JP CESTE FEDERACIJE BIH

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE PROJECT OF RECONSTRUCTION OF THE CROSSROAD M6 AND M17 IN TASOVČIĆI

October, 2017

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LIST OF ABBREVIATIONS

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

EXECUTIVE SUMARY

INTRODUCTION AND OBJECTIVES OF ESMP

Reconstruction of Crossroad of the Major roads M-17 (Mostar-border Rep.Croatia) and M-6 (Čapljina-Stolac) in Tasovčići in the municipality of Čapljina (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 Crossroad in Tasovčići is screened as a category B project according to the Operational Policies (OP 4.01 on Environmental Assessment) of the WB as well as the screening procedure outlined in the project-specific ESMF. As such, this activity needs to have an ESMP developed, whereas pursuant to the local legislation this project does not require an environmental assessment or an environmental permit - whether federal or cantonal. PC Roads FBH will ensure all required local permits for this Project are obtained.

LOCATION AND TRAFFIC DESCRIPTTION

The Project is situated at the intersection of the major roads M-17, section Tasovčići – Čapljina and M-6, section Vitina – Tasovčići in Čapljina municipality in the village Tasovčići. The Crossroad is positioned nearby and on the important traffic routes for Čapljina and entire BH. According to PC Roads FBH, in the period between 2009 and 2013, there were 16 road accidents with light and serious injuries and 14 with material damage. The nearest relevant traffic count device is 609-Domanovići, section Tasovčići -Masline (4 km east from the crossroad) and the data collected from the device shows that, in 2014, 4320 vehicles were passing daily.

PROJECT DESCRIPTION

The crossroad is designed as a one-lane roundabout in a rural/urban environment with the outer radius R=22,5m. The drainage of the roundabouts is resolved in two ways. Water from the main road M17 is collected in ditches from where it goes to the oil and grease separator and then to the absorption shaft. Water from the main road M6 and the designed roundabout is collected in gutters and flows through PEHD pipes Ø300 to the oil and grease separator then to the absorption shaft. In the roundabout area walkways of 1,6m width have been designed. The crossing of the main road M17 by pedestrians is solved by designing an underway.

BASELINE OF PARTICULAR INTEREST

This crossroad is located in the valley of the Neretva River at 9 meters above sea level, one kilometer north of the mouth of the river Bregava in the Neretva. At monitoring station “Čapljina” the average annual air temperature is 14.1 °C. Average air temperature of the coldest month, January is 5.9 °C, whereas the lowest measured temperature is -14.2 °C in the same month. The average rainfall at the same monitoring station, during multiannual

period is 1156 mm per year. The rainiest month is December with an average precipitation of 161 mm, and the lowest precipitation occurs in July, when the average rainfall is only 32 mm. From the wind roses for the monitoring station Čapljina, domination of the winds from direction north (bora) and south (sirocco) was observable. Neretva River is the closest surface water flow, approximately 150 m of air distance from the Project location. Based on the fact that there are no significant polluters, and the only polluter is the road traffic in the wider area it can be considered that the air quality is good. In close proximity to the Project area, we can find mostly facilities for business purposes and residential purposes (houses), which are exposed to the traffic noise and according to the Law on Noise Protection; they fall under the fourth zone, where allowed noise levels are 60 dBA during day and 50 dBA at night. The nearest protected area is the Nature park Hutovo Blato, located approximately one kilometer of air distance from the project site.

IMPACTS DURING PRECONSTRUCTION

Socio economic impacts: The project roundabout is a part of the Integrated Resettlement action Plan which was publicly consulted and disclosed in March 2016. According to the Integrated RAP, small parts (1-7%) of 12 private and 5 public land plots, including one auxiliary structure will be expropriated. Furthermore, 3 private land plots (1% of the total area will be expropriated of each) economic displacement will take place according to the disclosed RAP.

IMPACTS DURING CONSTRUCTION

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

Impact on traffic safety and traffic flow: Traffic congestion and obstructions on road section - increased traffic flow, leading to congestion and obstruction is likely to be experienced on major road (M-17 and M-6) during the construction. Trenches are likely to be made during implementation of construction activities, including earthworks and temporary storage of construction material. Population Safety Impacts: The impact regarding the presence of workers is minor, because , according to local practice no working camp will be set up. Safety issues regarding local population can occur due to the vicinity of the construction site

Socio-economic impacts: At this time, it is not expected that it will be necessary to temporarily occupy any privately owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the investor. Impacts related to road access restrictions to three residential structures one small business and one recreational area are expected to be temporary and are associated with limited access due

to heavy machinery parks and disposal of construction waste. However, if additional temporary occupation of private land in needed during construction activities, this will be agreed upon with respective land owners and compensation will be paid in accordance with provisions determined in the Integrated ressettlement Action Plan (integrated RAP) and the Ressettlement Plan Framework (RPF) before the land is accessed. New business opportunities are expected to be created for local businesses such as transporters, suppliers and other service providers. This impact is considered to be short-term and small due to small scope of civil works. Following adverse impacts on living conditions during construction are expected: noise increase, construction waste disposal, short-term disruptions of utilities.

MITTIGATION MEASURES

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

ENVIRONMENTAL MONITORING PROGRAM

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

IMPLEMENTATION AND REPORTING

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

PUBLIC DISCUSION AND INFORMATION DISCLOSURE

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

Grievance Mechanism

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

Requirements for start of works

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

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

Social aspects:

- Implementation of the integrated RAP;

- Payment of the compensation in accordance with RAP provisions before the land is accessed;

1. INTRODUCTION

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

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

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

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

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

4. Project Implementation Support: Construction supervision and capacity building of the PC Roads FBH.

Reconstruction of Crossroad of the Major roads M-17 (Mostar-border Rep.Croatia) and M-6 (Čapljina-Stolac) in Tasovčići in the municipality of Čapljina (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 Crossroad in Tasovčići is screened as a category B project according to the Operational Policies (OP 4.01 on Environmental Assessment) of the WB as well as the screening procedure outlined in the project-specific ESMF. As such, this activity needs to have an ESMP developed, whereas pursuant to the local legislation this project does not require an environmental assessment or an environmental permit - whether federal or cantonal[1]. PC Roads FBH will ensure all required local permits for this Project are obtained.

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

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

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

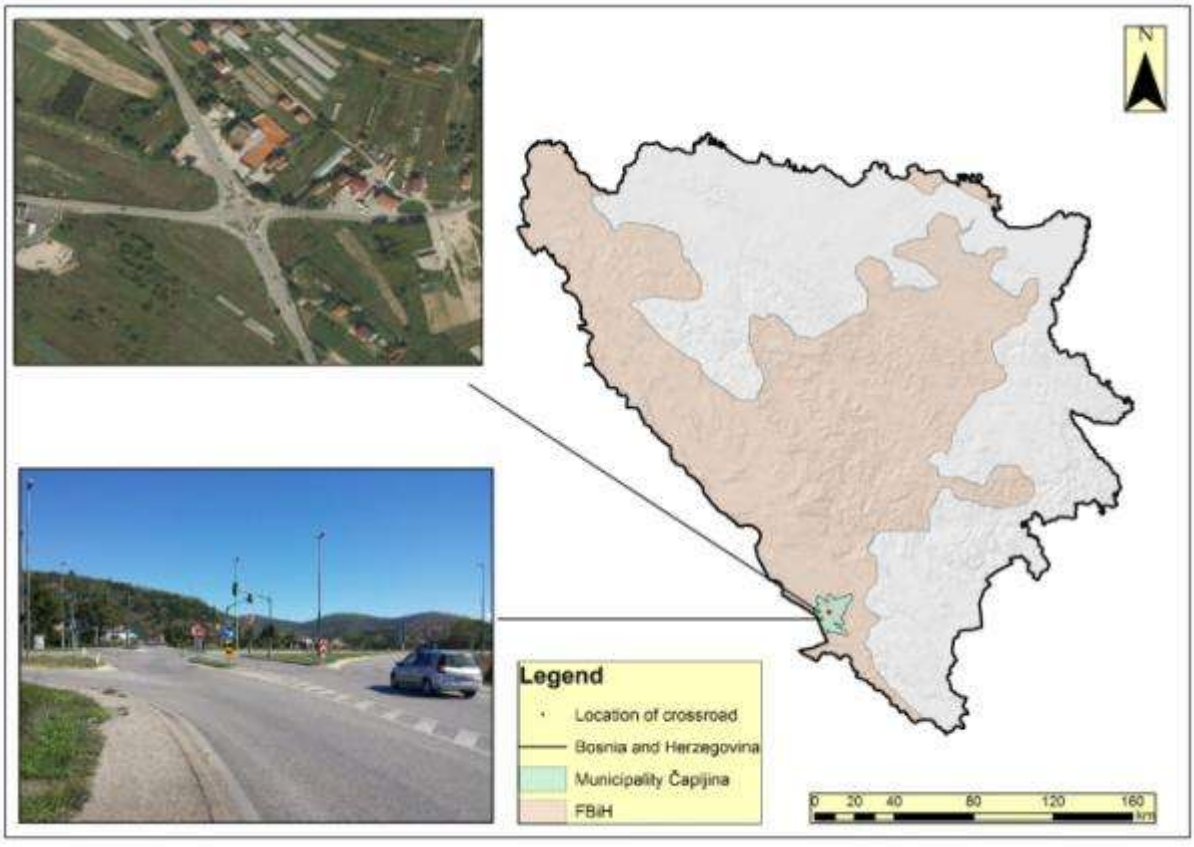
[1] *In FBH investments requiring EIA are identified by the Regulation on Plants and Facilities Subject to Obligatory Environmental Impact Assessment, and Facilities Which May be Constructed and Commissioned Only if Granted Environmental Permit (Official Gazette of FBH No. 19/04). In Herzegovina-Neretvian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

