



PUBLIC ENTERPRISE "ROADS OF SERBIA"
Bulevar kralja Aleksandra 282
PO Box 17
11 050 Belgrade 22, Serbia
Sector for Investments
Vlajkovicева 19a, Belgrade
tel. +381 11 30 34 744, fax. +381 11 30 34 832

EIB LOAN

LOT B5.3

Construction of the “Petlovo Brdo” Interchange and “Orlovaca” Interchange (phase II)

ENVIRONMENTAL AND SOCIAL ACTION PLAN

for

“PETLOVO BRDO” INTERCHANGE PROJECT

(Final, 20140425)

Belgrade, April 2014

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EIB	European Investment Bank
EIA	Environmental Impact Assessment
EIS	Environmental Impact Study / Environmental Impact Statement
ESAP	Environmental and Social Action Plan
HSE	Health, Safety and Environment
INP	Institute for Nature Protection of the Republic of Serbia
IPCM	Institute for Protection of Cultural Monuments of the Republic of Serbia
MOEDEP	Ministry of Energy, Development and Environmental Protection
PAP	Project Affected Person
PERS	Public Enterprise “Roads of Serbia”
SSIP	Site Specific Implementation Plan
WMP	Waste Management Plan

INTRODUCTION

The existing – already constructed “Petlovo Brdo” Interchange (Picture 01) is been used for traffic for years now and it is located within the zone of settlement “Petlovo Brdo”, on the crossing of the existing Ibarska road and the regional road which is connecting Zeleznik and Rakovica settlements. This interchange is only temporary solution until new “Petlovo Brdo” Interchange will be constructed. The existing “Petlovo Brdo” Interchange with the belonging part of the Ibarska road is defined as “black spot” on the traffic network in the Republic of Serbia with permanent traffic accidents with fatalities that often occur.



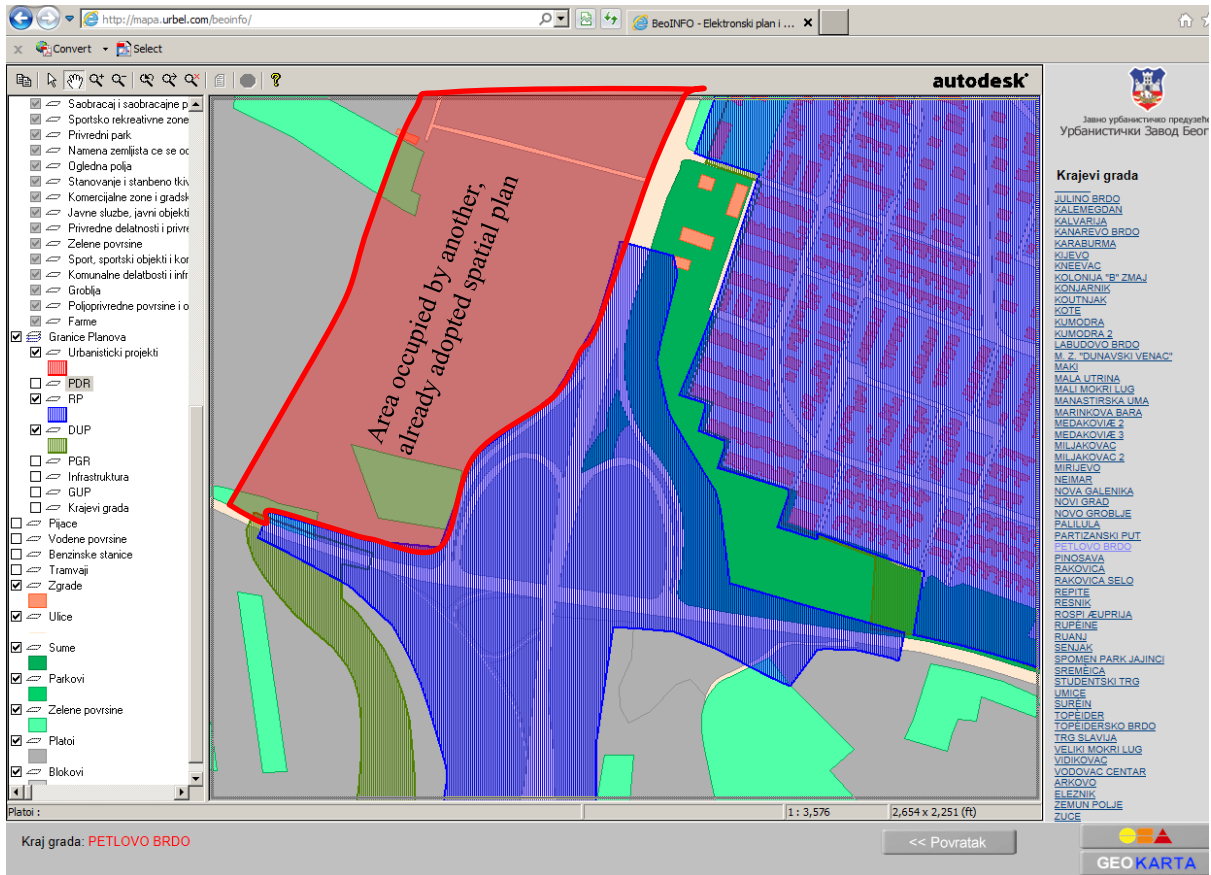
Picture 01: The existing – already constructed “Petlovo Brdo” Interchange

The new “Petlovo Brdo” Interchange will be constructed instead of the existing interchange, on a location defined and complied with the valid plan and design documentation in aim to increase the traffic flow and traffic safety and prevent further traffic accidents.

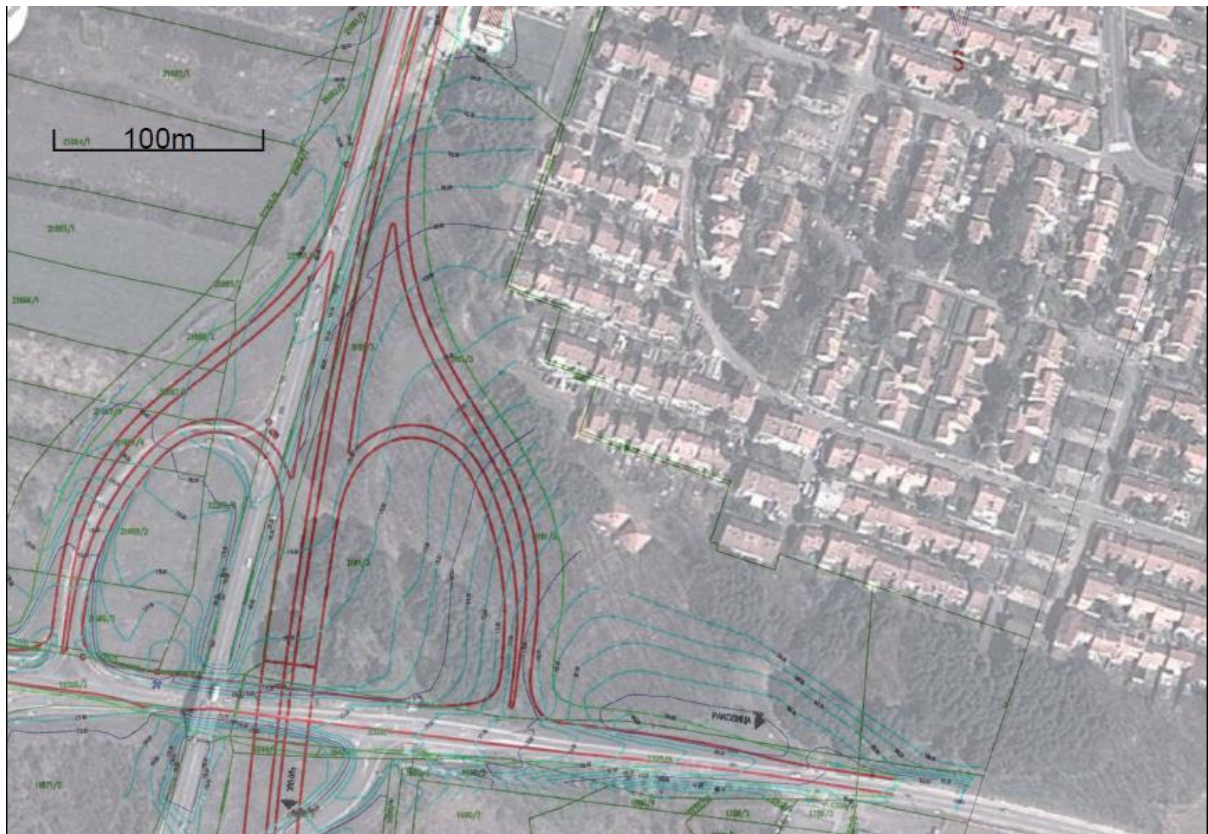
Original Detailed design of new “Petlovo Brdo” Interchange (Picture 02a and 02b) was developed by “Interchange Institute” Belgrade during 2013 strictly following the requirements and limitations prescribed within the already adopted spatial plans and Preliminary design. It involved removal of significant number of trees within the zone of park-forest “Borici” in the surrounding settlement “Petlovo Brdo”, and reduced approaches to the residential and business objects located close to Ibarska road. By the construction of new “Petlovo Brdo” Interchange a dangerous part located on the Ibarska Road will be eliminated, arisen from the current temporary solution (Existing – Constructed “Petlovo Brdo” Interchange) thus, will significantly contribute in increased level of traffic safety.

However, local residents of Petlovo Brdo settlement recognized proposed project solution as inappropriate, as a solution which could cause significant environmental and social problems. Based on that, their representatives contacted European Investment Bank (EIB) and presented their concerns related to **Original Detailed design** of new “Petlovo Brdo” Interchange. As a result of the complaint received, EIB recommended that the commencement of the construction works on the New “Petlovo Brdo” Interchange shall be postponed until completion of the EIB complaints mechanism procedure.

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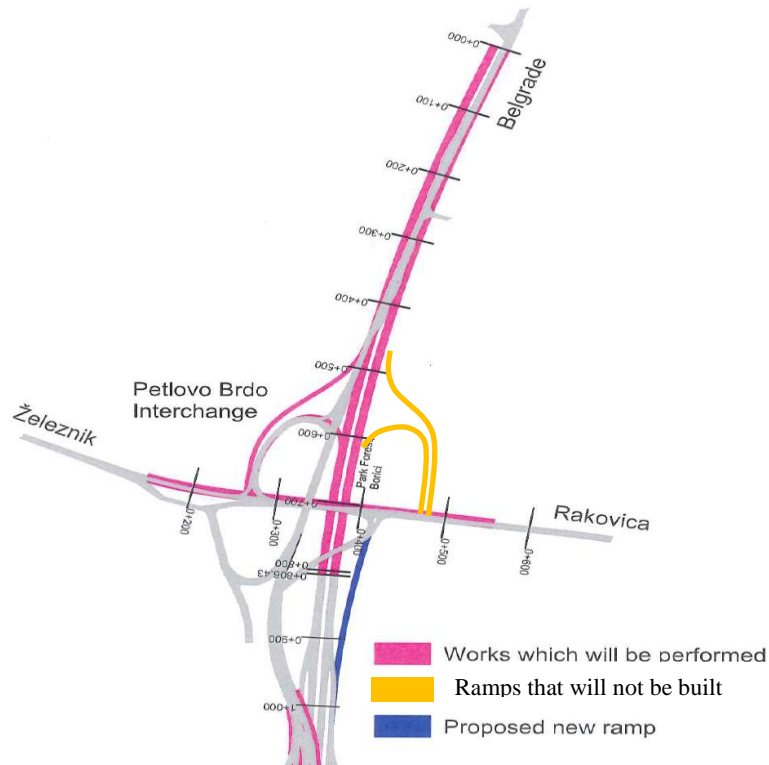


Picture 02a: Original Detailed design of new “Petlovo Brdo” Interchange, with marked “red area” which represents an important constraint in the improvement of the design



Picture 02b: *Original Detailed design* of new “Petlovo Brdo” Interchange

After the complaint received from project affected people, residents and NGOs of Petlovo Brdo settlement, and as part of EIB Complaints mechanism mediation, Public Enterprise “Roads of Serbia” (PERS) established dialogue with Project Affected People (PAPs) and developed an Improved project proposal which ensure existence of major part of park-forest “Borici”, together with improved approaches to the local residential and business areas (Picture 03). Mitigation measures and appropriate monitoring program which are consisting part of Improved Design of “Petlovo Brdo” Interchange are presented within this ESAP.



