PUBLIC ENTERPRISE FOR STATE ROADS

Republic of Macedonia

NATIONAL AND REGIONAL ROADS REHABILITATION PROJECT

Final

Environmental and Social Assessment Report (ESAR) and Environmental Management Plan (EMP) for rehabilitation of State road R1202, Section Boshkov Most - Debar

March 2014

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1. Executive summary and conclusion

Introduction

The Public Enterprise for State Roads (PESR) intends to receive a loan/credit from the World Bank (WB) in relation to the Macedonia Regional and National Roads Rehabilitation Project (year 2014). The project objective is a rehabilitation of the regional and national roads. One of the Category B sub-projects under the WB project of Regional and National Roads Rehabilitation Projects in the Republic of Macedonia is the rehabilitation of the state road R1202, Section Boshkov Most – Debar.

The preparation of an Environmental Impact Assessment Report (EIAR) is an integral part of the overall project documentation to be developed for rehabilitation activities according to the Macedonian legislation in the field of environmental protection, especially the Law on Environment ("Official Gazette of R. Macedonia" no. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13 and 187/13)[1]. This documentation package should be approved by Administration of Environment within the Ministry of Environment and Physical Planning (MOEPP).

According to the WB policy on Environmental Assessment (OP 4.01), Involuntary Resettlement (OP 4.12), and other environmental and social policies, such projects should be analyzed to determine the potential for negative and positive environmental and social impacts and to measures to avoid, compensate and/or mitigate the adverse negative impacts on the environment. To fulfill WB requirements, in accordance with Environmental and Social Managament Framework, an Environmental and Social Assessment Report (including Environmental and Social Management Plan (ESMP)) is prepared for this subproject.

Subject of the analysis in this Environmental and Social Assessment Report (ESAR) are foreseen activities for rehabilitation of the road section Boshkov Most – Debar.

The road section Boshkov Most – Debar has been build before three decades and is used as regional and national connection of city of Debar and main access road for population of Debar Region. Visible damages of all kinds (across the length, width, crocodile skins, potholes) are creating problems while driving and therefore it is necessary to carry out their rehabilitation and improvement of road construction elements.

The rehabilitation process on this section will be done on length of about 8.50 km. The section begins on the junction from the road R1202 with R2246 (km 45 + 475) and ends at the entrance of city of Debar.

Potential impacts of the project on the environment and social setting will be assessed in this Environmental and Social Assessment Report (ESAR) which is developed to meet the requirements of Macedonian regulations and World Bank Environmental and Social Safeguards.

Conclusion

[1] **Article 24** – Environmental and Social Assessment Report

Based on results of conducted environmental assessment, it may be stated that the majority of potential environmental impacts from the foreseen road section rehabilitation phase are likely to occur during rehabilitation works (construction phase) and they will be of temporary nature. Implementation of the proper mitigation measures during design and rehabilitation phase will ensure reduction of the possible adverse project impacts to acceptable levels. The project impact will be insignificance if all proposed mitigation measures and monitoring activities are implemented properly.

Moreover, the rehabilitation of the road section will improve technical conditions of this road and, therefore, will contribute to safe, fast, economic and comfortable road traffic. Transport of people and goods will run better than in the past, thus promoting the trade and economic relations in Debar and neighbouring regions, and above all traffic safety conditions of the population living in this region will be improved.

2. Policy, legal and administrative framework

The Environmental Assessment process is intended to serve as a primary input for the decision making process by Macedonian authorities, which have to approve the project before it can be constructed and operated and by the World Bank, which is considering providing funding for the project.

Macedonian Framework

Republic of Macedonia has developed full legal and institutional framework for Environmental Assessments. This framework is generally in compliance with the existing WB EA rules and procedures, as well as in full compliance with the EU EIA Directives. Environmental Impact Assessment of certain projects is required to be carried out in the Republic of Macedonia in accordance with Articles 76-94 of the Law on Environment ("Official Gazette of the Republic of Macedonia" No. 53/05, 81/05 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13 and 187/13). The types of projects that require an EIA are to be determined in accordance with Article 77 of the Law on Environment, which are specified in details by the Government of the Republic of Macedonia in the "Decree for Determining Projects for which and criteria on the basis of which the screening for an environmental impact assessment shall be carried out" ("Official Gazette of the Republic of Macedonia" No.74/2005).

According to this Decree **full EIA Study** is not needed (only construction of new highway and national or regional road or widening of existing road with additional two lanes is subject to full EIA Study).

The Ministry of Environment and Physical Planning have prepared Guidance for conducting, screening, scoping and review in environmental impact assessment in the Republic of Macedonia, Report Ref. No.300033-06-RP-325 Skopje 2006. An aim of this Guidance is to assist in the interpretation of the EIA laws so that they can be applied in practice. This Guidance is drawn in part from screening, scoping and review Guidance provided by the European Commission. It accompanies Republic of Macedonia efforts to implement the EIA Directive and is designed to help investors, bodies of the state administration and other involved parties to undertake the highest standards of environmental impact assessment.

The Section Boshkov Most - Debar is of a category covered by Decree amending the Decree for actions and activities for which is obligatory a preparation of an EIA Report and for which approval the Ministry of Environment and Physical Planning is competent authority ("Official Gazette of RM" No.36/12). The Environmental impact

assessment report is required to provide, identify and describe how the project can have negative and positive impacts on environmental resources – water quality, air, biodiversity, etc. and on people – economic status, noise, traffic, etc. Public participation is required throughout the process.

Still, in phase of Detailed Design Public Enterprise for State Roads, as Investor, has to initiate the procedure for environmental impact assessment by submitting Letter of Notification of intent to conduct a project to the MoEPP to issue official Decision does EIA Report or full EIA Study is required.

World Bank Environmental and Social Safeguard Policies

World Bank environmental and social safeguard policies are regarded as a corner stone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines for the WB and borrowers in the identification, preparation and implementation of programmes and projects. Environmental Impact Assessment (EIA) is one of 10 environmental, social and legal safeguard policies of the WB. EIA is used in the WB to identify, avoid and/or mitigate the potential negative environmental impacts associated with lending operations. The purpose of EIA is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been adequately consulted. The WB's environmental assessment policy and recommended processing are described in **Operational Policy (OP)/Bank Procedure (BP) 4.01: Environmental Assessment.** This policy is considered to be the 'umbrella' policy for WB environmental 'safeguard policies'.

For the present road section Boshkov Most – Debar the relevant safeguard policies to be considered at all stages of preparation and planning are:

- Operational Policy on Environmental Assessment (OP 4.01, 1999, revised April, 2013);
- Operational Policy on Physical Cultural Resources (OP 4.11, 2006);
- Operational Policy on Natural Habitats (OP 4.04, 2001);
- Policy on Access to Information (2013).

The WB's requirements on Information Disclosure are detailed in the Access to Information Policy last revised in July 2013.Disclosure Handbook 2002.

The WB OB/BP on Involuntary Resettlement requires WB-assisted projects to avoid or minimize involuntary land taking. If such cannot be avoided, displaced persons need to be meaningfully consulted, compensated for lost/damaged assets and assisted in restoring or improving their living standards and livelihood. The policy requires that if involuntary land taking and resettlement become necessary, a clear plan for compensating and assisting displaced persons be prepared by the borrower by appraisal for WB review. Such a plan must be substantially completed prior to the commencement of civil works.

The WB OP/BP on Natural Habitats seeks to ensure that WB-supported infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats can provide to human society. The policy strictly limits the circumstances under which any WB-supported project can damage natural habitats, i.e. such land and water areas where most of the native

plant and animal species are still present. Specifically, the policy prohibits WB support for projects which would lead to significant loss or degradation of any Critical Natural Habitats, whose definition includes those natural habitats which are either:

- legally protected;
- officially proposed for protection;
- unprotected but known of high conservation value.

In other (non-critical) natural habitats, WB-supported projects can cause significant loss or degradation only when:

- there are no feasible alternatives to achieve the project's substantial overall net benefits; and
- acceptable mitigation measures, such as compensatory protected areas, are included within the project.

At the Project level, WB seeks to ensure that its lending operations comply with international obligations to protect biodiversity. EIAs for WB should take into account the impacts of proposed projects on a country's biodiversity.

The WB OP/BP on Forestry aims to reduce deforestation, enhance the environmental contribution of forested areas, promote afforestation, reduce poverty and encourage economic development. The policy defines a forest as an area of land of not less than 1.0 ha with a tree crown cover (or equivalent stocking level) of more than 10% that has trees with the potential to meet a minimum height of 2 m in situ (in its original position). The WB does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical natural habitats. Critical forest areas are natural forest lands which are:

• existing protected areas and areas officially proposed by governments as protected areas, areas initially recognized as protected by traditional local communities, and sites that maintain conditions vital for the viability of these protected areas;

• sites identified by WB or an authoritative source, such as areas with known high suitability for biodiversity conservation and areas that are critical for rare, vulnerable, migratory or endangered species.

The WB OP on Cultural Property is based on the acknowledgement of cultural resources as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. WB policy as stated in Operational Directive (OD) 4.50 is to: (a) assist in protecting and enhancing cultural property through specific project components and (b) decline to finance projects which significantly damage cultural property, and assist only those that are designed to prevent or minimize such damage.

WB policy on Access to Information Public Consultation and Disclosure follows specific procedures: ESAR reports will be presented to both the Government of the Republic of Macedonia and WB Management and serve as a background document for approval by the competent authority. In accordance with OP/BP 4.01, the Borrower will have to make the draft ESAR Report and Land Acquisition Plan (LAP) available in Macedonian at a public place

accessible to project-affected groups and local NGOs. The Borrower must also officially transmit the ESAR report and LAP to WB. Once the ESAR report and LAP have been locally disclosed and officially received and approved by WB, the WB will also make them available to the public through its Infoshop.

As regards WB's internal ESAR procedure, Environmental Screening is an important step at the stage of project preparation through which proposed projects are attributed to the appropriate extent and type of ESAR. In practice, the significance of impacts, and the selection of screening category accordingly, depends on the type and scale of the project, the location and sensitivity of environmental issues, and the nature and magnitude of the potential impacts.

3. Project description

Section Boskov Most – Debar (**Figure 1**) is a part of the regional road R1202 (Mavrovo – Debar).

The rehabilitation process on this section will be done on length of about 8.50 km. The section begins on the junction from the road R1202 with R2246 (km 45 + 475) and ends at the entrance of city of Debar.

The road was constructed in the period between 1975-1980, generally following the existing old road alignment, and in compliance with the necessary geometry elements to the category of the road. The road was put in exploitation 35 years ago, nether reconstruction or rehabilitation is being made on the same, except patching of pot holes and ongoing periodical maintenance.