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

3. LOCATION DESCRIPTION

The Project is situated at the intersection of the major roads M-17, section Tasovčići – Čapljina and M-6, section Vitina – Tasovčići in Čapljina municipality in the village Tasovčići. The Crossroad is positioned nearby and on the important traffic routes for Čapljina and entire BH. The major road M-17 that passes through crossroad is part of the south European route E73 that connects Central Europe i.e. Hungary and eastern Croatia to BH and the Adriatic Sea in the area of the port of Ploče, and it is one of the most important roads in the country. The major road M-6 connects the border crossing Gorica with Croatia and the border crossing Klobuk with Montenegro.

Figure 1: The geographical location of the project



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

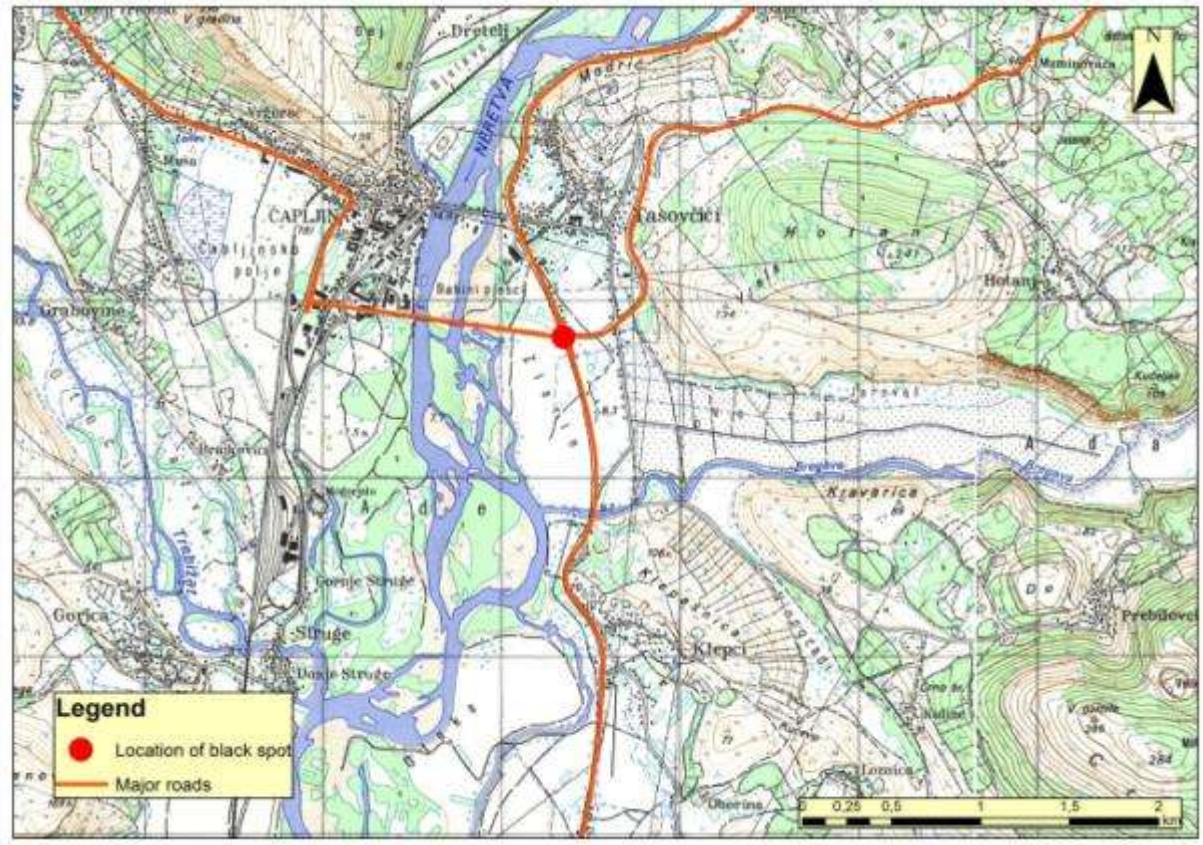
The crossroad is situated one kilometer east from Čapljina city centre, 3,5 km from the old town of Počitelj (one of the most important historical cities and touristic attractions in Herzegovina), and one kilometer north from the Nature Park Hutovo Blato.

Near the crossroad a certain number of residential buildings are located, that mostly represent private houses which are mainly ground floor, one-story and two-story houses. Rest of the surrounding land around the crossroad represents mostly first class agricultural land.

The importance of the project crossroad for the local community is reflected trough the fact that this is the fastest and most convenient way for locals to reach Mostar, the educational, health and administrative center of the region.

Figure 2 shows the location of the crossroad 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. ROAD SAFETY AND TRAFFIC DATA

As said before, the project crossroad is an important crossing point for people traveling from the direction of Sarajevo and Mostar to the Adriatic Sea and the border of Croatia, as well as for the local community who travels to Mostar and Stolac or the Adriatic coast. In addition, the technical elements of the existing crossroad allow vehicles to develop high speed which endangers all traffic participants making the project crossroad a registrated dangerous spot on the main roads network in FBH.

According to available data from the Ministry of Internal Affairs and the concerned police departments, in the period between 2009 and 2013, there were 16 road accidents with light and serious injuries and 14 with material damage. No road accidents with fatal outcomes were registered in the given period of time.

Although there is only one existing pedestrian crossing on the crossroad locals claim there have been no road accidents that involve pedestrians.

PC Roads FBH has installed automatic traffic counters along the major traffic network throughout FBH. Automatic traffic counting is being done since 2005 and last report[2] is published in 2016 with data for the previous year. Based on this information, the nearest relevant traffic count device is 609-Domanovići, section Tasovčići -Masline (4 km east from the crossroad) and the data collected from the device shows that, in 2014, 4320 vehicles were passing daily (Figure 3).

Figure 2: The average amount of vehicles per day in the year 2015

Source: PC Roads Federation of BH

[2] Traffic count on major roads in Federation of BH in 2015“, PC Roads Federation BH, Sarajevo 2016

4. PROJECT DESCRIPTION

Main Design for the Project of Reconstruction of Crossroad of the Major roads M-17 (Mostar-border Rep.Croatia) and M-6 (Čapljina-Stolac) in Tasovčići in the municipality of Čapljina has been contracted by PC Roads FBH and prepared by the company Integra Ltd Mostar in 2015. Project task included finding a solution to construct a new roundabout at this intersection that would ensure optimal traffic flows and their capacity, and enhance the safety of road users.

The crossroad is designed as an one-lane roundabout in a rural/urban environment with the outer radius R=22,5m

The width of the lane is 6,50m with designed cross slope of 2% to the outwards. The width of the inner traffic island, which enables the passing of long vehicles, is 2,5m, making therefore the inner radius of the roundabout R=16,00m. Entrance/exit legs of the roundabout for the direction of Mostar-Čapljina and Meković-Stolac are designed as complex curves. The width of entrance lanes is 4,50 m, and as for the exit lanes it is 5,00m. The width of the traffic island on the entrance is 4,50m.

