealed that there were no prior significant interventions regarding rehabilitation of asphalt surfaces, except along certain stretches where major damages occurred.

The main design envisaged the keeping of existing roadway elements. Thus, based on surveyed roadway structure model, correction of longitudinal and cross gradients was implemented.

Figure 4: A sample of the existing road on section Vitalj-Vlasenica



Source: Except from Main Design, Divel Ltd, Sarajevo, October 2016

Drainage structures along the section in question are in rather poor condition with longitudinal drainage structures being damaged and culverts clogged. It was noted that during rainy season water from the slope runs onto the roadway, which further jeopardizes

traffic. It is necessary to determine best solution for collecting and draining water from the road, as well as for providing the roadway structure with adequate drainage system.

4.2. New design

Preliminary works entail cleaning and removal of brush and trees from overgrown areas within immediate vicinity to the road. This will provide better sight distance. Apart from this, the Bill of Quantities plans for removal of the existing crash barriers at the locations where the Contractor would be prevented from executing rehabilitation works by their presence. It is necessary to demolish existing concrete curbs located within the gutters, as well as asphalt surface along the entire section.

Upon completion of field and laboratory testing of the existing state of both the roadway structure and the bedding, a Roadway Dimensioning Study was compiled proposing the following rehabilitation measures.

Type 1: *Execution of new roadway structure at sections where bedding is made of coherent soil materials:*

- Reinforcing bedding with crushed stone mix 0/60, thickness 20,00 cm
- Unbound bearing course NNS 0/32 min, thickness 30, cm
- AGNS 22 with road bitumen BIT 50/70, thickness 7,0 cm
- BB11ks with road bitumen BIT 50/70, thickness 4,0 cm

Type 2: *At the locations where bedding is made of stone material it is proposed that, once asphalt surface is removed, following reinforcement of roadway structure to be executed:*

- Longitudinal and cross sectioning of unbound bearing course NNS using crushed stone mix of 0/32 granulation, of required quality and in average thickness of 10,0 cm
- AGNS 22 with road bitumen BIT 50/70, thickness 7,0 cm
- BB11ks with road bitumen BIT 50/70, thickness 4,0 cm

Type 2 of roadway rehabilitation is planned to be implemented along the entire section except for 175 m from section P157 to P164, where rehabilitation Type 1 is to be implemented.

The drainage system, rehabilitation is planned as follows. It is planned for gutters to be replaced and sub-gutter drainage to be executed in order to collect water from road and from slope and to drive it in controlled manner into culvert within the recipient. The Design defines locations where gutters and drainage are to be released into the culvert i.e. canal with adequate discharge head as given in the Design. At two locations (km 7+710.182 and km 11+670.00) it is planned for drainages to be released via roadway structure and for that it is necessary to construct an manhole for collecting water from the drainage (in every detail as designed).

Culverts need to be cleaned and unclogged, only then their state can be assessed and proper rehabilitation measures for culverts (including inlet structures and exhausts of drainage and gutters into the culvert) can be planned. It is necessary for existing canals to be cleaned and rehabilitated i.e. for damaged canals to be replaced with suitable segmented concrete canals 20 cm deep and 80 cm wide. Water from the road and canal must be led in a controlled manner into a watercourse in order not to compromise road structure.

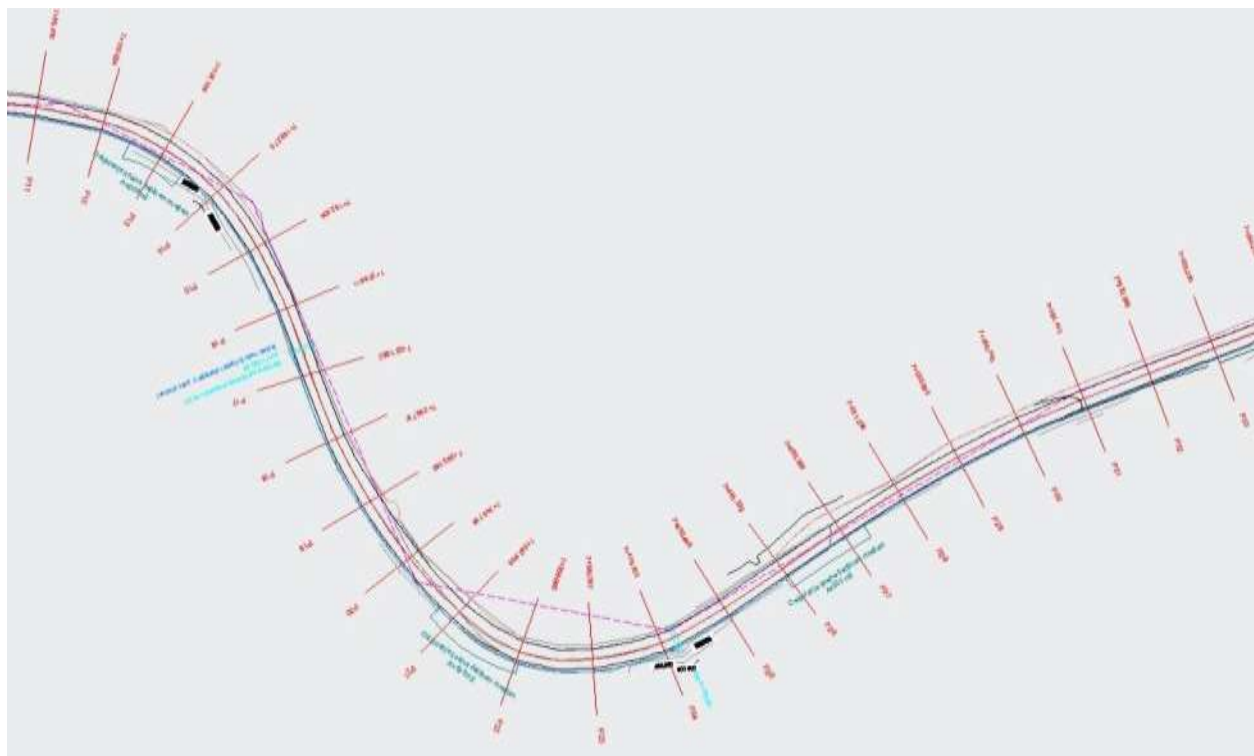
Along the section in question there are also two bridges present: bridge M1 at km marker km 9+495 (7.6 m long) and bridge M2 at km marker km 9+875 (14m long). Once said structures were inspected, it was determined that footpaths at bridge M2 need to be rehabilitated and new cornice must be constructed in order for new guardrail to be placed.

At the location of rehabilitated landslide, on slope side of the road, a concrete gabion with stone backfilling was constructed and is 36 m long (km 7+660.00 – 7+696.00). It is planned for the existing gabion wall to be temporarily removed for the purpose of unobstructed works on execution of sub-gutter drainage and concrete curbs. Once said works were completed, it is planned for concrete base slab to be placed and gabion wall to be reconstructed including construction of two new elements (dimensions 2,0x1,0x1,0) in total length of 40 m.