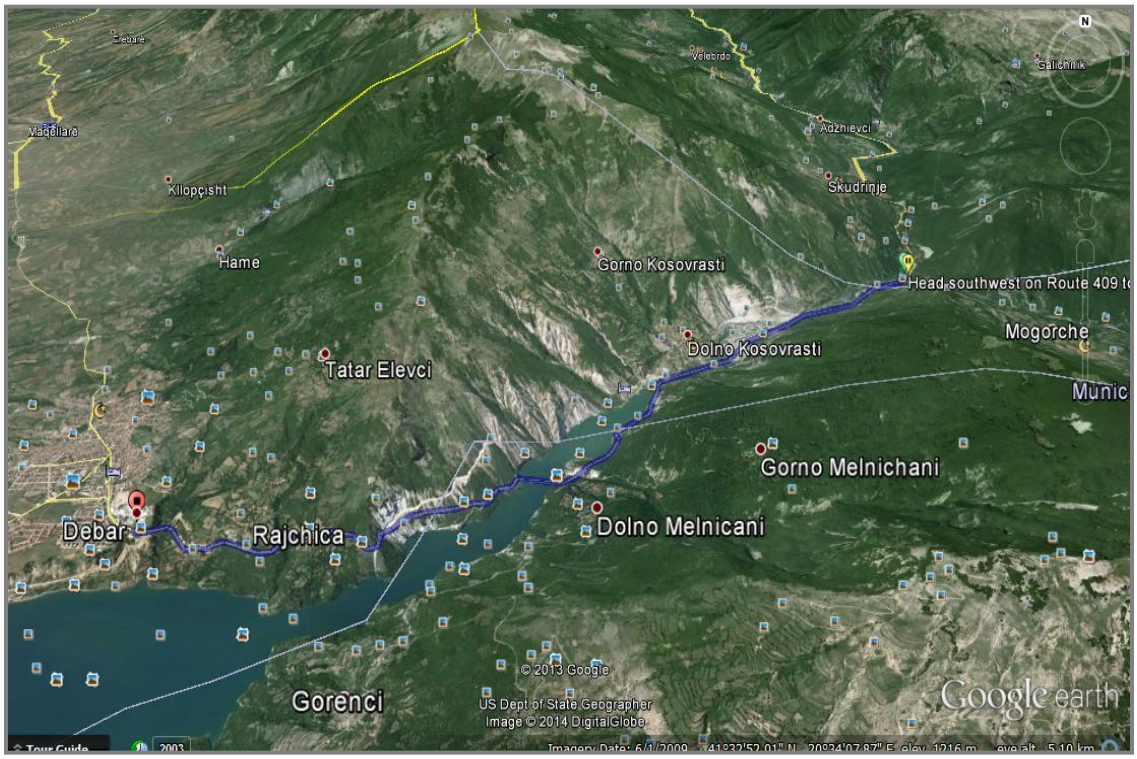

Figure 1 Satellite map of the road (source: Google earth)

According to the Terms of reference following activities for this section are foreseen:

- Extraction of asphalt sample from existing pavement construction from depth of 20 cm. With laboratory analysis of extracted samples quality of pavement layers would be determined;
- According to the relevant data for: traffic load, climatic, topographic and geotechnical features of the terrain the type, dimensions and technology of scraping and removal of old pavement and way of implementation of pavement construction will be specified, and also road objects that should be rehabilitated;
- Field survey of the condition of drainage system should be conducted so adequate measures for its functionality to be foreseen, such as : clearing of the drainage culverts, ditches, or on chainage where there is no drainage system to propose appropriate;

Also the requirements for design of additional traffic objects such as retaining and protection walls against landslides, erosion, replacement of hydro isolation for bridges etc, will be taken in consideration during the phase of Detailed Design. The Bridge over Debar Lake is not part of rehabilitation phase.

Horizontal and vertical alignment

The horizontal alignment generally passes through mountainous terrain. Considering that the width of the regional road is 6.0 m, the longitudinal slopes of the vertical alignment should not pass the value of 10%. The horizontal elements of the road are designed to satisfy the speed of 50 km/h.

Figure 2 Pavement construction

Existing pavement construction

The existing pavement is in unsatisfactory condition with damages. On the pavement there are different damages such as longitudinal and transverse cracks, pot holes, block cracklings, rutting, deflections of the pavement and other damages are visible.

Drainage

The drainage of the road is in a bad shape. Generally the existing channels are filled with stones, sand and earthen material; also the shoulders are in bad condition. Some of the culverts do not work functionally.

Road markings and traffic signs

There is a horizontal and vertical signalling on the section.

On this section enormous damage is determined so respectively rehabilitation of following aspects of the current carriageway: structure, dimensions and constructive details should be done.

4. Baseline data

The activities foreseen for rehabilitation of the section Boshkov Most – Debar, will take place in two municipalities: municipality of Mavrovo and Rostuša (about 5%) and municipality of Debar (about 95%or the road section).

Natural/Geographical features

Municipality of **Debar** is located in western Macedonia and it is part of Southwestern planning region. The municipality is located in the Debar region and has a total area of 142.67 km ². On east it borders with Albania, south with Centar Zupa and Struga, on the east and north with Mavrovo and Rostusa.

Municipality of **Mavrovo and Rostusa** is located in the western part of Macedonia, it is a border municipality in the west bordering with Albania and Kosovo to the northwest, covers an area of approximately 682 km ² and is one of the largest municipalities in Macedonia. One of the most important characteristics of this municipality is that it is a hilly and mountainous area with large surface area and small population density, that it is a municipality of rural type with 42 villages.

Climate features

The climate in the municipality of **Debar** is very peculiar, because in this municipality the continental climate is mixing with influences of the Mediterranean and there are also some influences of the mountains that are surrounding the area. All this results in an average annual precipitation of 872,2 mm, an average monthly temperature of 11,8 0C and an average annual insolation of 2.129 h.

This diverse formation of the orographic, biogeographyc and hidrologycal factors in the municipality of **Mavrovo and Rostusa** has impact on the climatic and meteorological characteristics of the wider area.

In this area there is a border between changed- continental and continental pluviometric regime. The data of the air temperature are from the meteorological stations present in National Park Mavrovo (Lazropole and Mavrovi Anovi. The Average year temperature of the air is in between 6.9°C for Lazaropole and 7.0°C in Mavrovi Anovi. The coldest month is January, with average of -1.9°C in Lazaropole, and -1.4°C in Mavrovi Anovi. The warmest month is July with average 16.3 °C in Lazaropole and 16.2 in Mavrovi Anovi. The maximal month-average temperature for Mavrovi Anovi in July and August is 22.1°C, and for Lazaropole in August 22.9°C. The maximal year-average temperature from Mavrovi Anovi staion is 11.9°C, and from Lazaropole 12.4°C. The most often and strong winds are the one from north-east and they from south- west and with speed of 4,6 m/s.

Hydrological features

In the municipality of **Debar and Mavrovo and Rostusa** main water resources are: **Debar Lake, Mavrovo Lake, river Crn Drim, river Radica.**

Debar Lake is an artificial reservoir that is filled by waters from the river Crn Drim, with surface of 13.2 km^2. Besides the basic function of the accumulation for electrical energy production, Debar Lake has also potential for fishing and water supply, and for development of tourism. This lake is richest artificial lake with water in Macedonia.

Lake Mavrovo is an artificial accumulation; it is built in the Mavrovo valley in the region where River Mavrovska is entering the valley, near Mavrovi Anovi. The biggest depth of the lake is 50 m, and the total surface ofit is 13.3 km^2, where 37x10m^3 water is accumulated. The lake fills with water from total surface of 92 km^2, and the rivers that are entering directly to the lake are Leunovska, Nikiforovska, Bogdevska, Gornokraiska, Kacacka, then the water from region of upper Radika (Crn Kamen, Stirovica, Brodecka, Krakornica, Bogdevska, Vrbenska and Adzina River) with total drainage surface of 321 km^2, and the system šarski Vodi with (Novoselska, Ulivericka, Kamenjanska, Jelovska and mazdraca), with total drainage surface 513 km^2 , also the water from Belchica River with total drainage surface of 19.6 km^2. The water from this lake is used for different purposes but mainly for energy production, tourism, fishing and irrigation.

River *Crn Drim* flows out of the Ohrid Lake at 695 meters above sea level, and leaves Macedonia near the town of Debar on 476 meters altitude. On territory of the Republic of Macedonia, River Crn Drim has a length of 56 kilometers.

River *Radica* springs at 2200 meters altitude below Vraca. From spring to estuary in Debar Lake River is 67 km long. On this course it receives four tributaries including: Ribnica, Mavrovska, Zhirovnichka and Mala River. Radica has clean, clear and cool water with dark green color as a consequence of calcium carbonate in it.

The nearest watercourses to the section Boshkov Most – Debar are: Lake Debar and River Radica (distance of the road to the mentioned water bodies varies between ~10m to ~100m).

Biodiversity

The flora and fauna in the surrounding of this section is mainly represented by Oak forest (approximate distance from road section envisaged for rehabilitation varies from few meters up to hundred meters):

- **Oak forest**

The "Oak region" is distributed within lowlands and highlands to 1,100 m asl. The average annual temperature in this region ranges from 9 - 14.2°C, and the average precipitations 500 – 850 mm. The prevailing soil type is cinnamon-coloured forest soils, but other soil types are also locally present (e.g., red podzolic soils (terra rossa), chernozem, pseudogley - gley, luvic, brown podzolic etc.). Climate –zonal Oakforests dominate in these regions, mixed with orographically - edaphically and hydrologically conditioned Chestnut, Common ash (Fraxinus excelsior), Maple (Acer sp.), Poplar (Populussp.), Willow (Salix sp.) etc. in places. With respect to vertebrate fauna, typical inhabitants of this region are eastern Mediterranean and Syrian boreal species such as: Balkan whip snake (Coluber gemonensis), Fallow deer (Dama dama), Eastern hedgehog (Erinaceus concolor), Weasel (Mustelanivalis), Balkan spadefoottoad (Pelobatessyriacus balcanicus), Greenwoodpecker (Picus viridis), Cat snake (Telescopusfallax), Wormsnake (Typhlopsvermicularis) etc.

In immediate surrounding of the subject road section National Park Mavrovo is situated. Most of vertebrata species given above are protected in the frame of National Park Mavrovo.

Construction materials

Since only rehabilitation activities are planned for this section (part of existing state road A3), no active processing of raw materials are envisgaed on the temporary construction sites. The basic construction materials to be used are bitumen emulsion, sand, asphalt - concrete layer, etc.

The proposed locations of borrow pits, waste disposal sites, asphalt plant, locations for temporary storage of construction material, are presented on Figure 3.