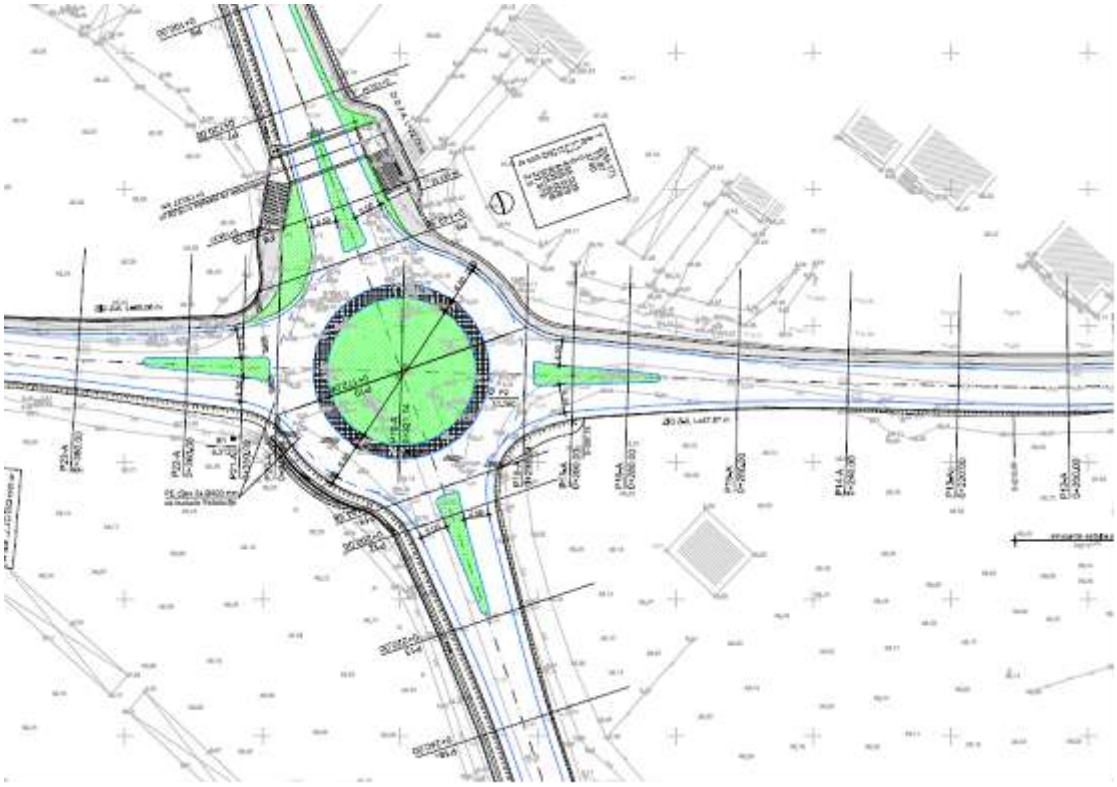
The speed of a personal vehicle passing through the roundabout was measured due to control procedures and it equals 37,60 km/h which satisfies regulations for these types of crossroads (37-39 km/h)

The vertical alignments of both main roads which intersects in the crossroad, are designed in a way which allows the grade slope to go from the center of the roundabout to the legs in intervals from 0,35-0,65 %

The drainage of the roundabouts is resolved in two ways. Water from the main road M17 is collected in ditches from where it goes to the oil and grease separator and then to the absorption shaft. Water from the main road M6 and the designed roundabout is collected in gutters and flows through PEHD pipes Ø300 to the oil and grease separator then to the absorption shaft.

In the roundabout area walkways of 1,6m width have been designed. The crossing of the main road M17 by pedestrians is solved by designing an underway of the following dimensions: width-5,0m, height-3,0m, and length-15,0m.

Figure 4: Disposition of the designed roundabout



Source: Main Design „Project of Reconstruction of Crossroad of the Major roads M-17 (Mostar-border Rep.Croatia) and M-6 (Čapljina-Stolac) in Tasovčići“, March 2015

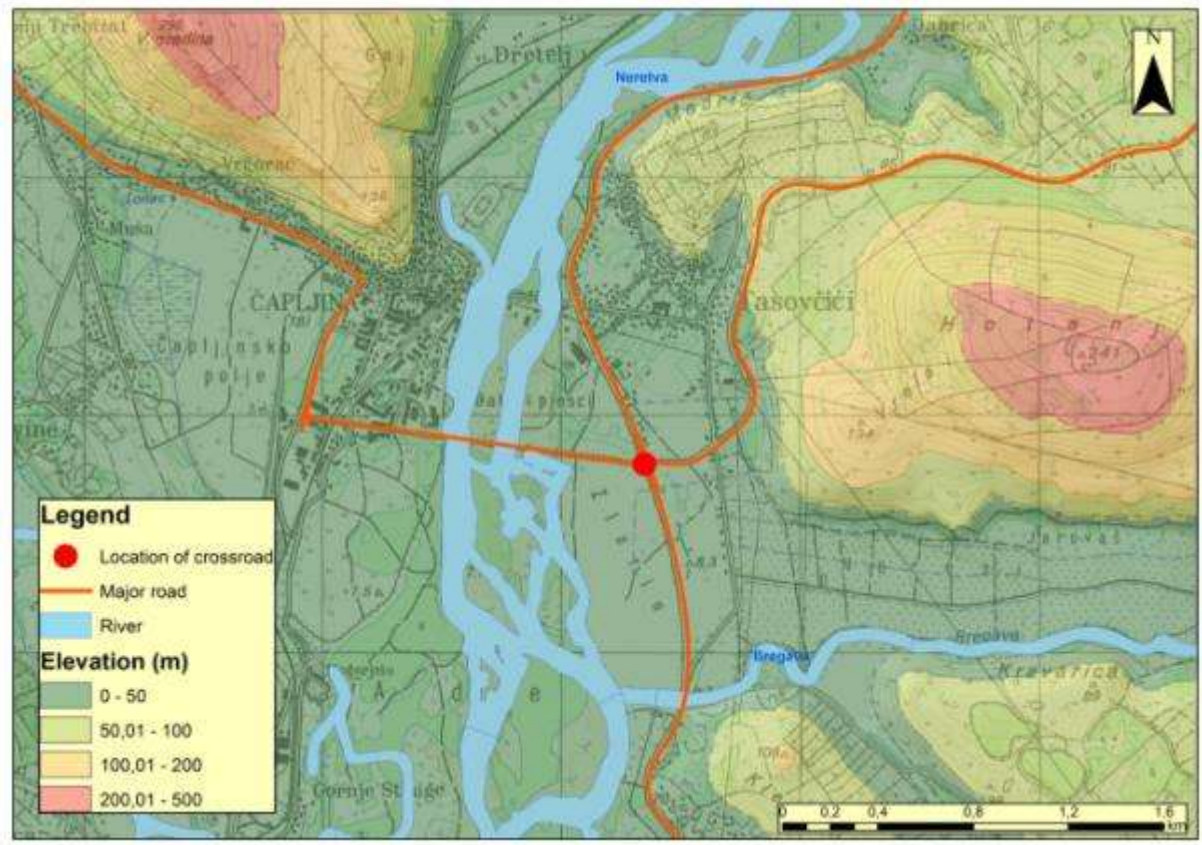
5. BASELINE OF PARTICULAR INTEREST

5.1. GEOGRAPHIC CONDITIONS

This crossroad is located in the valley of the Neretva River at 9 meters above sea level, one kilometer north of the mouth of the river Bregava in the Neretva. Due to hypsometric characteristics it can be concluded that the site is located in an extremely flat terrain, as shown in figure 5.

The geological characteristics of the site are characterized by Quaternary alluvial sediments and marsh sediments. They are represented by small and large gravel - rarely sand, that occurs in irregular stratification with frequent occurrences of sandy clay. The location is situated on well permeable rocks, which should be taken into account during the construction works.

Figure 5: Geographical Map of Wider Area with the Project Location



Source: PC Roads Federation of BH

5.2. CLIMATE FEATURES

Climatic features of subject area, which is a part of the Neretva River watershed, are determined by geographic position, relief, height above sea level and proximity to the Adriatic Sea i.e. the Mediterranean basin.

Since the largest impact on the climate, apart from the geographic position is the relation between mainland and the sea, as well as relief features such as height above sea level, this area with altitude of about 9 meters and average temperature of the warmest month higher than 22°C belongs to the climatic region of Csa (by Köppen). That is a type of Mediterranean climate characterized by dry and hot summers while winters are mild and rainy.

The whole area is under direct impact of sea air. Due to the vicinity of the Adriatic Sea, which during winter radiates warmth accumulated during summer months, the average air temperatures in winter months are quite high. Autumns are warmer than springs.

