

Beograd, Bulevar kralja Aleksandra 282 381 11 30 40 700 fax: +381 11 30 40 699

ENVIRONMENTAL MANAGEMENT PLAN & CHECK LIST

for

CORRIDOR X HIGHWAY PROJECT

Component 1 - Corridor Xd The M-1 Road to FYR Macedonia (E-75) NIS - Border of FYRM

Section:

SRPSKA KUCA – LEVOSOJE

km 933+850 to km 942+413

- Environmental Category A -

Belgrade, August 2012

TABLE OF CONTENTS

- **1. PROJECT DESCRIPTION**
- 2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK
- 3. SUMMARY OF ENVIRONMENTAL IMPACTS
- 4. DESCRIPTION OF MITIGATION MEASURES
- 5. DESCRIPTION OF MONITORING PROGRAM
- 6. PUBLIC CONSULTATIONS
- 7. INSTITUTIONAL ARRANGEMENTS
- 8. IMPLEMENTATION SCHEDULE AND REPORTING PROCEDURES
- 9. REFERENCE

APPENDICES

- I CHECK LIST MITIGATION
- II CHECK LIST MONITORING
- III RELEVANT SERBIAN LEGISLATION
- IV PRECONDITIONS OBTAINED FROM RELEVANT INSTITUTIONS

ABBREVIATIONS AND ACRONYMS

- EIA Environmental Impact Assessment
- EMP Environmental Management Plan
- HSE Health, Safety and Environment
- IBRD International Bank for Reconstruction and Development
- INP Institute for Nature Protection of the Republic of Serbia
- IPCM Institute for Protection of Cultural Monuments of the Republic of Serbia
- PERS Public Enterprise "Roads of Serbia"
- NCA Natural Cultural Assets
- PAP Project Affected Person
- PMC Project Management Consultant
- SSIP Site Specific Implementation Plan
- STI Sexually Transmitted Infection
- WMP Waste Management Plan

1. PROJECT DESCRIPTION

1.1 Introduction

The Corridor X Highway Project for Serbia aims to increase transport efficiency and improve traffic safety on different Project sections of Corridor X, and to improve road management and road safety in Serbia.

The missing highway section from Grabovnica to the FYROM border is 74 km long. The World Bank will be financing the first section of 5.6km between Grabovnica and Grdelica, and the section of 26.3 km between Vladicin Han and Donji Neradovac. The EIB will be financing the middle section, and the last 15.8 km of the E-75 between Donji Neradovac and Levosoje will be financed by HiPERB and the Government of Serbia. The ending point in Levosoje corresponds to the starting point of the highway section where works are completed with domestic budget support, to the FYR of Macedonia border.

The total cost of the World Bank Corridor X Highway project, in a parallel financed contribution to the total program, is EUR 298.5 million (US\$ 388 million equivalent) which will be co-financed with the Government of Serbia. In addition, two other International Financing Institutions, the European Bank for Reconstruction and Development (EBRD), and the European Investment Bank (EIB), (hereafter referred to collectively as the IFIs), and one bilateral donor, the Hellenic Plan for the Economic Reconstruction of the Balkans (hereafter referred to as HiPERB) have confirmed their commitment to provide parallel financing to a broader Corridor X program to construct 160 km of highway at a provisional cost estimate of Euros 1.3 billion: EBRD has provisionally committed to lend EUR 150 million for the E-80, and the EIB has provisionally committed to lend up to EUR 600 million for the E-80 and the E-75, and Greece will grant EUR 100 million under HiPERB which will be allocated to one section of the E-75 between Donji Neradovac and Srpska Kuca.

Government of Serbia is financing E-75 highway section from Srpska Kuca to Levosoje.

1.2 Basic project details

Procurement Procedure

EU PRAG procurement rules (supervision WB)

Financing

Government of Serbia is financing E-75 highway section from Srpska Kuca to Levosoje.

Contracting Authority

Republic of Serbia, Public Enterprise "Roads of Serbia" (PERS), 11000 Belgrade, 19a, Vlajkoviceva Street

Description of the contract

Construction of Corridor X, Highway E-75 Nis – FYROM border, section: Donji Neradovac - Levosoje, total length of 15,80 km. The contract comprises construction of the 2 highway subsections: first subsection: **Srpska Kuca** – **Levosoje** (total length 8.06km) and second subsection: Donji Neradovac – Srpska Kuca (total length 7.95km). The highway includes two carriageways, 10,7m wide, with medium green zone, 4m wide, two shoulders of 1m (total width of 27,40m), and a number of bridges and two interchanges.

Indicative number and titles of lots

The section Donji Neradovac – Levosoje, will be divided in two subsections:

- first subsection: Lot 1 **Srpska Kuca Levosoje** (total length 8.06km)
- second subsection: Lot 2 Donji Neradovac Srpska Kuca (total length 7.95km)

1.3 Location description

The subject of this document is the component of the Project, E-75 Highway from Nis to FYROM Border - Corridor Xd. Section Srpska Kuca – Levosoje begins on km 934+354.72 and end of the section is on km 942+413.31. This component involves the construction of 8.06 km of highway. General design for this project is adopted by State Revision Committee during 1998. Preliminary Design is adopted by Revision Committee during year of 2008.

The project component belongs to the route from Donji Neradovac to Levosoje and it is located in the area of Bujanovac basin, that is, in the area of one part of the Juzna Morava valley. For the shorter segment, it is located in the area of valley of the Presevska Moravica – Presevo basin. In the zone of highway route, terrain is hilly and flat. At beginning of the section, the designed route mostly cuts roots of the slopes. In continuation, the route is situated on the slopes, while partly it is located in the alluvial plain of the Juzna Morava and in the end in alluvial plain of the Presevska Moravica.



Picture 1: Corridor X Highway Project with section of Srpska Kuca - Levosoje Highway section

Public Enterprise "Roads of Serbia" (PERS) has taken all necessary activities to prepare planning, design and environmental documents. On the basis of the preliminary Project designs, Site-specific Environmental Impact Assessments (EIAs) were carried out for 5 sub-sequent sections of the prospective E-75 highway, including EIA for the proposed highway section between Srpska Kuca and Levosoje. The five existing EIAs were integrated into the Corridor X level EIA Report for section E-75 covering the proposed highway route which is disclosed on the World Bank Web Site and PE "Roads of Serbia" web site.

Finally, as a part of Project documentation, PERS has prepared a detailed design of environmental protection for Srpska Kuca - Levosoje highway project, as a regulatory instrument in Serbian law. This document is one of the basic documents which are used in process of preparation of this EMP and can be obtained in the PERS main office, Belgrade, Bulevar kralja Aleksandra 282.



Picture 2: Situation Map of Srpska Kuca-Levosoje Highway section

The Corridor Level EIA Report and detailed design of environmental protection for Srpska Kuca - Levosoje highway project provides a platform, on which Site-Specific Environmental Management Plan (EMP) and Checklist, for this sub-section, are prepared. Detailed design of environmental protection contains concrete mitigations and monitoring measures which are relevant to this Project. This EMP reflects the additional baseline refinement data work required prior to works commencing, such as data contained in site-specific implementation plan, prepared by the contractors and approved prior to commencing works.

This EMP and Checklist are part of the bidding documents, to ensure the contractors are aware and meet their formal obligations in this respect. The tenderers are obliged to prepare their own site specific implementation plan (SSIP), to be approved by PERS, containing the detailed information on meeting the requirements detailed in this EMP. The SSIP will be highly site-specific and be compiled as part of the construction planning for aspects such as fuel stores, plant selection and performance and material sourcing and sub contracting. EMP and Check List are produced to point at the essential environmental requirements during the construction of E-75 highway section between Srpska Kuca and Levosoje and guide the potential tenderers in preparation of SSIP in order to eliminate, offset, or reduce potentially adverse environmental impacts to acceptable levels. Description of mitigation measures and Description of monitoring program are key parts of this document.

2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.1 Relevant Institutions

During the construction and operation of highways in the Republic of Serbia, the issue of environmental protection is managed by mutual cooperation of the following statutory government institutions:

The Ministry for Environment and Spatial Planning is the key institution in Serbia responsible for formulation and implementation of environmental policy matters. The Ministry is responsible for the protection against noise and vibration, hazardous and toxic material, air pollution, ionic and non-ionic radiation, nature protection and international co-operation. The other aspects of natural resources management related to issues of construction and operation of highways in the Republic of Serbia, are dealt with several other institutions, among which are the Ministry of Economy and Regional Development; the Ministry of Infrastructure; the Ministry of Agriculture, Forestry and Water management; the Ministry of Culture; the Public Enterprise "Roads of Serbia" (PERS); the Institute for Nature Protection of Serbia (INP); the Institute for Protection of Cultural Monuments of the Republic of Serbia (IPCM), and PERS.

2.2 Existing Serbian legislation

Environmental protection in Serbia is regulated by many republic and municipal laws and by-laws. The environmental legislation in force in Serbia is summarized in Appendix III.

2.3 Main steps of national procedure on EIA in the Republic of Serbia

In the juridical system of the Republic of Serbia, the Environmental Impact Assessment procedure is regulated by the Law on Environmental Impact Assessment, along with appropriate sublegal enactments which determine particular issues within the Impact Assessment procedure in more detail. One of the significant elements in the procedure itself is public involvement (see chapter 6.) and the duty of forming the Technical Committee. Environmental Impact Assessments are required for the projects which are being planned and executed, technology improvements, reconstructions, capacity expansion, work termination and removal of projects which significantly influence the environment.

The procedure of Environmental Impact Assessment consists of three phases (depending upon the nature of any specific project, there can be one, two or more phases):

- Phase I: Decision-making on the necessity of preparation of the Environmental Impact Assessment for the project
- Phase II: Specification of scope and contents of the Environmental Impact Assessment Study – Screening Phase
- Phase III: Environmental Impact Assessment Study

Entities which have participated in preparation of the Environmental Impact Assessment for this section of the highway are the following: Project contractor (PERS), relevant authority (Ministry for Environment and Spatial Planning), and experts – authors of the study sections, other technical institutions and municipal authorities, organizations and general public. According to the Law on EIA ("Official Gazette of RS", 135/04, 36/09), PERS may not commence the project implementation without having previously completed the impact assessment procedure and obtained the approval of the EIA Study from the competent authority (MOESP).

2.4 Relevant environmental policy

This section is financed by Republic of Serbia, but the World Bank Environmental Policies were taken as a meritory instruments to help ensure effective implementation of the all environmental activities related to the Corridor X Highway Project, including proposed section on E-75 Highway from Donji Neradovac to Srpska Kuca.

Based on the above facts, following Policies are relevant for the environmental component of this Project:

- 3. Operational Policy OP 4.01 Environmental Assessment;
- 4. OP 4.04 Natural Habitats,
- 5. OP 4.12 Involuntary Resettlement and
- 6. OP/BP 4.11 Physical Cultural Resources.

3. SUMMARY OF ENVIRONMENTAL IMPACTS

The environmental impact which will be caused by the construction, exploitation and maintenance of the section Srpska Kuca - Levosoje of the highway Beograd - Nis - Macedonian border indicate qualitative and quantitative changes in the environment for the regular conditions of exploitation as well as for the occurrence of an accident.

3.1 Geology and soils

The soil as a basic natural element is a very complex system, very sensitive to different influences. That is why the entire issue of the relationship between the road and the environment is also defined by the relations arising in the sphere of different impacts on the soil. Soil as a complex ecological system reacts to minute changes and this can cause the degradation of its main characteristics.

On the section Donji Neradovac - Levosoje, degradation of soil will be less salient. Namely, from Donji Neradovac village to Srpska Kuca village, the newly designed highway route follows the M - 1 main road route in its entirety, so that degradation of soil will occur only on the extended portion of the existing road. On this highway section, degradation of soil is limited to borrow pits.

Two sites for potential borrow pits were examined. The first site would be in the zone of Karadnik village, 2.5 km right to the highway, at chainage 933+550.

Second borrow pit is located 250m left from the slaughter house "Jugocoop", Bozinjevac village.

In the course of the construction of the planned highway route it is necessary to take actions that minimize possible environmental impact. These would primarily include:

- Drawing up of Environmental Impact Analysis within the project of organizing the construction and for the needs of placing the administrative facilities, warehouses and machines, and for finding the location for the plants for production of asphalt mixtures if such a plant is to be located in the zone of this road;
- Strict protection of all the parts of terrain outside the immediate zone of the works, which means that, outside the road route, no existing surface may be used as a permanent or temporary disposal site for materials, such as borrow pits, such as plateaus for machine parking or repair;
- Collection of hummus material and it storage in organized storage areas so that they can be used in final works for recultivation and biological protection;
- Any handling of oil or its derivatives during the process of construction, filling up of machines, must take place at a specifically defined place and respecting the highest mitigation measures so as to avoid any spillage. All packages for oil and other oil derivatives must be collected and disposed of at dump sites;
- Forbidding any opening of non-controlled access roads to individual parts of the construction site;
- Parking of machines only at regulated places. At the machine parking space, take specific measures for protection against soil pollution with oil, crude oil or oil derivatives. In the event soil gets contaminated by the spilled oil or otherwise, the relevant layer of such soil shall be removed and disposed of at a dump site;

- Systematic collection of solid waste that is normally a product of the construction process and the workers' stay in the zone of the construction site (food packaging, other solid waste) and its disposal at the landfills;
- Forbidding any washing of machines and vehicles in the zone of works and washing of concrete mixing machines and uncontrolled disposal of any remaining parts of concrete mass on any surface outside the immediate road route;
- After completion of works, it is necessary to, based on the specific recultivation projects, regulate all borrow pits, dump and storage sites, so as to prevent further degradation of soil and improve the visual effect.