Picture 03: **Improved Detailed design** of new “Petlovo Brdo” Interchange

Construction of NEW “Petlovo Brdo” Interchange is not started yet. Not a single tree is damaged or cut within the zone of park-forest “Borici”. Construction works will commence after reaching a compromise among PERS and PAPs. It is expected that new PERS project proposal, which include precise mitigation and monitoring activities will satisfy the local residents of “Petlovo Brdo” settlement and will ensure implementation of environmentally and socially sustainable project solution.

This Environmental and Social Action Plan (ESAP) is related to Improved “Petlovo Brdo” Interchange Project and will be presented to the local community of Petlovo Brdo settlement during a new round of Consultation with Project affected persons.

1. PROJECT DESCRIPTION

The subject of this Environmental and Social Action Plan (ESAP) is **Improved Detailed design** of new “Petlovo Brdo” Interchange.

The new “Petlovo Brdo” Interchange is located 400-500 meters north from the Belgrade Bypass. Commencement of the interchange is on km 0+000,00 close to the junction located in front of “Metro” mega-market. End of the section is located on km 0+806.43, close to “Orlovaca” Interchange, after the bridge over a Rakovica - Zeleznik road (a “Ring road”).

Original Detailed design (Picture 02a and 02b) included full number of traffic connections, but two of them (Cacak – Zeleznik/Rakovica and Zeleznik/Rakovica – Beograd) were placed directly within the zone of Park-forest “Borici”. Park-forest “Borici” is not protected nature reserve, but it is recognized as valuable resting and recreation area to the local community, and also represents a specific “protective zone” which significantly contributes decreasing the levels of noise and air pollution within the Petlovo Brdo settlement. By the ***Original Detailed design*** a significant part of trees of park-forest “Borici” was planned to be cut, and approaches to the local residential and commercial buildings were reduced, so local residents decided to resist to the project construction.

The bearer of the Project “Roads of Serbia” Belgrade, has submitted request for determination of the need for preparation of environmental impact assessment study for the preliminary design Highway E70/E75 Dobanovci – Bubanj Potok, sector 4: interchange “Petlovo Brdo”.

The interested public is welcomed to review the content of the request every working day from 11 to 14 h at the premises of the Ministry of Energy, Development and Environmental Protection of R. of Serbia in Belgrade, Omladinskih brigade 1, room 653 and submit its opinion within 10 days from the day of publication of this announcement

The new interchange “Petlovo Brdo” has not gone through full EIA procedure, but EIA Phase I (Decision-making procedure) took place (see Chapter 7). Phase I include information to the public that PERS has submitted Request for determination of the need for preparation of Environmental Impact Assessment Study (EIS), disclosure of subject Request and invitation to Project affected persons to review the content of the Request at the premises of the MoEDEP. EIA procedure has been concluded with issued Ministerial decision regarding the NO REQUIREMENT of an EIA Study for the new interchange “Petlovo Brdo”.

During 2013, residents of Petlovo Brdo settlement contacted EIB and presented their concerns regarding the environmental and social project impacts. The EIB Complaints Mechanism reviewed the case, organised missions to Belgrade and initiated a mediation procedure with a view to facilitating the dialogue between the complainants and the Promoter in order to achieve a solution that would ensure the continuation of the Project, the protection of the environment and the well-being of the community. As a result of this activity, in order to save major part of Park-forest “Borici” and enhance approaches to the Ibarska road, PERS considered additional project alternatives and prepared a new, Improved “Petlovo Brdo” Interchange Project.

Improved Detailed design (Picture 03) included reduced number of traffic connections (Cacak – Zeleznik/Rakovica and Zeleznik/Rakovica – Beograd are missing, see orange line on Picture 03), but major part of park-forest “Borici” is saved. Additionally, negative social impacts of the project are eliminated by designing an alternative service roads and new junction (at Djuje i Dragoljuba Street), which are presented as integral part of Improved Detailed design. As a part of Project documentation, PERS has prepared a Detailed design of environmental protection

for “Petlovo Brdo” Interchange Project and Detailed design of reforestation, which are used in process of preparation of this ESAP.

Project designers fitted **Improved Detailed design** into the Existing Spatial Plan (blue area on Picture 03), and was not allowed to develop the design within the area which is also pre-occupied by another, already adopted Spatial Plan (red area on Picture 02a and 02b).

This ESAP document set out specifically the conditions, measures and monitoring activities, which will be undertaken to prevent, reduce or eliminate the possible adverse effects of Improved “Petlovo Brdo” Interchange Project on the environment. ESAP and Check List are produced to point at the essential environmental requirements during the construction of new “Petlovo Brdo” Interchange Project and guide the Construction Contractor 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 roads in the Republic of Serbia, the issue of environmental protection is managed by mutual cooperation of the several statutory government institutions. The Ministry of Energy, Development and Environmental Protection 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.

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 IV.

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 7.) and the duty of forming the Technical Committee. Environmental Impact Assessments are required for the projects which are being planned and conducted, 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 on the List containing a certain project, there can be one, two or more phases):

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

According to the Law on EIA (“Official Gazette of RS”, 135/04, 36/09), PERS may not commence the project construction without having previously completed the impact assessment procedure and obtained the approval of the EIS from the competent authority.

2.4. Relevant EIB and European environmental policy

A new “Petlovo Brdo” Interchange Project is financed from the EIB Loan.

The EIB’s policy towards the formal process commonly known as “Environmental Impact Assessment” (EIA) is summarized in its Environmental Statement (2004). The European EIA Directive 2011/92/EU outlines which project categories shall require an EIA, which procedure shall be followed and the content of the assessment. Article 5(1) of the Directive requires the project promoter to provide information to the competent authority relating to the environmental impact of the project.

Interchange projects are listed under Annex II of the EIA Directive and consequently for such project a full EIA may not be mandatory, but also could be required depending on the

opinion collected from the relevant authority. In this particular case, the competent authority (MOEDEP) decided that there is no need for a full EIA for the proposed interchange Project.

The EIA process mandated by the Directive seeks to help ensure that project development and planning decisions take environmental impacts into account by incorporating adequate measures to avoid or reduce and if possible offset potential impacts from the planning stage; selecting lower impact projects and rejecting projects whose likely impacts are considered unacceptable by the competent national authorities.

Also, this ESAP document has been developed taking into account the EIB Statement of Environmental and Social Principles and Standards (2009). The EIB requires that all projects, irrespective of location, comply with the requirements (principles and practices) of the European Union’s EIA Directive in terms of the requirements for and scope and form of a formal EIA.

Stakeholder Participation and Public Disclosure

Stakeholder participation within the EIA procedure launched for this interchange project is also ensured by respecting not only the EIB 2009 Statement but EIB’s Transparency Policy. Environmental information shall be made available to the public according to the Aarhus Convention and the EIB Transparency Policy.

Obligations with respect to nature conservation

The construction of roads may lead to habitat fragmentation and therefore any such infrastructure projects need to be planned with due regard to the relevant provisions of Directives 2009/147/EC (Birds), 92/43/EEC (Habitats) and the EIB Statement of Environmental and Social Principles and Standards (2009).

Other relevant Standards

EIB ENVIRONMENTAL AND SOCIAL PRACTICES HANDBOOK, Environment and Social Office Projects Directorate Version 2 of 24/02/2010

3. BASELINE CONDITIONS AND SUMMARY OF ENVIRONMENTAL IMPACTS

3.1. Ecosystems (Flora and Fauna)

A dominant ecosystem within the project impact zone is Park-forest “Borici”, placed close to the residential buildings of the Petlovo Brdo settlement (Picture 04)



Picture 04: Park-forest “Borici”

According to the preconditions obtained from INP (No 020-478/2 from 03.03.2011, see Appendix V), none of plant or animal species which habitats belong to the zone are rare, vulnerable, endangered or protected. Upon reviewing the registry of protected natural resources, it was established that within the analyzed area there are no registered locations which fall under this category.

However, park-forest “Borici” represent a significant rest and recreation area to the local people. There are numerous of playgrounds, tables and benches recorded within the forest zone. During project construction, it is expected that current content will be removed and improved within the remaining part of Park-forest “Borici”, close to the residential area.

3.2. Inhabitants

The Project territory belongs to the Petlovo Brdo settlement which is located in Belgrade's municipality of Rakovica. Petlovo Brdo is located in the central part of the municipality. Exact number of Petlovo Brdo residents is not found in process of making this ESAP, but only officially recorded fact is that 99.000 people are living within the whole Rakovica Municipality.

A certain number of residents are living close to existing “Petlovo Brdo” Interchange, and their object are exposed to the negative impact of noise and air pollution caused by the

existing traffic, mostly on Ibarska road. Some of them are owners of private or commercial buildings located close the Ibarska road, within the project zone. They are approaching their objects directly from the Ibarska road now, and based on that fact, in order to eliminate negative social impacts of new proposed project, PERS is planned and designed a new service road to them. New service road and a new junction at Djuje I Dragoljuba Street will ensure approaches to the each single object which will suffer from closing of existing approaches during project construction. New accesses will have a higher safety then the current semi-legal ones.

3.3. Landscape

The most notable morphological form in the relief of the analyzed area is the zone of Park-forest “Borici”. By adoption of **Improved Detailed Design**, major part of the park-forest will remain after the project construction, which will ensure non-degradation of currently registered landscape level.

Park-forest “Borici” represent a specific resting and recreational area for local people, and containing a playground and certain numbers of desks and benches aimed for social and recreational activities of Petlovo Brdo inhabitants.

3.4. Air

Within the studied area there are no significant non-point or point sources of air pollution. The major Ibarska road, as well as the regional Ring road R-251, is linear sources which could potentially cause an increased concentration of air pollutants. Due to existence of park-forest “Borici” and fact that no industrial structures being marked within the studied area which could cause increased levels of concentrations of pollutants in the atmosphere, it can be justifiably assumed that the quality of the air is at a satisfactory level.

Data on the measured values of air pollution in the observed corridor were not available. It is presumed that the planned section of the Ibarska road will become the dominant linear air polluter within the observed area.

3.5. Noise

A dominant source of noise pollution is Ibarska road. However, based on the calculation made during the Detailed design phase, all the residents which are living close to Ibarska road are exposed to the noise levels which are below the legally permitted levels.

3.6. Immovable cultural assets

No statutorily protected archaeological sites are recorded within the Project area.

3.7. Geology and soil

For the studied area of the “Petlovo Brdo” Interchange Project there are no available data on the presence of polluting material in the soil. Empirically, it can be expected that the intensification of traffic activities may lead to excessive pollution of the environment, including the soil.

Potential land-slide problems are analysed during detailed design phase and it was concluded that project will not jeopardize or activate existing land slide area. However, a new proposed **Improved Detailed design** is developed as it presented on Picture 03 within the area

completely out the land-slide zone and works will not affect the existing land-slide. Additionally, during construction works not a single tree will be cut or removed from the area of registered land-slide.

3.8. Surface and ground water

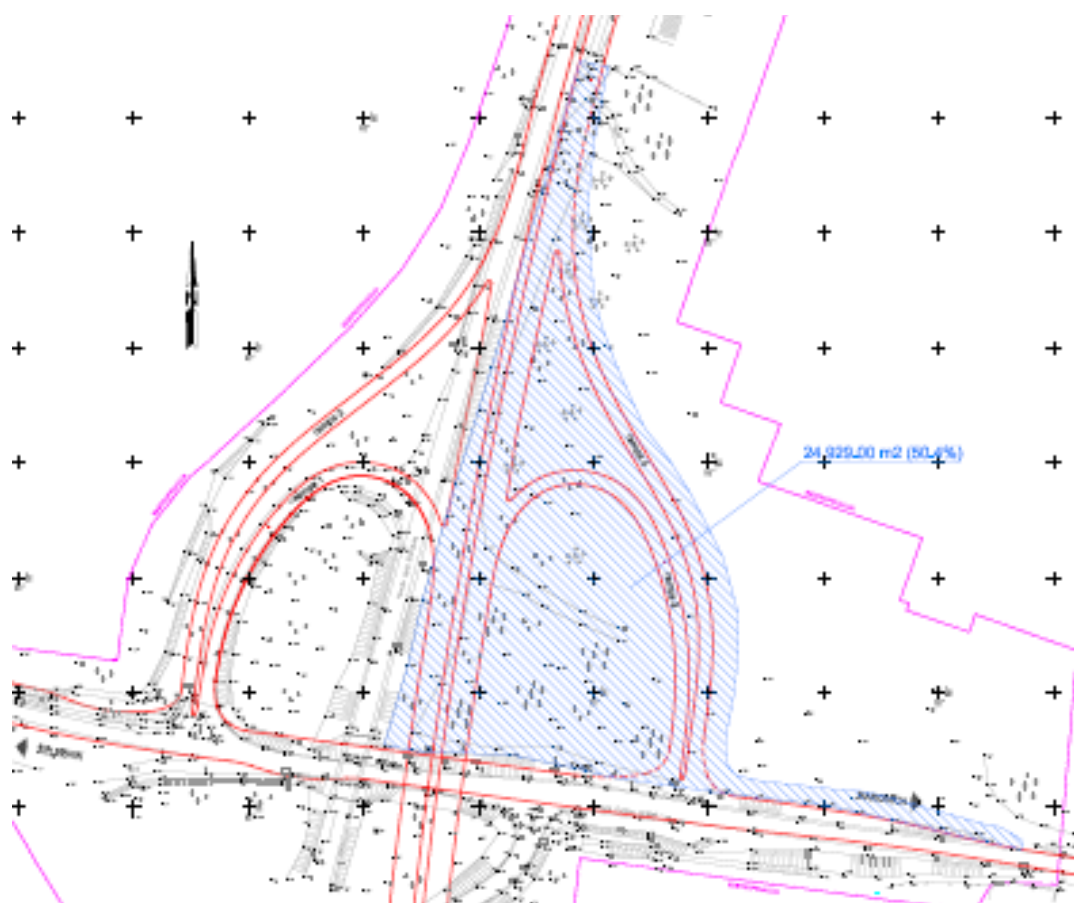
There are no surface and underground water bodies registered within the project area.

