

**ROAD REHABILITATION AND SAFETY PROJECT  
MAIN DESIGN FOR HEAVY MAINTENANCE OF THE  
STATE ROAD IB no. 21**

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**LOT2: IB no. 21, road section: Kosjeric (Varda) - Pozega,  
from km 183+075 to km 205+210,  
L= 22.135 km**

**Contract ID: RRSP/CS3-RRD3-1/2016-11**

**ENVIRONMENTAL MANAGEMENT  
PLAN  
Final**

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## ABBREVIATIONS

AADT	Annual Average Daily Traffic
CEP	Contractor's Environmental Plan
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EMP	Environmental Management Plan
HSE	Health, Safety and Environment
IFIs	International Financing Institutions
INCS	Institute for Nature Conservation of Serbia
IPCMK	Institute for the Protection of Cultural Monuments of Kraljevo
MoEP	Ministry of Environmental Protection
MoCTI	Ministry of Construction, Transport and Infrastructure
NRNRP	National Road Network Rehabilitation Program
OP	Operational Policy
PIT	Project Implementation Team
PERS	Public Enterprise "Roads of Serbia"
PSC	Project Supervision Consultant
RE	Resident Engineer
RRSP	Road Rehabilitation and Safety Project
SE	Site Engineer
SLMP	Safety Labour Management Plan
SSIP	Site Specific Implementation Plan
WB	The World Bank Group
WMP	Waste Management Plan

## INTRODUCTION

The Environmental Management Plan has been prepared for the proposed Design for heavy maintenance of the State Road IB no. 21, road section: Kosjeric (Varda) – Pozega, in order to ensure application of good environmental practice and document compliance with the requirements of the International Financing Institutions (IFIs) which will finance this Project.

In accordance with the guidelines issued by IFIs, the project was classified as B Category of environmental risk, and it requires development of Environmental Management Plan (EMP).

The Project Proponent is the Government of Serbia, acting through its Ministry of Construction, Transport and Infrastructure (MoCTI). Project implementing entity is Public Enterprise “Roads of Serbia” (PERS).

The aim of the EMP is to identify potential negative environmental impacts and management problems during the execution of construction works, as well as the necessary mitigation measures that the Contractor must apply. The key components of the EMP are: Environmental Mitigation Plan and Environmental Monitoring Plan.

The EMP analyses the rehabilitation phase and operational phase of the relevant section thus defining measures which are the obligation of the Contractor during the execution of rehabilitation works.

Project elaboration will be compliant with Serbian legislation, rules, regulations and provisions, as well as with the conventions and protection guidelines, issued by the IFIs. According to the Project Implementation Plan, the aim of the project is increasing the usability and durability of the road, promoting traffic safety, including the requirements of local community (social aspect) and complying with the environmental requirements to the greatest extent given the circumstances of spatial limitations and the constraints arising from types of allowed constructive and traffic measures.

For the suggested road section, the Environmental Management Plan is focused on activities connected to scope of civil works related to heavy maintenance and eliminating negative environmental impacts and it will be a part of the civil works contract. The activities connected to the regular maintenance of the road section, even though they are not brought into focus of this plan, will be included in EMP for the sake of completeness. The preparation of this EMP was undertaken through theoretical studies and field investigations, including consultations with regional level representatives and local stakeholders. The EMP is based primarily on field investigations performed during April and May 2018.

## EXECUTIVE SUMMARY

### *Project Description*

Road Rehabilitation and Safety Project (RRSP) is the project in which IFIs (World Bank, European Investment Bank and European Bank for Reconstruction and Development) provide support to the Government of the Republic of Serbia in implementing the National Program for Rehabilitation of the State Road Network. This project represents the realization of the Government's program for the period from 2014 to 2019.

One of the goals of the project is improving the conditions and traffic safety on the State Road IB no. 21, road section: Kosjeric (Varda) - Pozega.

### *Location Description*

The subject road section belongs to Zlatibor administrative district located in the municipality of Kosjeric and Pozega. Road section Kosjeric (Varda) – Pozega in length of 26.016 km belongs to the State Road IB no. 21 (previously marked as M-21), ("Official Gazette of RS", No. 93/2015) and it represents a part of a lengthy transportation route through the western part of Serbia. Moreover, the observed road section is a part of the Project planned for heavy maintenance during the third year of its implementation. All chainages in the Terms of Reference are given in accordance with the new Reference System from December 2015.

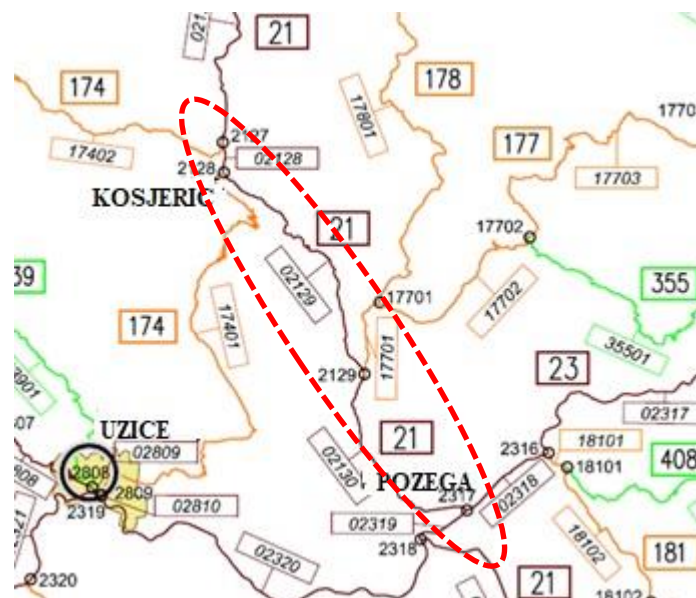


Figure 1. The location of the subject road section according to the state roads Reference System map, December 2015

The works planned by this design will be implemented within the right-of-way of the existing road. The project **neither entails resettlement and land acquisition as defined by Operational Policy (OP) 4.12**, nor long lasting disruptions to the natural environment and human settlements and activities.

## ***Rehabilitation Works Description***

The type of works planned mainly involve widening and reinforcement of existing carriageway structure with the existing and rehabilitated drainage system and design of all elements which prolong the durability of executed works and promote road safety system. They are completely regulated by the provision (Article 69) of the Law on Roads ("Official Gazette of RS", No. 41/2018).<sup>1</sup>

All access roads will be arranged. Special access roads<sup>2</sup> are designed on the district roads, while the arrangement of circular arcs and opening of necessary banquettes to control the visibility will be performed at the intersections with local roads.

The Terms of Reference required regulation of river beds of the Kladoroba River at ~ km 183+390 and Dobrinjska River at ~ km 198+247.

The regulation of river beds of watercourses involves covering of slopes and bottom of the river beds in length of 20 m, both sides, in relation to the bridge. The flow profile of watercourse will be temporary reduced and works will be performed in the period of the lowest water level.

These types of works are described in detail in the following chapter - ***1. Project description; Rehabilitation works description.***

In order to comply with the project conditions and reduce negative impact of the road section on the environment, all measures that can be taken within the framework of economic possibilities and requirements of the ToR have been carefully considered and taken.

## ***Policy, Legal and Administrative Framework***

The Ministry of Environmental Protection (MoEP) is the key institution in the Republic of Serbia responsible for formulation and implementation of environmental policy matters.

The other aspects of environmental protection connected to road rehabilitation projects, have been dealt with several other institutions, among which are the Institute for Nature Conservation of Serbia (INCS), Institute for the Protection of Cultural Monuments of Kraljevo (IPCMK), PWME "Srbijavode" and Public Enterprise "Roads of Serbia" (PERS).

Environmental protection in the Republic of Serbia is regulated by various laws at the national and municipal levels as well as by statutes.

Based on the opinion issued by the Ministry of Environmental Protection (MoEP) (No. 011-00-00181/2018-03 from March 12<sup>th</sup>, 2018), the observed road section is not located within the protected area for which the environmental protection procedure

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<sup>1</sup> <https://www.paragraf.rs/propisi/zakon-o-putevima.html>

<sup>2</sup>Translator's note: Roads constructed in a way that prevent mud and dirt from the tires from entering the main roads

was conducted or initiated. Therefore, it **does not require making the Environmental Impact Assessment (EIA)** (Appendix 6).

Lender requirements that are applied to this project of road rehabilitation include the following Environmental Policies:

- Operational Policy of Environmental Impact Assessment (OP 4.01),
- European Investment Bank (EIB): Statement of Environmental and Social Principles and Standards (2008).

The World Bank and EIB require that the design complies with the Republic of Serbia national laws, EU standards and IFI's guidelines as noted above.

### ***Baseline Conditions Assessed During Route Survey***

There are 79 culverts on the observed road section (25 pipe culverts, 38 arched, 11 slab and 5 combined culverts), as well as a certain number of retaining walls (different types and different dimensions).

Along the whole road section, flow of the Skrapez River is parallel with the observed road section.

The main elements of drainage system concerning a greater part of the road section are gutters (the left carriageway lane) that drain away collected water to the culvert that transports it to the right side of the carriageway and to the final recipient, the Skrapez River. On certain parts of the road section, where the road is located on the embankment, a dispersive drainage system was used, i.e. all water from the carriageway flows down the road shoulders and slopes to the surface of terrain or perimeter canals.

In bridges zones leading the outflow from the carriageway is not regulated by structures planned for this purpose. Therefore, there is an intensive deterioration of the bridge construction. Concrete degradation, damaged protective layers of concrete, denudation of reinforcement bars (armature) are expressed.

Regarding the cultural heritage and protected resources on the observed road section, according to the data from the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo (No. 1012/3 from September 11<sup>th</sup>, 2017), the existence of immovable cultural property and registered goods that enjoy protection under the Law on Cultural Property ("Official Gazette of RS" No. 71/94, 52/2011, 99/2011) has not been determined. However, on the subject section there is a monument of interest for protection, i.e. The Memorial Fountain in Glumac. Rehabilitation works are allowed to be done in compliance with the requirements stated in these conditions.

The Institute for Nature Conservation of Serbia (03, No. 020-1845/3 from September 12<sup>th</sup>, 2017) points out that the observed road section is neither located within the protected area, for which the protection procedure has been performed or initiated, nor it is found in the scope of ecological network or in the area of registered natural

resources. Rehabilitation works are allowed to be done. However, they should be completed in compliance with the requirements stated in these conditions.

Along the observed road section, the following industrial objects and facilities have been identified:

- Petrol station „Avia“ at ~ km 183+220
- Landfill at ~ km 189+060
- Orthodox cemetery at ~ km 198+060
- Petrol station „Sand“ at ~ km 198+380
- Orthodox cemetery at ~ km 201+460
- Orthodox cemetery at ~ km 204+460
- Petrol station „Gaga petrol“ at ~ km 204+900.

The observed road section passes through the following inhabited places:

- Kosjeric
- Tubici
- Kalenici
- Otanj
- Glumac
- Pozega.

Nursery schools, hospitals and health centres are not registered on the observed road section. The zones of schools and increased pedestrian flows were recorded in places on certain parts of the road section which pass through inhabited places (Tubici, Kosjeric and Kalenici). Special attention will be paid to the safety of pedestrians and children in these places.

Based on geodetic record and site survey, it was determined that there are 14 locations of bus stops. Accordingly, six bus stops are on the territory of the municipality of Kosjeric and eight are in the territory of the municipality of Pozega.

The following bus stops have been identified along the observed road section (an approximate chainages of bus stops are given too):

Municipality of Kosjeric:

- Pupica vila at ~ km 184+700
- Miletici at ~ km 186+520
- Tubici at ~ km 188+720
- Avala at ~ km 189+640
- Pantici at ~ km 191+540
- Gradnja at ~ km 192+780.

Municipality of Pozega:

- Stulovici at ~ km 195+800



- Sljivici at ~ km 196+760
- Pesak at ~ km 198+420
- Otanj at ~ km 199+660
- Miljakovina at ~ km 200+950
- Glumac at ~ km 201+900
- Bele vode at ~ km 202+980
- Radoseva stanica at ~ km 203+580.

On the observed road section there are no controlled pedestrian flows i.e. footways.

Current traffic load (AADT) for the road section 02129 (traffic counter ABS 1200) is 2386 vehicles per day; while for the road section 02130 (traffic counter ABS 1201) is 3886 vehicles per day in 2017.<sup>3</sup>

It is necessary to improve road safety, especially in the zones of bus stops.

### ***Summary of Environmental Impacts***

The works concerning the road rehabilitation on the road section Kosjeric (Varda) - Pozega will have a smaller impact on the environment (B category of environmental protection). Most of the impacts are of a temporary character and they will disappear after the works on heavy maintenance, i.e. road rehabilitation has been completed.

Heavy maintenance of the road will be performed entirely on public areas, with no interference with the private property. In accordance with the provisions of the World Bank OP 4.12 (Involuntary Resettlement), the project does not require land acquisition, resettlement or long-term disturbance of human activities.

The EMP refers to the phase of the execution of works and their implementation is a future obligation of the Contractor. During the execution of construction activities, there may be disturbances in the traffic flow, movement of the inhabitants of surrounding settlements, reduced traffic safety, damages on the access roads, noise production, dust, waste and air pollution, impact on soil, water, plant and animal life. The works which are performed outside the location of the building site, such as quarries, asphalt bases and borrow pits can cause local negative impacts. Therefore, it is necessary to manage those works properly.

### ***Environmental Management Plan***

Environmental impacts of the project for heavy maintenance on the road section Kosjeric (Varda) - Pozega will be insignificant and reversible. Mitigation measures provided in the EMP, relating to the design, road rehabilitation and operational phase, must be carried out appropriately. The EMP consists of the Environmental Mitigation Plan and Environmental Monitoring Plan. It is based on the types of environmental impacts, their scope and duration.

<sup>3</sup><http://www.putevi-srbije.rs/images/pdf/brojanje/2017/tabela-saobracajnog-opterecenja-na-drzavnim-putevima-IB-reda.pdf>

During the rehabilitation, the Contractor will work according to the Contractor's Environmental Plan (CEP) based on the EMP.

PE "Roads of Serbia" is in charge of designing, supervision and execution of works applying the EMP.

### ***Mitigation Plan***

Impacts and proposed mitigation measures have been compiled into the Environmental Mitigation Plan (Appendix 1). It summarizes all the anticipated environmental impacts and its associated mitigation measures during the design, rehabilitation and operational phases. It makes reference to the conditions issued by the authorized institutions (Institute for Nature Conservation of Serbia, Institute for the Protection of Cultural Monuments of Kraljevo, PWME "Srbijavode"), law and contract documents, approximate location, time frame and the responsibility for its implementation and supervision.

### ***Monitoring Plan (Observing the Impacts)***

A Monitoring Plan for the proposed Project (Appendix 2) has been prepared. The main components of the Monitoring Plan are the following:

- Defining the environmental issues that need to be followed and the means of verification;
- Specific areas, locations and parameters to be monitored;
- Applicable standards and criteria;
- Monitoring noise levels near populated areas;
- Monitoring material supply (verification of valid licenses);
- Duration, frequency and evaluation of monitoring costs; and
- Institutional responsibility for monitoring and supervision.

A monitoring control list is prepared on the basis of EMP and Monitoring Plan (Appendix 2). The list is used by the supervision engineer on the construction site. Signed control lists are submitted to PERS, which is responsible for monitoring and reporting.

### ***Stakeholder Engagement – Information Disclosure, Consultation and Participation of Public***

As requested by IFI's safeguard policies, public consultations were held in the EMP preparation phase, the EMP and other project-related information was disclosed to the public and made available to the local community. A detailed report on the public consultation process is shown in Appendix 5 of this document and it contains a list of identified participants. Consultations with road users will be made during the road rehabilitation stage, while all records of environmental and social issues, complaints received during consultations, site visits, and informal discussions, formal reports etc. will be monitored, recorded and kept in PERS.

All problems associated with the subject road section are recorded, based on official contacts and memos, as well as on the meetings with the representatives of local authorities.

For the needs of the Design, the Designer has obtained the following documents and plans from the competent institutions:

- Decision on determining the position of bus stops;
- An excerpt taken from General Regulation Plan of Kosjeric;
- An excerpt taken from Spatial Plan of the local self-government unit Kosjeric;
- Spatial Plan of the Municipality of Pozega;
- General Regulation Plan of Pozega.

### ***The Summary of Public Disclosure Process***

During the preparation of EMP and before the commencement of works, public consultations were organized in accordance to the requirements by IFI's safeguard policies. The EMP and other information connected to the project were presented to public on May 30<sup>th</sup>, 2019. All documents were delivered to the municipalities, published on the website, placed on the PERS internet presentation and published in media.

The public was informed through the local media about the time and place of holding the public consultations.

The consultations with the road users will be organized throughout the period of the execution of construction works. The Contractor will solve problems in the area of environmental protection, social issues and grievances which were recorded during the consultations, site visits, unofficial discussions, official letters and keep records thereon.

The grievance mechanism will be established in order to properly consider all grievances of the local societies, apply the corrective measures and inform the party who lodged the grievance about the results. This is to be applied to all types of grievances. The grievance form is in Appendix 4, and the printed versions will be available in the local community centres.

# 1. PROJECT DESCRIPTION

Road Rehabilitation and Safety Project – RRSP is a project of support of the International Financial Institutions (World Bank, European Investment Bank and European Bank for Reconstruction and Development) to the Government of the Republic of Serbia in implementing the National Program for Rehabilitation of the State Road Network. This project represents the realization of the Government program for the period from 2014 to 2019 and includes the following:

- Improving the conditions of the state road network by rehabilitating around 1,100 km of the existing roads,
- Raising the safety level on the roads by applying measures for enhancing the traffic safety in all phases of Project implementation, and
- Strengthening capacities and improving institutional coordination in the area of traffic safety by implementing a greater number of different services.

The institution in charge of realization of the Project is Public Enterprise “Roads of Serbia” (PERS). Within PERS, a Project implementation team (PIT) was formed, which should conduct all the necessary activities for successfully management and completion of the Project, with the help of other professional departments in the company and in cooperation with the other interested institutions of the Government of the Republic of Serbia.

The main goal of the project is increasing traffic safety on the State Road IB no. 21, road section: Kosjeric (Varda) – Pozega.

## ***Road Section Description***

The observed road section belongs to Zlatibor administrative district located in the municipality of Kosjeric and Pozega. Road section in length of 26.016 km belongs to the State Road IB no. 21 (previously marked as M-21), (“Official Gazette of RS”, No. 93/2015) and it represents a part of a longitudinal transportation route through the western part of Serbia. Moreover, the observed road section is a part of the Project planned for heavy maintenance during the third year of its implementation.

According to the Reference System of the National Road Network (2009), the road section Kosjeric 1 (Selo) - Pozega is 25.425 km long. When *Classification of State Roads* (2015) was adopted and entered into force, a new Reference System was established and the following changes were made:

- The node "Kosjeric 1 (Selo)" was renamed "Kosjeric (Varda)"
- Total length of the road section is 26.016 km.

An excerpt from the Reference System is given in Table 1.



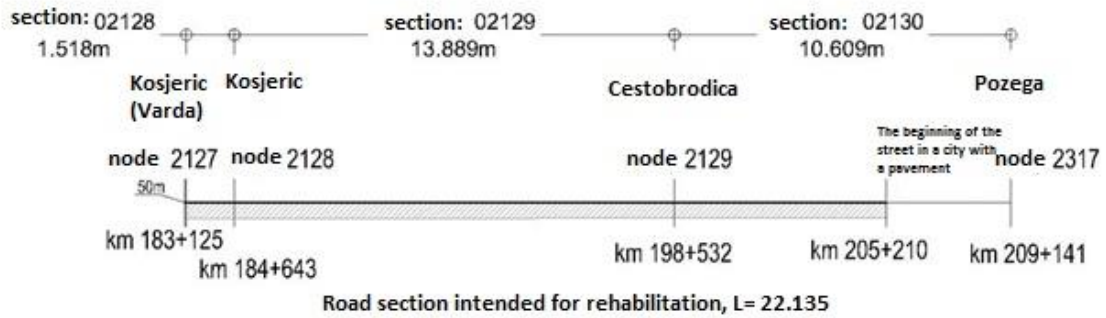


Figure 3. The length of the road section intended for rehabilitation (heavy maintenance)

The works planned by this design will be implemented within the right-of-way of the existing road. The project **neither entails resettlement and land acquisition as defined by Operational Policy (OP) 4.12**, nor long lasting disruptions to the natural environment and human settlements and activities.

The beginning of the road section is defined at 50 m in front of the node 2127 Kosjeric (Varda), in order to include the entire intersection in the node (Figure 4). The end of the road section is defined in front of the node 2317 Pozega (chainage at ~ km 205+210, i.e. 675 m after the road sign of the settlement of Pozega, namely, the beginning of a city road section with pavements and city infrastructure) (Figure 5).



Figure 4. The beginning of the observed road section in Kosjeric



Figure 5. The end of the road section in Pozega

The greater part of the road section can be characterized as an out-of-town. There are no sidewalks and bicycle paths registered on the road section.

Regarding the observed road section, there are schools in the vicinity of intersections at the chainage km 188+758 in Tubici and intersection at chainage ~ km 201+931.

Special attention must be paid to road safety in the zones of registered bus stops.

### **Rehabilitation Works Description**

The planned project documentation will include widening of the carriageway, the solution of intersections and access roads, arrangements of access roads to the state road, the resolved movement of pedestrians, which will greatly increase the safety of all road users.

The ToR, issued by the Investor, envisages the widening of existing dimensions of traffic profile per sections.

Table 2. The existing traffic profile

Section	Traffic lanes	Edge strip	Number of lanes	Total carriageway width
Kosjeric - Tubici	3.25	about 0.15	2	6.8
Tubici - Kalenici	3.00	0.25 - 0.30	2	6.6
Kalenici - Pozega	3.25	about 0.30	2	7.1

Table 3. Required traffic profile

Section	Traffic lanes	Edge strip	Number of lanes	Total carriageway width
Kosjeric - Tubici	3.25	0.35	2	7.2
Tubici - Kalenici	3.00	0.25	2	6.5
Kalenici - Pozega	3.25	0.35	2	7.2



The existing width of the carriageway without widening is predominantly about 6.8 m.

On the road section from Kosjeric to Tubici, about 80% of cross-section profiles are less than 7.2 m in width, which means that the road section should be widened 80% in order to meet the requirements of the ToR. This percentage is about 60% for the road section from Kalenici to Pozega, while about 40% of the profile requires widening of 6.5 m for the road section from Tubici to Kalenici.

Planned construction works will primarily relate to widening and reinforcement of existing carriageway structure, rehabilitation of existing drainage system for the carriageway and road base drainage, as well as designing all elements which prolong the durability of executed works and improve road safety. They are completely regulated by the provision (Article 69) of the Law on Roads ("Official Gazette of RS", No. 41/2018).<sup>4</sup>

The Design will include the development of new solutions for existing at-grade intersections. Also, locations of new bus stops will be considered, in compliance with the needs of the local population and the possibilities of construction. The proposal of intervention is the formation of separate bus bays or half-bays outside the carriageway related to the state road on all existing bus station locations (which is also a request from the local community), with appropriate bus stops for pedestrian, canopies and appropriate pedestrian traffic communications from and to the bus stop, of course, under the condition that there is enough space within the road zone for all of the above.

Concerning the road sections which pass through inhabited places (Tubici, Kosjeric and Kalenici), the possibility of making new sidewalks in the school zone will be considered. The sidewalks will be made at least on one side of the carriageway. At this point, special attention will be paid to improve lighting, implement a vibration tape and horizontal signalization for the school zone according to the request of the local community and in accordance with the class of the road.

