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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

37th meeting
Strasbourg, 5-8 December 2017

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Possible file

Follow-up of Recommendation No. 98 (2002) on the project to build a motorway through the Kresna Gorge (Bulgaria)

- REPORT BY THE GOVERNMENT -

Document prepared by
the Ministry of Environment and Water, Bulgaria

- OCTOBER 2017 –

REPUBLIC OF BULGARIA

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27 October 2017

STRUMA MOTORWAY LOT 3.2
PROGRESS SINCE MARCH 2017

1 INTRODUCTION

Struma Motorway is part of the Orient – Eastern Mediterranean Trans-European Transport Corridor, providing a direct link between the Danube River and the Aegean Sea. It has an important role in linking Romania, Bulgaria and Greece, and in a more extended context, it links the Baltic, Black and Aegean Seas. This international route is the busiest road going through Bulgaria in the North-South direction. The route is part of EU priority project 7 for the development of the Trans-European Transport Network, including the Igumenitsa / Patra-Athens-Sofia-Budapest motorway axis.

The project has been monitored by the Bureau and Standing Committee of the Bern Convention since request from the Compliant this case to be reopened. At its 36th meeting the Standing Standing Committee decided the case to be mentain as a possible file. At its Meeting held on 18 September 2017 the Bureau instructed the Secretariat to request new reports from both the national authorities and the complainant for the upcoming meeting of the Standing Committee scheduled for 5-8 December 2017. The request received by the Ministry of Environment and Water (MoEW) on 27 September 2017 seeks information on:

- the progress of the motorway plans and specifically how these plans comply with Recommendation No. 98 (2002) on the project to build a motorway through the Kresna Gorge (Bulgaria);
- the progress and results of the recent public consultations on the EIA/AA studies.

2 PROJECT SUMMARY

Struma Motorway has been divided into four lots. Most of the motorway had been already completed, but the most challenging section – Lot 3 – remains. Struma Motorway Lot 3 is the main road project of Operational Program Transport and Transport Infrastructure 2014-2020.

The route is located along the Struma River and goes parallel with the existing first-class international road E-79 and the railway Sofia-Kulata. For about 16 km of Lot 3.2, the route is located in an environmentally sensitive area – the Kresna Gorge – with rich biodiversity, two Natura 2000 sites (SCI BG0000366 Kresna-Ilindentsi and SPA BG0002003 Kresna) and several national protected areas.

The complexity of the project is further increased by the complex physico-geographic features in the area (landslides and collapses, the narrow gorge), a major fault zone and high seismic risk.

Because of the difficult terrain, the high traffic volumes and the large number of heavy vehicles using the existing road, there is a very high accident rate in the Kresna Gorge region.

According to Traffic Police data, within the 62 km section between Blagoevgrad and Sandanski, there were nearly 900 accidents for the period 2012-2016, in which 300 people were injured and more than 50 were killed. For the same period only for the section within the Kresna Gorge occurred 270 accidents with 25 fatalities and 119 injured. That makes an average of 5 fatalities per year for the Kresna Gorge alone.

Another major problem is that the existing road passes through the town of Kresna, which increases the likelihood of road accidents, increases the risk for the local population, as well as the exposure to noise and the air pollution.

3 EIA DECISION № 1-1 / 2008 OF MOEW

EIA Decision No 1-1/2008 of the Ministry of Environment and Waters (MoEW) covered the whole length of the Struma Motorway. For the Kresna Gorge section (Lot 3.2), the decision specified the construction of a long tunnel parallel to the gorge. This decision was taken based on very limited environmental information, including for potential Natura 2000 sites proposed in 2007, as well as lack of detailed technical data on the project and geological surveys. At that time, only the environmental consequences of the operation of the tunnel were taken into account, without considering those of its construction, as well as the maintenance of the complex engineering facility. No consideration has been given to the impact of project-related auxiliary works, such as reconstruction and relocation of infrastructure of third parties, landslides, landfills and construction waste sites, construction sites at the entrance and exit of the tunnel, including the construction technology itself, road interchanges, control centers, and many more. All these elements were not subject to the environmental impact assessment (EIA) and appropriate assessment (AA) procedures.

The EIA Decision 1-1/2008 also includes numerous recommendations for improving the route in the next stages of study and design. One of the conditions set for the design phase (Point 3.2 of the Decision) requires in parallel with the development of the tunnel option to find ways to improve it and to achieve the best possible – environmentally-friendly, technically feasible and economically feasible option.

4 PROJECT DEVELOPMENT

The design and construction of the Struma Motorway has lasted for more than 25 years. Numerous studies have been carried out and more than 20 alternative solutions have been proposed during the preparation of the project.

Since the issuance of the EIA Decision in 2008, the project development process has been driven entirely by environmental considerations, and the design processes have been conducted alongside a preliminary assessment of environmental criteria defined by JASPERS in the Environment Strategy for Lot 3 of the Struma Motorway from 2012. In the development of the project, corrective measures have been identified and undertaken to minimize the impact on the priority habitats and associated species protected by the Natura 2000 sites. During this period, numerous consultations and meetings with representatives of the scientific community have been carried out, as well as with various NGOs. Additionally, joint fieldwork and surveys with NGOs have been performed.

5 CURRENT ENVIRONMENTAL IMPACT ASSESSMENT / APPROPRIATE ASSESSMENT

Due to the changes of the original concept for Lot 3.2 from 2007-2008, an EIA and AA procedure has been launched in December 2014. In early 2015, a notification to the competent authority (MoEW), the affected municipalities and the concerned public has been sent. In May 2015, the MoEW provided specific guidance on the type of procedure and scope of assessments, drawing attention to Recommendation 98 (2002) of the Standing Committee of the Bern Convention.

Between November and December 2015, the specialized agencies, municipalities and the public were consulted on the scope and content of the EIA.

After the submission of the opinions and the recommendations received from the parties consulted, including environmental NGOs, the completed EIA scope was sent to JASPERS for review and comments. After taking into account JASPERS' recommendations and methodological comments, the revised EIA scope was submitted for consultations to the MoEW and the Ministry of Health in

March 2016. The scope was then presented for information to the services of the EC (DG Environment and DG Regional Policy) and to the Bern Convention Secretariat.

Following the feedback received by the MoEW on the scope of the EIA, in the period October-November 2016, the revised scoping document was subject of repeated consultations with the competent authorities and the public. The MoEW approved the final EIA scope in January 2017. In February, the approved scope was sent to DG Environment and JASPERS for information.

Eventually, EIA and AA reports were submitted to the MoEW, and in July 2017, they received a positive quality assessment with instructions for organizing public consultations in the towns of Simitli and Kresna with all 14 municipalities that may be affected by the project.

The MoEW letter, with a positive assessment of the quality of the EIA and AA reports (Appendix 1), the Non-Technical Summary of the EIA Report (Appendix 2), the Appropriate Assessment Report (Appendix 3) and the Assessment and Reduction of the Negative Impact on Reptiles and Amphibians in the Kresna Gorge for the alternatives for Struma Motorway Lot 3.2 (Appendix 4), were sent to DG Environment for information in August 2017.

6 EXAMINED ALTERNATIVES IN THE EIA AND AA REPORTS

The following 5 alternatives were considered and evaluated with equal detail in the EIA and AA reports:

- ✓ Long Tunnel Alternative (dual tube tunnel), 2015 – taking into account the EIA Decision No 1-1/2008 of the MoEW;
- ✓ Dual Carriageway Alternative G20 – Blue, 2014 – doubling the existing road in Kresna Gorge;
- ✓ Dual Carriageway Alternative G20 – Red, 2015 – doubling the existing road in Kresna Gorge;
- ✓ East Alternative G10.50, 2016 – left carriageway (direction Kulata-Sofia) on new terrain outside the gorge, and the right carriageway (direction Sofia-Kulata) on the existing first-class international road E79 in the Kresna gorge; bypass of Kresna town;
- ✓ East G20 Alternative, 2016 – both carriageways outside Kresna Gorge; bypass of Kresna town.

These five alternatives were proposed by the Road Infrastructure Agency (RIA), taking into account: MoEW Decision No 1-1/2008, Recommendation 98 (2002) of the Standing Committee of the Bern Convention, written instructions from the competent environmental authority, the results of the monitoring of the existing route (assigned by the National Company Strategic Infrastructure Projects – former project developer), analysis and evaluation of animal mortality in the section E-79 (I-1) for the period 2012 - 2016, the results of the consultations on the EIA scope and content within which it has been proposed to consider an option in which both road carriageways to be taken outside the Kresna Gorge, as well as the feedback received from DG Environmen during regular consultations.

The consistency assessment takes into account the conservation objectives of the protected sites concerned, respectively the degree of impact of the project on the integrity, objectives and coherence of the two protected Natura 2000 sites through which the five options will cross.

As a result of the AA report and its conclusions, it is estimated that the G20 – Blue, G20 – Red and East G20 alternatives are not compatible with the conservation objective and purposes of protected site BG 0000366 Kresna – Ilindentsi, and that the East G20 Alternative is also not compatible with the subject and the purposes of protection of Protected Site BG 0002003 Kresna. As a result of the evaluation, the other two alternatives – the Long Tunnel Alternative and the East Alternative G10.50 – were found to be compatible with the conservation objectives and objectives of protected site BG 0000366 Kresna-Ilindentsi and protected site BG 0002003 Kresna.

For both compatible options – the Long Tunnel Alternative and East Alternative G10.50, mitigation measures are considered in the AA Report aiming to minimize or even eliminate negative impacts during or after implementation if either of these alternatives. The mitigation measures envisaged in the reports include deadlines and timetable for their implementation, type of activities and methods under which the activities have to be carried out.

As a result of the analysis and the conclusions of the EIA and AA report concerning the impacts on the environment and human health, the East Alternative G10.50 was considered to be preferable over the Long Tunnel Alternative.

7 MITIGATION MEASURES FOR EASTERN ALTERNATIVE G10.50

After the assessment of the impacts on the environment and human health, effective mitigation measures were proposed for East Alternative G10.50 for prevention, reduction and possible elimination of adverse impacts from the implementation of the investment proposal on the two Natura 2000 sites concerned.

Based on the mitigation measures proposed by the experts, licensed designers prepared designs of technically feasible facilities that aim to reduce/eliminate the negative impacts of the operational Lot 3.2 of the Struma Motorway (constructed according to the design of the East Alternative G10.50) on the sections of the existing road E-79. These impacts have been identified in the AA and EIA and have been assessed as significant for reptile species subject to conservation in BG0000366 Kresna-Ilindentsi (Testudo graeca, Testudo (Eurotestudo) hermanni, Elaphe quatorlineata, Zamenis situla) and amphibians and reptiles with a higher conservation status (included in Annex 3 of the Biodiversity Act and/or the Red Data Book of Bulgaria), which are not subject to protection in the protected sites (Pelobates syriacus, Bufo bufo, Bufotes viridis compex., Telescopus falax etc.).

The following impacts were identified: increased mortality during the operation of the right lane of the East Alternative G10.50 as a result of death on the road and barrier effect. The combination of these two impacts may lead to functional fragmentation of the populations of the species examined, which in turn will have a negative impact on the indicators of the two subpopulations (west and east of the route) of the species with restricted distribution to the lowest parts of the gorge.

The prevention/mitigation of these impacts can be accomplished by implementing two types of measures:

- ✓ fencing facilities that do not allow animals to ingress to the roadway, respectively limiting the mortality of individuals of the species examined, and
- ✓ passage facilities to allow the animals to pass under the road.

The facilities cover the length of the entire right lane of the East Alternative G10.50, on both sides, except for the bridges and tunnels. Their arrangement is such that they virtually surround the road.

Structures that allow passing of reptiles shall be constructed along the entire length of the right carriageway of the alternative, except for bridges and tunnels, which also represent facilities allowing the unhindered passage of wild animals across the highway. The passage facilities might be already existing (drains, culverts, etc.), or some modified, but most of them will be newly designed. Within the boundaries of BG0000366 Kresna-Ilindentsi, from km 381 + 100 to km 396 + 137, 172 facilities are designed, 50 of which have a diameter of 50 cm and the rest are with diameters of over 80 cm. Taking into account the lengths of tunnels and bridges, the other passage facilities will be located at an average of 82 m (i.e. one facility each 82 m).

The assessment of the effectiveness of the proposed mitigation measures shows that the combination of safety and through-run facilities will eliminate the risk of mortality and will reduce the barrier effect for the species Testudo graeca, Testudo (Eurotestudo) hermanni, Elaphe quatorlineata, Zamenis situla and other amphibians, reptiles and small mammals, incl. those subject to conservation in BG0000366 Kresna-Ilindentsi.

The following mandatory requirement is also included: in order to assess the actual efficiency of the envisaged defragmentation and fencing facilities on the right carriageway, during all phases of the implementation of the investment proposal, monitoring will be performed of the populations of the two species of terrestrial turtles and the two species of colubrid snakes subject to conservation the area in the area of the right carriageway (the existing road). The monitoring should start in the spring of 2018 and last for at least 5 years after the carriageway has been put into operation.

The monitoring should allow for tracking the population trends of the target species and the degree of isolation (or lack thereof) of the subpopulations west and east of the right lane and to allow for an assessment of the actual efficiency of the envisaged defragmentation and barrier facilities. The effectiveness of the applied mitigation measures should be assessed annually (within the monitoring period) after the second year of commissioning of the right carriageway of the road. In case of proven inefficiency, the roads agency will take corrective actions.

In 2017, RIA assigned to a Greek consulting firm the preparation of an additional assessment and measures for reduction of the negative impact on reptiles and amphibians in the Kresna Gorge (Appendix 4).

The assessment results showed that the most successful scenario for improving the current situation would be the realization of East Alternative G10.50 with the implementation of mitigation measures. In the long term, the impact on habitats of the affected species of reptiles on the right lane of the Eastern Alternative G10.50 is expected to be minimized in terms of fragmentation of the habitats and mortality of individuals compared to the current situation. The conclusions confirm that the positive impact of the measures is closely linked to the proper introduction and regular maintenance of the facilities from the fencing/defragmentation system and requires monitoring of its functionality.

8 CONCLUSION OF THE EIA REPORT

Concerning the EIA report and the assessment carried out on all components (atmospheric air, surface and groundwater, soil, land and soil, plant and animal world, waste, noise, landscape, cultural heritage and health and hygiene aspects) it was concluded that East Alternative G10.50 has a general advantage over the Long Tunnel Alternative.

In the assessment, the East Alternative G10.50 is advantageous over the Long Tunnel Alternative for 8 components – atmospheric air, surface and groundwater, earthborne bowels, waste, noise, cultural heritage, and health-hygienic aspects.

The main conclusions of the EIA report of the possible options for implementation on specific environmental and human health components and factors follows:

Ambient air

The carbon dioxide equivalent amount of greenhouse gas emissions for the East Alternative G10.50 during construction is 1,900 tonnes of CO2 eq. per year. The estimated volume of blasting for the tunnels is about 1,160 tonnes of explosive materials.

It is assessed that under this alternative only two single-buildings around E79 in Simitli and an adjoining farm building around Vlahi-Kresna road would be affected. Given the above, a moderate impact is expected during construction and during operation. The estimated carbon dioxide equivalent amount of greenhouse gases during operation is 24,693 tonnes of CO2 eq. per year.

The carbon dioxide equivalent amount of greenhouse gas emissions for a Long Tunnel Alternative during construction is 1,500 tonnes of CO2 eq. per year. The estimated volume of blasting for the tunnels is about 7,560 tonnes of explosive materials.

The Long Tunnel Alternative, however, would have significant impact during construction, as during blasting of the tunnel, it is possible to affect the village of Poleto and the residential areas of Kresna.

The Long Tunnel Alternative would also have a very significant of impact during operation due to the impact on the residential areas of the “Dalga Mahala” of Simitli, located around the road E79. The amount of carbon dioxide equivalent amount of greenhouse gas during operation is 23 259 tonnes CO2 eq. per year.

Due to the above, when comparing the two alternatives by the ambient air component, it is recommended to implement the East Alternative G10.50.

Surface water

It is expected that the Long tunnel Alternative will lead to the drainage of water of the Struma River – the Divilska River, the Breznishka River, as well as other smaller tributaries in crossing the fracture zones, on which these tributaries usually run. Regardless of the type of of the tunnel lining, waters will drain through the drainage system located outside the tunnel lining (that is, between the rock massif and the lining).

In East Alternative G10.50, surface water (the rivers Gradevska, Brejanska, Madata, Mechkulska, Otsovska, Vlahinska) will be crossed using bridges and will not be affected in the long term. Any impact will be only during construction.

When comparing the two acceptable alternatives by surface water component, it is recommended to implement the East Alternative G10.50.

Underground water

Drainage of groundwater will commence at the start of the construction of the Long Tunnel Alternative. The magnitude of this drainage at the end of the facility is estimated to be around 129 l/s, while draining in parallel will be done concentrically at the tunnel portals (via the drainage system). Unlike the possible drainage of surface waters for which there is no evidence of pollutants, groundwater can contain pollutants (U, NH4 according to analytical data). The drainage will be done inward in the massif, away from the Struma River, which is why the drainage effect will be more pronounced.

The presence of tunnel work along the East Alternative G10.50 will be carried out in the higher parts of the region (Brezhinski and Otsovski grabeni), over the erosion base – Struma river, with the drainage effect being considerably lower. The tunnel parameters such as length and cross section are incomparably smaller than those of the Long Tunnel Alternative.