4. SUMMARY OF ENVIRONMENTAL IMPACTS

The environmental impact which will be caused by the construction, operation and maintenance of the “Petlovo Brdo” Interchange indicate qualitative and quantitative changes in the environment during the construction and operation phase. However, it is also important that positive project impacts will be noted through increasing of the traffic flow and traffic safety and preventing of further traffic accidents.

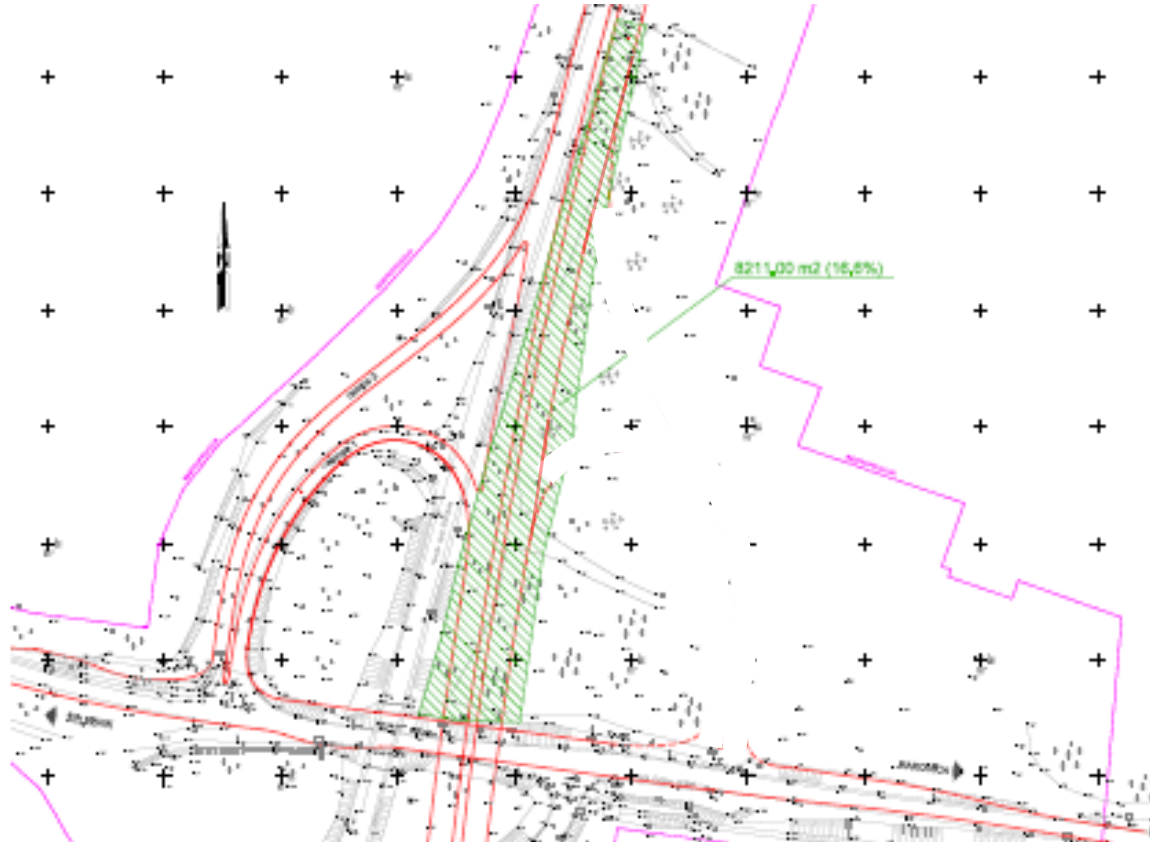
4.1. Flora, Fauna and visual impact

By *Original Detailed design* a major impact on flora was manifested as vegetation loss (Picture 05a), due to the fact that certain number of trees will be destroyed during interchange construction. One part of park-forest “Borici” will be destroyed, and from that reason, during the Detailed design phase PERS ensured a survey of the park-forest area and counted all the trees that will be destroyed during project construction. As integral part of the Detailed design a Manual of valorization is produced and all different tree species are noted and counted. It is concluded that 1739 different trees was planned to be destroyed in case of implementation of *Original Detailed design* of “Petlovo Brdo” Interchange Project (Table 01)



Picture 05a: “Borici” vegetation loss according to an *Original Detailed design*

Proposing a new, **Improved Detailed design**, PERS ensured non disturbance of approximately 84% of above mentioned number of trees (picture 05b), which is cca. 1460 trees. Still, in case of adoption of new, improved design of “Petlovo Brdo” Interchange, around 300 trees will be cut. PERS will compensate this vegetation loss, and appropriate mitigation measures are planned and presented within the chapter 5 of this ESAP document.



Picture 05b: “Borici” vegetation loss according to a new **Improved Detailed design**

Table 01: Manual of Valorisation for plant species planned to be destroyed by implementing *Original Detailed design* of “Petlovo Brdo” Interchange

Nr.	Species mark	Botanical name	Quantity	Diameter (cm)	Height(m)	Width (m)	Tree health*	Esthetic value*	General assessment*
1.	A	Cedrus atlantica	161	16-30	20	4	3	3	3
2.	B	Acer platanoides	79	20	15	4	4	3	3
3.	C	Tilia grandifolia	735	20	15	4	3	3	3
4.	D	Fraxinus exelsior	75	15-20	15	4	4	3	4
5.	E	Quercus rubra	14	25	17	4	4	3	4
6.	F	Pinus nigra	377	15	15	4	3	3	3
7.	G	Quercus robur	113	16-30	17	4	3	2	3
8.	H	Betula alba	15	15	15	4	3	2	3
9.	I	Prunus cerasifera	78	10	6	3	3	3	3
10.	J	Crataegus monogyna	10	10	6	3	3	3	3
11.	K	Forsythia europea	12		2	1/m ²	3	3	3
12.	L	Spiraea opulifolia	47		1	1/m ²	3	3	3
13.	M	Symphoricarpus orbiculatus	6		1	1/m ²	3	3	3
14.	N	Ligustrum vulgare	17		2	1/m ²	3	3	3

*LEGEND: 3 – good, 4- very good, 5- excellent

4.2. Impact on existing resting and recreational area

Park-forest “Borici” also represent a rest and recreation area to the local people. There are several playgrounds, tables and benches recorded within the forest zone (brown marked areas on Picture 06). During project construction, it is expected that current content will be removed and improved within the remaining part of Park-forest “Borici”, close to the residential area.



Picture 06: Content of park-forest “Borici” – desks, benches, playgrounds (brown color)

4.3. Impacts on social environment

It was concluded that by adoption of *Original Detailed design* for a significant number of residential and commercial objects access would become very difficult, but few of them would lose approaches to their houses due to the fact that a protective guard rail would be placed along the road route (Pictures 07 and 08).

Possible loss of property values raised concerns to the local residents and they announced that proposed *Original detailed design* of “Petlovo Brdo” Interchange does not meet their expectations and asked PERS to give up or find alternative solution which can significantly improve proposed design and ensured approaches to their properties.

Having that in mind, PERS developed an **Improved Detailed design** for “Petlovo Brdo” Interchange which supposed to meet all the transport requirements for the affected persons.

A detail social impact assessment will be performed during process of upcoming Consultations with Project affected persons, collecting the opinions and remarks of all project affected persons. (see Appendix III of this ESAP – Social Impact Check List).

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Picture 07: Position of commercial and residential buildings and their current approaches to the Ibarska road



Picture 08: Position of commercial and residential buildings and their current approaches to the Ibarska road

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Table 02: Identification and location of project affected commercial objects

Chainage		location	decription	Affected commercial facilities	No. on the map
0+000	0+020	left	Commercial and residential building	- Würth - A.P. "Sidro"	1 2
0+020	0+040	left	Commercial and residential building	DeWalt Black&Decker	3
0+060	0+080	left	Commercial and residential building	- Caffè "Rustik" - Beauty studio "Megasun"	4 5
0+085	0+100	left	commercial building	Furniture "Moj dom"	6
0+105	0+165	left	commercial building	"Unidas"	7
0+175	0+205	left	Commercial and residential building	- Restaurant "Šumadija" - Glass service;	8 9
0+200		right	access road for salvage yard	Salvage yard	10
0+210	0+250	left	Commercial building	Grand motors - Ford	11
0+265	0+280	left	Commercial building	Quicksilver - Briggs & Stratton - Mercury motori	12
0+280	0+300	left	Commercial building	"Artinvest"	13
0+310 i 0+330		desno	access road for salvage yard	Salvage yard	14
0+330	0+350	left	Commercial building	"B+M ritam"	15
0+355	0+380	left	Commercial building	"Hipolit" d.o.o	16
0+380		right	access road	unpaved access road	17
0+400		left	access road	unpaved access road	18

4.4. Air quality

Construction Phase

The carrying out of construction works, according to its nature, represents a significant source of pollution to the atmosphere due to the use of construction machinery which uses mostly fossil fuels for propulsion. The moving of large earth masses during construction of the road (cut, embankment) also results in large quantities of dust being lifted into the atmosphere which may trigger negative consequences in the populace and vegetation.

Operational Phase

The calculation of concentrations of air pollutants for characteristic cross-sections of the planned interchange was not done due to the fact that detailed EIS is not prepared for this project, according to the Ministerial decision.

“Zero monitoring” air pollution measurement will be performed at early project phase, before commencement of any construction activities, while Ibarska road is still in operation phase. Additional measurement will be done periodically, according to the enclosed Monitoring Plan (see chapter 6.6 and Appendix II of this ESAP).

4.5. Noise

1.1.1. Construction Phase

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 over a relatively large area, 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 both in time and nature and as such it is considered in the mitigation measures during the construction phase.

1.1.2. Operational Phase

During the operational phase, Road traffic plays a dominant role if compared with other types of traffic and is predicted to continue to grow. This results in an increase in the level of noise in the zones around roads.