Special access roads<sup>5</sup> will be designed on the district roads, while at the intersections with local roads, the arrangement of circular arcs and opening of necessary banquettes to control the visibility will be performed, as well as the levelling of the existing roads in accordance with the projected elements of the observed road section.

If there is a need for widening the carriageway (correction of geometry at certain places characterized as problematic ones from the aspect of road safety, road widening in a curve for the purpose of passing the vehicles, lay-bys, etc.) during the development of the design, the design will also plan widening of existing road culverts, for which it is determined through the analysis of the situation that they are without damage. In case that the analysis determines that the possible rehabilitation of the culvert is economically unjustified, the design will envisage a new culvert of adequate throughput capacity. Considering the terrain conditions where the route passes, the Main Design will pay particular attention to the improvement of the existing drainage

<sup>4</sup> <https://www.paragraf.rs/propisi/zakon-o-putevima.html>

<sup>5</sup> Translator's note: Roads constructed in a way that prevent mud and dirt from the tires from entering the main roads



system (new gutters and open channels) and to define the most suitable recipients in accordance with the measures planned.

In order to comply with the project conditions and to reduce the negative impact of the observed road section on the environment, all measures within the framework of the economic possibilities and requirements of the ToR have been carefully considered and taken.

Drainage from the carriageway in the collision zone with registered watercourses will be solved by placing concrete flumes at the end of the bridges, while only drainage is done by flowing water along the curb. On the bridges with existing drains (gullies), a longitudinal pipe will be introduced to improve the outflow from the bridge. However, the effluent into the recipient must be arranged by concrete or stone liner of the recipient's slope in order to prevent erosion of the slopes of recipient.

Under the conditions issued by INCS, for water flow from the pavement surface, if loaded with oil and other petroleum products, it is necessary to provide separators of fats and oils, if the Environmental Management Plan determines/estimates that Average Annual Daily Traffic will adversely affect the quality rivers and other watercourses with which the state road crosses or is parallel. Current traffic load, according to Average Annual Daily Traffic (AADT), for the road section 02129 (traffic counter ABS 1200) is 2386 vehicles per day; while the AADT for the road section 02130 (traffic counter ABS 1201) is 3886 vehicles per day in 2017. Therefore, the Designer thinks that due to the low flow of traffic collected runoff from the carriageway should not be purified in the zone of registered watercourses.

In accordance with the ToR and based on site visits, Design will provide appropriate solutions for rehabilitation and development of structures within the roadbase. The width of the bridge carriageway and paths (traffic profile) will keep the same dimensions compared to the current state.

All works regarding bridges refer to the reinforcement of existing carriageway structure, the rehabilitation of the existing sidewalks and the installation of new curbs, and safety barriers for vehicles and pedestrians etc.

The Design will also include controlled drainage of water in front of and behind bridges, as well as the solution how to connect road shoulders to the bridges.

The proposal for the solution regarding bridges in the inhabited and uninhabited part of the road section is given in the following figures.



„construction zone“ will be placed depends on the length, sight distance and visibility of the warning zone.

Temporary traffic signage in the zone of works will be completely removed from the road immediately after the works have been executed and the latest within 24 hours after the completion of works and reinstatement of the initial traffic regime.

It is essential to have on-call traffic engineer on the construction site at every moment that will take care about traffic signage and traffic safety in the construction site zone. During the holidays, or at the time when no works are done, it is necessary to hire a person who will control the signalization system (ensure that the wind will not knock over the vertical signs, that the horizontal signage is always visible, etc.) and who will react appropriately in case of any irregularities.

## 2. THE ASSESSMENT OF THE BASIC CONDITIONS OF THE ROUTE DURING THE RESEARCH

Based on the geodetic record and site survey, it is concluded that there are 79 culverts on the road section (25 pipe culverts, 38 arched, 11 slab and 5 combined culverts), as well as a certain number of retaining walls (different types and different dimensions).



*Figure 8. Typical parts of the observed road section*

The observed road section is placed at grade intersection with the following watercourses:

- The Bridge over Kladoroba River in Kosjeric at ~ km 183+390 (Figure 9. )
- The Bridge over Nenadkovice River near Tubici at ~ km 188+094 (Figure 10.)
- The Bridge over creek near Tubici at ~ km 190+815
- The Bridge over Gradnja creek near Kalenic at ~ km 192+886 (Figure 11.)
- The Bridge over Dobrinjska River at ~ km 198+247.



*Figure 9. The Bridge over Kladoroba River in Kosjeric at ~ km 183+390*



Figure 10. The Bridge over Nenadkovice River at ~ km 188+094



Figure 11. The Bridge over Gradnja creek near Kalenic at ~ km 192+886

In general, most bridges have a problem due to unresolved drainage system. The usual concept of drainage system regarding bridges is based on water flowing along the curb. Leading the outflow from the carriageway is not regulated by structures planned for this purpose. Therefore, there is an intensive deterioration of the bridge construction. Concrete degradation, damaged protective layers of concrete, denudation of reinforcement bars (armature) are expressed.

Flow of the Skrapez River is parallel with the observed road section and represents the final recipient in terms of drainage system for this part of the road section. The main elements of drainage system concerning a greater part of the road section are gutters that evacuate collected water to the culvert that transports it to the other side of the carriageway to the final recipient, the Skrapez River. On certain parts of the road section, where the road is located on the embankment, a dispersive drainage system



was used, i.e. all water from the carriageway flows down the road shoulders and slopes to the surface of terrain or perimeter canals.



*Figure 12. The gutter on the observed road section*

Gutters are generally in poor condition. Furthermore, the canals are with changed cross-section and overgrown with vegetation, compared to the designed one, due to the lack of maintenance. Most of the outlet structures of culverts are overgrown with high vegetation.



*Figure 13. Canals on the observed road section*

Along the observed sections, the following industrial objects and facilities have been identified:

- Petrol station „Avia“ at ~ km 183+220 (Figure 14.)
- Landfill from km 186+890 to km 187+110 (Figure 15.)
- Orthodox cemetery at ~ km 198+060 (Figure 16.)
- Petrol station „Sand“ at ~ km 198+380 (Figure 17.)
- Orthodox cemetery at ~ km 201+460 (Figure 18.)
- Orthodox cemetery at ~ km 204+460 (Figure 19.)
- Petrol station „Gaga petrol“ at ~ km 204+900 (Figure 20.).





Figure 14. Petrol station „Avia” at ~ km 183+220

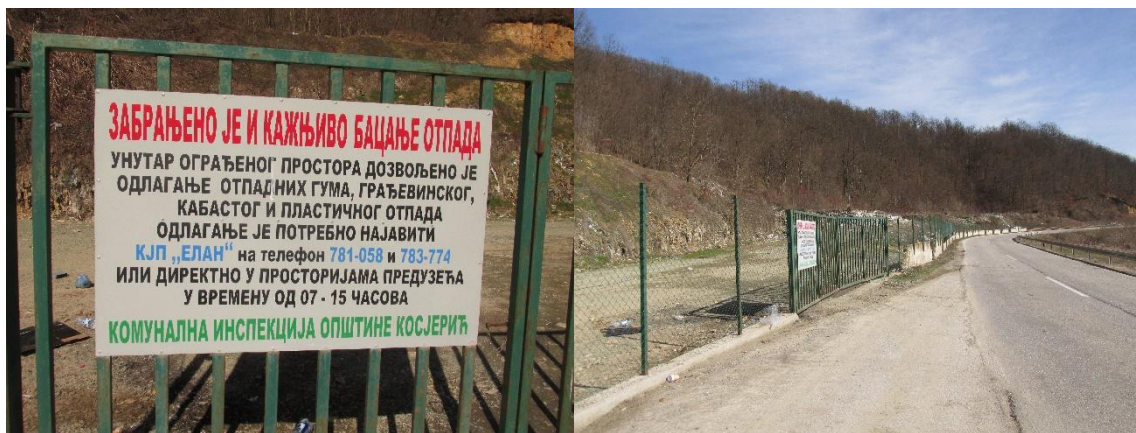


Figure 15. Landfill on the subject road section from km 186+890 to km 187+110



Figure 16. Orthodox cemetery at ~ km 198+060





*Figure 17. Petrol station „Sand at ~ km 198+380*



*Figure 18. Orthodox cemetery at ~ km 201+460*



*Figure 19. Orthodox cemetery at ~ km 204+460*





Figure 20. Petrol station „Gaga petrol“ at ~ km 204+900

Concerning the sources of pollution on the observed road section, point source of pollution in a form of landfill have been identified from km 186+890 to km 187+110, as well as the existing road as a linear source of noise and pollution. During site visits, there was not any available document regarding the registered landfill. According to the notice board found on the fence of the landfill, the manager of the landfill is PUC "ELAN" from Kosjeric (Figure 15.). After site visit, during conversation with representatives of the PUC "ELAN", it is found out that this landfill is for temporary storage of waste. All waste from this landfill is transported, at certain time intervals, to a regional sanitary landfill with a waste separation line in Uzice (PUC "Duboko").

Regarding the cultural heritage and protected resources on the observed road section, according to the data from the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo (No. 1012/3 from September 11<sup>th</sup>, 2017), the existence of immovable cultural property and registered goods that enjoy protection under the Law on Cultural Property ("Official Gazette of RS" No. 71/94, 52/2011, 99/2011) has not been determined. However, on the subject section there is a monument of interest for protection, i.e. The Memorial Fountain in Glumac (Figure 21.).

In compliance with the conditions stated in this conditions, works near the memorial and generally on the route are allowed.

## **Settlements**

The municipality of Kosjeric is the most northern municipality in Zlatibor district, in western part of Serbia and covers 359 km<sup>2</sup>.

The administrative and municipal center - Kosjeric, is located at latitude 43°59'28"N and longitude 19°54'15" E, on the Skrapez River, which comes up from the ground at the latitude of 1,000 m on the mountain Povlen, which together with the mountains Kozomor, Maljen, Subjel, Drmanovina and Crnokosa surround the city. It is located at altitude of 415 m. In its course of 26 km through the municipality, the Skrapez River merges with Djetina and Moravica, creating the W. Morava River.

The settlements of the municipality are located mainly in river valleys, but also in the mountainous region at the latitude over 1,000 m. There are 27 settlements: Beloperica,

Brajkovici, Varda, Galovici, Godecevo, Godljevo, Gornja Polosnica, Donja Polosnica, Drenovci, Dubnica, Kosjeric (town), Kosjeric (village), Makoviste, Mionica, Mrcici, Musici, Paramun, Radanovci, Rosici, Ruda Bukva, Seca Reka, Skakavci, Stojici, Subjel, Tubici, Cikote and Sevriljuge.

The municipality of Pozega is located in the southeast of Serbia and it belongs to Zlatibor administrative district. It covers an area of 426.5 km<sup>2</sup> in fertile and spacious basin of the Skrapez, Moravica and Djetinja rivers that make the W. Morava. It is surrounded by the mountains Maljen, Kablar, Ovcar, Blagaja and Tresnjevica.

The municipality consists of one city (Pozega) and 41 village type settlements: Bakionica, Velika Jezevica, Visibaba, Vranjani, Glumac, Godovik, Gornja Dobrinja, Gorobilje, Gugalj, Donja Dobrinja, Drazinovici, Duskovci, Zaselje, Zdravcici, Jelen Do, Kalenici, Lopas, Loret, Ljutice, Madjer, Mala Jezevica, Milicevo Selo, Mrselji, Otanj, Papratiste, Pilatovici, Prijanovici, Prilipac, Radovci, Rasna, Recice, Roge, Rupeljevo, Svrackovo, Srednja Dobrinja, Tabanovici, Tvrdino, Tometino Polje, Tuckovo, Uzici and Cestobrodica.

The seat of the municipality is the settlement of Pozega, which is at latitude 43°50'28" N and longitude 20°02'17" E. The city is located at the altitude which ranges from 310 to 900 m. It is 180 km away from Belgrade and just 25 km away from Uzice. The State Roads IB no. 21 and IB no. 22, as well as the railway Pozega-Stalac and Belgrade-Bar pass through its territory.

The observed road section goes through the following cadastral municipalities:

- CM Kosjeric
- CM Selo Kosjeric
- CM Tubici
- CM Bjelorepica
- CM Drazinovici
- CM Kalenici
- CM Cestobrodica
- CM Otanj
- CM Glumac
- CM Pozega.

The populated areas through which the observed road section passes are:

- Kosjeric
- Selo Kosjeric
- Tubici
- Bjelorepica
- Kalenici
- Cestobrodica
- Otanj
- Glumac
- Pozega.

## ***Natural Resources and Cultural Heritage***

Regarding the cultural heritage and protected resources on the observed road section, according to the data from the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo (No. 1012/3 from September 11<sup>th</sup>, 2017), the existence of immovable cultural property and registered goods that enjoy protection under the Law on Cultural Property ("Official Gazette of RS" No. 71/94, 52/2011, 99/2011) has not been determined. However, on the subject section there is a monument of interest for protection, i.e. The Memorial Fountain in Glumac (Figure 21.) at ~ km 203+015.



*Figure 21. The Memorial Fountain in Glumac at ~ km 203+015*

The rehabilitation works are allowed to be done in compliance with the requirements stated in the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo (No. 1012/3 from September 11<sup>th</sup>, 2017).

Along the observed road section, another public fountain is also identified in the immediate vicinity of the landfill at ~ km 186+874 (Figure 22.). This fountain is a memorial to fallen fighters, but it is not mentioned in the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo. It was built in 1954. However, it is in a rather bad condition. Although this fountain is not mentioned in the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo, this memorial should be treated as a cultural heritage i.e. all requirements stated in these conditions that apply to The Memorial Fountain in Glumac should also apply to this memorial fountain.



Figure 22. Public fountain at ~ km 186+874

The Institute for Nature Conservation of Serbia (03 No. 020-1845/3 from September 12<sup>th</sup>, 2017) points out that the observed road section is neither located within the protected area, for which the protection procedure has been performed or initiated, nor it is found in the scope of ecological network or in the area of registered natural resources. The rehabilitation works are allowed to be done. However, they should be completed in compliance with the requirements stated in this conditions.

### **Railway Traffic**

The carriageway crosses the railway spur track at the chainage at ~ km 183+429 leading to the "Cement factory Kosjeric" (Figure 24.). The railway Belgrade - Resnik - Pozega - Vrbnica - border crossing follows the entire length of the route at different distances. The road is very close to the railway track (less than 8 m) on certain parts of the road section. There are three intersections of the railway track with the given state road. The first is at ~ km 185+175 (Figure 23.) (overpass) where railway passes from the left to the right side, followed by the first intersection with the tunnel of the railway at ~ km 189+105 where the railway again returns to the left side and then immediately switches to right side (via the same tunnel) at ~ km 189+385. Furthermore, the railway is on the right side of the road all the way until the end of the road section.



Figure 23. Overpass at Belgrade-Bar railway near Kosjeric





Figure 24. Railway spur track at ~ km 183+429

## Watercourses

Taking into consideration the section of the road IB no. 21 planned for rehabilitation, there are more intersections with registered watercourses from Kosjeric to Pozega. Along the whole road section, flow of the Skrapez River is parallel with the subject road section and the Skrapez River represents the final recipient.

The observed road section is placed at grade intersection with the following watercourses:

- The Bridge over Kladoroba River in Kosjeric at km 183+390 (Figure 9. )
- The Bridge over Nenadkovice River near Tubici at km 188+094 (Figure 10.)
- The Bridge over creek near Tubici at km 190+815 (Figure 27.)
- The Bridge over Gradnja Creek near Kalenic at km 192+886 (Figure 11 28.)
- The Bridge over Dobrinjska River at km 198+247 (Figure 29.).



Figure 25. The Bridge over Kladoroba River in Kosjeric at km 183+390



*Figure 26. The Bridge over Nenadkovice River near Tubici at km 188+094*



*Figure 27. The Bridge over creek near Tubici at km 190+815*



*Figure 28. The Bridge over Gradnja creek near Kalenic at km 192+886*





Figure 29. The Bridge over Dobrinjska River at km 198+247

In general, most bridges have a problem due to unresolved drainage system. Furthermore, there is noticeable degradation of concrete, as well as damage of the curbs. The Design will provide drainage along the curb by placing flumes at the end of the bridges which will channel water to the watercourse. The Design will provide a solution of connecting road shoulder to the bridge path. The bridge over the Dobrinjska River at km 198+247 is in a good condition because it was reconstructed in 2017 (Figure 29. The Bridge over Dobrinjska River at km 198+247).

The Terms of Reference required regulation of river beds of the Kladoroba River at ~ km 183+390 and Dobrinjska River at ~ km 198+247. The regulation of river beds of watercourses involves covering of slopes and bottom of the river bed in length of 20 m, both sides, in relation to the bridge. The flow profile of watercourses will be temporary reduced and works will be performed in the period of the lowest water level.

By amending originally issued conditions, the Institute for Nature Conservation of Serbia (No. 020-1995/2 dated from August 6<sup>th</sup>, 2018 (correction of the technical error)) defines the following: *"For water that is mixed with oil and other petroleum products, generated by washing away from the carriageway, certain intake pipes and separators of fat and oil should be planned, if the Environmental Management Plan establishes/assesses that ADDT will adversely affect the quality of the water of the Skrapez River and other watercourses with which the road section is crossed or paralleled, i.e. the limit values defined in the Regulation limit values for emissions of pollutants in water and deadlines for their achievement ("Official Gazette of RS" Nos. 67/2011, 48/2012 and 1/2016) and Regulation on limit values of polluting substances in surface and ground waters and sediments and deadlines for their achievement ("Official Gazette of RS", No. 50/2012) will be violated"* (Appendix 6).

Since the Laws of the Republic of Serbia do not consider the functional relationship between the traffic load size (ADDT) as an emitter of pollution and the amount of pollutants that this traffic produces, the Designer took into account certain European

regulations and found out the data with recommendations when to collect and purify runoff from the carriageway.

European regulations directly link the AADT and type and characteristics of the soil. Based on this, it is defined whether it is necessary to collect and purify the runoff from the carriageway on the observed road section. According to the European experience, traffic load of 6,000 vehicles per day is adopted as the boundary of which is not necessary to purify runoff from the carriageway before letting it to the recipient in terms of emphasized porosity of soil. In areas with lower porosity of soil, traffic load of 12,000 vehicles per day is adopted as the boundary of which is not necessary to purify runoff from the carriageway before discharging it to the recipient.

Considering the fact that current traffic load (AADT) for the road section 02129 (traffic counter ABS 1200) is 2386 vehicles per day, while the AADT for the road section 02130 (traffic counter ABS 1201) is 3886 vehicles per day in 2017, the Designer thinks that collected runoff from the carriageway should not be purified in the zone of registered watercourses.

All rivers, considering the water quality, belong to the second class of water suitable for swimming, recreation and water sports, for the cultivation of less valuable fish species, and with the usual methods of treatment (coagulation, filtration and disinfection) can be used for drinking and industry ("The Regulation on Water Classification", "Official Gazette of RS", No. 5/68).

## Culverts

Based on the geodetic record and site survey, it is concluded that there are 79 culverts on the road section (25 pipe culverts, 38 arched, 11 slab and 5 combined culverts).

All the recorded culverts on the road section are presented in Table 4.

Table 4. The list of recorded culverts on the subject road section

No	Chainage	Shape	Cross section	Material
1	183+830	Arched	H=1000mm B=2100mm	Concrete
2	184+881	Arched	H=1500mm B=1100mm	Concrete
3	185+413	L: Arched R: Slab	B=1000mm L: H=1200mm R: H=800mm	L: Concrete R: Concrete+stone
4	185+575	Pipe	Ø1000mm	Concrete pipe
5	185+901	Arched	H=2200mm B=3300mm	Concrete
6	about 186+250	Pipe	Ø1000mm	Concrete pipe
7	about 186+430	Arched	H=600mm B=500mm	Concrete



8	186+658	Pipe	Ø1000mm	Concrete pipe
9	186+807	Arched	H=1300mm B=1400mm	Concrete
10	186+874	Pipe	Ø400mm	Concrete pipe
11	187+444	Pipe	Ø1000mm	Concrete
12	187+662	Pipe	Ø500mm	Concrete
13	about 187+835	Pipe	Ø600mm	Concrete
14	188+254	Pipe	Ø1000mm	Concrete pipe
15	188+518	Pipe	Ø1000mm	Concrete pipe
16	188+750	Slab	H=1200mm B=2100mm	Concrete
17	188+817	Arched	H=800mm B=1000mm	Concrete
18	188+889	Pipe	Ø1000mm	Concrete pipe
19	188+943	Pipe	Ø1000mm	Concrete pipe
20	189+026	L: Arched R: Slab	H=B=1000mm	L: Concrete R: Concrete+stone
21	189+140	Pipe	Ø400mm	Concrete pipe
22	189+233	Pipe	Ø1000mm	Concrete pipe
23	189+439	Pipe	Ø1000mm	Concrete pipe
24	about 189+900	Arched	H=3000mm B=4000mm	Concrete
25	190+167	Pipe	Ø1000mm	Concrete pipe
26	about 190+614	Pipe	Ø600mm	Concrete pipe
27	190+930	Pipe	Ø900mm	Concrete pipe
28	191+497	Arched	H=3200mm B=4000mm	Concrete
29	191+597	Arched	H=1400mm B=1200mm	Concrete
30	192+089	L: Pipe R: Arched	L: Ø1000mm R: H=B=1000mm	Concrete pipe Concrete
31	192+172	L: Arched R: Pipe	L: H=B=1000mm R: Ø1000mm	Concrete Concrete pipe
32	192+612	Pipe	Ø600mm	Concrete pipe
33	193+542	Arched	H=B=1000mm	Concrete
34	193+673	Arched	H=2000mm B=2900mm	Concrete
35	193+756	Arched	H=B=1000mm	Concrete
36	194+348	Arched	H=B=1000mm	Concrete
37	194+458	Slab	H=400mm B=1000mm	Concrete
38	194+690	Slab	H=2300mm B=3650mm	Concrete
39	194+989	Arched	H=B=1000mm	Concrete
40	195+134	Arched	H=1300mm B=1500mm	Concrete
41	195+890	Slab	H=1700mm	Concrete

			B=1000mm	
42	196+168	Pipe	Ø1000mm	Concrete pipe
43	196+275	Pipe	Ø300mm	PVC pipe
44	about 196+650	Arched	H=B=1000mm	Concrete
45	197+228	Arched	H=B=1000mm	Concrete
46	197+435	Arched	H=B=1000mm	Concrete
47	197+609	Arched	H=1200mm B=1400mm	Concrete
48	198+035	Arched	H=B=1000mm	Concrete
49	about 198+603	Pipe	Ø? very clogged	Concrete pipe
50	about 198+855	Pipe	Ø800mm	Concrete pipe
51	199+068	Slab	H=1400mm B=5200mm	Concrete
52	199+280	Arched	H=800mm B=900mm	Concrete
53	199+404	Slab	H=1200mm B=4000mm	Concrete
54	199+596	Arched	H=1000mm B=1400mm	Concrete
55	199+672	Pipe	Ø? very clogged	Concrete
56	199+902	Pipe	Ø800mm	Concrete pipe
57	200+308	Slab	H=1100mm B=2000mm	Concrete
58	200+500	Arched	H=B=? very clogged	Concrete
59	200+852	Arched	H=B=1000mm	Concrete
60	200+962	Arched	H=1300mm B=1500mm	Concrete
61	201+227	Arched	H=B=800mm	Concrete
62	201+379	Slab	H=1300mm B=2000mm	Concrete
63	201+627 (201+640)	Arched	H=B=800mm	Concrete
64	201+797	Slab	H=1600mm B=4000mm	Concrete
65	201+857	Arched	H=B=1000mm	Concrete
66	202+183	Arched	H=900mm B=1000mm	Concrete
67	202+409	Slab	H=1500mm B=4000mm	Concrete
68	202+455	Arched	H=B=800mm	Concrete
69	202+641	Arched	H=700mm B=800mm	Concrete
70	203+032	Arched	H=700mm B=900mm	Concrete
71	203+200	Arched	H=B=1000mm	Concrete
72	203+481	Arched	H=1300mm B=1500mm	Concrete
73	203+801	Arched	H=B=1000mm	Concrete

74	204+242	Arched	H=1400mm B=1300mm	Concrete
75	204+532	Slab	H=2500mm B=2900mm	Concrete
76	204+630	Arched	H=B=800mm	Concrete
77	204+904	Pipe	Ø500	Concrete
78	205+096	Arched	H=B=1000mm	Concrete
79	205+210	L: Pipe R: Arched	L: Ø500mm R: B=H=500mm	L: Concrete pipe R: Concrete



Figure 30. The inlet structure of pipe culvert that collects runoff from gutter, the outlet structure of culvert overgrown with vegetation

A large number of culverts on the observed road section are in condition as it is shown in the Figure 30. and Figure 31. The inlet structures of culverts (collects runoff from gutters) have emphasized concrete degradation and are partially clogged due to a lack of maintenance. The outlet structures of culverts are mostly clogged and covered with high vegetation.