Along this section there is the need to provide several access points for local and rural roads, one of which is connecting village Turalići with the Main Road while others are unpaved. Existing crossroad located at km marker km 9+910.00 needs to be asphalted for the length of the access road i.e. 10 m, in order for it to fit with the Main Road new asphalt course.

There are no BUS Stops along this section, and construction of new BUS Stops is not the subject of this project.

Figure 5: A sample of the existing road on section Vitalj-Vlasenica



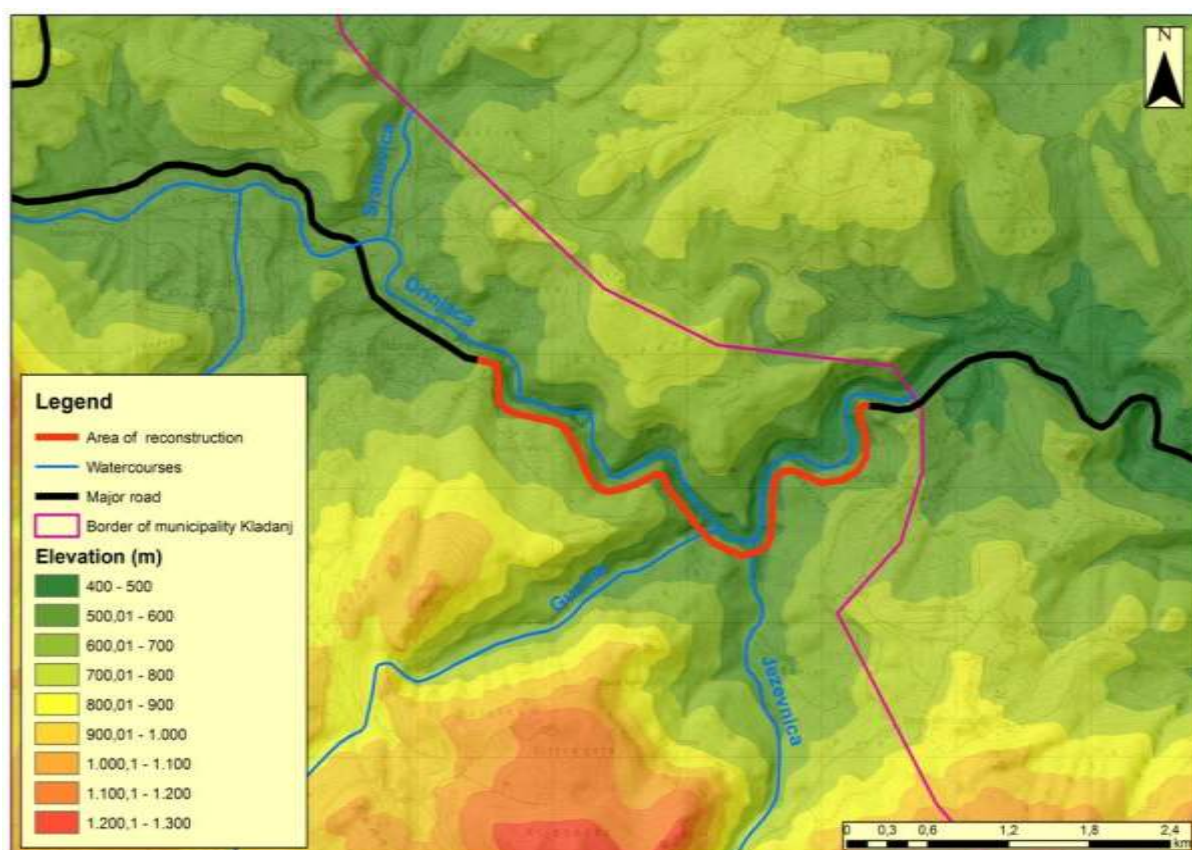
Source: Except from Main Design, Divil Ltd, Sarajevo, October 2016

5. BASELINE OF PARTICULAR INTEREST

5.1. GEOGRAPHIC CONDITIONS

The terrain of the Project is mostly with an altitude ranging from 400 to 700 meters above sea level, as indicated in the next Figure. From stratigraphic – petrographical point of view this area is composed from stable and waterproof rocks, and from structural geomorphological point of view this type of relief belongs to the fluvial-denudational type of morphostructure. Hydrogeological complexes are mostly without aquifers.

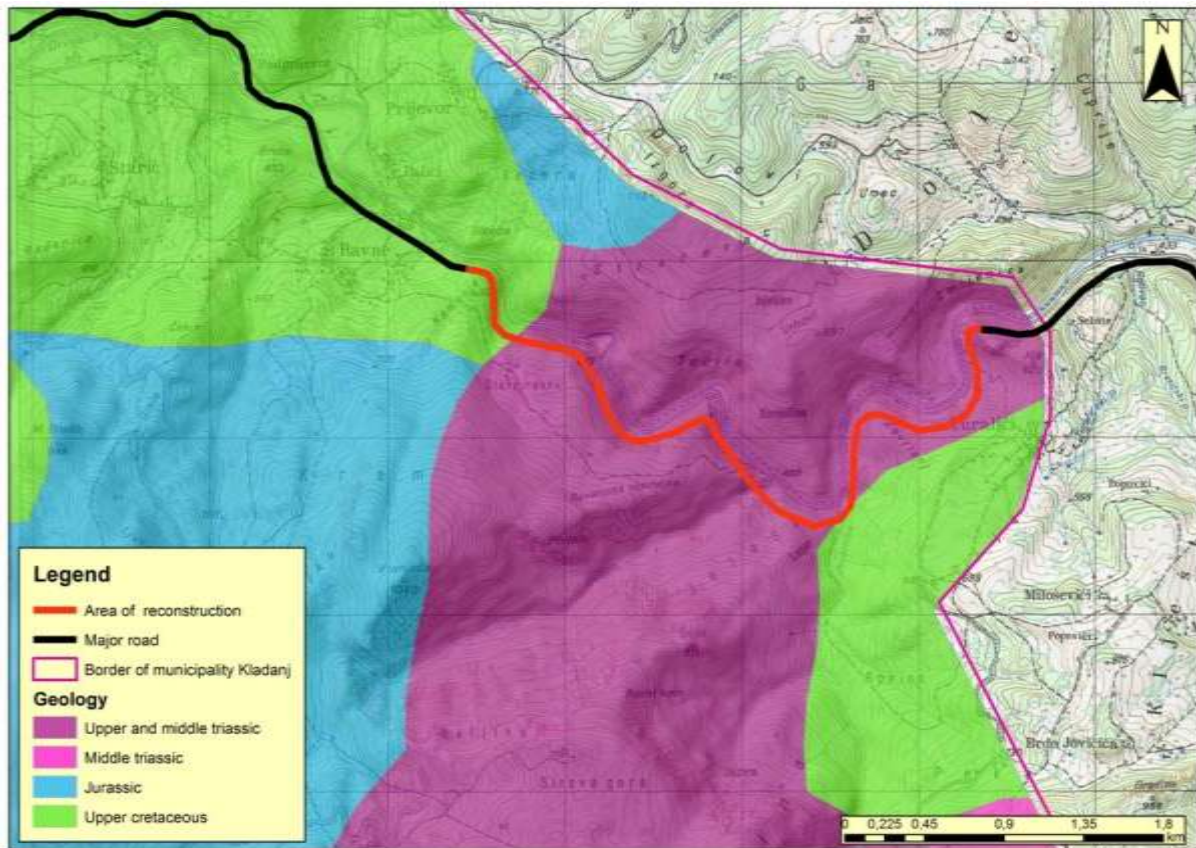
Figure 6: Geographical Map of Wider Area with the Project Location



Source: PC Roads Federation of BH

The geological structure of the wider area is characterized by upper and middle triassic and partially upper cretaceous rocks. Upper and middle triassic rocks are represented mostly trough bulky dolomites. In addition to the above, sediments of cretaceous age, which can also be found in the area, are mostly represented trough layered limestones and dolomites.