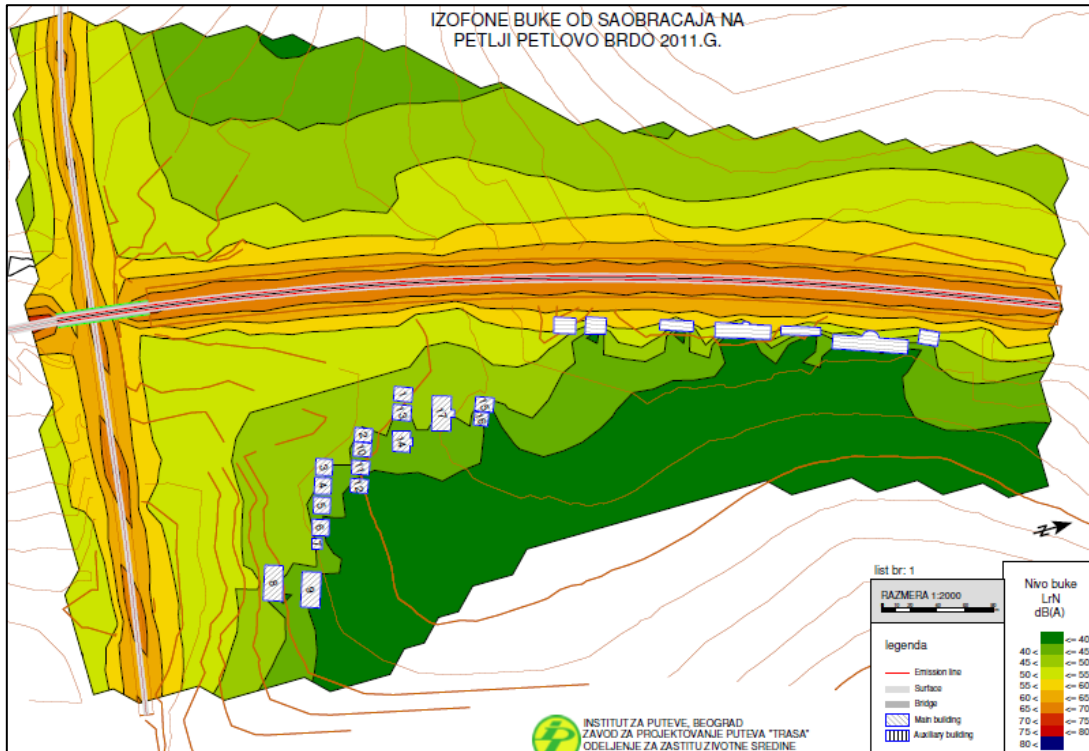
For the concrete calculation of the authoritative level at any point of a section, special computer programs were used which were developed on the basis of the instructions titled: "Richtlinien für den Larmschutz und Strassen RLS-90". Results of noise modeling are presented within the Table 02 and Noise maps drawn for current condition and year of 2031, respecting the traffic analyses and forecast (Picture 09 and 10)

Having in mind that **Improved Detailed design** was developed from original design, by removing of two ramps originally designed within the park forest “Borici”, it is easy to make conclusion that noise impact will be actually reduced due to non existence of those two ramps and existence of the same traffic load on remaining parts of originally designed “Petlovo Brdo” interchange.

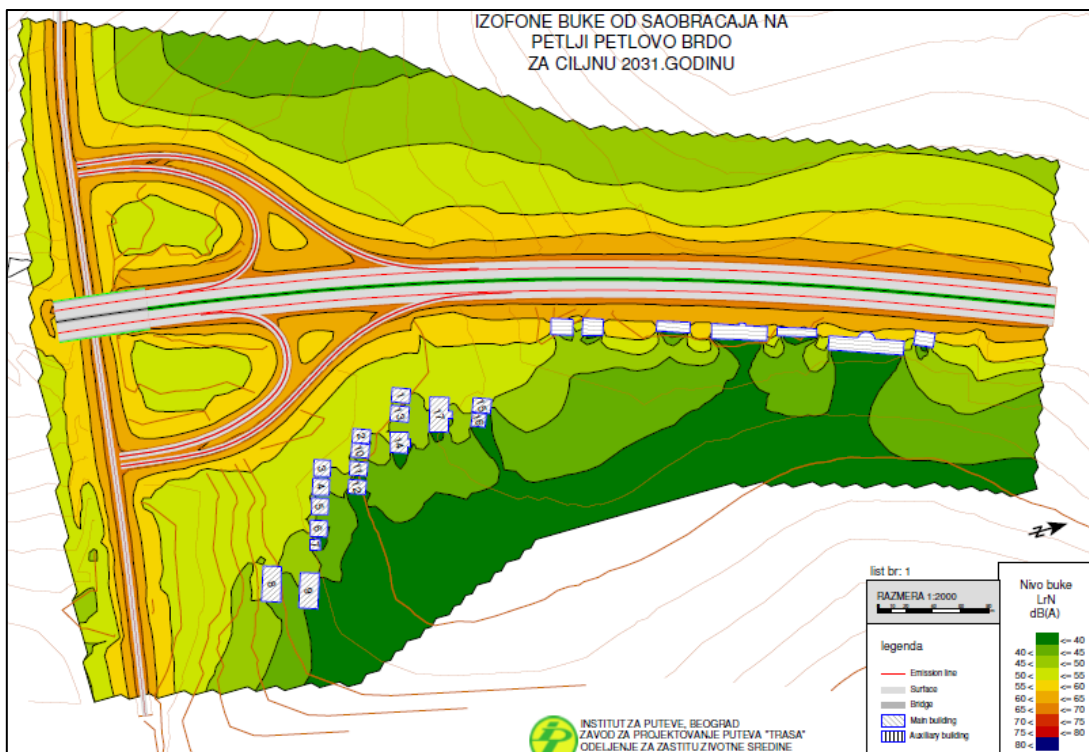
On the basis of the numerical data obtained through the calculation of traffic noise in the planned period at the characteristic cross-sections which are presented in the corresponding tables, it can be concluded that noise problems will not occur during project exploitation. Calculated noise levels for all representative residential houses, for each particular floor shows that there will be no exceeding of permitted noise level during the exploitation of new “Petlovo Brdo” Interchange. Results shows that one particular flat, at third floor, during year

of 2031 could face a noise levels over permitted levels, but for 0,6 dB(A) only, which could be solved easily by adoption of passive mitigation measures (double glassing etc.)

However, an adequate noise monitoring program will be established and PERS will continue to measure and collect noise level data. All recorded noise monitoring data will be delivered to the EIB within the regular reporting procedure.



Picture 09: Noise Map for year of 2011



Picture 10: Noise Map for year of 2031

Table 03: Calculated noise values for year of 2011 and 2031

stac	objekat	etaza	orijentaci ja	granitni nivoi		2011		prekoracenja 2011		2031		prekoracenja 2031	
				Lajden	Laj	Lajden	Laj	Lajden	Laj	Lajden	Laj	Lajden	Laj
				dB(A)		dB(A)		dB(A)		dB(A)		dB(A)	
0+139	PB B	1	S	65	65	59.3	49.3	-	-	59.3	49.3	-	-
		2		65	65	62.1	52.1	-	-	60	50	-	-
		3		65	65	60	50.1	-	-	60.6	50.5	-	-
0+137	PB B	1	W	65	65	60.3	50.3	-	-	57.9	47.9	-	-
		2		65	65	60	50	-	-	59.6	49.5	-	-
		3		65	65	61.7	51.8	-	-	60.7	50.6	-	-
0+167	PB G	1	S	65	65	58.9	48.9	-	-	59	49	-	-
		2		65	65	60	50	-	-	60.7	50.6	-	-
		3		65	65	64.5	54.5	-	-	61.4	51.4	-	-
0+170	PB S	1	S	65	65	52.1	42.1	-	-	59.7	49.7	-	-
		2		65	65	60	50	-	-	61.4	51.4	-	-
		3		65	65	62.5	52.6	-	-	63.1	53	-	-
0+172	PB A	1	S	65	65	52.4	42.4	-	-	60.7	50.6	-	-
		2		65	65	60.4	50.4	-	-	62.3	52.1	-	-
		3		65	65	61.6	51.6	-	-	62.8	52.8	-	-
0+174	PB B	1	S	65	65	52.7	42.7	-	-	61.5	51.4	-	-
		2		65	65	60.8	50.8	-	-	63	52.9	-	-
		3		65	65	62.4	52.5	-	-	63.7	53.7	-	-
0+184	PB B	1	W	65	65	56.6	46.7	-	-	62.7	52.7	-	-
		2		65	65	59.3	49.4	-	-	64.3	54.1	-	-
		3		65	65	60.8	50.9	-	-	65.1	55	-	0.1
0+208	PB B	1	S	65	65	52.7	42.7	-	-	61.8	51.8	-	-
		2		65	65	60	50	-	-	63.3	53.3	-	-
		3		65	65	61.5	51.6	-	-	64.3	54.3	-	-
0+216	PB B	1	W	65	65	56.8	46.8	-	-	61.8	51.8	-	-
		2		65	65	59	49.1	-	-	63.8	53.8	-	-
		3		65	65	60.3	50.3	-	-	65	55	-	-
0+238	PB B	1	S	65	65	52.3	42.3	-	-	61.4	51.4	-	-
		2		65	65	59	49	-	-	63.4	53.4	-	-
		3		65	65	59.9	50	-	-	64.3	54.3	-	-
0+240	PB I	1	S	65	65	52.1	42.1	-	-	61.5	51.5	-	-
		2		65	65	58.7	48.8	-	-	64	54	-	-
		3		65	65	59.7	49.7	-	-	65.1	55.1	-	0.1
0+247	PB I	1	W	65	65	52	42.1	-	-	61.7	51.8	-	-
		2		65	65	58.5	48.5	-	-	65	55	-	-
		3		65	65	59.3	49.4	-	-	65.3	55.3	-	1.3
0+275	PB B	1	W	65	65	56.6	46.6	-	-	61.8	51.8	-	-
		2		65	65	57.8	47.8	-	-	64.4	54.4	-	-
		3		65	65	58.7	48.7	-	-	65	55.1	-	0.1
0+308	PB S	1	W	65	65	59	49.1	-	-	60.6	50.6	-	-
		2		65	65	59.8	49.8	-	-	63.3	53.3	-	-
		3		65	65	60.3	50.3	-	-	64.3	54.3	-	-

4.6. Geology and soils

Construction Phase

Pollution of the soil in this phase may be caused as a result of improper manipulation of petroleum and petroleum derivatives which are used for construction machinery and other devices during construction, cleaning of vehicles and machinery outside of the prescribed and arranged areas, inadequate arrangement of the construction site and other activities which are not carried out according to recommended technical mitigation measures during construction.

Pollution of soil during construction is an aspect which affects the soil, as a factor of the environment, which may be reduced to a minimum or be completely eliminated by adhering to the technical mitigation measures which are stated in a special chapter which describes the measure for reducing the effects of the project.

The process of road construction itself is characterized by extensive mechanical stabilization in the corridor of the roadbed and in places where temporary access roads are formed, which, in

individual sensitive sections, could have an influence on the entire system of parameters of soil, primarily in the sense of its water permeability, air content, etc.

1.1.3. Operational Phase

During the phase of operation of the road, pollution of soil will mostly be the consequence of the following processes:

- pollution from atmospheric waters from the interchange;
- settling of exhaust gases;
- discarding organic and non-organic rubbish;
- spilling of loads;
- settling of atmospheric particles carried by wind; and
- dispersal due to movement of vehicles.

4.7. Surface and ground water

There are no surface and underground water bodies registered within the project area.

5. DESCRIPTION OF MITIGATION MEASURES

5.1. Flora, Fauna and visual impact

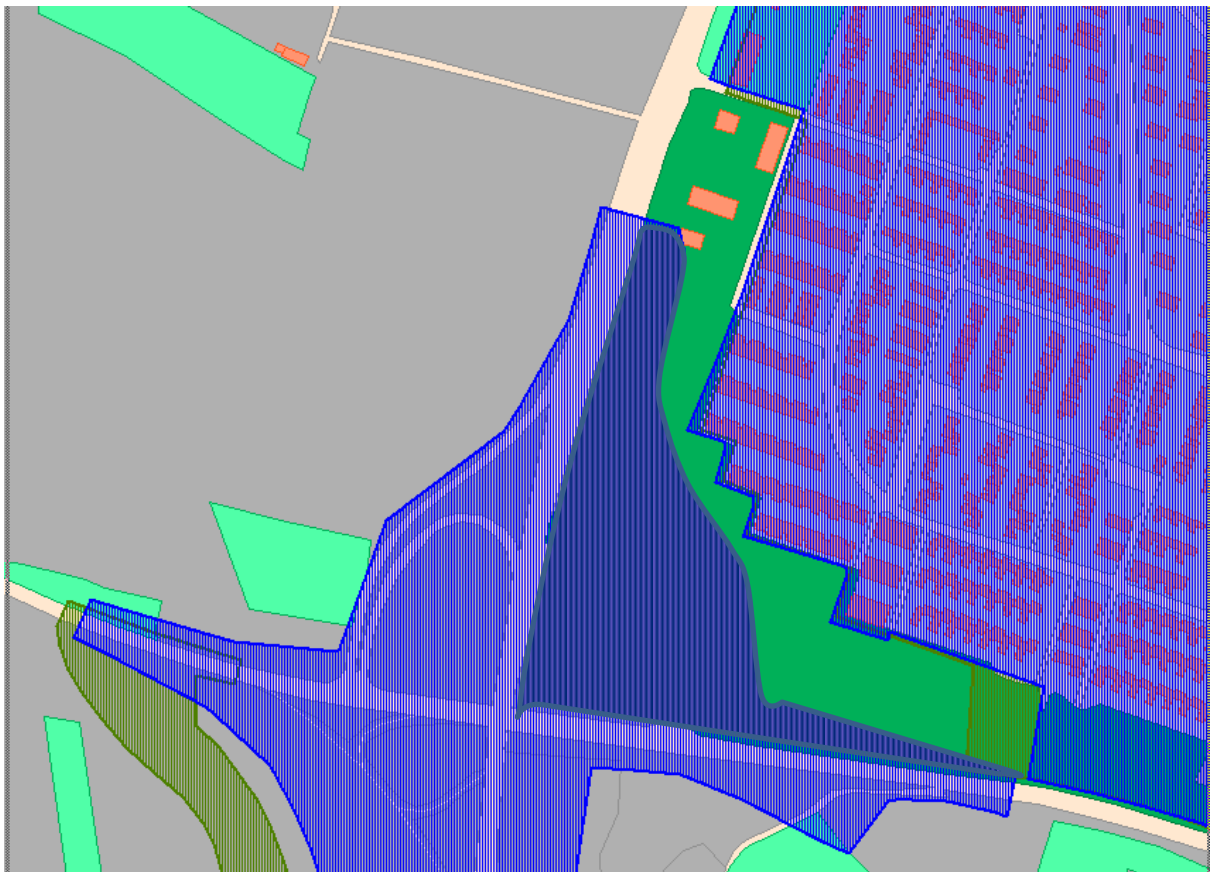
5.1.1. Compensation for the green area that will be destroyed

Loss of almost 300 trees caused by Project implementation will be compensated. PERS is planned to re-plant the trees, and shrubs in number which is equal or bigger than lost ones. Detailed design of re-foresting and re-planting is done as integral part of new **Improved Detailed design** of “Petlovo Brdo” Interchange Project.