Based on traffic data (AADT) for Srpska Kuca – Levosoje highway section, it is calculated amounts of pollutants, per 1 km, which deposit in the land along the motorway edge in a year (Table 3.1).

Pollutant	Amount (kg/km/p.a.)
Zinc	16.2
Cadmium	0.0052
Copper	0.0239
Lead	0.748
Iron	34.382
Oils and grease	50.044

Table 3.1 Annual amount of pollutant deposiiton, per 1 km, along the motorway edge Srpska Kuca - Levosoje

3.2 Air quality

The air pollution resulting from the road traffic, as a criterion defining the relationship between the highway and the living environment, is relatively effectively quantified today, regardless of the stochastic character of a large number of parameters which essentially define this phenomenon (meteorological, topographical, traffic, construction, etc).

The frameworks of this study research are built on the indicators defined as median annual values (long-term concentration) and the 95th percentile value (maximum short-term concentration).

On the given section data from the meteorological station Vranje is being used. By analyzing data on wind frequency and speed, it is concluded that the north-east wind, speed 2.8 m/s, is most common in the given corridor.

Based on data obtained by the analysis for the typical conditions and limit values, the following conclusions were made:

- In the periods when the relevant wind is blowing, concentrations of hydrocarbons are exceeded (permanent and current values), as well as current values of nitrogen dioxide;
- Current values of concentrations of hydrocarbons (C_XH_Ymax) are exceeded along the entire route, namely 14 35 m to the left of the pavement edge (27 m in average), and 16 37 m to the right (29.5 m in average);
- Permanent values of hydrocarbons (C_XH_Ysr) are exceeded along the entire route

From the aspect of impact of various air pollutants on flora, this phenomenon is particularly important for arable areas and cultivated plants. The obtained results show that in the belt of an average width of 27 m on the left side and 30 m on the right side of the road in the periods of design wind, it is possible to expect exceeded short-term concentrations of hydrocarbons (C_XH_Ymax) that may cause permanent negative consequences on the growth and development of plants. It is recommended to avoid cultivation of sensitive plant species in the mentioned corridor, whereas restrictions for plants used as human food are none. The general conclusion that may be made based on the performed analyses is that the air pollution problem is not salient in the zone of influence of the planned highway.

3.3 Noise

The construction phase, in respect of noise, is characterized by the operation of machines and plants located along the road under construction. The sources of noise during the construction are heavy construction machines and their traffic in connection with the execution of works. The organization of the construction of a linear structure, such as a road, is characterized by the arrangement of construction machines at a relatively large surface, which makes it more difficult to intervene with regard to the protection of environment from elevated noise levels in this phase. Exposure to these impacts is limited in time and temporary and as such it is considered in the mitigation measures during the construction phase.

3.3.1 Impact in the construction phase

The construction phase, in respect of noise, is characterized by the operation of machines and plants located along the road under construction. The sources of noise during the construction are heavy construction machines and their traffic in connection with the execution of works. The organization of the construction of a linear structure, such as a road, is characterized by the arrangement of construction machines at a relatively large surface, which makes it more difficult to intervene with regard to the protection of environment from elevated noise levels in this phase. Exposure to these impacts is limited in time and temporary and as such it is considered in the mitigation measures during the construction phase.

Mitigation measures in the construction phase

Since in this phase of making a design no concept of the execution of construction works is available, including the transport routes, it is impossible to foresee the specific levels of noise which will be present due to the construction.

However, the general mitigation measures may be defined as the following procedures the application of which can impact the alleviation of the impact of noise in the construction phase:

- Raising workers' awareness that noisy activities should be minimized;
- Adjusting the working hours;
- Use of modern equipment and machines with noise suppressors when working in the vicinity of populated areas;

- Regular maintenance of construction vehicles and equipment in view of the elimination of unnecessary sources of noise;
- Avoiding the concomitant operation of several noisy machines, when possible;
- Switching-off the machines when out of use;
- Using natural acoustic barriers or screens for protection against the noise round the machines;
- Regular maintenance of access and temporary roads and limiting the speed of vehicles on unpaved roads for transportation of materials.
- 3.3.2 Impact in the operation phase

Road traffic plays a dominant role if compared with other types of traffic and is constantly increasing. This results in the increase of the level of noise in the zones around roads.

Noise is the most significant non-material source of pollution in road traffic; with regard to its origin it is a very complex occurrence and has a stochastic character. The noise impact analysis implies the definition of the parameters of traffic noise on a spatially and functionally defined road. The status which is defined in this way is compared with current legal postulates with regard to the maximum permissible levels for particular facilities. Exceeding the permissible levels imply the analysis of the need to take necessary mitigation measures.

Maximum permissible level of outside noise for populated areas in the corridor of future E–75 highway amounts to 65 dB (A) for the day, or 55 dB(A) for the night conditions. For this specific estimate of the relevant level at the arbitrary point of section, specific computer programs were used. They were made based on the guidelines entitled: "Richtlinien für den Larmschutz an Strassen". This methodology gives estimate of the traffic noise level for the period of 16 hours during the day (06:00 - 22:00) and 8 hours during the night (22:00 - 06:00). This method takes into account the volume of traffic during the day and the night, % of heavy goods vehicles (HGVs), average speed of motor vehicles and HGVs, the type of pavement structure, road gradient, absorption potential of the ground, distance from the road, and all other relevant data. The calculation, for the level of these analyses, is made at an equidistant spacing from the axis of the road, on one and on the other side, up to the distance of 300m. This procedure includes the entire area of relevant impacts and the conditions made for the quantification procedures. Based on the obtained data, documented conclusions may be drawn in view of the adverse impact of traffic noise, and any need for mitigation measures can be identified.

Using the above described methodology and specific on-site conditions of the characteristic section, the calculation of relevant indicators was made for the selected characteristic sections in respect of the layout of facilities in the vicinity of the route. For the evaluation of condition, it is used as a permissible limit value of 55 dB (A) for night conditions that applies to the facilities alongside main traffic routes. Based on traffic noise estimates in the planning period, noted at the characteristic cross-sections were maximum noises levels that are reached at 25 meters from the edge of the road, and minimum and maximum distances at which limit values are reached. The difference in the level at some places result from the physical restrictions in the transverse profile and the vicinity of a railway line and the main road that will remain in place as a parallel road route. The results are shown in Table T 3.3.2.-1.

Section	Maximum levels of noise at the reference distance of 25 meters		Distances at which the permissible limit value was reached		
	Day	Night	Min.	Max.	
Donji Neradovac - Levosoje	80 dB(A)	76 dB(A)	45 m	>300 m	

Table T 3.3.2.-1. Summarized results of the traffic noise estimates

Based on the numerical data obtained by calculation and the relevant levels defined by law, a conclusion may be drawn that limit noise levels are exceeded in the zones in which the registered structures are located.

Mitigation measures in the operation phase

Main goal of analyzing the traffic noise on the E-75 highway is to select the appropriate procedures aimed at the mitigation of adverse impacts that the noise has on the population. Technical mitigation measures include all the procedures that are necessary for reducing the quantified adverse impacts to the allowed limits.

Reduction of the noise impact may be achieved by different procedures:

- reduction of noise impact by planting green protective belts between the highway and affected facilities,
- reduction of the noise transfer by installing acoustic barriers walls for protection against noise.

In this specific case, for the E–75 Srpska Kuca - Levosoje highway, it is envisaged to use noise suppression structures. The most important safeguard against noise is to build the walls for protection against noise. This safeguard will be applied at the places where most affected groups of facilities are located. When selecting a type of the wall, account should be taken of the criteria which need to be met, such as:

- resistance to weather conditions,
- structural rationality,
- visual effect,
- possibilities of prefabrication,
- possibilities of extension,
- spatial compliance,
- easy maintenance.

The required lengths and height ranges for the structures for protection against noise at the E–75 highway are shown within the Table 3.3.2-2.:

Tuble 5.5.2. 2. Structure for protection ugunist noise, dounted design					
Section	Position of the	Heights of the	Lengths of the		
Section	structure	structure (m)	structure (m)		
Srpska Kuca – Levosoje	left	0	0		
km 940+243 to km 940+339	right	2.0 - 3.5	96		

Table 3.3.2.-2. Structure for protection against noise, detailed design

The construction of residential facilities must be forbidden at the distances from the road centreline where allowed noise level may be exceeded, so as to avoid further complications with the noise problem.

Also, according to the EIA Study recommendations, noise protection barriers on E-75 Highway section from Srpska Kuca to Levosoje are proposed to be constructed during exploitation phase of proposed highway section on following locations:

Section	Position of the structure	Heights of the structure (m)	Lengths of the structure (m)
Bozinjevac km 937+810 to km 938+000 (km 951+460 to km 951+650)*	left	4	190
Levosoje km 939+120 to km 939+400 (km 952+770 to km 953+050)*	left	4	280
Levosoje km 938+850 to km 939+700 (km 952+500 to km 953+350)*	right	4	850
Levosoje km 940+100 to km 940+500 (km 953+750 to km 954+150)*	right	4	400

*chainage used within the General design. Updated chainage (used in Detailed design) are different ($\Delta = 13.650,00 \text{ m.}$)

3.4 Flora, Fauna and visual impact

Preconditions obtained from Institute for Nature Protection, related to whole E-75 Highway from Nis to FYROM border can be obtained in the PERS main office, Belgrade, Bulevar kralja Aleksandra 282 (see App IV).

The key comments from INP noted: The highway can severe habitat and impact the free movement of animals and therefore designs should aim to allow movement of species through pipes and culverts, which should be subject to landscaping to encourage passage; Flood defences at structures should be designed to allow free passage of species and should be designed to be as natural as possible; Borrow pits represent an additional impact and they should be managed and reinstated to reduce adverse impacts and encourage natural reinstatement. All of these conditions have been met in detailed design of E-75 highway Project between Srpska Kuca and Levosoje including the requirement related to borrow pits. Contractor has to use the Borrow pits on specific locations which are already predefined within the Detailed design.

3.4.1 Impact on flora

All analyses conducted on this level of investigations show that within the planned corridor there are no affected floral species. The area interesting for the analysis is characterized by a rather anthropogenic altered eco-system in form of degraded forests, meadows, and arable land. The process of quantification of impacts on flora is possibly only through identifying areas with total loss of vegetation, areas with altered vegetation, and areas of autochthonous vegetation under some impacts.

3.4.2 Impacts on fauna

Negative impacts appearing in the operation of the highway reflect through the possibility of death of animals on the open highway, the disturbance of peace on the hunting ground

through which the highway passes, by an increased noise level, and through an elevated level of all forms of pollution, particularly air pollution. A special form of hazard for fauna in the study area is potential pollution of soil, surface and ground waters, and air pollution in case of accidents.

The highway construction will fragment habitats of floral and faunal species and create an impassable barrier for the greatest (or large) number of animal species. In order to preserve bio-diversity of the region it is necessary to ensure free movement of individuals between preserved sub-populations of natural habitats. It is therefore necessary to build ecological corridors to interconnect spatial units of isolated natural habitats. The preservation of possibility of these ecological corridors is of top priority for the preservation of bio-diversity of the region. For that purpose it is necessary, during the design and construction of the highway, plan the construction of passages for small and large animals, above or under the highway, depending on needs and characteristics of the ground, in order to mitigate negative effects of the road as much as possible.

3.4.3 Visual impact

In the sector Srpska Kuca – Levosoje, the route runs on slopes, and is partly passed through the alluvium of the South Morava River, and that of the Presevska Moravica River, in its final part. In the course of highway construction, the ground morphology may be disturbed, which will reflect particularly on Bozinjevac settlement, where there is an overpass above the village that cuts deep into Bozinjevacko brdo Hill (near a church) and the slope of a village of the same name. The landscape will be altered considerably by the cutting of the highway route into slopes above the new settlement "Levosoje" and construction of a viaduct in the saddle of two hills.

Measures for the protection of flora and fauna and preservation of the aesthetic value of the landscape

The route of the Donji Neradovac – Levosoje section passes through Vranje and Bujanovac ravines, through a very dry and hot (xerothermic, most of the calendar year) area, on the slopes of which the community of Italian and Turkish oaks with Downy oaks is very much degraded. On the entire length of the section there is a large complex of this forest of offspring trees near Bozinovac and Zuzeljica that was degraded to underbrush and remains of individual trees by a regressive succession. In order to protect vegetation in the study area, the following mitigation measures are envisaged:

- Protection of an old forest near Rusa church in Zuzeljica;
- In catchment areas of rivers (the Bujanovacka and Bogdanovacka rivers, particularly) that gravitate toward the route, eroded grounds within habitats of Italian and Turkish oaks should be forested

3.5 Surface and ground water

Preconditions of the Institutions in charge of water management, related to whole E-75 Highway from Nis to FYROM border can be obtained in the PERS main office, Belgrade, Bulevar kralja Aleksandra 282.