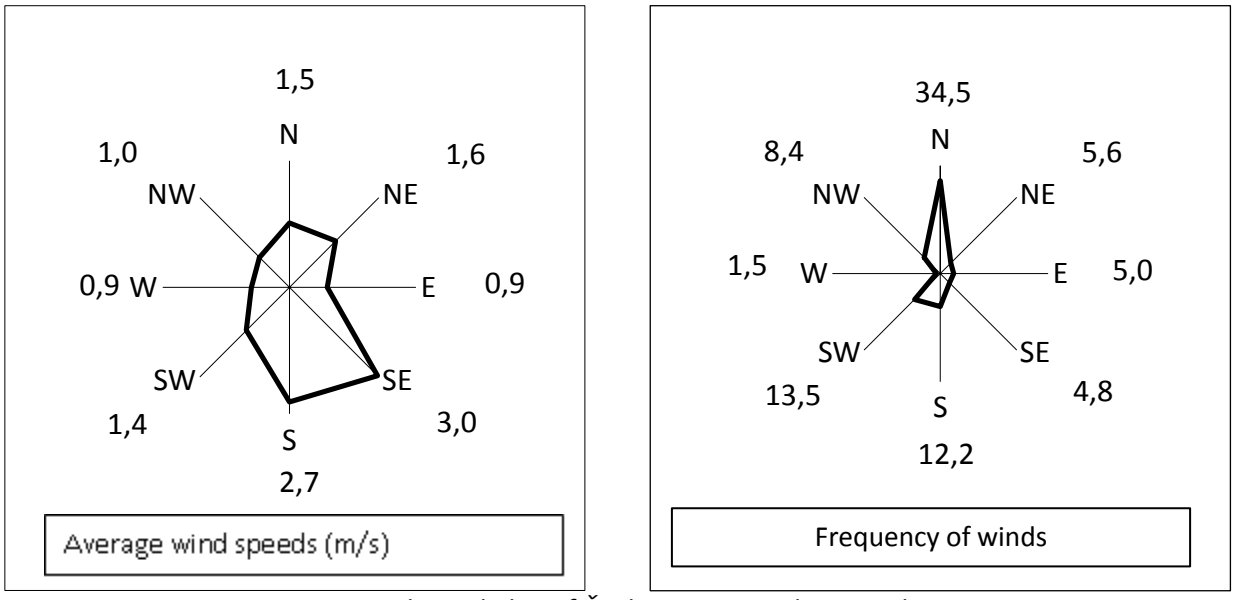
At monitoring station “Čapljina” the average temperature of the warmest month, July is 24.7 °C, while the absolute highest measured temperature is 41.0 °C. Average annual air temperature is 14.1 °C. Average air temperature of the coldest month, January is 5.9 °C, whereas the lowest measured temperature is -14.2 °C in the same month.

The average rainfall at the same monitoring station, during multiannual period is 1156 mm per year. The rainiest month is December with an average precipitation of 161 mm, and the lowest precipitation occurs in July, when the average rainfall is only 32 mm.

From the wind roses for the monitoring station Čapljina, domination of the winds from direction north (bora) and south (sirocco) was observable. Bora is the strong north wind blowing from the inlands. It blows in gusts, and brings cold and dry air that dries the soil and lowers the temperature. It appears suddenly, in the colder part of the year, even though it can appear during the whole year, as well.

Sirocco is the wind blowing from southeast and brings warm and rainy weather. It can blow at any time of the year, and is very common in the autumn, winter and spring periods. It usually blows several days and brings abundant precipitation with it.

Figure 6: Wind roses



Source: Physical plan of Čapljina municipality, Ecoplan, 2012

5.3. AIR QUALITY

No particular monitoring of air quality for this location was performed, neither for the area. Judging by the location of the crossroad, it can be concluded that the highest and the only air pollution refers to traffic of the major road, while there are no other major air polluters near the crossroad. As well in the wider area there are no significant air polluters. Air quality largely depends on distance from the source of pollution and airflow, as well as on terrain configuration. The configuration is connected with airflow and changes its direction and speed, but also affects the speed of air exchange. Due to strong northern winds during the whole year and wide valley it is difficult for pollutants to concentrate for a longer period.

The closest monitoring station for air quality is in Mostar, where monitoring has been performed since 1998, and the data are collected and published by the Federal Hydrometeorological Institute. There are no data on air quality on this particular location, but based on geographical features and the fact that there are no significant polluters, and the only polluter is the road traffic in the wider area it can be considered that the air quality is good. The Contractor shall conduct a baseline measurement for air quality monitoring prior to the start of works.

5.4. WATER AND WATER QUALITY

Neretva River is the closest surface water flow, approximately 150 m of air distance from the Project location. Waters of the wider area, including river Neretva, belong to the Adriatic Sea watershed. The Neretva River is the longest and biggest river in the Eastern Adriatic Sea drainage basin and the most important river in Herzegovina. Its source is located at the height of 1.095 meters below mountains Zelengora and Lebršnik in BH and it flows in the length of 203 km through this country, while the last 22 km flow through Croatia. From its source to the mouth, Neretva flows from southeast to northwest, creating the northern border of Herzegovina this way. In its upper course Neretva is a canyon river, all the way to Počitelj, where it comes out of the canyon and begins to meander through the valley.

The valley in lower flow of Neretva is linked to the fault zone perpendicular to the Dinarides, formed by neotectonic movements at the time of the last orogenesis forming a rock frame with several expansions whose edges are marked by sudden change of slope and rock types.

The Neretva River is threatened by human activities, such as industry, agriculture, non-sanitary waste disposal and discharging untreated wastewaters.

Tributary of Neretva, the Bregava River is located nearby, at a distance of approximately 960 meters. Its source is Bitunja and it mouths into river Neretva after 35 km of flow. With its beauty, numerous waterfalls and variety of biological life it represents one of the most important rivers of this area. The water of Bregava river is classified as class I[3] what means that this water in its natural state can be used (with eventual disinfection) as potable water and for cultivation of *salomonidae* fish (1st class fish).

Based on the Law on Nature Protection FBH municipality Čapljina protected this river in its Physical plan. Partially in its upper flow the parts of the river (waterfalls, mills etc. mainly in area of Stolac) it is protected by different instruments, as well as its source. River Bregava holds special value, sensitivity and beauty of the landscape, which should be given special attention. All planned activities in this area shall be consistent with the protection measures in order to preserve the whole area and its significance to its municipalities.

The Contractor shall conduct a baseline measurement for water quality monitoring prior to the start of works.

[3] Statue on the Classification of water and water of the coastal sea of Yugoslavia within borders of Social Federal Republic of Yugoslavia (Official Gazette of SFRY no. 18/80)

5.5. NOISE LEVELS

There was no monitoring of noise levels near the Project area; therefore there is no available baseline data of the impact of the noise on the environment.

The largest source of noise, in general, is traffic. In close proximity to the Project area, we can find mostly facilities for business purposes and residential purposes (houses), which are exposed to the traffic noise and according to the Law on Noise Protection; they fall under the fourth zone, where allowed noise levels are 60 dBA during day and 50 dBA at night. 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

Most of the land around the planned project represents agricultural land of the first category, which includes high level soil quality, such as fluvisol. Near the intersection there are several individual residential houses which are mainly private houses, which are mostly ground floor, one-story and two-story buildings. Nearby there are also several commercial facilities and sports fields.