All re-planting will be supervised by PERS and JKP “Zelenilo Beograd” as institution in charged for forest management.

PERS is allowed to replant the area which was aimed for project construction and defined by the existing Spatial Plan (blue area on Picture 11). It is up to Petlovo Brdo residents and greenery authorities to determine which particular “blue area” will be chosen for replanting.

All cutted trees will be compensated in full amount.



Picture 11: “Blue area” suitable for re-planting

Bill of Quantities is also part of this project, and summarizing part is presented within the Table 03.

Table 04: Planed re-planting and re-foresting

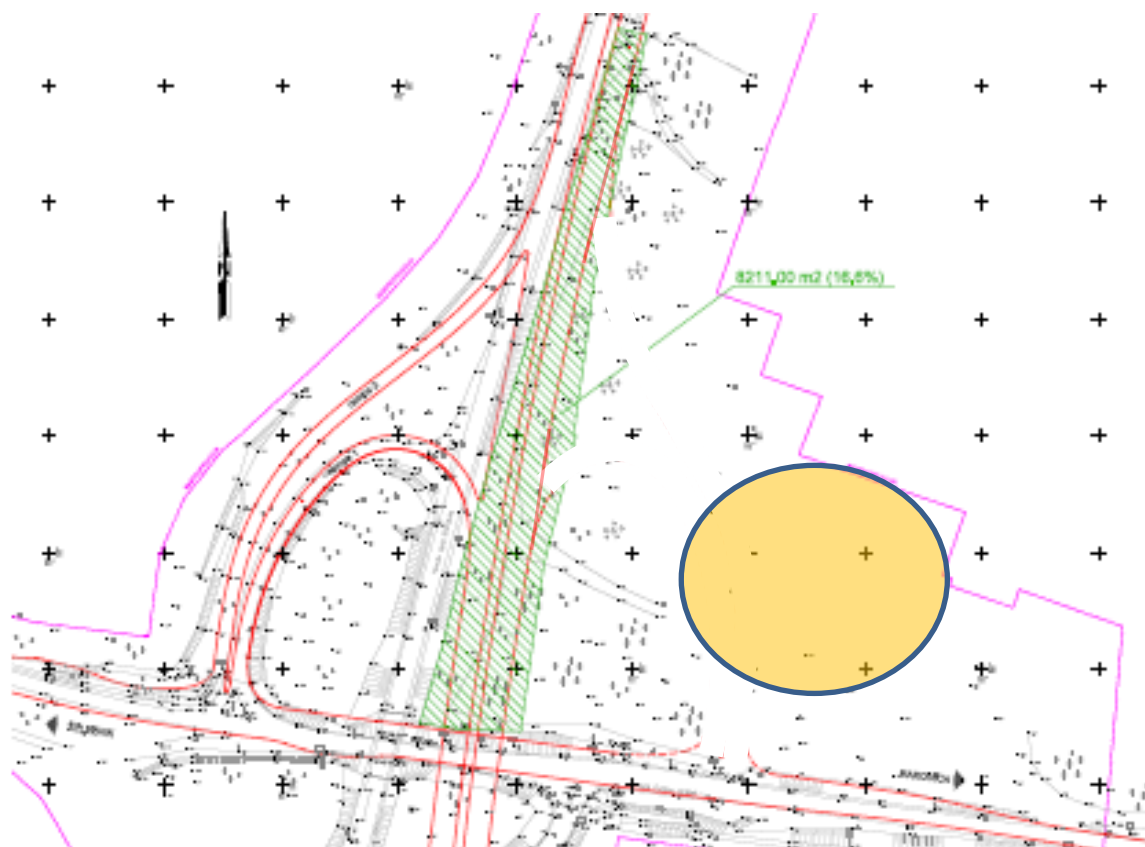
tall conifers				
1.	Cedrus deodara	pieces		31
2.	Pinus nigra	pieces		36
low hardwood				
3.	Cercis siliquastrum	pieces		29
4.	Rhus typhina	pieces		14
broadleaf shrubs				
5.	Buddleia davidii	pieces		43
6.	Forsythia intermedia	pieces		37
7.	Spiraea vanouteii	pieces		49
8.	Symphoricarpus albus	pieces		49
9.	Syringa vulgaris	pieces		80
10.	Tamarix tetrandra	pieces		123
evergreen shrubs				
11.	Prunus laurocerasus	pieces		90
12.	Pyracantha coccinea	pieces		152
coniferous shrubs				
13.	Juniperus ch. var. pfitzeriana aurea	pieces		49
14.	Juniperus horizontalis	pieces		48
15.	Pinus mugo var. pumilio	pieces		52

5.1.2. Improvement of the forest layout

A new flat area within the saved part of park-forest “Borici” will be established and will contain same or bigger number of tables, benches and playgrounds. Ibarska road and subject interchange will be fenced which will contribute to safety of users of new resting and recreational area.

During preparatory works, residents of Petlovo brdo settlement are welcome to participate in process of determining the most appropriate part of park-forest “Borici” on which improvement of forest layout will take place.

Initially, PERS proposed area marked with orange color on Picture 12 as appropriate area for relocation of resting and recreational facilities:



Picture 12: initial PERS proposal regarding relocation of forest content (playgrounds, desks, benches etc.) with improvement of the forest layout

5.1.3. Re-planting trees in higher density

Due to the fact that no available area for additional land expropriation exist, it was concluded that current zone of the park-forest “Borici” could be replanted in higher density, within the part of forest which are empty with trees now or belong to the forest area with very low trees density. This activity will be also agreed and arranged with local community representatives and local residents.

All re-planting will be supervised by PERS and JKP “Zelenilo Beograd” as institution in charged for forest management

5.2. **Moving and improving of existing resting and recreational area**

Current content of the park-forest “Borici”, mainly playgrounds, tables and benches will be removed in a new position within the intacted area of subject park-forest. Exact location will be agreed with the Petlovo Brdo residents. Current PERS proposal is shown on Picture 13.



Picture 13: Proposed area for improvement of forest layout and relocation of forest content

This particular part of park-forest, aimed and agreed for moving and improving recreational area will be previously improved during the project construction. A new flat area will be established and will contain same or bigger number of tables, benches and playgrounds.

5.3. Measures to improve the access to the settlement

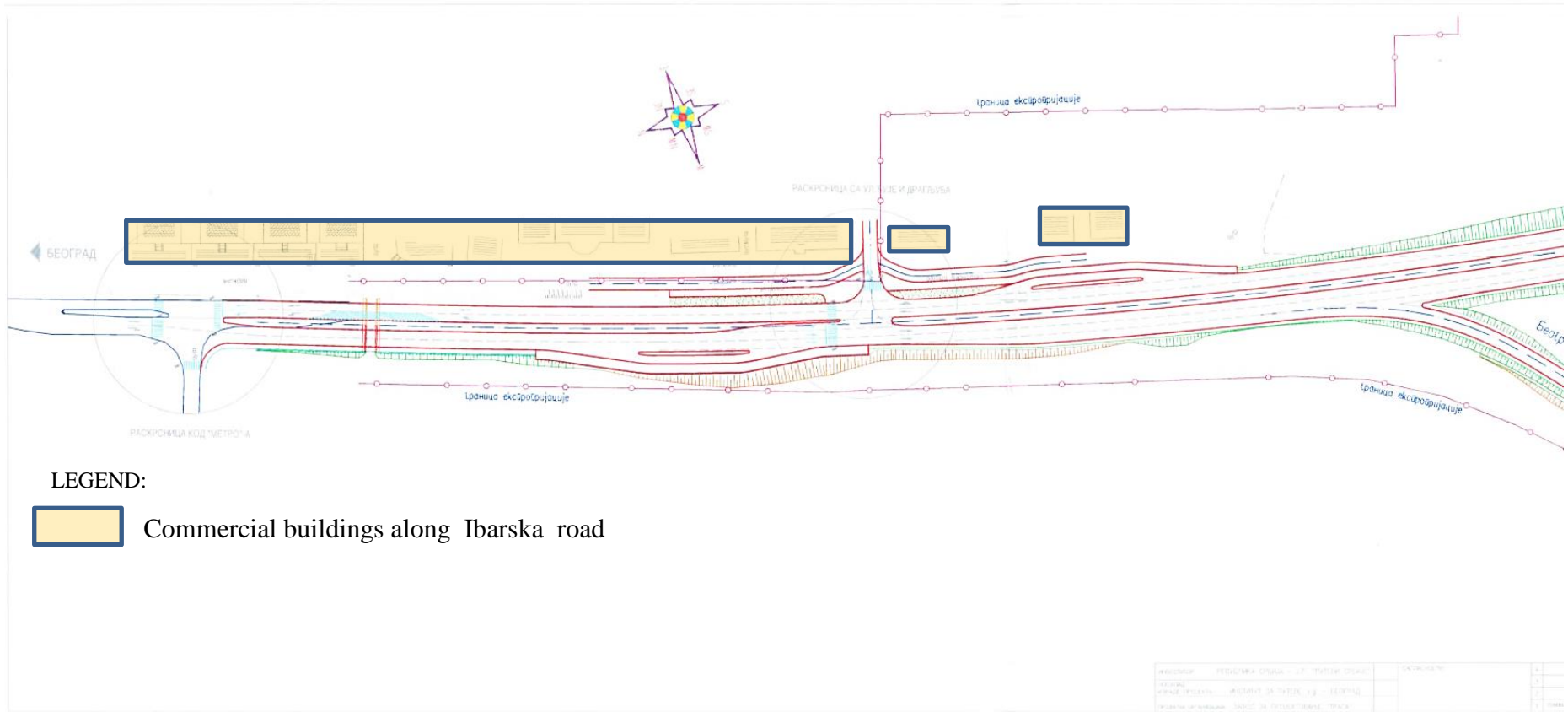
It was concluded that by adoption of *Original Detailed design* for a significant number of residential and commercial objects access will become very difficult, but few of them will lose approaches to their houses due to the fact that a protective guard rail will be placed along the road route (Pictures 07 and 08). New accesses will have a higher safety than the current semi-legal ones .

Possible loss of property values raised concerns to the local residents and they announced that proposed *Original detailed design* of “Petlovo Brdo” Interchange does not meet their expectations and asked PERS to give up or find alternative solution which can significantly improve proposed design and ensured approaches to their properties.

Having that in mind, PERS developed an Improved Detailed design for “Petlovo Brdo” Interchange (Picture 14) which supposed to meet all the transport requirements for the affected persons.

A detail social impact assessment will be performed during process of upcoming Consultations with Project affected persons, collecting the opinions and remarks of all project affected persons.

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Picture 14: Preliminary scheme of alternative – service roads and position of a new junction at Djuje I Dragoljuba Street

5.4. Air quality

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

General mitigation measures during construction phase are:

- The Contractor acts appropriately to minimize the generation of dust caused by construction works. Such measures include frequent watering during dry periods or by comparable means approved by the Engineer.
- Speed limits must be enforced in all areas, including public roads and private property to limit the levels of dust pollution;
- Dust must be suppressed on access roads and overall construction sites during dry periods by the regular application of water. Water used for this purpose must be used in quantities that will not result in the generation of run-off.
- Water trucks dampen haul roads and exposed surfaces to minimize dust generation and utilize dust suppressant products to assist in binding fine surface dust, improve water infiltration and reduce water usage;
- Dust dispersion from construction activities, roads, spoil dumps and other construction locations shall be limited and suppressed to the maximum extent practical.
- Spoil dumps shall be positioned such that they are not vulnerable to wind erosion.
- An appropriate freeboard shall be maintained in trucks hauling dirt, sand, soil and other loose material when leaving the road reserve.