Pollution in the construction phase is temporary, limited in scope and intensity, but the consequences can be significant in the event of incidents or accidents. During the construction phase, surface waters can be seriously affected by pollution or physical damage to the river banks and river bed.

The pollution of waters near roads is characterized by two main phases: pollution during road construction and pollution during road operation.

3.5.1 Construction phase

Pollution in the construction phase is temporary, limited in scope and intensity, but the consequences can be significant in the event of incidents or accidents. During the construction phase, surface waters can be seriously affected by pollution or physical damage to the river banks and river bed.

There are two forms of the impact caused by the construction of a road facility:

- Water pollution,
- Change of the surface and ground waters regime.

During the construction phase, surface waters can be seriously affected by the pollution or physical damage to the river banks.

Changes to the physical and chemical characteristics of waters, provided the organization of the construction site and the procedures in the course of works execution complies with the environmental requirements prescribed by this study, can cause accidental pollution through the spillage of dangerous and hazardous substances into the open water courses. For this reason it is necessary to ensure a controlled access of the machines to the water courses and other surface waters.

Changes to the flow, speed, and the course of surface waters are caused by the changes to the morphology of the terrain when earth works are executed and during the construction of bridges and culverts.

Impacts on the regime of surface waters (water courses) on the newly designed highway route are not directly affected by the construction of sections, except on parts related to limited works on flow control (first of all, the control of the South Morava River and its tributaries).

The justifiability of works on the development of river beds lies in the prevention of landslides and erosion, but, on the other hand, these same works can have a negative impact on the environment, primarily on flora and fauna in and around those water courses.

It is necessary in this phase to ensure an additional room for implementation of construction works, and for unloading the excavated material. At the places where a construction site is located in the vicinity of rivers or streams, surface waters will be adversely affected by the potential leakage of dangerous substances, such as motor oil or lubricants. Leakage of these matters from the construction site may become a serious problem unless the measures are taken to restrict this occurrence as described in the mitigation measures.

Mitigation measures include all the procedures that are necessary for rendering the quantified adverse impacts within the allowed limits, and the procedures for minimization of impact.

- Digging and making the foundations for bridge piers, retaining walls, and structures located at, or in the vicinity of, surface water bodies, will take place in the period of low water levels (July September) so as to minimize negative impacts on rivers and their banks;
- In the immediate vicinity of a river, any spillage of dangerous substances must be avoided. To this effect, the contractors will be required to use, for their machines, biodegradable lubricants and biodegradable machine oil, so as to minimize pollution during the execution of works;
- Maintenance, fill-up with fuel, and cleaning of construction machines will take place at the locations which are farther away from the water courses and which will be identified before the commencement of the execution of works;
- River banks in the investigated area should be protected with fences during the construction so as to prevent any negative impacts that can be caused by the transportation and unloading of the material in their vicinity;
- Prevent the movement of machines inside rivers, streams, or on their banks, except when it is unavoidable due to the construction of a structure or construction;
- To mitigate the effect of pumping out ground waters, use driven reinforced-concrete piles, instead of bored piles; place the pile heads beneath the river bed level to avoid wash-away;
- To protect ground waters on the floodplains, do not use pits for discharging waste liquids out of vehicles;
- Define the appropriate warehousing and managing of oil derivatives and paints. Avoid pouring out of the substances dangerous for water, such as oils and lubricants and, in the event of uncontrolled spillage, promptly take the cleaning action. The waste material produced by the machine maintenance must be disposed at the waste landfills.

3.5.2 Operation phase

Main sources of pollutants in operation of the highway section under observation include: vehicles, precipitation, and dust.

In the road operation phase, water pollution is primarily a result of the following processes:

- Depositing of exhaust gasses;
- Wear and tear of tires;
- Vehicle body failure and leakage of transported matter;
- Spillage of transported freight;
- Rejection of organic and inorganic waste;
- Deposits from the atmosphere;
- Wind-borne matter;
- Dispersion due to the passing of vehicles.

Pollution which results from the above processes can be, in respect of time characteristic, perennial, seasonal, or incidental.

Types of pollution and the forms of presence

In the waters coming down from the pavement there is a presence of a number of harmful matters. Here we have primarily the fuel components such as hydrocarbons, organic and inorganic carbons, nitrogen compounds (nitrates, nitrites, and ammonia).

A specific group of elements includes heavy metals, such as lead (fuel additive), cadmium, copper, zinc, mercury, iron, and nickel. A considerable portion is that of solid matter of different structures and characteristics that appear in the form of sediment, suspended and soluble matters. It is also possible to see the matters which are a product of the use of materials for protection against corrosion. A specific group of very carcinogenic materials include polyaromatic carbohydrates (benzo[a]pyrene, fluoranthene) which are a product of incomplete combustion of fuel and the used motor oil.

For the indication of present pollutants that appear in dissolved or non-dissolved form, there are a number of macro indicators such as: pH, electro-conductivity, suspended and sediment matter, COD, BOD, grease and oils, etc.

Main presumptions of critical importance for calculation of the concentration of pollutants may be classified in the form of following conclusions:

- highest concentrations of pollutants were registered in the waters coming off the roads during winter months when salt dispersal is most intensive;
- concentrations of most pollutants are directly subject to the duration of dry weather periods before rain and to the traffic load. Highest concentrations are reached in the first 5 10 minutes of rainfall, and then abruptly fall afterwards;
- concentrations of suspended particles are proportionate to the intensity of rainfall and the highest concentrations are reached during the highest flow;
- loss of water because of the sprinkling when the vehicles pass by do not exceed 10 % of total quantity;
- scattering of the material from the road surface during the dry period due to air drifts because the vehicles pass by do not have any considerable effect on lowering of concentration;
- pollution of waters by coming off the road surface can be considerable and that is why it is necessary to make a thorough analysis and identify the need for any mitigation measures;
- Accident pollution is a specific phenomenon and is not included in the above stated. The relationship towards these occurrences is specifically analyzed in the chapter on possible chemical accidents.

In agreement with the above stated and based on international experience arising from 20year research, the estimate was made of the emissions of contaminants produced during the operation of the highway route under observation for the traffic load in the planning period, and the results are shown in a tabular form.

Highway section	Srpska Kuca – Levosoje, year 2021			
Pollutant	(kg/ha/year)	(mg/l)		
Suspended particles	154	33		
BOD5	7	1		
COD	83.51			
Total organic carbon	/			
Nitrates	1.04	0.22		
Total phosphorus	0.14	0.03		
Oils and grease	2.4	0.51		
Copper	0.01			
Iron	4.26			
Lead	0.04	0.01		
Zinc	0.08	0.02		

Table 3.5.2. Amounts of pollutants, per unit of area, which the forecast traffic emits during a year, by sector

To draw the conclusions, apart from the spatial characteristics of the relevant sections of the road, hydro geological characteristics of corridors, characteristics of the flow of crossed water courses and pollutant concentrations in runoff water from the pavement, the drainage concepts must be defined.

The concept of drainage from the E–75 highway is an important element from the perspective of possible effects in terms of pollution, of both waters and soil.

The basic principles for the planning of rainwater protection on roads are:

- Water from the road pavement surface should stay in the hydrological cycle of the catchment area;
- Infiltration of water from the pavement on site is advantageous over concentrated discharging;
- Discharging into a recipient is permissible only if there are a primary retention pond and treatment in place.

The drainage of water from the pavement and riparian waters on the given section is achieved by a combination of rainwater drainage system and open channels. A large number of periodic and perennial water courses and ditches conditioned the designing of a large number of tube and slab culverts.

3.6 Impacts on social /cultural environment

3.6.1 Impact on population

The construction of the E-75 highway will, first of all, contribute to a faster development of regional and territorial units that are most directly linked to this area, i.e. their traffic and economic integration with the entire territory of Serbia. This area is the least developed in Serbia, with the exception of more developed economic and urban centres and their immediate surroundings.

The newly designed E-75 Nis – FYROM border highway is the factor of integration of the national and regional space, but is also the factor of disintegration of the local area.

Interests of a wider social sphere lie often on the side of economy, while interests of local population balance between the preservation of the environment and the economic development.

The social aspect of the construction and operation of the planned road includes the study of possible adverse consequences on a set of features comprising population, their holdings and settlement contents. Population for the purposes of quantification means the features comprising a demographic and socio-economic structure, and settlement contents means developed facilities, including the existing settlements along the route.

Positive impacts in a wider social sphere are numerous, such as:

- Considerably improved traffic safety
- Reduced fuel consumption
- Shorter travel times
- Better traffic connections in a wider area
- Creation of more favourable conditions for the development of urban units in a wider area

The planned highway construction will have a range of positive impacts on the local population, such as:

- Higher value of immovable property
- For the population of this area, more possibilities of access to big regional centres, which results in lower transport costs, and a better and easier access to commercial facilities and jobs
- Opening of possibilities for the development of certain economic activities, along the highway, which would increase potentials for the employment of local labour
- Reduced emission of harmful gases from motor vehicles due to faster traffic flows, and
- Easier and faster elimination of any traffic blocks and jams

The major negative impacts on the local population are as follows:

- Settlements in the zone of the route are interconnected via local roads, and via the M 1 main road, thus likely making alternative roads for the local population somewhat longer
- Links between settlements and arable areas in this zone are cut off by the newly designed road, thus affecting their accessibility
- One of potential impacts on economic activities of the population could be the potential loss of agricultural productivity in this zone
- Barriers along the highway may increase travel times and distances for short local travels, particularly for pedestrians

In order to protect the population against undesirable impacts of the highway on safety, spatial division, disturbed freedom of movement, and similar, the following optimum mitigation measures were designed:

- To place a protective wire fence in order to prevent the passing of pedestrians across the highway and their death;
- To leave a belt (about 5.0 m wide) on the outer side of the wire fence for unobstructed movement of pedestrians and manoeuvring of agricultural machines and access to arable land along the highway;

- To conduct necessary land acquisition before the commencement of works on the first stage;
- To provide 5 service passages at an average spacing of 3.5 km:
- To construct underpasses for local roads to pass through the highway roadbed;
- To construct grade-separated passes over the designed highway.

In the technical document development stage and prior to the commencement of works, it is necessary to sanction, by administrative measures, any individual construction in the immediate vicinity of the highway. This will prevent the adverse impacts to which such structures would be exposed, and subsequent mitigation measure requirements. Residential construction in the zone of the future road route should be prohibited.

The construction of the E-75 highway section from Srpska Kuca to Levosoje, as a part of E-75 Nis - Macedonian border highway, will have a stimulating effect on a better traffic and economic connection of the Republic of Serbia with its surroundings, as well as on faster development of the region served by this corridor.

The newly designed highway will provide a much higher safety to regional centres and their surrounding settlements. The transit passengers will also benefit substantially from increased traffic safety, since the new road will avoid entering the urban area.

3.6.2 Impact on population health

The impact of the planned highway E-75 highway section from Srpska Kuca to Levosoje on the health of the population includes the impact on the population in settlements along the highway as well as on drivers and other participants in the traffic (assistant drivers, passengers, pedestrians). These impacts include exposure to noise, vibrations and air pollution (oil combustion and exhaust fumes).

Due to the specific design solution and selected alignment it is concluded that there are direct noise impact on human population located close to the new highway and appropriate mitigation measures are proposed through main design of the Project.

3.6.3 Impact on cultural monuments

Preconditions obtained from IPCM, related to whole E-75 Highway from Nis to Macedonian border, including E-75 highway section from Srpska Kuca to Levosoje are given in the documents No 5/1118 from 12.06.2006, 10/719 from 09.04.2008, 10/160 from 06.02.2008, 5/1114 from 12.06.2006, 10/720 from 09.04.2008447/3 from 08.11.1992. (se App IV). Documents are available and can be obtained in the PERS main office, Belgrade, Bulevar kralja Aleksandra 282.

The road alignment was selected in such a way to prevent any impact on known cultural heritage sites. Consequently, no mitigation measures in respect to mitigating impacts on known physical cultural resources in this project were identified to be required.

No statutorily protected archaeological sites will be directly affected by the construction works. According to the preconditions obtained from IPCM, there is no cultural heritage structures recorded on Srpska Kuca – Levosoje highway section. However, PERS, prior to commencement of works have ensured protective archaeological excavation on additional 4 locations:

- 1. Grstica, No 30, Bujanovac
- 2. Ploce, No 31, Bujanovac
- 3. Visocica, No 32, village Bozinjevac
- 4. Cepotine, No 33, village Oslare

respecting the letter received from IPCM during preparation phase of proposed project (Letter No 163/122 from Dec $21^{st} 2010$).

The Contractor will prepare action plan as a part of the bidding document, and update it periodically in accordance with the new findings (if any). The initial plan will consider the whole section to be subject of actions relevant to chance finds, in addition to specific measures to deal with above mentioned sites/locations. The updated action plans will be subject to obtaining consent from the IPCM and any other relevant authority, as may be instructed by the Borrower.

The effective protection measures in case of chance finds will include immediate stop of all works in progress around the new finds, adequate fencing to prevent unauthorized access and immediate notification of IPCM.