When comparing the two acceptable alternatives by groundwater component, it is recommended to implement the East Alternative G10.50.

Soil

The realization of the Long Tunnel Alternative is associated with an extremely large volume of earthworks, which accounts for about 4.5 million cubic meters of extra rock masses of unknown mineral and chemical composition, including the presence and spread of radioactive substances. Due to their varying quality, these materials cannot be deposited in embankments, but shall be deposited at dedicated sites, and the sites required for this purpose will be in the range of tens to hundreds of decars.

This applies to the tunnels on the East Alternative G10.50, but their length does not exceed 1320 m, and tunnel parameters such as length and cross section are incomparably smaller than those of the Long Tunnel Alternative. Last but not least, this alternative forms a land mass deficiency (the necessary masses for embankments are more than the masses for excavation), therefore unsuitable landfill sites for which a landfill will be needed will be incomparable.

When comparing the two ranked alternatives, it is recommended to implement the East Alternative G10.50 by component of the earth's bow.

Waste

Expected quantities of generated waste during construction are: East Alternative G10.50 – 1 856 432 m3, and Long Tunnel Alternative – 4 579 586 m3.

The results of the conducted studies for the excavated terrestrial and rock masses of the Long Tunnel Alternative demonstrate that the rate of gamma radiation is high. The analysis of the specific activity of natural radionuclides shows values two to three times higher than the reference values – the excess earth and rock masses cannot be used for construction work.

The increased content of natural radionuclides in these rock masses will pose a serious risk for the construction of the Long Tunnel Alternative and will require the construction of specialised facilities

for disposal of dangerous soil waste. Such facilities can be constructed only upon the completion of an EIA procedure for the deposit site itself, and can be put into operation only after a permit is issued, which signigicantly would complicate and delay the project realization.

When comparing the expected quantity of land and rock masses that do not meet the project design specifications for the construction of the two alternatives, it is recommended to implement the East Alternative G10.50.

Noise

When performing the construction of the Long Tunnel Alternative, the expected exceedance of the regulated noise limits is up to 29.0 dBA. When executing the construction works for the Eastern Alternative G10.50, the expected exceedance of the statutory limit values at a noise level is up to 26.0 dBA.

During operation, the expected exceedances for the Long Tunnel Alternative are up to 16.0 dBA, for East Alternative G10.50 they are up to 13.0 dBA.

Due to the above, when comparing the expected exceedances of the noise limits of the two rated alternatives, it is recommended to implement the East Alternative G10.50.

Health Assessment

The construction works for the Long Tunnel Alternative pose a serious health risk to the workers on the site for the following reasons:

- ✓ The geological structure is at risk of collapses and landslides during the construction of the tunnel, which can lead to casualties of construction workers;
- ✓ The available data on high values of radioactive substances in drainage water in the area of closed uranium mining sites (Simitli and Senokos), in some research sites (e.g. Brezhani), as well as from various scientific studies show that in some of the water samples high values of water radioactivity have been identified. That poses a potential risk of increased radioactivity of the irrigation and household needs of the water in the area;
- ✓ The results from radioactivity studies and the analysis of the specific activity of natural radionuclides showed values two to three times higher than the reference ones.

The increased content of natural radionuclides will pose serious risks to full-shift workers due to their long-term exposure to radiation.

During operation, the most serious health risks to the population are associated with:

- ✓ Accidents and catastrophes in the long tunnel tubes, which have grave consequences not only for the people in the vehicle directly involved in the incidents, but also for the other people passing through the tunnel, because of the rapid concentration and spreading of toxic gases in tunnel's enclosed space;
- ✓ Maintaining the vital air conditioning parameters of the long tunnel requires a fault-free operation of the ventilation system that depends on the power supply. Any blockage of the ventilation system (energy system failure, terrorist act or defect) will result in very rapid depletion of the oxygen in the tunnel tubes, with consequent risks to the health and lives of those traveling through them.

In the East Alternative G10.50, the longest tunnel is 1320 m, which dramatically reduces the risks with regard to the period of impact on the workers in the construction and especially during the period of operation, when even under incidents of risk will be exposed much less people and to a much lesser extent.

When comparing the risks to the population and human health of the two classified alternatives, it is recommended to implement the East alternative D10.50.

Given the above, when choosing the option for realization of Lot 3.2 of the Struma Motorway, there is an advantage for the East Alternative G10.50.

9 PUBLIC CONSULTATIONS

On 11 September 2017, the RIA held public consultations on the EIA in the municipalities of Simitli and Kresna. There was great interest in both meetings – over 760 people participated in the Simitli municipality and over 100 people in the Kresna municipality.

In the course of the public consultations, a total of 38 official opinions from the public were received – from various organizations and institutions, including scientific institutes, branch and environmental organizations, educational institutions, federations, ministries, etc. Of these, 27 statements were positive, favoring the East Alternative G10.50 preferred in the AA and EIA report. 25 of the opinions set out a strong rationale and considerations regarding the environmental components and factors, as well as human health.

Seven of the positive opinions were from academic and scientific institutions – from the Bulgarian Academy of Sciences (BAS), the Geological Institute of BAS, University of Architecture Construction and Geodesy, Lyuben Karavelov Higher School of Civil Engineering, Todor Higher School of Transport Kableshkov University, University of Mining and Geology and University of Forestry. These opinions reinforce the assessments and conclusions in the EIA with respect to the geological, surface water, groundwater and seismic characteristics of the project area.

A positive opinion was also received by the Ministry of Health, which is the other competent authority besides the MoEW in the EIA procedure, also supporting the realization of the East Alternative G10.50 as the most beneficial for human health.

There are 11 statements that do not support the preferred alternative and 8 of them are from non-governmental organizations, part of which are members of Coalition Save the Kresna gorge. Aditional negative opinion was issued from some of the personnel members of the Museum for Natural History, as well as from particular individuals, incl. proposals that have been made to consider new design solutions.

Most of the negative statements claim a "failure to comply with the 2008 EIA Decision or Recommendation 98 (2002) of the Standing Committee of the Bern Convention". Some of the findings and comments of NGOs concern procedures and normative documents, which are within the competence of the MoEW, Ministry of Health, Ministry of Regional Development and Public Works/RIA. There are arguments against conclusions in the EIA concerning geology, water and human health, for which positive opinions have been expressed by the relevant competent institutions, universities and industry associations. Negative oppinions were provided regarding the effectiveness of the mitigation measures proposed for reptiles on the right lane of the preferred East Alternative G10.50. Claims and accusations have been made to the authors of the EIA that they have drawn conclusions on the basis of insufficient information, as well as remarks concerning the design solutions, their data and the data regarding the design parameters of the route. The opinions and concerns expressed have been considered and a follow up compliance table was elaborated to document the process.

In summary, most of the opinions and recommendations made as a result of the public consultations are in favour of the alternative proposed by the EIA and AA. In addition to the formal statements, RIA received a petition in support of the preferred East Alternative G10.50, with 9,536 signatures by citizens of Simitli Municipality, Kresna Municipality, Association of the Victims of Traffic Accidents in Bulgaria, Bulgarian Hunting and Fisheries Union, etc. A petition against the preferred alternative signed by approx. 1,000 people was also received.

10 ADOPTION OF THE EIA DOCUMENTATION BY THE SUPREME EXPERT ENVIRONMENTAL COUNCIL AT THE MOEW

Following the submission of the statements, recommendations and objections received, the EIA documentation was submitted to the MoEW for consideration by the Supreme Expert Environmental Council (SEEC). The SEEC is authority directly subordinated to the Minister of Environment and Water, composed of officials and experts from the Ministry of Environment and Water, representatives of the Ministry of Regional Development and Public Works, the Ministry of Health, the Ministry of Agriculture and Food and the Executive Agency for Forests, representatives of the

Bulgarian Academy of Sciences, scientific institutes, academic institutions and non-governmental organizations.

One of the main functions of the SEEC is to consider EIA/AA reports, the documentation attached to them, the procedure and any written statements received, and propose to the Minister of the Environment the issuance of decisions on environmental impact assessment. In case obstruction letters or statements are deposited during the SEEC meeting, the Minister has the right to request a re-examination of the relevant issue at a subsequent SEEC meeting.

The SEEC meeting for Lot 3.2 was held on 12 October 2017.

According to the prevailing public interest, the members of the SEEC held a thorough discussion before the final decision was made. During the discussions, RIA representatives and a team of independent experts responded exhaustively to all the questions posed by the members of the council. They have taken note of the significant number of different views, positions and objections on different route options in the course of the EIA procedure. The results of the public consultations and the conclusions of the independent experts of the EIA and AA team were taken into account.

The SEEC concluded that the EIA/AA procedure was carried out in strict compliance with all the legal requirements of the Environmental Protection Act and the Biodiversity Act. A significant number of consultations with other departments, organizations and institutions have been made for objective decision making in view of the priority of the site and the public interest.

To facilitate the decision-making, representatives of the scientific community and other experts were involved in the SEEC meeting. The work of the meeting was also monitored by representatives of NGOs.

The proposed East Alternative G10.50 was accepted by the SEEC unanimously with none of the members of the council voting against – all members except one voted in favour and one member abstained.

No statements concerning the EIA and the AA reports were submitted at the meeting, and the reports were accepted without remarks or objections.

11 EIA DECISION № 3-3/2017 OF MOEW

As a result of the EIA report and its annexes (the documentation and opinions requested and/or submitted in the course of the EIA procedure and the AA; the opinions expressed by other specialists, institutions, organizations and structures which have competence with a legislative act in the area of components and environmental factors, human health and cultural and historical heritage; the results of the public consultations; the decision of the Supreme Expert Environmental Council at the MoEW), the Minister of Environment and Water issued **EIA Decision № 3-3 / 2017 approving the realization of Lot 3.2 of the Struma Motorway (Appendix 5).**

With the EIA decision approving the East Alternative G10.50, there were obligatory conditions and measures presented for the implementation at all stages of the realization of the investment proposal.

12 IMPLEMENTATION OF RECOMMENDATION 98 (2002) OF THE STANDING COMMITTEE OF THE BERN CONVENTION

Based on the paragraphs above, we consider that all considerations of Recommendation 98 (2002) of the Standing Committee of the Bern Convention are fully taken into account when designing the project.

"1. To take into account in the implementation of the project the mandatory provisions for the protection of the habitats of the fauna and flora, as well as the considerations of the local communities in the municipalities whose interests are concerned;"

In the course of choosing an alternative for project realization all alternatives have been assessed in consideration and full compliance with the mandatory provisions for protection of the fauna, flora and habitats at national and European level. In-depth assessments of the impact of all alternatives on

the fauna, flora and habitats have been performed in the EIA and AA reports. Within the EIA procedure, as well as during the held public discussions, the considerations of the concerned local communities have been taken into account.

"2. Ensure that the decision to identify the motorway route is taken on the basis of an in-depth environmental impact assessment (EIA) supplemented by scientific and cartographic data as well as any other useful source of knowledge about the area affected by the project to justify the choice of an alternative, as recommended in the expert report;"

The choice of an alternative has been made after an in-depth and complex assessment of the environmental impact (EIA). During the preparation of the EIA scope and performing the assessment, all actual scientific and cartographic data regarding the areas affected by the project have been taken into consideration (field studies have been made, updated maps have been used, a particular mapping of the habitats, monitoring, etc). In view of the above, all evaluated alternatives respect this recommendation.

"3. Consider the possibility of denying the possibility of extending the existing road as this would greatly increase the damage to the unique site without possible compensation measures and to continue exploring alternative routes outside the gorge that will be in keeping with natural constraints to the extent that is possible and will ensure the integration of engineering activities and offsetting the impact on the environment;"

At the assessment of the alternatives it is attested that the alternatives envisaging extension of the existing road (Alternative G20-Blue and Alternative G20-Red), should be rejected as being incompatible with the subject and purpose of species and habitats protection.

The recommendation for exploring alternative routes outside the gorge is also fully complied with – a thorough assessment of the Long Tunnel Alternative and East G20Alternative, which represent routes outside the gorge, has been made.

The East Alternative G10.50 also respects this recommendation as it does not provide for enlargement of the existing road, and the new route is located entirely outside of the gorge. Furthermore, the East Alternative G10.50 is compatible with with the subject and purpose of species and habitats protection as it significantly reduces the traffic intensity and by implementing mitigation measures for reducing the mortality and fragmentation will impove the existing situation in the gorge.

"4. Ensure that the choice of alternative is based not only on technical, legal and economic criteria but also on social and environmental criteria;"

With regard to the environmental criterion, all alternatives considered comply with this recommendation. The assessments made indicate that the East alternative G10.50 has not only the best positive effects on improving the current situation and full compliance with environmental criteria, but moreover this option also has positive social effects.

"5. To institutionalize dialogue and seek consensual solutions with the various project partners; an active partnership with NGOs that have a solid knowledge of the habitats of the protected species can be established and can be represented as consultative groups;"

All evaluated alternatives respect this recommendation. Regular information on the progress of the project is provided in the Struma Motorway Monitoring Committee, which was specifically established to monitor the project development and includes representatives of the administration and a large number of NGOs.

Also, at all stages the EIA and AA procedures involved consultation with the interested public: notification of the start of the project; consultations on the scope and content of the EIA; public consultations on the EIA report and all its applications; full public disclosure of the EIA Decision.

"6. To provide for class reduction and rehabilitation of the existing road, restoration of its status as a local road used by the farming community and tourists and thus reduce existing pressure on the area with appropriate planning to revitalize the damaged areas and information services for consumers are provided;"

There is no legal possibility to decommission the existing E-79 road in order to stop traffic, because E-79 is a first-class international road passing through Kresna Gorge (which was never a local road used for agricultural or tourist activity). There is no possibility to restrict the traffic to local community or to be converted into a pedestrian or cycling corridor. The road E-79 is not only an important part of an international transport corridor, but also essential for national security.

The international road E-79 can never be closed regardless of the alternative which will be selected. With regard to the East G20 Alternative, the E79 will be used by residents of neighboring settlements and tourists. In the realization of the Long Tunnel Alternative, the existing road will be used as an alternative to the unattractive tunnel traffic and will also be used for transportation of environmentally hazardous or flammable substances. The crucial advantages of the East Alternative G10.50 are the one-way vehicle direction, which will significantly reduce the traffic in the gorge and the risk of collisions (both wildlife-vehicle collisions and vehicle crashes). s. The mitigation measures to preserve human life, as well as conservation of the animal species will significantly improve the current situation. In addition, all three alternatives can help revitalize damaged areas and provide consumer information services. However, the East G20 alternative was considered incompatible with the subject and conservation objectives in BG0000366 Kresna-Ilindentsi. Therefore, the best-performing option reviewed in the EIA and AA reports is the East Alterantive G10.50. This option results in a reasonable balance between environmental acceptability, economic efficiency and technical feasibility.

The implementation of this alternative will allow also for considerable flexibility in the operation of the section that is currently lacking. The East Alternative G10.50 is particularly advantageous in comparison to all other alternatives because the two carriageways are not close together. As a result, they would not be vulnerable at the same time to the same critical event significantly reducing the chances of stopping them simultaneously. In case of incidents, accidents, natural disasters, other catastrophic events or terrorist acts affecting one of the carriageways, the traffic can be immediately redirected to the other carriageway. This will allow for a rapid and safe response of the authorities, as well as will reduce traffic disturbances and delays.

"7. To introduce a periodic assessment of the area (Kresna Gorge and Motorway Route), providing as soon as the EIA is ready, mapping and biological studies needed for long-term bio-monitoring);"

This recommendation does not depend on the choice of an alternative.

RIA have to develop and implement a "Self Monitoring Plan" on air, water, biodiversity and noise factors and a system of measures have to be applied in cases of excess nitrogen, fine particles and other pollutants generated by the intense traffic and/or heavy weather conditions.

In order to assess the efficiency of the planned fencing and defragmentation facilities on the right carriageway (the existing road), during all phases of the implementation of the investment proposal, the RIA should monitor the populations of the two species of tortoises and the two types of snakes subject to conservation in the protected sites. The monitoring should start in the spring of 2018 and last for at least 5 years after the right lane had become operational.

"8. Select the Emerald networking zone by expanding the central part of the zone to include the entrance and exit portions of the gorge; to take into particular account the functioning of the natural habitats and the connecting parts between the various zones (the ecological network comprising the central part plus the adjacent areas)."

The recommendation was respected in completely by all alternatives under consideration.

"9. To provide adequate legal protection for the whole gorge and its development zones."

This recommendation has been fully respected by all alternatives under consideration. The state had provided adequate legal protection for the two protected sites in compliance with the national and the European legislation (Decisions of the Council of Ministers for the Protected Site BG0000366 Kresna-Ilindentsi and Order under Article 12, Paragraph 6 of the Biological Diversity Act of the Minister of Environment and Waters for the Protected Site BG0002003 Kresna).

13 CONCLUSION

Considering the above, it is believed that the Republic of Bulgaria strictly implements and applies the international, European and national legislation for protection of species and habitats, including Recommendation 98 (2002) of the Standing Committee of the Bern Convention. It is respectfully proposed to the Standing Committee to remove the project from the list of possible files.