5.5. Noise

Construction phase

If measurements taken as a part of planned 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

On the observed section, according to the traffic forecast and noise modeling and

calculation, it will not be necessary to carry out noise protection measures.

However, in case of complaints received from residents, PERS will perform additional noise monitoring. If measured noise levels exceed permitted values, PERS will consider possible options for ensuring sufficient level of noise protection to the exposed residential buildings.

5.6. Soil

Construction phase

- 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; refueling 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;
- Temporary storage of construction waste will be limited to within the site, and within areas approved by the Engineer.
- The Contractor shall not dispose of any waste and/or construction debris by burning, or by burying. All waste shall be disposed of offsite at an approved landfill site.
- The Contractor will be responsible to remove and transport all waste material off site to an approved landfill.
- The Contractor is advised that cement and concrete will be regarded as materials that are potentially damaging to the natural environment on account of the very high pH of the material, and the chemicals contained therein. The Contractor shall ensure that all operations that involve the use of cement and concrete are carefully controlled.
- All unsuitable and surplus spoil rock shall be removed from the site to an alternative recycling opportunity. Last alternative is to transport it to a dumping site or sites where it shall be dumped, spread and leveled.
- No dumpsite shall be used without the prior written approval of the Contractor and the owner of the property.
- No spoil material shall be stockpiled in violation of any legal requirement or to obstruct any watercourse or drainage channel.
- All visible remains of excess concrete shall be physically removed immediately and disposed of as waste. Washing the visible signs into the ground is not acceptable. All excess aggregate shall also be removed.
- The process of separating rock material into acceptable grades for backfilling and layer works material will result in noise and dust. The Contractor shall suppress dust caused by the screening process. The screening process shall be positioned so as not to cause any disturbance-to surrounding villages.
- No waste to be buried or burnt onsite and litter and gross pollutants to be removed as part of ongoing maintenance operations;
- All hazard materials have to be storage at the fenced and secured area. All hazardous and danger material will be undertaken

- Liquid hazard materials have to be kept on the waterproof surface, supplied with WWTF.
- The Contractor Shall is responsible for establishing an emergency procedure for dealing with spills of release of these substances. He shall also ensure that the relevant construction personnel are familiar with these emergency procedures.
- Petroleum, fuel and oil throughout the site shall be stored in enclosed separated areas at reservoirs with double shield, at the location of which shall be determined on site in conjunction with the Engineer. The enclosed areas shall be clearly marked.
- Usage of oil and fuel will be 'allowed only to the training persons, who will be nominated by the Contractor. All activates with fuel and oils will be at the dedicated areas.
- Special care will be taken during deliveries, especially when fuels and hazardous materials a being handled. A responsible person, who will check storage tank levels, before delivery to prevent overfilling, supervises all deliveries and that the product is delivered to the correct tank.
- Gas and liquid fuel shall not be stored in the same storage area.
- The Contractor shall take all the necessary precautions to prevent fires or spills at the fuel stores. No smoking shall be allowed inside the stores and within 3m of a bund.
- The Contractor shall ensure that there is adequate fire-fighting equipment at the fuel stores.
- Lubricants will be stored in drums or tins that are either sealed or have tightly fitting caps. All containers must be closed unless in use. Decanting of lubricants must be carried out in a specific area that has been previously identified and suitably protected.
- Lubricants shall be stored under cover in a no smoking area.
- All lubricant impregnated cotton waste and rags shall be promptly disposed of and handled as hazardous waste.
- The Contractor shall ensure that all servicing and/or refueling of vehicles and equipment takes place within the construction camp. The ground under the servicing and refueling areas shall be protected against pollution caused by spills and/or tank overfills. The method of protecting the ground shall be identified by the Contractor and approved by Engineer;
- All waste shall be collected, contained on site and stored in water-tight containers prior to disposal off-site as hazardous waste at approved site. All equipment that leaks shall be repaired immediately or removed from the site;
- The Contractor shall only change oil or lubricants at agreed and designated locations, except if there is a breakdown or an emergency repair. In such instances, the Contractor, shall ensure that he has sorbent (sand, cutting or Similar) and/or drip trays available to collect any oil or fluid. The only permitted method of refueling and refilling lubricants is by means of a pump;
- 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 two 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.
- Organizing the construction within the minimum amount of space needed for its functioning, and during selection of the location, ensuring that it is not an area with developed plant and wildlife characteristics in order to avoid unnecessary loss of biotope.

Operation phase

No specific measures to be implemented, except applying good engineering practice.

General mitigation measures are:

- 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. 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 EIS and this ESAP).
- Ensure that other support and other service facilities along the route are designed and erected in after the appropriate EIS and/or studies are made and approved by the relevant national institutions;
- All possible accompanying content along the planned interchange must be designed and built in harmony with the fundamental function of this road with a prior Environmental Impact Assessment study;
- The complexes of accompanying content must be supplied with special containers for collection of solid waste so that pollution of soil in the zone of the road is avoided during operation. The containers must be emptied by the authorized company and solid waste must be stored at the proper dump area.

5.7. Surface and ground water

There are no surface and underground water bodies registered within the project area.

The evacuation of pavement runoff waters will be of controlled type (closed drainage system). The entire discharge from the given section will be controllably evacuated to shafts and enclosed rainwater drainage systems. All collected water from motorway will be treated as required, and then discharged into recipient, strictly in accordance with preconditions obtained from institutions in charged for water management.

5.8. Check List – Mitigation Plan

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

6. DESCRIPTION OF MONITORING PROGRAM

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

During construction and operation of the interchange the relevant environmental aspects will be monitored and will include noise, air, and water and soil quality. The results obtained will determine if additional environmental protection measures are necessary.

Monitoring results will be incorporated within the regular monitoring reports and will be delivered to the EIB on regular basis. PERS and other responsible bodies will be properly informed and actions will be taken if required .

6.1. Flora, Fauna and visual impact

Re planting and re-forestation activities will be monitored during this project phase, on daily basis.. Monitoring activities will be performed by PERS representatives, Supervision Contractor and representatives of the JKP “Zelenilo Beograd”.

Monitoring results will be incorporated within the regular monitoring reports and will be delivered to the EIB on regular basis.

6.2. Moving and improving of existing resting and recreational area

Moving and improving of existing resting and recreational area will be monitored during this project phase, on daily basis. Monitoring activities will be performed by PERS representatives, Supervision Contractor and local residents of Petlovo Brdo settlement, together with representatives of the JKP “Zelenilo Beograd”.

6.3. Improved access to the settlement

Construction of new service road and a new junction on the Djuje I Dragoljuba Street will be monitored during execution of this particular project phase, on daily basis. Monitoring activities will be performed by PERS representatives, Supervision Contractor and local residents of Petlovo Brdo settlement – owners of the residential and commercial objects.

6.4. 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 which may have accumulated from vehicle exhausts.

Samples must be taken before the commencement of works, at the time when humus is being removed and when excavation or the building of embankments of earth material is being carried out.

Monitoring of soil during the operation of the interchange, viz. monitoring the effects of operation of the future “Petlovo Brdo” Interchange, on the quality of soil, must be carried out at the edge of the “buffer zone” of interchange, once per year.

The Contractor will ensure a preliminary testing (“zero monitoring”) of soil pollutants according to the Monitoring Plan of this ESAP document. In the preliminary testing, the locations where sampling is done must be selected randomly and be small in number.

6.5. Water

No water monitoring will be established due to the fact that there is no water bodies within the project area.

6.6. Air Pollution

Constant monitoring has been envisaged for when there are residential buildings located closer than 200 m. In the case of a complaint from a local resident, monitoring of the effects may be organized at that time.

Air Monitoring should be performed for times a year, during construction and interchange operation period, on maximum 5 representative residential buildings.

The Contractor will also ensure a preliminary testing (“zero monitoring”) of air pollutants according to the Monitoring Plan of this ESAP document.

6.7. Noise

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.

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.

Noise monitoring should be performed four times a year, during construction and interchange operation period, on maximum 5 representative residential buildings.

6.8. Check List – Monitoring Plan

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

7. CONSULTATION WITH PROJECT AFFECTED PERSONS

7.1. Consultation with Project affected persons according to the Serbian Law on EIA

During 2012 PERS have initiated and completed a separate EIA procedure regarding environmental impact assessment for the new interchange Petlovo Brdo. This procedure has been concluded with issued Ministerial decision regarding the NO REQUIREMENT of an EIA Study for the new interchange “Petlovo Brdo”. The same Decision defines the obligation of PERS to respect all protection condition obtained from relevant institutions.

The national EIA procedure in respect to “Petlovo Brdo” Interchange Project started at August 2012, when PERS submitted the Request to the Ministry of Energy, Development and Environmental Protection in order to receive document determining the need for EIS for proposed interchange project. According to the Serbian Law on EIA (“Official Gazette of RS” No. 135/2004, 36/2009), this step was announced in daily newspaper “Politika” (Aug 30, 2012), and interested parties were invited to participate in process of Consultations with Project affected persons. At Sep 10, 2012, MOEDEP decided that there is no need for developing an EIA Study for proposed interchange project. That information was publicly announced in daily newspaper “Politika” (Sep 17, 2012).

Interested parties – affected residents and their associations did not involve in the procedure, neither have offered any opinion, objection or suggestion with regard to the new interchange “Petlovo Brdo”, despite the fact that their invitation for involvement (public announcement in the daily newspaper “Politika”, see Appendix V) was ensured twice in 2012.

Additional round of Consultations with Project affected persons was organized by the PERS during July 2013, and PERS offered to PAPs restock and re-arrange the remaining green area of the Park – Forest „Borici“. NGO refused to accept that proposal. Still, PERS offer to perform these items within the Project is still open.

7.1.1 Follow-up of the mediation process

In compliance and following the conclusions reached during the mediation process held on March 04 at hotel “Hayat” in Belgrade, on 06.03.2014 the PERS held a meeting with the Representatives of the NGO “Green settlement Petlovo Brdo”. During this meeting, in presence of the Designer, the interested parties were enabled to review the Main Design for Petlovo Brdo and various alternativeness regarding elimination of the negative environmental and social impacts of the project. A quality dialogue with the NGO representatives was established and we believe that both parties will contribute to facilitate the project construction, fully in comply with the professional standards and at the same time respecting the local community requirements regarding this project. It was also agreed that new round of Consultations with Project affected persons shall be conducted, so the new design solution for the “Petlovo Brdo” Interchange would be presented to the interested parties. At same time all objections and remarks regarding the environmental and social impact assessment would be noted.

7.2. Consultations with Project affected persons on Environmental and Social Action Plan

This chapter will be completed after the Consultation with Project affected persons procedure which is scheduled for May 2014.

8. INSTITUTIONAL ARRANGEMENTS

PERS is responsible for the overall implementation of the Project, including management of environmental and social issues under the Project. As part of the detailed design stage for this section, PERS has prepared this site-specific ESAP and Checklists.

During project construction, a firm of independent consultants, who will report directly to PERS, will monitor whether and how well contractor complies with the measures as outlined in the ESAP. Any non-compliance with the ESAP 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.

9. IMPLEMENTATION SCHEDULE AND REPORTING PROCEDURES

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

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

Project progress reports, including monitoring indicators and reporting on the implementation of the requirements set forth in the ESAP 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.

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

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.