Figure 7: Land use in the wider area of the project

Source: PC Roads Federation of BH

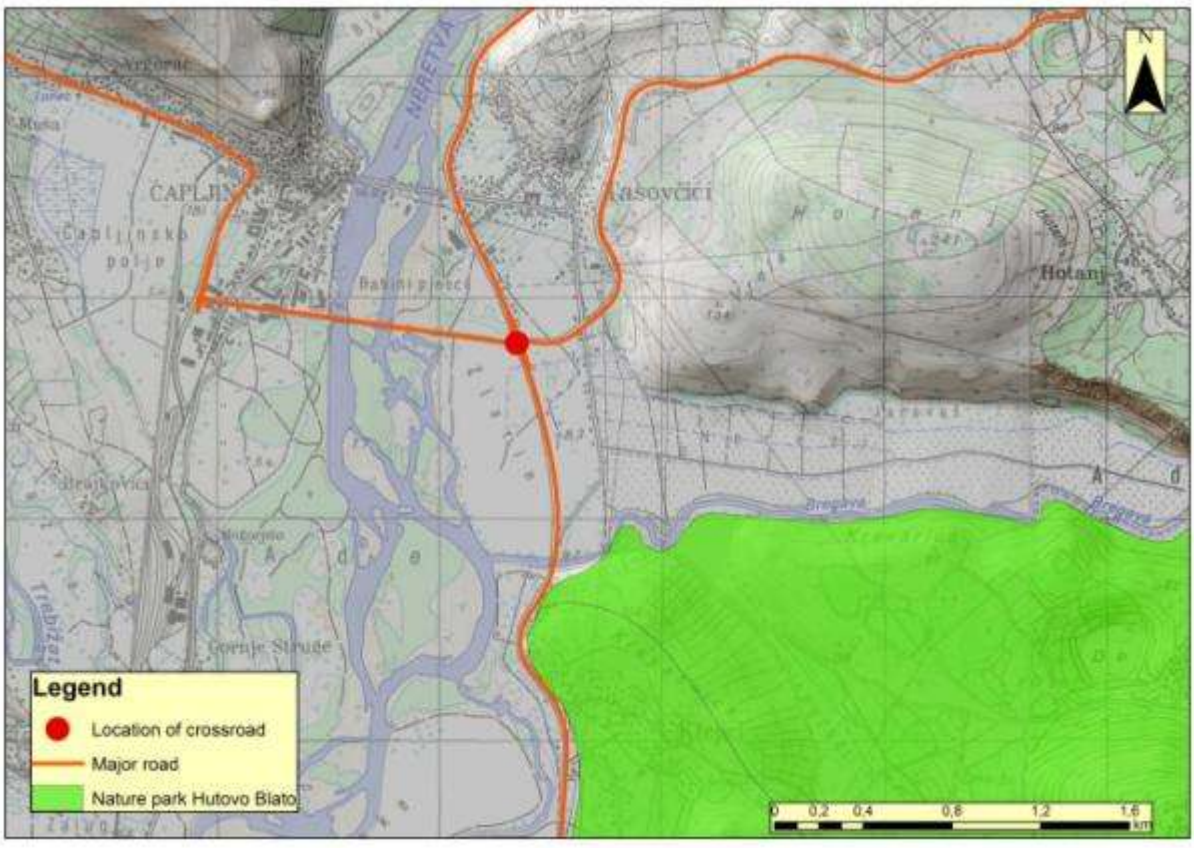
5.7. FLORA AND FAUNA

The area of Neretva River delta, with geographic features of the terrain and large variety of ecosystem (wetlands, hydrological, underground, karst etc.), is listed into world register of areas with the highest biodiversity (the second richest area in Europe). According to numerous researches, which were carried out for this area, namely Hutovo Blato nature park, it is considered that in the wider area there is over 600 species of vascular plants in this area, with about 28 rare ad endemic species. As for fauna, 163 bird species and 24 fish species were registered. There is no exact data on the flora and fauna for the particular location of the Project. However the Contractor shall hire a biologist to conduct a review of the site for the baseline prior to the start of works.

5.8. PROTECTED AREAS

The location of the intersection is not located within a protected area. The nearest protected area is the Nature park Hutovo Blato, located approximately one kilometer of air distance from the project site. The Nature Park Hutovo Blato will not be directly impacted by the project due to the distance from the project site.

Figure 8: The position of the intersection in relation to Nature Park Hutovo Blato



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

5.9. CULTURAL-HISTORICAL AND NATURAL HERITAGE

Nature Park Hutovo Blato mentioned in paragraph 5.8 Protected areas, in the vicinity of the observed area. The Neretva River is also located nearby (cc 750 m from the crossroad), but the intervention will take place outside of the protection zone of the Neretva River. Still the construction works could have indirect impacts on the river.

According to the Commission to Preserve National Monuments in the municipality of Čapljina there are nine declared national monuments in the Municipality Čapljina:

1. Church of the Transfiguration of Christ in Klepci, school building and burial ground, the site and remains of the architectural ensemble
2. Gabela nr. Čapljina, the archaeological site
3. Bridge in Klepci, the historic building
4. Pašić tower and courtyards in Bivolje Brdo, the residential architectural complex
5. Počitelj, the historic urban site
6. Roman villa (villa rustica) in Višići (at “Kućišta”), with remains dating from Roman antiquity and the early and late mediaeval period (a Slav settlement and burial ground), the archaeological site
7. Rt Kula (kulina on the river Krupa) in Dračevo, historic building
8. The late-antique villa of Mogorjelo, the archaeological site
9. Church of Resurrection of the Holy Virgin in Gabela with its related chattel and tombstones, architectural ensemble

None of the listed national monuments are in a close vicinity of the project are, and no impacts on cultural-historical heritage are anticipated

Figure 9: The approximate air distances of National monuments in accordance to the Project crossroad

Source: PC Roads Federation of BH

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

6.1. PRE-CONSTRUCTION IMPACTS

Socio-economic impacts

The project roundabout is a part of the Integrated Resettlement action Plan which was publicly consulted and disclosed in March 2016. According to the Integrated RAP, small parts (1-7%) of 12 private and 5 public land plots, including one auxiliary structure will be expropriated. Furthermore, 3 private land plots (1% of the total area will be expropriated of each) economic displacement will take place according to the disclosed RAP.

In the time of the creation of this document it is known that the expropriation of 4 land plots can be avoided. Hereby the expropriation of 1 auxiliary object (greenhouse) is being avoided and 1 owner will not be economically displaced.

On two private land plots economic displacement will take place. 1% of farm land will be expropriated from the owners. No workers will be affected and the owners income will be affected minimally.

No.	Location (section)	Land plot no.	Type of impact	Category	Total area of plot (m2)	% affected	Structure (commercial or residential)	Other assets (natural objects)	Other assets (auxiliary structures)	Economic / physical displacement
1	**Čapljina (Tasovičići -Čapljina)**	1849/1	part of land	Land plot	650	5%	no	grass	no	no
2		1784/4	part of land	Land plot	192	1%	no	grass	no	no
3		1864/2	part of land	Land plot	885	1%	no	grass	no	no
4		1872/1	part of land	Land plot	453	1%	no	grass, woods	greenhouse	yes
5		1838/2	part of land	Land plot	905	1%	no	vegetables	no	no
6		1837/2	part of land	Land plot	1005	1%	no	grass	no	no
7		1850/1	part of land	Land plot	1186	2%	no	grass	no	no
8		1858/1	part of land	Land plot	777	2%	no	grass	no	no
9		1857/1	part of land	Land plot	197	7%	no	grass	no	no
10		1873/1	part of land	Land plot	480	1%	no	grass	no	no
11		1868/2	part of land	Land plot	1728	1%	no	vegetables	n/a	yes
12		1867/3	part of land	Land plot	392	1%	no	vegetables	no	yes
13		n/a	part of land	Land plot						

avoided

affected

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 crossroad will lead to an increased emission of such gasses as SO2, CO2, CO, NOX and Pb.

Dust generation - where the most important polluters are solid particles (PM10 and PM2,5). Possible sources of dust generation include: site preparation activities, especially excavation

and leveling, handling of building materials such as excavated earth/substrate, gravel, sand, asphalt, cement and the construction itself. The intensity of this pollution will depend on the weather conditions (wind strength and precipitation). The impact of dust emissions is not significant, it is short-lived and of local character.

Impact on Noise Level and Vibrations

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

Impact on Surface Water Quality

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

Impact on Soil Quality

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

Impact on Biological and Natural Resources

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

Impact on Protected areas

The observed project is not situated in any of the planned protected areas. The closest protected area is the Nature Park Hutovo Blato, located approximately one kilometer of air distance from the project site. Possible temporary adverse impacts on the protected areas during construction are those referred to water pollution.

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 (M-17 and M-6) during the construction.