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 the thermal and pluviometric regime, and therefore it is necessary to define its basic parameters, using climatological monitoring and a detailed analysis of the same. It can be said that the entire area is under the influence of the moderate mountain climate which can be concluded from the analysis of thermal and pluviometric regime.

The average multi-annual temperature of the area is 9.8 °C, and the average rainfall in the wider area, during multi-year period is 900 - 1000 mm per year. Annual fluctuation in the air temperature range from 20 to 21 °C. In this climate zone there are fewer summer days, with air temperatures above 25°C and significantly higher number of ice days with air temperature below 0°C. Maximum number of summer days, with air temperature above 25°C is 40 – 50, and the number of ice days, with an air temperature below 0°C is 50 – 70.

5.3. AIR QUALITY

No particular monitoring of air quality for this location was performed, neither for the area of Kladanj. Judging by the location of the Project, it can be concluded that the highest air pollution refers to the traffic of the major and road. 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 morphology of the terrain by which the road passes, enables an enhanced natural circulation of air. The Contractor shall conduct a baseline measurement for air quality monitoring prior to the start of works.

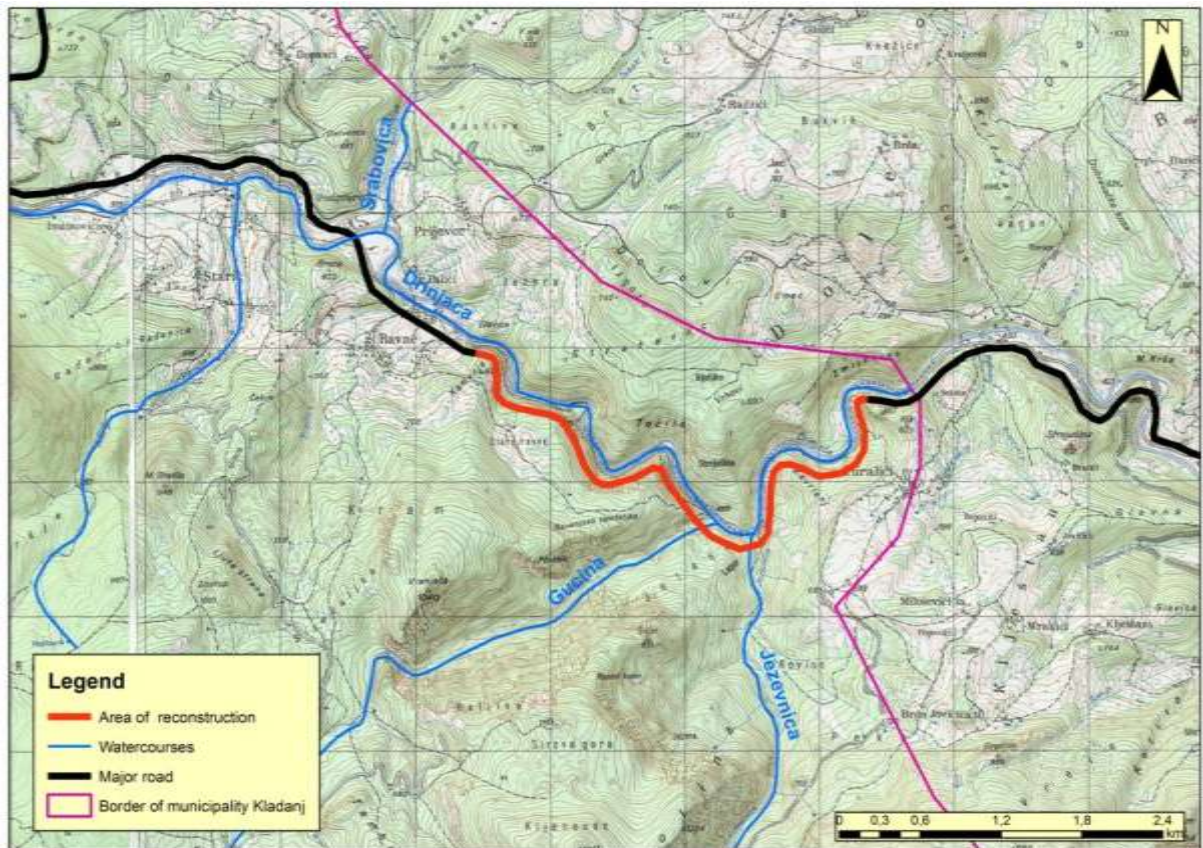
5.4. WATER AND WATER QUALITY

Drinjača River is the closest surface water flow to the project site that runs adjacent to the road section (location indicated in the next figure). Drinjača is a river in eastern part of Bosnia and Herzegovina. The Drinjača River springs in the area of the Konjuh Mountain and flows into the river Drina in the settlement Drina near Zvornik.

The most important tributaries of Drinjača are Jadar I Tišća. The length of Drinjača is 77 km, the average width is 12 meters, the depth 1 meter, and the surface area of the river basin is 1875 km².

According to Draft Spatial plan of Kladanj, river Drinjača is classified into Class II and Class III according to its quality. Class II includes waters that can be used for drinking after a certain purification treatment, and in a natural state for swimming, water sports, and for the growth and development of certain fish species. The Contractor shall conduct a baseline measurement for water quality monitoring prior to the start of works.