10. REFERENCE

- 1 Detailed design of environmental protection measures, “Petlovo Brdo” Interchange Project and “Orlovaca” Interchange (phase II), Interchange Institute Belgrade, 2013
- 2 Detailed design of environmental protection measures, “Petlovo Brdo” Interchange Project and “Orlovaca” Interchange (phase II), Interchange Institute Belgrade, 2013
- 3 Environmental and Social Practices Handbook – European Investment Bank, Environment and Social Office, Version 2 of 24/02/2010

Appendix I
CHECK LIST
MITIGATION PLAN

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

Phase, location	Issue	Mitigation	Institutional responsibility		Notes
			Install	Operate	
Interchange Construction	Relocation of services	Effective co-ordination with utility companies during relocation.	Contractor, PERS	Contractor, PERS	
	Flora - vegetation protection	Compensation for the green area that will be destroyed	Contractor	Contractor	
	Flora - vegetation protection	Improvement of the forest layout	Contractor	Contractor	
	Flora - vegetation protection	Re-planting trees in higher density	Contractor	Contractor	
	Moving and improving of existing resting and recreational area	Current content of the park-forest “Borici”, mainly playgrounds, tables and benches will be removed in a new position within the intacted area of subject park-forest	Contractor	Contractor	
	Measures to improve the access to the settlement	Improved Detailed design included reduced number of traffic connections, but major part of park-forest “Borici” is saved. Additionally, negative social impacts of the project are eliminated by designing an alternative service roads and new junction (at Djuje i Dragoljuba Street), which are presented as integral part of Improved Detailed design	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	
	Noise Impact - 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	
	Noise impact - 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	

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

Phase, location	Issue	Mitigation	Institutional responsibility		Notes
			Install	Operate	
	Construction waste.	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	
	Potential contamination of soil and water resources.	Each parking, service, or cleaning and washing plateau will be equipped with waste water treatment facilities which will be temporary objects	Contractor	Contractor	
	Maintaining animal mobility through culverts and bridges	Use of designed culverts and bridges as animal crossing points.	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	
	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	
	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 bowser with spray bar will be used.	Contractor	Contractor	
	Vehicles hauling materials will generate dust nuisance	Vehicles delivering material will be covered.	Contractor	Contractor	
	Failure to properly manage/store topsoil, leading to degraded and substandard site reclamation and re-vegetation	Clearly defined topsoil storage and handling in contract specification and management plan and follow up with regular inspection & monitoring and reporting.	Contractor	Contractor	

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

Phase, location	Issue	Mitigation	Institutional responsibility		Notes
			Install	Operate	
	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 built with the variable density	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	
	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	
	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 refueling 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	
	Traffic disruption to residents and longer distance travelers	Develop Traffic Management Plan in conjunction with road authorities to manage all temporary accesses, delivery of material and machinery.	Contractor	Contractor	
	Residents injured by construction traffic and machinery	Conduct safety awareness campaigns, focusing on schools and children.	Contractor	Contractor	
	Workers injured during construction	Implement international HSE standards in all contracts.	Contractor	Contractor	
	Illegal or excessive borrowing may damage archaeological or land resources	No earth borrowed from unauthorized locations.	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	

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

Phase, location	Issue	Mitigation	Institutional responsibility		Notes
			Install	Operate	
	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 Energy, Development and Environmental Protection. 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	
	Soil and water pollution	Construction vehicles and equipment will be maintained and refueled at protected refueling 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	
	Temporary access-vegetation removed, soil compacted, landscape and vegetation impacted	Remove topsoil layer initially and afterwards de-compact alignments 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	
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	

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

Phase, location	Issue	Mitigation	Institutional responsibility		Notes
			Install	Operate	
	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	

Appendix II
CHECK LIST
MONITORING PLAN

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

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						
Flora	Re planting and re-foresting activities will be monitored during this project phase, on daily basis.. Monitoring activities will be performed by PERS representatives, Supervision Contractor and representatives of the JKP “Zelenilo Beograd”	Park-forest “Borici”	Visual inspection	during this project phase, on daily basis	Potential vegetation loos	Contractor
Moving and improving of existing resting and recreational area	Noise Levels	Park-forest “Borici”	Visual inspection	during this project phase, on daily basis	Settlement potentially affected with the noise	Contractor
Improved access to the settlement	Noise Levels	Ibarska road	Visual inspection	during this project phase, on daily basis	Settlement potentially affected with the noise	Contractor
Contamination of soil during construction	Heavy metals and greases and oils	On the basis of the program prescribed within the main design of environmental protection	Soil quality analysis	One month before the commencement of works. During construction sampling will be done quarterly.	EIS compliance	Contractor
Noise	Noise Levels	Representative objects 1-5	Noise meter	Quarterly	Settlement potentially affected with the noise	Contractor

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

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
	Dust	At construction sites	Visual monitoring	Regularly site visits	Check environment and H&S requirements	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
	Community tension and disruption.	Construction sites	Observation	Regularly site visits	EIS compliance	Contractor
Air Quality	Measuring carbon monoxide (CO) and nitrogen dioxide (NO ₂) 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 (SO ₂), hydrocarbon (C _x H _y), and solids/particulates (PM ₁₀).	Representative objects 1-5	Laboratory equipment	Two times during Construction works	Zone potentially affected with the air pollution	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

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

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
	Stone quarry - possession of official approval or valid operating license	stone quarry	Supervision inspection	before work begins	Ensure compliance with EIA	Quarry Operator, contractor
	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 alignments selected	job site	Supervision inspection	Regular inspections during work	Ensure compliance with EIA	Contractor
Construction site						
Vibration	Vibration levels	job site	Supervision, observations	Regular inspections during work and on complain	Ensure compliance to ESAP	Contractor
Noise disturbance to human and animal population	noise levels; equipment	job site; nearest homes	Mobile noise meter	once per week and on any complaint	assure compliance to ESAP	Contractor

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

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 ESAP	
Workers safety	Protective equipment; organization of bypassing traffic	job site	inspection	Regular inspections during work	Ensure compliance to ESAP and H&S standards.	Contractor
Operation						
Contamination of soil during interchange operation	Heavy metals and greases and oils	On the basis of the program prescribed within the main design of environmental protection	Soil quality analysis	Quarterly, at least 5 years during operational phase of interchange section	EIS compliance	Contractor
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 maint. facilities	laboratory with necessary equipment	Regular inspections during maintenance activities and on complain	Ensure compliance to HSE Standards.	Maintenance Contractor

“PETLOVO BRDO” INTERCHANGE PROJECT
20140425, FINAL Environmental and Social Action Plan - ESAP

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
Workers safety	Protective equipment; organization of bypassing traffic	job site	inspection	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
CHECK LIST
SOCIAL IMPACT

Check list for consultation phase with the project affected community		
<p>Since there is no land acquisition under this Project and no Involuntary Resettlement or physical displacement of local people, this Social impact assessment check list should determine all negative impact of the improved Petlovo brdo interchanged project to local community and should represent an input to the Designer in order to provide design which is acceptable for the affected community.</p> <p>All identified affected and interested people in the project area should be interviewed in accordance with the questions given in below during the consultation phase.</p>		
<p>General information of affected household/company</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Identification No. as drawn on the map on Pictures 07 and 08 in the section 4.3 Impact on social environment.</p> <p>_____</p>	<p>If the affected household is not shown on the map on Pictures 07 and 08, describe location and additionally draw it on the map</p> <p>_____</p> <p>_____</p>
<p>Is the interested public familiar with the design?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If no, specify the reasons and provide help to the affected persons to understand the specific details from the design which are directly related to the subject affected household.</p>
<p>Is there partial loss of land as a result of the Project?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, specify whether the land is privately owned or part of right of a way. What is the area affected by the project, what is the area used for?</p>
<p>Is there any loss of the structures and installations on the land (fences, shacks, etc.)</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, specify whether the facilities affected are in a right of way, is it possible to reallocate them?</p>
<p>Are there any negative impacts of the Project related to accesses to the private properties?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, specify is there an alternative route, describe the impact intensity.</p>
<p>Is there increasing of travel time as a result of the Project?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, describe the issue.</p>
<p>Are there any negative impacts of the Project related to the standard of living of affected persons?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, describe the impacts.</p>
<p>Are there any negative impacts of the Project related to traffic safety?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, describe the impacts.</p>
<p>Are there any negative impacts on local businesses?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If yes, specify what will be the impact of the project to local business.</p>

Will there be loss of incomes, businesses or enterprises?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If yes, specify what the estimate loss of incomes is.
Details of affected household (number of dependents, vulnerable, unemployed, children, females, etc.)		Describe household (number of, people, gender, number vulnerable (children, females, unemployed, etc.), how many persons effectively made use of the legal support.

General conclusion / impact assessment

Based on the interaction with the affected local community, describe the project impact as minor, moderate or major.
General conclusion and potential impact mitigation measures.

Appendix IV

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:

- Law on planning and construction (“Official Gazette of RS” No. 72/09, 81/09,64/10, 24/11, 121/12)
- Law on nature protection (“Official Gazette of RS”, 36/09)
- Law on environmental protection (“Official Gazette of RS” No. 135/04, 36/09, 72/09)
- Law on EIA (“Official Gazette of RS” No. 135/2004, 36/2009)
- 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, 88/10)
- Law on water (“Official Gazette of RS”, 30/10, 93/12)
- 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 Consultation with Project affected persons 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)
- Decree on establishing class of water bodies (“Official Gazette of SRS” No. 5/68)
- Regulations on dangers pollutants in waters (“Official Gazette of SRS” No. 31/82)

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, 08/11)
- Law on public roads (“Official Gazette of RS” No. 101/2005, 123/07)

Appendix V

IMPORTANT PROJECT DOCUMENTS

Republic of Serbia
Ministry of Energy Development and Environmental Protection
of Republic of Serbia
No; 353-02-446/2012-02
Date: 10.09.2012
Belgrade

Pursuant to Article 20 and Article 48 Law on Ministries (Official Gazette RS 65/08), Article 10 Law on environmental impact assessment (Official Gazette RS 135/04, 36/09) and Article 192. Item 1 Law on General Administrative Procedure (Official Gazette RS 33/97, 31/01), proceeding upon the Bearer of the Project – PE Roads of Serbia, Belgrade, the Ministry of Energy Development and Environmental protection of Republic of Serbia made

DECISION

It is not necessary to produce Study on environmental impact assessment on the preliminary design Motorway E-70/E-75, Dobanovci – Bubanj Potok, sector 4: Interchange “Petlovo Brdo”. The Bearer of the Project is obligated to fully respect the technical protection measures for preparation of the preliminary design, issued by the Republic Institute for Cultural heritage preservation, Belgrade dated 08.03.2011, ref no: 4/436, conditions for nature preservation dated 03.03.2011, ref no: 020-478/2 and the opinion issued by PE “Beogradvode” dated 09.03.2011 ref no: 1244/2.

EXPLANATION

The Bearer of the Project – PE “Roads of Serbia”, Belgrade, has submitted a request to the Ministry of EDEP for a ruling on the need for preparation of environmental impact assessment Study for the preliminary design Motorway E-70/E-75, Dobanovci – Bubanj Potok, sector 4: Interchange “Petlovo Brdo”, under the ref no: 353-02-446/2012-02.

Together with the request, completed questionnaires for ruling on the need for preparation of the EIA Study were enclosed.

The Project in subject is not on the Project list for which impact assessment is compulsory, however, it is listed on a list (II), i.e on project List for each EIA study may be required, determined in compliance with the Decree on determining the List of Projects for each EIA is compulsory and the List of Projects for each EIA may be required (Official Gazette RS 114/2008), whereas this Body has preformed the first phase procedure of the EIA – ruling on the need for preparation of a Study. Based on the submitted documentation and the activities foreseen to be undertaken by the Bearer, this Body is in opinion that the project in subject cannot seriously impact on the environment, fully respecting Item 2 of this Decision, as well as the request Chapter 7 - description of the measures envisaged in order to reduce and eliminate significant adverse impacts.