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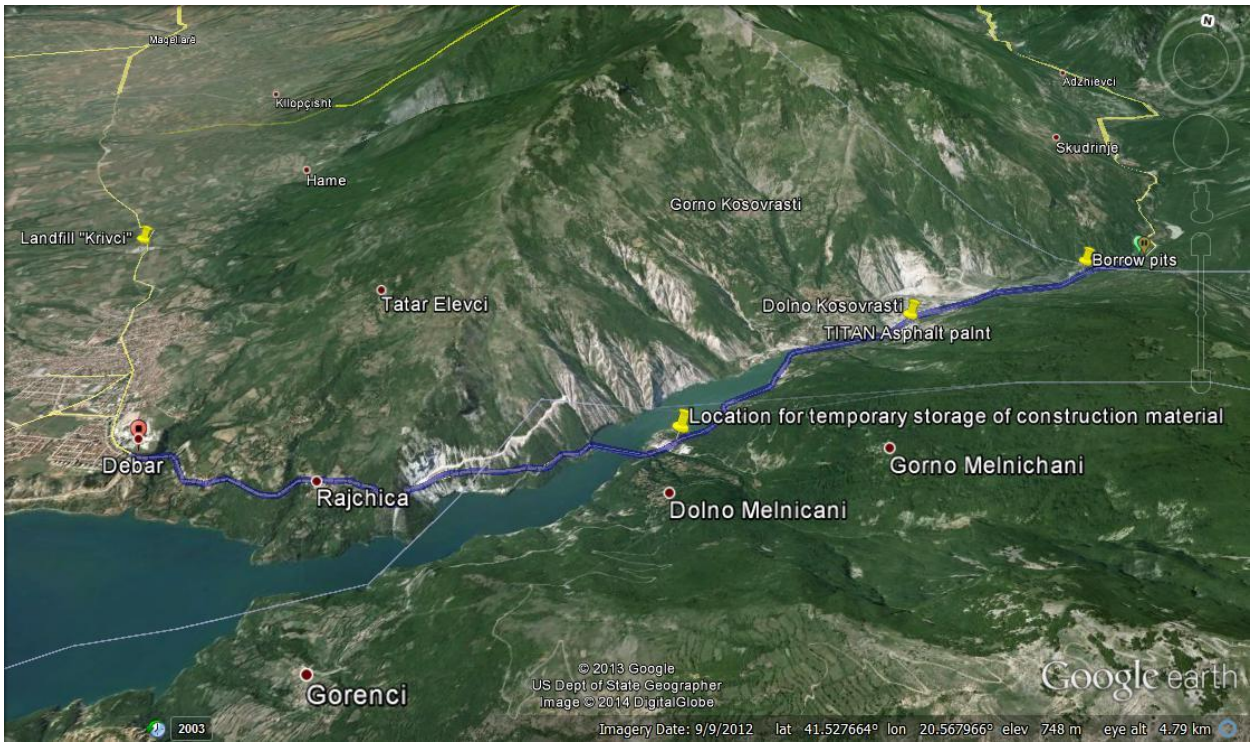

Figure 2 Proposed locations of borrow pit, asphalt base, landfill and location for temporary storage of construction material

Construction marterials - Contractor should use from the **existing** borrow pit near the subject section (as shown on figure 3. Negative impact upon environmental areas and media will be avoided and minimized trough use of material from the **existing** borrow pit which possess concession and environmental permit issued by the

competent authority (Ministry of Economy and MoEPP). The amount, type of construction materials will be determined in detailed design, in accordance to the conducted geotechnical surveys. During construction activities small amount of construction waste (removed asphalt layer, earthen material from clearance of culverts) will be generated. This waste will be disposed in to the existing landfill (landfill Krivci), near section in the municipality of Debar, which is on distance around 3 km from final chainage of the section Boshkov Most - Debar.

Figure 4 Excavation of sand from River Radika (along the road section Boskov Most - Debar

On this landfill the amount of deposited municipal and inert waste is 150.000 m^3. The amount of generated construction waste will be defined in the Detailed Design.

Proposed location of asphalt plant as its shown on the Figure 3 is near the subject section - asphalt plant TITAN which has obtained environmental permit, issued by the competent authority – MOEPP. Location for temporary storage of construction material is after the asphalt plant near the bridge across Radica river/Debar lake (main access to city of Debar), aproximately 2km from villages of Dolno Kosovrasti (1.96km) and Rajchica (2.16km).

Contractor for the foreseen rehabilitation activities will prepare plan for the organization of the work in which will be defined time dinamyc and way of realization of construction activities: supply of construction material, way of implementation, amounts, quantities etc. In this Plan the Contractor should also define the location of the affiliated facilities (asphalt plant if any, access roads if any etc.) and indicate whether there are any environmental sensitive in the vicinity of those facilities, which might require additional mitigation measures.

Social infrastructure

Social infrastructure includes the existing educational, health, social institutions, where the citizens are able to satisfy their educational, health, cultural, and other needs. The existing of these institutions and good connections between them contribute for satisfying the needs of the population in their municipality.

Education

Inside the borders of the municipality **Mavrovo and Rostuša** there are 15 elementary schools in 15 settlements and 1 high school. The elementary education process is realized in 4 elementary and 11 district schools. The rest of the settlements either don't have pupils, either there are temporary inhabitants during the weekends or the summer months. The municipality contains good network of school buildings, although some of them are in very bad condition, such as the school building in Nistrovo where new building is necessary, also in the village Rostuše the situation is similar.

The following elementary schools are present on the territory of municipality Mavrovo and Rostuša:

- ES "Danće Dejanovski Dence" in Mavrovi Anovi with district schools in these villages Mavrovo, Nistorvo, Vrben and Duf;
- ES "Josip Broz Tito" in the village Zirovnica with district school buildings in Vrbjane and Viduše;
- ES "Blaze Koneski" in village Skudrinje with district school buildings in Prisojnica and Adzievcivo;
- ES "Gjorgji Puleski in Rostuše" with district school buildings in Velebrdo, Trebeniste and Janće.

On the territory of municipality of Mavrovo and Rostusa, there is not any high school. The educational process for high school pupils is implemented in "Panće Popovski" high school from Gostivar, which has units in Rostuše. Most of the pupils are continuing their further education in this school, but the rest of them for further education are going to the neighboring municipalities such as Gostivar, Debar and Skopje. The pupils from the region near the village Rostuše, for their further education are going mostly in Rostuše and Debar and the pupils from the part near the Lake Mavrovo are going mostly in Gostivar.

In Municipality of **Debar** the foundation, funding and administrating of the primary and high schools is in cooperation with central authorities.

The next elementary schools are present on the territory of municipality of Debar:

- ES "Bratstvo-Edinstvo" – Debar
- ES "Sait Najdeni" – Debar
- ES "Bratstvo-Edinstvo" – Dzepište

- ES "Riste Ristevski" – Dolno Kosovrasti
- ES "Riste Ristevski" – Mogorče

On the territory of this municipality there is one high school “Zdravko Chochovski“ – Mogorche.

Health institutions

On the territory of **Mavrovo and Rostuša** municipality ambulance objects are present in the following villages: Prisojnica, Skudrinje, Trebeništa, Žirovnica and Mavrovo, while in Rostuše is located Public Health Organization, D-r Ruse Boskovski. Most of these objects are built before 1990, so there is a need for their maintenance. The only object built after 1990 is the ambulance in Vrbjani village, where more than 2 years there is no any medical staff, so the people are looking for medical help in Rostuše. The ambulance in village Prisojnica is also not operational.

In Mavrovo the building is divided on 3 sectors: general medicine, dental medicine and laboratory, from which only the part for the general medicine is active. Most of the people are going in the neighbouring sites for medical care. For example only Žirovnica has a pharmacist.

In the Municipality of **Debar** there is one Public Health Institution – General Hospital Debar, and one Health Center – Debar, and several private health centers.

Industrial facilities

In the Municipality **Mavrovo and Rostuša** there are no developed industrial or mining sectors. The reason for that partly is because the great part of the municipality is located within the boundaries of National Park “Mavrovo”, area which is under protection and where economic development and activities are limited. The activities of the industrial objects which were active during the Former Yugoslavia as well as the activities of the objects which are still active are presented below.

During the period of Yugoslavia, in the settlements which were part of the municipality Mavrovi Anovi and Rostuše there were 10 industrial entities located in the area which belongs to the river Radika watershed. Especially famous were 2 textile factories in Skurinje and Rostuše. In village Skudrinje there was a factory for production and trade with textile “Unity”, which started working in 1946. This capacity had more than 600 employees. Main activity was production of textile for the market in Yugoslavia. Today this factory is not operational, although it is possible to resume its operation in the future, in this village there is only one active factory with main activity being wood cutting and furniture making. In the village Rostuše there was one factory “Bratstvo”, with main activity being production and trading of textile. The factory started working in 1947 as a trading company. After that in 1983 new capacity was built in order to improve the finalization of the products. This factory had 250 employee, the products were sold out to many foreign markets beside the market in Yugoslavia. Today this factory is not operational, except one part which is used for production of bottled water and juices. In Žirovnica there is a factory for wood processing. Presently the factory does not function, although with the expected future change of the ownership, there is a possibility to resume the operation. In Velebrdo there is a train brakes factory which was a part of Metalski Zavod Tito from Skopje, which currently does not work.

Major commercial facility in the municipality of **Debar** is the plant for plaster processing "Knauf Radika" AD with mine excavation of gypsum and HPP "Spilje".

Knauf Radika has 190 employees and yearly production capacities of 13 million m^2 gypsum-carton and 200.000 tons of gypsum products (cements). The production is mainly (85 %) oriented towards neighboring countries: Serbia, Montenegro, Bulgaria, Albania, Kosovo and 15 % in Macedonia.

Demography

On the territory of **Mavrovo and Rostuša** municipality there are 8,618 people. Whit 11.9 people on a km^2, which means that this is a place not density populated, especially compared to the average density in the country being about 80 people on km^2. There are 42 settlements in this municipality, from which 36 are within the borders of the protected area NP Mavrovo.

The total number of houses is 4,776, from which 1,969 or 41,2% are residential and currently inhabited, and the rest are abandoned or their owners are living abroad. The total number of people according to the census of 2002 is 8,698, from which 4,297 or 49,4% are male and 4,323 or 50,6% are female.

The analysis of the population age structure indicates the economic potential in certain areas. For example, the areas with populations that have high percentage of young people, have high economic potential and positive factor on human resources, compared to the areas where older people dominate, because the presence of young people means better educational level and high potential for everyday activities. This is visible in the population structure in the area, where 2,288 or 26,3% are persons at the age under 15, and 2,257 or 25,9% are capable for work.