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

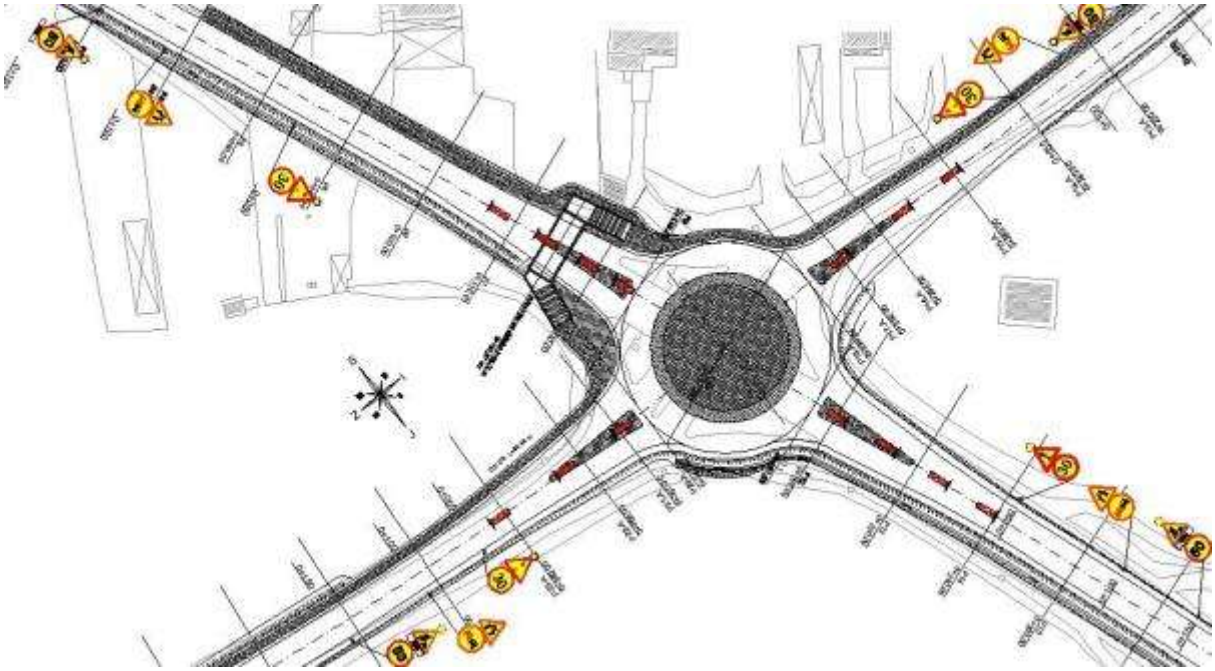
During the construction of the underway the traffic will be in a two way regime regulated by safety traffic signage as depicted in figure 10.

Figure 10: Traffic regulation during the construction of the underway

Source: Main design, Integra, 2015

During the construction of the roundabout the traffic will be in a one way regime regultated by traffic lights safety traffic signage as depicted in figure 11.

Figure 11: Traffic regulation during the construction of the roundabout



Source: Main design, Integra, 2015

Population safety impacts

The presence of workers: According to local practice, no working camps will be set up for the purpose of accommodation of workers. All workers will commute daily to the construction site. Thus the impact of worker's presence on local community is minor.

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

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

Socio-economic impacts

Temporary land acquisition and damage to private property: In this time it is not expected that it will be necessary to temporarily occupy any privately owned land plots for lodging machines and disposal of materials. Machines and material will be disposed on land owned by the Investor. However, If additional temporary occupation of private land in needed

during construction activities, this will be agreed upon with respective land owners and compensation will be paid in accordance with provisions determined in the RPF before the land is accessed.

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

Access restrictions: Impacts related to road access restrictions to three residential structures one small business and one recreational area are expected to be temporary and are associated with limited access due to heavy machinery parks and disposal of construction waste.

Impacts on protected natural areas: difficult access to the Nature Park Hutovo Blato during construction can be expected. This impact is minor because there will be no complete traffic stoppage

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.

Impacts on living conditions of local communities

Following adverse impacts during construction are expected:

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

6.3. IMPACTS DURING OPERATION AND MAINTENANCE

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

6.4. POSITIVE IMPACTS

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

- More efficient and safer traffic system: by decreasing the time of travelling, lower number of traffic accidents, lower costs of maintenance and management;
- Improvement of transport system and accessibility;
- Developed road structure with improved access to and out of the project area;
- Benefits to vehicle users and users of public transportation due to improved traffic connections and capacity;
- Lowering traffic congestions by increasing traffic flow;
- Improved pedestrian safety due to construction of separate pedestrian lane along the crossroad and an underpass which will regulate the crossing of M17 for pedestrians;
- Increased travel speed and travel quality;
- Direct employment and service opportunities: according to the Procurement guidelines under IBRD loan and EIB loan, the tender will be of international character and for this reason it will be difficult to predict where the contractor will come from; nevertheless, the practice in construction in BH suggests that hiring local contractors will be expected.

6.5. ENHANCEMENT MEASURES

Table 1: Enhancement Measures

Impact	Enhancement Measures	Cost Assessment (US$)		Institutional Responsibility	
		Operative	Implementation	Operative	Implementation
▪ Traffic	▪ Better traffic flow due to increasing travel speed; ▪ Reduction in time travel and cost by enhancing road surface and building a roundabout; ▪ Improved road and travel safety by improving intersection of major road M- 17 with major road M-6; ▪ Increased pedestrian safety by designing separate lane for pedestrians.	-	-	Contractor	PC Roads FBH
▪ Socio-economic	▪ New job and business opportunities for local construction workers and firms; ▪ Improvement of connections of the municipality of Čapljina with commercial and trading centers such as Sarajevo, Mostar and port Ploče;	-	-	Contractor	PC Roads FBH
▪ Water	▪ Improvement of the protection of the nearby river Neretva and Bregava due to construction of new road surface drainage system with a grease separator;	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Visual aesthetic and landscape	▪ Improving visual aspects of the surrounding area with seeding, planting and re-vegetation with species that can tolerate the roadside environment;	Included in construction works	Included in supervision	Contractor	PC Roads FBH

7. MITIGATION MEASURES

The purpose of this ESMP is to set forth mitigation measures associated with the environmental impacts identified for this given project activity. The mitigation measures are included in this section and summarized in Table 2. 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 submits a Construction Site Organization Plan (CSOP), which will highlight certain requirements both for completion of works and implementation of mitigation measures.

CSOP consists of following components:

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

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

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

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

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

ESMF). The TMP shall also include management of traffic according to the season, notably trying to minimize impacts during the summer months where the traffic in this area is exceptionally high.

Within the framework of the project, PC Roads FBH prepared a Resettlement Policy Framework (RPF) which clarifies land acquisition/resettlement and compensation principles, organizational arrangements and procedures for planning land acquisition/resettlement, including principles for managing temporary occupation of land or access restrictions during construction. The RPF also serves as a guide for preparation of site-specific Resettlement Action Plans (RAPs), which are needed when resettlement or land acquisition is planned on a project.

This project is included in the Resettlement Action Plan for sub-projects that was publicly discussed and disclosed in February 2016.

7.1. MITIGATION MEASURES IN PRE-CONSTRUCTION PHASE

7.1.1. Contractor Management

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

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

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

- The ESMP conditions have been estimated and included into the bid price,

- The Contractor for Execution of Works has a qualified and experienced person on the Contractor‘s team who will be responsible for the environmental and social compliance requirements of the ESMP.

- The Contractor will comply with applicable BH and FBH laws, EU standards and WB requirements, including the relevant Operational Policies, this ESMP, framework ESMF and the Environment, Health and Safety guidelines, where applicable,

The following contractual conditions shall apply to the Contractor for Execution of Works employed by PC Roads FBH:

- The Contractor will be required to prepare site-specific CSOP in accordance with the requirements of this ESMP. All submitted CSOPs shall be formally reviewed by PC Roads FBH prior to agreement and signing.

- The Contractor shall provide formal written reports to PC Roads FBH in accordance with requirements set-out in the ESMP which is part of this document;

- PC Roads FBH is responsible to introduce all contractors and sub-contractors and personnel working on the Project on the contents and provisions of this ESMP and any penalties arising from non – compliance therewith;

- The Contractor is responsible for notifying PC Roads FBH immediately upon receiving any complaints or grievances, as well as immediately upon identifying and implementing of any corrective actions. The Contractor shall inform the complainant of the Grievance redress mechanism. All grievances will be registered with the Central Grievance Commission 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;

- Be responsible for all activities undertaken by his sub-contractors;

- Maintain regular effective two-way communication with all workers, sharing information and assisting in dealing with any unforeseen problems promptly.

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

7.1.2. Land Acquisition, Involuntary Resettlement and Economic Displacement

Prior to construction, small parts (1% to 7%) of 8 private and 5 public land plots will be expropriated. A Resettlement Action Plan (RAP) for this and other sub-projects was prepared. The RAP was publicly consulted and disclosed in February, 2016. Compensations

for permanent land take will be provided to the affected owner/beneficiary in accordance with provisions determined in the RAP.

7.2. MITIGATION MEASURES DURING CONSTRUCTION PHASE

7.2.1. Environmental Management

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

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

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

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

All mitigation measures are specified in the Table 2. Environmental and Social Impacts Management Plan.

7.2.2. Health and Safety

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

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 standards in addition to complying with the national standards of the FBH,

- Make sure basic safety features for visitors are in place, such as construction warning signs for protecting unsafe areas from being accessed or the obligation for every visitor to wear a helmet before entering the construction site

- Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular road rehabilitation activity and specific classes of hazards in the work areas,

- Provide personal protective equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty equipment and by replacing damaged equipment with new one.

- Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job.

- Appoint an environment, health and safety manager to look after the health and safety of the workers.