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



Source: PC Roads Federation of BH

5.5. NOISE LEVELS

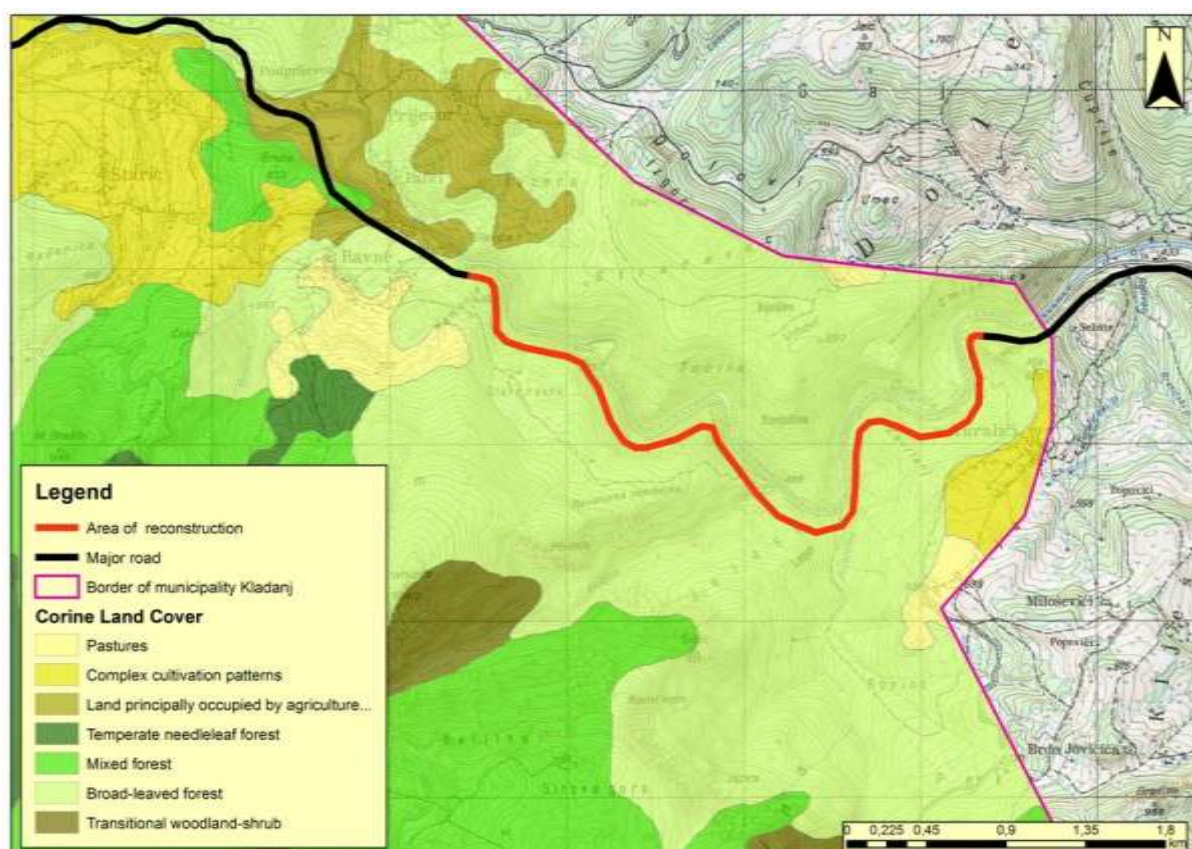
There was no monitoring of noise levels near the Project area; therefore there is no available baseline data of the impact of the noise on the environment. The largest source of noise, in general, is traffic.

In close proximity to the Project area, there are no facilities for residential (houses) and business purposes (stores), and according to the Law on Noise Protection, they fall under the sixth zone, where allowed noise levels are 70 dBA during day and 70 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

Woodland is the dominant land cover type covering large areas in the wider area of the Project according to the CORINE methodology⁴. There are no residential or any other objects near the project site. No agricultural land or land of high importance is located in close vicinity of the site.

Figure 9: Land use in the wider area of the project according to CORINE model



Source: Coordination of information of the Environment - European Environment Agency

5.7. FLORA AND FAUNA

According to the available data, in higher zones above 600 meters above sea level, we can find beech forests, with maple and hornbeam forest, and with the increase on altitudes, there are also fir, spruce and pine forests. Based on the fact that this is an existing road, and that almost all activities will be carried out within the existing footprint, the risk to the flora

⁴ Coordination of information of the Environment - [European Environment Agency](#)

and fauna is minimal. However, the proximity of the water course also needs to be accounted for and the Contractor shall hire a biologist to conduct a review of the site for the baseline that needs to be prepared for monitoring prior to the start of works.

5.8. PROTECTED AREAS

The location of the Project is not located within a protected area according to Spatial plan of FBH and the Draft Spatial plan of Kladanj municipality 2014 – 2034 . There are also no recorded archeological findings in the observed area. The nearest cultural and historic monument to the project site is the necropolis of stećak tombstones, located about 1200 meters southeast of the project site.

5.9. POPULATION AND SETTLEMENTS

The project road section lies in the far eastern part of the Tuzla Canton in the municipality Kladanj. According to the Development Strategy of the Municipality Kladanj, the municipality has the population of 12.348 people who live on the area of 331 km². The population density is 37,3 ppl/km² which makes this municipality sparsely populated in accordance with the average population density in FBH which equals 89 ppl/km².

The municipality of Kladanj has 2 primary schools with 8 branch village schools and one high school. The school nearest to the project section is the one in Starić, cca 300m from the beginning of the project section. The nearest university lies in Tuzla (cca 40 km away) and Sarajevo (cca 60km away).

The health care system in the municipality is within the average of Federation BH with 810 people per one doctor. Primary and secondary health care as well as a public pharmacy and several private practices are present in the city. The nearest secondary and tertiary health care centers are in Tuzla (cca 40km away) and Sarajevo (cca 60 km away).

The project road lies on the east entrance to the town and center of municipality Kladanj from the direction of Republic of Srpska and thus has major importance for the local community connecting them with the municipality center Kladanj and the cantonal center Tuzla.

The importance of the project lies also in transit traffic because the project road (main road M19.2) connects with the main road M18 and thus represents an important transit corridor which connects Republic of Serbia with Bosnia and Herzegovina.

Figure 10: Distance of the project section to the nearest residence area



Source: Roads of FBH

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

6.1. PRE-CONSTRUCTION IMPACTS

Socio-economic impacts

Land acquisition process: No permanent land acquisition or resettlement will occur in this project. The project section has a clearly defined existing footprint which will not be exceeded with the planned improvement project.

The walkover survey has been conducted on the November 9th, 2017 and it has been concluded that the public land necessary for the respective project activities, such as material and machinery storage, is not used in any way, neither formally or informally and do not require clearance.

Figure 11 (a-b): Photographs made during the walkover survey on the November 9th, 2017



a) project section



b) project section

Source: PC Roads of FBH

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, NO_x and Pb.

Dust generation - where the most important polluters are solid particles (PM₁₀ and PM_{2,5}). Possible sources of dust generation include: site preparation activities, handling of building materials such as gravel, sand, asphalt, cement and the construction itself. The spreading of this pollution will depend on the weather conditions (wind strength and precipitation). The impact of dust emissions is not significant, it is temporary 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, 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, 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 Drinjača 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 existing or planned protected areas.

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 M19.2 during the construction.

Socio-Economic Impacts

Temporary land acquisition and damage to private property: It is not expected that it will be necessary to temporarily occupy any privately or publicly owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the Investor alongside the project section.

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 and small.