Figure 31. An example of inlet structure of the pipe culvert at ~ km 192+612





Figure 32. Arched culvert at ~ km184+881



Figure 33. Combined culvert at ~ km 185+413



Figure 34. Slab culvert at ~ km 188+750



## Air

From the sources of pollution on the observed road section, point source of pollution in a form of landfill is identified from km 186+890 to km 187+110, as well as the existing road as a linear source of noise and pollution. During site visits, there was not any available document regarding the registered landfill. According to the notice board found on the fence of the landfill, the manager of the landfill is PUC "ELAN" from Kosjeric (Figure 35.).

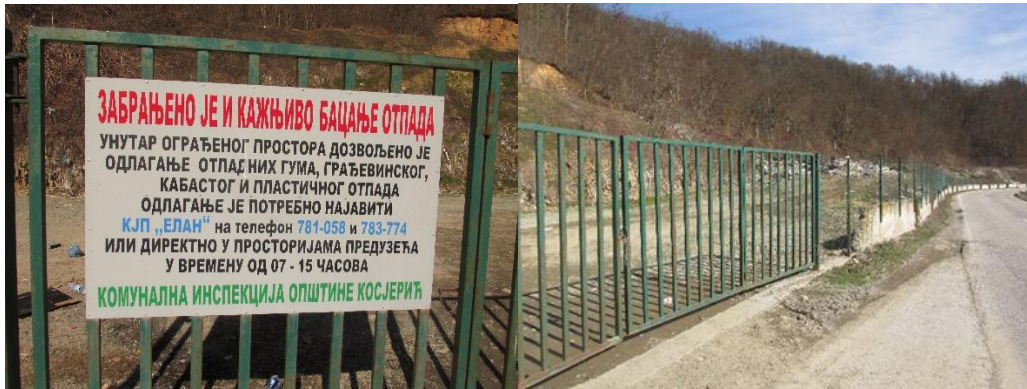


Figure 35. Landfill (an approximate chainage from km 186+890 to km 187+110)

After site visit, during conversation with representatives of PUC "ELAN", it is found out that this landfill is for temporary storage of waste. All waste from this landfill is transported, at certain time intervals, to a regional sanitary landfill with a waste separation line in Uzice (Duboko) (PUC *Duboko*) (Figure 36.).



Figure 36. The position of the regional sanitary landfill "Duboko" in relation to the subject route

The Ministry of Environment, Mining and Spatial Planning<sup>6</sup> issued a Decision (No. 19-00-00318/2011-02 from April 23<sup>rd</sup>, 2012)<sup>7</sup>, which approves the use of a regional sanitary landfill with a waste separation line in Uzice (Duboko) (PUC *Duboko*)

<sup>6</sup> Translator's note: This is the old name of the competent Ministry for environmental issues at that time (2012)

<sup>7</sup> [http://www.sepa.gov.rs/download/UpravOtpad/RPUO\\_Duboko.pdf](http://www.sepa.gov.rs/download/UpravOtpad/RPUO_Duboko.pdf)

according the Regional Waste Management Plan for the municipalities of Zlatibor and Moravica Administrative District.

The data on the values of air pollution which were measured on the observed corridor were not available. Based on experience and expected traffic intensity during and after planned rehabilitation work, a significant increase in traffic intensity on the corridor of the relevant road section is not expected, therefore, increase in the level of air pollution as a product of exhaust gases is also not expected. In the phase of rehabilitation of the road, it is expected to increase the concentration of pollutants in the air, but just temporary.

### **Noise**

Data on measured noise values on the observed corridor were not available. It is expected to have a temporary increase in the noise level during the rehabilitation phase of the road.

### **3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK**

#### ***Relevant institutions***

Ministry of Environmental Protection (MoEP) is the key institution in the Republic of Serbia responsible for formulation and implementation of environmental policy matters.

The other aspects of environmental management related to road rehabilitation projects are dealt by several other institutions, among which are the Institute for Nature Conservation of Serbia, Institute for the Protection of Cultural Monuments of Kraljevo, PWME "Srbijavode" and PE "Roads of Serbia" (PERS).

For the needs of this design, the opinions/conditions from following institutions were obtained:

- Institute for the Protection of Cultural Monuments of Kraljevo (No. 1012/3 from September 11<sup>th</sup>, 2017)
- Institute for Nature Conservation of Serbia (03 No. 020-1845/3 from September 12<sup>th</sup>, 2017 and 03 No. 020-1995/2 from August 6<sup>th</sup> 2018)
- Ministry of Environmental Protection (No. 011-00-00181/2018-03 from March 12<sup>th</sup>, 2018)
- PWME "Srbijavode" – WMC „Morava“ Nis, section „Uzice“ (No. 1945/1 from March 16<sup>th</sup>, 2018).

#### ***Existing Serbian Legislation***

Environmental protection in the Republic of Serbia is regulated by various laws and regulations at national and municipal level. The environmental legislation in force in Serbia is summarized in Appendix 3.

#### ***The Procedure of Environmental Impact Assessment in the Republic of Serbia***

In the juridical system of the Republic of Serbia, the EIA procedure is regulated by the Law on Environmental Impact Assessment ("Official Gazette of RS" Nos. 135/2004, 36/2009), which is completely in accordance with the European EIA Directive - 85/337/EEC. Therefore, the EIA study is not necessary for road rehabilitation projects, except for those road sections which are located within or in the vicinity of natural and cultural protected areas. In this case the proponent of the design needs to submit the request for making a decision about the need for making the Environmental Impact Assessment to the relevant ministry. Depending on the estimation and significance of potential environmental impacts, the decision is made about whether it is necessary to conduct the full procedure of Environmental Impact Assessment.

The request for decision on the need for EIA with other accompanying documentation has been submitted to The Ministry of Environmental Protection (MoEP).

The decision states that projects of heavy maintenance, rehabilitation and removing road damages **are not** on the List of projects for which the EIA is required or for which the EIA can be required ("Official Gazette of RS" No. 114/08).

The opinion was obtained from The Ministry of Environmental Protection (MoEP) (No. 011-00-00181/2018-03 dated from March 12<sup>th</sup>, 2018) that **it is not necessary to conduct the EIA study.**

On the basis of the aforementioned criteria, this project does not require the EIA study. However, **the policy of the World Bank requires the development of a partial evaluation - EIA and a preparation of the specific EMP for the construction site.**

### ***Relevant International Financial Institutions (IFIs) – Policies and Statements***

IFIs request that the following requirements must be applied to all works:

- World Bank: Operational Policy OP 4.01, Environmental Impact Assessment, which requires a partial Environmental Impact Study and development of site specific EMPs for projects belonging to Category B;
- EIB: Statement of Environmental and Social Principles and Standards (2008).

The World Bank and EIB require that the project complies with the Republic of Serbia national laws and EU standards. However, the regulations of the Republic of Serbia do not provide the design of EMP for this type of investment, while the World Bank policy requires a partial EIA and EMP for each road section.



## 4. SUMMARY OF ENVIRONMENTAL IMPACTS

The following table presents a short overview of environmental impacts foreseen by the design:

Impact	Significance	Comment
Impacts on land use/settlements	Does not exist	No land acquisition is planned within the project implementation according to OP 4.12
Underground and surface water	Low	Due to low amount of water that can come to the recipient by drainage, the consequential impact is minimal to negligible
Air quality	Low	Temporary impact during the execution of works
Flora and fauna (protected areas and species)	Negligible	Temporary impact during the execution of works
Monuments	Low	Under the terms of the Institute for Protection of Cultural Monuments of Kraljevo
Noise	Low	Temporary impact during the execution of works
Access to/intersections of the main road and local roads	Low	Rehabilitation will not have a negative impact on the existing intersections
Soil management	Low	With the application of appropriate measures of waste management
Waste management	Low	According to the plan of waste and waste water management
Cumulative impacts	Moderate / Low	Temporarily, rehabilitation works may cause a slight increase of noise levels and air pollutants concentrations during the works only

The works on road rehabilitation on the road section Kosjeric (Varda) – Pozega will have a small impact on the environment (B category of the environmental protection).

Most impacts are temporary and will disappear after the completion of works on heavy maintenance i.e. road rehabilitation.

The road maintenance works will be performed entirely on public land, without any collision with private properties. In respect with the provisions of WB OP 4.12 (Involuntary Resettlement), the Design does not require any acquisition of land, resettlement or long-term disturbance of human activities.

The EMP relates to the road rehabilitation phase. It is a part of the relevant agreement for implementation and future commitment of the Contractor. The following problems may occur during the rehabilitation works: disturbance in traffic and movement of residents from local settlements, decreased road safety, damages on access roads, noise pollution, dust emission, inefficient waste disposal, air pollution, impact on the soil, water, flora and fauna. The works outside the construction site area, such as the works in a quarry, asphalt plant and borrow-pits may have local negative impact and must therefore be managed properly.

### ***Overview of Key Impacts***

The EMP focuses more on the heavy maintenance phase, while activities on the regular maintenance will not be explained in a detail in this EMP, but will only be presented in order to have an overall view of the situation.

Possible temporary impacts which may occur as a consequence of construction activities, among other things consist of:

- disturbance in the regular traffic flow;
- road safety;
- damages of the access roads;
- inconveniences caused by noise, waste and dust;
- emission of gases;
- potential impact on soil and water;
- short-term disturbance of flora and fauna;
- temporary disturbance of nearby settlements during the execution of construction and operative activities.

### ***Noise and Air Pollution in Residential Areas***

The quality of air on the site may cause temporary deterioration due to dust caused by traffic on the construction site, and the main pollutants are increased levels of nitrogen oxides (NO<sub>x</sub>) and Sulphur oxides (SO<sub>x</sub>), which are found in the exhaust fumes from the construction machinery. Dust can be collected on vegetation and surrounding structures and can partially cause adverse impacts.

In the phase of the execution of works (during the period when certain types of work are expected to have increased dust emission), the construction site needs to be wet with the aim of reducing dust emission. It is necessary to have at least two tanks of water on the construction site, one of which is a backup one. In this way the “idle time”

will be avoided when the tanks are refilled with water. It is obligatory to cover the truckload.

Noise caused by rehabilitation works is temporary. Since there are no significant residential buildings near the road, it can be concluded that the noise prevention barriers will not be used in this project.

Contractor shall limit his works to the period from 7 am to 5 pm, especially during the execution of works in the inhabited part of the road section.

### ***Possible Water Contamination***

Water pollution may occur on the construction site, on the locations where the equipment, vehicles and machinery are washed, as well as on parking lots. The contaminated water shall be filtered through a gravity oil-water separator. In case of a spillage on the road the Contractor shall use absorbent materials and remove the contaminated layer of soil, which is then transported to a location defined in the Law on Water ("Official Gazette of RS", Nos. 30/2010, 93/2012 and 101/2016).

The Contractor is obliged to wash vehicles in the registered vehicle washing place. The possible soil and watercourses pollution will be avoided near construction sites in this way.

### ***Potential Cumulative Impacts***

The execution of works on heavy maintenance on the road section Kosjeric (Varda) – Pozega can have some temporary cumulative impacts (noise, air pollution, water and soil pollution), and they will not cause a significant impact on the environmental conditions.

If the EMP is applied properly, all negative effects on people and environment will be reduced as a result of cumulative actions.

### ***Other Impacts***

- Social impacts: in the construction phase social-economic conflicts are taken into consideration, including health and safety. All temporary locations used for activities that have short-term impact are included, such as quarries and borrow-pits, locations for stockpiling surplus soil and asphalt plants are included here. Impact of these types of activities is expected to cease when the Project is ended and the Contractor leaves the subject location;
- Pollution: during the heavy maintenance works, a steady, but not significant emission of pollutants is expected. These include: air pollution, water pollution, soil pollution, noise and vibrations;
- Solid waste: activities on the heavy road maintenance are expected to generate a certain amount of solid waste, which will be collected on the site and transported onto a landfill, outside the site construction zone.

During conversation with representatives of the PUC "ELAN", it is found out that the landfill which has been observed on the road section (from km 186+890 to km 187+110) is for temporary storage of waste and all waste from this landfill is transported at certain time interval to a regional sanitary landfill with a waste separation line in Uzice (Duboko) (PUC "Duboko").

The Ministry of Environment, Mining and Spatial Planning<sup>8</sup> issued a Decision No. 19-00-00318/2011-02 from April 23<sup>rd</sup>, 2012<sup>9</sup>, which approves the use of a regional sanitary landfill with a waste separation line in Uzice (Duboko) (PUC "Duboko") according the Regional Waste Management Plan for the municipalities of Zlatibor and Moravica Administrative District.

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<sup>8</sup> Translator's note: This is the old name of the competent Ministry for environmental issues at that time (2012)

<sup>9</sup>[http://www.sepa.gov.rs/download/UpravOtpad/RPUO\\_Duboko.pdf](http://www.sepa.gov.rs/download/UpravOtpad/RPUO_Duboko.pdf)



## 5. ENVIRONMENTAL MANAGEMENT PLAN

Environmental impacts of the project for heavy maintenance on the road section Kosjeric (Varda) - Pozega will be insignificant and reversible. Mitigation measures provided in the EMP, relating to the design, road rehabilitation and operational phase, must be implemented appropriately. The EMP consists of Mitigation Plan and Monitoring Plan. It is based on the types of environmental impact, their scope and duration. PERS manages the design, supervision and execution of works applying the EMP.

### A. MITIGATION PLAN

Impacts and proposed mitigation measures have been compiled into the Environmental Mitigation Plan (Appendix 1). It summarizes all the anticipated environmental impacts and its associated mitigation measures during the design, construction and operational phases. It makes reference to the conditions issued by the authorized institutions (Institute for Nature Conservation of Serbia and Institute for the Protection of Cultural Monuments of Kraljevo, PWME "Srbijavode" – WMC „Morava” Nis, section „Uzice“, Ministry of Environmental Protection), law and contract documents, approximate location, time frame and the responsibility for its implementation and supervision.

#### ***The Contractor's Management***

The recommendations and proposed mitigation measures for the negative impact on environment, as shown in Appendix 1, represent the commitment of the Contractor. Mitigation measures will be incorporated as an integral part of the design and execution of works on heavy maintenance, and as such, their costs will be included in the rehabilitation price.

The EMP is a part of works program and the Contractor shall apply it through qualified and experienced staff that will be responsible for fulfilling the requests connected to the environmental protection from EMP. The Contractor and his subcontractors will work entirely in compliance with the laws of the Republic of Serbia, EU standards and the requests of the Creditors. It is the Contractor's obligation to calculate the implementation of environmental mitigation measures in his overall cost.

The Contractor is obliged to confirm that:

- The EMP conditions have been included into the bid price;
- The Contractor has a qualified and experienced person in a team who will be responsible for the environmental compliance requirements of the EMP;
- The Contractor and its sub-contractors will comply with Republic of Serbia national laws, EU standards and requirements of the Creditors.

## **Site Organization Plan**

Contractor shall carry out and follow the Site Organization Plan. Conditions issued by INCS shall be included in the Site Organization Plan. Location of the facilities (warehouses, workshops, asphalt and concrete plant etc.) shall be approved by an engineer who is always present. The following conditions have to be met when selecting the location and organizing the site:

- Temporary locations for storing the construction and other material and equipment must be outside the riverbank area of the Skrapez, Kladoroba, Nenadkovicica and Dobrinjska Rivers and area with high vegetation and limited only to the duration of the works;
- Temporary or permanent locations must be provided (the existing organized communal facilities/landfills) for disposal muck and other waste in any form, as well as communal waste produced during the works; Waste disposal/dumping in the riverbank area of the Skrapez, Kladoroba, Nenadkovicica and Dobrinjska Rivers or smaller temporary watercourses, as well as on the agricultural land shall be prohibited;
- After the completion of the works, all areas, which were in any way degraded by construction and other works, should be remedied as soon as possible (levelling and resoiling degraded surfaces up to the level and condition in which this area was found before the beginning of works);
- During the execution of works should be strictly adhere to the corridor of the road so that when handling vehicles and machines, no consequences are left to the wider area;
- During the works on the road that is located in the immediate vicinity of the Skrapez, Kladoroba, Nenadkovicica and Dobrinjska Rivers or smaller temporary watercourses, the banks and river bank vegetation should be preserved as much as possible, in other words it is forbidden to destroy the wild species and disturb their habitats;
- During the execution of works, it is forbidden to dispose and leave any kind of waste neither in the zone of the Skrapez, Kladoroba, Nenadkovicica and Dobrinjska Rivers nor in any other watercourse;
- In the zone of crossing the road (bridges over the Kladoroba, Nenadkovicica and Dobrinjska Rivers and Gradnja creek and creek near Tubici) across the watercourse, where it is necessary to make arrangements in accordance with the design, the use of stones and other natural materials should be anticipated thus largely avoiding the use of concrete on the banks and river beds watercourses;
- Servicing vehicle and machinery on the road section shall be prohibited. In case of a road traffic accident resulting in oil or service fluids spill, the road area must be cleaned, rehabilitated and reinstated (removing the contaminated soil layer, then levelling the surface);

- The works must be performed only during the day from 7 am to 5 pm on the parts where the road section is located in a populated area to minimize the impact of noise from local construction machines and vehicles;
- The installation of safety barriers, pedestrian crossings and passageways should be foreseen on places where it is useful, especially at locations near the existing settlements;
- Maintain the maximum level of communal hygiene throughout the works along the entire route. Define the locations for placement of containers for temporary disposal of waste within the roadside area (to locate containers for the temporary disposal of municipal waste on road extensions on the roadway) and to ensure their emptying on a daily basis, at the end of the working day;
- The area for Contractor's facilities must be of the smallest possible size, to avoid unnecessary removal of vegetation;
- All Contractor's facilities should be fenced appropriately;
- Appropriate drainage of the construction site must be provided. Asphalt areas including locations used for parking lot, workshops and fuel storages must be drained toward the oil-water separator;
- Sanitary waste water and polluted water must be treated before water is discharged into the recipient (surface water flow system), in compliance with the Law on Waters ("Official Gazette of RS", Nos. 30/2010, 93/2012 and 101/2016);
- Fuel storage areas must not be located within 20 m of a water course;
- Where fuel in excess of 5,000 litres is stored on site, it will be stored in sealed tanks on a concrete base that is designed to hold 110% of the tank capacity;
- All workshops must have oil and water separators;
- The Contractor must have trained staff, which is competent to handle oil and remove the consequences of an accidental spill;
- Waste oil, oil filters and fuel must be stored on safe locations (in closed reservoirs on the concrete base). When the site is ready to be closed, all contaminated soil must be excavated and replaced with a new layer of soil;
- Cleared material is to be piled into manageable size heaps, according to disposal or re-use requirements;
- Limit the amount of excavation to reduce soil erosion. The Contractor should provide protection measures to prevent soil erosion;
- Apply a methodology for the protection of soil from the areas susceptible to erosion, in order to reduce the runoff of atmospheric water carrying erodive material from the location;
- Excavations and machinery works must be avoided when the soil is damp;
- Upon the completion of works, machinery, construction material, containers and all other equipment must be removed in due time.

## ***Environmental Management Plan During the Heavy Maintenance***

Bearing in mind all the identified impacts, it is necessary for the Contractor to prepare and later consciously apply CEP during the project duration in order to ensure compliance with the requirements of the legislation and the Creditors.

The Contractor is required to have a qualified and experienced person in Contractor's team, who will be responsible for coherence between the works, the environment and the Environmental Management Plan. For this part of the work on the construction site, the presence of a responsible person is mandatory on a daily basis.

PERS will independently monitor the works, and if any irregularity is noticed, it will be transmitted to continuously present Supervision, and then to the Contractor who will be requested to rectify such irregularities.