Regarding the educational structure, the analysis shows that the majority of population (51,7%) has only elementary school, 33,4% has secondary school and 7,4% of people has not literate. The level of unemployment is high with 49%, and the families with only one employee contribute with 27%.

These are the main reasons for the high rate of migrations from villages to towns, which were much more significant in the early period after the Second World War also between 1970 and 1990 high number of people left the country for Europe and the USA. According to the religious structure analysis, the dominant group is represented by Muslims with 7,506 or about 87%. About 50% of the people are Macedonians, 31% Turks, and 17% Albanians.

According to the census from 2002, the municipality of **Debar** has a total of 19.542 citizens with population density of 134.15 per km^2. The number of citizens per settlements is given in the table below:

Table 1 Number of citizens per settlements[2]

Banište	90
Bomovo	0
Gari	10
GornoKosovrasti	818
Debar	14.561
DolnoKosovrasti	813
Konjari	0
Krivci	9
Mogorče	1.794
Osoj	6
Otišani	530
Rajčica	131
Selokukji	104
Spas	32
Tatar Elevci	10
Trnanikj	0
Hame	135
Dzepište	499
Municipality of Debar	**19.542**

From the data presented in the **Table 1**, some of the settlements are completely displaced. The main reason for this occurrence is due the fact of the difficult economic condition. In the past years migration was on relations: villages-towns or city-city, but in present significant displacement of the citizens in other countries is present.

According the ethnic affiliation, the greatest number of the population are Albanians (11.348) or 58.07 % of the total citizens in the municipality. The other citizens are presented in smaller percent, Macedonians (20.01 %), Turks (13.73 %) Roma (5.53) and others (2.66 %) belongs to the ethnic groups: Serbs, Bosniak, Vlach. The population which mother language is Macedonian are declaring as Turks, and for this reason in 2002 census, there were 30.69 %. Number of rural population compared with the urban population in Debar amounts 4.981 citizens (25.5 %) versus 14.561 citizens (74.5 %). The distribution of population according age is shown in the **Table 2**.

Table 2 Distribution of the population by age

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Municipality of Debar	1.472	1.884	1.988	1.943	1.709	1.564	1.456	1.469	1.368	1.181

Age	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unknown
Municipality of Debar	858	576	661	566	399	240	124	64	20

Representation of the number of population which is at working age (active and idle) in Debar municipality is given in **Table 3.**

[2] State Statistical Office of the Republic of Macedonia

Table 2 Population in municipality of Debar according age, more than 15 years old which are active

Economic active and Economic idle		Economic active - Total		Economic active - Employed		Economic active - Unemployed		Economic active	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
6.777	6.913	3.799	2.026	1.770	647	2.029	1.379	2.978	4.887

The number of total economic active people is 5.825 or 42.55 % from the total population at age of 15 years and more. Number of employed population is 2.417 or 17.65 % from the total over 15 years. The percent of economic active and employed population is exceptional, and it could be perceived that the socio-economic conditions in this municipality are very low. The activities and occupations of the citizens of Debar municipality are shown in **Table 4**.

Table 3 Population at age of 15 and more, according activities and occupation

Activity and occupation	Total Population
Economic active persons which perform profession	2.417
Members of legislation, state officials, managers, diplomats and principals	91
Experts and scientists	492
Technicians and related occupations	326
Civil servant	177
Employees in services, stores and bazaar sales	396
Skilled workers in agricultural sector, hunting, forestry and fishery	35
Mining and constructing occupations for nonindustrial methods of work in manufacturing	267
Handlers and builders of machinery and installations	134
Basic occupations	443
Armed forces	39

The city population in the municipality is mainly involved in the sectors: commerce, manufacturing and services, and the population from the rural areas are working in the agricultural field, forestry, and livestock.

Table 4 Activities and professions of the citizens

Activities and professions of the citizens	Total population
Unknown occupation	17
Economic active, persons which are not doing any occupation	3.408
Economic idle	7.865
Total population in municipality of Debar	13.690

Tourism

The role of the Mavrovo National Park for the Macedonian national tourism is significant. Mavrovo National Park, after Ohrid and Skopje, can be considered as the third most significant tourist region in the country. The two main factors determine the tourism development in the area:

- The presence of the ski center Mavrovo, biggest in the country, very attractive for the visitors from the regional Balkan countries in the winter period where is also the highest number of hotels on the territory.
- High number of villas, most of them around Mavrovo Lake, but also in the other urbanized parts of the territory.

As was determined by the Study for valorization of the protected area Mavrovo, the area offers wide varieties of accommodation options, namely: 18 hotels, 7 resorts, 5 motels, 400 rooms and about 2000 beds.

Higher concentration of tourists is noticed around Mavrovo. For the upper part, with rather isolated villages, the move outs are very often, the tourists visit the area mostly during the summer. Exception from this can be noticed for the monastery St. Jovan Bigorski, which is a big attraction at the local and international level. This sanctuary is visited mostly for religious and cultural reasons.

In the field of tourism in the municipality of **Debar** the spa tourism is present with the Health resort "Debarski Banji - CAPA" (private health care organization), with more than 150 employees and accommodation capacity of 700 beds deployed in the nearby hotels and villages: Kosovrasti and Banjište, and this complex also includes the hotel "Venec", located in downtown region. Thermo-mineral waters are distinguished by their characteristics and they are listed among the most recognized and healing waters in Europe, useful for treating various diseases.

About 4 km east of Debar, near the village Rajcica, is located the well-known cave, Alce. The cave is mostly composed of reserves of plaster, filled with plaster crystals. The crystals are transparent with cracks in two directions and expressed sized, long and up to 7 m, so it is an exceptional beauty.

Cultural values

Leunovo - The village Leunovo is located at 1500 m above sea level, on the edges of the former Mavrovo field, on the bank of the Mavrovo Lake. This village is almost completely empty and is visited seasonally. In the village there is a church St. Mari, which is a saint's day for the village and in that period visitors are going there in order to maintain the tradition.

Dolnomalski grobishta - This place is a location of middle age church. About 2 km west from the village, near the graveyards there are foundations from an object built with stone and limestone mortar, with east-west orientation, which indicates the presence of an old church as cultural asset (Archeological map 1996:113; Graveyards).

Gjonovica - Locality with a middle age settlement. The place is located 4 km north-west from the village, over the bank of the Mavrovo Lake, is protected as cultural asset and surrounded by fenced zone. According to local legends, this location was an old village (Archeological map 1996: 113; Gjonovica).

Suvodol - Area where middle age church and necropolis have been discovered. About 500m north-east from the village, near the lake from the left side of the road to Gostivar, foundations of a small church as cultural asset are noticeable. Near to this there is necropolis (Archeological map 1996: 113; Suv dol).

Location St.Nikola - Location in Mavrovo where necropolis from the late middle age was discovered. This location is near the village church St.Nikola, and under the road there are stone plates from graves and archaic crosses, made from limestone.

On the territory of Municipality of **Debar** several archaeological sites can be found, such as: medieval church and necropolis “Krasta”, medieval church and necropolis “Elica”, medieval necropolis “Rov”, medieval necropolis “Arbinovci”, medieval road “Star Pat”, medieval fortress “Zagradishta”.

Also in the Municipality of Debar several Orthodox churches were built, such as: Churches “St. Demetrius”, “St.John” and ”St.Ilija" in the village. Banjishte, church "Sv. Nichola” in the village Dolno Kosovrasti, church “Assumption of the Virgin Mary” in the village Gari, than Churches “St. Varvara”, “St. Anastasij” and “St. Dimitrij” in the village Rajchica.

In the village Rajchica, female monastery dedicated to "St.George the Victorious" has been established. This monastery is constructed in the middle of the 19th Century and its significance is worldwide. This monastery was built in the mid-19th century, it`s most important known worldwide and is reflected in the development of Mithra, which carry orthodox priests in Macedonia, Serbia, Bulgaria, Greece and other Orthodox churches.

5. Environmental impacts

This sub-project (road section Boshkov Most – Debar) will be implemented on existing road, only rehabilitation activities are foreseen, without any widening of the road section. Impacts on environmental media and areas will occur in two phases (construction/rehabilitation and operation). Most of environmental impacts will occur during construction phase (rehabilitation works). Therefore, environmental management in the construction phase is the main content of this ESAR.

The following impacts are expected during rehabilitation:

- fugitive emission of dust from the construction activities;
- emission of exhaust gasses from the construction machinery;
- solid, and waste from construction;
- waste water produced by construction workers;
- noise and vibrations from the construction machinery;

The following impacts are expected in the operational phase:

- exhaust gasses from mobile sources (vehicles);
- storm water;
- noise.

5.1 Air emissions

Constructive phase (rehabilitation)

Emission of harmful pollutants in to the air is expected during the process of rehabilitation and exploitation of road section.

During the process of rehabilitation of road section i.e. scraping of the old pavement and its removal, clearing of the drainage culverts, ditches, operation of construction mechanization and transport of construction material and construction waste, the following air emissions are expected to occur: fugitive emission of dust from clearing the section, emission of exhaust gasses from mobile sources of pollution - construction machinery and fugitive emissions of volatile organic compounds from applying bituminous emulsion and asphalt mixture.

During the construction activities on the section, the dust emitted from the mechanical operation of construction machinery and combustion of fuel affects the nearby and distant environment depending on the size (aerodynamic diameter of the particles), as well as the weather conditions during the period of activities. The impact of the fugitive dust emission will be additionally intensified by the emission of exhaust gasses from the construction machinery.

The fine dust, i.e. inhalable particles with diameter D≤2.5μm that are created during combustion of fuel in motor vehicles are transffered at a greater distance and have a chemical composition, i.e. contain organic compounds and heavy metals, which has negative impact on the human health and the environment.

The following table presents the limits and margin of tolerance for suspended dust with a diameter of 10 micrometers PM10, according to the National Plan for protection of ambient air in the Republic of Macedonia and relevant sub law acts, which was prepared in accordance with transposed EU legislation.

Table 5 Limits and margin of tolerance for suspended dust PM10

Polluting substance	Average period	Limited value to be reached in 2012.	Allowed number of exceeding during the year	Margin of tolerance for 2010	Limited value for 2010	Threshold of alert
PM10	24 hours	50 µg/m3	35	0 µg/m3	50 µg/m3	
	1 year	40 µg/m3	0	0 µg/m3	40 µg/m3	

The fugitive emission of volatile organic components from the use of bitumenous emulsion and asphalt mixture will have less influence, because these compounds are easily evaporative and retain shortly in the air.

Gasses and pollutants are emitted in the ambient air through the system for disposal of waste gases, from vehicles and construction machinery on-site. The quantity and composition of exhaust gases depends on several parameters such as the type and age of vehicle, the performance of vehicle, the type of used fuel, features of the fuel in the distribution network, the presence of additives, the degree of combustion of fuel, etc.