Impact on living conditions of local communities

Although the project area is uninhabited, and the closest inhabited area is 3 kilometers east the following adverse impacts during construction are expected:

- Noise increase,
- Inappropriate disposal of construction waste (Detailed provisions for management of construction waste should be provided in the WMP)
- Local businesses can be affected in means of late delivery of goods and products. The impact is short termed and low due to the fact that there will be no full stoppage of traffic during the construction

Impacts on local traffic: Local traffic will be increased (including heavy machinery and trucks) and only one lane will be in function, causing delays and limited access.

6.3. IMPACTS DURING OPERATION AND MAINTENANCE

Neither new negative impacts, nor deterioration of existing negative impacts, during operation and maintenance are expected.

Socio-Economic Impacts

Impacts on traffic: According to Table 1: Traffic prognosis for the main road M19.2, section Kladanj-Vlasenica, an increase to the number of vehicles is expected during the operational phase. Accordingly, by the year 2040 the number of vehicles will be increased by cca 150% in reference to the number of vehicles in 2015 (the latest AADT measurement data)

Furthermore, an increase in speed of vehicles is expected due the correction of the road axis.

6.4. POSITIVE IMPACTS

Project implementation will have positive impacts on the quality of life of the local community. There are several social opportunities that were detected in the project:

- The road axis correction will improve the connection between the municipality and the entity Republic of Srpska;
- Improved quality of life on the whole (better access to important institutions: health, education, job etc.);
- Road axis correction as a direct consequence will have better traffic flow and less congestion, what means the emissions from traffic pollutants shall decrease.
- Less damages to vehicles,
- Better traffic flow.

6.5. ENHANCEMENT MEASURES

- Table 2: Enhancement Measures

Impact	Improvements to be achieved	Cost Assessment (US\$)		Institutional Responsibility	
		Operative	Implementation	Operative	Implementation
▪ Traffic	<ul style="list-style-type: none"> ▪ High improvement of drivers safety with correction of the road axis and enhancing drivers traffic visibility; ▪ Better traffic flow Reduction in time travel and cost by enhancing road surface, improving road and travel safety by correcting the road axis	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Socio-economic	<ul style="list-style-type: none"> ▪ New job and business opportunities for local construction workers and firms; ▪ Better access for local community to the Cantonal Center where necessary services such as jobs, education, health are present 	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Visual aesthetic and landscape	<ul style="list-style-type: none"> ▪ Improving visual aspects of the road and surrounding area. 	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 reconstruction 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 submit 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 components⁵:

- (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 and among other a detailed Waste Management Plan (WMP)].

Additional request 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

⁵Ordinance on Construction Site Organization, Mandatory Documents on Site and Participants in Construction (Official Gazette of the FBH No.48/09)

works (in accordance with Appendix 4. Road Safety Management of the ESMP). The TMP shall also include management of traffic according to the season, notably trying to minimize impacts during the summer months.

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. In this sub-project land acquisition of public or private land plots is not 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 through contract clauses. Therefore, the Contractor will plan, coordinate, control and monitor the undertaken activities to effectively minimize the risks presented during their work.

The ESMP is forming part of the tendering documents and the Contract for Execution of Works. It is the Contractor's obligation to include 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 ESMP and the Environment, Health and Safety guidelines, where applicable.

The following contractual conditions shall apply to the Contractors 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 should be formally reviewed by PC Roads FBH prior to agreement and signing.
- The Contractor will 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 any 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 a 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; and be held responsible if compliance is not met;
 - Be responsible for all activities undertaken by his subcontractors;
 - 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 work program and as such, it needs to be addressed to the Contractor and carried out as required.

During the construction phase, Contractors will be required to allocate the responsibility of overseeing day-to-day compliance with the SS ESMP to a senior member of staff. Contractors will be responsible for the implementation of all measures included in the SS ESMP for all activities undertaken in terms of the construction contract (including work undertaken by subcontractors). Compliance of Contractors with these measures will be assessed by the Construction Supervisor appointed by the JP Ceste FBiH, in line with the Decree on Construction Site Organisation, Mandatory Documentation on Construction Site and Construction Work Participants.

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 Contractor 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 (Official Gazette of the FBH, No. 48/09, 75/09 and 93/12).

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 from 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 rehabilitation of the project road section may pose health and safety risks for construction workers and visitors to the construction site. Population near the construction site and construction workers, as well as road users will be exposed to the risk of: biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, wastewater, vector transmitted diseases etc.), and (ii) road accidents of heavy machinery during the construction period.

Therefore, the Contractor is obliged to:

- Ensure that only properly trained/licensed people operate heavy machinery;
- Implement suitable safety standards for all workers and site visitors, which should not be less than those laid down in the international standards⁶ in addition to complying with the national standards the FBH,

⁶ - *Occupational Safety and Health Convention, 1981 (No. 155)*

- *Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)*

- 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 or human errors,
- Description of preventive measures against accidents,
- Workers training for their roles and responsibilities when accident occurs,
- Determining responsible person at the spot,
- Urgent communication procedures,
- Information and contacts of important local authorities and emergency services,

- *The Safety and Health at Work Directive 89/391/EEC*

- *World Bank Occupational Health and Safety Guidelines (April 30, 2007.)*

- *and other Recommendations and EU directives*

- 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, if about 25 people are working the whole day for a month. 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;
- 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 alongside roads.

7.2.3. Traffic and Road safety

The Contractor shall develop the CSOP which includes preparation and organization of construction site during and after construction, including roads on the construction site i.e. Traffic Management Plan (TMP). Traffic on construction site is to be regulated the same way as public traffic roads.

The Contractor is obliged to:

- Prepare and deliver the 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 reconstruction of the crossroads, include in TMP the following parts: 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 crossroads, 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.

According to the Law on Roads FBH, article 77. For every construction on public road, for works on regular maintenance or any other works under traffic, appropriate temporary signage has to be set up. Respectively traffic has to be regulated in a way that will guarantee safety of traffic and contractor with minimum traffic flow disruptions.

The appropriate signage will be determined based on the Regulations on Traffic Signs (Regulations on Traffic Signs and Signage on Roads, Ways of Marking Works and Obstacles on Roads and Signs that an Authorized Person Can Give to Participants in Traffic ("Official Gazette of BiH", No. 16/07)) and in line with the Guidelines for Design, Construction, Maintenance and Control on Roads (Sarajevo/Banja Luka 2005).

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
- 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.

Road safety measures envisaged during construction include vertical and horizontal signage based on Regulations on Traffic Signs (Regulations on Traffic Signs and Signage on Roads, Ways of Marking Works and Obstacles on Roads and Signs that an Authorized Person Can Give to Participants in Traffic ("Official Gazette of BiH", No. 16/07)) as shown in figure 14.

Vertical signage includes: warning sign signaling construction works, warning sign signaling a traffic light, sign for prohibition of overrun, speed limitations to 40 km/h, traffic light.

Road safety measures that will be in place during the reconstruction of the project road section include light and vertical traffic signage as shown on figure 12.

Figure 12: detail of traffic regulation during construction works



Source: excerpt of main design, Divel Ltd, November 2016

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.