14 APPENDICES:

1. Letter of the MoEW providing a positive assessment of the quality of the EIA and AA Reports.
2. EIA decision No 3-3 / 2017 of the MoEW.
3. Non-Technical Summary of the EIA Report;
4. Appropriate Assessment Report;
5. Assessment of the effectiveness of the proposed mitigation measures to limit the impact on amphibians and reptiles in the Kresna Gorge;

Republic of Bulgaria

MINISTRY OF ENVIRONMENT AND WATER (MOEW)

DECISION
ON ENVIRONMENTAL IMPACT ASSESSMENT
3-3/2017

Pursuant to Art. 99, Para. 2 of the Environmental Protection Act (EPA), § 20 of the Transitional and Final Provisions to the Act to Amend and Supplement the Environmental Protection Act (prom. SG, issue 12 of 2017), Art. 19, Para. 1 of the Ordinance on the Terms and Procedure for Environmental Impact Assessment (EIA Ordinance), § 3, Para. 1 of the Transitional and Final Provisions to Decree No. of the Council of Ministers of 9 February 2016 Amending and Supplementing Regulations of the Council of Ministers (SG, issue 12/2016) and in connection with Art. 31 of the Biological Diversity Act (BDA) and in connection with Art. 38 of the Ordinance laying down the terms and procedure for assessing the compatibility of plans, programmes, projects and investment proposals with the subject and objectives of protected areas conservation (Ordinance on CA),

I HEREBY APPROVE

The implementation of the investment proposal for *"Improving the route of Lot 3.2 of Struma Motorway"* **in the Eastern Option G 10.50**

Contracting Authority: The Road Infrastructure Agency

with head office in the city of Sofia 1606, N.3 Makedonia Blvd.

BRIEF DESCRIPTION OF THE INVESTMENT PROPOSAL:

The Struma Motorway is part of the North-South Trans-European Motorway (TEN) and a part of the Fourth Trans-European Transport Corridor.

The implementation of the investment proposal for *'Improving the route of Lot 3.2 of the Struma Motorway'* will complete the overall construction of the motorway, which will be the next important step in the integration of Bulgaria into the European transport system.

Lot 3.2 of Struma Motorway from Krupnik to Kresna (from km 373 + 000 to km 387 + 000) passes through rugged terrain, as part of the design solutions are located in the Kresna Gorge. The route of Lot 3 of Struma Motorway is situated in a sensitive region, from an environmental point of view, as for its greater part the route passes close to the Struma River valley, within the land strip of the existing E79 road and the Sofia-Kulata railway line. The route has intersections with E79 and other national and municipal roads, rivers, railway lines, etc. The project routes pass through three hollows (the hollows of Blagoevgrad, Simitly, Sandansky) with flat nature and two mountain sections.

Kilometric positions correspond to the design phase of the respective alternatives.

Proposed alternatives are as follows: Option G20 – blue; Option G20 – red; Eastern option G10.50; Long tunnel option and Eastern option G20.

I. OPTION G20 - BLUE, PHASE PRE-INVESTMENT STUDY, 2014

The design route starts south of the "Krupnik" road junction at km 376+000. In the Kresna Gorge, one lane follows in its main part the existing Road E79 and the other develops on new terrain with tunnels and facilities in the western massif of the gorge. Upon the exit of the Kresna gorge it passes east of the town of Kresna and end at road junction "Kresna".

In the section from km 378+600 to km 393+100 the two lanes are developed separately from each another, as moving away and approaching each other in terms of location and levelling aspect. Where possible, the existing road has to be followed and used, and in other sections - tunnels and viaducts are envisioned. In some cases supporting walls are envisaged for the banks of Struma River and the slopes.

Left road lane: The beginning of the section considered is at km 376 +000 after the existing road junction "Krupnik", where the beginning of the Kresna gorge is. The route of the left lane in its main part follows the existing road, using the existing bridge over the Struma river and the railroad from km 379+051 up to km 379+271 and along the existing road E79 up to km 379+900. In the section from km 379 + 900 to 380 + 800, the new route leaves the existing road E79, with two bridges and two tunnels passing on a new route. From km 380+700 to km 382+500 the existing road and the existing bridges and tunnel are used. From 382+565 to km 382+735 a new tunnel is envisioned. From km 382+800 to km 384+700 the existing road is used, from km 384+740 to km 384+810 – new tunnel, from km 384+810 to km 388+360 the route again uses the existing route. from km 388+360 up to km 388+480 a new tunnel shall be planned, after that the existing road to km 393+100 shall be used. The road track ends at km 399+832 ≡ km 397+600 of Lot 3.3.

Right road lane: It is developed on the right of the existing road and is entirely on a new terrain, as it situationally follows the left and in some separate sections runs apart from it.. In elevation respect, it is often on a second, higher level than the left one, in a trench or in a tunnel. At km 393+100 the two lanes again run parallel to each other and develop together to the end of the road section, as they run apart only in the case of tunnel solution. The end of the road section is approximately 2.5 km before the town of Kresna, whereas leaving the existing road on the left bank of the Struma river, from km 394+050 to km 394+150 is bridged over, and from km 394+360 to km 394+565 again passes above the Struma river, the existing Road I-1 and the railway line „Sofia – Kulata". From km 394+565 to km 394+700 a new tunnel is envisioned, after which the Vlahinska river is crossed and the route surrounds from the north-east and east the town of Kresna. At km 398+200 passes above the railway line „Sofia – Kulata", and at km 398+310 – above Road I-1. The road track ends at km 399+832 ≡ km 397+600 of Lot 3.3.

In a section from km 378 + 600 to km 399 + 000 the G20 dimension is accepted for speeds of 80 km/h: traffic lanes 2 x (2 x 3.50) m; guiding strips 2 x 0.50 m; road shoulders 2 x 1.50 m; middle separating strip 1 x 2.00 m.

In the section from km 399 + 000 to km 399+789 ≡ 397+600 the road dimensions becomes A29, traffic lanes 2 x (2 x 3.75) m; asphalted guiding strips - 2 x (2 x 0.75) m; strips for emergency stops 2 x 2.50 m; road shoulders 2 x 1.25 m; middle separating strip 1x3.50 m.

Provided for implementation are the following facilities:

- ✓ Road junction "Krupnik" at km 377+700, after the end of Lot 3.1 – km 376+000; Road junction "Oshtava" - at km 389 + 700; Road junction "Kresna" – at km 398+882
- ✓ Recreation sites: At km 376 +500 to km 376 + and at km 397 +500 to km 397 +700

The implementation of Option G20 - Blue is related to the construction and the reconstruction of the following sites:

- ***Supporting and reinforcing walls:*** from km 383+000 to km 383+200 (new, left road lane); from km 383+420 to 383+600 (new, left road lane); from km 384+900 to km 385+100 (new, left road lane); from km 385+200 to km 385+300 (new, right road lane); from km 385+350 to km 385+400 (new, left road lane); from km 385+420 to km 385+520 (new, right road lane); from km 385+520 to km 385+570 (new, right road lane); from km 385+570 to km 385+620 (new, right road lane);

from km 385+850 to km 385+950 (new, left road lane); from km 386+620 to km 386+720 (new, right road lane); from km 386+720 to km 386+770 (new, right road lane); from km 387+250 to km 387+350 (new, left road lane); from km 387+300 to km 387+720 (new, right road lane); from km 387+350 to km 387+500 (new, left road lane); from km 387+720 to km 387+900 (new, right road lane); from km 387+900 to km 387+990 (new, right road lane); from km 385+490 to km 385+610 (new, left road lane); from km 388+850 to km 388+950 (new, left road lane); from km 388+950 to km 389+100 (new, left road lane); from km 389+040 to km 389+120 (new, right road lane); from km 389+290 to km 389+330 (new, left road lane); from km 390+340 to km 390+390 (new, right road lane); from km 390+390 to km 390+480 (new, right road lane); from km 390+480 to km 390+530 (new, right road lane); from km 390+530 to km 390+640 (new, right road lane); from km 390+640 to km 390+850 (new, right road lane); from km 391+470 to km 391+550 (new, right road lane); from km 392+900 to km 392+950 (new, left road lane); from km 395+555 to km 395+565 (new, left and right road lane); from km 395+565 to km 395+630 (new, left and right road lane); from km 395+630 to km 395+670 (new, left and right road lane); from km 395+670 to km 395+820 (new, left and right road lane); from km 395+885 to km 395+925 (new, left and right road lane); from km 395+975 to km 396+050 (new, left and right road lane); from km 396+665 to km 396+685 (new, left and right road lane); from km 396+725 to km 396+785 (new, left and right road lane);

- ***Viaducts***: from km 379+040 to km 379+180 (new, right road lane); from km 379+051 to km 379+261 (existing one, left road lane); from km 380+400 to km 380+445 (new, left road lane); from km 380+620 to km 380+720 (new, left road lane); from km 381+020 to km 381+130 (existing one, left road lane); from km 381+220 to km 381+320 (existing one, left road lane); from km 389+920 to km 390+140 (new, right road lane); from km 390+210 to km 390+344 (existing one, left road lane); from km 392+195 to km 392+585 (new, right road lane); from km 392+650 to km 392+900 (new, left road lane); from km 394+050 to km 394+150 (new, left road lane/right road lane); from km 394+340 to 394+530 (new, left road lane/right road lane); from km 394+750 to km 394+970 (new, left road lane/right road lane); from km 395+160 to km 395+320 (new, left road lane/right road lane); from km 395+965 to km 395+975 (new, left road lane/right road lane); from km 396+115 to km 396+250 (new, left road lane/right road lane); from km 398+200 to km 398+350 (new, left road lane/right road lane);

- ***Overpasses, underpasses, inter passes*** at km 379+482 (existing inter pass with L=4 m, milling, re-coating – left); at km 396+555 (new inter pass with L=6 m - left/right); at km 396+860 (new inter pass with L=6 m left/right); from km 397+383 to km 397+403 (new inclined underpass with L=20 m - left/right); from km 397+914 to km 397+926 (new inclined underpass with L=12 m, left/right); at km 398+830 (new underpass with L=24 m, left/right); at km 389+950 (new inclined overpass with L=36 m, left/right);

- ***Tunnels*:** from km 379+180 to km 380+350 (new, right); from km 379+930 to km 380+340 (new, left); from km 380+455 to km 380+455 (new, left); from km 380+520 to km 380+800 (new, right); from km 381+130 to km 381+200 (existing one, left); from km 380+950 to 381+020 (new, right); from km 382+035 to km 382+095 (new, right); from km 382+565 to km 382+735(new, left); 382+300 to km 382+580 (new, right); from km 382+740 to km 383+220 (new, right); from km 384+150 to km 384+690 (new, right); from km 384+740 to km 384+810 (new, left); from km 385+300 to km 385+420 (new, right); from km 385+890 to km 386+570 (new, right); from km 386+370 to km 386+710 (existing one, left); from km 386+955 to km 387+155 (new, right); from km 387+995 to km 388+195 (new, right); from km 388+360 to km 388+480 (new, left); from km 388+220 to km 388+310 (new, right); 388+910 to km 389+040 (new, right); 394+565 to km 394+700 (new, double-sided, left); 394+750 to km 395+000 (new, left); from km 395+420 to km 395+510 (new, double-sided, left); from km 396+665 to km 396+785 (new, left); from km 396+685 to km 396+725 (new, right);

- ***Bridges*** at km: 386+030 (existing one); 388+493 (new-left); 397+043 (new-left); 398+560 (new-left); 399+135 (new-right); 399+610 (new-right).

Facilities of other departments will be reconstructed as follows:

- HV networks - 110 kV between km 378 + 500 and km 379 + 500.

- LV networks and Medium voltage. - 20 kV.
- communication cables and facilities, along the entire route;
- gas pipelines, with intersections at 3 places;
- water pipes, sections from km 378 + 000 to km 378 + 500 and from km 397 + 500 to km 399 +400
- irrigation channels and irrigation pipelines - from km 376 + 200 to km 378 + 500 and from km 394 + 000 to km 399 + 400.

II. OPTION G20 – RED, CONCEPT DESIGN PHASE, 2015

The beginning of the option is at km 376 + 000, south of road junction Krupnik. In the Kresna gorge, one lane follows in its main part the existing Road E79 and the other develops on new terrain with tunnels and facilities in the western massif of the gorge. Upon the exit of the Kresna gorge it passes east of the town of Kresna and end at road junction "Kresna".

The route of Option G20 - Red for Lot 3.2 of the Struma Motorway is developing to the right of the existing road and parallel to it, passing east of the village of Krupnik. At km 377 + 480 (left) a motorway control centre has been designed, which is connected to the existing road I-1, which is to be preserved in the area under consideration and is connected with road junction 'Krupnik' at km 378 + 450.

In the section from km 378 + 035 to km 378 + 185 a new bridge will be built on the Struma River. The levelling in the section at km 376+000 conforms with the levelling at the end of Lot 3.1; further it lowers and follows the levelling of I-1 road.

At km 378 + 450 (road junction "Krupnik" road junction) the road develops into two separate roadways, with a design speed of 80 km/h.

Left road lane: The beginning of the section considered is at km 376 +000 after the existing road junction "Krupnik", where the beginning of the Kresna gorge is. From km 378 + 450 to km 380 + 200, the left lane follows the trail and the level of the existing road, using the existing bridges of the Rezena river and the Struma river, as it passes over the 'Sofia-Kulata' railway line.

from km 380+190 up to km 380+340, a new bridge shall be provided on Struma river, from km 380+400 up to km 380+520 - a new tunnel, parallel to railway tunnel and again a new bridge over the Struma river (from km 380 + 570 to km 380 + 750), then switches to the existing road, using the existing two bridges and a tunnel. The approaches to the camps of the community practicing extreme water sports – kayaking and rafting are planned at km 381+000 and km 381+260. From km 381+400 to km 385+800 the left lane follows the existing road, with only a few small exceptions. Between km 386+330 and km 386+670 the lane uses the existing tunnel with length 340 m, and at km 387+780 it passes by the existing inn „Kresnensko hanche". At km 389 + 950 the construction of a road junction "Ohstava" is planned. This Alternative ends at km 399+832 ≡ km 397+600 of Lot 3.3.

Right road lane: It is developed on new territories, on the right side of the existing road via new bridges over the Rezena river (km 378 + 520), the Struma river and the railway line "Sofia - Kulata" (from km 379 + 025 to km 379 + 225).

In the road section from km 379 +900 up to km 380 + 230 (using the mileage nomenclature of the left lane), the right lane develops next to the left and passes to the right over it, and then again descends to the same level with the left lane from its right side and via a succession of four new bridges and two new tunnels reaches up to km 381 + 400. In the road section from km 384 +300 to km 385 + 800, the left lane follows the existing road, which winds significantly and the right lane, developed in right slope, uplifts in levelling aspect compared to the left lane. Up to km 386+310, the right lane runs parallel to the left lane and has overall dimensions G20 and follows the levelling of the existing road. A new tunnel follows to km 386+690, after which the right lane is passes above the left one from km 386+680 (using the mileage of the left lane) to km 387+470. Then the two roadways run parallel up to km 387 + 960, where the right road lane is in the slope above the left. From km 388 +000 to km 388 + 820 (using the mileage nomenclature of the left lane) the road is planned again in

two levels, i.e. the right lane above the left lane. Then the right road lane develops in parallel and in close proximity to the left road lane to km 390 + 000, where the Oshtava road junction is planned, which connects with the villages of Oshtava and Stara Kresna. The roadway continues to the right (west) of the existing road, and at a higher level, to the right of the slope and the roadway below, without interfering with the existing road.

For a section of km 390 + 000 to km 393 + 000 - the existing road is developed in protected area Kresna Gorge. The project routes, in the Blue and Red Alternative, are entirely within the scope of the existing road, according to the geodetic mapping in 2016 and removal of a clear factual error.

Road section from km 393+100 up to km 399+832 ≡ km 397+600 (Lot 3.3)- The road section starts just before the town of Kresna, bypassing the town from the east, with the two roadways situationally and horizontally developed, together with the G20 overall dimensions. From km 393+100 to km 393+800, the motorway shall be developing around and above the existing road, with the two roadways running parallel to one another. From km 393 + 900 to km 394 + 200 and from km 394 + 350 to km 394 + 620, crossing twice the Struma River. About km 394 + 580, crosses the I-1 road and the Sofia-Kulata railway line, then crosses from km 394 + 750 to km 394 + 950, the Vlahinska and develops on her left bank. After km 395+800, three tunnels have been provided with lengths of : 400 m; 200 m; 240 m and a viaduct with a length of 630 m to km 397 + 650. The route continues to the south after the town of Kresna. At km 398 +900 it crosses the railway line Sofia-Kulata, and at km 399 + 165 - Road I-1, which should be reconstructed in order to build a road junction. This Alternative ends at km 399+832 ≡ km 397+600 of Lot 3.3.

Outline dimensions of the road track:

1. The road section from km 378+300 up to km 399+350 has been provided to be built with dimension G20 traffic lanes 2 x (2 x 3.25) m; asphalted guiding strips 2 x (2 x 0.5) m; road shoulders 2 x 1.50 m; middle separating strip 1 x 2.00 m.

2. For the road section from km 376+000 to km 378+000, and from km 399+300 to km 399+979 ≡ km 397+600, the dimension is A29: traffic lanes 2 x (2 x 3.75) m; asphalted guiding strips 2 x (2 x 0.75) m; strips for emergency stops 2 x 2.50 m; road shoulders 2 x 1.25 m; middle separating strip 1 x 3.50 m.