3.7 Construction camps

The nature and extent of the construction works will require establishment of a number of Construction Camps, which will house workers, equipment, machinery, fuels and materials. The number, size and location of camps are not currently known and can and will only be determined following mobilization of Contractors to country.

From the environmental and social viewpoint, construction camps pose potentially adverse impacts, due to: Additional land requirement; Storage and use of hazardous material, fuels and oils; The need for services including water, electricity, sanitation and wastewater; Potential interference with community harmony and/or community tension resulting form the presence of large numbers of workers, particularly from an influx of foreign workers, who may also be a source of sexually transmitted infections (STIs) or HIV.

As the number, size and location of camps are not known at this stage, the most effective way to address the potentially adverse impacts is through contractor's adoption of the guidelines as contractual requirements. These are presented in the EMP in Appendix I of this report. The Contractor's SSIP - Camp Management Plan should contain, but not be limited to, procedures for establishing and operating construction camps in order to safeguard nearby communities and environmental resources.

Work camps will be required to conform to international Health, Safety and Environment (HSE) standards and will thus be furnished with sanitary and wastewater collection and disposal/treatment facilities and will operate fully compliant waste systems, involving storage of waste by waste category. These requirements will be included within the contracts for construction, which should ensure that contractors include sufficient budget for effective HSE management Contractors teams will reflect these provisions, by including HSE staff and independent environmental specialists to provide advice and to undertake monitoring and auditing.

4. DESCRIPTION OF MITIGATION MEASURES

4.1 Site-specific mitigation measures

4.1.1 Soil

Construction phase

- For deposit of surplus excavated material the Contractor is obliged to use location approved by the local municipality;
- Strict protection of all areas outside the immediate zone of the agreed work sites, such that no additional areas may be used as a permanent or temporary disposal sites for materials, as borrow pits, or for machine parking or repair;
- Removal, storage and handling of topsoil in such a manner that it can be used in final reinstatement, bio-restoration and stabilization of slopes;
- Storage and handling of fuels, oils and other hydrocarbons in a controlled process, involving measures to prevent soil and water contamination. Work camps should include storage on sealed surfaces and within secondary containment; refuelling of all plants, vehicles and machinery should not be allowed within 50m of any watercourse, drain or channel leading to a water course.
- Forbidding any opening of non-controlled access roads to any part of the construction sites;
- Parking of machines and equipment only at designated sites, which should be provided with specific measures for protection against soil pollution with fuel, oil, or oil derivatives. In the event that soil is contaminated by spillage, the affected layer should be removed and disposed of at approved dump sites, in accordance with the Contractors waste management plans (WMP);
- Systematic collection of solid waste during construction (including food and material packaging, and other types of waste) should be undertaken and should be disposed of to agreed licensed facilities, in accordance with the WMP (se Appendix I);
- Cleaning equipment and vehicles will only be allowed in dedicated facilities, designed to avoid ground and water pollution. Similarly, washing out of concrete mixers and uncontrolled removal of remaining concrete should be a controlled operation; the use of "slush pits" (lined pits) or tanks should be employed for washing out concrete contaminated equipment following concrete pours. The resultant set concrete can then be disposed of as inert solid waste or reused in bulk fill areas, as appropriate;
- Upon completion of material extraction, all borrow pits and waste disposal sites should be reinstated to reduce the visual effect and re-establish natural vegetation. Limitations to this will occur, especially where material is extracted from currently operating, licensed quarries, in which Project influences are restricted, as will be the case for licensed waste disposal facilities.

Since the project envisages river control works, it is necessary to avoid this type of works in the period of fish spawning.

Operation phase

- Provide suitable road markings, signs and signals for the section
- Draw up operational plans for winter maintenance procedures, taking into account environmental protection;
- Slopes of embankments need to be landscaped and planted both to improve the visual effect and reduce potential for surface erosion;
- Provide a road protection zone that will not be used as an arable zone. Considering the expected concentrations of the pollutants, this belt should not spread beyond 5 meters from the edge of the road right of way. The grass obtained by the maintenance of green surfaces in the vicinity of the road shall not be used as cattle feed. It will be important to inform and educate local communities regarding the dangers of using this vegetation. According to the law, PERS is responsible to perform all sampling, measuring and other monitoring activities during the operation phase, by following all recommendations given within the monitoring plans (component of site specific EIA and this EMP). All the monitoring results are to be provided to the Serbian Environmental Protection Agency. PERS will also inform local communities about monitoring results, including on potential pollution of land nearby the highway. No herbicides shall be used for elimination of weeds;
- Substitute the use of sodium chloride with by other substances with a similar or higher defrosting effect in order to minimize the effects of salinization of soil in the vicinity of highway resulting from the winter maintenance. Where sodium chloride is used in the maintenance process, precise planning of time distribution and quantities is of critical importance;
- Ensure that other support and other service facilities along the route are designed and erected in after the appropriate EIA and/or studies are made and approved by the relevant national institutions;
- 4.1.2 Surface and ground water

Construction phase

Contractor should carefully plan potentially sensitive operations such as in-river works. Typical procedures will include:

- Providing training to machine operators regarding the sensitivities and working procedures to be followed;
- Checking all machines and equipment for leaks prior to use;
- Preparing site specific emergency plans to respond to any incidents or spillages of hazardous material;
- Storing all fuels at a safe distance from the watercourse;
- Preventing re-fuelling near the watercourse and/or taking precautionary measures to prevent spillage.
- Construction of foundations for bridge piers, retaining walls, and structures located at or in the vicinity of rivers should take place in the period of low water levels (July - September) so as to minimize negative impacts on rivers, their banks and river ecology;
- Storage and handling of fuels, oils and other hydrocarbons through a controlled process, involving measures to prevent soil and water contamination. Those should include fuel and oil storage on sealed surfaces and within secondary containment;

refuelling of all plant, vehicles and machinery at minimum 50m of any watercourse, drain or channel leading to a water course.

- Similar measures for storage of fuels and re-fuelling of equipment should be put in place in floodplains to prevent groundwater pollution. No storage of fuels and oils will be allowed in floodplains where the potential for washout exists.
- All sites near rivers will be protected by fencing and other means to prevent loss of construction materials, particularly hazardous materials.
- Prevent the movement of machines inside rivers, streams, or on their banks, except when it is unavoidable due to the construction of a structure or construction. Careful consideration is given during the detailed design to all foundations and inriver structures. Wherever possible, piling will be favoured over augers and other excavations that require dewatering that may adversely impact revering habitats.

4.1.3 Air quality

No specific measures to be implemented, except applying good engineering practice. Use existing asphalt plant, which is located outside project impact zone.

4.1.4 Noise

Construction phase

If measurements taken as a part of planed monitoring activities (see Appendix II) show increased noise levels, contractor is obliged to take appropriate mitigation measures which are predefined within the Appendix I – Mitigation plan.

Contractor should also perform following activities:

- Raising workers awareness that noisy activities should be minimized;
- Adjusting the working hours in line with local conditions;
- Use of modern equipment and machines with noise suppressors when working in the vicinity of populated areas;
- Regular maintenance of construction vehicles and equipment in view of the elimination of unnecessary sources of noise;
- Avoiding the concomitant operation of several noisy machines, when possible;
- Switching-off the machines when out of use;
- Using natural acoustic barriers or screens for protection against the noise round the machines;
- Regular maintenance of access and temporary roads and limiting the speed of vehicles on unpaved roads for transportation of materials.

Operation phase

With consideration of the level of noise from traffic in the planned period which was obtained through the calculation of the authoritative levels defined by law, it is necessary to envisage a construction for protection from noise in places where the route is located within the vicinity of settled areas.

Detailed design of the mitigation measures for E-75 Highway Project, section Srpska Kuca - Levosoje envisaged following noise protection walls as an appropriate noise mitigation measures:

	=		
Section	Position of the	Heights of the	Lengths of the
	structure	structure (m)	structure (m)
Srpska Kuca – Levosoje	left	0	0
km 940+243 to km 940+339	right	2.0 - 3.5	96

Table T 4.1.4.-02 Position of noise protection barriers, source Detailed Design

Also, according to the EIA Study recommendations, if monitoring results confirm that permitted noise levels are exceeded along the new highway section between Srpska Kuca and Levosoje, following noise barriers are proposed to be constructed during exploitation phase of proposed highway section:

Section	Position of the	Heights of the	Lengths of the
Section	structure	structure (m)	structure (m)
Bozinjevac			
km 937+810 to km 938+000	left	4	190
(km 951+460 to km 951+650)*			
Levosoje			
km 939+120 to km 939+400	left	4	280
(km 952+770 to km 953+050)*			
Levosoje			
km 938+850 to km 939+700	right	4	850
(km 952+500 to km 953+350)*			
Levosoje			
km 940+100 to km 940+500	right	4	400
(km 953+750 to km 954+150)*			

*chainage used within the General design. Updated chainage (used in Detailed design) are different ($\Delta = 13.650,00 \text{ m.}$)

4.1.5 Impacts on social /cultural environment

Population and population health

No specific measures to be implemented as a part of this EMP.

Cultural monuments

- Contractor is responsible for following national requirements with respect to "chance finds" which may emerge during construction.
- Contractor is not allowed to perform excavation, demolition, alteration or any works that may harm the properties of the cultural monument.
- PERS will timely inform the IPCM and authorized expert about the commencement of earth and other works at the archaeological site or in its immediate vicinity, in order to timely perform all the necessary preparations until the archaeological exploration license is obtained. This aspect has been included in the EMP and a costing allowance has been made to cover archaeological watching brief and any subsequent investigations.
- In case of chance finds, Contractor shall mark and secure new identified sites (with a protective railing or other means of protection) to avoid damage in the course of road construction and immediately notify the relevant IPCM.

• PERS is obliged to provide for and ensure archaeological intervention in the case they come across new finds. This involves the immediate discontinuation of works and notifying the competent IPCM about the discovery. Carrying out the above activities will require occasional archaeological supervision during construction.

Employer engaged IPCM to perform permanent supervision of works at the locations:

- 1. Grstica, No 30, Bujanovac
- 2. Ploce, No 31, Bujanovac
- 3. Visocica, No 32, village Bozinjevac
- 4. Cepotine, No 33, village Oslare

Regarding that there is possibility to find new cultural resources, Contractor will apply following methodology to rescue all excavated material:

- New localities require the presence of archaeological conservation authority in the execution phase.
- Depending on the character of the findings, possibilities and methods of protection and conservation will be considered and some of the following proposed measures will be applied: conservation of the findings by backfilling; allocation of the findings; and partial allocation of the findings with the conservation of the remainder of locality by backfilling.
- 4.1.6 Flora, Fauna and visual impact

<u>Flora</u>

Within the existing forest communities, the following mitigation measures are necessary:

- Clearing up and removal of vegetation should be minimized to the extent necessary for the execution of works.
- Based on the detailed design for this project, and locations marked as a ground under high and excessive erosion, the Contractor is obliged to prepare his own plan for re-foresting those areas and to perform re-foresting activities according to this plan.

Fauna

The protection of fauna will be ensured by undertaking the following measures:

- Erection of a protective fence along the road, as a measure to prevent domestic and wild animals straying onto the road and being killed. Protective fence should be with the variable density, starting from higher density in a zone of 50cm above the ground and ending with a standard density for regular protective fence.
- Ensure that the protective fence ends at the bridge base, so as to direct wild animals toward the passage under the bridge. Execute the bank revetments with rough, coarse surface to prevent animals from slipping into water.

One of the more significant consequences of construction of the highway is the phenomenon of fragmentation of the habitats which in this case hits amphibians the hardest. The reason can be found in the existence of the waterways which are necessary for their life cycle. For the purpose of protecting biodiversity and undisturbed movement, multi-functional passages can be built along the waterways, viz. in those places where the construction of bridges has been envisaged. Bridges can be their own ecological corridors with a little revamping so that the bank of the waterway takes up a third of the passage under the road. The sides of the bank must be coarse in order to prevent the sliding of animals into the waterway and in order to enable easier exit from the waterway. The area before and after the passage must be covered in an identical type of soil and vegetation.

Along the aforementioned passages, it would also be suitable to use the envisaged slab, tubular and vaulted culverts for movement of wild animals. As there are no larger wild animals in the region in question, these passages represent a suitable place for the crossing of small wild animals. In the following table, a display is provided of the types of culverts, chainages and their sizes.

Type of structure	Chainage (km)
	936+792
culverts	937+051
	938+872
	934+815
	936+301
	938+032
bridges	939+481
bildges	940+403
	941+096
	941+249
	937+434

Table 4.1.6 Structure suitable for animal passages on the section S. Kuca - D. Neradovac

4.2 Requirements of site specific implementation plans during construction phase

General environmental protection will be contractually provided for in the organization and planning of the work and operations on work site. Each Contractor should build upon the mitigation measures described in the EIA and EMP and should prepare his own site specific implementation plan (SSIP), to include *inter alia*

- Waste and wastewater management plan
- o Oil and fuel storage management plan
- In-river works management plan
- Camp management plan
- o Emergency response plan
- Grievance mechanism

Minimum requirements for each of above plans are shown in Appendix I – Mitigation Plan.

Each Contractor should include HSE staff as part of his workforce and they should report to the HSE staff of the Project Management Consultant advising PERS. In addition, the Project is to include Independent Environmental Consultants to provide informal advice and undertake monitoring and auditing activities.