7.2.2.1. Safety Engagements

The Contract should ensure that all possible risks in the course of work are eliminated or reduced to a minimum. In order to prevent the possibility of higher-scale accidents it is necessary to plan and develop the measures to help reduce the adverse impacts. The Contractor's duty is to create a Management Plan in Case of Accidents (MPCA).

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

- Identify potential hazards and large-scale accidents,

- General procedures for all emergencies and accidents that might occur during the project due to natural disasters, defects on equipment of human errors,

- Description of preventive measures against accidents,

- Workers training for their roles and responsibilities when accident occurs,

- Determining responsible person at the spot,

- Urgent communication procedures,
- Information and contacts of important local authorities and emergency services,
- Internal and external alarming,
- Response plans for specific types of hazards, for example medical assistance, fire etc.

The MPCA should include:

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

The contractor is also obliged to:

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

7.2.2.2. First Aid

The Contractor shall:

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

7.2.3. Traffic and Road safety

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

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

• Period of the proposed bypass/alternative road

• Map of the proposed bypass

• Name and contact address/telephone number of responsible personnel

• Name and contact address/telephone number of contractor

• Sincere apology for the caused inconvenience

TMP should include details about the following:

- Construction plan by phases,

- Beginning and duration of works,

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

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

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

7.2.4. Construction Site Safety

The Contractor shall secure the construction site. The area should be fences in order to prevent entry of unauthorized persons. 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

In this time it is not expected that any private land will have to be occupied during construction for lodging machines and disposal of materials. If temporary land acquisition occurs it will be handled in accordance with provisions determined in the Integrated RAP.

The contractor is responsible for keeping the works within the right of way. Construction activities may cause damage to land plots, fences and railings due to disposal of construction waste and heavy machinery parks. Before such activities occur, the land use has to be agreed upon with respective land owners and compensation has to be provided in accordance with provisions determined in the Integrated RAP.

7.3. MITIGATION MEASURES IN OPERATION PHASE

It is required from PC Roads FBH to undertake the instructions given in the Table 2. Environmental and Social Impacts Management Plan.

7.4. SUMMARY OF MITIGATION MEASURES

Table 2: Environmental and Social Impacts Management Plan

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
PRE-CONSTRUCTION PHASE						
▪ Restricted access.	▪ Development of the TMP.	Included in the bid	Internal resources	Contractor	PC Roads FBH	
▪ Impacts on living conditions.	▪ Informing the local communities on the extent of works and duration prior to the commencement of construction works.via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed.	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH	
▪ Expropriation, involuntary resettlement and economic displacement	▪ Compliance with provisions made in the Integrated RAP	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH + Municipality of Čapljina	
▪ Compliance with national legislation.	▪ Obtaining all necessary permits for Project implementation.	Internal resources	Internal resources	PC Roads FBH + Project	Competent body for issuing the permit	

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
				designer		
▪ Restrictions on land use and damages on private property and businesses.	▪ Avoid private properties where possible; ▪ The Contractor will organization the construction site in collaboration and agreement with municipality of Čapljina; ▪ In case occasional land occupation cannot be avoided, compensation will be provided to affected owners/users (application of RPF and RAP), as well as compensation for loss of the possibility to continue to use land and businesses as intended.	Internal resources	Internal resources	Contractor + PC Roads FBH	PC Roads FBH	
▪ Job creation and impacts on local business.	▪ Informing the public in advance about the construction works, in order to enable businesses and workforce in the area to prepare for the demand on the market.via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed	Internal resources	Internal resources	PC Roads FBH	Contractor + PC Roads FBH	Applicable if the Contractor needs new workforce.
CONSTRUCTION PHASE						
▪ Access restriction.	▪ Implementation of the provisions on providing timely information to citizens about upcoming construction works, expected duration of the works, alternative routes, etc.; via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed	Included in construction works	Included in supervision	Contractor	Supervisory body*	Supervisory body is appointed by investor PC Roads FBH

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

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	▪ Ensuring safe and continuous access to all adjacent residences as well as the recreational facilities and business affected during construction; ▪ If access restriction cannot be avoided, the owner will be timely notified. The duration of the restriction will be agreed upon with respective owners. All applicable compensations will be paid according to the provisions in the integrated RAP and RPF ▪ Implementation of TMP.					
▪ Impacts on living conditions of local community;	▪ Providing timely information to the citizens on any type of disruption and inconvenience; via local newspapers, the municipality's notice board and website and via PC Roads' website, as soon as the type and duration of the disruption and inconvenience is known. ▪ Implementation of TMP; ▪ Implementation of CSOP; ▪ Implementation of ESMP provisions.	Included in construction works	Included in supervision	PC Roads FBH (providing informations to the citizens) + Contractor(following the provisions of the TMP, CSOP, ESMP)	Supervisory body*	
▪ Impacts on local traffic: ▪ increase of local traffic, including heavy machinery and trucks; ▪ closing one of the traffic lanes for construction purposes causing traffic delays and limited	▪ Implementation of TMP; ▪ Introduction of appropriate signalization and warning signs; ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours; ▪ Traffic management system and staff training, especially	Included in construction works	Included in supervision	Contractor	Supervisory body*	In collaboration with the local Ministry of the Interior

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
access.	for site access and near-site heavy traffic; ▪ Provision of safe passages and crossings for pedestrians where traffic interferes.					
▪ Temporary occupation of privately owned land plots for the purpose of construction of access roads and placement of staff, machines and material.	▪ Avoidance of temporary occupation of privately owned plots; ▪ In case avoidance is not possible, implementation of RPF and RAP provisions on temporary occupation.	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH*	
▪ Air emissions: - exhaust gasses; - dust generation.	▪ High quality fossil fuels (with low percentage of sulphur and lead) need to be used for construction machinery and equipment; ▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit; ▪ Vehicles need to be regularly maintained ; ▪ Equipment with installed filters to reduce soot emission needs to be used; ▪ When not in use the equipment and machinery need to be shut down; ▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h; ▪ Moistening/ wetting the site to prevent dust occurrence (in areas with dry soils or where activities generate dust);	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	
	▪ Sand and gravel materials need to be transported in covered trucks.					
▪ Increased level of noise and vibration: - noise levels and noise disturbance; - vibration.	▪ Restriction of works to period of day only (period of day: 06:00 to 22:00, period of night: 22:00-06:00) ▪ In the case of noise complaints by local residents, simultaneous use of machines that generate noise over 70 dB needs to be limited; ▪ In the case of noise complaints by local residents, number of trucks per day visiting the site needs to be reduced; ▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit; ▪ When not in use the equipment and machinery need to be shut down; ▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Emissions into water: - possible contamination of surface water.	▪ Monitoring of water quality; ▪ Proper waste disposal and separation of hazardous waste is required, as well as the engagement of authorized companies for final waste disposal; ▪ Oil and fuel collection systems to be fitted to prevent leakage; ▪ Vehicles and machines need to be regularly maintained to prevent leakage.	Included in construction works	Included in supervision	Contractor	Supervisory body*	

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

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

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

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	possible and then finally disposed ▪ No open burning of wastes is allowed on site ▪ All waste should be handed over to a licensed company or agent (amounts are to be recorded as well as types of handling actions); ▪ Disposal sites of construction material are determined by the municipality and should be handled in the most appropriate environmental manner.					
▪ Inadequate organization of construction site.	▪ Implementation of CSOP	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Inadequate workers' safety.	▪ Implementation of work safety measures: - Provide workers with a safe and healthy work environment as defined in the Occupational Health and Safety Management Plan (OHSMP) ,developed as a part of the Construction Site Organization Plan (CSOP) that will be developed for the Project - Provide personal protective equipment, - Respect safety procedures, - Provide portable toilets, - Provide drinking water	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Accidental situations i.e. spills, leakage of oils, fats, fuels and similar hazardous materials.	▪ Implementation of MPCA which includes: - Spill Response Plan,	Included in construction	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	
	- Emergency Preparedness and Response Plan. ▪ Implementation of Elaborate on protection from fires and explosions	works				
▪ Materials supply and transport.	▪ Implementation of CSOP to ensure materials are transported in covered vehicles to reduce impacts on environment and Management Plan on Safety at Work to ensure materials are used in accordance with Bill of Quantities	Included in construction works	Included in supervision	Contractor	Supervisory body*	
CHANCE-FIND PROCEDURES DURING CONSTRUCTION PHASE						
▪ Impacts on cultural heritage.	▪ If archeological findings or other chance finds appear on or near construction site immediate work suspension and local authorities notification is required; ▪ Implementation of CSOP.	Included in construction works	Included in supervision	Contractor	Supervisory body*	In case of finding cultural heritage, supervision is implemented by the competent institution
OPERATION PHASE						
▪ Regular occurrences during road operation	▪ Regular road maintenance	Incl. in maintenance	Internal	Contractor for maintenance	PC Roads	