It is necessary to execute three road junctions for crossing the road. Road junction "Krupnik" at km 378 + 423; road junction Oshtava – on Road IV-10063 for the Stara Kresna village and the Oshtava village at km 389+940 road junction „Kresna" – on Road I-1 for the town of Kresna and the town of Kulata - km 398+975

For entering and Exit from the Highway to Route I-1 (Road connection to the town of Kresna) - connections for entry in and exit from the Motorway for directions Sofia - Kresna and Kresna - Sofia will be constructed, approximately at km 393+600.

The following road connections will be implemented:

- road connection from road I-1 to the motorway control centre at km 377+480 of the Struma Motorway;
- road connection to gas-station at km 379+082 (379+085);
- road connections to rafting site at km 381+000 and km 381+260;
- road connection to the resting area (left road lane) from km 387+660 to km 388+000;
- road connection to the resting area (left road lane) from km 389+100 to km 389+320;
- road connections with Road I-1 at km 394+004 (394+002).

Additional access roads shall be provided for the exit of participants in extreme sports along Struma river at km 383+000 and km 386+000.

Recreation sites: at km 376 +500 to km 376 + and at km 397 +500 to km 397 +700.

The implementation of alternative G20 - red is related to the construction and the reconstruction of the following facilities:

- ***Viaducts, overhead roads:*** from km 386 + 680 to km 387 + 460 (new flat-top on two levels, right road lane over left, overall dimensions G10,49); from km 388 + 000 to km 388 + 820 (new stage on two levels - right road lane over left, overall dimensions G10,50); from km 392 + 791 (392 + 580) to km 392 + 930 (393 + 080) (new viaduct, overall dimensions G10.50, left and right road lane of different length); from km 390 + 100 to km 392 + 300 (new staircase on two levels, right road lane above left overall dimensions G10,50); from km 398 + 392 (398 + 681) to km 398 + 375 (398 + 690) (new viaduct on road I-1, Sofia-Kulata railway line and Sulunsko dere River).
- ***Overpasses, underpasses, inter passes on:*** km 376 + 183, agricultural road, G29 overall dimensions, left/right p. road lane; 378 + 423, road overpass /Krupnik road junction/ Design of new road junction Krupnik - overpass over Struma Motorway, overall dimensions G29/including 2 gateways x 3.5 m /, left/road lane; 379 + 180, agricultural subsoil, overall dimensions G10.50, left/right road lane; 388 + 940, road overpass /Oshtava road junction/ design of a new road junction "Oshtava " - overpass over Struma motorway, G20-blue overall dimensions + 2 gateways x 3.5 m, left/road lane; 395 + 180, agricultural subsoil, overall dimensions G10.50, left/right p. road lane; 396 + 553, agricultural subsoil, overall dimensions G10.50, left/right p. road lane; 396 + 920, agricultural subsoil, overall dimensions L = 31 m/2 x G10,50 /, left/right road lane; 397 + 340, agricultural sub-overall dimensions L = 24 m/2 x G10.50 /, left/right road lane; 397 + 857, underpass of Road BLG2131 new road subway, overall dimensions/2x G10.50 /, left/right road lane; 398 + 016, agricultural subsoil, overall dimensions 2x G10.50, left/right road lane; 398 + 975, Road subway/Kresna road junction/design of a new road junction "Kresna" - underpass under the Struma motorway, overall dimensions L = 22 m, left/right p. road lane; 399 + 374, agricultural subsoil, G29 overall dimensions, left/right road lane.
- ***Tunnels:*** from km 380 + 399 to km 380 + 524.70 new "Momina Skala", overall dimensions G10.50, left tunnel pipe with a length of 126 m; from km 380 + 446.85 to km 380 + 511.35 new "Momina Skala", overall dimensions G10.50, right tunnel pipe with length 64 m; from km 381 + 100 to km 381 + 170 existing "Zaychar", overall dimensions G10.50, left tunnel pipe with a length of 70 m; from km 381 + 111.50 to km 381 + 149.45 new "Zaychar", overall dimensions G10.50, right tunnel pipe with a length of 38 m; from km 386 + 325 to km 386 + 665 existing "Red scale", overall dimensions G10.50, left pipe with length 340 m; from km 386 + 292.06 to km 386 + 623.45 new "Chervenata skala", overall dimensions G10.50, right tunnel pipe with a length of 331 m; from km 394 + 523.15 to km 394 + 774 new "Tissata", overall dimensions G10.50, left pipe with length 248 m; from km 394 + 544.20 to km 394 + 767.50 new "Tissata", overall dimensions G10.50, right tunnel pipe with a length of 223 m; from km 395 + 679.15 to km 396 + 067.10 new "Kresna 1", overall dimensions G10.50, left tunnel pipe with a length of 388 m; from km 395 + 639.55 to km 396 + 069,45 new "Kresna 1", overall dimensions G10.50, right tunnel pipe with a length of 430 m; from km 396 + 157.95 to km 396 + 390.75 new "Kresna 2" overall dimensions G10.50, left tunnel pipe with a length of 233 m; from km 396 + 173.60 to km 396 + 413.05 new "Kresna 2", overall dimensions G10.50, right tunnel pipe with length 239 m; from km 396 + 590.55 to km 396 + 866.85 new "Kresna 3", overall dimensions G10.50, left tunnel pipe with a length of 276 m; from km 396 + 580.30 to km 396 + 876.60 new "Kresna 3", overall dimensions G10.50, right tunnel pipe with a length of 296 m.
- ***Bridges:*** from km 378+049 up to km 378+188, a new bridge is provided on the Struma River, overall dimensions G29, left/right road lane with length of 139 m; from km 378 + 504 to km 378 + 531 new bridge on the Rezena River, overall dimensions G29 /including 2 gateways x 3.5 m/, left/right road lane with length of 27 m; from km 379 + 046 to km 379 + 264 existing bridge on the Struma River and Sofia - Kulata railway, overall dimensions G29, left/right road lane with length of 167 m; from km 379 + 037 to km 379 + 60 new bridge on the Struma River and Sofia - Kulata railway, overall dimensions G10.50, right road lane with length of 223 m; from km 380 + 168 to km 380 + 60 new bridge on the Struma River, overall dimensions G10.50, right road lane with length of 252 m; from km 380 + 180 to km 380 + 345 new bridge on the Struma River, overall dimensions G10.50, left road lane with length of 165 m; from km 380 + 568 to km 380 + 679 new bridge on the Struma River, overall dimensions G10.50, left road lane with length of 111

m; from km 380 + 560 to km 380 +748 new bridge on the Struma River, overall dimensions G10.50, right road lane with length of 188 m; from km 380 + 973 to km 381 + 077 railway bridge on the Struma River, overall dimensions G12, left road lane with length of 104 m; from km 380 + 971 to km 381 + 083 new bridge on the Struma River, overall dimensions G10.50, right road lane with length of 112 m; from km 381 + 175 to km 381 + 259 railway bridge on the Struma River, overall dimensions G12, left road lane with length of 84 m; from km 381 +176 to km 381 +256 new bridge on the Struma River, overall dimensions G10.50, right road lane with length of 80 m; from km 385+990 to km 386+000 new bridge L=10 m, overall dimensions G10.50, right road lane with length of 10 m; from km 390+151 to km 390+296 existing new bridge on the Struma River, overall dimensions G10.50 - to the overhead road on two levels, left road lane with length of 145 m; from km 393 + 966 to km 394 + 495 new bridge on the Struma River, overall dimensions G10.50, left road lane with length of 529 m; from km 393 +959 to km 394 +508 new bridge on the Struma River, overall dimensions G10.50, right road lane with length of 553 m; from km 394 +820 to km 394 +959 new bridge on the Vlahinska River, overall dimensions G10.50, left road lane with length of 139 m; from km 394 +800 to km 394 +938 new bridge on the Vlahinska River, overall dimensions G10.50, left road lane with length of 138 m.

- ***Support walls***

Supporting walls of reinforced concrete:

No.	Kilometre situation		L (m)	Have (m)	Location
	from km	to km			
Direct route					
1	376 +000	376 +050	50	5 + 0	Right
2	380 +025	380 +130	105	7 + 5	between the two roadways
3	380 +150	380 +170	20	2 + 0	left lane - left
4	380 +345	380 +370	25	4 + 0	left lane - right
5	380 +410	380 +430	20	4 + 0	right lane - right
6	380 +670	380 +710	40	4 + 0	left lane - left
7	380 +765	380 +810	45	7 + 0	Between the two roadways under the embankment
8	380 +950	380 +990	40	8 + 0	between the two roadways
9	381 +085	381 +095	10	6 + 0	right lane - left
10	381 +570	381 +670	100	6 + 5	left lane - left
11	381 +890	382 +070	180	5 + 5	left lane - left
12	382 +170	382 +490	320	5 + 0	left lane - left
13	382 +750	382 +835	85	4.5	left lane - left
14	382 +870	382 +970	100	9 + 0	between the two roadways
15	382 +990	383 +070	80	3 + 0	left lane - left
16	383 +350	383 +610	260	6 + 5	left lane - left
17	384 +370	384 +450	80	2 + 0	between the two roadways
18	384 +990	385 +110	120	9 + 0	between the two roadways
19	385 +150	385 +250	100	10 + 0	between the two roadways
20	385 +350	385 +450	100	4.5	left lane - left
21	385 +470	385 +570	100	10 + 0	between the two roadways
22	385 +630	385 +710	80	5 + 0	left lane - left
23	385 +750	385 +930	180	7 + 0	left lane - left
24	386 +670	386 +690	20	10 + 0	between the two roadways
25	387 +490	387 +710	220	7 + 8	between the two roadways
26	387 +570	387 +690	120	5 + 0	left lane - left
27	388 +510	388 +610	100	4 + 0	Left L
28	388 +770	388 +810	40	10 + 0	between the two roadways L
29	388 +950	389 +090	140	7 + 0	left lane - left
30	389 +090	389 +190	100	3 + 0	between the two roadways L
31	389 +410	389 +450	40	5 + 0	Left
32	391 +350	391 +390	40	1 + 5	Right-right L
33	391 +510	391 +550	40	2 + 5	Right L
34	392 +410	392 +450	40	4.5	between the two roadways
35	392 +690	392 +790	100	10 + 0	between the two roadways

36	392 +930	393 +070	140	3 + 0	between the two roadways L
37	393 +810	393 +830	20	5 + 0	Right - under the embankment
38	397 +810	397 +840	30	2 + 0	left lane - left
39	397 +860	397 +920	60	3 + 5	left lane - left
Road junctions					
Road junction Oshtava - connection 5					
1	10	280	270	3 + 0	Right
Road connection with Road I-1 at km 394+004					
1	40	300	260	3 + 5	Right
Road connection with rafting site, at km 381+000					
1	70	150	80	2 + 5	Left

Reinforced embankment walls

No.	Kilometre situation		L (m)	Have (m)	Location
	from km	to km			
1	379 +850	380 +025	175	7 + 5	between the two roadways
2	380 +130	380 +210	80	5 + 0	between the two roadways
3	380 +670	380 +765	95	7 + 5	between the two roadways
4	382 +290	382 +510	220	4.5	between the two roadways
5	382 +690	382 +870	180	8 + 0	between the two roadways
6	382 +970	383 +170	200	7 + 5	between the two roadways
7	383 +230	383 +530	300	4.5	between the two roadways
8	384 +450	384 +510	60	3 + 5	between the two roadways
9	384 +560	384 +650	90	7 + 5	between the two roadways
10	384 +850	384 +990	140	8 + 5	between the two roadways
11	385 +250	385 +470	220	8 + 5	between the two roadways
12	385 +570	386 +060	490	7 + 0	between the two roadways
13	388 +810	389 +090	280	7 + 5	between the two roadways
14	392 +370	392 +410	40	6 + 5	between the two roadways

Anchored walls

No.	Kilometre situation		L (m)	Have (m)	Location
	from km	to km			
1	379 +790	379 +850	60	5 + 5	between the two roadways
2	380 +810	380 +950	140	7 + 5	between the two roadways
3	382 +510	382 +690	180	8 + 0	between the two roadways
4	383 +170	383 +230	60	7 + 5	between the two roadways
5	384 +510	384 +560	50	5 + 5	between the two roadways
6	384 +650	384 +850	200	8 + 0	between the two roadways
7	385 +110	385 +150	40	8 + 0	between the two roadways
8	386 +060	386 +260	200	10 + 0	between the two roadways
9	387 +710	387 +980	270	7 + 5	between the two roadways
10	388 +740	388 +770	30	9 + 0	between the two roadways

Reinforcing walls

No.	Kilometre situation		L (m)	Have (m)	Location
	from km	to km			
Direct route					
1	382 +110	382 +210	100	6 + 0	Left
2	396 +450	396 +490	40	6 + 5	Left
Road connections					
Road connection to Gas-station					
1	350	450	100	2 + 0	Left

In the implementation, reconstruction of facilities of other departments is required:

- Overhead power lines - 110 kV between km 378 + 500 and km 379 + 500, with placing of 9 pcs new pillars.
- LV networks and Medium voltage. - 20 kV along the entire road, on 22 locations;
- communication cables and facilities, as affecting optical cables along the entire length of the road track.
- gas pipelines, with intersections at 3 places;
- water pipes, in sections from km 378 + 000 to km 378 + 500 and from km 397 + 500 to km 399 +400
- irrigation channels and irrigation pipelines, in the sections from km 376 + 200 to km 378 + 500 and from km 394 + 000 to km 399 + 400.
- Existing monitoring and analysis facilities at "Basin Directorate 'West Aegean Region" Blagoevgrad UCAF - Underground Chemical Analysis Facility, falling within the limits of the Krupnik Road Junction at km 378+380; PMSW - Point of monitoring surface waters and PCBs - Point of Hydro-biological monitoring of the Rezena river, falling within the scope of the roadway 378+535;

III. EASTERN OPTION G 10.50, PHASE PRE-INVESTMENT STUDY,

Eastern Option G 10.50 divides the traffic on two road lanes, as for:

- the right road lane (two lanes, a one-way traffic from Sofia to Kulata) is envisaged the rehabilitation and strengthening of the existing road E79, as before the town of Kresna is planned an eastern bypass of the city on a new terrain.
- the left roadway (two lanes with one-way traffic from Kulata to Sofia) a new design solution of the route has been projected on a new terrain - distanced to the east of the Kresna Gorge through the construction of tunnels and viaducts.
- The divided roadways require cross-connections between them in the direction of movement and traffic detours in the event of crashes, natural disasters and others.

The proposed technical solution is for:

Design speed - Vdes=80 km/hour

Maximum longitudinal inclination - 6 %

Minimum longitudinal inclination - 0.5%

Crosswise inclination in the line - - 2.5%

Crosswise inclination in the curve - - pursuant to R

Minimum radius of horizontal curves - R= 350 м

Minimum radius of vertical curves - convex vertical curves - R= 5000

concave vertical curves - R= 3000

Minimum radius of curves without transition - 1,500 m

Provided for implementing is a overall dimensions 10.50: traffic lanes 2 x 3.50 m; third traffic lane for slow-moving vesicles 1 x 3.00 m (from km 376 + 500 to km 385 + 200 and from km 392 + 500 to km 399 + 100); guiding strips (asphalt concrete) 2 x 0.25 m; road shoulders 2 x 1.50 m; trenches; protective equipment; slopes; for the tunnels, besides the main tunnel tube, it is envisaged to design a second one that will performs the emergency tunnel tube function.

Right road lane - The start of the route is at km 373 + 300 (the end of Lot 3.1) and follows the existing road, passes through town of Simitly and then develops along the existing road through the Kresna gorge, the two lanes being in the direction of the Hellenic Republic. The roadway shall be built

by rehabilitation of the currently existing road, not leaving the current boundaries of the E79 road until the town of Kresna, where the existing road is replaced for a new route, similarly to Alternative G20-red, bypassing the residential area from the East, reaching Lot 3.3.

The new construction (eastern bypass of the town of Kresna) starts after km 393 +600, as after km 394 +500 the route has develops in an easterly direction to km 396 +000, passing through four tunnels that set a path into the rock pyramids on the eastern periphery of the town of Kresna. Then the road continues in southerly direction and by an wide arc is included in just before the viaduct at road junction Kresna at km 400 + 371.81, where the route ends at km 400 + 371.81 = km 397 + 000 from Lot 3.3.