All construction sites should be managed in accordance with national legislation on construction and HSE, such as the Law on Occupational Safety and the Law on Occupational Health and Safety and the Regulation on Occupational Safety for Construction Works (Official Gazette of RS, No. 53/97).

4.3 Check List – Mitigation Plan

Phasing, issues and mitigation measures are covered in Appendix I.

5. DESCRIPTION OF MONITORING PROGRAM

Monitoring of the effects of the Project will commence during the construction phase and will continue during operation of the highway. The present EMP sets out the basic parameters to be monitored in order to determine that mitigation measures identified above are being implemented effectively.

Following award of contracts for construction, the individual Contractors will work with PERS to develop a detailed monitoring program with specified targets for each indicator, which will be tailored to the requirements of each road sub-section and the elements of the Contractor's Environmental Management System (EMS) and site-specific EMP. Each Contractor will develop a written monitoring program that will be evaluated by the independent environmental consultants and Project stakeholders, including national statutory agencies. The Contractor will cover the cost of implementing the relevant monitoring program in areas of his responsibility.

The monitoring results will be compared to data on current conditions

Compliance with EMP will be monitored by the independent contractor/supervisor, PERS and the WB staff.

5.1 Construction Phase

Shortly after mobilization to country the Contractor will develop the monitoring plan in conjunction with the Project Management Consultants (PMC) and relevant statutory authorities. The parameters in the monitoring plan are expected to focus on potential soil and water pollution, especially in areas of higher sensitivity, such as Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), suspended solids, oils and greases to represent potential impact due to construction of the highway, based on the nature of the site activity. Parameters which require measuring along the highway route during operation should be based on the potential for environmental impact and thus focus on water, air, soil and noise pollution, both during construction and operation.

5.1.1 Noise

Noise exposure levels are specified under the Regulation on Allowed Environment Noise Levels (Official Gazette RS, No.54/92). Noise measuring equipment will be used to establish a background or baseline and then during construction to establish increases in level and hence compliance to the standards. It is recognized that the best approach to noise control during construction works is require the use of equipment which conforms to noise standards, such as 85dBA and then monitor the issue on an ongoing basis, including reacting to any nuisance complaints by local residences or businesses. If acceptable noise levels are exceeded, implementing mitigation such as temporary screening or re-arranging work sites this will be the responsibility of the Contractors environmental and construction site staff.

During construction the level of noise increases due to the transport of loads by heavy freight vehicles (removal and delivery of materials) and the use of the construction machinery. These sources of noise are of a temporary character and last until the completion of construction works.

During the phase when works are being carried out, the level of noise must be controlled when necessary, meaning upon the occasion of a complaint being filed for an excess level of noise while works are being carried out. The Rulebook on Allowed Levels of Noise in the Environment defines the methods of measurement, selection of measurement location and the time intervals of measurement.

Within the framework of monitoring noise during the carrying out of works, the following is required:

- measurement of the zero point,
- measurement of the highest levels (peaks) of noise during construction,
- If during the course of works the limits of allowed levels of noise are significantly exceeded, in agreement with the owner of the structure, necessary mitigation measures are undertaken.

The contractor is responsible for all consequences which arise from excess levels of noise during the phase of construction.

Contractor is obliged to undertake five measurements of noise per day at the first month of construction (three times during the day-working hours and two times during the night). After that, contractor is obliged to undertake noise measuring on monthly basis, on specific location mentioned above, during all construction period, including defect liability period. If measurements show increased noise levels, the contractor will be obliged to take appropriate mitigation measures which are pre-defined within the Appendix I – Mitigation plan.

5.1.2 Air Pollution

Air pollution monitoring during construction includes air quality assessment in the vicinity of the populated areas, based on legal standards. Parameters to be monitored include particulate matter, nitrous oxides, carbon dioxide and monoxide. Measuring carbon monoxide (CO) and nitrogen dioxide (NO2) is recommendable in stage one of the monitoring program. If the measurement results show exceeded allowable concentration values, the list of pollutants should be extended by measuring the concentrations of nitrogen monoxide (NO), sulphur dioxide (SO2), hydrocarbon (CXHY), lead (Pb) and solids/particulates (PM10).

Additional monitoring of the construction site impact to air quality will be performed in the event of complaints from the local population. Air quality measurement will be complemented by visual observations of the performance of construction equipment, such as excavators, generators and the like, which should be regularly maintained in accordance with manufacturer's specification, to reduce adverse emissions.

5.1.3 Water

Relevant parameters for surface water impact assessment are: pH, concentration of dissolved oxygen, waste material, turbidity, concentration of organic compounds and mineral oils.

Relevant parameters for groundwater impact assessment are divided into geological hydro geological and to physicochemical and chemical parameters. The first group of parameters

includes impacts to groundwater level, dynamics and quantity, whereas the second group includes impact to groundwater quality (e.g. mineral oils, organic compounds, heavy metals). Samples should be taken upstream and downstream of the construction site. Each contractor will establish a baseline by taking samples before commencement of work and at approximately monthly intervals during the construction period, with intensified sampling during topsoil stripping and during major earthworks.

The locations which have been selected for water sampling during construction phase are the locations of the most endangered water bodies at the following chainages:

- km 938+032 Moravica River,
- km 938+032 Bujanovacka River.

For underground waters, the dynamic of administering monitoring of underground waters during the construction phase is done on the basis of the program for carrying out works which is provided by the orderer and which is an integral part of the documentation for drafting of the monitoring plan. Underground water sampling should be performed by using piesometers on the chainage km 935+150 to km 935+360.

Relevant parameters for groundwater impact assessment are divided into geological hydro geological and to physicochemical and chemical parameters. The first group of parameters includes impacts to groundwater level, dynamics and quantity, whereas the second group includes impact to groundwater quality (e.g. mineral oils, organic compounds, heavy metals).

5.1.4 Soil

Relevant parameters for soil impact assessment are: pH, concentration of heavy metals, oils and organic substances. Soils near roads having a high frequency of traffic, as in this case, should be tested for hazardous substances, such as typical heavy metals and lead which may have accumulated from vehicle exhausts which still use leaded petrol which is still freely available in the region.

5.2 Operational Phase

During operation of the highway the relevant environmental aspects will be monitored and will include noise, air, water and soil quality. The results obtained will determine if additional environmental protection measures are necessary, such as provision of additional noise attenuation structures, landscaping or modifications to carriageway drainage or treatment.

5.2.1 Noise

During exploitation noise must be controlled with the goal of controlling the effectiveness of envisaged noise protection measures. Measurement of the level of noise must be carried out in intervals of five years and in cases of complaints from adjacent inhabitants. The locations which have been selected for monitoring the level of noise during exploitation are the locations of the most endangered structures at the following chainages:

• left side of motorway, starting on km 937+810, ending on 938+000

o left side of motorway, starting on km 939+120, ending on 939+400

- o right side of motorway, starting on km 938+850, ending on 939+700
- o right side of motorway, starting on km 940+100, ending on 940+500

5.2.2 Air

There is no place on this highway section which is selected for air pollution monitoring during operation of the road.

5.2.3 Water

With respect to timing and data acquisition, sampling and data processing will be done in continuity every six months (in April and October each year). Testing program includes the flowing :Field measurements: air and water temperature, pH, electrical conductivity, oxide-reduction potential; Basic parameters: colour, dissolved substances, total organic carbon, ammonia, nitrates, sulphates, chlorides, chemical and biological oxygen consumption; Indicating parameters: microelements, phenols, mineral oils, polycyclic aromatic hydrocarbons, aromatic hydrocarbons, pesticides.

The locations which have been selected for water sampling during exploitation are the endangered water bodies at the following chainages:

- km 938+032 Moravica River,
- km 938+032 Bujanovacka River.

5.2.4 Soil

During the road operation, monitoring of soil pollution is not envisaged, except in case when/if the concentration of the pollutants in water exceeds the legally prescribed values.

5.3 Check List – Monitoring Plan

Details related to the monitoring program are tabulated in Appendix II.

6. PUBLIC CONSULTATIONS

6.1 Public Consultations on EIA Study

In respect to environmental safeguard issues, the Client (PERS) has already prepared subsection EIA on preliminary/ feasibility designs of E-75 Highway section between Donji Neradovac and Levosoje, including proposed motorway sub section from Srpska Kuca to Levosoje, in accordance with Serbian legislation. The national disclosure process encompassed four rounds of public consultations for motorway section (on TOR for environmental consultant, on scope of environmental assessment, on draft EIA and on draft final EIA) and were carried out in period from 2006 to 2008.

The national EIA procedure in respect to E-75 highway section from Donji Neradovac to Levosoje started at Jan 26, 2006, when PERS (former Serbian Road Directorate) submitted the Request to the Ministry for environmental protection (MOE) in order to receive document determining scope and content of EIA Study. According to the Serbian Law on EIA ("Official Gazette of RS" No. 135/2004, 36/2009), this step was announced in daily newspaper "Politika" (Mar 06, 2006), and interested parties were invited to participate in process of defining the scope and content of EIA Study. On Mar 28, 2006, the Ministry provided the Terms of Reference and that information was made public in daily newspaper "Politika" (Apr 07, 2006). The Traffic Institute "CIP" Belgrade prepared draft EIA Study, which was submitted to MOE for its approval (Jan 11, 2008). At the same time PERS announced this step in daily newspaper "Politika" (Feb 28, 2008), when public and other interested parties and organizations were invited to participate in process of public consultation on draft EIA Study for E-75 Highway Project, section Donji Neradovac to Levosoje.

Public Consultation was held on Mar 14, 2008, and there were no major complains on prepared draft EIA Study. The sub-section EIA has been approved by the Serbian Ministry of Environment and Spatial Planning (Final Environmental Approval) on Dec 16, 2008.

6.2 Public Consultations on Corridor Level EIA report

In accordance with OP/BP 4.01 the Borrower has engaged an independent consultant to prepare Corridor Level EIA for E-75 Highway from Grabovnica to Levosoje, which include highway sub-section from Srpska Kuca to Levosoje. Besides consolidating the sub-section EIA, the Corridor Level EIA also addressed the cumulative, induced, indirect and transboundary impacts. The draft EIA has been received by the Bank and commented upon. The Client subsequently updated the Corridor Level EIA and prepared a final version of the document.

The in-country disclosure of draft Corridor Level EIAs was carried out in the period from February 25 (when the documents were made publicly available on site and at the Client's web site) to March 12th (when the public meetings were held in Vranje). Public announcements in Serbian and English were published in the daily newspaper Politika, inviting the public, authorities and relevant institutions to have an insight into the EIA for the Project. Prior to announcement in the newspapers, the EIA was delivered to the Municipality of Vranje and published on the PERS and PE "Roads of Serbia" web site.

Public Consultations were concluded on March 12, 2009, from 12 to 02 PM (local time), by presentation of the subject EIA on the premises of the Municipality of Vranje.

Presentation of the EIA for the E-75 Highway Project, Nis – FYRM Border, Section Grabovnica – FYRM Border, was attended by representatives of the Municipality of Vranje, EIA Author, WB representative, representatives of the PE "Roads of Serbia" and the interested public. List of participants is included in this Report.

During the public consultations, there were no significant remarks in regards to environmental protection issues related to Srpska Kuca - Levosoje Highway section.

7. INSTITUTIONAL ARRANGEMENTS

PERS is responsible for the overall implementation of the Project, including management of environmental and social issues under the Project.

The Corridor Level EIA provides the base for the preparation of this site specific EMP. As part of the detailed design stage for this section, PERS has prepared this site-specific EMP and Checklists. The site-specific EMP and Checklist are included as part of the bidding documents to ensure the contractors are aware and meet their formal obligations in the area of the environmental protection. After contract signing, the contractor will prepare his implementation plan, to be approved by the Borrower's Supervision Consultant, containing the detailed information on meeting the requirements detailed in this EMP.

During project implementation, a firm of independent consultants, who will report directly to K10D00, will monitor whether and how well contractor complies with the measures as outlined in the EMP. Any non-compliance with the EMP or any other safeguards will require immediate remediation. Contractors vis-a-vi the borrower, and the borrower vis-a-vis the Bank will need to present reasons for noncompliance, propose a detailed and time-bound action plan to achieve compliance, and obtain the no objection of the Bank for the action plan. The cost of proposed corrective measures will be borne by the responsible contractor.

8. IMPLEMENTATION SCHEDULE AND REPORTING PROCEDURES

Prior to the commencement of works PERS will submit to the Bank for its approval: this section specific Environmental Management Plan and Checklist.

The contractor will prepare his compliance reports in respect to this EMP and his SSIP at regular intervals as instructed by PERS.

The Contractor will submit reports in both Serbian and English language in hard copy and electronic versions.

Separate independent environmental and social supervision will directly reporting to K10D00 for the implementation of the project,

Project progress reports, including monitoring indicators and reporting on the implementation of the requirements set forth in the Environmental Impact Assessments and the Resettlement Policy Framework, will be prepared by PERS on a quarterly basis and submitted for Bank review. The Bank will review the reports and verify their contents through periodic site visits.