SO_2, CO_2, H_2O and aromatic hydrocarbons occur during the complete combustion of fuel, while Pb_2O_3, etc. occur when using catalysts. CO, hydrocarbons, suspended dust, etc. occur during the incomplete combustion of fuel. During a long-term exposure to these toxic substances, they have negative effect on the human health. The smoke affects the respiratory organs and the skin, the lead affects the respiratory and central nervous system as well as the blood system and bones. The particles that occur during the process of fuel combustion also have a carcinogenic effect.

The following table presents the limit values for the pollutants from construction machines, in accordance with the Directive 97/68/EC:

Table 6 Limit values for pollutants emitted by the construction machinery (Directive 97/68/EC)

Motor power	CO (g/kWh)	HC(g/kWh)	NOx (g/kWh)	PT(PM) (g/kWh)
130 ≤ P ≤ 560	5.0	1.3	9.2	0.54
75 ≤ P ≤ 130	5.0	1.3	9.2	0.7
37 ≤ P ≤ 75	6.5	1.3	9.2	0.85

The geomorphological and weather conditions have influence on the concentration of emitted pollutants in the air i.e. the pollution of the ambient air in the region.

Operational phase

In operational phase effect on the air quality will occur during traffic on road section.

The subject road section Boshkov Most – Debar is already existing part of the regional road R1202, where the traffic had influenced air quality for decades, therefore there is not expected additional effects on the air quality.

5.2 Water pollution

Constructive phase (rehabilitation)

During rehabilitation of the road section the water pollution can be physical, chemical and biological. The physical pollution is manifested through presence of solid particles from debris of soil and sand, solid particles from tire friction, debris from crashes, etc. The presence of grease and oils are source for physical pollution of ground waters. By washing out the road surface, solid particles precipitate in the culverts, gutters and drains where they can cause blockage, while grease and oils float on the surface and reach in to the receptors. They create a film that prevents the supply of oxygen in the watercourse, which prevents the normal development of the biolife in the receptor. The chemical pollution occurs as a result of dilution of the pollutants present in the air. These pollutants are result of the exhaust gasses from vehicles, emission of pollutants from the nearby industrial and processing facilities, dissolution of individual components from the surrounding land, from the use of agrochemical substances and pesticides, animal and plant waste. The chemical pollution can be manifested as strong–acidic, weak–acidic neutral environment and all variations from strong–base to strong–acidic environment.

The biological pollution is result of disintegration of organic materials , used as food for various microorganisms. They can be a result of thrown food from reckless traffic participants, wind-blown leaves and other biodegradable waste, organic wastes, feathers and other substances that are present in the immediate surrounding.

The mechanical contaminants from the washing of the road and ground during heavy rainfall can cause filling of the riverbeds and water turbidity, which will reduce the penetration of light and change of the living conditions in the aquifer. The change of the surface and underground water quality also affect the usual use of water for different purposes by the population and industrial capacities.

The most dangerous pollutants for surface and underground waters are persistent organic components and harmful metal compounds.

Near the road section Boshkov Most – Debar are Debar Lake and river Radica. But with implementation of good construction practice and procedure for collection of accidental fuel spillages from the construction mechanization the impacts to near surface water and underground waters will be insignificant.

Operational phase

Regular control and maintenance of drainage structures shall be conducted to check they do not become overwhelmed with debris or sediments.

5.3 Waste generation

The waste management is one of the most serious environmental problems in the Republic of Macedonia. The regular waste collection service is limited only to the urban areas, and very little attention is paid to the rural areas, 70% of the total urban population receives regular waste collection service and only 20% of the population in rural areas is covered by the service.

The municipal waste management is entirely controlled by the local government. It is directly connected with the urban plans for use of the local land and should be in accordance with the national strategic documents – the National Plan for Waste Management and the National Strategy for Waste Management as well as other relevant documents.

Proper waste management according to the generally accepted international norms will reduce the waste impact on soil (through uncontrolled waste dumping), underground water (directly contaminated over time from uncontrolled waste disposal) and air (through waste burning on open air).

Public Utility Company (PUC) "Standard" Debar is responsible for the collection and disposal of municipal waste for the settlements in municipality of Debar.

Constructive phase (rehabilitation)

During the construction phase (rehabilitation) of the road section mixed municipal waste will be generated from the employees and construction waste from the foreseen rehabilitation activities.

Figure 5 Current state of the road section Boskov Most - Debar

According to the Law on Waste Management ("Official Gazette of RM" No. 09/11), the generators of waste shall, to the greatest extent possible, avoid waste generation and reduce the harmful effects of waste on the environment, life and human health.

The waste generators are responsible to sign separate agreement for collection and transportation of the waste with waste service provider Public Utility Company (PUC) "Standard" Debar. The wastes will be transported by specialized vehicles designed for waste transportation, and disposed on the nearest landfill, i.e. landfill "Krivci" in Debar.

The types of waste that will be generated during the construction phase of road section as well as the managing method for the different types of waste are presented in the following table:

Table 7 Types of waste and quantities

Phase	No.	Type of waste	Number from the List of waste types (Official Gazette no.100/2005)	Amount of waste per year expressed in tones or liters	Method of waste management (processing, storage, transfer, disposal, etc.)	Name of the legal entity that manages the waste and location for disposal of waste (landfill)
Construction phase	1	Mixed municipal waste	20 03 01	Cannot be determined at this phase	Temporary disposal in PVC bags, to its removal in containers located nearby	PUC "Standard" Debar
	2	Soil contaminated by eventual leakage of oil from the construction machinery	17 05 05*	Cannot be determined (only in an emergency)	Storage and disposal to nearest landfill (near v.Krivci)	PUC "Standard" Debar
	3	Construction debris (Depending on the Detailed Design)	17 03 02	Cannot be determined at this phase	Disposal to nearest landfill (near v.Krivci)	PUC "Standard" Debar

*Hazardous waste according to the List of waste types ("Official Gazette of RM"No.100/05)

Operational phase

During the operational phase of the road section adverse impacts on the environment are not expected, only small amount of organic waste is expected (from clearance of the culverts), which waste will be collected from institution responsible for maintenance of this road section.

5.4 Soil contamination

The impacts on the soil during the construction phase of road section Boshkov Most - Debar are expected to be mitigated with proper implementation of measures for protection of the soil during construction.

Construction phase (rehabilitation)

During rehabilitation activities, following impacts can be expected:

- Emission of dust from transport of waste, construction materials and activities;

- Emission of exhaust gasses from the construction machinery that will be present on the site;

- Leakage of fuel and lubricants from the construction machinery engaged during the construction activities, which may affect the soil and also cause a pollution of underground waters;

- Pollution of surface and underground water and soil might occur in the case of accident.

At the site the Contractor shall introduce good construction practice to prevent bitumen entering channels or disposed into ditches or any waste disposal site, to develop procedure for protection against spills (any spill to be immediately cleaned up) and for proper handling of contaminated soil according to legal environmental requirements. The bitumen storage and mixing area must be confined, gravel or sand covered and effectively protected against spills. The environmental permit (IPPC) issued to the proposed asphalt plant by MoEPP requires the implementation of appropriate mitigation measures, including setting the Maximum Permissible Volumes (MPV) for emissions into air, soil and water to be in accordance with BREFs – Best Available Techniques (BAT) reference documents. According to Article 14(3) of the IED (Industrial Emissions Directive (IED, 2010/75/EU), BAT conclusions shall be the reference for setting the permit conditions to installations covered by the Directive.

Operational phase

During the operational phase adverse impacts on the soil are not expected, only spills of oil, lubricants etc., in case of accident can occur. In phase of Detailed Design the Designer to consider the option for design of oil traps along the section, according to the conducted additional terrain investigations for technical features of culverts and drainage system.

5.5 Noise, vibration and non-ionizing radiation

Construction phase (rehabilitation)

During the constructive phase of the road section, the maximum allowed noise levels will be partially exceeded.

The noise that will occur during the construction phase of the road section Boshkov Most - Debar appears as a result of the operation of construction machinery that will be engaged during the construction phase, i.e. vehicles for delivery and transportation of construction materials, construction waste and the machinery used for construction activities. The significance of the impact will depend mostly on the type of equipment, and technical features of the construction machinery.

The distance from populated areas, geological conditions and terrain configuration are crucial for the noise impacts on humans and the environment.

The meteorological conditions have a great influence on the noise intensity and air shocks. The air shocks are influenced by the wind direction and speed, while the sound spreading is influenced by the wind speed and

temperature in a function of height and configuration of the terrain.

The wind has effect on the increasing of the sound intensity, i.e. the increasing of sound intensity is almost always in the direction of the wind. The influence of the wind on the noise intensity is highest during the winter. The positioning of road section Boshkov Most - Debar and the distance from the nearest receptors - households, etc. is crucial for the noise impact on the environment. The nearest settlement to the subject road section is village Rajcica, located at a distance of ~20 to 100 m from the subject road (route).

Table 9 presents the list of sources of noise, vibration and non-ionizing radiation.

Table 8 List of sources of noise, vibration and non-ionizing radiation

Source of emission	Type of emission (noise, vibration or non-ionizing radiation)	Equipment - device with a description of the maximum power	Emitted noise intensity (dB) expressed through index value of the equipment	Intensity of vibrations and non-ionizing emitted radiation	Emission periods (number of hours per day)
Heavy vehicles	Noise	Bulldozer Dredger Track	85 dB	/	8

The data and comparative analysis are showing that the level of noise during the construction phase will exceed the limit values, i.e. the noise will have a negative impact on the environment. The noise intensity and its impact on the environment will depend on the scope and duration of construction activities.

However, it should be taken into consideration that this section does not pass through any settlement or sensitive receptors of noise, therefore, the noise mitigation measures can be easily identified. The limit values for the basic indicators of noise in environment are defined with the Rulebook for limit values of the noise level ("Official Gazette of RM"No.147/08). According to the degree of protection from noise, the limit values for the basic indicators of noise in environment caused by different sources should not be higher than:

Table 9 Noise level per area

Area differentiated by the degree of noise protection	Noise level expressed in dB (A)		
	Ld	Lv	Ln
Area of first degree	50	50	40
Area of second degree	55	55	45
Area of third degree	60	60	55
Area of fourth degree	70	70	60

Legend: -Ld - day (period from 07:00h to 19:00h), -Lv - evening (period from 19:00h to 23:00h), -Ln - night (period from 23:00h to 07:00h).

The areas according to the degree of noise protection are defined in the Rulebook for locations of measurement stations and measuring points (Official Gazette of RM no.120/08).

Area of I degree of noise protection is area intended for tourism and recreation, area nearby hospitals, areas of national parks and natural reserves.