Contractor's Environmental Plan (CEP) includes the following:

- Site Management Plan: CEP should consist of the procedures for setting up and functioning of a construction site with a view in order to preserve the local community and natural resources;
- Construction Site Organization Plan: Description and arrangement of areas, with maintenance equipment and oil and lubricant storage facilities, including the distance from water areas and the details about proposed measures should indicate the environmental impact caused by their placement;
- Oil and Fuel Storage Management Plan: CEP should cover all the procedures for storing, transporting and using oil and fuel, refuelling the facilities and machines, procedures for decreasing the risk of water and soil pollution. All kinds of oil and fuel should be stored in the secondary storages whose capacity is at least 110 % and each spill should be cleaned immediately. Fuel tanks will have the equipment for the treatment of spillage in order to have it cleaned as soon as possible in the case of spillage. All types of spills will be reported in compliance with the Plan which should be made by the Contractor. A short training of workers should be organized as a 'continuous training' as well as after each accident;
- Waste Management Plan: All waste materials from the construction site, including barrels, wood, sand and gravel, cement bags, etc. should be disposed in an appropriate manner. If there is no possibility for recycling, incurring some reasonable costs, these materials should be transported to the approved landfill and deposited there. Hazardous waste will be stored and removed from the site after demobilization, in accordance with the Law on Waste Management ("Official Gazette of RS", Nos. 36/2009, 88/2010 and 14/2016). CEP should cover the aspects of waste management, including the application of practical standards, such as reduction, re-usage and recycling. CEP is to define the final location for disposing all types of waste and show that it has been done in accordance with the law and good waste



management practice. The Waste Management Plan will include, at least, details of temporary waste disposal, waste transportation and pre-treatment process that precede the final disposal or recycling. Licensed/approved organizations must be used for collecting and storing solid and liquid waste. All types of waste leaving the site must be controlled and recorded. As part of the Plan, the Contractor shall provide chain-of-responsibility forms for the waste that leaves the site. Therefore, waste controller shall keep one copy of the form, and the driver shall have a copy, to make sure and get the signature on the final landfill. The Contractor shall keep all records for audit purposes and as a proof that this project applies the best practice and complies with the legal regulations;

- Sewage and Waste Water Management Plan presents the list of measures for provision of sanitary latrines and proper sewage collection and disposal system to prevent pollution of watercourses;
- Soil Management Plan must define measures to be undertaken to minimize effects of wind and water erosion, measures to minimize loss of fertility of topsoil, time frames, haul routes and landfills;
- Noise: All equipment is to be licenced and approved in accordance with the EU standards. This applies to all machinery, vehicles and sites where noise and vibrations may affect susceptible receptors. In accordance with the Law on Protection against Environmental Noise ("Official Gazette of RS" Nos. 36/2009 and 88/2010), the Contractor is responsible for ensuring the noise and vibrations do not affect the local community. Even though there is no possibility that the noise and vibrations represent a problem due to a large distance between the construction site and the communities, the Contractor shall limit his works to a period of daylight (from 7 am to 5 pm);
- Dust Emission Reduction Plan should have the water wetting schedule for the access roads and the settlements nearby the road that is being rehabilitated, as well as a list of machinery that is to be used. This applies to all of construction sites and haul roads. During rehabilitation, when dust may be generated, the Contractor will monitor the worksite conditions and apply dust control measures, which include reducing construction traffic movements and spraying water on exposed areas. It is necessary to have at least two tanks of water on the construction site, one of which is a backup one;
- Material Excavation and Extraction Location Plan as well as the reparation measures should be implemented for the areas of borrow-pits and access roads when the project is finished;
- Management Plan for Works on the River: CEP should cover procedures and plans for water habitat and fish preservation during the works on the river (the Skrapez, Kladoroba, Nenadkovicica and Dobrinjska Rivers) and it should be an integral part of the Construction Technology;
- Emergency Response Plan: CEP should set out the procedures for emergency response in the event of accidents or major incidents, in order to

- protect people, property and environmental resources. Details of the spill response equipment should be specified and provided on site;
- Re-cultivation Plan: Cleaning and recultivation of construction sites and removal of Contractor's facilities. It is the Contractor's responsibility to address site clean-up. This includes the removal of all waste materials, machinery and any contaminated soil. The Contractor will develop a plan for handover, sale or removal of all plant, vehicles and machinery to ensure that no unserviceable items are left on the construction site, in accordance with the Law on Waste Management ("Official Gazette of RS" Nos. 36/2009, 88/2010 and 14/2016). All construction sites and work areas will be rehabilitated so that these can be returned as close as possible to their previous state and uses. This includes the stabilization and landscaping of all construction sites. In accordance with the Law on Environmental Protection ("Official Gazette of RS" Nos. 135/2004, 36/2009, 72/2009, 43/2011 and 14/2016) after the end of the work, the waste will not remain on-site. If the Contractor fail to remove the waste, the PERS is entitled to withhold payment, arrange the clean-up and deduct the cost of the clean-up and administrative charges from the final payment;
  - Plan of Environmental Grievances (grievance mechanisms and organization) will show how local community and third parties affected by the project could define complaints which are the consequence of rehabilitation and to whom these complaints should be addressed (e.g. through conversations, consultations etc.) (see Appendix 4, Project Grievance Mechanism).

## **Safety**

The Contractor should identify potential risks before the commencement of works. Provisions for emergency responses are to be included in the Construction Site Safety Plan, which shall include nomination of a person who will be immediately contacted if an accident occurs. The Site Safety Plan is submitted to the Project Supervision Consultant for approval one week before the commencement of the works.

- The Contractor shall ensure that drugs and alcohol are not used on the construction site;
- The Contractor's Site Safety Plan will include a provision for safe working environment and safety measures and personal protective equipment (PPE) for all workers, including gloves, hard hats, goggles, ear protection and safety footwear;
- The Site Safety Plan will include provision for first aid facilities on-site and employ a trained first aid person, in accordance with the Law on Safety and Health at Work ("Official Gazette of RS" Nos. 101/2005, 91/2015 and 113/2017);

- The Contractor shall provide potable water supply, toilets and water supply for bathing to the workers;
- Safety Labour Management Plan (SLMP), is required to ensure health and safety provisions during the works on heavy maintenance;
- The Contractor shall perform all project activities by respecting the SLMP, all Serbian laws and by-laws regarding health and safety issues.

PERS and the Contractor are responsible for reporting and investigating incidents.

Due to the increased number of vehicles on the roads through populated places, safety of local residents must be considered. The Contractor shall ensure that traffic passing through populated places is managed safely.

The Contractor is to ensure that:

- all trucks and equipment is maintained in a safe operating condition,
- all drivers and machinery operators are trained and act responsibly (to be stipulated in the Contractor's Site Safety Plan and health and occupational safety on site),
- all truck loads are secured and all loads with potential dust generating materials (e.g. excavated soil and sand) are covered with tarpaulins,
- safety and immediate removal of any driver that ignore any of the community safety requirements,
- speed limits are respected.

Prior to commencement of construction activities/site works, all of the above plans will be submitted by the Contractor to the Sector for Investments within the PERS for approval. Site restoration will follow the completion of works. It is Contractor's obligation to restore location of the project as it was at beginning of the project.

### ***Operational Phase***

In the road operational phase, special attention must be paid to safety of pedestrians, by using measures for traffic deceleration in the vicinity of populated areas, improving road signs and markings, paying attention to traffic accidents that are repeated in the same places by placing a "black spot" signs. Regular road maintenance consists of the following: grass cutting, clearing of drainage systems, pothole patching and various repairs, together with regular controls and maintenance of drainage structures. Seasonal maintenance, regular maintenance of safety features and road signs will be undertaken as necessary. Major maintenance, that include resurfacing and bigger repairs are typically scheduled over periods of several years.

## **B. MONITORING PLAN**

Monitoring plan is prepared in relation to the proposed Design (Appendix 2). The main components include:

- Environmental issue to be monitored and the means of verification;
- Specific areas, locations and parameters to be monitored;
- Applicable standards and criteria;
- Monitoring of noise levels near residential areas;
- Monitoring of the procurement of materials (checks that valid permits are in place);
- Duration, frequency and estimated monitoring costs;
- Institutional responsibilities for monitoring and supervision.

A field monitoring checklist has been prepared based on the EMP and Monitoring Plan (Appendix 2). The field monitoring checklist will be used by the supervising field engineer. The signed checklists will be provided to the PERS, who will be responsible for the follow-up and compliance reporting.

The PERS will maintain a Complaints Database, which will contain all the information on complaints or grievances received from the communities or other stakeholders. This includes: the type of complaint, location, time, actions to address these complaints and final outcome.



## C. INSTITUTIONAL IMPLEMENTATION AND REPORTING ARRANGEMENTS

### ***Project Implementation***

PERS is the Implementing Agency for the Project and will be responsible for the implementation and compliance with the EMP and Monitoring Plan. Day-to-day implementation of the Project and monitoring its compliance will be the task of the Project Supervision Consultant.

Prior to the commencement of works, PERS will submit to the Bank for its approval a specific EMP.

The Contractor will provide the results of “zero monitoring” prior to commencement of earth works, during its own mobilization phase.

The Project Proponent shall do the following to ensure that the Contractor implements the proposed mitigation measures in the construction phase:

- I. Clearly set out in the tender and contract documents the Contractor’s obligation to prepare the CEP and undertake environmental mitigation measures as specified in the Environmental Mitigation Plan (Appendix 1);
- II. No compensation for the costs of the required environmental mitigation measures and monitoring activities in the form of the particular item in the Bill of Quantity (BoQ) shall be given to the Contractor, except for the water quality analysis and noise measurement. It shall be regarded as if the Contractor has included these costs in the other items of the BoQ. The actual costs of analyzing water quality and noise measurement within the defined Contract will be reimbursed to the Contractor in the form of a specific item in the total price. For non-compliance with the requested measures for mitigating the environmental impact and monitoring activities, the Contractor will receive a specific penalty in the form of demerit points. Demerit points are provided as a measure that should stimulate the Contractor to carry out his obligations in an organized and timely way and to perform his duty in a quality manner. Demerit points have in the same time two meanings - numeric and monetary. Each demerit point has associated monetary value which represents permanent payments reduction for determined noncompliance of the contracted obligations. The number of demerit points received will have a cumulative effect. If during the contract the Contractor receives more than certain number of demerit points specified in the Contract, the Contractor will not be allowed, for a period of 2 years, to compete for any other PERS works contract. Also, if the Contractor is awarded over a specified number of demerit points, the Employer has a right to terminate the Contract. The monetary value of each demerit point, as well as the deadlines for other possible actions by the Employer must be clearly stated in the Contract. The explanation for the application of these two measures - compensation for specific costs and

penalties for non-compliance, should ensure the implementation of all required measures to mitigation of environmental impact and monitoring activities.

- III. The Contractor must be explicitly required to recruit an environmental specialist. The Contractor will be responsible for the implementation of environmental mitigation measures during construction and shall employ an environmental specialist who will supervise implementation of the Contractor's environmental responsibilities. He will coordinate between the Contractor, PERS and the relevant Ministry, and will address any complaints during project implementation in cooperation with PERS. During project implementation, the PERS shall monitor the compliance of the Contractor with the EMP provisions. It is proposed that the Project Supervision Consultant employs an environment specialist (with civil engineering/environmental management background) to assist the environmental supervision.

Upon project completion, the PERS will be in charge of the operation and maintenance of the road section. Routine and random monitoring will be undertaken as scheduled in the Monitoring Plan.

PERS shall also be responsible for the following:

- Implementation of the requests for environmental protection provided by: State environmental authorities, IFIs and other institutions, Law on Environmental Protection ("Official Gazette of RS" Nos. 135/2004, 36/2009, 72/2009, 43/2011 and 14/2016);
- Implementation of requests for environmental protection through Contractor's specifications;
- Supervision of the project through the consulting services for supervision and implementation of the project;
- Supervision of environmental monitoring through the consulting services for environmental monitoring;
- Preparation of the final environmental reports.

The Contractor, during a pre-construction period, will make a proposal for environmental protection, including safety of persons associated with the works and the public, within the EMP. This proposal will be reviewed by PERS in order to obtain its acceptance.

In this regard, attention will be given to:

- taking all reasonable steps to protect the environment on and off site and avoid damage or nuisance to persons or property arising from its operations;
- maintaining safe conditions for all persons entitled to be on site;
- provision of all lights, guards, fencing, warning signs, traffic control, aiming to protect the works and other property as well as the safety and public interests.

The relevant Ministry (MoEP) will have the authority for immediate suspension of works, if performance is not in accordance with environmental standards and regulations. Inspection will then inform the PERS about suspension and order to proceed according to its directive.

### ***Reporting Procedures***

Public disclosure and the presentation of EMP were held and the report has been incorporated into EMP in Appendix 5.

The Contractor will prepare quarterly progress reports for PERS, which would present all the mitigation measures and measures for environmental protection along with the anticipated activities for monitoring, which were performed during the reporting period. The Contractor will take care of the quality of the environment, in accordance with Mitigation Plan and Monitoring Plan, which form an integral part of the EMP and will provide reports to PERS.

In case of any accidents or environmental threats, there will be immediate reporting about these events. The Contractor shall inform the Project Manager and local authorities immediately after the accident. If the Project Manager is not available, the Contractor shall inform PERS about the accident.

The grievance mechanism will be implemented to ensure that the complaints from local communities are appropriately addressed, corrective measures taken and complainants informed about the outcome. This applies to the complaints of all interested parties. The grievance form is shown in the Appendix 4, while hard copies will be available in local community centres.

## **6. STAKEHOLDER ENGAGEMENT – INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION**

As required by the IFIs Safeguards Policies, public consultations were held during the preparation of EMP. The EMP and other project information were disclosed to the public and made available to the local community.

Detailed Report on Public Consultation process is shown in Appendix 5 of this EMP and contains a list of identified stakeholders.

Beneficiary consultations will be conducted during the construction phase, and records of environmental and social issues raised and complaints received during consultations, field visits, informal discussions, formal letters, etc., will be followed up and the records will be kept in PERS.

Before the commencement of works, PERS will provide information using the following:

- Newspaper articles in one national and also in one local media,
- Posters on main notice board at all community centres of potentially affected communities,
- Radio announcements about traffic diversions,
- Providing contact details of responsible person appointed to work with local communities.

A Grievance Mechanism will be implemented to ensure that all complaints from local communities are dealt appropriately, with corrective actions being implemented, and the complainant being informed of the outcome. It will be applied to all complaints from affected parties. A grievance form is attached in Appendix 4, and hard copies will be made available at community centres.

The Report on Public Consultation is presented in Appendix 5 to this EMP.



## 7. REFERENCES

- Environmental Assessment Sourcebook No. 25, Environmental Management Plans, World Bank Environment Department, January 1999
- Roads and the Environment: A Handbook, World Bank Environment Department;
- EIB, Environmental and Social Practices Handbook, Environmental and Social Office, Version 2 24/02/2010
- EIB, Statement of Environmental and Social Principles and Standards (2008)
- EMP for the rehabilitation of roads, bridges and tunnels, under the World Bank project, Road Management and Traffic Safety Project, Republic of Srpska, Roads Directorate, Banja Luka, 2001
- Environmental Assessment Report and EMP for Serbian Transport Rehabilitation Project, report No: E866, project name/ID: YF – Transport Rehabilitation Project – No. P075207, document date November 30<sup>th</sup>, 2003

## **APPENDIX 1**

### **MITIGATION PLAN**

Phase	Issue	Mitigation Measures	Responsibility		Comments
			Implementation	Supervision	
<b>Pre-construction</b>	<b>Main Design Phase</b>				
	The respect for the procedures related to the protection of the environment	The Designer obtained and implemented the conditions from the relevant institutions regarding the environmental protection (Ministry of Environmental Protection, Institute for Nature Conservation of Serbia, Institute for the Protection of Cultural Monuments of Kraljevo and PWME "Srbijavode") in order to avoid environmental risks during the heavy maintenance.	PERS/Main Design Consultant	Technical control/PERS	
	The choice of the location for the Contractor facilities and a construction site organization	<p>The location must be approved by PERS.</p> <ul style="list-style-type: none"> <li>The location (construction site), as well as space for temporary disposal i.e. storage of required construction and other material and storage, have to be outside high vegetation area</li> <li>The locations will be chosen in a way that has no impact on the environment and the local community (noise, dust, vibrations)</li> <li>To minimize the size of the facilities to minimize the unnecessary removal of vegetation</li> <li>Have the sanitary waste water treated before the water is discharged into the surface water system</li> <li>Paved areas, including parking areas, workshops and fuel storages must be drained toward an oil-water separator and the areas for fuel storage must be located at a distance larger than 20 m away from the watercourse</li> <li>To avoid mechanical topsoil degradation</li> <li>To prevent soil erosion on site</li> <li>To limit the scope of the excavations to mitigate possible soil erosion</li> <li>To avoid excavation and machine operations in damp site conditions</li> </ul>	PERS/Contractor	Supervising Authority/PERS	
	Site selection for construction camps, near or within existing settlements. Impact on public health and sociological setting	<ul style="list-style-type: none"> <li>Minimum distance must be kept (buffer zone) between the site and the nearest populated area</li> <li>Influence of the local conditions must be taken into account (wind) to avoid or minimize harmful effects</li> <li>The Contractor's EMP defines health and safety and environmental measures</li> <li>Independent water and electricity supply, in addition to a medical service station with a trained employee on the construction site must be planned</li> </ul>	Contractor	PERS	
	Road safety issues associated with pedestrian crossing	Plan for safe and adequate pedestrian crossing facilities that will be equipped with ramps and structures that allow the use of wheelchairs, pushcarts, bicycles and prams.	Main Design Consultant	Technical control/PERS	
	Landfill in the vicinity of the road	<p>Landfill from ~ km 186+890 to ~ km 187+110 is a landfill for temporary waste disposal. All waste from this landfill is transported at certain time intervals to a regional sanitary landfill with a waste separation line in Uzice (PUC "Duboko"). With representatives of local authority and PUC "ELAN" check the availability of this landfill for waste disposal during the execution of works.</p> <p>The Ministry of Environment, Mining and Spatial Planning issued a Decision which approves the use of a regional sanitary landfill with a waste separation line in Uzice (PUC <i>Duboko</i>) according the Regional Waste Management Plan on April 23<sup>rd</sup>, 2012 (No. 19-00-00318/2011-02 from April 23<sup>rd</sup>, 2012) for the municipalities of Zlatibor and Moravica Administrative District.</p>	Main Design Consultant/ Contractor/Local institutions	Technical control/ Supervising Authority	

	Stakeholder engagement	Details of the proposed road alignment, access points and safety features will be disclosed in the locality of the planned works. Feedback from local stakeholders will be sought and recorded. Evidence of how feedback has been considered in the final design will be recorded.	PERS/Main Design Consultant	Technical control/PERS	
<b>Construction</b>	<b>Management Plans</b>				
	Contractor shall prepare the implementation of the Plans described in the EMP, to ensure that the legislation and Creditor's requirements have been met: <ul style="list-style-type: none"> <li>- Site Organization Plan</li> <li>- Sewerage and Wastewater Management Plan</li> <li>- Grievance mechanism</li> <li>- Soil Management Plan</li> <li>- Dust Management Plan</li> <li>- Location of the proposed material extraction site, as well as rehabilitation measures to be implemented for the borrow areas and access roads upon project completion</li> <li>- Waste and Wastewater Management Plan, in line with the Law on Waste Management ("Official Gazette of RS" Nos. 36/2009, 88/2010 and 14/2016)</li> <li>- Oil and Fuel Storage Management Plan</li> <li>- In-river Works Management Plan</li> <li>- Site Management Plan</li> <li>- Emergency Response Plan</li> <li>- Recultivation Plan</li> <li>- Safety and Hazard Assessment</li> <li>- Safety and Labour Management Plan</li> </ul>		Contractor	Supervising Authority/PERS	
<b>Construction</b>	<b>Construction Site Induction</b>				
	Construction site safety	All workers and visitors to the site shall be given a health and safety induction and instructed on the need to use PPE.	The Contractor's expert for H&S and environmental issues	Supervising Authority	
<b>Construction</b>	<b>Material Supply</b>				
	Asphalt plant: dust, fumes, health and safety effects, ecosystem disturbance	Use the existing asphalt plants, requirement for official approval or valid operating license	Asphalt plant	Asphalt plant/Supervising Authority	Bid supplier/Approved supplier
	Quarry: dust, health and safety of workers, ecosystem disturbance	Use the existing quarries, requirement for official approval or valid operating license	Quarry	Quarry/Supervising Authority	
	Sand and gravel borrow-pits: river bed disturbance, quality of water, ecosystem disturbance	Use the existing borrow pits or buy material from licensed separation facilities, requirement for official approval or valid operating license	Contractor or gravel and sand separation facility	Contractor or gravel and sand separation facility/Supervising Authority	
	Concrete plant Dust, fumes, health and safety effects, ecosystem disturbance	Use the existing concrete plants or buy concrete from licensed suppliers. The material should have appropriate quality attestations	Concrete plant	Concrete plant/Supervising Authority	
<b>Construction</b>	<b>Material Transportation</b>				
	Asphalt /Dust, fumes	All truck loads need to be covered	Truck operator	Truck operator/Supervising Authority	
	Stone/Dust	Wet/covered truck load	Truck operator	Truck operator/Supervising Authority	



	Sand, Gravel/Dust	Wet/covered truck load	Truck operator	Truck operator/Supervising Authority	
	Cement, concrete	Remove the fresh concrete which was negligently spilled from the mixer from the transport roads within 6 hours.	Truck operator	Truck operator/Supervising Authority	
	Traffic noise, exhaust fumes and road congestion	Obeying the working hours (desirable from 7 am to 5 pm); the use of alternative routes to reduce the usage of the main roads to the minimum. Adequate temporary road signalization	Person in charge of transportation/Truck operator	Person in charge of transportation/Truck operator/Supervising Authority	
<b>Construction</b>	<b>Construction Site</b>				
	Negative impact of noise on workers and local community and fauna	<ul style="list-style-type: none"> <li>- To limit the activities to daylight working hours (without works between 8 pm and 7 am) or work during the specified period, but with the approval of the population and management;</li> <li>- Use of construction machines with equipment that reduces sound; ensure the maximum functionality of machines by regular inspections (periodic) or an exceptional technical inspection of vehicles and equipment;</li> <li>- To use equipment with noise mufflers, licensed and approved in accordance with the EU standards;</li> <li>- To use noise barriers for noisy works for those longer than one day in the same location / area.</li> </ul>	Contractor	Supervising Authority	
	Dust	<p>Measures to be introduces:</p> <ul style="list-style-type: none"> <li>- Avoiding / reducing to a minimum dust emission</li> <li>- Wetting / spraying the construction site</li> <li>- construction site access</li> <li>- material landfills during loading/discharging activities</li> <li>- covering the vehicles which carry dusty materials</li> <li>- spraying / cleaning wheels on the vehicles</li> <li>- limiting the speed of movement for vehicles</li> <li>- cleaning the construction site.</li> </ul>	Contractor	Supervising Authority	
	Vibrations	To limit activities to daylight working hours (without works between 8 pm and 7 am) or work during the aforementioned period, upon obtaining the permission from the inhabitants and management. Locate the equipment for earthworks as far away as possible from the vibration-sensitive receptors.	Contractor	Supervising Authority	
	Traffic disruption during construction activities	<ul style="list-style-type: none"> <li>- Traffic Management Plan with measures to redirect traffic, that are easily seen or easy to follow,</li> <li>- Including traffic police assistance if needed,</li> <li>- Preparation of Traffic Management Plan that establishes a speed limit for construction vehicles and organizes traffic so that it is mostly performed outside the populated areas,</li> <li>- During work execution, maximize the existing network of roads and avoid the construction of new roads for temporary use, which would further increase the fragmentation of space and existing habitats,</li> <li>- To inform the local community about planned works.</li> </ul>	Contractor	Supervising Authority/ PERS	
	Reduced access to roadside activities	Provide an alternative access to roadside activities at all times.	Contractor	Supervising Authority/ PERS	
	Safety of vehicles and pedestrians when/where there are no construction activities	Lighting and well-defined safety signs and protection measures.	Contractor	Supervising Authority/ PERS	

	Soil and water pollution from improper material storage, management and use	<ul style="list-style-type: none"> <li>- To organize and cover material storage areas;</li> <li>- To isolate the concrete, asphalt and other from the watercourse by using sealed formwork or covers;</li> <li>- Washing the trucks for concrete and asphalt, as well as washing other machinery is to be done exclusively in registered car washes</li> <li>- To organize the construction site so as to minimize the risk of generating sediments and accumulating waste water, which could cause pollution of the surrounding soil and water (consider situations such as drainage for atmospheric water, waste water collected from the structures on the construction site such as the structure for washing the wheels).</li> <li>- The Soil Management Plan must be prepared to control removal, storage and re-use of topsoil.</li> <li>- To use local controlled measures to prevent sediment flowing into surface water and drainage canals. Some of the measures include physical obstacles such as fences for sediments, checking barriers, mulch barriers, e.g. protective leaves cover, geotextile, rock groynes, and sediment basin, marking them in order to make the embankment slope optimal and the slope edges sharp (steep),</li> <li>- To prevent sediment flowing into surface water, slope of the soil and protection form wind erosion must also be considered, by installing fences, covers etc.</li> </ul>	Contractor	Supervising Authority	
	Soil and water pollution from improper material storage, management and use	<ul style="list-style-type: none"> <li>- To dispose waste material at a location protected from washing out, on a marked location, if not on the site, then on an authorized landfill (See the Regional Waste Management Plan of the Municipality of Zlatibor and Moravica Administrative District) <a href="http://www.sepa.gov.rs/download/UpravOtpad/RPUO_Duboko.pdf">http://www.sepa.gov.rs/download/UpravOtpad/RPUO_Duboko.pdf</a></li> <li>- Storage of waste according to international best practice (IFC, EHS – General Guidelines).</li> <li>- Apply additional measures for storing hazardous waste (such as secondary containment, limiting the access, providing PPE equipment etc.) to prevent negative effects on the workers, construction site staff, environment or the local community.</li> <li>- Using and labelling the containers planned for waste collection, as well as the areas for disposing different types of waste (hazardous and non-hazardous).</li> <li>- Transport the waste in marked vehicles designed for waste transport, to minimize the risk of releasing substances (hazardous and non-hazardous substances) as well as remains that can be carried by the wind.</li> <li>- To train the drivers in handling and disposal of the load they transport and transport documents describing the nature of the load (waste) and its degree of hazard.</li> </ul>	Contractor	Supervising Authority	
	Potential contamination of soil and water from improper maintenance and fuelling of equipment	<ul style="list-style-type: none"> <li>- Disposing of and handling lubricants, fuel and solvents is to be performed exclusively in the secured area and storage with concrete base;</li> <li>- To ensure proper loading of fuel and equipment maintenance;</li> <li>- To collect all waste and dispose it on authorized recycling locations.</li> </ul>	Contractor	Supervising Authority	
	Safety of workers	<ul style="list-style-type: none"> <li>- provide workers with safety instructions and PPE</li> <li>- provide safe organization of bypassing traffic</li> </ul>	Contractor	Supervising Authority	
	Soft/hard landscaping	<ul style="list-style-type: none"> <li>- Take measures to gradually establish vegetation again by covering crops and natural endemic species and monitoring their effectiveness.</li> <li>- In places where the initial planting failed, plant replacements will be made.</li> <li>- Avoid invasive and allergenic species</li> </ul>	Contractor	Supervising Authority	