7.2.5. Land Acquisition, Involuntary Resettlement and Economic Displacement

It is not expected that it will be necessary to temporarily occupy any privately or publicly owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the Investor alongside the project section. 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 OPERATIONAL PHASE

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

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	Implementa tion	Operative	Implementa tion	
PRE-CONSTRUCTION PHASE						
▪ Impacts on living conditions.	<ul style="list-style-type: none">▪ 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.▪ informing road users via the construction site information board, and an information leaflet at the construction site	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH	<ul style="list-style-type: none">▪ Impacts on living conditions Road users are orderly informed about construction works on roads via radio news and auto-moto club’s press releases.
▪ Compliance with national legislation.	<ul style="list-style-type: none">▪ Obtaining all necessary permits for Project implementation.	Internal resources	Internal resources	PC Roads FBH + Project designer	PC Roads FBH	Compliance with national legislation

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Job creation and impacts on local business.	<ul style="list-style-type: none"> ▪ 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 ▪ Informing business owners in advance about the construction works, in order to be able to plan the necessary road use accordingly (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	Contractor + PC Roads FBH	Contractor + PC Roads FBH	.
CONSTRUCTION PHASE						
▪ Impacts on living conditions of local community;	<ul style="list-style-type: none"> ▪ Providing timely information to the citizens on any type of disruption and inconvenience; via an information leaflet on the construction site, 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 informations to the citizens) + Contractor (following the provisions of the TMP, CSOP, ESMP)	Supervisory body*	

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Implementation of TMP; Introduction of appropriate signalization and warning signs; Timely information to public on traffic disruptions. 	Included in construction works	Included in supervision	Contractor	Supervisory body*	In collaboration with the Cantonal Ministry of the Interior Relations and BHAMK
<ul style="list-style-type: none"> Temporary occupation of privately owned land plots in case of unforeseen circumstances 	<ul style="list-style-type: none"> Avoidance of the use of private lands; In case avoidance is not possible, minimize size of the area used and impacts on the vegetation and Implementation of RPF provisions. 	Internal resources	Contractor	PC Roads FBH +Contractor	PC Roads FBH	
<ul style="list-style-type: none"> Air emissions: <ul style="list-style-type: none"> - exhaust gasses; - dust generation. 	<ul style="list-style-type: none"> 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 	Included in construction works	Included in supervision	Contractor	Supervisory body*	

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	<ul style="list-style-type: none"> 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. 					
<ul style="list-style-type: none"> Increased level of noise and vibration: - noise emission and noise disturbance; - vibration. 	<ul style="list-style-type: none"> 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*	
<ul style="list-style-type: none"> Emissions into water: - possible contamination of surface water. 	<ul style="list-style-type: none"> Ensure there is an emergency plan to contain all leaks and spills that result from an accident. Prevent any repairs, handling of machinery, fuels or lubricants in areas that are not designated for 	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	
	<p>such use.</p> <ul style="list-style-type: none"> ▪ 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. 					
<ul style="list-style-type: none"> ▪ Soil degradation and emissions to soil: - soil contamination by oils, fuels and other hazardous substances. 	<ul style="list-style-type: none"> ▪ Proper waste disposal; separation of hazardous waste; engagement of authorized companies for final waste disposal ; track of the final disposal sites especially for removed asphalt; note/record of the waste amounts; ▪ Oil and fuel collection systems to be fitted to prevent leakage 	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> ▪ Decrease in the aesthetic value of the landscape due to construction site organization. 	<ul style="list-style-type: none"> ▪ 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*	
<ul style="list-style-type: none"> ▪ Inadequate traffic management during construction: - traffic congestion and obstructions on road 	<ul style="list-style-type: none"> ▪ Implementation of EMP which includes the: <ul style="list-style-type: none"> - Design and implementation of the TMP, - Placement of adequate traffic signalization. 	Included in construction works	Included in supervision	Contractor	Supervisory body*	

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
sections;						
<ul style="list-style-type: none"> ▪ Inadequate waste handling. 	<ul style="list-style-type: none"> ▪ Implementation of WMP that shall ensure environmentally sound collection of waste, its storage, transport and final disposal, and primarily reuse / recycling. ▪ No clandestine waste disposal will be allowed on site, including open burning of wastes. ▪ 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 ▪ All waste that cannot be reused should be handed over to a licensed company or agent (amounts are to be recorded as well as types of handling actions). ▪ Waste from the gabions and existing concrete barriers need to be handled as foreseen in measures that will be provided in the WMP ▪ Disposal sites of construction material will be determined by the municipality and should be handled in the most appropriate environmental 	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	
	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, - 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 ▪ Implementation of Labor Protection Law	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;	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 – developed 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 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	
					Implementa tion	Operative	Implementa tion	Operative
PRE-CONSTRUCTION PHASE								
▪ Job creation and impacts on local businesses.	▪ Number of employed persons from local communities ▪ Timely informing the local communities	Wider area of construction	Inspection	Prior to construction	Included in performance	Included in performance	Contractor	Contractor
CONSTRUCTION PHASE								
▪ Restrictions on land ▪ use and damage to the private property (agricultural plots, horizontal infrastructure, fences and railings) due to disposal of construction waste, and parks of heavy machinery	▪ CSOP in place, ▪ Disposal of construction and maintenance materials, ▪ Position heavy machinery parks, ▪ Implementation of RPF provisions on compensation procedures in case occasional land use cannot be avoided, compensation will be provided to affected owners/users ▪ Grievances (including ones from workers)	Construction site	Visual inspection	Prior to construction and 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
▪ Impacts on local traffic	▪ TMP in place	On construction	Visual inspection	Random checks during	Included in	Included in	Supervisory	Supervisory

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
(increase of local traffic, including heavy machinery and trucks, operation of roads with only one lane causing traffic delays and limited access)	<ul style="list-style-type: none"> ▪ Traffic patterns, ▪ Timely information to the citizens 	site and nearby	and inspection	the week	supervision	supervision	body	body
<ul style="list-style-type: none"> ▪ Air emissions: - exhaust gasses; - dust generation 	<ul style="list-style-type: none"> ▪ Level of dust (amount of particles of sediment and floating particles); ▪ Emissions of exhaust gases from vehicles and equipment; ▪ (SO₂, NO₂, dim and PM₁₀). 	Construction site	Measuring devices	As a baseline and during construction when needed and upon complaints by the citizens	-	500 USD/measuring	Contractor	Authorized laboratory
<ul style="list-style-type: none"> ▪ Increased level of noise and vibration: - noise levels, - vibration. 	<ul style="list-style-type: none"> ▪ 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
<ul style="list-style-type: none"> ▪ Emissions into water: ▪ possible contamination of surface water 	<ul style="list-style-type: none"> ▪ Analysis of parameters of surface water quality: - Chemical analysis (PH, turbidity, conductivity, temperature, suspended particles, COD, BOD, ingredients with nitrogen) 	In watercourse near construction site 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	
					Implementa tion	Operative	Implementa tion	Operative
	- Standard bacteriological analyses							
▪ Pollution of surface watercourses.	▪ Presence of oil film in surface watercourses.	In watercourse near construction site 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
▪ Soil pollution	▪ Soil quality, including, PH, heavy metals, phosphorus, nitrogen, Na, Ca, salts, PAHs hydrocarbons	On representative plots of land near construction sites	Taking samples and standard laboratory analyses	As a baseline and 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
▪ Degradation of biological and ecological	▪ Survey of the site for any endemic or endangered	In the zone of corridors of direct and	Field recordings and	As a baseline	-	-	Contractor	Authorized institution