Area of II degree of noise protection is area that is primarily intended for residence, i.e. residential region, area nearby buildings designed for educational activity, facilities for social protection intended for accommodation of children and elder persons, facilities for primary health protection, area of playgrounds and public parks, area of public greenery spaces and recreational area, areas of local parks.

Area of III degree of noise protection is area where activities in the surroundings are allowed and the causing of noise is less considered: trade–business–residential area, which is also designed for accommodation, i.e. area with buildings that have protected spaces, crafts and related production activities (mixed area), area designed for agriculture activities and public centers for administrative, commercial, service and catering activities.

Area of IV degree of noise protection is area where activities in the surroundings are allowed, which can cause interference with noise, area without apartments, designed for industrial and crafts or other similar production activities, transport activities, storage activities, service and communal activities that are causing bigger noise.

According to the degree of noise protection parts of the project falls under the II, II and IVth degree of noise protection as given above. There are no settlement and sensitive areas in the vicinity of the subject section. Due to that fact no expected negative impacts as a result of noise are expected to occur as the result from the construction/rehabilitation activities on the section.

During the construction activities vibrations will be caused by the activities of the construction and the transport mechanization.

Operational phase

With the rehabilitation of the section i.e. setting of new asphalt layer, decrease the existing noise levels along the road section is expected. Regardless of the expected decrease of noise levels in phase of Detail Design it is necessary to do measurements of noise levels and on base of measurement results and propagation models will be determined whether there is need for design of noise barriers. During the construction activities vibrations will be caused by the activities of the construction and the transport mechanization.

5.6 Biodiversity (flora and fauna)

With realization of the foreseen project activities on the section, impacts on flora and fauna will be insignificant since only rehabilitation on this section is planned, so no vegetation clearance is planned/expected.

The project area is not passing through any environmental protected zone or in the area proposed for protection.

Construction phase (rehabilitation)

At the design and construction phase, with the use of construction mechanization some negative impacts are expected, such as increased noise and vibration intensity and increased quantities of exhaust gasses.

Contractor should be in regular and permanent contact with local self-government and NP Mavrovo authorities in order to be able to fulfil any mitigation and safety measures regarding the wellbeing of species which can be affected by construction activities.

Operational phase

Traffic noise and exhaust emissions from fuels will certainly occur in the operational phase. But it is important to mention that the impacts are expected during the operational phase are already present and occurring in the daily use of the subject road section. It should be mentioned that impacts expected during exploitation phase are already present and occurring in daily use of the road section. Bigger increase of traffic is not expected since this is the only way/road that connects cities of Ohrid and Resen. With rehabilitation it is expected that current impacts on environment will be mitigated through new pavement and rehabilitation of culverts and drainage structures, road safety will be drastically increased so positive impact on local population is expected

Contractor should make an effort for consultation with local self-government and NP Mavrovo authorities in order to be able to fulfil any mitigation and safety measures within Detail Design regarding possible affected species from the operation/function of road section (possible design of animal overpasses of protective fence).

5.7 Social impacts

The project does not acquire the land acquisition therefore there are not any social impacts due to land acquisition and resettlement issues. During rehabilitation activities some health issues for the local population may emerge due to increased noise, fugitive emission of dust, exhaust gases etc., and occupational, health and safety issues for the employees.

Daily habits of the local population (using the route for transport of goods, access to properties etc.) could be potentially disturbed during rehabilitation activities, so Traffic Management Plan should be prepared by the Contractor for regulation of traffic during these activities.

In general social impacts will be positive due to the rehabilitation process, traffic conditions will be improved and traffic safety will be increased.

6. Environmental and social management plan

The main mitigation activities are described in **Table 11**. Since this is a project for road rehabilitation, good practice and standard mitigation measures are required along the road.

Mitigation Plan identifies the environmental impacts during construction (rehabilitation) and operational phase, mitigation measures, costs and responsibilities for implementation of mitigation measures. Mitigation is an integral

part of impact evaluation. It looks the better ways of taking actions so that the negative impacts are eliminated or minimized.

Table 10 Mitigation Plan

	Issue	Mitigation measures	Cost		Institutional Responsibility		Comments
			Install	Operate	Install	Operate	
Phase							
Detailed design	**Decision for preparation of Environmental Impact Assessment Report or EIA Study**	Preparation of Notification for intention of project conduction and its submission to the competent authority - MOEPP; construction of underpasses for wildlife on certain parts of the section within the Detailed design which approval has to be given by PESR according to the ToR;	**N.A.**	**N.A.**	Engaged Consultant with PESR	PESR/MOEPP	MOEPP will make decision if EIA Study or Environmental Impact Assessment Report is required; PESR/Consultant will respect the decision.
Detailed Design	**Soil, surface & underground water pollution**	Possible Design of oil traps	**BoQ of DD**	**N.A.**	Engaged Consultant	Contractor/ PESR	Costs in this phase cannot be precisely estimated, additional surveys of the condition and technical features of culverts together with drainage system should be conducted by hydraulic engineer
Detailed Design /or Construction phase	**Air pollution, landscape disturbance** etc. from borrow pits, waste disposal sites	Ensuring that the materials are purchased from the sites which have all necessary licenses and permits Appropriate selection of the locations of - borrow pits (near the road section – existing ones – near river Radika and the surroundings), - location of waste disposal sites			PESR/Contractor	Contractor/ PESR/Local Self Government	During preparation of detailed design the consultants shall confirm the proposed locations for borrow pits, landfills, according to the geology, hydrology etc., costs will be included in overall costs for Detailed Design. There shall be provision that the Contractor is obliged to obtain all relevant environmental permits issued by MoEPP regarding borrow pits, waste disposal sites prior to start of rehabilitation activities.. In case the consultant to suggest some other sites, the EA/EMP

		(landfill Krivci) etc. so all negative impacts to be avoided or minimized					should be amended for the environmental analyses of the newly proposed borrow areas. The contractor shall make all necessary arrangements for using the waste disposal sites identified as acceptable by the EA/EMP.
Construction / rehabilitation	**Traffic safety** Impairment of traffic during construction Endangering of traffic outside working hours, placement of traffic signs	The contractor will provide: - information to the public about the scope and schedule of construction activities and expected disruptions and access restrictions - measures to allow for permanent adequate traffic flow around construction areas; - adequate signalization, traffic safety signs, barriers and flag persons for traffic control; - appropriate lighting and well design safety signs	**N.A.**	**N.A.**	Contractor	Contractor	Traffic plans to be approved by road police. Road police should also assist in law enforcement.
Construction / rehabilitation	**General Work Safety**	According to the Macedonian legislation in the field of occupational, health and safety (Law on occupational, health and safety - Official Gazette of Republic of Macedonia" no. 92/07, 136/11, 23/13, 25/13, Law for fire protection Official Gazette of Republic of Macedonia" no 67/04, 81/07, Law on protection and rescue – Official Gazette of RM no. 36/04, 49/04, 86/08, 124/10)The Contractor has an obligation to prepare a Plan	**1 000 €**	**N.A.**	Engaged Consultant for preparation of OHS Plan/ Contractor	Contractor	One of the requirements in the TOR for selection of Contractor could be implementation of OHSAS 18001 that will enable preparation of appropriate procedures in terms of accidents, fire and chemical spill, and preparation of emergency responses

		for Occupational Health and safety for temporary mobile construction sites in which protection measures in a case of accident, fire and chemical spill containment, has to be included such as emergency procedures.					
Construction / rehabilitation	**Air pollution** fugitive emission of dust, emission of exhaust gases from construction mechanization	Conduct construction activities with a certain time frame and dynamics i.e. 8 working hours in total, starting from 7 am to 3 pm; Preparation of Plan for organization of construction activities on site; Avoiding the work of the mechanization when not performing task; Use of standardized fuels for machinery; Planning the route and factor for loading and unloading is very important for reducing fuel consumption and emissions of exhaust gases and fugitive dust emissions; The Contractor should establish procedure according to the requirements of ISO 14001 in which he will comprehensively describe the planning of the route for transport of construction material, loading, unloading etc., determine approximate locations for storage of construction material, describe the procedures for loading and unloading, depending of the	**N.A.**	**N.A.**	Contractor	Contractor	

		chainage where the rehabilitation activities will start, and engaged construction mechanization; Residents will be informed for construction activities and working hours. Avoiding dust and fugitive emissions through: use of dust control methods, such as covers, water suppression or increased moisture content for open location for storage of materials; Replacing older vehicles with newer; Turn off mechanization when is not necessary.					
Construction / rehabilitation	Potential pollution of **soil** and **groundwater**/ contamination of **surface waters, (potential contamination of Debar Lake)**	Organize and cover material storage areas near the section on proper location (after the asphalt plant near the bridge), which shall be cleaned – up, upon completion of the construction works; Considering the fact that the project covers only rehabilitation activities and taking into account the costs for asphalt bases, the concrete asphalt and other similar work will be performed on the asphalt base TITAN which is located near the subject section. There are watercourses which may be affected from the project activities as river Radika and lake Debar. With good	**N.A.**	**N.A.**	Contractor	Contractor	Contractor to submit a separate plan describing the location for storage of construction material, location of mobile toilets and layout for location of his work camp and providing details on the management of waste, the storage and handling of fuel, diesel, oil and other toxic / harmful substances

		constriction practice and taking into consideration that this road is an existing road with all construction elements for drainage, if an accident occur during this phase the impacts will be reduced to minimum so they will not disturbed the water quality; Washing of the construction mechanization to be done on proper location designated and equipped for such type of activities not on the site; Waste disposal on adequate locations near to the subjected section. The nearest location for waste disposal is nearby v.Krivci; Proper handling of lubricants, fuel; Ensure proper loading and storage of fuel, lubricants and fuel in accordance with adopted BREF Emission from storage (o7.2006) and maintenance of equipment.					
Construction / rehabilitation	**Waste generation** (municipal waste from engaged employees, construction waste etc.)	Implementation of key principles for sustainable waste management ; Placement of appropriate containers for collection of municipal waste on location; Selection of appropriate location for temporary construction waste disposal, until its disposal to landfill for inert waste; disposal to landfill for inert waste. Transportation the collected waste to the nearest landfill (near v.Krivci)	**600 €**	**N.A.**	Contractor	Contractor	One of the requirements in the TOR for selection of Contractor should be preparation instructions/procedure for waste management. Operating costs in this phase cannot be determined they depend of specified prices in the concluded Contracts with physical/legal entities that have license for such type of activities