Semi-annual reviews will be carried out each year, jointly by the Borrower and the Bank together with other participating IFIs and bilateral donors, to measure progress made in implementing the Project. The semi-annual reviews shall cover, *inter alia:* (a) progress made in meeting the Project objectives; and (b) overall Project performance against Project monitoring indicators.

9. REFERENCE

- 1 Detailed site-specific EIA for E-75 Highway Nis Macedonian Border, section Donji Neradovac Srpska Kuca Levosoje, CIP Belgrade, 2008
- 2 Detailed site-specific EIA for E-75 Highway Nis Macedonian Border, section Srpska Kuca Levosoje, CIP Belgrade, 2009
- 3 Detailed design of environmental protection measures for E-75 Highway Nis Macedonian Border, section Srpska Kuca - Levosoje, CIP Belgrade, 2009
- 4 Environmental Assessment Sourcebook No 25, Environmental Management Plans, The World Bank Environment Department, January 1999
- 5 Roads and the environment: A Handbook, The World Bank Environment Department
- 6 Project Appraisal Document (PAD) to the Republic of Serbia Corridor X Highway Project, Report No: 47069-YF, June 12th, 2009
- 7 Corridor X level EIA Report for E-75 Nis Macedonian Border Highway, PERS, 2009

Appendix I

CHECK LIST

MITIGATION PLAN

Phase,	Tagua	Mitigation	Institutional responsibility		Natas
location	Issue	Miligation	Install	Operate	Inotes
Highway Construction	Relocation of services	Effective co-ordination with utility companies during relocation.	Contractor, PERS	Contractor, PERS	
	Noise impact on affected residents, km 940+243 to km 940+339, right side	Noise protection barrier I, L=96m	Contractor	Contractor	
	Possible loss or damage to cultural resources, "Grstica", Bujanovac	PERS will finance pre-excavations, producing adequate documentation and, if necessary, ensure conservation of physical cultural resources. Before commencement of the work, borrower will make a contract with the IPCM to ensure pre-excavations and permanent supervision during the works.	PERS	PERS	done
	Possible loss or damage to cultural resources, "Ploce", Bujanovac	PERS will finance pre-excavations, producing adequate documentation and, if necessary, ensure conservation of physical cultural resources. Before commencement of the work, borrower will make a contract with the IPCM to ensure pre-excavations and permanent supervision during the works.	PERS	PERS	done
	Possible loss or damage to cultural resources, "Visocica", Bozinjevac	PERS will finance pre-excavations, producing adequate documentation and, if necessary, ensure conservation of physical cultural resources. Before commencement of the work, borrower will make a contract with the IPCM to ensure pre-excavations and permanent supervision during the works.	PERS	PERS	done
	Possible loss or damage to cultural resources, "Cepotine", Oslare village	PERS will finance pre-excavations, producing adequate documentation and, if necessary, ensure conservation of physical cultural resources. Before commencement of the work, borrower will make a contract with the IPCM to ensure pre-excavations and permanent supervision during the works.	PERS	PERS	done
		Heavy metals are separated and should be removed and disposed of at approved dump sites, in accordance with the Contractors waste management plans (WMP).	Contractor	Contractor	

Phase,	Phase,	Institutiona	l responsibility	Natar	
location	Issue	Miligation	Install	Operate	Inotes
	impact on fish and other animals that depend on water as eco-system	Avoid river control works in the period of fish spawning. All in-river works should be conducted outside of the fish spawning season and Contractors will prepare management plans for such works as a part of their Construction Method Statements.	Contractor	Contractor	
	Emission from construction vehicles and machinery	All vehicles, equipment and machinery used for construction will be regularly maintained and inspected/certificated to ensure that the pollution emission levels conform to the standards prescribed.	Contractor	Contractor	
	New borrow pits damaging agricultural, archaeological or ecological resources	Contractor have to use the Borrow pits on a specific locations which are predefined within the EIA, Detailed design and this EMP. (Near Karadnik village at 933+550 and close to slaughter house "Jugocoop")	Contractor	Contractor	
	Asphalt plant-dust, fumes, workers health and safety, ecosystem disturbance	Contractual requirement-use existing asphalt plants; requirement for official approval or valid operating license or new plants require certification and approval.	Contractor	Contractor	
	Stone quarry	Contractual requirement-use existing quarries; requirement for official approval or valid operating license.	Contractor	Contractor	
	Sand and gravel borrow pit- disturbance of river bed, water quality, ecosystem disturbance	Use existing borrow pits or buy material at licensed facilities; no borrowing from rivers. Or use new pits which require approval and licensing.	Contractor	Contractor	
	Construction related dust, from movement of vehicles at site and to sites from borrow pits and quarry sites, etc.	Dust suppression will be used on unsealed road surfaces, asphalt mixing sites and temporary service areas. Water truck browser with spray bar will be used.	Contractor	Contractor	
	Vehicles hauling materials will generate dust nuisance	Vehicles delivering material will be covered.	Contractor	Contractor	

Phase,		Institutional responsibility		Notos	
location	Issue	Miligation	Install	Operate	Inotes
	Failure to properly manage/store topsoil, leading to degraded and substandard site reclamation and re- vegetation	Cleary defined topsoil storage and handling in contract specification and management plan and follow up with regular inspection & monitoring and reporting.	Contractor	Contractor	
	Flora - vegetation protection	Clearing up and removal of vegetation should be minimized to the extent necessary for the execution of works	Contractor	Contractor	
	Preventing domestic and wild animals straying onto the road and being killed	Erection of a protective fence along the road, as a measure to prevent domestic and wild animals straying onto the road and being killed. Protective fence should be build with the variable density	Contractor	Contractor	
	Maintaining animal mobility through culverts and bridges	Use of designed tube and slab culverts and bridges as animal crossing points	Contractor	Contractor	
	Landscape impact, soil erosion	Develop and implement landscape planting; Re-forest ground of classes 6 and 7 under high and excessive erosion	Contractor, PERS	Contractor, PERS	
	Damage to agricultural lands, including drainage and irrigation infrastructure	Liaise effectively with PAPs before start of construction, maintain dialogue, develop a grievance procedure, strictly control machinery and vehicle access and reinstate all affected areas.	Contractor	Contractor	
	Livestock resources damaged by machinery and vehicles	Liaise effectively with PAPs before start of construction, maintain dialogue, develop a grievance procedure, strictly control machinery and vehicle access, and consider fencing for protection.	Contractor	Contractor	
	Inadequate prevention of construction-related noise from vehicles, asphalt plants, crushing and batch plants and equipment	The plants and equipment used for construction will strictly conform to noise standards.	Contractor	Contractor	

Phase,	Igeno	Mitigation	Institutional	Institutional responsibility	
location	Issue	Miligation	Install	Operate	Inotes
	Contamination of soil or water resources	Storage and handling of fuels, oils and other hydrocarbons will be a controlled process, involving measures to prevent soil and water contamination. Designs will include storage on sealed surfaces and within secondary containment and refuelling of all plant, vehicles and machinery will not be allowed within 50 m of any watercourse, drain or channel leading to a water course.	Contractor	Contractor	
	Damage to aquatic ecosystems	Prevent the movement of machines inside rivers, streams, or on their banks, except when it is unavoidable due to the construction of a structure or construction.	Contractor	Contractor	
	Contamination of soil or water resources	All sites near rivers shall be protected by fencing and other means to prevent loss of construction materials, particularly hazardous materials.	Contractor	Contractor	
	Disturbance to residents	Working hours/activities will be adjusted to reduce noise disturbance and working time restricted to 0630 to 1930hrs, or as otherwise agreed locally. Maintain dialogue or use grievance mechanism to allow residents to contact Project staff to make representations.	Contractor	Contractor	
	Traffic disruption to residents and longer distance travellers	Develop Traffic Management Plan in conjunction with road authorities to manage all temporary accesses, delivery of material and machinery.	Contractor	Contractor	
	Protection of workers H&S	Noise standards will be strictly enforced to protect construction workers from noise impacts, in accordance with international HSE procedures. All Project works will adhere to international H&S standards, including minimum PPE standards, e.g. hard hat, safety boots, ear defenders and noise exposure limited to 85 dB(A).	Contractor	Contractor	
	Residents injured by construction traffic and machinery	Conduct safety awareness campaigns, focusing on schools and children.	Contractor	Contractor	

Phase,	Iague	Mitigation	Institutional	responsibility	Natar
location	Issue	Miligation	Install	Operate	notes
	Workers injured during construction	Implement international HSE standards in all contracts.	Contractor	Contractor	
	Reduced land or property values	Establish and maintain dialogue with PAPs to reduce adverse effects as part of ongoing design and construction.	Contractor, PERS	Contractor	
	Contamination of soil or water resources	Contaminated or hazardous waste such as bitumen waste to be disposed of in selected areas approved by the Ministry of Environment. All waste disposal to comply with a Waste Management Plan, to be developed at the start of construction.	Contractor	Contractor	
	Pollution of groundwater and soils during demolition of properties	Develop working method statement to include effective management of materials.	Contractor	Contractor	
	Damage to water resources	All abstractions and any formalized discharges must be licensed/ approved by relevant authorities.	Contractor	Contractor	
	Damage to aquatic habitats and fish	All in-river works should be conducted outside of the fish spawning season and Contractors will prepare management plans for such works as a part of their Construction Method Statements.	Contractor	Contractor	
	Damage to sensitive terrestrial or aquatic habitats and species	Contractors to undertake detailed ecological surveys of work sites in sensitive areas and all rivers affected by construction and prepare documented mitigation, which could include aspects such as fish rescue or translocation of vulnerable species.	Contractor	Contractor	
	Damage to river morphology	Digging and making the foundations for bridge piers, retaining walls, and structures located at, or in the vicinity of, surface water bodies, will take place in the period of low water levels (July-September) so as to minimize negative impacts on rivers and their banks.	Contractor	Contractor	

Phase,			Institutional	Institutional responsibility	
location	Issue	Miligation	Install	Operate	Inotes
	Soil and water pollution	Construction vehicles and equipment will be maintained and refuelled at protected refuelling stations. Fuel storage and handling sites located away from drainage channels and important water bodies in accordance with Management Plan.	Contractor	Contractor	
	Soil and water pollution	Develop plans for cement and wash-water management.	Contractor	Contractor	
	Water pollution	Develop monitoring program for sensitive water courses, such as major river crossings and reporting, feedback and remedial action procedures. This should be linked to the Management Plans to be developed by the contractors.	Contractor	Contractor	
	Temporary access-vegetation removed, soil compacted, landscape and vegetation impacted	Remove topsoil layer initially and afterwards de-compact routes and reinstate topsoil and perform re-vegetation	Contractor	Contractor	
	Land resources damaged	Identify work areas with contractor(s) and describe system approvals for extensions and fines for violations.	Contractor	Contractor, PERS	
Highway Exploitation					
If monitoring results confirm that permitted levels are exceeded	Noise impact on affected residents, km 937+810 to km 938+000, left side	Noise protection barrier, H=4m, L=190m	Contractor	Contractor	
If monitoring results confirm that permitted levels are exc.	Noise impact on affected residents, km 939+120 to km 939+400, left side	Noise protection barrier, H=4m, L=280m	Contractor	Contractor	

Phase,	Irans	Mitigation	Institutiona	Institutional responsibility	
location	Issue	Miligation	Install	Operate	Inotes
If monitoring results confirm that permitted levels are exc.	Noise impact on affected residents, km 938+850 to km 939+700, right side	Noise protection barrier, H=4m, L=850m	Contractor	Contractor	
If monitoring results confirm that permitted levels are exc.	Noise impact on affected residents, km 940+100 to km 940+500, right side	Noise protection barrier, H=4m, L=400m	Contractor	Contractor	
Construction camps	Community tension and disruption	Locations for camps are predefined within the Detailed Design of the Project. Contractor should prepare Camp Management Plan	Contractor	Contractor	
	HSE Standards	Work camps are required to conform to international Health, Safety and Environment (HSE) standards	Contractor	Contractor	
	Wastewater collection and disposal/treatment	Camps should be furnished with sanitary and wastewater collection and disposal/treatment facilities and should operate fully compliant waste systems, involving storage of waste by waste category.	Contractor	Contractor	
	Contamination of soil or water resources	Storage of fuels and re-fuelling of equipment will be controlled in floodplains to prevent groundwater pollution. No storage of fuels and oils will be allowed in floodplains where the potential for washout exists.	Contractor	Contractor	
	Spread of disease, including STIs	Conduct awareness campaigns for camp workers and if relevant nearby communities.	Contractor	Contractor	
	Water and soil pollution	The sewage system for such camps will be properly designed and built so that no water pollution takes place. Such facilities will be decommissioned at end of the construction period.	Contractor	Contractor	

Prior to initiating works, the Contractors will be required to prepare and submit for approval Site-Specific Implementation Plans (SSIP) consisting of:

Waste and wastewater management plan

The Contractor's SSIP should cover all aspects of waste management, including implementation of practice standards such as reduce, re-use and recycle. It should specify final disposal routes for all waste and demonstrate compliance to national legislation and best practice procedures on waste management.