The new construction of the bypass of the town of Kresna (after the planned rehabilitation of the right road lane) will include the construction of the following facilities:

- ***Tunnels:*** from km 394 + 544; to km 394 + 787; at km 395 + 628; at km 396 + 081; from km 396 + 162 to 396 + 412; from km 396 + 568 to km 396 + 888.
- ***Bridges:*** from km 393+959 up to km 394+512, (new bridge - on the Struma River); from km 394+800 up to km 394+938, (new bridge - on the Vlahinska River).
- ***Viaducts***: **from km 399 +700 to km 400 +016;**
- ***Overpasses, underpasses, inter passes*** At km 395+195 (agricultural underpass - new inclined underpass, right); at km 356+547 (agricultural underpass-new inclined underpass, right); at km 396+935 (agricultural underpass-new inclined underpass, left and right); at km 397+342 (agricultural underpass-new inclined underpass, left and right); at km 397+849 (new inclined underpass, left and right); at km 398+104 (agricultural underpass-new inclined underpass, left and right); at km 400+320 (new inclined underpass, left and right);
- ***Supporting and reinforcing walls*** from km 393 + 870 to km 394 + 020; km 396 + 430 to km 396 +475

Left lane - it begins at km 373 +300 (100 m past the intersection with the railroad for the Oranovo mine), to the left of the existing road and will be developed parallel to it up to km 373 +600, then to the south-east, parallel to Gradevska river between the neighbourhoods of the town of Simitly - Oranovo and Dalga mahala. At km 375 + 775 the road II-19 "Simitly - Predela - Gotse Delchev" is intersected on two levels, with a road junction, by setting up the road junction to connect the road track of Lot 3.2 to the town of Bansko and vice versa.

After the intersection of II-19 it enters into the slope, using a tunnel with L = 350 m and after it a viaduct of L = 200 m.

The longitudinal inclinations, permitted in the road junction, tunnel and viaduct shall be 4%, then afterwards the inclination will be 5% and a third lane shall be required, descending towards Sofia, and also the construction of emergency exits, if necessary.

From km 376 +500 it runs to south-east, bypasses the village of Poleto, at km 379 + 880 it crosses the road Poleto - Brezhani and at km 380 + 840 crosses the feeder of Brezhanska river. In the section from km 381+ 500 to km 385+500 is constructed a tunnel with a width of L = 1 130 m

In the section from 385 + 500 to km 389 + 800, this alternative develops in the south direction, west of Rakitna village, parallel to the Rakitna - Mechkul road, at about 383 + 900 it crosses the road, passes west of Mechkul village, continues to the south and east of the village of Stara Kresna.

The section from km 384 + 100 to km 389 + 600 the road track is on the east direction. From km 389 + 600 to km 396 + 000, the alternative develops in the south direction. From km 396+000 to km 399+300 the alternative develops in southwest direction near the existing road to the Vlahi village. At km 399 +300, turn to the right roadway (bypass of the town of Kresna). This route ends at km 400 + 371.81 = km 397 + 000 from Lot 3.3.

The following major facilities have been provided for implementation:

- ***Tunnels:*** from km 375 +900 to km 376 +250; from km 380 +892 to km 382 +022; from km 387 +820 to km 389 +010; from km 393 +230 to km 393 +440; from km 395 +350 to km 396 +670;
- Bridge: from km 373 + 565 to km 373 + 650 on the Gradevska river
- ***Viaducts*****:** from km 376 + 300 to km 376 + 500; from km 378 + 562 to km 379 + 372; from km 379 + 600 to km 379 + 700; from km 380 + 300 to km 380 + 670; from km 382 + 112 to km 382 + 192; from km 382 + 466 to km 382 + 536; from km 382 + 750 to km 383 + 520; from km 384 + 770 to km 384 + 950; from km 385 + 860 to km 386 + 030; from km 386 + 770 to km 387 + 050; from km 387 + 220 to km 387 + 390; from km 390 + 900 to km 391 + 190; from km 391 + 580 to km 391 + 840; from km 392 + 610 to km 392 + 830; from km 393 + 850 to km 393 + 940; from km 394 + 360 to km 395 + 010; from km 398 + 140 to km 398 + 230; from km 399 + 700 to km 399 + 987;
- Overpasses, underpasses, inter passes at: Km 373 + 835 road subway; km 375 + 775 road subway on road II-19; km 379 + 500 overpass; km 384 + 520 road overpass; km 389 + 060 road overpass; km 390 + 745 agricultural overpass; km 391 + 315 agricultural overpass; km 392 + 320 road subway; km 398 + 840 road subway; km 399 + 055 road subway; km 399 + 440 road subway;
- ***Supporting and reinforcing walls*** - from km 377+925 to km 377+975
- ***Reinforcing embankment walls:*** from km 376 + 925 to km 377 + 025; from km 379 + 575 to km 379 + 622; from km 380 + 025 to km 380 + 675; from km 380 + 725 to km 380 + 775; from km 382 + 532 to km 382 + 578;
- ***Small facilities and passages for animals*** **-** for the conducting the water from the gullies, drainage trenches and other low places are proposed for construction by small facilities - culverts;
- ***Road connections*** - the design solution of the alternative provides for two independent lanes, each providing movement in one direction, which shall determine the necessary cross connections between the two lanes along the existing roads and the arrangement of road junctions (or road connections in two levels) of the left road lane (from Kulata to Sofia): road junction Simitly at km 375 + +775; road junction Poleto at km 379 + +500; road junction Mechkul at km 384 + +000; road junction Stara Kresna at km 388 + +450; road junction Kresna at km 400 + 371.81.

The project envisages setting up a road connection of the right road lane (the existing road E79) „Sofia - Kresna“ – km 393+600.

Rehabilitation of existing roads:

Right road lane: Rehabilitation of the existing E79 road in the Kresna Gorge, with the following types of work to be carried out, includes: removal of the humus layer, including loading and transportation; common ordinary excavation, including loading and transportation; excavation for trenches and drain culverts; excavation for facilities in earth and rocky soils; excavation for caving down rocky soils; excavation for the cleaning of grooves, drains, culverts and walls; making of embankments in rocky soils; cleaning and profiling of road shoulders; removal of the existing safety net for falling stones, loading and transport to a landfill; demolition, loading and disposal of dangerously overhanging rocks and all related costs; caving and removing rock fragments and debris under the Alpine method, including all related costs; strengthening of rocky slopes with high-strength nets, anchoring blocks, horizontal and vertical steel ropes and all associated costs; removal of existing asphalt pavement; grindings / technological and preliminary repairs / of existing asphalt pavement; crushing of concrete curbs and concrete strips and transportation to landfill; dismantling a single steel safety fence and transporting to depot/landfill; supply and laying of binder for profiling and levelling layers of different thickness and widths; laying of binder for profiling and levelling layers of different thickness and widths; laying of dense asphalt for wear layer; laying of dense asphalt for emergency strips, collaring and sites; making a bitumen spill; laying of asphalt for the bottom layer; laying of base material; laying of base material for road shoulders; laying of concrete curbs; laying of the horizontal markings; installation of standard reflective road signs; installation of non-standard reflective road signs; installation of Italian grooves for drainage of road embankments; making of panelled/lined draining trenches; making of transverse drains; making of concrete rigs construction of new pipe

culverts; construction of a new top structure of large bridges over the Struma River; formworks for minor and major facilities; reinforcement works on major facilities; concrete works on minor and major facilities; making clearance joints in bridge facilities; reconstruction of communications of other institutions, etc.

Left road lane: The following municipal roads will be rehabilitated, which also represent cross connections between the two lanes Road E79 – Stara Kresna village – Oshtava village; - Road Mechkul village – Brejani village; Road E79 – Stara Kresna village – Oshtava village; Road town of Kresna – Vlahi village.

*For the implementation of **Eastern Option G10.50 - left road line** are provided the following Reconstruction of facilities of other authorities:*

- electrical equipment 0.4 kV and 20 Kv
- electrical facilities 0,4 kV: at km 379 + 000 and at km 398 + 060;
- Electricity facilities 20 kV with: km 379 + 510; km 382 + 000; km 382 + 160; km 382 + 410; km 384 + 165; km 388 + 405; km 398 + 157; km 398 + 847; km 398 + 861; km 399 + 480; km 399 + 850; km 399 + 870; km 400 + 085;
- 110 kV and 400 kV electrical equipment: Overhead Power Lines 400 kV 'Pirin' at: km 378 + 430; km 379 + 950; km 380 + 000; km 380 + 050; km 382 + 500; km 396 + 760; WP 110 kV 'Granite' at km 398 + 860;
- power lines 20 kV and CTP 20 / 0.4 kV at road junctions and recreation sites for: Road junction Poleto at km 379 + 490; road junction Mechkul at km 384 + 260; road junction 'Stara Kresna' at km 387 + 690; road link 'Stara Kresna' at km 388 + 435; recreation sites, town of Kresna, left roadway at 399 + 470;

The construction of street lighting is provided in the following places: Road junction 'Poleto' at km 379 +500; road junction 'Mechkul' at km 384 + 265; road junction 'Stara Kresna' at km 387 + 690; recreation site in the left roadway at km 399 + 500;

- communication equipment (optical and copper cable): from km 382+000 to km 382+800, from km 380+680 to km 384+270, from km 388+450 to km 399+115, from km 399+840 to km 400+608 and from km 400+110 to km 400+538 an water pipes: from Brezhani to the Poleto village - km 379 + 500; for the village of Stara Kresna - 388 + 430; for the village of Slivnitsa at km 400 + 870;
- irrigation canals. km 399 + 125; km 399 + 220; km 399 + 580; km 399 + 552; from 399 + 650 to km 399 + 715;
- pressure irrigation pipelines: from km 398 + 476 to km 398 + 544; at km 400 + 090; from km 400 + 260 to 400 + 400;
- Gas pipelines: at crossing at km 378 + 430; km 390 + +170; km 399 + +240; km 400 + +130; km

*For the realization of the **Kresna town bypass** - the right road lane, the following reconstructions of the facilities of other institutions are envisaged :*

- Electrical equipment0.4 kV and 20 kV at: km 394 + 730 OPL 20 kV "Pastrets"; km 394 + 730 OVERHEAD POWERLINE 20 kV "Breznits"; km 395 + 380 OVERHEAD POWERLINE 20 kV "Breznitsa" and 20 kV "Pastrets"; km 395 + 520 OVERHEAD POWERLINE 20 kV "Hanove" and 20 kV "Defile"; km 396 + 530 OVERHEAD POWERLINE 20 kV "Hanove" and 20 kV "Defile"; km 396 + 580 OVERHEAD POWERLINE 20 kV "Breznitsa" and 20 kV "Pastrets"; km 398 + 150 OVERHEAD POWERLINE 20 kV "Pastrets";
- Electrical equipment 110 kV - OVERHEAD POWERLINE 110 kV "Granit" at km 396 + 725; OVERHEAD POWERLINE 110 kV "Granit" at km 396 + 930; OVERHEAD POWERLINE 110 kV "Granit" at km 397 + 445.

- Power lines at road junction and recreation and power lines 20 kV for tunnels at: km 393 + 896 - road connection north of the town of new 20 kV cable line ; at km 395 + 690 Tunnel-1, Kresna, a new air deviation from the 20 kV "Defile" Overhead Power Line; at km 395 + 690 Tunnel-2, Kresna, new air deviation from the 20 kV "Defile" SEA; at km 397 + 590 Recreation area, right canal, Kresna, new air deviation from the 20 kV "Morava" Overhead Power Line; at km 398 + 020 road junction Kresna, a new air deviation from the 20 kV "Slivnitsa" Overhead Power Line;
- Communication equipment (optical and copper cable): from km 393 + +850; to km 394 + +070; at km 395 + 393; at km 394 + +070; from km 394 + +200 to 394 + +258; from km 394 + +550 to km 397 + +761.
- Water supply - water supply to recreation areas;
- Irrigation channels - from km 394+900 to km 395+035 (main irrigation channel 'Left Pirin Railway Station'); from km 395+433 to km 395+533 (main irrigation channel 'Left Pirin Railway Station'); from km 395+640 to km 395+736 (main irrigation channel 'Left Pirin Railway Station'); from km 396+050 to km 396+180 (main irrigation channel 'Left Pirin Railway Station'); from km 396+785 to km 396+920 (drainage pipeline to main irrigation channel (MIC), Ø120 cm); from km 397+100 to km 397+563 (main irrigation channel 'Left Pirin Railway Station'); at lm 397+350 (deviation of main irrigation channel 'Left Pirin Railway Station'); at lm 397+720 (deviation of main irrigation channel 'Left Pirin Railway Station'); at lm 397+755 (deviation of main irrigation channel 'Left Pirin Railway Station'); at lm 397+920 (deviation of main irrigation channel 'Left Pirin Railway Station'); at lm 397+950 (deviation of main irrigation channel 'Left Pirin Railway Station').

The Eastern Option G10.5, proposed for implementation, concerns the landings of Simitly Municipality, Simitly village, Poleto village, Rakitna River, Mechkul River, Municipality of Kresna, Stara Kresna, Oshtava village, Vlahi River, Gorna Breznitsa village.

IV. OPTION *„LONG TUNNEL OPTION", TUNNEL „KRESNA", CONCEPT DESIGN PHASE, 2015;*

The beginning of the project area is km 376 + 000 at road junction Krupnik. It passes through the Struma river, at km 378 + 126 and the Resena at km 378 + 520. Between the two rivers the existing road junction for Krupnik and Chernice is located. Before the entrance, it crosses consecutively the Struma river, the railroad Sofia-Kulata and the asphalt road. The 'Kresna' tunnel shall be from km 379 + 267.015 up to km 394 + 605.00 (left tube) and from km 379 + 255 up to km 394 +600 - (right tube). After the exit of the Kresna tunnel, the highway crosses an existing third-class road and the Struma River with a bridge and immediately afterwards the construction of road junction Kresna.

The road track starts at road junction Krupnik with a motorway (road) section (of overall dimensions G29). The beginning of the section is at km 376+000, end of sections km 379+225 north portal, right roadway of the Kresna tunnel, km 379+267.015 north portal, left roadway of the Kresna tunnel.

Proposals to build the following large facilities: retaining wall from km 376 + 000 to km 376 + 080; retaining wall from km 376 + 920 to km 377 + 000; subway at km 379 + 000; bridge over Krupnik junction, km 377 + 700; retaining wall from km 378 + 000 to km 378 + 060; bridge over the Struma river, km 378 + 195; retaining wall from km 378 + 190 to km 378 + 220; subway on the road Brejani - Krupnik, km 378 + 340; bridge over the river Rezena, km 378 + 520; retaining wall from km 378 + 540 to km 378 + 840; retaining wall to road E79; bridge over the Struma river, railway line Sofia - Kulata, km 379 + 000, left roadway L = 330 m, right roadway L = 297 m;

Small facilities:

Rectangular drain at km 376 + 140; km 376 + 330; km 376 + 710; km 377 + 250; km 377 + 810.

- Recreation sites, 2 facilities. - km 376 + 420 to km 376 + 920.

After the bridge facility on the the Struma river, the highway route passes through a tunnel of 15.4 km. the 'Kresna' tunnel shall be designed as a tunnel with two tubes with the possibility of

evacuation in the second tube of the tunnel through crosswise connections. The tunnel is located in the mountain areas, and its parameters correspond to a design speed of 120 km/h.

The main elements of the tunnel design are the following: portals and pre-portal sites; permanent access roads to portals; two tunnel tubes; intermediate access to the tunnel; permanent ventilation tunnel; construction sites and sites for permanent and temporary landfill disposal.

The overall length of the tunnel and the distance of entrances in km shall be as follows:

Right tunnel tube (Km distance)		
North portal entrance	End of entrance – beginning of tunnel	379 + 205
	Entrance for the tunnel traffic - beginning of the traffic tunnel	379 + 227
South portal entrance	Entrance for the tunnel traffic - end of the traffic tunnel	394 + 605
	End of portal entrance – End of tunnel	394 + 625
Left tunnel tube (Km distance)		
North portal entrance	End of entrance – beginning of tunnel	379 + 243
	Entrance for the tunnel traffic - beginning of the traffic tunnel	379 + 265
South portal entrance	Entrance for the tunnel traffic - end of the traffic tunnel	394 + 600
	End of portal entrance – End of tunnel	394 + 620
Total tunnel length [m]		
	Right tunnel tube	15 420,0
	Left tunnel tube	15 377,0
Length of the traffic section[m]		
	Right tunnel tube	15 378,0
	Left tunnel tube	15 335,0
Length of sections under the open-cut method [m]		
North portal entrance	Right tunnel tube	22.0
	Left tunnel tube	22.0
South portal entrance	Right tunnel tube	20.0
	Left tunnel tube	20.0

The 'Kresna' tunnel shall be dug from the two main entrances (north and south entrances) and from the intermediate access (windows) at km 380 + 745, km 386 + 664 and km 392 + 009. The digging of each tunnel tube shall be performed from eight down holes. For intermediate access, power supply and water supply must be provided for technological purposes. After the „Kresna“ tunnel the road continues with a motorway (road) section (width G29). The beginning of the road section is at km 394 + 605 South portal, the right roadway of Kresna tunnel, km 394 + 600 South portal, left roadway of the Kresna tunnel. The project route ends at km 397 + 000, where it will be included in Lot 3.3.

Pending for implementation are the following facilities:

Large facilties: bridge above the gully, the road Kresna - Slivnitsa, km 395 + 030 ; agricultural subway, km 395 + 830; road junction Kresna, km 396 + 232; bridge above the gully, km 395 + 590.

Small facilities: rectangular / tubular / plank drainage at: km 394 + 660; km 395 + 785; km 396 + 080; km 0 + 485, to road junction Kresna; km 0 + 120, to road junction Kresna; km 396 + 340; km 369 + 400; km 369 + 420; km 369 + 440; km 369 + 460; km 369 + 480; km 369 + 500; km 369 + 520; km 396 + 740; km 396 + 893.