	Possibility of an archaeological site existence	In case the Contractor comes across an archaeological site, he is obliged to stop the works immediately and inform the relevant Institute for the Protection of Cultural Monuments and PERS.	Contractor	Supervising Authority	
<b>Construction</b>	<b><u>Special Measures Defined by the Conditions of Relevant Institutions</u></b>				
	Institute for Nature Conservation of Serbia	<ul style="list-style-type: none"> <li>- Such solutions and measures that will provide conditions for the preservation of air, land, underground and surface water, preservation of the Skrapez River because its watercourse is along the subject should be planned by the Project.</li> <li>- Given things should be defined and provided by the Project: <ul style="list-style-type: none"> <li>- Preservation of the river bank zone, since it is not allowed to destroy vegetation, disturbance of wild species and their habitats,</li> <li>- It is not allowed to dispose any waste, especially construction waste in the river bank zone and riverbed,</li> <li>- Temporary locations for the storage of the necessary construction and other materials and equipment, which must be located outside the river bank zone of the Skrapez River (floodplain zone), the area with high vegetation and be limited only during the execution of works,</li> <li>- Temporary or permanent locations must be provided (the existing organized communal facilities/landfills) for disposal and deposing muck and other waste in any form, as well as communal waste produced during the works,</li> <li>- When all works are completed, the surfaces which have been degraded in any way by construction and other works should be rehabilitated as soon as possible,</li> <li>- When carrying out the works, a strict adherence to the route and corridor of the road is demanded in order not to leave an impact on a wider space using vehicles and machinery,</li> <li>- To use the existing road network without building new roads, in order to prevent the fragmentation of space and existing habitats.</li> </ul> </li> <li>- During the execution of works, take all precautions to ensure that all individual trees along the carriageway are maximally protected from possible damage, such as breakage of the branches and removal of the bark from the trunk while driving machinery, or in any other way disrupting their essential properties.</li> <li>- Certain intake pipes and separators of grease and oil for water collected on the carriageway should be planned, especially along the watercourse of the Skrapez River, in order to protect environment from pollution. Before discharging it into the recipient or sewage system, it is necessary to control their quality.</li> <li>- In the crossing zone of the road (bridges over the Kladoroba, Nenadkovicica, Rijeka, Paskovina and Dobrinjska Rivers and over Gradnja creek and creek near Tubici) over the watercourses, the use of stones and other natural materials should be anticipated thus largely avoiding the use of concrete on the banks and river beds watercourses (carry out so called Natural Arrangement of Watercourses), where it is necessary to preserve maximum of the riverbed itself, as well as the coast with the existing vegetation.</li> <li>- During the execution of construction works (raising level of asphalt, etc.) in the immediate vicinity of residential buildings, it is important to plan dewfall in order to prevent a cloud of dust and its negative impact on people.</li> <li>- Vehicle and machinery servicing on the road section shall be prohibited. In case of a road traffic accident resulting in oil or service fluids spill, the road area must be cleaned and rehabilitated.</li> <li>- During night hour works must not be carried out in the inhabited area due to the possible impact of the noise of construction machinery, as well as disturbance of birds.</li> </ul>	Contractor	Supervising Authority	

		<ul style="list-style-type: none"> <li>- To foresee all nature protection measures in situations when certain accidents occur with the obligation to notify the competent inspection services and institutions.</li> <li>- If during works it encounters geological-palaeontological or mineralogical-petrochemical objects, which are presumed to have a natural good property, the Contractor is obliged to notify the ministry responsible for environmental protection within eight days, or take all measures in order not to damage natural goods until the arrival of an authorized person.</li> <li>- If the project implementation is cancelled, upon the commencement of works, the Investor is obligated to bring the location of the site in its natural state as soon as possible.</li> </ul>			
	The Institute for the Protection of Cultural Monuments of Kraljevo	<ul style="list-style-type: none"> <li>- The existence of immovable cultural property and registered goods that enjoy protection under the Law on Cultural Property has not been determined on the subject section. However, there is a monument of interest for protection in Glumac, i.e. The Memorial Fountain. Rehabilitation works are allowed to be done in compliance with the requirements stated in these conditions.</li> <li>- The Investor/Contractor is obliged to notify the Institute of any changes on the route as well as the addition of any new facilities (intersections, petrol stations, carbases, etc.) and to request additional conditions of the Institute for these locations.</li> <li>- It is necessary to obtain special conditions of the Institute for any interventions on the historical monuments under protection or access to them.</li> <li>- The Contractor is obliged to undertake measures of protection of the resources under the previous protection in order to prevent resources from being damaged and destroyed.</li> <li>- Archaeological sites are below the surface of the earth and quite often not noticeable enough. Therefore, the Investor or Contractor is obliged to suspend further works immediately and without any delay notify the competent institution if during any earthworks movable or immovable remains of archaeological origin are found out. The Institute prescribes additional conditions or archaeological supervision of the resources under the previous protection. The cost of monitoring and protection of the resources is funded by the Investor.</li> <li>- The unauthorized collection of archaeological material is prohibited.</li> <li>- The disposal of waste and hazardous materials, storage and the creation of landfills on the resource under the previous protection are forbidden.</li> <li>- Dislocation and destruction of monuments is forbidden.</li> <li>- It is the duty of the Investor to provide funds for research, safekeeping, monitoring, protection and preservation of the discovered remains which require previous protection that is revealed during the construction of an investment facility - until the handing over the property to an authorized protection institution.</li> </ul>	Contractor	Supervising Authority	

	PWME „Srbijavode“ Belgrade WMC „Morava“ Nis Section „Uzice“, Uzice	<ul style="list-style-type: none"> <li>– Provide project documentation in accordance with existing legal regulations, as well as the applicable standards for this type of work.</li> <li>– For all hydraulic calculations related to drainage of atmospheric water as well as hydraulic structures (bridges, culverts, drainage channels, etc.), hydrological data obtained from the RHSS should be used, or if water conditions are obtained from the Republic Water Directorate.</li> <li>– During rehabilitation, do not reduce bridge spans and culverts and calculate throughput capacity of these facilities. According to calculation, bridges and culverts should satisfy the relevant huge amount of water that appears once in 100 years.</li> <li>– If the arrangement of existing watercourses in the rehabilitation zone of the state road is planned and which may influence the water regime, the Investor must submit a special request for each facility separately.</li> <li>– In the project documentation regarding graphic appendices, it is necessary to draw the position of the bridge, cross-section and longitudinal cross-sections, as well as other details from which the impact of possible rehabilitation works on the water regime or the influence of water on the facility - works can be seen.</li> <li>– The project foresees the technology of carrying out works in the watercourse zone, which does not interfere with the normal flow regime (installation of scaffolds and other obstacles in the watercourse).</li> <li>– In case of the reconstruction of bridges - culverts or other interventions on them that imply a change regarding characteristics or a decrease in the flow profile, which results in a change of water regime, it is necessary to submit a request for water conditions through the CEUP.</li> <li>– It is not permitted to dispose any material in the watercourses or reduce its flow profile during construction.</li> </ul>	Contractor	Supervising Authority	
<b>Construction</b>	<b>Monuments</b>				
	The Memorial Fountain in Glumac at ~ km 203+015	<ul style="list-style-type: none"> <li>– According to the data from the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo (No. 1012/3 from September 11<sup>th</sup>, 2017), there is a monument of interest for protection in Glumac, i.e. The Memorial Fountain. Rehabilitation works near the memorial and generally on the route are allowed to be done in compliance with the requirements stated in these conditions.</li> </ul>	Contractor	Supervising Authority	
	The Memorial Fountain to Fallen Fighters at ~ km 186+874	<ul style="list-style-type: none"> <li>– Along the observed road section, an another public fountain is also identified in the immediate vicinity of the landfill at ~ km 186+874. This fountain is a memorial to fallen fighters, it was built in 1954 and it is in a rather bad condition.</li> <li>– Although this fountain is not mentioned in the conditions of the Institute for the Protection of Cultural Monuments of Kraljevo, all requirements stated in these conditions that apply to The Memorial Fountain in Glumac should also apply to this momerial fountain.</li> </ul>	Contractor	Supervising Authority	
<b>Operational</b>	<b>Maintenance</b>				
	Noise disturbance to human and animal population and workers	<ul style="list-style-type: none"> <li>– limit activities to daylight working hours (no works between 8 pm and 7 am or in accordance with the public consent);</li> <li>– use the equipment with noise mufflers installed.</li> </ul>	Maintenance Contractor	Maintenance Contractor\PERS	It should be specified in the contract maintenance documentation - Technical Specifications for the performance of maintenance works
	Possible air, water and soil pollution	<ul style="list-style-type: none"> <li>– apply the best engineering practice in handling and safe storage of lubricants, fuel and oil in secured storages;</li> <li>– ensure proper loading of fuel and maintenance of equipment;</li> </ul>	Maintenance Contractor	Maintenance Contractor\PERS	



		<ul style="list-style-type: none"> <li>- collect and dispose all waste in accordance with the Law on Waste Disposal;</li> <li>- properly organize and cover the areas for material storage;</li> <li>- isolate concrete and asphalt works from the watercourse by using sealed formwork;</li> <li>- washing the vehicles and construction machines is exclusively done in registered car washes;</li> <li>- dispose of waste material to a site protected from eroding.</li> </ul>			
	Vibrations	Limit activities to daylight working hours (no works between 8 pm and 7 am, or as agreed with the public and authorities)	Maintenance Contractor	Maintenance Contractor\PERS	
	Safety of workers	<ul style="list-style-type: none"> <li>- Provide workers with safety instructions and PPE;</li> <li>- Organize safe traffic bypass using alternative roads and appropriate traffic signage;</li> <li>- All the workers and visitors to the construction site will be introduced to the basics of environmental protection and safety measures and protection at work and will be given instructions for using the PPE.</li> </ul>	Maintenance Contractor	Maintenance Contractor\PERS	
	Maintenance	<ul style="list-style-type: none"> <li>- Regularly maintain curbs;</li> <li>- Mow and maintain grass and take it to the landfill;</li> <li>- Regularly clean drainage structures (gullies) and dispose waste material on specially designated landfill;</li> <li>- Regularly clean the road surface;</li> <li>- Fill in the holes, joints and cracks;</li> <li>- The remains of asphalt after works should be transported and stored on an appropriate landfill designated for construction materials;</li> <li>- Clean the road surfaces regularly and timely, as well as the surrounding road structures in case of a traffic accident or overturning of tanks or other trucks;</li> <li>- Make repairs.</li> </ul>	Maintenance Contractor	Maintenance Contractor\PERS	
	Increased vehicle speed	<ul style="list-style-type: none"> <li>- Install speed limit signs</li> </ul>	Maintenance Contractor	Maintenance Contractor\PERS	It should be specified in TS in the part about maintenance works
	Erosion, rockfall, hazardous situation	<ul style="list-style-type: none"> <li>- Install suitable warning signs (rockfall, landslide, wet or slippery conditions, dangerous curve, animal or pedestrian crossing, school, slow traffic zone, merging),</li> <li>- Reflective markings indicating steep slopes or convex mirrors in curves where there is a lack of visibility;</li> <li>- Put warning signs on locations considered necessary by good engineering practice, or as agreed in writing with authorities.</li> </ul>	Maintenance Contractor	Maintenance Contractor\PERS	

## **APPENDIX 2**

### **MONITORING PLAN**

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored? Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (randomly)?	Institutional responsibility
						Implementation
<b>Construction</b>	<b>Material Supply</b>					
Asphalt plant	Possession of an official approval or valid (operating) license	Asphalt plant	Inspection/Supervising Engineer	Prior to the commencement of works	Assure plants, quarry and borrow-pit compliance with environment, health and safety requirements	Plant Manager
Quarry	Possession of an official approval or valid (operating) license	Quarry	Inspection/Supervising Engineer	Prior to the commencement of works		Quarry Operator
Sand and gravel borrow-pit	Possession of an official approval or valid (operating) license	Sand and gravel borrow-pit	Inspection/Supervising Engineer	Prior to the commencement of works		Borrow-pit or separation facility operator
Concrete plant	Possession of an official approval or valid (operating) license	Concrete plant	Inspection/Supervising Engineer	Prior to the commencement of works		Operator of a concrete plant
<b>Construction</b>	<b>Material Transport</b>					
Asphalt	Truck load covered	Construction Site	Supervising Engineer	Unannounced inspections during the works, at least once a week	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision
Stone	Truck load covered or wetted	Construction Site	Supervising Engineer	Unannounced inspections during the works, at least once a week	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision
Sand and gravel	Truck load covered or wetted	Construction Site	Supervising Engineer	Unannounced inspections during the works, at least once a week	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored? Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (randomly)?	Institutional responsibility
						Implementation
Concrete plant	Removing fresh concrete that was accidentally spilled from the mixer on the transport roads within 6 hours	Construction Site	Supervising Engineer	Unannounced inspections during the works	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision
Traffic guidance	Hours and routes selected	Construction Site	Supervision	Unannounced inspections during the works	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision
<b>Construction</b>	<b>Construction Site</b>					
Noise disturbance to workers and neighbouring population	Noise levels	Construction site, nearby houses along the construction site	Equipment – manual equipment for analysing (detecting the level of noise) with the software for its application	<ul style="list-style-type: none"> <li>– Once, at the beginning of the project,</li> <li>– quarterly,</li> <li>– due to grievances,</li> <li>– If the tracking results are not satisfactory, it is to be prepared on a monthly level.</li> </ul>	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision (monitoring)
Water and soil pollution resulting from improper material storage, management and use	Soil and water quality (suspended solids, oils, PH values, conductivity)	Watercourses near the storage places	<ul style="list-style-type: none"> <li>– Unannounced sampling,</li> <li>– Analysis in a certified laboratory possessing the required equipment</li> </ul>	Monitoring should be performed prior to the construction (at the reference point up creek from the construction site) and once during the rehabilitation works. If the tracking results are not satisfactory, it should be performed at a monthly basis until the works on the site are finished	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision (monitoring)
Dust	Air pollution (solid particles)	On and near the construction site, quarry, inhabited settlements	Inspection and visual observation	Unannounced inspections during the delivery of materials and construction	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision (monitoring)
Vibrations	Limited time of the activities	Construction Site	Supervision	Unannounced inspections during the active works and due to grievances	Assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's supervision (monitoring)

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored? Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (randomly)?	Institutional responsibility
						Implementation
Traffic disruption during construction activity	The existence of the Traffic Management Plan and traffic pattern	On the construction site and area nearby it	Inspection; Supervision	<ul style="list-style-type: none"> <li>- Prior to the commencement of works;</li> <li>- once a week in the periods with the largest amount of works and</li> <li>- calm periods when the quantity of activities is not the highest</li> </ul>	Minimal disruptions of traffic	Contractor's supervision
Reduced access to roadside activities	Alternative access provided	Construction Site	Supervision	Random checks at least once a week during construction site activities	Minimal disruptions of traffic	Contractor's supervision
Safety of vehicles and pedestrians where there are no construction activities	Visibility and suitability	On the construction site and area nearby it	Observation	Random checks at least once a week at evening hours	Assure the compliance with the health and safety and environmental requirements. Minimal disruptions of traffic	Contractor's supervision
Safety of workers	PPE; bypass traffic organization	Construction Site	Inspection	Unannounced inspections during the works	Assure the compliance with the health and safety and environmental requirements. Minimal disruptions of traffic	Contractor's supervision
<b>Operational</b>	<b>Maintenance</b>					
Negative effect of noise on the workers and local residents	Noise levels	Construction Site; nearby houses	equipment – manual equipment for analysing (detecting the level of noise) with the suitable software	Unannounced inspections during the maintenance activities and due to grievances	Ensure the compliance with the health and safety and environmental requirements.	PERS
Vibrations	Limited time of activities	Construction Site	Supervision	Unannounced inspections during the maintenance activities and due to grievances	Ensure the compliance with the health and safety and environmental requirements.	PERS
Safety of workers	PPE; bypass traffic organization	Construction Site	Inspection	Unannounced inspections during the maintenance activities and due to grievances	Ensure the compliance with the health and safety and environmental requirements.	PERS



Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored? Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (randomly)?	Institutional responsibility
						Implementation
<b>Operational</b>	<b>Road Safety</b>					
Increasing the speed of vehicles	The conditions of traffic signs, the vehicle speed	Road section included in the design	Visual observation; Speed detection	During the activities, unannounced	Ensure safe and economical traffic flow	Maintenance Contractor; Traffic police
Erosion, rockfall and hazardous situations	The condition of danger warning signs	Road section included in the design	Visual observation	During the activities	Ensure safe and economical traffic flow	Maintenance Contractor

1. General		
Is the project compliant with all relevant requirements (taking account of agreed action plans, exemptions or derogations)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If no, please provide details of any material non-compliances:
Is the project materially compliant with all applicable environmental and social laws and regulations?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If no, please provide details of any material non-compliances:
Have there been any accidents or incidents that have caused damage to the environment, lead to injuries or fatalities, affected project labour or local communities, affected cultural property, or created liabilities for the company?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please describe, including details of actions to repair and prevent reoccurrence:
Have there been any changes to environment, social, labour or health and safety laws or regulations that have materially affected the company?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please describe:
How many inspections did you receive from the environmental authorities during the reporting period?	Number:	Please provide details of these visits, including number and nature of any possible violations:
How many inspections were carried out by the health and safety authorities during the reporting period?	Number:	Please provide details of these visits, including number and nature of any violations found:
How many inspections were carried out by from the labour authorities during the reporting period?	Number:	Please provide details of these visits, including number and nature of any violations found:
Have these visits resulted in any penalties, fines and/or corrective action plans?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please describe, including status of implementing corrective actions to address any violations found:
Has the Company engaged any sub-contractors for project related work?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please state for which types of work, and how the company has monitored the compliance of contractors with specified requirements:
Were there any violations stated above regarding the responsibility of contractors?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please provide details, including how the Company is ensuring those corrective actions implemented by the Contractor?

Have any operations been reduced, temporarily suspended or closed down due to environmental, health, safety or legislation reasons?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please describe:
<p>Please describe any environment or social programs, initiatives or sub-projects undertaking during the reporting period to improve the Company's environmental or social performance and/or management systems:</p> <p>Please indicate the level of associated expenditure (capital expenditure and operating expenditure), and whether this relates to the requirements of the Environmental and Social Action Plan, or to any other initiative:</p>		

## 2. Status of the Environmental and Social Action Plan

Please provide information on the status of each item in the Environmental and Social Action Plan (ESAP). If the ESAP has been updated during the reporting period, please attach a copy of the new plan.

**3. Environmental Monitoring Data <sup>10</sup>**

Please provide the name and contact details for your environmental manager:

Parameter <sup>11</sup>	Value <sup>12</sup>	Unit	Compliance status <sup>13</sup>	Comments <sup>14</sup>
<b>Waste water</b>				
Total waste water generated				
BOD				
COD				
Suspended Solids				
Phosphorus				
Nitrates				
Heavy metals				
[Other]				
<b>Air Emissions</b>				
SO <sub>2</sub>				
NO <sub>x</sub>				
Particles				
CO <sub>2</sub>				
CH <sub>4</sub>				
N <sub>2</sub> O				

<sup>10</sup>Please provide the results of monitoring environmental parameters carried out by the Company or its consultants. If you have already had all the necessary information available in another format, you can use that format instead of the one provided here

<sup>11</sup> Not all parameters will necessarily be applied. Please complete those rows that are most relevant to the industry sector. Additional parameters can be added as necessary.

<sup>12</sup> Please ensure that the units of measurement are clearly stated.

<sup>13</sup>Please state the standards applied in this project (typically local, EU and/or World Bank Group)

<sup>14</sup> In addition to any other comments, please indicate whether the measurements reported apply to all, or only some process operations at the facility

**3. Environmental Monitoring Data <sup>10</sup>**

Please provide the name and contact details for your environmental manager:

Parameter <sup>11</sup>	Value <sup>12</sup>	Unit	Compliance status <sup>13</sup>	Comments <sup>14</sup>
HFCs				
PFCs				
SF <sub>6</sub>				
[Other]				
<b>Other Parameters</b>				
Noise				
[Other]				
<b>Solid Waste</b>				

Please provide details of the types and amounts of solid wastes generated by the project. Indicate places where waste is classified as hazardous. Indicate the final re-use, recycle or disposal method for each waste type.



#### 4. Resource Usage and Product Output

Parameter	Value	Measurement Unit	Comments <sup>15</sup>
<b>Fuels used</b>			
Oil			
Gas			
Coal			
Lignite			
Grid Electricity			
Heat Purchased			
<b>Feedstocks and raw materials consumed</b>			
Name 1			
Name 2			
<b>Product output</b>			
Product 1			
Product 2			

<sup>15</sup> In addition to any other comments, please indicate whether the measurements reported apply to all or only some process operations at the facility Please include any fuel quality parameters (e.g. calorific value)

## 5. Human Resources Management

Please provide the name and contact details for your Human Resources Manager:

	Total	Recruited in this reporting period	Dismissed in this reporting period
<b>Number of direct employees:</b>			
<b>Number of contracted workers:</b>			
Were there any collective redundancies during the reporting period?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please describe the redundancy plan, including reasons for redundancies, number of workers involved, how they were selected, consultation undertaken, and measures to mitigate the effects of redundancy:	
Are there any planned redundancies to the workforce in the next year?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please describe the redundancy plan, including reasons for redundancies, number of workers involved, and selection and consultation process:	
Were there any changes in trade union representation at Company facilities during the reporting period?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please provide details, and summarize engagement with trade unions during reporting period:	
Are there any other worker representatives (e.g. in the absence of a trade union)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please provide details and summarize engagement with them during reporting period:	
Were there any changes in the status of Collective Agreements?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please provide details:	
Have employees expressed any grievance regarding the project during the reporting period?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please state how many, split by gender, summarize the issues expressed by male and female staff and explain how the Company has addressed them:	
Have employees expressed any complaint about harassment or bullying during the reporting period?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please state how many, split by gender, summarize the issues expressed in grievances by male and female staff and explain how the Company has addressed them:	

Were there any strikes or other collective disputes related to labour and working conditions at the Company in the reporting period?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please summarize nature of, and reasons for, disputes and explain how they were resolved
Were there any strikes or other collective disputes related to labour and working conditions at the Company in the reporting period?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please summarize nature of, and reasons for, disputes and explain how they were resolved:
<p>Were there any changes to the following policies or terms and conditions during the reporting period in any of the following areas:</p> <ul style="list-style-type: none"> <li>• Union recognition</li> <li>• Collective Agreement</li> <li>• Non-discrimination and equal opportunity</li> <li>• Equal pay for equal work</li> <li>• Gender Equality</li> <li>• Bullying and harassment, including sexual harassment</li> <li>• Employment of young persons under age 18</li> <li>• Wages (wage level, normal and overtime)</li> <li>• Overtime</li> <li>• Working hours</li> <li>• Flexible working/work-life balance</li> <li>• Grievance mechanism for workers</li> <li>• Health &amp; safety</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please give details, including some new initiatives:

## 6. Occupational Health and Safety Data

Please provide the name and contact details for your Health and Safety manager					
	Direct employees	Contracted workers		Direct employees	Contracted workers
The amount of work that the average worker does in the reporting period in an hour:			Number of fatalities <sup>16</sup> :		
Budget spent on OHS in this period (total amount and currency):			Number of injuries:		
OHS training provided in this period among employees-days:			Number of Lost Time Incidents (including vehicles) <sup>17</sup> :		
Number of lost workdays <sup>18</sup> resulting from incidents			Number of cases of occupational disease:		
Number of days when people are on sick leave:					
Accident causes (falling, heavy loads, struck by object, contact with energy source etc.):					
Please provide details of any fatalities or major accidents that have not previously been reported, including total compensation paid due to occupational injury or illness (amount and currency):					
Please summarize any emergency prevention and response training that has been provided for Company's personnel during the report period:					
Please summarize any emergency response exercises or drills that have been carried out during the report period:					

<sup>16</sup>If you have not done it yet, please provide a separate report on the circumstances of each fatality in a great detail.