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	
					Implementa tion	Operative	Implementa tion	Operative
resources	species	indirect impacts	incorporation of the findings in the ESMP					
▪ 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, - Emergency Preparedness and - Response Plan.	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Materials supply.	▪ Implementation of CSOP (the origin of material, material	Construction	Reports	Daily	Included in performance	Included in performance	Contractor +	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	
					Implementa tion	Operative	Implementa tion	Operative
	approvals etc.).	site					Supervision	
▪ 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 will be responsible for the implementation and compliance of the project in line with 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 the entire period of 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 contracted supervisor will employ environmental experts to supervise the implementation of Contractor's responsibilities, and will be in communication with the investor. 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 Environmental Management Plan and Environmental and Social Management Framework for the Program of Modernization of Major roads of the FBH (ESMF). Furthermore, the Project Implementation Unit of PC Roads FBH includes an environmental and a social expert. During project implementation, the Investor 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).

In case of any accidental situations or jeopardizing the environment and society the reporting 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: <https://jpcfbih.ba/bs/kontakt>.

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 ESMP and submit them to the World Bank for review.

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

10. PUBLIC DISCUSSION AND INFORMATION DISCLOSURE

10.1. PUBLIC CONSULTATION

Public consultation of the subject ESMP was organized in Kladanj after the WB approved the draft of the ESMP.

The document was published and available to the public in a local language on the website of PC Roads FBH and on the website of Kladanj Municipality on 05.04.2018. Public consultations were announced on the website PC Roads FBH and on the website of Kladanj Municipality on 05.04.2018. and on 09.04.2018. in local newspapers (Dnevni Avaz). The public consultations were held on 24.04.2018. in Kladanj, and the Minutes of the Public Discussion on ESMP is an Appendix 3 of this document. Public consultations were attended by 7 interested parties.

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 is disclosed again on the website of PC Roads of FBH.

10.2. INFORMATION DISCLOSURE

ESMP draft was available on the website of PC Roads of the (www.jpafbih.ba) in a local language and on the website of the World Bank in English. During the process of public consultation the interested public got all information regarding the project, including social and environmental issues.

During construction works 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 works).

10.2.1. 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 Kladanj municipality.

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.jpafbih.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, whether 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.

11. 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, soil 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 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 acts⁷, before starting the execution of works, while the Contractor's legal obligations defined in the Bidding Documents and Contract shall be based on the 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. Due to the time constraints related to the issuance of the bidding documents, the public consultations are to be held prior to the start of works but once the bidding documents have been issued; therefore the ESMP included in the bidding documents may need to be subsequently updated after the consultations. The contractor will be obliged to follow the updated ESMP.

11.1. Social aspects

- Public consultations;
- Implementing the changes derived from the public consultations (if any) to the ESMP;

⁷ 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?			
<ul style="list-style-type: none"> 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 acknowledgment of receipt	Description of actions undertaken	Date of solvation of grievance
				Status	Sex			

APPENDIX 3. REPORT ON PUBLIC DISCUSSION



JP Ceste Federacije BiH d.o.o. Sarajevo poziva sve zainteresirane subjekte, nevladine organizacije i stanovnike općine Kladanj i naselja koja gravitiraju području namjeravane sanacije kolovozne konstrukcije i korekcije osovine magistralne ceste M-19.2, da uzmu učešće u

JAVNOJ RASPRAVI

o nacrtu Plana upravljanja okolišem i socijalnim aspektima za projekat sanacije kolovozne konstrukcije i korekcije osovine magistralne ceste M-19.2

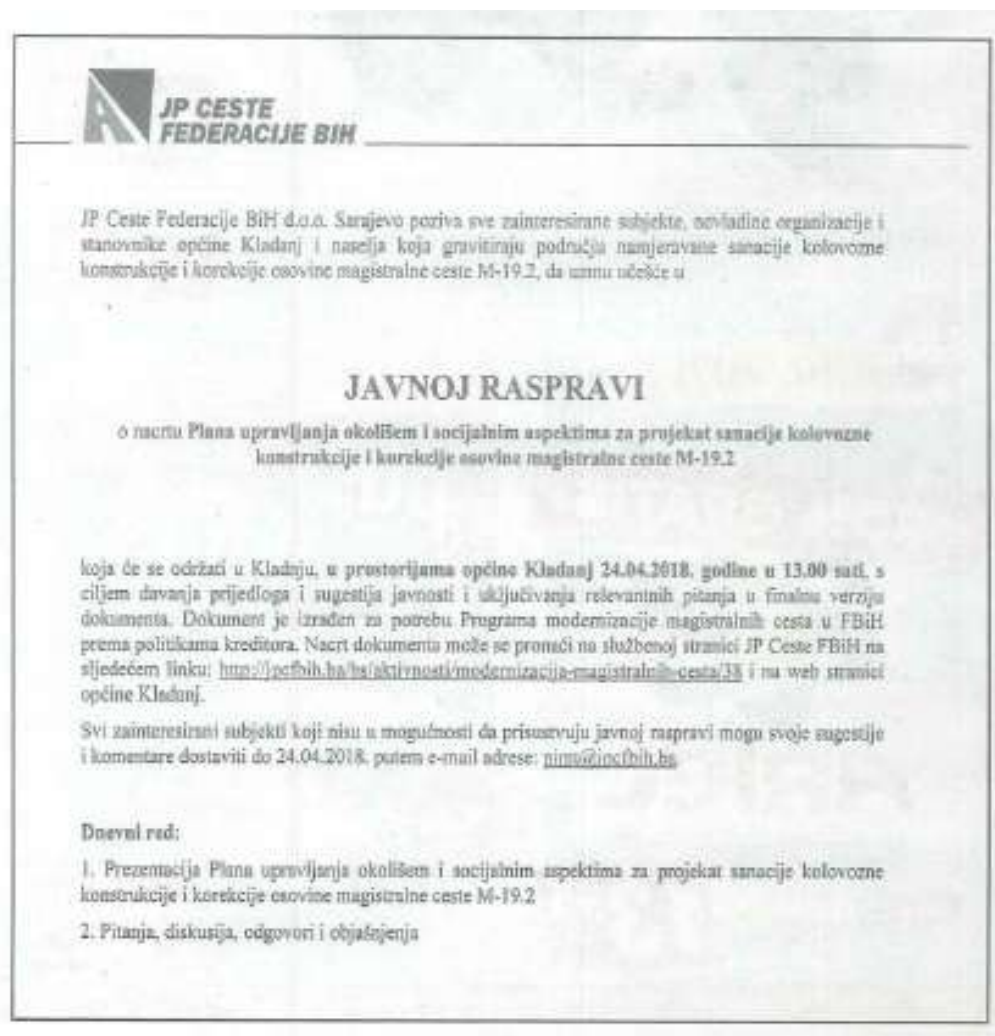
koja će se održati u Kladnju, u prostorijama općine Kladanj 24.04.2018. godine u 13.00 sati, s ciljem davanja prijedloga i sugestija javnosti i uključivanja relevantnih pitanja u finalnu verziju dokumenta. Dokument je izrađen za potrebu Programa modernizacije magistralnih cesta u FBiH prema politikama kreditora. Nacrt dokumenta može se pronaći na službenoj stranici JP Ceste FBiH na sljedećem linku: <http://jpcfbih.ba/bs/aktivnosti/modernizacija-magistralnih-cesta/38> i na web stranici općine Kladanj.