The project provides for the excavation of the Kresna Tunnel to be carried out by the New-Austrian Tunnel Method (NATM), through drilling-blasting works and reinforced concrete tiling. The stages of work in this method shall be as follows: Excavation by drilling-blasting or tunnel excavator,

removal of excavated masses; reinforcement of the vaults with anchors and steel frames; making a primary tunnel lining of sprayed concrete; waterproofing; making a secondary tunnel lining from reinforced concrete; draining and other finishing works.

After the construction of the reinforced concrete structure of the tunnel and the entrances, the gradual construction of tunnel installations shall start as follows: electric; ventilation; illuminating;

Fire-extinguishing system; Control and Management Systems – video surveillance, light signalization for traffic management, fire alarm, radio broadcasts, etc.

For the realization of the Option it shall be necessary to reconstruct the following facilities of other authorities:

- electrical overhead lines over 110 kV: from km 378 + 840 to km 379 + 100 Overhead Power Line 110kV 'Granite'; from km 379 + 900 to km 380 + 900 Overhead Power Line 110kV 'Granite';
- electrical overhead lines up to 110 kV: km 376 + 040 Overhead Power Line 20kV Tunnel; from km 376 + 000 to km 376 + 200 Oranovo Mine two 20kV cables for steel-lattice pillars of overhead power lines 376 + 308 LV 20 kV Tunnela; km 378 + 000 OPL 1 kV; from 378 + 200 to km 378 + 230 OPL 1 kV; km 378 + 460 Overhead Power Line 20kV Defile; km 378 + 520 Cable deviation from OPL 20kV Defile; km 378 + 323 Overhead Power Line 20kV Shaft; from km 395 + 480 to km 395 + 720 Overhead Power Line 20kV 'Chugun' and Overhead Power Line 20kV 'Perun; OPL 20kV 'Leary' and 'Morva'; from km 396 + 508 to km 396 + 514 Overhead Power Line 20kV 'Chugun' and Overhead Power Line 20kV 'Perun'; OPL 20kV 'Leary' and 'Morva'; km 395 + 724 Overhead Power Line 20kV 'Slivnitsa", 'Goreme';
- Power supply cables and lighting lines: - From km 397 + 400 to km 397 + 700 underground cables of the National Railway Company (NRC).
- Existing water supply lines and sewer collectors, falling within the reach of the roadway - km 378 + 207 - potable-water pipeline.
- irrigation pipelines and drainage channels; from km 375 + 775 to km 377 + 311; from km 394 + 670 to km 394 + 773; from km 395 + 635 to km 395 + 785; at km 397 + 332; at km 395 + 000 and km 395 + 465 - correction of berms, protective dikes and gabions - parts of the correction of the river. the Struma river;
- Gas-supply and gas transmission facilities of gas transmission companies at km 378 + 006 underground gas pipeline; km 378 + 712 fiber optic cable; km 378 + 435 underground gas pipeline; km 379 + 000 underground gas pipeline; km 379 + 070 fiber optic cable; km 395 + 790 gas pipeline; km 396 + 770 gas pipeline;
- communication cables: from km 372 + 200 to km 378 + 280; km 378 + 690; km 378 + 690; km 378 + 800; km 379 + 160; km 390 + 460; from km 372 + 200 to km 378 + 280; km 391 + 620; from km 394 + 700 to km 394 + 780; from km 397 + 500 to 397 + 600.

V. EASTERN OPTION G20, OUTSIDE THE KRESNA GORGE, PHASE OF PRE-INVESTMENT STUDY, 2016

The project route starts at km 373 + 300. This Alternative will include a new track on a new terrain with overall dimensions G 20 with two roadways, two lane each, providing the two directions of traffic (from Sofia to the Hellenic Republic and from the Hellenic Republic to Sofia), in the eastern direction around the villages of Brezhani, Stara Kresna and Oshtava for Vdes. = 80 km / h.

Overall dimension G20; Traffic lanes - 2x2x3.50 м; third lane for slow-moving vehicles (from 376 + 500 to km 385 + 200 - 2x 3.00 m; from 392 + 500 to km 399 + 100 - 2x3.00 m; guiding strips 2x0.25 m; Banked earth strips 2x1.50 m; separation strip 1 x 2 m, trenches, protective equipment, drains. The two road lane shall be on a new terrain and will follow its peculiarities.

The road track begins at km 373 + 300 (100 m after crossing the railway line for Oranovo mine), to the left of the existing road to develop parallel to it up to km 373 + 600, then goes south-east, parallel to the Gradevska river, between the districts of the town of Simitly - Oranovo and 'Dalga'

neighbourhood. At km 375+775, it crossed the road II-19 "Simitly – Predela – Gotse Delchev" on two levels, as a road interchange is created for a road connection of the Motorway to the town of Bansko and back. After the intersection of II-19 it enters into the slope, using a tunnel of L = 350 m and after it a viaduct of L = 200 m.

The longitudinal inclinations, permitted in the road junction, tunnel and viaduct shall be 4%, then afterwards the inclination will be 5% and a third lane shall be required, descending towards Sofia, and also the construction of emergency exits, if necessary.

From km 378 +000 it starts South-east, bypasses the village of Poleto, at km 379 + 500 it shall cross the road from Poleto village to Brezhani village and at km 380 + 470 it crosses a tributary of the Rezena river.

This is followed by a 130 m long tunnel, whose track has undergone optimization and has a 4.35% longitudinal slope, improving the technical solutions for the tunnel and the viaducts around it.

In the section from 385 + 500 to km 389 + 800, this alternative develops in the south direction, west of Rakitna village, parallel to the Rakitna - Mechkul road, at about 383 + 900 it crosses the road, passes west of Mechkul village, continues to the south and east of the village of Stara Kresna at km 387+670 it crosses the road of Stara Kresna to Oshtava, by passing through a tunnel beneath.

From km 390 + 000 to km 396 + 000, this alternative continues to develop in the Southern direction. From km 396 + 000 to km 399 + 800, the route goes Southwest, near the existing road to the village of Vlahi. At km 399 + 800 it will be included in the Red Alternative from 2015 (Bypassing the town of Kresna). The route ends at km 400 + 371.81 = km 397 + 000 of Lot 3.3.

At the points where the road route passes into a tunnel, a separate tube is envisaged for each roadway, which requires in turn an increase of the distance between them in order to secure the necessary distance between the tubes. Platforms are designed before the portals/gateways, which serve for the construction of the servicing infrastructure.

Due to the higher longitudinal slopes at the beginning and end of the track, in order to improve the throughput and to ensure safety, a third lane has been provided for slow-moving vehicles in both directions, in the following sections: from 376 + 500 to km 385 + 200; from 392 + 500 to km 399 + 100.

The route of the Eastern Alternative G20 ends at km 400 + 371.81≡ km 397+000 from Lot 3.3.

The following major facilities have been designed for implementation:

- ***Tunnels*** - from km 375 + 900 to km 376 + 250; from km 380 + 892 to km 382 + 022; from km 387 + 820 to km 389 + 010; from km 393 + 230 to km 393 + 440; from km 395 + 350 to km 396 + 670;
- ***Bridge:*** from km 373 + 565 to km 373 + 650 of the the Gradevska river
- ***Viaducts:*** from km 376 + 300 to km 376 + 500; from km 378 + 562 to km 379 + 372; from km 379 + 600 to km 379 + 700; from km 380 + 300 to km 380 + 670; from km 382 + 112 to km 382 + 192; from km 382 + 466 to km 382 + 536; from km 382 + 750 to km 383 + 520; from km 384 + 770 to km 384 + 950; from km 385 + 860 to km 386 + 030; from km 386 + 770 to km 387 + 050; from km 387 + 220 to km 387 + 390; from km 390 + 900 to km 391 + 190; from km 391 + 580 to km 391 + 840; from km 392 + 610 to km 392 + 830; from km 393 + 850 to km 393 + 940; from km 394 + 360 to km 395 + 010; from km 398 + 140 to km 398 + 230; from km 399 + 700 to km 399 + 987;
- ***Overpasses, underpasses, walkways at km:*** 373 + 835 road subway; 375 + 775 road subway on road II-19; 379 + 500 overpass; 384 + 520 road overpass; 389 + 060 road overpass; 390 + 745 CCH; 391 + 315 CCH; 392 + 320 road subway; 398 + 840 road subway; 399 + 055 road subway; 399 + 440 road subway;
- ***Supporting and reinforcing walls:*** **from km 377 + 925 to km 377 + 975;**

- ***Reinforcing embankment walls:*** from km 376 + 925 to km 377 + 025; from km 379 + 575 to km 379 + 622; from km 380 + 025 to km 380 + 675; from km 380 + 725 to km 380 + 775; from km 382 + 532 to km 382 + 578;
- ***Small facilities and passages for animals*** - for the construction of water from the gullies, drainage trenches and other low places are envisaged for construction of small facilities - culverts;

Road junctions*:* The present design solution provides for two separate roadways, each providing for traffic in one direction. This would require cross-connections between the two roadways on the existing roads and the arrangement of road junctions (or road road connections on two levels) of the left roadway road connection on Mechkul - Brezhani road; road connection on Mechkul - Rakitna road; road connection on the road 'Stara Kresna - Oshtava'; road connection on Kresna - Vlahi village.

The following municipal roads will need to be rehabilitated, they also represent a cross-connection between the Struma Motorway and the road Road E 79 - Poleto-Brezhani; Road Mechkul - Brejani; Road E79 Stara Kresna - Oshtava; Road Kresna - Vlahi.

Facilities of other departments will be reconstructed as follows:

- 0.4 kV electrical equipment at: km 379 + 000; km 398 + 060;
- Electricity facilities 20 kV with: km 379 + 510; km 382 + 000; km 382 + 160; km 382 + 410; km 384 + 165; km 388 + 405; km 398 + 157; km 398 + 847; km 398 + 861; km 399 + 480; km 399 + 850; km 399 + 870; km 400 + 085;
- 110 kV and 400 kV electrical equipment: Overhead Power Lines 400 kV 'Pirin' at: km 378 + 430; km 379 + 950; km 380 + 000; km 380 + 050; km 382 + 500; km 396 + 760; WP 110 kV 'Granite' at km 398 + 860;
- Construction of power lines 20 kV and CTP 20 / 0.4 kV at road junctions and recreation grounds: surface waters 'Poleto' at km 379 + 490; road junction Mechkul at km 384 + 260; road junction 'Stara Kresna' at km 387 + 690; road link 'Stara Kresna' at km 388 + 435; recreation sites, town of Kresna, left roadway at 399 + 470;
- Lighting in the section of road junctions and recreation areas: surface waters 'Poleto' at km 379 + 500; road junction 'Mechkul' at km 384 + 265; road junction 'Stara Kresna' at km 387 + 690; recreation site in the left roadway at km 399 + 500;
- communication equipment (optical and copper cable): at km 380 + 680; at km 384 + 270; at km 388 + 450; at km 399 + 115; from km 399 + 840 to 400 + 608; from km 400 + 110 to km 400 + 538.
- water supply pipelines; from Brejani to the Poleto village - km 379 + 500; for the village of Stara Kresna - 388 + 430; for the village of Slivnitsa at km 400 + 870;
- irrigation canals. km 399 + 125; km 399 + 220; km 399 + 580; km 399 + 552; from 399 + 650 to km 399 + 715;
- pressure irrigation pipelines: from km 398 + 476 to km 398 + 544; at km 400 + 090; from km 400 + 260 to 400 + 400;
- Gas pipelines: Transit gas pipeline for Greece at km 390 + 170; Transit gas pipeline to Greece at km 399 + 240; of the existing transit gas pipeline for Greece with diameter DN 700 and $P_{op.}$ = 5.4 MPa at km 400 + 130

In the area of Lot 3.2, as well as on the existing E-79 road in the part of Lot 3.2, there are five protected areas within the meaning of the Protected Areas Act, namely:

- the 'Tissata' reserve, proclaimed by decree No. 6663 / 5 December 1949 of the Ministry of Forestry, Order No. 440 of 9 December 1977 (SG, issue. 6 / 20 January 1978) and Order No. 844

of 31 October 1991 of the Minister of Environment for Change of Area (promulgated in the State Gazette, issue 93 / 12 November 1991);

- Protected Area (PA) 'Kresna Gorge', declared as a buffer zone of the Tissata Reserve with Order No. 130 / 22 February 1985 of of the Political and Security Committee (PSC) of the Council of Ministers (promulgated in the State Gazette, issue 24/1985) by Order No. 844 / 31 October 1991 of the Minister of the Environment and re-classified in a protected area by Order No. РД-56 / 30 January 2008 of the Minister of Environment and Waters. (promulgated, SG, issue 29/2008);
- 'Moravska' Protected Area, declared as a natural natural landmark by Order No. 133 of 22 February 1985 of the Political and Security Committee (PSC) of the Council of Ministers (promulgated in the State Gazette, issue 26 of 1985), which was categorized as a protected area by Order No. 727 of 28 September 1991 of the Minister of Environment (promulgated, SG, No. 87/1991);
- 'Momina Skala' Natural Landmark, announced by Order No. 468 / 30 December 1977 of the Political and Security Committee (PSC) of the Council of Ministers (promulgated, SG, No. 6/1987);
- Protected Area 'Natural habitat of Chicar - Bouina", declared as a natural landmark by Order No. 1427 / 13 May 1974 of the Ministry of Forests and Nature Conservation (prom. SG 44/1974) and re-categorized into a protected area by Order No. РД -647 / 25 May 2003 of the Minister of Environment and Waters (promulgated, SG. No. 60/2003).

The right roadway of the selected Eastern option G10.50 passes near the eastern boundary of the western part of **the Tissata Reserve**, while at the fourth bridge over the the Struma river is tangent to it by about 30 m. The left roadway is more than 500 m from the boundaries of the reserve.

The route under this alternative **does not directly affect** areas of the Reserve. Its close location implies indirect effects on the vegetation, subject to conservation in the Protected Area, due to particulate matter and exhaust emissions, at least in the part, tangent to the road track. The impact will not differ significantly from the existing one, and is considered to be insignificant.

The right roadway (the existing road) of this option passes through the periphery of a part of the **Kresna Gorge**, which is related to a discrepancy, found as a result of an incorrectly reflected and applied range of the existing path in the available road plan / sample of the Forest Management Project (FMP) / to the order of declaring the Protected Site and the Restitution Property Map. Its location also implies indirect impact on vegetation as a result of contamination with particulate matter and exhaust emissions. The impact will not differ significantly from the existing one, and is considered to be insignificant. The left roadway is more than 200 meters from the boundaries of the protected territory.

The road route in the eastern option G10.50 does not directly affect the Moravska Protected Site, the Momina Skala Nature Reserve and the Natural Plain of Buchina Protected Site. There is no direct negative impact on these protected areas and the indirect impact is insignificant.

The Road Route of Lot 3.2 of the Struma Motorway crosses the boundaries of two protected zones (Natura 2000 sites) within the meaning of the Biodiversity Act:

- BG0002003 'Kresna' for the conservation of wild birds, announced by Order No. RD - 748 of 24 October 2008 (SG, issue 97/2008) of the Minister of Environment and Water.
- BG0000366 'Kresna-Ilindentsi' for the Conservation of Natural Habitats and Wild Fauna and Flora, included in the List of Protected Zones, adopted by the Council of Ministers by Decision No. 122 / 2 March 2007 (prom. SG 21/2007 amended and supplemented by Decree of the Council of Ministers No. 811/2010 (promulgated, SG 96/2010).

Given the provisions of Art. 31, Para. 1 of the BDA and Art. 2, Para. 1, Subpara. 1 of the *Ordinance on* Compatibility Assessment, the investment proposal is subject to an assessment of its compatibility with the subject-matter and the purposes of conservation in the protected zones. Following an assessment on the grounds of Art. 39, Para. 3 of the *Ordinance on Compatibility Assessment*, according to which the investment proposal is likely to have a significant negative impact on natural habitats, populations and habitats of species, subject to conservation in the above-mentioned

protected areas, given according to Art. 39, Para. 5 of the same Ordinance, a report has been prepared for the assessment of the impact on the protected areas (IAR). The expected impacts of the investment proposal on the subject-matter and objectives of the protected areas are detailed and evaluated in the Impact Rate Assessment Report (IAR).

due to the following reasons and factual reasons:

1. The EIA report examines the existing state of the components and environmental factors and analyzes the expected impacts of the implementation of the investment proposal on the environment and human health. The overall impact of the pollutants emitted in the construction and operation periods on the components of the environment can be qualified as insignificant, short-term for the construction period, continuous in the operation period, direct and reversible, with a small geographical scope, with insignificant cumulative effect, consistent with the approved national and EU regulatory requirements, and implying no adverse impacts on human health and on the components and factors of the environment.

1.1. The nature of the impacts on atmospheric air can be classified as direct and reversible, with moderate /average significance of impact during construction and operation.

1.2. The degree of impact on surface water during construction is classified as moderate (given a new terrain impact), short-term and local in the intersection of surface water bodies. In the operation of the site, the impact on surface water is expected to be moderate, of local scale, with little territorial scope. With regard to groundwater, the Eastern Option G 10.50 has been assessed as having moderate to significant impacts as a result of moderate rate of impact, respectively high sensitivity of receptors (developing practically intact territories), redistribution of drained groundwater bodies in the zones of passage tunnels, presence of water protection zones around drinking water supply stations and / or around mineral water fields.