<sup>17</sup> Incapacity to work for at least one full workday on the day when the accident or illness occurred.

<sup>18</sup>The number of workdays is related to lost workdays (consecutive or not) beyond the date of injury or onset of illness that the employee was away from work or limited to restricted work activity because of an occupational injury or illness.

## 7. Stakeholder Engagement

**Please provide the name and contact details for your external relations or community engagement manager:**

Please provide information on the implementation of the Stakeholder Engagement Plan and summarize interaction with stakeholders during the reporting period, including:

- meeting or other initiatives to engage with the members of public or public organizations during the report period,
- information provided for the members of public and other stakeholders during the report period concerning environmental, social or safety issues,
- coverage in media,
- and interaction with any environmental or other community groups.

Please describe any changes to the Stakeholder Engagement Plan:

How many complaints or grievances did the project receive from the members of public or civil society organizations during the reporting period? Please split by stakeholder group. Summarize any issues raised in the complaints or grievances and explain how they were resolved:

## 8. Status and Reporting on Resettlement Action Plan/Livelihood Restoration Framework

### Existing Land Acquisitions

Please report any further progress made during this reporting period in the implementation of the Resettlement Action Plan (RAP) or Livelihood Restoration Framework (LRF), using the monitoring indicators as detailed in the RAP or LRF, and complete the table below. Please provide the results of any other related monitoring carried out by the Company or its consultants and attach any additional information you think would be useful.

Have all the affected persons been fully compensated for their physical displacement and, if applicable are there any economic losses resulting from the project?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If no, specify how many compensation payments are still outstanding (in terms of number and percentage of recipients and payment amounts) and state when these payments will be made:
Has the land acquisition had any additional, unforeseen impacts on affected persons' standard of living or access to livelihoods that were not previously covered in the RAP?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, quantify these impacts and specify what measures have been undertaken to minimize and mitigate these impacts. If no, specify how potential impacts on livelihoods have been monitored.
Have any vulnerable groups been identified?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, list the groups that were identified and describe any additional measures undertaken in order to mitigate impacts specific to these groups.
If applicable, have all transit allowances been paid?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If no, specify how many payments are still outstanding (in terms of number and percentage of recipients and payment amounts) and state when these payments will be made.
Has legal support been provided to all the affected persons?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, specify how many persons effectively made use of the legal support.
Have all outstanding land and/or resource claims been settled?	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	If no, specify how many claims are still outstanding and state what the expected timing is for settling them.
Have there been any new land acquisition-related complaints or grievances?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please state how many and summarize their content.



Has the Company regularly reported the affected communities on the progress made in implementing the RAP?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, please state how many meetings were held and how many participants attended those meetings
<b>New Land Acquisitions</b> If the company acquired any new land for the project during the reporting year, please provide documents to show closure of land acquisition transactions. Please attach new/revised RAP covering the new land acquisition and describe mitigation measures, compensation, agreements reached, etc. and provide in tabular form a list of affected people and status of compensation.		
Are there any persons that physically have been displaced?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, how many?
Are there any persons that economically have been displaced?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, how many?
Will the government assist that resettlement?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

### 9. Community Interaction and Development

Please summarize any social or community development initiatives undertaken by the company during the reporting period, and any associated expenditure:

## **APPENDIX 3**

## **LEGISLATION**

## REGULATIONS AND REQUIREMENTS

This section deals with the regulatory context in terms of consultation and publicity in the Republic of Serbia, and it relates to the Design. Particular emphasis is placed on the importance of the relevant Serbian legislation and regional regulatory instruments.

### BASIC NATIONAL LEGISLATION:

The main laws and regulations currently in force in Republic of Serbia which are relevant to the environmental protection during the design and execution of works are listed below:

1. **Law on Planning and Construction** ("Official Gazette of RS", Nos. 72/2009, 81/2009, 64/2010, 24/2011, 121/2012, 42/2013, 50/2013, 98/2013, 132/2014 and 145/2014);
2. **Law on Nature Protection** ("Official Gazette of RS", Nos. 36/2009, 88/2010, 91/2010 and 14/2016);
3. **Law on Environmental Protection** ("Official Gazette of RS", Nos. 135/2004, 36/2009, 36/2009, 72/2009, 43/2011 and 14/2016);
4. **Law on EIA** ("Official Gazette of RS", Nos. 135/2004, 36/2009);
5. **Law on Strategic EIA** ("Official Gazette of RS" Nos. 135/2004 and 88/2010);
6. **Law on Waste Management** ("Official Gazette of RS", Nos. 36/2009, 88/2010 and 14/2016);
7. **Law on Noise Protection** ("Official Gazette of RS", Nos. 36/2009 and 88/2010);
8. **Law on Water** ("Official Gazette of RS", Nos. 30/2010, 93/2012 and 101/2016);
9. **Law on Forests** ("Official Gazette of RS", Nos. 30/2010, 93/2012 and 89/2015);
10. **Law on Air Protection** ("Official Gazette of RS", Nos. 36/2009 and 10/2013);
11. **Law on Occupational Safety and Health** ("Official Gazette of RS", Nos. 101/2005, 91/2015 and 113/2017);
12. **Law on Roads** ("Official Gazette of RS", No. 41/2018)
13. **Law on Cultural Property** ("Official Gazette of RS", Nos. 71/94, 52/2011 and 99/2011).

Regulations formed based on the aforementioned Laws:

1. Decree of Establishing the List of Projects for Which the Impact Assessment is Mandatory and the List of Projects for Which the EIA Can Be Requested ("Official Gazette of RS" No. 114/08);
2. Rulebook of the Contents of Requests for the Necessity of Impact Assessment and on the Contents of Requests for Specification of Scope and Contents of the EIA Study ("Official Gazette of RS" No. 69/05);
3. Manual of the Contents of the EIA Study ("Official Gazette of RS" No. 69/05);
4. Manual of the Procedure of Public Inspection, Presentation and Public Consultation About the EIA Study ("Official Gazette of RS" No. 69/05);
5. Manual of the Work of the Technical Committee for the EIA Study ("Official Gazette of RS" No. 69/05);
6. Regulations on Permitted Noise Level in the Environment ("Official Gazette of RS" No. 54/92);
7. Regulation on Water Classification ("Official Gazette of RS" No. 5/68);
8. Regulations of Dangerous Pollutants in Waters ("Official Gazette of RS" No. 31/82);
9. Regulation on Limit Values for Emissions of Pollutants in Water and Deadlines for Their Achievement ("Official Gazette of RS" Nos. 67/2011, 48/2012 and 1/2016);
10. Regulation on Limit Values of Polluting Substances in Surface and Ground Waters and Sediments and Deadlines for Their Achievement ("Official Gazette of RS", No. 50/2012).

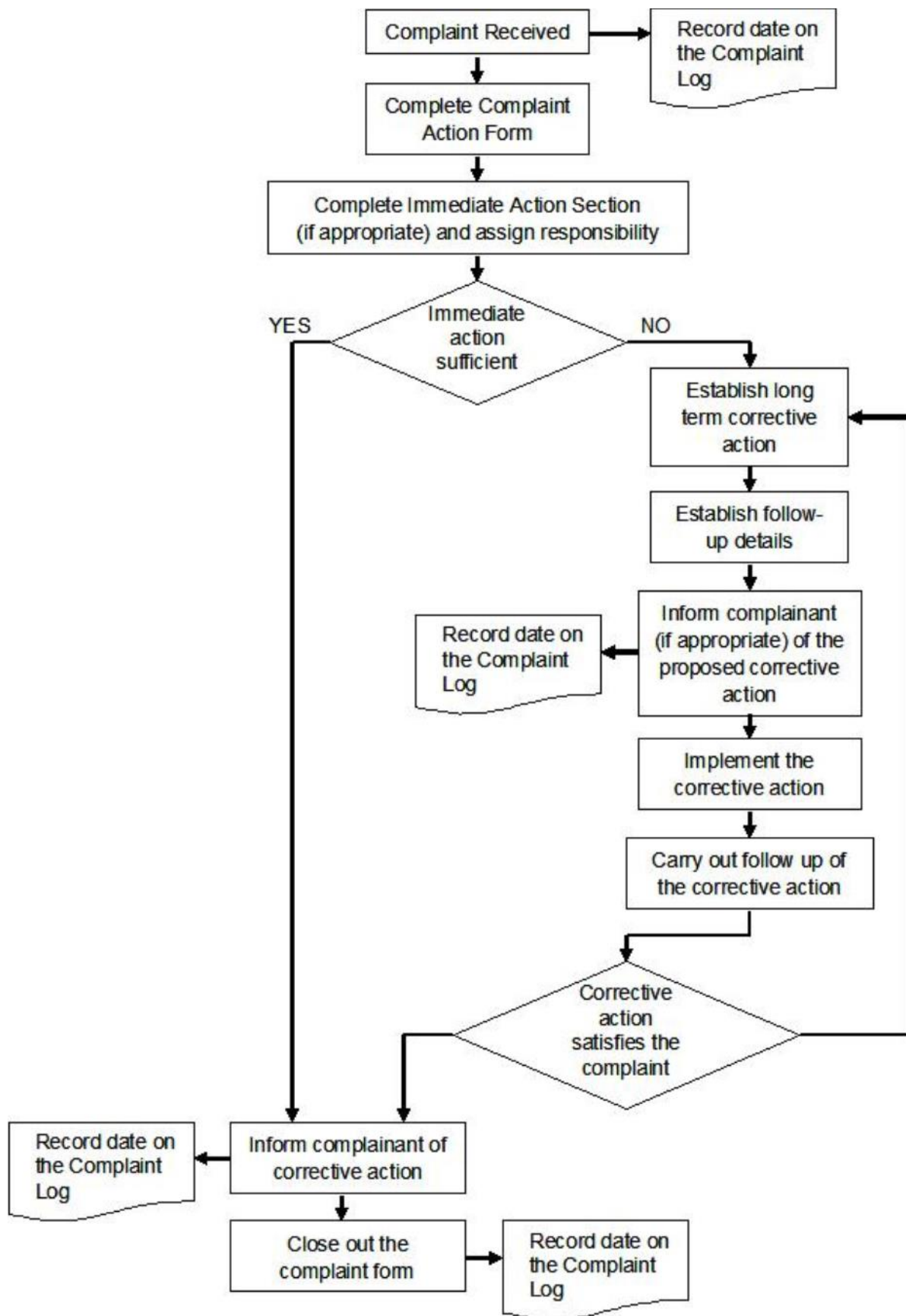
Other relevant Serbian legislation:

1. Law on Confirmation of Convention on Information Disclosure, Public Involvement in Process of Decision Making and Legal Protection in the Environmental Area ("Official Gazette of RS" No. 38/09).

## **APPENDIX 4**

### **THE GRIEVANCE MECHANISM AND FORM**

Flowchart of Complaints/Grievance Procedure:





Grievance Reference Number:			
Contact details	Name:		
	Address:		
	Tel:		
	e-mail:		
How would you prefer to be contacted? Please tick a box	by post	by phone	by e-mail
Name and personal information (a unique identification citizen number from identity card)			
Details of your grievance (Please describe the problems, whom they occurred to, when, where and how many times, as relevant)			
What is your suggested resolution for the grievance?			
How to submit this form to the authorized persons	by post:		
	by hand: Please drop this form at:		
	by e - mail: Please e-mail your grievance, proposed resolution and contact details to the following e – mail address:		
Signature:	Date:		

## **APPENDIX 5**

### **PUBLIC CONSULTATIONS**

## 1 INTRODUCTION

Road Rehabilitation and Safety Project – RRSP is a project of support of the international financial institutions (World Bank, European Investment Bank and European Bank for Reconstruction and Development) to the Government of the Republic of Serbia in implementing the National program for rehabilitation of the state road network. This project represents the realization of the Government's program for the period from 2014 to 2019 and includes the following:

- improving the conditions of the state road network by rehabilitating around 1,100 km of the existing roads,
- raising the safety level on the roads by applying measures for enhancing the traffic safety in all phases of Project implementation, and
- strengthening capacities and improving institutional coordination in the area of traffic safety by implementing greater number of different services.

Designer prepared a draft document of the Environmental Management Plan for the rehabilitation of the State Road IB no. 21, road section: Kosjeric (Varda) - Pozega. The Environmental Management Plan has been created with the aim to ensure the implementation of best practices in accordance with the requirements of International Financial Institutions that funds the Road Rehabilitation and Safety Project. Creating the Environmental Management Plan was carried out through study and research in the field, including consultations with representatives at regional and local level.

The length of the road section planned for rehabilitation is 22.135 km. The beginning of the road section is defined 50 m in front of the node 2127 Kosjeric (Varda). The end of the road section is defined in front of the node 2317 Pozega (chainage at ~ km 205+210, i.e. 675 m after the road sign of the settlement of Pozega, namely, the beginning of a city road section with pavements and city infrastructure).

PE "Roads of Serbia" issued a call for a public discussion to the authorities, organizations and the public concerned for the Environmental Management Plan for the Road Rehabilitation and Safety Project regarding the road section: Kosjeric (Varda) - Pozega. The call was published on the PE Roads of Serbia's website (May 10<sup>th</sup>, 2019), as well as in "Politika" newspapers (May 13<sup>th</sup>, 2019).

Public auditorium, organizations and other interested parties were invited to participate in the public debate on the pre-final document of Environmental Management Plan. This Plan has been submitted to the municipalities of Kosjeric and Pozega. Municipal representatives informed public through local media and municipalities' websites about the time and place of the public discussion.

Access to the Environmental Management Plan was provided at the following addresses:

- the headquarters of PE "Roads of Serbia", Sector for Investments, Vlajkovicева 19a Street, Belgrade, on the first floor, every working day from 11:00 AM to 01:00 PM, within 14 days from the date of publication of the notice;

- within the premises of Department for Urban Planning in Kosjeric Municipal Administration, Olge Grbic 10 Street, 31260 Kosjeric, on working days from 08:00 AM to 03:00 PM, within 14 days from the date of publication of this invitation;
- within the premises of Department for Urban Planning, Construction, Housing and Communal Affairs and Environmental Protection, Trg slobode 9 Street, 31210 Pozega, on working days from 08:00 AM to 02:00 PM, within 14 days from the date of publication of this invitation;
- on the PE "Roads of Serbia" website: [www.putevi-srbije.rs](http://www.putevi-srbije.rs).

Public consultations and presentation of the Environmental Management Plan were held in a conference room no. 3 in City Hall of the Municipality of Kosjeric, Olge Grbic 10 Street, 31260 Kosjeric, on May 30<sup>th</sup>, 2019, from 11:00 AM to 12:00. There were no remarks referring to the presented Environmental Management Plan. There were no questions or concerns about the presented Plan.

## 2 REPORT ON PUBLIC CONSULTATIONS, KOSJERIC MAY 30<sup>TH</sup>, 2019

According to the Operational Policy of the World Bank OP 4.01, the Environmental Management Plan of the Road Rehabilitation and Safety Project for the State Road IB no. 21, road section: Kosjeric (Varda) - Pozega, in length of 22.135 km, has been prepared.

Environmental Management Plan was published and PE "Roads of Serbia" invited all shareholders, public and relevant institutions to inspect all works which were proposed during the road rehabilitation and environmental impacts with review of measures for reduction and monitoring. Prior to announcement in the newspapers, the document was delivered to the municipalities of Kosjeric and Pozega.

Representatives of local self-government informed the public through local media about the time and place of the public consultations. The insight into the draft of the Environmental Management Plan was completed on May 30<sup>th</sup>, 2019, when public consultations were held in Kosjeric.

Public consultations were attended by 11 people<sup>19</sup>.

People who participated on public consultations were:

No.	Name and Surname	Working organization-institution
1.	Branislav Jovanovic	„MHM-Projekt“
2.	Miroslav Stojanovic	„MHM-Projekt“
3.	Jovana Marinkovic	„MHM-Projekt“
4.	Milan Cuckovic	„MHM-Projekt“
5.	Ivana Jankovic	City Administration of Kosjeric
6.	Goran Avramovic	R.Mitrovic, Pozega
7.	Milan...	Green Road Ltd. Kosjeric
8.	Bolovic Radojica	AD Putevi, Pozega

<sup>19</sup> The list of participants is in Chapter 4.

No.	Name and Surname	Working organization-institution
9.	Radovanovic Radovan	Municipality of Kosjeric, Department for Infrastructure
10.	Miodrag Markovic	PUC „Elan”, Kosjeric
11.	Krstic Milinko	SO-Kosjeric



Figure 37. Public consultations held in a conference room no. 3 in City Hall of Municipality of Kosjeric on May 30<sup>th</sup>, 2019

Public consultations of the Environmental Management Plan for the project of Road Rehabilitation and Safety Project for the State Road IB no. 21, road section: Kosjeric (Varda) – Pozega started at 11:00 AM. The Environmental Management Plan was presented by Designers. During public consultations, there were neither remarks nor questions regarding the presented plan.

### 3 COMPLAINTS, QUESTIONS AND ANSWERS

After presentation of the Plan, there were neither questions nor complaints regarding planned works on the observed road section.

#### 4 LIST OF PARTICIPANTS



ПРОЈЕКАТ РЕХАБИЛИТАЦИЈЕ ПУТЕВА И УНАПРЕЂЕЊА БЕЗБЕДНОСТИ САОБРАЋАЈА  
ИЗРАДА ГЛАВНОГ ПРОЈЕКТА ПОЈАЧАНОГ ОДРЖАВАЊА ДРЖАВНОГ ПУТА IБ РЕДА БР. 21  
ДЕОНИЦА: КОСЈЕРИЋ (ВАРДА) - ПОЖЕГА



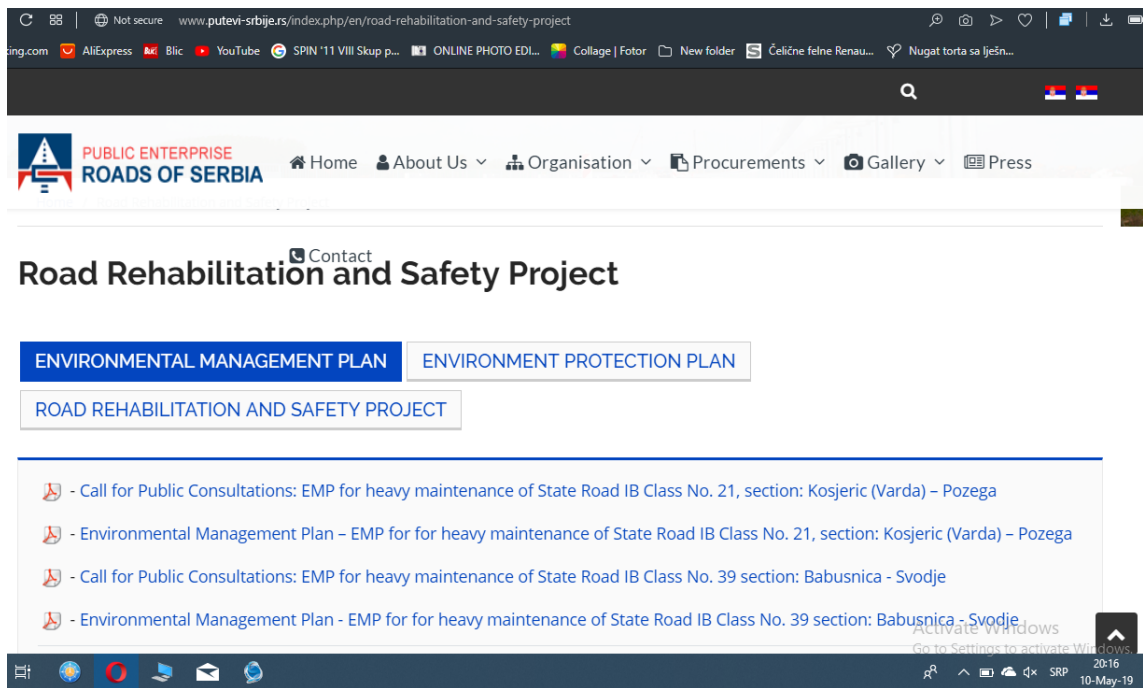
Присутни учесници на јавној консултацији Плана управљања заштитом животне средине

Редни број	Име и презиме	Радна организација - установа	Потпис
1.	MIROSLAV STOJANOVIC	MHM-PROJEKT	
2.	Čučević Milan	-11-	
3.	BRANISLAV JOZANOVIC	MHM-PROJEKT	
4.	JOVANA MARINKOVIC	MHM-PROJEKT	
5.	Горан АВАНОВИЋ	Р. Митровић Поштом	
6.	Наташа Јанковић	Општинска управа Косјерић Одељење за управљање	
7.	М. П. Јанковић	ОПШТИНА КОСЈЕРИЋ	
8.	БОЛОВАЊЕ ВАСИЉ	ОПШТИНА КОСЈЕРИЋ	
9.	РАДОСЛАВ РАДОВАЊ	ОПШТИНА КОСЈЕРИЋ ОДЕЉЕЊЕ ЗА ИНФРАСТРУКТУРУ	
10.	МАРКОВИЋ ПИЛАРАГ	К.П. ЕЛАН КОСЈЕРИЋ	
11.	ИЗВОДИЋ МИЛИЊА	ОПШТИНА КОСЈЕРИЋ	
12.			