Svi zainteresirani subjekti koji nisu u mogućnosti da prisustvuju javnoj raspravi mogu svoje sugestije i komentare dostaviti do 24.04.2018. putem e-mail adrese: pimt@jpcfbih.ba.

Dnevni red:

1. Prezentacija Plana upravljanja okolišem i socijalnim aspektima za projekat sanacije kolovozne konstrukcije i korekcije osovine magistralne ceste M-19.2
2. Pitanja, diskusija, odgovori i objašnjenja

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Web addresses containing the document and the Announcement of Public discussion with screenshots of the websites:

1. PC Roads of FBH website (published on April 5, 2018)

<https://jpcfbih.ba/bs/novosti/javna-rasprava-o-nacrtu-plana-upravljanja-okolisem-i-socijalnim-aspektima-za-projekat-sanacije-kolovozne-konstrukcije-i-korekcije-osovine-magistralne-cesta-m-19/42> - Announcement of the Public discussion (B/H/S language)

<http://jpcfbih.ba/bs/aktivnosti/modernizacija-magistralnih-cesta/38> - Document (B/H/S language)

<https://jpcfbih.ba/en/news/public-consultations-on-draft-environmental-and-social-management-plan-for-the-project-of-the-road-pavement-and-axis-corrections-on-major-road-m-192/42> - Announcement of the Public discussion (English language)

<http://jpcfbih.ba/en/activities/modernization-of-main-roads/38> - Document (English language)



2. Municipality of Kladanj website (published on April 5, 2018)

<http://kladanj.ba/javna-rasprava-o-nacrtu-plana-upravljanja-okoliem-i-socijalnim-aspektima-za-projekat-sanacije-kolovozne-konstrukcije-i-korekcije-osovine-magistralne-ceste-m-19.2>



MINUTES of Public Consultation Meeting on the draft Environmental and Social Management Plan for the Project of the Road Pavement and Axis Correction on Main Road M19.2

Public consultation meeting on the draft Environmental and Social Management Plan for the Project of Road Pavement and Axis Correction on Main Road M19.2 was held on April 24, 2018 at 1 pm in the business premises of Municipality of Kladanj.

On behalf of the PC Roads of the Federation of Bosnia and Herzegovina, public consultation meeting was attended by:

- **Senad Smajlović** - Project Manager,
- **Selma Ljubijankić** – PIT Member in charge of social aspects under the Roads Modernization Program,
- **Haris Zejnić** – PIT Assistant for EIA Monitoring under the Roads Modernization Program.

A list of all attendees is enclosed to these minutes.

Selma Ljubijankić welcomed the attendees, presented the representatives of the PC Roads of the FBiH and provided an overview of the Roads Modernization Program, including the above document. She introduced the attendees to the draft Environmental and Social Management Plan for the Project of Road Pavement and Axis Correction on Main Road M19.2, including goals of its provision, mitigation measures of all potential identified environmental and social impacts, monitoring plan, information disclosure, grievance mechanism, requirements regarding work commencement and other relevant information.

It was pointed out that this is a draft document and that all relevant comments from this public consultation meeting will be incorporated into its final version. It was further clarified that the document was revised by the World Bank's team, and upon its approval, it will become a binding document for the contracting parties in the project implementation itself.

Jasmin Salihović inquired about the expected work commencement date, provided that this is a draft document and that everything went according to the Plan.

Selma Ljubijankić replied that the bidding procedure is ongoing. **Senad Smajlović** added that no additional permits are required for the project. The project is a part of the same LOT as the Project of Reconstruction of the black spot "Nula" in Olovo, where the time for completion is 90 days.

Senad Smajlović presented an overview of the Project of road pavement and axis correction on main road M19.2, section Vitalj – Vlasenica, describing the scope of works and their execution. It was further clarified that the project implemented in 2008 included the

rehabilitation of the first six kilometres of the said section. Furthermore, it was added that this is a reconstruction of pavement construction. The approved design solution entails: standard 6, 60 m profile with 2 traffic lanes x 3 m each plus 30 cm curb lines on either side. The Project foresees the construction of new drainage system, rehabilitation of walls of r. Drinača riverbed and rehabilitation and protection of slopes. Traffic management during works execution will include alternating traffic as the complete traffic suspension was not possible. The Project has been submitted to the attendees for inspection.

Senko Hodžić inquired about the increase in the pavement surface.

Senad Smajlović confirmed that the pavement will be widened, primarily due to the construction of kerbs and drainage system.

Edis Hodžić inquired about the access points for certain local roads close to this road section.

Senad Smajlović clarified that up to 20 m is the final length of modifications to the access points incorporated into the as built drawings. Furthermore, it was added that the existing situation will not change drastically, and that modification will be made for any access point, proven that this was possible.

Jasmin Salihović inquired about the previous rehabilitation project of this section, and its implementation.

Senad Smajlović replied that this project will include complete removal of asphalt layers, in order to provide new wearing course of eruptive material, which is a much more complex project than the previous one.

Senko Hodžić inquired about the removal and disposal of materials.

Senad Smajlović explained that analysis of removal and disposal of materials were made and will be elaborated in detail through the Waste Management Plan provided by the Contractor.

Senko Hodžić clarified that there were some cases of illegal deposit place. In order to identify the location of the deposit place, it was suggested to work in **cooperation** with the municipality to what the representatives of the PC Roads of the FBiH agreed.

Edis Hodžić inquired about a culvert for a stream near the turn for Turalići.

Senad Smajlović replied that it is assumed that the project encompassed the culvert. If not, it will be implemented on the site.

The public consultation meeting ended at 1.45 pm.

Photographs of participants in the Public Consultations in Kladanj (business premises of Kladanj Municipality)





List of Participants in the Public Consultations



Javna rasprava o Planu upravljanja okolišem i socijalnim aspektima za projekat sanacije kolovozne konstrukcije i korekcije osovine magistralne ceste M-19.2, Kladanj, 24. april 2018.g.

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