1.3. The impact on climatic factors during the construction and operation of the motorway will be short-term, of local scale, half of the Kresna Gorge and half in the low mountain range to the east.

1.4. Moderate impact has been assessed on the earth's bowels during construction, on a local scale, with a significant territorial scope, due to construction works on new terrain. During operation there is practically no possibility of impact on the conditions of the earth's interior.

1.5. With respect to biodiversity, the Eastern G 10-50 option 10.50 is acceptable for implementation, provided that the proposed measures to minimize negative impacts on biodiversity are implemented, given the following:

1.5.1. The team of independent experts, who developed the EIA report reviewed and assessed the impacts on biodiversity for each project proposal, proposed by the Contracting Authority. All available information on the potential impact area is taken into account, which includes, in addition to literary sources, information and field research data in the area;

1.5.2. The impacts on the species under Annex 3 of the BDA have been assessed in the EIA report by group, because of their large number. The overall assessment of the impact of the motorway on biodiversity has been based on the affected species and / or habitats concerned;

1.5.3. The presented map material identifies the location of the species and habitats, involved in the different alternative routes. The significance of expected impacts on biodiversity is based on an assessment of the nature of impacts (degree of impact, spatial coverage, plant and animal world in the area of the investment proposal, probability, duration, frequency and reversibility of the impact, ability to show cumulative and synergistic interactions), relative to the sensitivity of each of the affected components of biodiversity (importance, vulnerability);

1.5.4. Estimates and cumulative impact effect for each road section and each species of the taxonomic group in the 5 possible options for implementation of the investment intention have been studied and presented in detail, as follows: Option G20 - Blue, Option G20 - Red, Eastern Option G 10.50, Eastern Option G20, the Long Tunnel Option.

1.6 For the Eastern Option G 10.50, the degree of impact during construction with respect to waste may be classified as moderate, given the significant volume of excavation and earth masses, yet a short-term and on a local scale. During operation, the degree of impact will be low, short-term, on a local scale, with little territorial impact.

1.7 No hazardous chemicals, preparations and products subject to prohibition are foreseen for the period of implementation of the proposal. The construction in Lot 3.2 of the Struma Motorway does not project for the storage of hazardous substances on the construction sites. No hazardous chemical activities are planned during the life of the road.

1.8 The nature of impacts on sites of normalized noise mode during construction can be classified as direct and reversible, with an average degree of impact and a local scale. During operation, the noise impact shall be negative, long-term, continuous, with local coverage and medium impact. In the realization of the investment proposal, vibrations will only be emitted during the operation of certain machines and equipment. The road in use is not a source of vibration.

1.9 The construction of Lot 3.2 of the Struma Motorway will have a negative impact on the landscape, yet with acceptable changes in its typology and permissible changes in its spatial structures, the view and the scenery. The main landscape type will remain unchanged and there will be no significant changes in the landscape structure and landscape functioning that will cause further disturbance in the ecological balance.

1.10 The normal operation of the Struma Motorway, Lot 3.2 will not pose a threat to immovable cultural values.

1.11 In view of the analysis and of the assessment, the inspections on site, the surveys, studies, calculations and the estimated impact assessment of the site, measures were proposed to prevent or reduce significant harmful effects on the environment, as well as an implementation plan for those measures, ruled in this Decision.

1.12 According to the conclusion of the team of EIA experts, based on the assessment of the risk on human health and ensuring the sustainable development of the environment, the activities envisaged in the investment proposal meet the legal requirements of the environmental legislation. Along these lines, there are no expectations of significant adverse impact on the components and factors of the environment and human health, both on the territory of the roadway and close to the road, and in cross-border context.

2. By Decision No. 250 of April 25, 2013 of the Council of Ministers, the A-3 Motorway 'Pernik - Dupnitsa - Sandanski - the border with Greece' was designated as a site of national importance and as a national site.

3. The implementation of the investment proposal for 'Improving the route of Lot 3.2 of the Struma Motorway under the Eastern option G10.50 will have an insignificant impact **on the integrity and structure** of **BG0000366' Kresna-Ilindentsi '** protected zone. The road route impacts the territorial integrity of the Kresna-Ilindentsi protected zone on a total area of 525.279 decares (excluding the area of the right roadway that would be on the existing road), which represents 0.11% of the protected zone.

3.1 The implementation of the investment proposal concerns 8 natural habitats, subject to conservation in the area, for which the area will be destroyed, respectively fragmented, under 1% of the area's exposure during the construction, and therefore the impact on them has been assessed as insignificant. That refers to habitats 6210* Semi-natural dry herbaceous and shrub communities on limestone *((Festuco Brometalia)* (Important Orchid Habitats) - of which are affected only 0.05%; 6220* Pseudostepes with cereal and annual plants of the*Thero-Brachypodietea* class - 0.25%; 5210 Shrubs with *Uniperus spp* - 0.16%; 92A0 Riverside galleries of *Salix alba and Populus alba* galleries - 0.50%, 91AA * Eastern Pubescent oak forests - 0.39%; 91M0 Balkan-Pannonian Oak-Durmast forests - 0.06%; 9560* Endemic forests with *Uniperus spp* - 0.03%. A more significant impact will only be exerted on Habitat 91E0* Alluvial forests with *Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae*), of which 1.14% shall be affected. This impact shall be minimized by the proposed measure on the scope of the road route from km 384 + 300 to km 384 + 470 and from km

389 + 130 to km 389 + 280 (left roadway), the impact of direct destruction and fragmentation on the habitat will be reduced to insignificant, by reducing the affected area to 2.997 decares, which is 0.33% of the area of the habitat in the zone.

3.2. With respect to the degree of impact on the habitats of the species and their populations, protected in the protected zones, the conclusion is that an insignificant rate of impact shall be expected, because:

3.2.1 The implementation of the investment proposal in this option will fragment the habitats of **terrestrial invertebrate species**, subject to conservation in the zone. Due to the small area affected - less than 1% of the potential habitats of these species in the area, the impact on them as a result of their destruction has been assessed as insignificant and therefore does not imply significant negative impacts on the size and structure of their populations.

3.2.2 The same applies to both **aquatic invertebrates** - the stone crayfish *(Austropotamobius torrentium)* and the thick shelled river mussel *(Unio crassus)*, whose habitats will be damaged during the construction of bridge facilities as a result of river bed construction. 5.9 acres or 0.15% of the potential habitats of the stone crayfish (*Austropotamobius torrentium)* in the area will be affected, respectively 20.65 decares/0.26% of the potential habitats of the thick shelled river mussel (*Unio crassus)* in the area, but given the temporary nature of construction activities and the absence of a lasting change in the natural hydrological regime of rivers, habitats will recover rapidly upon completion of construction works, even more so that measures are envisaged to reduce the negative, albeit insignificant, impact.

3.2.2 The implementation of the investment proposal in the Eastern Option G *10.50* shall concern potential habitats of three species of the asp (*Aspius aspius*), the European bitterling (*Rhodeus sericeus amarus*) and the spined loach (*Cobitis taenia*), and the direct impact shall be temporary and will be reversible only during construction (the natural hydrological regime of the water bodies will not be changed, and the restoration of the habitats will occur quickly after completion of construction works) on respectively 0.29%, 0.38%, 0.28% of the area of the habitats in the zone.

3.2.4 In the case of potential habitats of the amphibian species - *Bombina variegata*, there will be only a minor degree of damage during construction on 0.15% of the potential habitats, respectively. 0.19% of the optimal habitats for the species, and 0.14% of the potential habitats, 0.22% of the optimal habitats for the southern crested newt *(Triturus karelinii)*.

3.2.5 In view of the proposed measures, the impact on reptiles is also considered insignificant. The road route will affect 0.25% of the potential habitats, 0.41% of the optimal habitats of the four-lined snake, the Bulgarian ratsnake (*Elaphe quatuorlineata*), 0.31% of the potential habitats and 0.26% of the optimum habitats of the European ratsnake or leopard snake (*Zamenis situla*), 0.30% of the potential habitats, of which 0.12% of the optimal for the European pond turtle (*Emys orbicularis*), 0.24% of the potential habitats, of which 0.16% of the Hermann's tortoise (*Testudo hermanni),* 0.26% of the potential habitats, respectively 0.26% of the optimum for The Spur-Thighed/Greek Tortoise (*Testudo graeca*).

3.2.6 The expected loss of 0.07% of the *Canis lupus* habitat, 0.33% of the *Lutra lutra* and 0.38% of the *Vormela peregusna* species are considered insignificant impacts.

3.2.7 The impact on the species of bats, protected in the protected zone is insignificant as their habitats are not directly affected.

3.2.8 The implementation of the investment proposal in this option would not affect the localizations of the only plant species, subject to conservation in the zone - *(Centaurea immanuelis loewii*.)

3.2.9 Possible impacts on waterborne species due to contamination of their habitats are expected on the habitats of 4 invertebrate species, subject to conservation in the area: The thick shelled river mussel *(Unio crassus),* The stone crayfish *(Austropotamobius torrentium)* and the larvae of Cordulegaster heros *(Cordulegaster heros) and of the green snaketail or the green gomphid* **(Ophiogomphus** *cecilia).* The impact has been estimated as moderate for *Rhodeus sericeus amarus* and *Cobitis strumicae*, given the large area that may be affected. With mitigation measures, it would

be reduced. For the other species, subject to conservation in the area, there will be no changes in the characteristics of their habitats due to contamination.

3.3 The degree of fragmentation of habitats of species, subject to conservation in the area is also considered as insignificant as:

3.3.1 It concerns an insignificant area of the habitats of the two invertebrate groups, with water invertebrates being temporary and reversible;

3.3.2 The expected significant degree of fragmentation of habitats of the four-lined snake, the Bulgarian ratsnake *(Elaphe quatuorlineata)*, the leopard snake *(Zamenis situla)*, the Spur-Thighed/Greek Tortoise *(Testudo graeca)*, Hermann's tortoise *(Testudo hermanni)* will be overcome by applying proposed mitigation measures, with defragmentation facilities being developed for the whole option (left and right roadway) that would lead to mitigating the impact to insignificant rate;

3.3.3 Possible fragmentation only during the construction of bridge structures on aquatic habitats of the species of fish, amphibians and reptiles will be insignificant, given the small area of the affected habitats, as well as on the species of mammals - the wolf, the otters, the Vormela peregusna and bats.

3.4 The implementation of the road route will not significantly affect the type of barrier effect on the populations of species, subject to conservation in the zone, given the following:

3.4.1 At this stage, terrestrial invertebrates and dragonflies, subject to conservation in the area, are flying insects, they are mobile and can easily overcome obstacles. Their larvae do not move actively over long distances - they move within the boundaries of the timber volume or are passively transported by water, with respect to which no barrier effect on the imago and the larvae of these species is to expected.

3.4.2 The impacts of the type of barrier effect on the habitats of the two types of snakes will be mitigated by applying the proposed mitigation measures for the whole option (left and right roadway), namely the construction of defragmentation facilities, guaranteeing unimpeded crossing and preventing the emergence on the roadway of amphibian and reptile species.

3.4.3 During the construction of bridge facilities a barrier effect may occur for the species of fish, amphibians and otters, subject to conservation in the area, which, given its temporary nature, is expected to be insignificant. It is not expected that this type of impact on habitats of mammal species - the wolf, the bear and the Vormela peregusna, given their high mobility. No barrier effect is expected for the species population, as all components of the highway and vehicle traffic do not appear to be a permanent insurmountable barrier for hunting and migrating individual representatives of the species.

3.5 In view of the simple nervous system of the invertebrate species, they are insensitive to the impact of disturbance, therefore no negative effects of this type are expected in this respect.

3.5.1 The construction and operation of Lot 3.2 of Struma Motorway will not cause concern for invertebrate and fish species subject to conservation in the zone. For the species of mammals, amphibians and reptiles, only minor disturbance can be expected during construction. Possible moderate rate of impact due to disturbance in the shelter of a bat species, subject to protection in the zone of the Greater horseshoe bat *(Rhinolophus ferrumequinum)* will be mitigated by the proposed measure to install a noise barrier in the sensitive road section of the highway.

3.6 Mortality as a possible impact on the invertebrates, preserved in the area has also been assessed as insignificant. Direct mortality of individual representatives of the stone crayfish */Austropotamobius torrentium/* during coastal and riverbed construction works of the mountainous rivers is unlikely because there is no effective habitat of the species in the proposed scope of the op\, and in the case of the stone crayfish *(Austropotamobius torrentium)* the probable number of individual representatives that may be destroyed directly, is about 62 individual representatives, calculated on the basis of a reference volume of 0.003 repr. /m² (Ab = 0.004 ± 0.01) of the species in the zone.

3.6.1 During the construction, the impact of mortality of individual representatives of the fish species will also be insignificant, as it is likely only to cause the destruction of fish roe and juvenile representatives due to contamination of the river in eventual emergency situations. Given the

proposed measures for the protection of water as a key element of the habitat, the impact on the populations of fish species, preserved in the zone is estimated to be insignificant.

3.6.2 The degree of impact on the wolf species has been assessed to be moderate, for which mitigation measures are proposed. The implementation of the investment proposal in this option may cause mortality of single representatives of 10 bat species, subject to conservation in the zone. In 5 of them (Rhinolophus hipposideros, Rhinolophus ferrumequinum, Rhinolophus euryale, Miniopterus schreibersi and *Myotis emarginatus*), the impact on the populations in the area was estimated to be of moderate rate. With *Myotis bechsteini, the* impact on the populations in the area has been assessed as significant, but with mitigation measures it will be reduced. The operation of the investment proposal in this option may cause mortality of single representatives of all amphibians and reptiles species, subject to conservation in the zone. In four of them (*Testudo graeca, Testudo hermanni, Elaphe quatuorlineata, Elaphe situla) the* impact on the populations in the zone has been assessed as significant. By implementing the proposed measure - building effective barriers, providing guarantees to prevent the emergence of amphibians and reptiles on the roadway, the impact will be reduced to insignificant.

3.7 For all natural habitats and habitats of species, subject to conservation in the protected area, the cumulative effect is estimated to be insignificant. Through the implementation of the proposed mitigation measures for the natural habitat *91E0* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae), the* total affected area of the habitat will be reduced to 3.247 decares or 0.36%, which determines the insignificant rate of this type of impact.

3.8 The implementation of the investment proposal *'Improvement of the route 3.2 of the Struma Motorway* in the Eastern Option G10.50 will have a minor impact on the integrity and structure of the protected zone **BG0002003 'Kresna',** as 519.015 decares of the territory will be directly affected (excluding the area of the right roadway that will be on the existing road), which represents 0.22% of it. Given the small affected area, we could conclude that the implementation of the Eastern Option G10.50 will not have a significant impact on the structure of the zone.

The implementation of the investment proposal in this option would affect breeding and / or trophical habitats of 49 bird species, subject to conservation in the zone. For 16 bird species (the Black Stork (*Ciconia nigra),* the Little Spotted Eagle *(Aquila pomarina),* the short-toed snake eagle *(Circaetus gallicus),* the booted eagle (*Hieraaetus pennatus), the European honey buzzard (Pernis apivorus),* the Levant sparrowhawk (*Accipiter brevipes),* the Eurasian hobby (*Accipiter nisus),* the Eurasian hobby *(Falco subbuteo),* Eurasian stone curlew/stone-curlew *(Burhinus oedicnemus),* the common sandpiper *(Acacitis hypoleucos),* the Eurasian eagle-owl (*Bubo bubo),* the common kingfisher (*Alcedo atthis),* the European roller *(Coracias garrulus),* the Black Woodpecker (*Dryocopus martius),* the grey-headed woodpecker (*Picus canus),* and the greater short-toed lark (*Calandrella brachydactyla)* will have an impact to a degree that requires the application of measures to reduce it to insignificant extent.

3.8.1 The estimated loss of potential and effective habitats of bird species, subject to conservation in the zone is between 0.08% and 0.56% of the habitats, represented in the zone. Given the small area of impact, the impact on all bird species has been estimated to be insignificant.

3.8.2 Bridge construction is expected to cause fragmentation of the trophic habitats of waterfowl species (the Gray Heron (Ardea cinerea), the Black Stork (Ciconia nigra), yet given the large length and area of the fragments formed, as well as the temporary nature of impacts, it is estimated to be insignificant.

3.8.3 The highway route in the Eastern Option G 10.50 would mainly affect small portions of large polygons of the suitable habitats of bird species, preserved in the area, yet the remaining intact part of these polygons would be of sufficient size to perform its function of habitats, with respect to which the impacts of fragmentation and barrier effect, due to species mobility have been assessed as insignificant.

3.8.4 Although adult birds are fast and cautious enough to avoid construction and heavy machinery during construction, it is possible to destroy their nests with eggs or poorly flying small ones (if they are within the construction boundaries), the same impact will occur in the operation of the motorway

due to direct collisions with motor vehicles. With the implementation of proposed mitigation measures the possible mortality of individual representatives will be reduced to insignificant degree.