Construction / rehabilitation	**Noise** and **vibrations** from construction activities	The need, type and design of noise mitigation measures on the segment passing village Rajcica will be defined by the noise analysis to be implemented as part of the detailed design. General mitigation measures will be implemented: - Limit activities to daylight working hours; - Turning off the engines of vehicles and construction machinery when they are not in use; -Informing the local population about the performance of the construction activities in terms of time and location; - Equipment operating with noise mufflers etc.	**N.A.**	**N.A.**	Contractor	Contractor	Control of technical features of the construction mechanization
Construction / rehabilitation	**Material supply** *Asphalt Plant* Dust, fumes, worker's health & safety, ecosystem disturbance; *Borrowpits* Fugitive emission of dust, disturbances of water quality etc.	The Contractor shall use existing asphalt plants/or submit requirement for official approval or valid operating license to competent authority. He shall submit a layout plan of the site of the mixing plant and a method statement on handling of bitumen spills prior to the commencement of works. At the site the Contractor shall take appropriate provisions (good construction practice meaning: Contractor should ensure sites are professionally managed, Inform the community, respecting those	**N.A.**	**N.A.**	Contractor	Contractor	Conditions for selection of subcontractors for material supply to be included in the TOR

		affected by work activities, Identify and managed environmental issues, attain the highest level of safety performance) to assure that bitumen may not enter into dry or running stream beds or channels nor may it be disposed of in ditches or any waste disposal site, to develop procedure for protection against spills (any spill to be immediately cleaned up) and all contaminated soil must be properly handled according to legal environmental requirements and as per Technical conditions for design of regional roads and highways – Published by PESR of R Macedonia. Contaminated soil should be treated as hazardous waste in accordance with Article 57 (General rules for hazardous waste handling and management) - Law on waste management. The bitumen storage and mixing area within asphalt base must be effectively protected against spill (impermeable tanks which can accept 110% of stored liquids within the storage area in asphalt bases). Given the fact that as an asphalt plant will be used TITAN which has obtained IPPC permit from MOEPP, all activities which cover bitumen					

		storage and mixing area will be performed with appropriate measures for environmental protection contained in IPPC; Contractor should use existing borrow pits near river Radika and the surroundings or buy materials at licensed separation installation (with integrated ecological permit issued by MOEPP/Competent authority)					
Construction / rehabilitation	**Material transport** *Asphalt* (Dust, fumes) *Construction material* (Dust)	- Cover truck load; - Wet or cover truck load Establish a dust control program: In the vicinity of settlements or where the local population might be affected through material transport the contractor will be required to regularly water haul routes. Trucks shall be covered to minimize dust and material spillage. Contractor should prepare a plan for traffic regulation in order to provide the limit value of the speed of construction mechanization for material transport in accordance to the Law on Public Roads (No limitations with regard to the route to transport the materials, since there aren't any sensitive areas.)	**N.A.**	**N.A.**	Truck operator Contractor	Truck operator Contractor / PESR State Environmental Inspectorate	
Construction / rehabilitation	**Construction site** (Noise disturbance to population and employees).	Location of construction camps should not be close to water courses. Contractor to establiseh procedure for	**N.A.**	**N.A.**	Contractor	Contractor	

		collection of generated communal waste and its adequate disposal, so contamination of soil, surface and underground water from inadequate waste management to be avoided.Limit activities to daylight working hours; Equipment operating with noise mufflers. The subject road belongs to area of III and IV degree of noise protection - is area where activities in the surroundings are allowed, which can cause interference with noise, area without apartments, designed for industrial and crafts or other similar production activities, transport activities, storage activities, service and communal activities that are causing bigger noise and on certain parts where the route passes near residential areas belongs to area of III degree of noise protection is area where activities in the surroundings are allowed and the causing of noise is less considered: trade–business–residential area, which is also designed for accommodation, i.e. area with buildings that have protected spaces, crafts and related production activities (mixed area), area designed for agriculture activities and public centers					

		for administrative, commercial, service and catering activities according to the Rulebook for locations of measuring stations and measuring points ("Official Gazette of RM " No.120/08) and the limit value for this kind of area is 70 dB for day and evening and 60 dB for night and 60 dB for day and evening and 55 dB for night respectively according to the Rulebook for limit values of noise level in environment ("Official Gazette of RM" No.147/08).					
Construction / rehabilitation	**Worker's safety and health**	Provide workers with safety instructions and appropriate personal protective gear such as protective clothing, safety boots, helmets, gloves, goggles, ear protection, etc.; Preparation of Plan for occupational health and safety for temporary construction mobile sites according to Law on occupational health and safety ("Official Gazette of RM" no. 92/2007, 136/11, 23/13, 25/13, 137/13)	**N.A.**	**N.A.**	Contractor	Contractor	The Contractor should appoint an environment, health and safety manager in the Construction Supervision construction Team Personal
Construction / rehabilitation	**Disruption of local population**	Preparation of Traffic Management Plan for regulation of traffic during these activities	**500 €**	**N.A.**	Contractor	PESR	
Operation/ Exploitation	**Increased volume and speed of traffic** (Emissions of exhaust gases from vehicles,	Installation of environmental protective measures: - use of standardized fuel will reduce the emission	**N.A**	**N.A**	Contractor	PESR /Maintenance unit "Makedonija Pat"	Costs in this phase cannot be estimated additional surveys has to be done and measurements for emitted noise etc. during the further operation of the road

	increased noise levels, water and soil quality (suspended solids, organic compounds, heavy metals, pH)	of exhaust gases - the rehabilitation of the road will reduce the noise level provoked by the traffic along the road (monitoring of the pollution and apply additional mitigation measures if required)					section. The costs shall be planned within the PESR annual Budgets (if required).
Operation/ Exploitation	Road safety (Increased vehicle speed)	Maintenance of installed traffic signs for speed limit	**N.A.**	**N.A**	Contractor	PESR/ Maintenance unit "Makedonija Pat"	Costs in this phase cannot be estimated.

Important note: All applicable costs for mitigation measures envisaged with this ESAR shall be quantified by the Tenderer and shall be part of the Bill of Quantities (BoQ).

7. Monitoring activities

It is essential to design the monitoring program and monitoring frequency appropriately in order to be able to demonstrate both the overall performance of the project works as well as the short term impacts due to peak construction activities. More specifically, as the integral and critical part of the ESMP, the environment monitoring program should have the following objectives:

- Determine the actual extent of the impacts;
- Control impacts which are generated from construction process, and operational phase;
- Check environmental pollution standards applied to the project during construction;
- Check and supervise implementation of environmental protection solutions during construction;
- Suggest mitigation measures in case of unexpected impacts;
- Assess the effect of mitigation measures in construction and operation stages.

The project will implement an environmental monitoring plan: (i) to monitor the contractor‘s work during project implementation in order to check contractual compliance with specified mitigation measures, and subsequently (ii) to assess the actual environmental impacts of the project over the years following completion of the various project components. The main components of monitoring plan include:

- Environmental parameters to be monitored;
- Specific areas, locations and parameters to be monitored;
- Applicable standards and criteria;
- Duration and frequency;
- Institutional responsibilities; and
- Costs.

Table 12 Monitoring Plan

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?	When is the parameter to be monitored? Frequency	Cost		Responsibility	
					Install	Operate	Install	Operate
Construction phase								
Traffic safety Safety during construction	Presence of traffic management plan at site; traffic patterns	At and near job site on temporary mobile construction site	Inspection; Observation; Comparison with Contractor's method statement	Before works start and once a week at peak and non-peak periods; during construction period		/	Contractor	Supervision Contractor
General Work Safety Safety of the employees, visitors on site	Existence of Plan for occupational health and safety for so called temporary mobile construction site	On temporary mobile construction site	The status of implementation of foreseen measures in the Plan for employees protection (supply with personal protective equipment etc.) number of injures at work place, appointed person/officer for health and safety on site	Every day during construction activities		/	Contractor	Supervision Contractor State Inspector for health and safety
Air pollution (fugitive emission of dust, emission of exhaust gases from construction mechanization)	Exhaust fumes Dust	At site (near sensitive receptors) At site (near sensitive receptors)	Visual inspection Visual inspection	During operation of the mechanization During material delivery, and other construction activities			Contractor	Supervision Contractor
Potential pollution of **soil** and **groundwate**r/ contamination of **surface water**	Soil quality Water quality	At site Water bodies within	Visual inspection nearest area for spills and leaks which might impact soil quality (and potentially groundwater Unannounced sampling,	Periodically during construction activities Monitoring should be		N.A	Contractor	Contractor/ MOEPP

	(suspended particles, oils, pH value, conductivity etc.)	project area, runoff from site, material storage areas	analysis at accredited laboratories with necessary equipment	done once prior construction activities and once during construction activities	**100 € per sample**			
Waste generation (municipal waste from engaged employees, construction waste etc.)	Implemented system for waste management, placed containers for waste collection	At site	Visual inspection Concluded contracts with legal / physical entities who have a permit for waste management	Every day			Contractor	Supervision MOEPP
Noise and **vibrations** from construction activities	Noise levels Technical features of the construction equipment	At site (near receptors – households etc.) according to the legislation In authorized services and on site	Measurements of emitted noise on several measurement points Visual inspection	Selection of several measurements points near sensitive receptors Every day	**50 € per MP**		Contractor Licensed company	Supervision MOEPP
Material supply (asphalt plant, borrow pits)	Possession of official approval or valid operating license	At site, location of asphalt plant, borrow pits	Inspection	Before construction activities begin		/	Plant operator, borrow pit operator	Supervision
Material transport	Truck load covered	At site, location of borrow pits	Visual inspection	Unannounced inspections during work		/	Contractor	Supervision MOEPP
Construction site (Noise disturbance to population and employees)	Noise levels Technical features of the construction equipment Exhaust fumes Dust Disruption of local population	At site (near sensitive receptors – households etc.) according to the legislation In authorized services and on site At site At site At site	Measurements of emitted noise on several measurement points (if required) Visual inspection Visual inspection Visual inspection State of Implementation of Traffic management plan	Once before construction activities, and once during construction activities Every day During operation of the mechanization During material delivery, and other construction activities Unannounced		/	Contractor	Supervision MOEPP

Operation/Exploitation								
Increased volume and speed of traffic (Emissions of exhaust gases from vehicles, increased noise levels, water quality (suspended solids, organic compounds, heavy metals, pH)	Vehicle emissions; noise levels; water quality (suspended solids, organic compounds, heavy metals, pH value, water conductance)	Along the road section	sampling for analysis by accredited laboratories on noise levels and air quality on points close to the populated areas and one monitoring point along the road section outside of populated areas as reference point	Once per year	**1500 € per sample**			PESR/ Monitoring Contractor
Road safety (Increased vehicle speed)	Condition of traffic signs; vehicle speed	Along the road section	Visual observation; speed detectors	During maintenance activities; unannounced	/		/	PE Makedonija Pat

Important note: All applicable costs for Monitoring activities envisaged with this Monitoring Plan shall be quantified by the Tenderer/ Contractor and shall be part of the Bill of Quantities (BoQ).