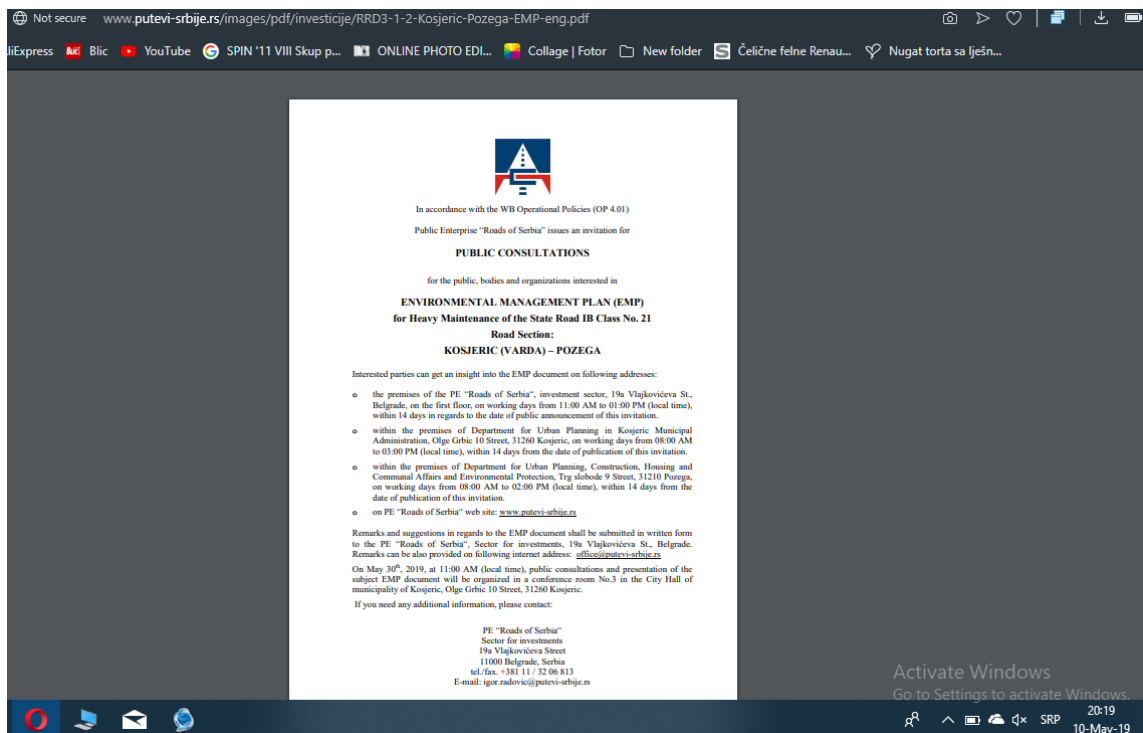
Место: Општинска сала општине Косјерић  
Датум: 30.05.2019.

**Figure 38.** A list of people present at Public consultations held in a conference room no. 3 in City Hall of Municipality of Kosjeric on May 30<sup>th</sup>, 2019

## 5 DOCUMENTATION

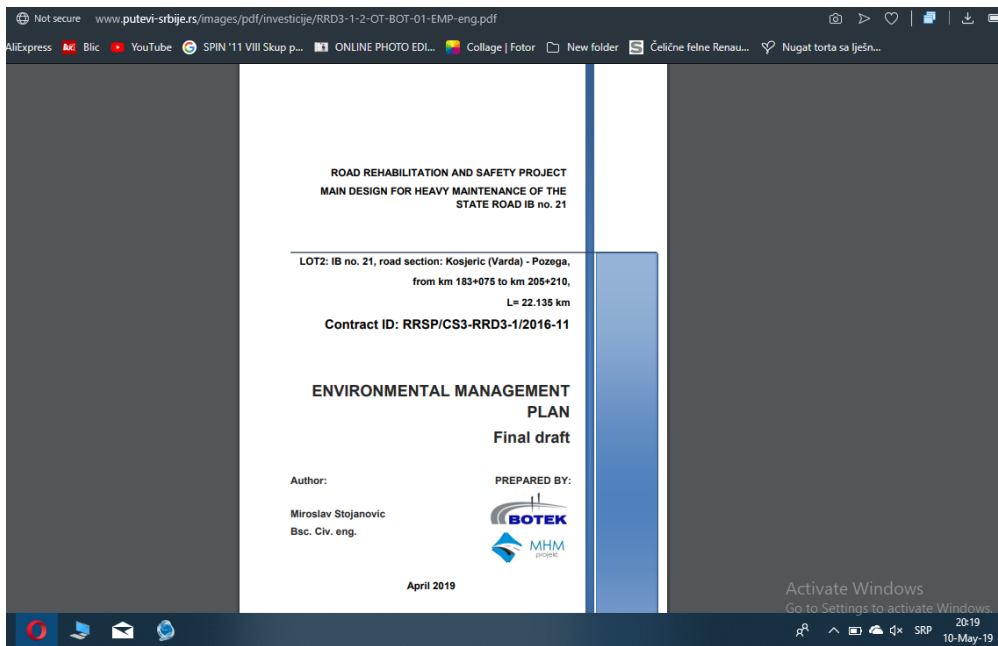


**Figure 39.** Call for Public consultations posted on the website of PE "Roads of Serbia"

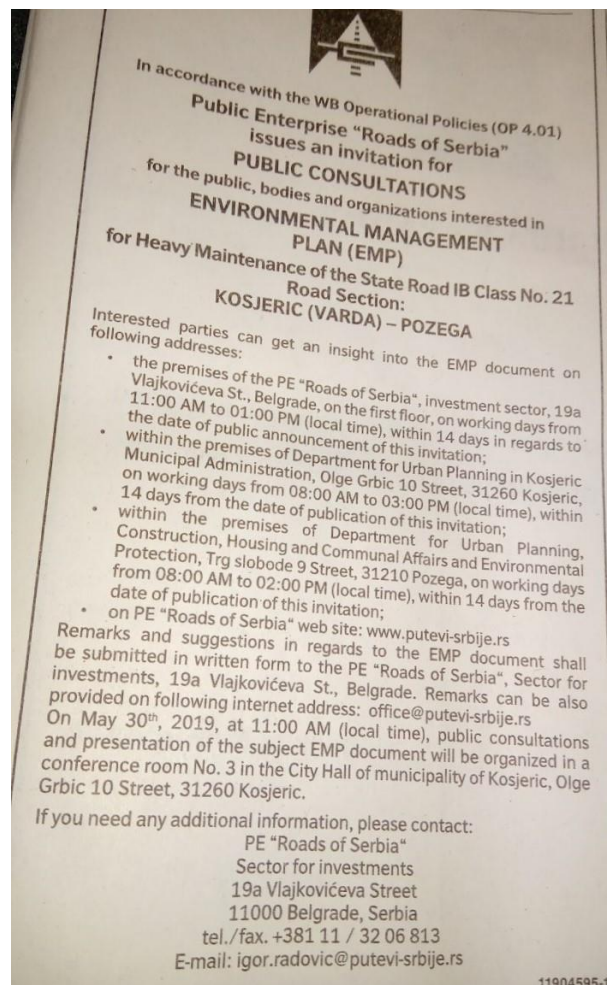


**Figure 40.** Announcement of Public consultations posted on the website of PE "Roads of Serbia"

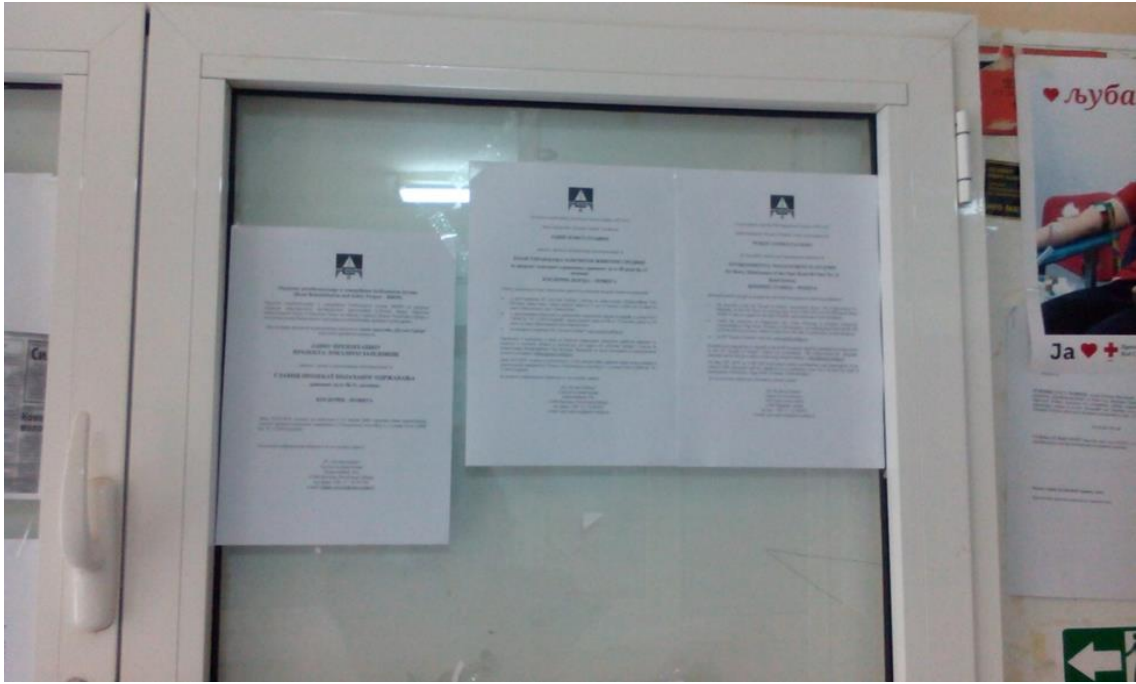




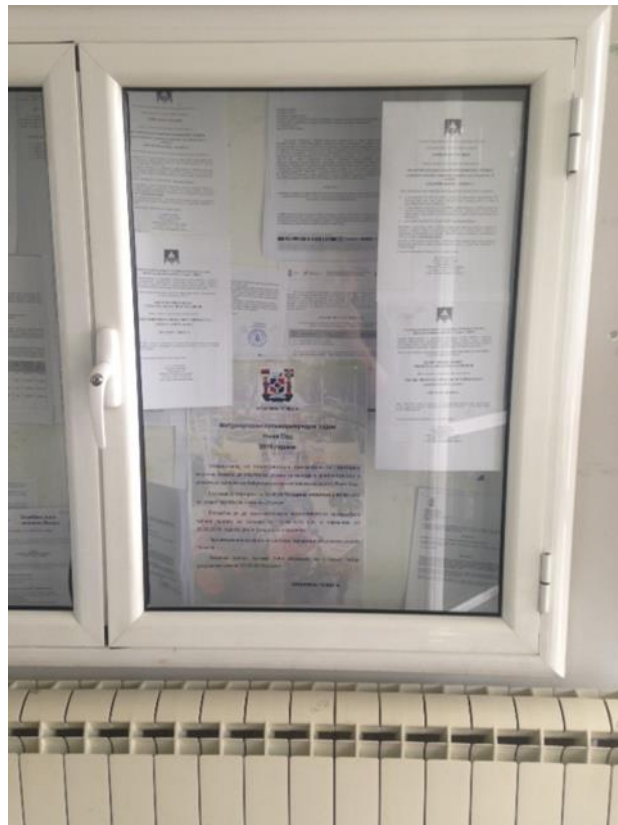
**Figure 41. Environmental Management Plan posted on the website of PE "Roads of Serbia"**



**Figure 42. Announcement published in newspapers „Politika“**



**Figure 43.** Notice of Public consultation meeting hung on the bulletin board in the City Administration of the Municipality of Kosjeric



**Figure 44.** Notice of Public consultation meeting hung on the bulletin board in Department for Urban Planning, Construction, Housing and Communal Affairs and Environmental Protection in Pozega

## **APPENDIX 6**

### **OPINIONS AND CONDITIONS FROM RELEVANT PUBLIC INSTITUTIONS**

Република Србија  
**ЗАВОД ЗА ЗАШТИТУ ПРИРОДЕ СРБИЈЕ**  
 Нови Београд, Др Ивана Рибара бр. 91  
 Тел: +381 11/2093-802; 2093-803  
 Факс: + 381 11/2093-867



Завод за заштиту природе Србије из Београда, Ул. др Ивана Рибара бр. 91, на основу члана 9. Закона о заштити природе („Службени гласник РС“, бр. 36/2009, 88/2010, 91/2010-исправка и 14/2016) и члана 192. Закона о општем управном поступку („Службени гласник РС“, бр. 18/2016), поступајући по захтеву Јавног предузећа „Путеви Србије“ из Београда за издавање услова заштите природе за израду техничке документације Пројекта Појачаног одржавања деонице државног пута IB реда бр. 21 (стара ознака: магистрални пут М-21), деоница Косјерић (Варда) - Пожега, дана 19.09. године под бр. 020-1845/3, доноси

### РЕШЕЊЕ

- I. Предметно подручје се не налази унутар заштићеног подручја за које је спроведен или покренут поступак заштите, не налази се у просторном обухвату еколошке мреже нити у простору евидентног природног добра. Сходно томе, издају се услови заштите природе:
  - 1) Пројектом предвидети таква решења и мере који ће обезбедити услове за очување ваздуха, земљишта, подземних и површинских вода, посебно очување реке Скрапеж дуж чијег тока је предметна деоница пута.
  - 2) Пројектом дефинисати и обезбедити следеће:
    - очувати обалски појас, односно није дозвољено уништавање приобалне вегетације, нарушавање дивљих врста и њихових станишта,
    - није дозвољено одлагање/депоновање било каквог отпада, посебно грађевинског у обалском појасу и самом кориту реке,
    - привремене локације за складиштење потребног грађевинског и другог материјала и опреме, које је неопходно планирати ван обалског појаса реке Скрапеж (плавне зоне), као и простора са високом вегетацијом, и ограничити их искључиво на време трајања радова,
    - привремене или трајне локације (постојеће уређене комуналне објекте/депоније) за одлагање и депоновање шута и другог отпада укључујући и комунални настао у току извођења радова,
    - након завршетка предметних радова све површине које су на било који начин деградирале грађевинским и другим радовима, што пре санирати,
    - строго се придржавати трасе и коридора пута како се при манипулацији возилима и машинама не би оставиле последице на шири простор,
    - користити постојећу путну мрежу без изградње нових путева, у циљу спречавања фрагментације простора и постојећих станишта.
  - 3) При извођењу радова придржавати се коридора пута, како се при манипулацији возилима и машинама не би оставиле последице на шири простор. Такође, користити постојећу путну мрежу без изградње нових путева, у циљу спречавања фрагментације простора и постојећих станишта.
  - 4) Током извођења радова предузети све мере предострожности како би се евентуална појединачна стабла уз трасу пута максимално заштитила и сачувала од могућег оштећења, као што је ломљења грана и скидање коре са дебла при кретању механизације, или на било који други начин нарушила њихова битна својства.

- 5) Пројектом предвидети таложнике и сепараторе масти и уља за воде које настају спирањем са коловоза, посебно дуж тока реке Скрапеж, у циљу заштите од загађења. Пре исуштања у реципијент или канализацију, обавезна је контрола њиховог квалитета.
  - 6) Уређење у зони прелаза пута (моста) преко водотока, као што су: Ненатковица, Ријека, Градња, Добрињска река, Пасковина, као и осталих мањих водотока, предвидети употребу камена и других природних материјала, и у највећој могућој мери избећи бетонирање обала и корита водотока (спровести тзв. природно уређење водотока) при чему је неопходно максимално очување самог корита, али и обала са постојећом вегетацијом.
  - 7) Током извођења грађевинских радова (подизања асфалта и сл.) у непосредној близини стамбених објеката, планирати орошавањем како би се спречило подизање прашине и негативан утицај на људе.
  - 8) Није дозвољено сервисирање возила и машина дуж трасе и коридора пута. Уколико дође до хаваријског изливања горива, уља/мазива и других штетних материја обавезна је санација површине.
  - 9) Извођење радова у току ноћних сати није дозвољено у насељеном подручју због могућег утицаја буке грађевинских машина, као и узнемиравања птица.
  - 10) Предвидети све мере заштите природе у акцидентним ситуацијама уз обавезу обавештавања надлежних инспекцијских служби и установа.
  - 11) Планом дефинисати да, уколико се током радова наиђе на геолошко-палеонтолошка документа или минералшко-петролошке објекте за које се претпоставља да имају својство природног добра, извођач радова је дужан да у року од осам дана обавести Министарство заштите животне средине, као и да предузме све мере заштите од уништења, оштећења или крађе до доласка овлашћеног лица.
  - 12) Уколико дође до одустајања од спровођења пројекта, по започињању радова, Инвеститор је обавезан да локацијски простор што пре доведе у првобитно стање.
2. Ово Решење не ослобађа подносиоца захтева да прибави и друге услове, дозволе и сагласности предвиђене позитивним прописима.
  3. У случају измене Пројекта, потребно је Заводу за заштиту природе Србије поднети нов захтев за издавање услова заштите природе.
  4. Уколико подносилац захтева у року од две године од дана достављања овог Решења не отпочне радове и активности за које је ово Решење о условима заштите природе издато, дужан је да од Завода прибави ново решење о условима заштите природе.
  5. Такса за издавање овог Решења у износу од 30.000,00 динара је одређена у складу са чланом 2. став 5. тачка 1. Правилника о висини и начину обрачуна и наплате таксе за издавање акта о условима заштите („Службени гласник РС“, бр. 73/2011, 106/2013). Подносилац захтева је дужан да наведену таксу уплати у корист рачуна Завода у року од 5 дана од дана достављања предрачуна.

#### *Образложење*

Јавно предузеће „Путеви Србије“, ул. Булевар краља Александра бр. 282, 11050 Београд 22, обратило се Заводу дописом П бр. 953-15992 од 02.08.2017. године са захтевом за издавање услова заштите природе за израду техничке документације Пројекта Појачаног одржавања деонице државног пута IB реда бр. 21 (стара ознака магистрални пут М-21), деоница Косјерић (Варда) – Пожега.

На основу достављеног захтева и пратеће документације подносиоца захтева, утврђено је да је планирана израда Главног пројекта Појачаног одржавања деонице државног



пута IB реда бр. 21 (стара ознака магистрални пут M-21), деоница Косјерић (Варда) – Пожега. Предметни Пројекат је саставни део Пројекта рехабилитације путева и унапређења безбедности саобраћаја на мрежи државних путева, који је подршка међународних финансијских институција Националном програму рехабилитације државних путева Републике Србије. Почетак деонице је у раскрсници државног пута IB реда бр. 21 и улице Јована Цвијића у Косјерићу – крај деонице је раскрсница са улицом Косовских јунака на уласку у Пожегу. Врста радова која се планира углавном обухвата радове ојачања постојеће коловозне конструкције (на појединим местима до дубине од 50-60 см од постојећег коловоза) у постојећим габаритима коловозне конструкције са постојећим и санираним системом одводњавања уз пројектовање свих елемената који продужавају трајност радова и унапређују систем безбедности саобраћаја.

Увидом у Централни регистар заштићених природних добара и документацију Завода за заштиту природе Србије, а у складу са прописима који регулишу област заштите природе, утврђени су услови заштите природе из диспозитива овог Решења. Предметно подручје (траса пута) не налази се унутар заштићеног подручја за које је спроведен или покренут поступак заштите. При томе се имало у виду да се предметно подручје, не налази унутар заштићеног подручја за које је спроведен или покренут поступак заштите, не налази се у просторном обухвату еколошке мреже нити у простору евидентираних природних добара.

Законски основ за доношење решења: Закон о заштити природе („Службени гласник РС“, бр. 36/2009, 88/2010, 91/2010-исправка и 14/2016); Закона о заштити животне средине („Службени гласник РС“, бр. 135/2004, 36/2009, 72/2009, 43/2011 и 14/2016); Уредба о еколошкој мрежи („Службени гласник РС“, бр. 102/2010).

Планирани радови на изради техничке документације пројекта Појачаног одржавања деонице државног пута IB реда бр. 21 (стара ознака магистрални пут M-21), деоница Косјерић (Варда) – Пожега могу се реализовати под условима дефинисаним овим Решењем, јер је процењено да неће угрозити основне природне вредности подручја.

На основу свега наведеног, одлучено је као у диспозитиву овог Решења.

Подносилац захтева је ослобођен од плаћања таксе у складу са чланом 18. Закона о републичким административним таксама („Службени гласник РС“, бр. 43/2003, 51/2003, 61/2005, 5/2009, 54/2009, 50/2011, 93/2012, 83/2015, 112/2015, 50/2016 и 61/2017).

**Упутство о правном средству:** Против овог решења може се изјавити жалба Министарству заштите животне средине у року од 15 дана од дана пријема решења. Жалба се предаје писмено или изјављује усмено на записник Заводу за заштиту природе Србије.

ДИРЕКТОР

Александар Драгишић

Достављено:  
- Подносиоцу захтева  
- Архива x 2

РЕПУБЛИКА СРБИЈА  
**ЗАВОД ЗА ЗАШТИТУ ПРИРОДЕ СРБИЈЕ**  
 НОВИ БЕОГРАД, Др Ивана Рибара бр. 91  
 Тел: +381 11/2093-802; 2093-803;  
 Факс: +381 11/2093-867

VI  
 ЈАВНО ПРОВОДНО ПУТНОМ СРБИЈЕ  
 Д Број: 953 - 16117 / 18-1  
 Датум: 08 - 08 - 2018  
 БЕОГРАД, Булевар Краља Александра бр. 608

Завод за заштиту природе Србије, Београд, Ул. др Ивана Рибара бр. 91, на основу члана 144. Закона о општем управном поступку („Службени гласник РС“, бр. 18/2016), а поступајући по захтеву П број: 953-16117 од 24.07.2018. године ЈП „Путеви Србије“ из Београда, Бул. Краља Александра 282, за исправљање грешке у Решењу 03 бр. 020-1845/3 од 12.09.2017. године, дана 08.08 2018. године, под 03 бр. 020-1995/2 доноси

### РЕШЕЊЕ

- У Решењу 03 бр. 020-1845/3 од 12.09.2017. године о условима заштите природе за израду техничке документације пројекта Појачаног одржавања деонице државног пута IB реда бр. 21 (стара ознака: магистрални пут М-21), деоница Косјерић (Варда) - Пожега, исправља се грешка, и то:
  - тачка 1. подтачка 5) се мења, тако да сада гласи:  
 „За воде које настају спирањем са коловоза и оптерећене су уљима и другим нафтним дериватима предвидети изградњу таложника и сепаратора масти и уља, уколико се Планом управљања животном средином утврди/процени да ће просечни годишњи дневни саобраћај негативно утицати на квалитет воде реке Скрапеж и других водотокова са којима се предметни државни пут укршта или паралелно води, односно да ће бити нарушене граничне вредности које су дефинисане Уредбом о граничним вредностима емисије загађујућих материја у воде и роковима за њихово достизање („Службени гласник РС“, бр. 67/2011, 48/2012 и 1/2016) и Уредбом о граничним вредностима загађујућих материја у површинским и подземним водама и седименту и роковима за њихово достизање („Службени гласник РС“, бр. 50/2012).“
- У свему осталом предметно Решење остаје непромењено.
- Ово решење почиње да производи правна дејства од када и Решење које се исправља.

### Образложење

Завод за заштиту природе Србије примио је дана 25.07.2018. године захтев заведен под бр. 020-1995/1 ЈП „Путеви Србије“ из Београда за исправљање грешке у Решењу Завода 03 бр. 020-1845/3 од 12.09.2017. године о условима заштите природе за израду техничке документације пројекта Појачаног одржавања деонице државног пута IB реда бр. 21 (стара ознака: магистрални пут М-21), деоница Косјерић (Варда) – Пожега.



У току писања наведеног решења у тачки 1. подтачка 5) диспозитива направљена је очигледна грешка прописивањем мера које се односе на обавезно прикупљање воде које настају спирањем са коловоза и оптерећене су уљима и другим нафтним дериватима и њихово пречишћавање изградњом таложника и сепаратора масти и уља, а пре испуштања у реципијент или канализацију.