The WMP will, as a minimum, include details of temporary waste storage, waste transfer and pre-treatment prior to final disposal or recycling. Licensed/approved facilities for solid and liquid waste disposal must be used and a duty of care and chain of custody for all waste leaving the site will be followed. As part of the plan Contractors will be expected to produce waste handling forms for chain of custody, which will be used to control waste leaving site. Thus the waste controller will keep a copy of the form and the driver will always carry a copy and will ensure that the load is signed for at the final disposal site. All records will be kept by the Contractor for audit purposes and to demonstrate that the project is complying with best practice and applicable legislation.

Oil and fuel storage management plan

The Contractor's SSIP should cover all procedures for storage, transportation and usage of oils and fuels, refuelling of plant and machinery and procedures for minimizing the risk of ground and water contamination. All oils and fuels will be required to be stored within secondary containment of 110 % capacity and all spillages shall be cleaned up immediately. Re-fuelling vehicles will carry Spill Kits to enable spillages to be cleaned up as soon as possible. All categories of spillage will be reported in accordance with the Plan to be developed by the Contractor. Toolbox Talks would be expected to be delivered on an ongoing basis as "continued training" and following any significant incident.

In-river works management plan

The Contractor's SSIP should cover procedures and plans for safeguarding aquatic habitats and fish during in-river construction work and will complement the Construction Method Statements.

Camp management plan

The Contractor's SSIP should contain procedures for establishing and operating construction camps in order to safeguard nearby communities and environmental resources.

Emergency response plan

The Contractor's SSIP should contain procedures for emergency response in the event of accidents or major incidents, in order to safeguard people, property and environmental resources.

Appendix II

CHECK LIST

MONITORING PLAN

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
Construction						
Air Quality	Measuring carbon monoxide (CO) and nitrogen dioxide (NO2) is recommendable in stage one. If the measurement results show exceeded allowable concentration values, the list of pollutants should be extended by measuring the concentrations of nitrogen monoxide (NO), sulphur dioxide (SO2), hydrocarbon (CXHY), lead (Pb) and solids/particulates (PM10).	Community in the zone affected by the future highway o	Laboratory equipment	Two times during Construction works	Settlement potentially affected with the noise	Contractor
Noise	Noise Levels	km 937+810 to km 938+000	Noise meter	Every month, right side of motorway	Settlement potentially affected with the noise	Contractor
Noise	Noise Levels	km 939+120 to km 939+400	Noise meter	Every month, right side of motorway	Settlement potentially affected with the noise	Contractor
Noise	Noise Levels	km 938+850 to km 939+700	Noise meter	Every month, left side of motorway	Settlement potentially affected with the noise	Contractor
Noise	Noise Levels	km 940+100 to km 940+500	Noise meter	Every month, left side of motorway	Settlement potentially affected with the noise	Contractor

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
	Damage to irrigation and Drainage infrastructure	Agricultural lands	Visual observations, discussions with PAPs	weekly	Compliance to EIA and social commitments	Contractor e.g. Environmental staff
	Dust	At construction sites	Visual monitoring	Regularly site visits	Check environment and H&S requirements	Contractor
	Community tension and disruption.	Construction sites	Observation	Regularly site visits	EIA compliance	Contractor
	Spread of disease, including STIs	Settlements	Observation, discussions with representatives	Monthly	EIA compliance	Contractor
	Asphalt plant - possession of official approval or valid operating license	asphalt plants	Supervision inspection	before work begins	Ensure plant compliance with environment, health and safety standards	Plant Operator, contractor

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
Contamination of surface water during construction	suspended solids, organic compounds, lubricants, fuel, solvents, heavy metals, pH value, mineral oils	On a part of a surface waterway downstream from the construction site. Locations on km 938+032 Moravica River and Bujanovacka River	Water quality analysis	before the commencement of works, at the time when humus is being removed and when excavation or the building of embankments from earth material is being carried out. During construction sampling will be done on monthly basis	EIA compliance	Contractor
	Waste water from construction camps and portable sites	At construction camps and portable facilities at work sites	Monitoring of appropriate installation and operation of wastewater units, latrines and septic tanks	Regularly site visits	Check environment requirements are being maintained	Contractor
	Stone quarry - possession of official approval or valid operating license	stone quarry	Supervision inspection	before work begins	Ensure compliance with EIA	Quarry Operator, contractor

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
	Sand and gravel borrow pit - possession of official approval or valid operating license	sand and gravel borrow pit	Supervision inspection	before work begins	Ensure compliance with EIA	Quarry Operator, contractor
	Asphalt, dusty, bulk materials - truck load covered and/or wetted	job site	Supervision inspection	Regular inspections during work	Ensure compliance of performance with environment, health and	Contractor
	Traffic management - hours and routes selected	job site	Supervision inspection	Regular inspections during work	Ensure compliance with EIA	Contractor
Construction site						
Noise disturbance to human and animal population and workers	noise levels; equipment	job site; nearest homes	Mobile noise meter	once per week and on any complaint	assure compliance to EMP	Contractor
Vibration	Vibration levels	job site	Supervision, observations	Regular inspections during work and on complain	Ensure compliance to EMP	Contractor

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
Traffic disruption	existence of traffic management plan; traffic congestion	at and near job site, local roads	inspection; observation	before works start; once per week at peak periods	assure compliance to EMP	
Destruction of crops, trees, meadows,	land acquisition	job site	Supervision inspection	during material delivery and construction	Ensure compliance to EMP	Contractor
Operation						
Noise	Noise Levels	km 937+810 to km 938+000	Noise meter	Every month, in period of 5 years after the construction works are completed	Settlement potentially affected with the noise	Contractor, PERS
Noise	Noise Levels	km 939+120 to km 939+400	Noise meter	Every month, in period of 5 years after the construction works are completed	Settlement potentially affected with the noise	Contractor, PERS
Noise	Noise Levels	km 938+850 to km 939+700	Noise meter	Every month, in period of 5 years after the construction works are completed	Settlement potentially affected with the noise	Contractor, PERS
Noise	Noise Levels	km 940+100 to km 940+500	Noise meter	Every month, in period of 5 years after the construction works are completed	Settlement potentially affected with the noise	Contractor, PERS

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
Contamination of soil or water resources.	Concentration of dissolved oxygen, waste materials, oil, suspended solids, organic compounds, lubricants, fuel, solvents, heavy metals, pH value, colour and odour	monitoring should be carried out at a km 938+032 Moravica River and Bujanovacka River	it is necessary for the measurement and processing of data to be carried out continuously every four months. That means taking samples in January, April, July and October, which covers all periods of low and high water levels	Monthly, at least 5 years during operational phase of highway section	EIA compliance	PERS
Maintenance						
Noise disturbance residents, workers	noise levels	job site; nearest homes	Noise meter	Regularly	Ensure compliance to HSE Standards.	Maintenance Contractor
Possible air, water and soil pollution	air, water and soil quality (suspended solids, organic compounds, lubricants, fuel, solvents, heavy metals, pH value, water conductivity	job site; material storage areas; wash down areas for equipment; equipment maintenance facilities	mobile laboratory with necessary equipment	Regular inspections during maintenance activities and on complain	Ensure compliance to HSE Standards.	Maintenance Contractor

Phase, item	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?/ type of monitoring equipment	When is the parameter to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Install and operate
Vibrations	limited time of activities	job site	supervision	Regular inspections during maintenance activities and on any complaint		Maintenance Contractor
Road safety						
Increased vehicle speed	condition of traffic signs; vehicle speed	road section included in project	visual observation; speed detectors	during maintenance activities; unannounced	a)-b) enable safe and economical traffic flow	Traffic Police
Erosion, rockfall, hazardous conditions	condition of hazard signs	road section included in project	visual observation	during maintenance activities	Maintenance Contractor	Traffic Police, Supervision Contractor

Appendix III

LEGISLATION

MAIN SERBIAN LEGISLATION:

The main laws and regulations currently in force in Republic of Serbia which are relevant to the environmental protection during planning, design, construction and operating of this Project are listed below:

- o Law on planning and construction ("Official Gazette of RS" No. 72/2009, 81/2009)
- Law on nature protection ("Official Gazette of RS", 36/09)
- o Law on environmental protection ("Official Gazette of RS" No. 135/04, 36/09, 72/09)
- o Law on EIA ("Official Gazette of RS" No. 135/2004, 36/2009)
- o Law on Strategic EIA ("Official Gazette of RS" No. 135/2004)
- Law on waste management ("Official Gazette of RS", 36/09)
- Law on noise protection ("Official Gazette of RS", 36/09)
- o Law on water ("Official Gazette of RS", 46/91, 53/93, 67/93, 48/94, 54/96, 101/05)
- Law on forest ("Official Gazette of RS", 46/91, 83/92, 54/93, 60/93, 53/93, 67/93, 48/94, 54/96, 101/05)
- Law on air protection ("Official Gazette of RS", 36/09)

Regulations established on the basis of the Law on EIA include the following:

- Decree on 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)
- Rulebook on 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)
- Rulebook on the contents of the EIA Study ("Official Gazette of RS" No. 69/05)
- Rulebook on the procedure of public inspection, presentation and public consultation about the EIA Study ("Official Gazette of RS" No. 69/05)
- Rulebook on the work of the Technical Committee for the EIA Study ("Official Gazette of RS" No. 69/05)
- Regulations on permitted noise level in the environment ("Official Gazette of RS" No. 54/92)

Other relevant Serbian legislation

- 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", 38/09)
- Law on public roads ("Official Gazette of RS" No. 101/2005, 123/07)

Appendix IV

PRECONDISIONS FROM THE RELEVANT INSTITUTIONS

1. PRECONDITIONS OBTAINED FROM INP

9.1 Preconditions of INP (original text)

ЗАВОД ЗА ЗАШТИТУ ПРИРОДЕ СРБИЈЕ

СЕДИШТЕ • 11070 Н. Београд, Др Ивана Рибара 91 • тел: 011/2093-800, 2093-801 • факс: 011/2093-867 • beograd@natureprotection.org.yu

12.06.2006.год. анум број 03-852/2

САОБРАЋАЈНИ ИНСТИТУТ ЦИП д.о.о. 11000 БЕОГРАД Немањина 6

CAOSPASALINE INICTIATYT - LINT A.O.								
Opr. Jaa	Bpoj	D L I Nowner	Вредност					
	566-33	7/97	-					

УСЛОВИ ЗАШТИТЕ ПРИРОДЕ И ЖИВОТНЕ СРЕДИНЕ ЗА ПОТРЕБЕ ИЗРАДЕ ИДЕЈНОГ ПРОЈЕКТА Е-75 БЕОГРАД – НИШ – ГРАНИЦА БЈРМ деоница Доњи Нередовац Левосоје (од km 926+400,00 до км 942+195,00)

На основу достављене документације (захтев бр.566-328/97, прегледна карта у размери 1:25000) као и увидом у документацију Завода за заштиту природе Србије и Централни регистар заштићених природних добара, који води овај Завод, констатовано је да се на траси пута Е-75, деоница Доњи Нередовац – Левосоје, не налазе заштићена природна добра. У том смислу инвеститор нема посебне обавезе засноване на чл. 51. и 61. Закона о заштити животне средине ("Службени гласник РС", бр. 66/91).

Обрађивач је међутим обавезан да поштује све мере и услове заштите природе и животне средине који проистичу из релевантне законске регулативе.

Еколошки коридори

Изградњом пута врши се фрагментација станишта биљних и животињских врста и ствара се непропустљива баријера за највећи (или велики) број животињских врста. Ради очувања биодиверзитета региона неопходно је обезбедити слободно кретање јединки између очуваних субпопулација природних станишта. Они омогућују одвијање сезонских миграција, размену генетичког материјала између појединих локалних субпопулација и опстанак постојећих метапопулација животиња на изолованим и /или просторно удаљеним стаништима. Очување проходности ових еколошких коридора је од приоритетног значаја за очување биодиверзитета региона, како врста Законом заштићених као природне реткости, тако и значајних ловних врста. У ту сврху потребно је током пројектовања и изградње аутопута планирати и изградњу пролаза за ситне и крупне животиње, како би се негативни ефекти саобраћајнице што више ублажили.

Користећи нека досадашња позитивна инострана искуства, сматрамо да би се као мултифункционални пролази за ситне и крупне животиње, превасходно сисаре, могли искористити већ предвиђени и пројектовани пролази.

Мултифункционални пролази уз водоток:

- Предвиђени прелази (мостови) преко водотока такође се могу искористити као својеврсни еколошки коридори, уз мале преправке. Корито водотока треба да заузима највише једну трећину пролаза испод пута.
- Димензије пролаза пројектовати тако да испуне овај услов;
- Профил корита унутар пролаза треба да има нагиб мањи од 45 степени (оптимално 30);
- Странице обалоутврда водотока унутар пролаза треба да буду грубо храпаве (нпр. Прављењем хоризонталних ребара), чиме би се спречило клизање животиња у воду, и омогућио њихов лакши излазак из воде;
- Простор испред и иза пролаза треба да буде прекривен истоветним типом земљишта на датом локалитету, и природном вегетацијом околине;
- Као пролазе за водоземце и неке друге врсте животиња које преферирају влажна станишта и живе у близини воде, могуће је искористити већ пројектоване цеви за дренажу тла. Њихова величина и положај у овом случају могу да испуне тражене услове у вези несметаног

кретања водоземаца током њихових сезонских миграција.