* 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	
		works	resources	works	FBH	
▪ Contamination of river Neretva and Bregava due to lack of maintenance of the grease separator	▪ Installation of oil separators in accordance with EN ISO 858-1 and 858-2; ▪ Regular grease separator maintenance;	Incl. in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	
▪ Decrease in road safety due to the increase of traffic	▪ Regular maintenance of road safety equipment and signage;	Incl. in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	

8. ENVIRONMENTAL MONITORING PROGRAM

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

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

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

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

Table 3: Environmentaland Social Monitoring Program

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
PRE-CONSTRUCTION PHASE								
▪ Job creation and impacts on local businesses.	▪ Number of employed persons from local communities; ▪ Timely informing the local communities about the forthcoming works.	Wider area of construction	Inspection	Prior to construction	Included in performance	Included in performance	Contractor	Contractor
▪ Expropriation, involuntary resettlement and economic displacement	▪ Implementation of RAP provisions	PC Roads of FBH	Monthly and quarterly internal reports	Prior to construction	/	28000	PC Roads of FBH+ Supervision consultant	PC Roads of FBH + Supervision consultant
▪ Temporary occupation of privately owned land plots for the purpose of construction of access roads and placement of staff, machines and material.	▪ Implementation of RAP provisions	Construction site	Reports from contractor	Prior to construction and during construction when necessary	Included in construction contract	Included in construction contract	Contractor	Contractor
CONSTRUCTION PHASE								
▪ Access restrictions.	▪ Provided alternative access, ▪ TMP in place, ▪ Implementation of RPF and RAP provisions	Construction site	Visual inspection	Random checks at least once a week during the construction	Included in supervision	Included in supervision	Supervisory body + PC Roads FBH	Supervisory body + PC Roads FBH

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
▪ Restrictions on land use and damage to the private property (agricultural plots, horizontal infrastructure, fences and railings) due to disposal of construction waste, work camps and parks of heavy machinery	▪ CSOP in place; ▪ Implementation of RPF and RAP provisions on compensation procedures in case occasional land use cannot be avoided, compensation will be provided to affected owners/users ▪ grievances	Construction site	Visual inspection + Central grievance log	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 (increase of local traffic, including heavy machinery and trucks, operation of roads with only one lane causing traffic delays and limited access)	▪ TMP in place; ▪ Traffic patterns; ▪ Timely information to the citizens.	On construction site and nearby	Visual inspection and inspection	random checks during the week	Included in supervision	Included in supervision	Supervisory body	Supervisory body
▪ Air emissions: - exhaust gasses; - dust generation	▪ Level of dust (amount of particles of sediment and floating particles); ▪ Emissions of exhaust gases from vehicles and equipment; ▪ (SO_2, NO_2, dim and PM_{10}).	Construction site	Measuring devices	As a baseline and during construction when needed and upon complaints by the citizens	-	500 USD/measuring	Contractor + Supervision	Authorized laboratory
▪ Increased level of noise and vibration: - noise emission, - vibration.	▪ Level of noise.	In populated places near the construction site	Measuring devices	Upon order by supervisory organ or upon complaints by the citizens	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory

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
▪ Emissions into water: ▪ possible contamination of surface water and groundwater	▪ Analysis of parameters of surface water quality: - Chemical analysis (PH, turbidity, conductivity, temperature, suspended particles, COD, BOD, ingredients with nitrogen); - Standard bacteriological analyses.	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
▪ 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
▪ Emissions into water and soil due to improper waste handling.	▪ CSOP in place, ▪ Waste generation and management.	Construction site	Visual inspection, disposal records or receipts from landfills	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Soil degradation: - soil erosion;	▪ Implementation of CSOP, ▪ Implementation of WMP.	Construction site	Visual inspection	Regularly during construction	Included in performance	Included in performance	Contractor + Supervision	Contractor

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
▪ Removal of vegetation cover	▪ Number and type of planted vegetation and analysis of vegetation cover prior to the beginning and upon completion of works.	Construction site	Visual inspection and record-taking	Prior to beginning (baseline) and upon completion of works	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Degradation of biological and ecological resources	▪ All excavated trenches over 0.5 min depth will be sloped or have escape ramps installed which are suitable for the escape of animals. All trenches shall be inspected for wildlife prior to backfilling.	Construction site	Visual inspection	Regularly during Construction.	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Waste management.	▪ Implementation of CSOP and WMP.	Construction site	Visual inspection, disposal records or receipts from landfills	Regularly during construction. Amount and disposal records internal reports will be made daily	Included in performance	Included in performance	Contractor + Supervision	Contractor

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
				and monthly				
▪ 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 approvals etc.).	Construction site	Reports	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Material transport.	▪ Implementation of CSOP (the origin of material, licenses etc.).	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Workers safety.	▪ Implementation of work safety measures (protection equipment, toilets, drinkable water etc.). ▪ Implementation of World Bank Occupational Health and Safety Guidelines	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
OPERATION PHASE								
▪ Water emissions	▪ Analysis of the water quality parameters:	At the grease separator	Sampling	Once a year	Internal resources	1000 USD/sample	PC Roads FBH	Licensed laboratory

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US$)		Responsibility	
					Implementation	Operative	Implementation	Operative
	- Chemical analysis (PH, turbidity, conductivity, temperature, suspended particles, COD, BOD, ingredients with nitrogen, total fats and oils, mineral oils);	outlet						

9. IMPLEMENTATION AND REPORTING

9.1. PROJECT IMPLEMENTATION

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

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

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

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

9.2. REPORTING PROCESS

9.2.1. Contractor to PC Roads FBH

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

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

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

9.2.2. Supervision Engineer to PC Roads FBH

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

9.2.3. PC Roads FBH to WB

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

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

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

10.PUBLIC DISCUSSION AND INFORMATION DISCLOSURE

10.1. PUBLIC CONSULTATION

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

The public consultations will be announced in the local newspaper, on the web page of the municipality and on the web page of PC Roads FBH minimum 15 days prior to the set date.

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

After public discussion the documents shall be disclosed again.

10.2. INFORMATION DISCLOSURE

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

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

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

10.3. GRIEVANCE MECHANISMS

Besides the institutionally available ordinary and extraordinary legal remedy, and existing institutional channels, PC Roads FBH will ensure and form a special Grievance Redress

Mechanism in collaboration and direct involvement of those municipalities under whose administrative authority the project is carried out, in this case with the municipality of Čapljina.

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

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

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

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

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

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

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

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

11.Requirements for start of works

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

The Contractor shall develop:

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

a. Implementation Plan of this ESMP,

b. a detailed Waste Management Plan (WMP)]

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

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

These studies are to be developed in accordance with federal acts[4], before starting the execution of works, while the Contractor's legal obligations defined in the Bidding Documents and Contract shall be based on the a provisions of this ESMP . The Contractor shall submit these studies to the PC Roads FBH supervisory engineer, Environmental and Social Specialists, before beginning of works, and the company has to accept and approve them prior to start of works. The ESMP may need to be subsequently updated after the public consultations. The contractor will be obliged to follow the updated ESMP.

11.1. Social aspects

- Implementation of the integrated RAP

- Payment of the compensation in accordance with RAP provisions before the land is accessed

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

APPENDICES

APPENDIX 1. GRIEVANCE FORM

	REFERENCE NUMBER (Filled by the office)	
CATEGORY OF COMPLAINTS	A) Affected by expropriation	
	b) All others	
PARTICIPANT INFORMATION OF GRIEVANCE		
FULL NAME		
YEAR OF BIRTH		
GENDER	M	F
ADDRESS		
TELEPHONE/MOBILE NUMBER		
E-MAIL		
Description of Incident for Grievance (What happened? Where did it happen? Whom did it happen to? What is the result of the problem?)		
Date of the Incident?		
• One-time incident/grievance – Date: _____ • Happened more than once (How many times?) _____ • On-going (currently experiencing problem)		
What would you like to see happen?		
DATE:	SIGNATURE:	
RETURN THIS FORM TO:	*CENTRAL FEEDBACK DESK* *PC ROADS OF THE FBH* *Terezija 54,* *71000 Sarajevo* *Note: All copies are returned to PIU*	

APPENDIX 2. GRIEVANCE REGISTRATION TEMPLATE TABLE

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

APPENDIX 3. REPORT ON PUBLIC DISCUSSION