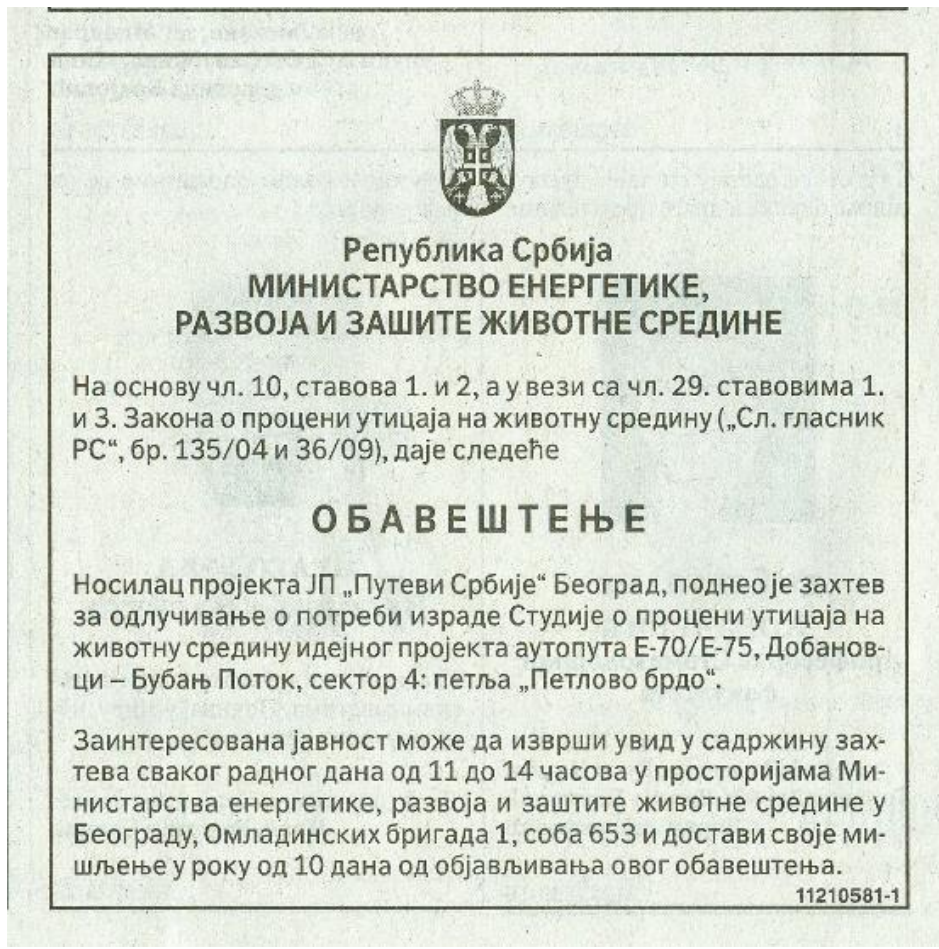
Acting upon the request in subject, in compliance with Article 10 items 1 and 2 with regard to Article 29 from the Law on EIA (Official Gazette no 135/04, 36/09) , this Body has informed the interested parties, organizations and public (announcement in daily newspaper Politika, dated 30.08.2012), whereby none of the above listed has submitted any complaint within the statutory deadline.

In connection with the above, a Decision is made as stated in this decision.

LEGAL REMEDY: Against this decision it may be appealed to the Government of R. of Serbia, within 15 days of receipt of this Decision, i.e from the date of announcement of the interested parties about the Decision.

Minister

Prof. dr. Zorana Mihajlovic
(signed and stamped)



Republic of Serbia

Ministry of Energy, Development and Environmental Protection of R. of Serbia

Pursuant to Article 10, items 1 and 2 with regard to Article 29, items 1 and 3 of the Law on Environmental Impact assessment (“Official Gazette” RS. no: 135/04 and 36/09) is issuing the following:

ANNOUCMENT

The bearer of the Project “Roads of Serbia” Belgrade, has submitted request for determination of the need for preparation of environmental impact assessment study for the preliminary design Highway E70/E75 Dobanovci – Bubaњ Potok, sector 4: interchange “Petlovo Brdo”.

The interested public is welcomed to review the content of the request every working day from 11 to 14 h at the premises of the Ministry of Energy, Development and Environmental Protection of R. of Serbia in Belgrade, Omladinskih brigade 1, room 653 and submit its opinion within 10 days from the day of publication of this announcement.



Republic of Serbia

Ministry of Energy, Development and Environmental Protection of R. of Serbia

Pursuant to Article 10, items 1 and 2 with regard to Article 29, items 1 and 3 of the Law on Environmental Impact assessment ("Official Gazette" RS. no: 135/04 and 36/09) is issuing the following:

ANNOUNCEMENT

We inform the public and all interested Bodies and Associations that this Ministry has reached a Decision that the bearer of the Project PE "Roads of Serbia" Belgrade, has no requirement to prepare Environmental impact assessment Study for the preliminary design Highway E-70/E-75, Dobanovci – Bubanj Potok, sector 4: interchange "Petlovo Brdo".

Any interested party may review the Decision every working day from 11 to 14 h at the premises of the Ministry of Energy, Development and Environmental Protection of R. of Serbia in Belgrade, Omladinskih brigade 1, room 653, within 10 days from the day of publication of this announcement.

The interested public may file a complaint against the Decision related to the release of obligation for preparation of the Study within 15 days from the date of the public announcement.

РЕПУБЛИКА СРБИЈА
ЗАВОД ЗА ЗАШТИТУ ПРИРОДЕ
СРБИЈЕ

03 Број: 020-478/2

Датум: 03.03.2011.

НОВИ БЕОГРАД, Ул. др Ивана Рибара бр. 91

Тел. 011/209-3802; 209-3803; факс. 209-3867

II
ЈАЗНО ПРЕДВЕРЕ ТИСТВИ СРБИЈА
Број 953-2209/11-19
Датум 08-04-2011
БЕОГРАД, Булевар Краља Александра бр. 282

ЈП „ПУТЕВИ СРБИЈЕ“

11000 БЕОГРАД

Булевар Краља Александра бр. 282

Ваш број 953-2209/11-5 од 18.02.2011.

На основу чл. 9. Закона о заштити природе („Службени гласник РС”, бр. 36/2009 и 88/2010), члана 131. Закона о општем управном поступку („Службени лист СРЈ” бр. 33/97 и 31/2001 и „Службени гласник РС”, бр. 30/2010) и захтева ЈП „Путеви Србије” (захтев број 953-2209/11-5 од 18.02.2011.), Завод за заштиту природе Србије доноси

РЕШЕЊЕ

о условима заштите природе за потребе израде Идејног пројекта петљи
„Орловача” и „Петлово брдо” на аутопуту Е-70/Е-75,
(Обилазница Београда), Сектор 4

1. Идејни пројекат предметне деонице аутопута треба да ухвати следеће
услове заштите природе:

- 1) Планиране саобраћајне петље се налазе на простору значајно модификованог и антропогено измењеног предела, па је Пројектом потребно предвидети минималну деградацију и уклањање преосталих природних и полуприродних станишта (шумске вегетације - претежно шумарака, шибљака, живица). У том смислу је потребно:
 - Строго се придржавати предвиђене локације и приступних траса аутопута, како обимни земљани радови и употреба машина не би оставили последице на простор ван граница обухвата Пројекта;
 - Саставни део Пројекта треба да буде и део који се односи на организацију градилишта (са јасно прецизирајим локацијама за објекте, паркинге, депоније материјала, пролазак механизације и

- сл.), као и пројекат санације и уређења терена. Локације предвиђене организацијом градилишта треба лоцирати изван простора са високом вегетацијом или пољопривредног земљишта;
- Забранили депонување шута, земље и осталог отпада током и по завршетку радова на пољопривредном земљишту, осим на локацијама које ће се пројектом организације градилишта утврдити као привремене депоније;
 - Планирати подизање континуалног ивичног линеарног зеленила дуж приступних саобраћајница, озелењавање раскрсница, разделних острва и тсл., чиме би се омогућила визуелна заштита контактних зона и естетско обликовање простора. За озелењавање користити оне врсте које поседују већу способност апсорпције штетних издувних гасова;
 - Пројектом предвидети да се све површине које су на било који начин деградирале грађевинским и другим радовима морају што пре након завршетка тих радова санирати;
- 2) Током припрема за извођење и извођења радова, треба максимално искористити постојећу мрежу саобраћајница и избегавати изградњу нових путева за привремено коришћење, чиме би се додатно повећала фрагментација простора и постојећих станишта;
- 3) За воде које настају спирањем са коловоза и оптерећене су уљима и другим нафтним дериватима (оперативно - манипулативне површине, паркинзи, саобраћајница и др.) мора се предвидети изградња таложника и сепаратора масти и уља. Пре упуштања у реципијент или канализацију, обавезна је контрола њиховог квалитета;
- 4) Дефинисати локације за постављање контејнера за привремено депонување комуналног отпада;
- 5) С обзиром на карактер и намену предвиђене саобраћајнице, у периоду експлоатације се може очекивати и транспорт хемијских отровних, запаљивих, експлозивних и на друге начине опасних или штетних материја. Стога је Пројектом потребно размотрити проблем акцидентних ситуација, и дефинисати одговарајуће поступке и мере за заштиту људи, животне средине, превенцију акцидената и умањење негативних ефеката у случају да до њих дође;
- 6) Потребно је обратити пажњу на негативне ефекте коришћења планиране саобраћајнице у смислу повећане буке и загађења ваздуха. Потребно је прецизно утврдити критична места где бука прелази дозвољене границе, па предвидети изградњу заштитних конструкција (звучних баријера) одређених апсорпционих својстава;
- 7) Такође, потребно је предузети мере заштите становништва од удеса на траси аутопута.

Тосебни услови заштите природе:

- 8) У случају да је у периоду извођења радова неопходно додатно уклањање шумске вегетације у одређеном обиму, неопходно је испланирати извлачење и складиштење дрвне масе, до њене предаје власнику (кориснику) земљишта са кога је вегетација уклоњена;

- 9) Евентуална позајмишта земље и камена планирати и реализовати тек након усвојених планова и мера санације, који укључују одлагање покривке и њено враћање на место одмах по реализацији позајмице;
- 10) Предвидети адекватан мониторинг загађености ваздуха и земљишта, у складу са законском регулативом;
- 11) Предвидети просторно ограничавање манипулативних површина током изградње саобраћајнице;
- 12) Дефинисати ужу и ширу зону утицаја саобраћајнице на животну средину (посебно са аспекта очувања пољопривредног земљишта и производње хране одговарајућег квалитета). Предвидети зоне утицаја и количине загађивача који спирањем са коловоза у комплексу саобраћајне петље доспевају у земљиште и воду, и на основу тога утврдити мере и препоруке за коришћење земљишта. У том смислу се мора предвидети таква намена површина којом ће се избећи гајење биљних култура које служе за исхрану људи и стоке (земљиште у оквиру комплекса, као и у коридору ширине 50 m лево и десно од приступних саобраћајница не би требало користити у пољопривредне сврхе);
- 13) На површинама за које се утврди да су у таквој зони утицаја најсврхисходније је предвидети пошумљавање, односно сађење дрвенастих култура или других биљака, нарочито врста које спадају у хиперакумулаторе тј. имају повећану способност акумулације полутаната чиме се смањује концентрација у земљишту и води;
- 14) С обзиром да постоји реална могућност да током радова на локацији дође до хаваријског изливања горива, уља и других опасних и штетних материја и супстанци, неопходно је Пројектом предвидети благовремену евакуацију загађеног земљишта на место и под условима надлежне комуналне службе и тренутну санацију терена;
- 15) С обзиром да је подручје изградње већ у великој мери антропогенизовано, са значајно осиромашеним биодиверзитетом, сматрамо да Пројектом није неопходно планирати изградњу посебних изградња пролаза или прелаза за животиње дуж трасе. Уколико се Пројектом предвиди изградња тзв. „плочастих“ и „цевастих“ пролуста дуж трасе, сматрамо да на конкретној локацији и они могу послужити намени.

2. Подносилац захтева је дужан да радове и активности изведе у свему у складу са издатим условима из тачке 1. овог решења.

3. Ово решење не ослобађа обавезе подносиоца захтева да прибави и друге услова, дозвола и сагласности предвиђених позитивним прописима.

4. За све друге активности на предложеној локацији/подручју носилац активности дужан је да поднесе Заводу за заштиту природе Србије нов захтев за издавање услова заштите природе.

Образложење

Јавно предузеће „Путеви Србије“ из Београда, обратило се Заводу захтевом којим тражи утврђивање услова заштите природе за израду Идејног пројекта петљи „Орловача“ и „Петлово брдо“ на аутопуту Е-70/Е-75 (обилазница Београда).

Уз захтев је достављена документација коју чини:

1. Ситуациони план у размери 1:2.500.

Након увида у Централни регистар заштићених природних добара и документацију Завода, утврђени су услови за извођење мера заштите природе за потребе пројектовања објекта из диспозитива овог решења. При томе се имало у виду да се у оквиру подручју на којем су планиране активности не налазе заштићена природна добра, као ни она која се налазе у поступку заштите.

Просторни и временски обухват предвиђених активности на изградњи моста неће имати значајније и трајније негативне ефекте по постојећу флору, фауну и фунгију, те се могу сматрати прихватљивим, са становишта циљева заштите природе и одговарајућих прописа и докумената;

Такса на захтев и такса за решење, по Тар. бр. 1. и Тар. бр. 9, су наплаћене у складу са Законом о републичким административним таксама („Службени гласник РС“, бр. 43/2003, 51/2003, 61/2005, 5/2009, 54/2009 и 35/2010).

Упутство о правном средству: Против овог решења може се изјавити жалба Министарству животне средине и просторног планирања Републике Србије у року од 15 дана од дана пријема решења. Жалба се предаје Заводу за заштиту природе Србије уз доказ о уплати Републичке административне таксе у износу од 320,00 динара на текући рачун бр. 840-742221843-57, позив на број 59013 по моделу 97.



Достављено:
- Архива
- Документација