Будући да прописани услов не разматра функционалну везу између величине саобраћајног оптерећења, као емитера загађујућих материја, и количину загађујућих материја коју тај саобраћај емитује, нити помиње граничне вредности загађујућих материја које су дефинисане Уредбом о граничним вредностима емисије загађујућих материја у воде и роковима за њихово достизање („Службени гласник РС“, бр. 67/2011, 48/2012 и 1/2016), наведену и описану грешку у писању Решења је требало исправити.

**Упутство о правном средству:** Против овог решења може се изјавити жалба Министарству заштите животне средине у року од 15 дана од дана пријема решења. Жалба се предаје Заводу за заштиту природе Србије.

ДИРЕКТОР

Александар Драгишић



Достављено:  
- Подносиоцу захтева  
- Архива x 2



### Завод за заштиту споменика културе Краљево

6000 Краљево, Цара Лазара 24, ПИБ 100239951, матични број 07101104.  
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ЗАВОД ЗА ЗАШТИТУ СПОМЕНИКА КУЛТУРЕ

Број

1012/3

44 09.

2017

К Р А Љ Е В О

ЈАВНО ПРЕДУЗЕЋЕ "ПУТЕВИ СРБИЈЕ"

И

953-15986/17-1

Број

12-09-2017

Улица

Булевар краља Александра бр. 282

Завод за заштиту споменика културе Краљево, Краљево, Улица Цара Лазара бр. 24, на основу члана 36 став 1, тачка 4, чл. 99 став 2. тачка 1 и 3, члана 100 став 1 и члана 104, 109 и 110. Закона о културним добрима („Службени гласник РС“, бр.71/94, 52/2011-др.закон, 99/2011-др.закон), као и члана 104. Закона о општем управном поступку („Службени гласник РС“, бр.18/2016), поступајући по захтеву Јавног предузећа "ПУТЕВИ СРБИЈЕ", Београд, Ул. Булевар краља Александра бр. 282, Сектор за инвестиције, Београд, Ул. Влајковићева бр. 19а, П Бр. 953-15986 од 02.08.2017. године, за потребе издавања услова за израду техничке документације Пројекта појачаног одржавања државног пута IB реда бр. 21 (стара ознака магистрални пут М-21), деоница Косјерић (Варда) - Пожега, за примљеног у овом Заводу под бројем 1012/1 од 03.08.2017. године, доноси

### РЕШЕЊЕ

**I** – Подносиоцу захтева, издају се услови за предузимање мера техничке заштите за израду техничке документације Пројекта појачаног одржавања државног пута IB реда бр. 21 (стара ознака магистрални пут М-21), деоница Косјерић (Варда) – Пожега, и могу се предузети према следећим условима:

- Констатовано је да се на предметној траси налази се спомен обележје од интереса за заштиту и то *Спомен чесма у Глумачу*.

Са тим у вези дефинисани су следећи услови под којима је могуће извести планиране радове:

1. Инвеститор/извођач је у обавези да обавести надлежни Завод за сваку промену трасе пута као и додавање било каквих нових објеката (петље, пумпе, ауто базе и др.) и за те локације затражи додатне услове Завода.
2. За било какве интервенције на споменицима под претходном заштитом или њиховим прилазима потребно је прибавити посебне услове Завода.
3. Извођач је у обавези да предузме мере заштите како добра под претходном заштитом не би била уништена и оштећена.
4. С обзиром да су археолошки локалитети испод површине земље и врло често површински неуочљиви, неопходно је да уколико се приликом било каквих земљаних радова наиђе на покретне или непокретне остатке археолошког порекла, инвеститор или извођач обавесте надлежни Завод и моментално обуставе даље радове. Завод прописује додатне услове или археолошки надзор на предметном добру под претходном заштитом. Трошкове надзора и заштите добра сноси инвеститор.
5. Забрањено је неовлашћено прикупљање археолошког материјала.
6. Забрањује се просипање и одлагање отпадних и штетних материјала, складиштење материјала и стварање депонија на добрима под претходном заштитом.
7. Забрањује се дислоцирање и уништавање надгробних споменика.
8. Трошкови истраживања, заштите, чувања, публикација и излагања добра које ужива претходну заштиту, све до предаје добра на чување овлашћеној установи заштите сноси инвеститор.

**II** - Инвеститор је дужан да према условима из тачке 1) овог Решења сачини пројектну документацију и на исту прибави сагласност овог Завода, у складу са важећим законским прописима.

**III** – Ово Решење не ослобађа подносиоца захтева обавезе прибављања и других услова, дозвола и сагласности предвиђених прописима о планирању и уређењу простора и насеља, изградњи објеката и осталих важећих законских прописа.



### Завод за заштиту споменика културе Краљево

16000 Краљево, Цара Лазара 24, ПИБ 100239951, матични број 07101104  
 тел. 036 331 866, тел/факс 036 321 025, e-mail: zzzsky@gmail.com  
 жиро рачун: 840-69664-74, 840-69668-62

-2-

IV - Ово Решење важи две године од дана издавања.

V - Жалба на Решење не задржава извршење овог Решења.

### Образложење

Овом Заводу обратило се Јавно предузеће "ПУТЕВИ СРБИЈЕ", Београд, Ул. Булевар краља Александра бр. 282, Сектор за инвестиције, Београд, Ул. Влајковићева 19а, захтевом за прибављање услова за предузимање мера техничке заштите за израду техничке документације Пројекта појачаног одржавања државног пута II реда бр. 21 (стара ознака магистрални пут М-21), деоница Косјерић (Варда) – Пожега.

Увидом у документацију овог Завода и на лицу места, као и на основу Извештаја број 1012/2 од 08.09.2016.године, сачињеног од стране стручних сарадника овог Завода, није утврђено постојање непокретних културних добара нити евидентираних добара која уживају заштиту на основу Закона о културним добрима („Службени гласник РС“, бр.71/94, 52/2011-др.закон, 99/2011-др.закон). Међутим, на предметној траси налази се спомен обележје од интереса за заштиту и то *Спомен чесма у Гумачу*.

Обзиром да су археолошки локалитети специфични са становишта заштите јер се налазе испод површине земље и често није могуће знати за њихово постојање, приликом било каквих земљаних радова могуће је наићи на остатке материјалне културе из прошлости, те је у том случају неопходно организовати праћење спровођења мера заштите од стране археолога Завода.

На основу чл. 36. став 1 тачка 4. Закона о културним добрима прописано је да је сопственик дужан да прибави услове за предузимање мера техничке заштите и прибави сагласност надлежне установе за предузимање мера и радова на добру којима се могу проузроковати промене изгледа, облика или намене добра или повредити његова својства.

На основу чл. 99. став 2. тачка 3. Закона о културним добрима прописано је да се мере техничке заштите и други радови којима се могу проузроковати промене облика или изгледа непокретног културног добра или повредити његова својства, могу предузимати ако се прибаве потребни услови и одобрења на основу прописа о планирању и уређењу простора и изградњи објеката.

Чланом 109. Закона о културним добрима прописано је да уколико се у току извођења земљаних и других радова наиђе на археолошко налазиште или археолошке предмете, извођач радова дужан је да одмах, без одлагања, прекине радове и о томе обавести надлежни Завод за заштиту споменика културе, као и да обезбеди средства за заштитна археолошка истраживања и конзервацију налаз

Чланом 110. Закона о културним добрима прописано је да је Инвеститор дужан да обезбеди средства за истраживања, заштиту, чување, публикавање и излагање добра које ужива претходну заштиту, све до предаје добра на чување овлашћеној установи заштите.

Са изложеног, одлучено је као у диспозитиву овог Решења.

На основу члана 104. став 3. Закона о културним добрима, жалба не одлаже извршење Решења.

**ПРАВНА ПОУКА:** Против овог Решења дозвољена је жалба Републичком Заводу за заштиту споменика културе - Београд у року од 15 дана од дана достављања решења. Жалба се подноси преко доносиоца овог Решења, а на основу члана 16. Закона о културним добрима и ослобођена је плаћања републичке административне таксе.

Обрађивачи: др Марија Марић, Археолог, мр Катарина Грујовић Бркић, етнолог-антрополог и Љиљана Александрић, дипл. правник

#### Доставити:

- Подносиоцу захтева
- Републичком Заводу за заштиту споменика културе - Београд
- Архиви Завода

В.Д. ДИРЕКТОРА ЗАВОДА,

Иван Милуновић



Република Србија  
**МИНИСТАРСТВО ЗАШТИТЕ  
 ЖИВОТНЕ СРЕДИНЕ**  
 Број: 011-00-00181/2018-03  
 Датум: 12.03.2018.  
 Београд

**ЈП ПУТЕВИ СРБИЈЕ**  
 Тим за имплементацију Пројекта  
**11 000 БЕОГРАД**  
 Влајковићева 19а

**Предмет:** Допис у вези са захтевом

Министарству заштите животне средине обратили сте се Захтевом за давање мишљења о потреби израде студије о процени утицаја на животну средину пројекта појачаног одржавања и отклањања оштећења на државном путу IV реда бр. 21, деоница Косјерић (Варда) - Пожега; L=22,135 км, заведен под бројем 011-00-00181/2018-03 од 06.03.2018.

У допису наводите да пројекат обухваћен и интегралним "Пројектом рехабилитације путева и безбедности саобраћаја (Road Rehabilitation and Safety Projekt – RRSP)" који се финансира из међународног кредита.

Пројекат подразумева грађевинско-путарске радове у оквиру трасе већ постојећег државног пута.

Уз Захтев је приложена и додатна документација:

- Правилник о ургентном одржавању државног пута („Сл. гласник РС“ 74/2014 и 87/2014), којим су дефинисане врсте радова, технички услови и начин извођења радова;
- Правилник о периодичном одржавању државног пута ( на основу чл. 61 ст. 1 Закона о путевима, „Сл. гласник РС“ 101/05, 123/07, 101/11, 93/12 и 104/13)
- Кратак опис пројекта уз графички прилог;
- Решење бр. 020-1845/3 од 12.10.2017. које је издао Завод за заштиту природе Србије;
- Решење бр. 1012/3 од 11.09.2017. које је издао Завод за заштиту споменика културе Краљево;

- Пуномоћје бр. 953-1827 од 23.01.2018. за JV BOTEK Bosphorus Tehnical Consulting Corp. & МНМ –ПРОЈЕКТ doo Novi Sad, које је издало ЈП ПУТЕВИ СРБИЈЕ;

На основу члана 4. ст. 1. и 3. Закона о процени утицаја на животну средину („Сл. гласник РС“, 135/04 и 36/09) донета Уредба о утврђивању Листе пројеката за које је обавезна процена утицаја и Листе пројеката за које се може захтевати процена утицаја на животну средину („Сл. гласник РС“, 114/08), којом су утврђени пројекти за које се обавезно израђује процена утицаја-Листа I и пројекти за које се процењује значајан или могућ утицај на животну средину-Листа II.

Пројекат ургентног одржавања, рехабилитације и отклањања оштећења на путевима не налази се на прописаним Листама и, сагласно томе, *носилац пројекта није у обавези да уђе у процедуру процене утицаја*, у складу са Законом о процени утицаја на животну средину („Сл. гласник РС“ 135/04 и 36/09).



**Доставити:**

- наслову
- ✓ - JV BOTEK Bosphorus Tehnical Consulting Corp. & МНМ –ПРОЈЕКТ doo  
21 000 Нови Сад, Јована Поповића 40
- архиви



**ЈАВНО ВОДОПРИВРЕДНО ПРЕДУЗЕЋЕ**  
**"СРБИЈАВОДЕ" Београд**  
**Водопривредни центар "Морава" Ниш**  
**Секција "Ужице" Ужице**

Број: 1945 / 1  
 Дана: 16-08 2018. год.  
 Н И Ш

Ј.Ј.

Јавно водопривредно предузеће "Србијаводе" Београд, Водопривредни центар "Морава" Ниш, Секција Ужице, на основу Закључка Министарства пољопривреде и заштите животне средине, Републичке дирекције за воде, бр.325-службено од 27.09.2016.год., решавајући по захтеву JV BOTEK Bosphorus Technical Consulting Corp. & МНМ-ПРОЈЕКТ D.O.O. NOVI SAD, бр:11-230218/8 од 23.02.2018.год., који нам се обратио у име Јавног предузећа "Путеви Србије" Београд, Булевар краља Александра бр. 282, (ПИБ: 104260456; МБ: 20132248) издаје

**М И Ш Љ Е Њ Е**

у поступку издавања водних услова ради израде Главног пројеката појачаног одржавања државног пута IB21, деоница: Косјерић (Варда) - Пожега, L=22,135 км

1. Општи подаци

1.1. Назив

- објекат: IB21, деоница: Косјерић (Варда) - Пожега, L=22,135км;
- општина: Косјерић, Пожега;
- управни округ: Златиборски;
- радови: израда Главног пројеката појачаног одржавања државног пута IB21, деоница: Косјерић (Варда) - Пожега, L=22,135 км.

1.2. Хидрографски подаци

- Постојећи државни пут IB21, деоница: Косјерић (Варда) - Пожега, L=22,135км, пружа се паралелно са већим бројем водотокова који су наведени, а на неким локацијама водоток тече непосредно уз саму саобраћајницу. На деоници која је обухваћена пројектом предвиђени су радови на 6 локација:
  1. Мост преко реке Кладорубе, стац. 183+390,
  2. Мост преко пруге Београд-Бар код Косјерића, стац. 185+175,
  3. Мост преко реке Ненадковице код Тубића, стац. 188+094,
  4. Мост преко потока код Тубића, стац. 190+815,
  5. Мост преко потока код Каленића, стац. 192+886,
  6. Мост преко Добрињске реке, стац. 198+247,
- слив: Западна Морава;
- водно подручје: Морава.

1.3. Хидролошки подаци

1. Мост преко реке Кладаробе, стац. 183+390.

- Потребно уређење водотока испод моста, као и у самој зони моста, узводно и низводно минимум по 50 м
  - Потребно урадити кегле на опорцу на левој обали (обадве)
  - Потребно урадити на опорцу десно, на улазу на мост, потпорни зидић или део кегле
  - Пешачке стазе, одрадити нове са новом адекватном оградом
  - Дилатације на мосту не постоје
- Река Кладароба је бујични водоток, налази се ван Оперативног плана одбране од поплава за 2018. годину Републике Србије коју спроводи ово предузеће. Иста је обухваћена Оперативним планом за одбрану од поплава за водотоке II реда на територији општине Кошјерић. Корито Кладаробе је неуређено, постоји урађена пројектна документација за њено регулисање кроз град. 2014. и 2016. године, река Кладароба се изливала из свог корита плавећи ниже делове града и потез ка хотелу, док саобраћајница није била угрожена.
2. Мост преко пруге Београд-Бар код Кошјерића, стац. 185+175.
- Потребно делимично санирати доњу страну плоче пошто је утезана преднапрезањем (жице се виде), вероватно је постојало вибрирање плоче или недовољна носивост па је почео да се одваја малтер. Приликом бетонирања плоче арматура остала на оплати и постала видљива.
3. Мост преко реке Ненадковице код Тубића, стац. 188+094.
- Потребно уређење водотока у зони око моста
  - Потребно урадити нове конзоле (пешачке стазе) са новом оградом
  - Санирати опорце обавезно
  - Видљиви површински недостатци на мосту
- Река Ненадковица је бујични водоток, налази се ван Оперативног плана одбране од поплава за 2018. годину Републике Србије коју спроводи ово предузеће. Иста је обухваћена Оперативним планом за одбрану од поплава за водотоке II реда на територији општине Кошјерић. Корито Ненадковице је неуређено. Током поплава 2014. године није долазило до изливања у зони моста.
4. Мост преко потока код Тубића стац. 190+815.
- У питању је параболични пропуст без неких видљивих оштећења.
- Ради се о безименом потоку који се налази ван Оперативног плана одбране од поплава за 2018. годину Републике Србије коју спроводи ово предузеће. Није обухваћен ни Оперативним планом локалне самоуправе.
5. Мост преко потока код Каленића на стац. 192 +886.
- Потребно уређење водотока око и у зони моста
  - Потребно урадити нове пешачке стазе са адекватном оградом
- Ради се о мањем бујичном водотоку, није обухваћен плановима одбране од поплава.
6. Мост преко Добрињске реке на стац. 198+247.
- Мост саниран у 2017 години. (одрађена нова плоча, пешачке стазе са новом оградом)
  - Потребно уредити речно корито и повећати протицајни профил корита у зони моста, минимум 100 м испод и изнад моста.
- При задњим великим поплавама 2014. и 2016. године, мост је био на граници преливања воде преко коловоза, због недовољне пропусне моћи.
- Добрињска река је бујични водоток, налази се ван Оперативног плана одбране од поплава за 2018. годину Републике Србије коју спроводи ово предузеће. Иста је обухваћена Оперативним планом за одбрану од поплава за водотоке II реда на територији



општине Пожега. У току 2017. године изведени су регулациони радови у зони моста, али ми у архиви немамо документацију.

#### 1.4.Остали подаци

- По Уредби о категоризацији државних путева ("Сл.гласник РС", бр.105/13 и 119/13) предметна деоница је део државног пута IV21, деоница: Косјерић (Варда) - Пожега.
- Пројекат рехабилитације путева и унапређења безбедности саобраћаја је пројекат подршке међународних финансијских институција (Светске банке, Европске инвестиционе банке и Европске банке за обнову и развој) Влади Републике Србије у имплементацији Националног програма рехабилитације државне путне мреже. Овај пројекат представља реализацију прве фазе Владиног програма за период 2014-2019. година и обухвата:
  - унапређење стања државне путне мреже кроз рехабилитацију око 1100 км постојећих путева,
  - подизање нивоа безбедности на путевима кроз примену мера за унапређење безбедности саобраћаја у свим фазама имплементације Пројекта и
  - јачање капацитета и унапређење институционалне координације у области безбедности саобраћаја кроз имплементацију већег броја различитих услуга.

#### 2. Подаци од значаја за издавање водних услова

- Циљ израде техничке документације појачаног одржавања државног пута је израда Главног пројекта којим се обезбеђује:
  - повећање употребне вредности и трајности пута,
  - унапређење безбедности саобраћаја,
  - укључење захтева локалне заједнице (социјални аспект) и поштовање захтева заштите животне средине у максималној могућој мери у датим условима просторног ограничења (контекст деонице)
  - ограничења која произилазе из врсте дозвољених грађевинских и саобраћајних интервенција (законски основ).
- Главним грађевинским пројектом појачаног одржавања пута планира се да се дефинишу:
  - елементи ситуационог плана, подужног и попречног профила (радијусе хоризонталних и вертикалних кривина, скретне углове, подужне и попречне нагибе и др.), који обезбеђују прописану прегледност пута;
  - геометријска пројектна решења рехабилитације коловоза (санација оштећења површине коловоза, корекција облика постојећег коловозног застора или коловоза, наношење нових слојева, прерада застора, стругање и наношење нових слојева и др.) и представити у адекватној размери;
  - решење одводњавања коловоза;
  - решење одводњавања тупа пута,
  - решења прикупљања и одвођења кишних и процедурних вода са околног терена,
  - нивелациона решења пратећих садржаја (прикључака осталих путева, аутобуских стајалишта, бензинских станица и паркиралишта) у путном појасу пројектоване деонице.
- Сви планирани радови су у оквиру постојећег путног појаса без експропријације нових површина земљишта. Изузетно, уколико пројектоване мере неопходне за отклањања опасних места на микролокацијама предметне деонице захтевају експропријацију нових површина, односно излазе изван постојећег путног појаса, пре усвајања коначног решења обавезно је прибављање претходне сагласности Наручиоца.
- Инвеститор планира да са гледишта одводњавања изврши оцену функционалног стања: банкина, ригола, каналета, ивичњака, јаркова, пропуста дренажа и осталих елемената

система за одводњавање. Оцена стања састоји се у прикупљању индикатора стања визуелним прегледом и оцени стања сваког елемента система за одводњавање која подразумева евидентирање:

- топографије терена (усек/насип);
  - нагиба коловоза и банкина;
  - геометрију и стање канала и јаркова;
  - ефикасност система за одводњавање.
- На елементима система за одводњавање планира се евидентирање постојање структурних оштећења. Са становишта одводњавања хидрауличким прорачуном планира се провера капацитета система за одводњавање уз коришћење података из хидролошких и хидротехничких истражних радова.
  - Планира се давање оцене врсте и степена утицаја постојећег стања система за одводњавање на појаву уочених структурних и површинских оштећења пута, и на основу оцене стања предлажу се решења за унапређење система за одводњавање.
  - Наведене регулације нису у зони аутопута али због непосредне близине, габарити и начин регулације могу користити пројектанту у циљу изналажења прихватљивих решења.

На основу наведених података урадити пројектну документацију:

- У свему према постојећим важећим законским прописима, као и важећим нормама за ову врсту радова;
- За све хидрауличке прорачуне који се односе на одводњавање атмосферских вода као и хидротехничке грађевине (мостови, пропусни, канали за одводњавање и др.) треба користити хидролошке податке добијене у Мишљењу РХМЗ-а, а уколико се прибављају водни услови од ЈВП „Србијаводе“;
- Приликом рехабилитације не вршити смањење светлог отвора мостова и пропуста и извршити рачунску контролу пропусне моћи ових објеката. Мостови и пропусни треба да задовоље меродавну рачунску велику воду појаве једном у 100 година  $Q_{1\%}$  (РХМЗ);
- Уколико се планирају радови већег обима који подразумевају значајне радове у постојећим водотцима, а који могу имати већи утицај на режим вода инвеститор се мора обратити посебним захтевом за сваки такав објекат посебно;
- У пројектној документацији у графичким прилозима потребно је учртати положај моста, попречне и подужне пресеке као и остале детаље из којих се може сагледати утицај евенуалних радова на рехабилитацији, на режим вода као и утицај вода на објекат - радове;
- Пројектом предвидети технологију извођења радова у зони водотока којом се не ремети нормалан режим течења (постављање скела и других препрека у водоток);
- У случају да се планира реконструкција мостова - пропуста или неке друге интервенције на њима које подразумевају промену конструктивних карактеристика или смањење протицајног профила, неопходно је да се обратите посебним захтевом како би за те радове дали своје мишљење;
- Приликом изградње није дозвољено депоновање, одлагање било каквог материјала у водотцима нити смањења њиховог протицајног профила.

Сагледавајући изложено, стручна служба овог предузећа издала је Мишљење на основу наведеног Закључка (бр.325-службено од 27.09.2016.год.). Стручна служба напомиње да су у међувремену вршене измене и допуне Закона о водама ("Сл. гласник РС" бр. 30/2010, 93/12 и 101/16).

Уз захтев је достављена следећа документација:

- Пуномоћ за одабраног консултанта издату од стране ЈП Путеви Србије (електронска верзија на ЦД-у);

- Усаглашен став – Закључак Министарства пољопривреде и заштите животне средине број 325-службено од 27.09.2016. године (Министарство грађевинства, саобраћаја и инфраструктуре број: 06-00-00126/2016-03 издатим 09.09.2016. године) након састанка МГСИ, Републичке Дирекције за воде, ЈП „Путеви Србије“ и ЈВП „Србијаводе“ (електронска верзија на ЦД-у);
- Геодетска ситуација предметне деонице државног пута IV21, деоница: Косјерић (Варда) - Пожега, L=22,135 км са ортофото подлогом (електронска верзија на ЦД-у).

Доставити:

- Инвеститору,
- Министарству,
- архиви.



Директор, 58.

Д-р Драгољуб Миљковић, дипл. грађ. инж.