8. Roles and responsibilities for implementation of ESMP

Table 11 Roles and Responsibilities for implementation of EMP

Company/Unit	Responsibilities
International Projects Management Unit - IPMU (PESR)	In coordination with EPSAU, this Unit will be responsible for overseeing the project implementation, for monitoring the overall project implementation, including environmental compliance of the project. IPMU will have the final responsibility for environmental performance of the project, during both the construction and operational phase. Specifically IPMU will: **i)** closely coordinate with local authorities in the participation of the community during project preparation and implementation; **ii)** monitor and supervise ESMP implementation including incorporation of ESMP into the detailed technical designs and bidding and contractual documents; **iii)** be in charge of reporting on ESMP implementation to the World Bank.
Environmental Protection and Social Aspects Unit (EPSAU) (PESR)	This unit is responsible for monitoring the implementation of WB's environmental safeguard policies in all stages and process of the project. Specifically, this unit will be responsible for: **i)** reviewing the subproject: EIAR, EMP, ESAR, RAP prepared by consultants to ensure quality of the documents; **ii)** helping IPMU incorporate ESMP into the detailed technical designs and civil works bidding and contractual documents; **iii)** helping IPMU incorporate responsibilities for ESMP monitoring and supervision into the TORs, bidding and contractual documents for selection of Contractor, Supervision, Monitoring contractor **iv)** providing relevant inputs to the consultant selection process; **v)** reviewing reports submitted by the Contractor, Supervision, Monitoring contractor; **vi)** conducting periodic site checks; **vii)** advising PESR management on solutions to environmental issues of the project; and **viii)** preparing environmental performance section on the progress and review reports to be submitted to the WB.
Construction Contractor	Based on the approved ESMP, the Contractor will be responsible for establishing a site-specific ESMP for the construction site area, submit the plan to PESR and Supervision Contractor for review and approval before commencement of construction. In addition, it is required that the Contractor get all permissions for construction (traffic control and diversion, excavation, labor safety, etc. before civil works) following current national regulations. The contractor shall be required to appoint a competent individual as the contractor's on-site *Health, Safety and Environmental Officer (HSEO)* who will be responsible for monitoring the contractor's compliance with the ESMP requirements and the environmental specifications.
Supervision Consultant	The Supervision Consultant (SC) will be responsible for supervising and monitoring all construction activities and for ensuring that Contractors comply with the requirements of the contracts and the ESMP. The SC shall engage sufficient number of qualified staff (e.g. Environmental Engineer) with

Company/Unit	Responsibilities
	adequate knowledge on environmental protection and construction project management to perform the required duties and to supervise the Contractor's performance.
Ministry of Environment and Physical Planning (MOEPP)	MOEPP is responsible for issuing a decision for approval of Environment Impact Assessment Report, and monitoring of the state of implementation of all foreseen measures for environmental protection in EIAR by the Inspectorate for environment.

9. ANNEXES

ANNEX 1 Minutes of meeting (public consultation)

Republic of Macedonia
Public Enterprise for State Roads

Republic of Macedonia
Public Enterprise for State Roads

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No. _____
Date: _____
Skopje

MINUTES

OF PUBLIC CONSULTATION ON THE ENVIRONMENTAL AND SOCIAL ASSESSMENT FRAMEWORK, RESSETLEMENT POLICY FRAMEWORK AND ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE PROJECT "REHABILITATION OF ROAD R1202, SECTION BOSHKOV MOST - DEBAR" held on 7th of March 2014, at the premises of the Municipality of Debar, from 11:00 – 12:30 hrs.

On 7th of March 2014, the Public Enterprise for State Roads, in cooperation with the Municipality of Debar, held a public consultation for the following documents: Environmental and Social Assessment Framework (ESAF), Resettlement Policy Framework (RPF) and Environmental and Social Management Plan (ESMP) for the project "Rehabilitation of road R1202, section Boshkov Most - Debar" with total length of above 8.5 km.

Present:

1. Ms. Sashka Bogdanova Ajceva – PESR;
2. Ms. Irena Stefanovska– Consultant company Geing ;
3. Ms. Olgica Micevska - Consultant company Geing;
4. Municipality employees, representatives of public enterprises, local communities, private sector, non-governmental organizations, local media;
5. Affected citizens (List attached).

The public consultation developed as follows:

1. Public consultation opening

The public consultation was opened with an introductory speech by the representative of the PESR with explanation of the new project and of the main aim of the presentation and consultation with the public concerning the prepared documents for environment and social aspects.

2. Project documents presentation

Ms. Irena Stefanovska from the Consultant Company briefly presented the project that includes three sections in the first year of financing: Resen – Bukovo, Debar – Boskov Most and Bitola - Makazi. The prepared documents ESAF, RPF, and ESMP for the section Boskov Most - Debar where explained according to the World Bank operating policy referring to environment and social aspects. The operating policy of the World Bank and national laws and legislation related to environment and social aspects were introduced to the auditorium.

3. Discussion

Question (Besnik Cutra): "What are the differences between rehabilitation and reconstruction?"
Answer (Saska B. Ajceva): "There are differences between these two processes: rehabilitation means scraping of the asphalt and covering with new one, without any changes on the alignment which is characteristic for the process of reconstruction."

Question (Petrit Pachiki): "You have arrived today using this section and you've seen the current situation of the road. It's not safe for use if only rehabilitation is planned. It is necessary many elements on the road to be improved; otherwise we will not be satisfied with this activity. We believe that

reconstruction of this section is the best solution. Also, it would be nice if the Director of the PESR and others from the management team could come to discuss this issue with the locals. Where does this section actually begin in the city?"

Answer (Saska B. Ajceva): "I can confirm that rehabilitation is planned for this section, and I can not discuss either the decision made or the technical elements of the section. Our presentation is related to environment and social aspects, prepared documents and their implementation during the rehabilitation process. Additionally, the starting point of the section in the city of Debar will be determined in the phase of the basic project development for this section. All your suggestions are recorded and will be communicated to the PESR and my colleagues."

Question (Arben Dumani): "Have any analyses been made of this section in the last years regarding safety, accidents, road traffic etc., because section Boshkov Most-Debar is very dangerous for the drivers, the terrain is mountainous, there are many landslides, erosions, animal accidents and we have lots of casualties. Debar and its region is located in mountainous area and is categorized as B, hence it would be nice for all problems produced by this section to be taken in consideration with an aim to be improved. The citizens use this section for fishing, walking, and they are directly exposed to accidents on the road."

Answer (Saska B. Ajceva): "Unfortunately, I am not responsible for this issue, but I do know that PESR is in permanent contact with the Ministry of Internal Affairs and with the maintenance company Makedonija Pat. We plan this project to be funded by the World Bank, because of which we are obliged to prepare a Road Safety Audit. This document will be produced by the engaged consultant company and all these aspects and current situation of the section will be taken into consideration. Thank you for your participation in the public consultation and for your useful information and suggestions."

Question (Abdul Koleci): "In the time of former Yugoslavia, as I can remember, possible upgrading of the section Debar – Boshkov Most was discussed. Unfortunately, you are not in charge of this issue, but other representatives from your institution should come to Debar to discuss it with the local authority. The road from Mavrovo to Debar is probably the worst regional road in Macedonia, and we are not happy with your planned project for its rehabilitation only. In our opinion, when you make decisions about this road, you should consult the local citizens of this region about their needs, as well as the local authorities, because they are regular users of the road, while others may travel this road occasionally just to see the beauty of the region and the canyon. By using this road on a daily basis, we are significantly damaging our cars."

Answer (Saska B. Ajceva): "I am sorry about all this, but our mission today has another goal. Nevertheless, it is good to hear your opinion. All your suggestions will be communicated to the PESR management."

Question (Citizen): "Do you plan to have trees planted along the road and do you plan to organize public consultations for the technical part of the project?"

Answer (Saska B. Ajceva): "From environmental point of view, there will be no negative effects from the road rehabilitation, and planting of the trees is not planned. With reference to the technical part of the project, we are not obliged to organize another public consultation."

Commentar (Ylli Mirzo): "Thank you for your presentation and coming in Debar, we plan to continue by writing a letter to your management on our opinion about this project and believe that you will have understanding for our suggestions and proposals."

No other participants were interested in discussing, thus Sashka Bogdanova Ajceva concluded the public consultation at 12:30.

Republic of Macedonia
Public Enterprise for State Roads

[redacted]

Minute Taker:
Sashka Bogdanova Ajceva

ANNEX 2 List of participants

Република Македонија
Јавно претпријатие за државни патишта

ЛИСТА НА УЧЕСНИЦИ НА ЈАВНАТА КОНСУЛТАЦИЈА ЗА ДОКУМЕНТИ ПОВРЗАНИ СО ЗАШТИТА НА ЖИВОТНАТА СРЕДИНА И СОЦИЈАЛНИТЕ АСПЕКТИ (СПОРЕД ПРОЦЕДУРИТЕ НА СВЕТСКА БАНКА) ЗА ПРОЕКТОТ „РЕХАБИЛИТАЦИЈА НА ДРЖАВЕН ПАТ Р1202, ДЕЛНИЦА: БОШКОВ МОСТ - ДЕБАР (8,5КМ)"

07 март 2014 година (петок) - "Сала на Совет во општина Дебар" – о. Дебар, почеток во 11.00 часот.

РЕД. БР.	ИМЕ И ПРЕЗИМЕ	ИНСТИТУЦИЈА ИЛИ ОРГАНИЗАЦИЈА/ ЗАНИМАЊЕ	E-MAIL /КОНТАКТ	ТЕЛЕФОН	ПОТПИС
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Република Македонија
Јавно претпријатие за државни патишта

РЕД. БР.	ИМЕ И ПРЕЗИМЕ	ИНСТИТУЦИЈА ИЛИ ОРГАНИЗАЦИЈА/ ЗАНИМАЊЕ	E-MAIL /КОНТАКТ	ТЕЛЕФОН	ПОТПИС
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Република Македонија
Јавно претпријатие за државни патишта

РЕД. БР.	ИМЕ И ПРЕЗИМЕ	ИНСТИТУЦИЈА ИЛИ ОРГАНИЗАЦИЈА/ ЗАНИМАЊЕ	E-MAIL /КОНТАКТ	ТЕЛЕФОН	ПОТПИС
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Република Македонија
Јавно претпријатие за државни патишта

РЕД. БР.	ИМЕ И ПРЕЗИМЕ	ИНСТИТУЦИЈА ИЛИ ОРГАНИЗАЦИЈА/ ЗАНИМАЊЕ	E-MAIL /КОНТАКТ	ТЕЛЕФОН	ПОТПИС
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