Позајмишта:

Позајмишта песка и земљишта могу имати вишеструки негативни утицај на биодиверзитет. У случају стварања отвореног воденог окна фреатске издани на позајмишту, долази до загађивања фреатске издани. Отворено фреатско окно својим испаравањем негативно утиче на природни режим околних влажних станишта. После напуштања позајмишта, обновљена природна вегетација и водена површина привлачи животињске врсте, које могу да страдају на аутопуту. Дугорочно посматрано овакво станиште функционише као клопка за многе врсте. Највише су угрожене популације птица, водоземаца и гмизаваца.

Услови:

- Позајмишта не могу да се копају дубље од максималног нивоа подземне воде, да би се спречила појава отвореног фреатског окна.
- Позајмишта код прелаза за дивљач треба да садрже очуване делове плодног земљишта оригиналне структуре (обезбедити потребну количину плодног земљишта) ради формирања ремиза.
- Приликом ревитализације обновити вегетацију која је карактеристична за дату област. Избегавати озелењавање дрвенастим врстама и врстама са привлачним плодовима да би се спречавало привлачење птичјих врста и њихово страдање уз аутопут.

Осим наведених услова који се односе пре свега на заштиту фауне и флоре обавезно је да идејни пројекат разматра и следеће услове:

- У складу са Законом о процени утицаја на животну средину ("Службени гласник РС", бр.135/04), покренути код надлежног органа поступак процене утицаја планираних радова на животну средину.
- Идејним пројектом утврдити начин организације градилишта са јасно прецизираним локацијама за објекте, паркинге и путеве проласка тешке механизације као и позајмишта односно депоније материјала. Такође и начин и мере санације и уређења путног појаса.

- Инвеститор је обавезан да по завршетку радова терен врати у првобитно стање, односно да га приведе намени утврђеној пројектном документацијом.
- 4. Ако се у току извођења радова на траси наиђе на природно добро које је геолошко-палеонтолошког и минералошко-петрографског порекла, за које се претпоставља да има својства природног споменика, извођач радова је дужан да о томе обавести Завод за заштиту природе Србије и да предузме све мере заштите да се до доласка овлашћеног лица природно добро не оштети и да се чува на месту и у положају у коме је нађено. Исто важи и за културна добра, археолошке налазе, с тим што су та добра у надлежности Завода за заштиту споменика културе.
- Забрањује се депоновање шута, земље и осталог отпада у зони трасе пута и непосредно уз њу, током и по завршетку радова – осим на плански утврђеним локацијама.
- Обавезно је утврдити услове за засебно депоновање и заштиту хумуса од спирања који ће се користити за радове на санацији.
- Комунални отпад се може привремено депоновати дуж трасе у специјалним судовима намењеним за ту сврху, а за њихову евакуацију надлежна је општинска служба.
- Забрањено је бацање комуналног и другог отпада у водотоке и земљиште.
- Уколико дође до акцидента и изливања горива или моторног уља у земљиште, неопходно је евакуисати загађено земљиште на место и под условима надлежне комуналне службе, а локацију санирати.
- Посебно обратити пажњу на решења при пројектовању система одвођења атмосферских вода, нарочито у зони водотока, како би се спречило директно изливање штетних материја које се налазе на коловозу.
- Предвидети заштиту подземних вода и земљиште обезбедити од пробоја загађења у случају акцидентних ситуација, посебно код превоза опасних материја.
- 12. Сва позајмишта по завршетку радова треба довести у одговарајуће функционално стање усаглашено са непосредном околином. Позајмишта рекултивисати тако што се прво насипа хумусним земљиштем, а затим се пошумљава – озелењава одговарајућим врстама дрвећа и жбуња.
- Евентуалне усеке и насипе пројектовати тако да прате и да се уклапају у природни облик терена. Приликом покривања шкарпи

вегетацијом, треба имати у виду да постоји природни, максимални стелен нагиба до кога се вегетација може одржати без помоћи техничких мера.

- 14. По извршеном извођењу грађевинских радова обавезно је успоставити биљни покривач (култивисати терен) на свим угроженим местима, применом одговарајуће флоре и таквих врста које су биолошки постојане у датим климатским условима, отпорније на штетне утицаје (издувне гасове и сл.), као и да је избор врста усклађен са околним простором и његовом наменом.
- 15.Мерама одржавања заштитне зоне пута, предвидети забрану коришћења биљног покривача или плодове биљака из зоне високе концентрације тешких метала и других загађивача за сточну или људску исхрану.
- Након завршених радова на путу Е-75, неопходно је уклонити сву механизацију, грађевински материјал, контејнере, резервне делове и др., са трасе пута.
- 17. Уколико је у зони радова потребно извршити и уређење водотокова, обавезна је примена тзв. "натуралног уређења" и избегавање бетонирања обала и корита водотока (могу се употребити камен и сл. материјали). Такође планирати максимално очување аутохтоне, приобалне вегетације.
- При сагледавању радова на траси обавезно треба предузети све мере противпожарне заштите, како шума, тако и људства и технике на градилишту.
- 19. По усвајању пројекта, молимо вас да нас повратно информишете о реализованом концепту, посебно за сегмент који се односи на заштиту природе и животне средине, како би смо сличне, прихватљиве варијанте и даље примењивали у пракси (нпр. Ефикасност постојања одређених прелаза и пролаза за животиње, њихово одржавање, економичност за сам пројекат итд.).

Образложење

Одредбом члана 33. и 34. Закона о заштити животне средине ("Службени гласник РС", бр.135/04) и члана 51. и 61. Закона о заштити животне средине ("Службени гласник РС", бр. 66/91), одређено је да органзација за заштиту природе, тј. Завод за заштиту природе Србије утврђује услове заштите и даје податке о заштићеним природним добрима у поступку израде просторних и других планова, односно основа (шумских, водопривредних, ловних, риболовних и др.) и друге инвестиционо – техничке документације.

У складу са наведеном законском одредбом, САОБРАЋАЈНИ ИНСТИТУТ ЦИП д.о.о., поднео је захтев бр. 566-328/97 од 19.05.2006. за издавање услова заштите природе и животне средине за потребе израде Идејног пројекта Е-75 Београд – Ниш - Граница БЈРМ деоница Доњи Нередовац Левосоје од km 926+400 до km 942+195,00.

Достављено:

- Наслову
- Министарству науке и заштите животне средине Управа за заштиту животне средине

-Архиви

Директор Завода, Ір Лидија Амиџић Louin

2. PRECONDITIONS OBTAINED FROM IPCM

9.2 Preconditions of IPCM (original text)

репувлиза# Завод 3A BARTHTY CHO-GUEA SYNTYPE 12 00 11118 20 06 roa

МЪ/СВТ

Републички завод за заштиту споменика културе из Београда, на основу чл. 99. став 2. тачка 1, 100. став 1, 104, 109. и 110. Закона о културним добрима («Службени гласник РС», број 71/94) и члана 131. Закона о општем управном поступку («Службени лист СРЈ», бр. 33/97 и 31/01), а на захтев Саобраћајног института CIP из Београда, улица Немањина 6, доноси

РЕШЕЊЕ

I Мере техничке заштите за потребе израде Идејног пројекта аутопута Е-75, Београд-Ниш-Граница БЈР Македонија, деоница Доњи Нерадовац - Левосоје од km 926+400.86 до km 942+195.00, ради Детаљне анализе утицаја на животну средину, могу се предузети према следећим условима:

- На траси аутопута Е-75, Београд-Ниш-Граница БЈР Македонија, деоница Доњи Нерадовац - Левосоје од km 926+400.86 до km 942+195.00, евидентирана су следећа непокретна културна добра:
- Доњи Нерадовац, локалитет Голо Ребро
- + Павловац, локалитет Чукар
- +Павловац, локалитет Гумниште
- Павловац, локалитет Суви до
- + Давидовац, локалитет Давидовац (на североисточној периферији села)
- Давидовац, локалитет Градиште
- Давидовац, локалитет Давидовац (на југозападној периферији села)
- Бујановац, локалитет Грштица
- Самољица, локалитет Црквиште
- На кулгурним добрима која су наведена не може се вршити раскопавање, рушење, преправљање или било какви радови који могу да наруше својства културног добра без претходно утврђених посебних услова за предузимање мера техничке заштите и сагласности на техничку документацију.
- Подносилац захтева, односно инвеститор је дужан да:

 обезбеди средства за истраживање, археолошки надзор, заштиту, чување, публиковање и излагање добара које уживају претходну заштиту у случају вршења земљаних, грађевинских и осталих радова на површинама где се налазе археолошка налазишта и културна добра под претходном заштитом.

 обавести Републички завод за заштиту споменика културе - Београд и одговорног стручњака службе заштите за сваку локацију појединачно која је предмет Идејног пројекта и обезбеди заштитна археолошка ископавања и стални археолошки налзор.

II Подносилац захтева дужан је да изради пројекат у свему у складу са издатим условима из тачке 1. овог решења.

III По изради пројекта у складу са овим условима, подносилац захтева је дужан да на исти прибави сагласност Републичког завода за заштиту споменика културе.

IV Ово решење не ослобађа подносиоца захтева обавезе прибављања и других услова, дозвола и сагласности предвиђених прописима.

V Ово решење важи годину дана од дана издавања.

VI Жалба не одлаже извршење овог решења.

Образложење

Овом Заводу се обратио Саобраћајни институт СІР из Београда, улица Немањина 6, захтевом за издавање услова за израду Идејног пројекта аутопута Е-75, Београд-Ниш-Граница БЈР Македонија, деоница Доњи Нерадовац -Левосоје од km 926+400.86 до km 942+195.00.

У току 2002. године обављена су систематска археолошка рекогносцирања будуће трасе аутопута Е-75, Ниш - Граница БЈР Македонија. Евидентирана су непокретна културна добра у ужој и широј зони наведене трасе пута. Нови путни правац користи у историјском погледу простор на којем је очекивано да се већином налазе остаци материјалне културе из периода праисторије, доминације Римског царства и средњовековног периода.

Ради заштите културних добара и археолошких налазишта Саобраћајни институт СІР из Београда дужан је да поступи по мерама које су издате у овом решењу.

По захтеву решено је као у диспозитиву.

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

По захтеву решено је као у диспозитиву.

ПОУКА О ПРАВНОМ ЛЕКУ: Против овог решења дозвољена је жалба Министарству културе 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, ослобођена је плаћања републичке административне таксе.

Доставити: - Подносиоцу - Архиви



	ЗКОЕРАТАЛНИ ИРСТИТУТ - ЦКП д.а.а. В Е О Г Р А Д	
аладатиту споменика културе	CONTRACT DA MAY 2009	
30.04 200 roa	4 566-499/97	N
Band	- Net Profile	10.00

МБ/ЈБ

Републички завод за заптиту споменика културељуз Београда, на основу чл. 99. став 2. тачка 1, 100. став 1., 109., 110 и 104. Закона о културним добрима («Службени гласник РС», број 71/94) и члана 131. Закона о општем управном поступку («Службени пист СРЈ», бр. 33/97 и 31/01), на захтев Саобраћајнот института СІР из Београда, улица Немањина бр.6, доноси

РЕШЕЊЕ

I Мере техничке заштите за израду Идејног пројекта Е-75 Београд-Ниш-Граница БЈРМ, поддеонице Српска кућа – Левосојс, од км 947+811,20 до км 955+870,11, могу се предузети према следећим условима:

- може се приступити изради Идејног пројекта Е-75 Београд-Ниш-Граница БЈРМ, поддеонице Српска кућа – Левосоје, од км 947+811.20 до км 955+870,11;
- на траси предметне поддеонице регистрована су два локалитета са археолошким садржајем у атарима села Српска кућа и Раковац;
- површина коју захватају није дефинисана, те је неопходно обезбедити стални стручни надзор археолога током извођења земљаних радова;
- инвеститор је у обавези да обезбеди средства за стручни надзор и израду неопходне документације.

II Подносилац захтева дужан је да изради пројскат у свему у складу са издатим условима из тачке I овог решења.

III По изради пројекта у складу са овим условима, подносилац захтева је дужан да на исти прибави сагласност Републичког завода за заштиту споменика културе.

IV Ово решење не ослобађа подносиоца захтева обавезе прибављања и других услова, дозвола и сагласности предвиђених прописима.

V Жалба не одлаже извршење овог решења.

Образложење

Овом Заводу се обратно Саобраћајни институт СІР из Београда, улица Немањина бр.6, захтевом за утврђивање услова за предузимање мера техничке заштите за израду Идејног пројекта Е-75 Београд-Ниш-Граница БЈРМ, поддеонице Српска кућа – Левосоје, од км 947+811,20 до км 955+870,11.

На предметној поддеоннци, у атарима села Српска кућа и Раковац, налазе се непокретна добра која уживају претходну заштиту у складу са одредбама Закона о културним добрима. Оба покалитета гравитирају према траси аутопута E-75.

По захтеву је, применом одредаба чл. 99. став 2. тачка 1, 100. став 1., 109. и110. Закона о културним добрима, решено као у диспозитиву.

На основу члана 104. став 3. Закона о културним добрима, жалба не одлаже извршење решења. ПОУКА О ПРАВНОМ ЛЕКУ: Против овог решења дозвољена је жалба Министарству културе 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, ослобођена је плаћања републичке административне таксе.



Доставити:

Подноснопу

- Архиви