3.8.5 While the song birds, subject to conservation in the zone are less sensitive to disturbance, the implementation of the investment proposal is expected to cause insignificant disturbance of representatives of only 9 bird species *(Ciconia nigra, Aquila pomarina, Circaetus gallicus, Hieraaetus pennatus, Pernis apivorus, Accipiter brevipes, Accipiter nisus, Falco subbuteo and Burhinus oedicnemus)* during construction, yet given its temporary nature and the limited area (only around the construction site), it will be insignificant, and measures are proposed to reduce the impact. During operation, the trophic habitats close to the road may become unfit for part of birds of prey, yet the impact has been assessed to be insignificant given the relatively low traffic, expected through the habitats of species and the relatively small area of affected trophic habitats. There will also be no significant degree of disturbance for vulture species, subject to conservation in the area, both during construction and during the operation of the highway, as the optimal habitats for rest and / or for nesting are sufficiently far away from the road track; and the vulture feeding site is located more than 550 m from the route of the investment proposal.

3.8.6 The cumulative impact on bird species, subject to conservation in the Kresna Protected Zone has been assessed to be insignificant for all bird species, including the habitats of the white stork, the Imperial Eagle, the Saker Falcon, the Kestrel of the Evening, the Blue-eyed, the Shorthaired, and the Calandra lark (Melanocorypha calandra), whose trophic / breeding habitats will be most affected by the use of open areas. Based on the analysis of the issued decisions of coordination, according to the environmental legislation and their prescription, the majority of them are unlikely to be realized, as a result of which there will be no accumulation of negative impacts on them within the boundaries of the zone. The same applies to the accumulation of impacts mortality and disturbance.

4. In connection with the requirements of Art. 4a of the *EIA Ordinance*, the Basin Directorate 'West Aegean Region' expresses its opinion in letter of Ref. No. P-01-202 / 19.01.2017 that the investment proposal is eligible with the River Basin Management Plan of the West Aegean Region 2016-2021 and the Flood Risk Management Plan of the West Aegean Region 2016-2021 in compliance with the provisions of the Water Act, the conditions and measures laid down by this Decision.

5. Ihe inspection, made with the Ministry of Environment and Water established that on the territory that will be affected by the investment proposal no enterprises and / or facilities have been found to be located in the vicinity, classified as 'high or low risk potential' under Chapter Seven, Section I of the EPA.

6. With its opinion of reg. No. 04-09-110 / 19 July 2017, The Ministry of Health gave a positive assessment of the EIA report, regarding the degree of significance of the impact and the risk to human health, including the conditions laid down in this Decision.

7. In the course of the EIA procedure, stakeholders were consulted. Public access to the EIA report has been provided with all annexes including the Impact Rate Assessment Report (IAR), such as:

7.1 After a positive assessment of its quality, the Impact Rate Assessment Report (IAR) has been provided for public access within the meaning of Art. 25 of the Ordinance on Public Access, as in the one-month time period have been received multiple written motivated opinions and letters from stakeholders. In essence, in the part of the objections, referring to the BG0002003 'Kresna' and BG0000366 'Kresna-Ilindentsi' Protected Zones, their subject of protection and the expected degree of their damage, in view of the data, available at MoEW and the feedback, provided by the Contracting Authority on objections of Ref. No. EIA-85 / 21.09.2017 of MOEW, the **circumstances under Art. 39, Para. 10 of the *Ordinance on Compatibility Assessment***, which require further studies and analyses, or the collection of additional scientific information.

7.2 Two meetings were held for public discussion on 11 September 2017 in the Simitly Municipality and Kresna Municipality with increased interest on the part of public stakeholders, including non-governmental organizations. In the course of the procedure under Chapter Six, section three of the EPA written statements, declarations, positions, opinions, etc. have been received, in

support and also in objection to the proposals for implementation of the Eastern Option G10.50. The minutes of the two public consultation meetings were accompanied by the opinions received. The Contracting Authority has prepared an opinion in the meaning of Art. 17, Para. 5 of the EIA Ordinance, which was submitted to the Ministry of Environment and Water by letter of ref. No. EIA-85 / 21 September 2017, as well as the affected municipalities and mayoralties for providing public access. In accordance with Art. 17, Para. 6 of the Ordinance on EIA, public access has been provided to the opinion of the Contracting Authority through the website and / or the information board.

The written statement of the Contracting Authority under Art.17, Para.5 of the EIA Ordinance provides feedback to received opinions and observations, including on the newly proposed road route, for which the Contracting Authority expressed a negative opinion, motivated and based on deliberate consultations with the National Railway Infrastructure Company.

8. By its Decision I-3/2017 of 12 October 2017, the Supreme Expert Environmental Council has proposed to approve the implementation of the investment proposal

Under the following conditions:

I. Total for all phases.

In order to evaluate the actual efficiency of the envisaged defragmentation and partition structures on the right roadway, during all phases of the implementation of the investment proposal, monitoring of the populations of the two species of tortoiseshells and the two types of snakes, subject to conservation in the area, in the region of the right roadway (the existing road route). The monitoring should start in the spring of 2018 and would continue for at least 5 years after commissioning of the right roadway. The monitoring should allow for the tracing of the population trends of the target species and the degree of isolation (or lack thereof) of the subpopulations west and east of the right roadway and should also allow for the assessment of the actual effectiveness of the intended defragmentation and partitioning facilities. The effectiveness of the mitigation measures to be applied should be assessed on an annual basis (within the monitoring period) after the second year of the commissioning of the right roadway. In case of proven inefficiency, the Contracting Authority will take corrective actions or undertake alternative solutions.

II. For the design phase:

1. An additional hydrogeological study shall be carried out to assess the impact of the investment proposal during the construction and subsequent operation on the quality and the flow of the mineral waters from the Oshtava deposit (lukewarm bath) and the Oshtava (hot spring) deposit - Blagoevgrad District, the municipality of Simitly and, if necessary, the 'Gradeshka Banya' deposit - Blagoevgrad region, the Kresna municipality, the village of Gorna Gradeshnitsa and the Breznitza deposit - Blagoevgrad region, Kresna municipality, Gorna Breznitsa village. The results of the hydrogeological studies and the proposed measures should be coordinated with the West Aegean region and along with the opinion of the Basin Directorate, be submitted to the Ministry of Health for information.

2. In order not to create acoustic discomfort for the population in the residential areas of the settlements closest to the route of the motorway - the town of Simitly, residential quarters of the town of Simitly, 'Dalgata mahala' and 'Oranovo', the Mineral Bath of Oshtava village, Cherniche village nd Pchelin village in the gorge, to provide for the construction of noise-protecting equipment in the risky sections of the road track from an acoustic point of view. At the design stage and prior to the commencement of the construction works, an acoustic project has to be developed and developed to determine the precise acoustic parameters of the noise protection devices (construction, height and length) for the particular situation on the road track.

3. An Environmental Management Plan and a Self-Monitoring Plan should be developed for the components of atmospheric air, water, biodiversity and noise factor and a system of measures to be applied in establishing excess nitrogen, fine particulate matter and other pollutants, caused by intensive traffic and / or adverse meteorological conditions.) The plans and the system of measures should be coordinated with the Regional Inspectorate of Environment and Waters in Blagoevgrad, the Basin Directorate 'West Aegean Region' and the Regional Health Inspectorate in Blagoevgrad. The self-monitoring plan should be endorsed by the Executive Environment Agency (ExEA).

4. For the crossing of surface water bodies, as well as for the protection facilities, provided for construction against the harmful effects of water, it shall be necessary for each (one) of them to conduct a procedure for issuing permits for use of the water body, according to the provisions of Art. 46, Para. 1, Subpara. 1, letter 'b' and 'd' of the Water Act.

5. In need of water taking from underground and / or surface water bodies, as well as discharge of waste waters, the respective permit procedures under Chapter Four of the Water Act shall be carried out.

6. The construction of structures, engineering facilities, structures and other facilities, where contact with groundwater takes place or may take place, shall be carried out under the conditions and under the provisions of the Spatial Development Act in compliance with the requirements for protection of groundwater under Chapter Eight of the Water Act, in compliance with the provisions of Art. 46, Para. 2 of the same law .

7. When developing the project for rehabilitation of the existing road E79 (right roadway in the Eastern Option G 10.50), the deflection and partitioning devices, proposed in Annex 8 of the Impact Rate Assessment Report (IAR) shall be designed and executed for the unimpeded crossing and prevention of the exit of amphibians and reptiles of the roadway. The location and design of the proposed mitigation measures were determined by the experts, taking into account the optimal habitats of amphibians and reptiles, subject to conservation in the Kresna-Ilindentsi Protected Site, with their highest concentrations, with the observations of mortality of existing traffic and technical capabilities.

8. To minimize the risk of destroying individual representatives of amphibians and reptiles during construction:

8.1 Design and build temporary solid fences around the road track range from km 396 + 600 to km 399 + 100 (left roadway) and around the range of the crossing of the town of Kresna (right roadway) with the following characteristics: a continuous, smooth, vertical surface 120 cm above the ground and an underground area of 20 cm (buried in the ground) of flats (plexiglass, sheet metal, etc.), concrete elements or screed (with openings less than 0.5 / 0.5 cm), without joints, folds, supports, etc. between individual elements. The fence should be so located that the openings of all drain pipes remain outside in relation to the roadway.

8.2 Actions shall be scheduled and conducted under the guidance of a qualified herpetologist to collect and move the animals left in the fenced areas, by walking through the entire territory within the enclosure and gather as many amphibians and reptiles as possible to be released in the territory, lying between 0.5 and 1.5 km west of km 397 + 000. The frequency of the activity should be three times in May in the year of commencement of construction, as well as in the month, preceding the start of construction (unless it is winter).

9. To minimize the risk of destroying individual representatives of amphibians and reptiles, protected in the Kresna-Ilindentsi Protected Zone during the operation of Lot 3.2, as well as reducing the impact of mortality on the populations of species of reptiles and birds, protected in the Protected Zone, to design and build solid fences on both sides of the highway in the following sections: from km 382 + 192 to km 382 + 466; from km 383 + 520 to km 384 + 770; from km 386 + 050 to km 386 + 770; from km 387 + 100 to km 387 + 220; from km 389 + 000 to km 390 + 900; from km 391 + 200 to km 391 + 580; from km 391 + 840 to km 392 + 610; from km 392 + 830 to km 393 + 250; from km 393 + 450 to km 393 + 850; from km 393 + 940 to km 394 + 360; from km 396 + 670 to km 398 + 140; from km 398 + 230 to km 399 + 050 (left roadway); around the Kresna crossing range (right roadway) with the following characteristics: a continuous, smooth, vertical surface 120 cm above the ground and an underground area of 20 cm (buried in the ground) of flats (plexiglass, sheet metal, etc.), concrete elements or screed (with openings less than 0.5 / 0.5 cm). No joints, creases, supports, etc. between different elements. The fence should be so located that the openings of all drain pipes remain outside in relation to the roadway.

10. In order to minimize the negative impact of fragmentation and disruption of bio-corridors of amphibians and reptiles and to reduce the impact of fragmentation and interruption of bio-corridors of the reptile species protected in Kresna-Ilindentsi Protected Zone, additional drains under the roadway (if no design facility is available, capable of defragmentation), positioned as follows (+/- 25 m): km

383 + 750; km 384 + 200; km 384 + 450; km 384 + 650; km 386 + 200; km 386 + 300; km 386 + 400; km 386 + 500; km 386 + 650; km 389 + 150; km 389 + 300; km 389 + 400; km 389 + 500; km 389 + 600; 389 + 700; km 389 + 800; km 389 + 900; km 390 + 050; km 390 + 150; km 390 + 250; km 390 + 450; km 390 + 550; km 390 + 650; km 390 + 750; km 390 + 900; km 391 + 500; km 392 + 050; km 392 + 150; km 392 + 250; km 392 + 350; km 392 + 450; km 392 + 550; km 392 + 950; km 393 + 050; km 393 + 150; km 393 + 550; km 393 + 650; km 393 + 750; km 394 + 050; km 394 + 150; km 396 + 850; km 396 + 950; km 397 + 050; km 397 + 150; km 397 + 250; 397 + 350; km 397 + 450; km 397 + 550; 397 + 650; km 397 + 750; km 397 + 850; km 397 + 950; km 398 + 050; km 398 + 350; km 398 + 450; km 398 + 550; km 398 + 650; 398 + 900 (left roadway); km 393 + 800; km 395 + 050; km 395 + 200; km 395 + 400; km 395 + 550; km 397 + 100 (bypass of Kresna). Specifications of drain pipes: Rectangular (min. 150/150 cm) or tubular (diameter of at least 100 cm), without vertical shafts (if required, at least one of the wall of each shaft should be with a gradient of no more than 45 grades).

11. Design 3-m-high double-sided safety fences, for all bridge structures (including the right roadway), using transparent or semi-transparent materials (e.g. grids) with silhouettes of raptors to avoid collisions of birds with passing vehicles and minimizing impact mortality.

12. The range of the route from km 384 + 300 to km 384 + 470 and from km 389 + 130 to km 389 + 280 (the left roadway) to be reduced to the boundaries of the dimensions of the road in order to reduce the affected area of habitat 91E0 * to 2.997 decares, or 0.33% of the area of the habitat in the Kresna-Ilindentsi Protected Zone; reducing the impact of direct destruction and fragmentation of the habitat to negligible.

13. For the bridges - a system to be designed and implemented for collecting surface run-off and removing it for purification in limestone sludge in order to preserve the natural characteristics of habitats of aquatic invertebrates, fish and amphibians.

14. All road lighting fixtures shall be installed at a height at least 10 m from the pavement and at least 5 m from the extreme right / emergency bay in order to reduce the risk of crashes of hunting bats.

15. A 2 m noise-protection wall shall be designed and constructed, from km 398 + 590 to 399 + 170, on the left in the direction of the rising mileage, on the left roadway to eliminate the disturbance in the shelters of Rhinolophus ferrumequinum.

16. A safety fence shall be designed and installed on the left roadway from km 386 + 020 to km 387 + 225 and from km 389 + 000 to km 398 + 000 on both sides (outside the tunnels and viaducts) at a height of at least 2.4 m in order to reduce the risk of crashes of wolves with vehicles.

III. Affected habitats before and during construction:

1. The building of construction sites and roads in polygons, occupied by natural habitats, outside the already assessed areas within the Impact Rate Assessment Report (IAR) in order to preserve the natural habitats, protected in the BG300366 'Kresna-Ilindentsi' Protection Zone in areas, outside the already assessed territories, without conducting the necessary procedures.

2. If construction activities are to begin in the bird breeding season (March 15 - June 30), the site will be pre-cleaned outside the breeding season from tree and shrub vegetation to prevent the mortality, loss of eggs, and reduce of disturbance during nesting.

3. The construction of bridge facilities will take place outside the fish breeding period (15 April to 10 June) in order to reduce the impact on them, including loss of caviar, mortality of larvae and small ones.

4. When building bridges, the so-called turbidity curtains or appropriate building technologies shall be used to reduce river turbidity and reduce the risk of mortality in aquatic animal species.

5. The disposal of inert materials in the riverbeds, washing of transportation and construction equipment in the rivers should not be allowed in order to reduce the impact of habitat contamination of the water-dependent species, subject to conservation in the Kresna-Ilindentsi Protected Zone.

6. Prior to the commencement of construction activities, the transportation scheme of transport vehicles for the transport of building materials and the removal of construction waste should be

coordinated with the respective municipal administrations. During construction, defined routes should be observed and the construction works should be carried out in the daylight.

7. A study should be carried out on the content of radioactive substances in drainage waters for the purpose of their safe post-treatment.

8. The treatment of excavation rock masses, containing radionuclides shall be carried out in compliance with the requirements of the radioactive waste management regulations.

9. Prior to and during the construction of the tunnels, the radionuclide and heavy metal content of the excavated rock shall be assessed in order to take the necessary measures to protect the health of workers, as well as assess the possibility of safe disposal and / installation in the construction of highway sections.

10. Prior to the commencement of construction, the Contracting Authority / operator should perform the classification of the facility, according to Art. 103, Para. 1 of the EPA, in the course of drilling-explosive activities using explosives. In the case of facility with low or high risk potential, the Contracting Authority / operator should also submit a notification for classification and assessment under Art. 99b of the EPA and, if necessary, take additional technical measures to limit the identified risks to human health or the environment.

11. An organization should be established during construction, including performance monitoring, including:

11.1 Ensure the irrigation of terrains during excavation and transport activities in dry and windy weather in order to limit inorganic dust emissions;

11.2 Control of oversized bulk loading and the use of canvases to cover the means of transport;

11.3 Control on the heating, preparation and application of the asphalt coating

11.4 Control of the cleanliness and performance of the roadway;

11.5 Control of the wetting of bulk materials and construction waste in the places, designated for temporary storage;

11.6 Observing a speed limit of up to 30 km / h, when passing through settlements from the freight transport, serving the road.

12. A Construction Waste Management Plan (CWMP) shall be developed, in accordance with Art. 11, Para. 1 of the Waste Management Act (WMA) .

13. The generated waste should be classified according to the requirements and terms of *Ordinance No. 2 of 23 July 2014 on the classification of waste*.

14. Generated waste should be disposed for further treatment based on written agreements to persons holding the respective document according to Art. 35 of the Waste Management Act.

15. The noise protection facilities should be implemented, in accordance with Paragraph II, Subpara.2 and Subpara.15, before commissioning of the investment proposal.

16. The petitioner should prepare its own evaluation of the possible events of direct threat to environmental damages and for the caused the environmental damages, for the activities from the applied field of the Prevention and Elimination of the Environmental Damages Responsibility Act (PEEDA) in conformity with Annex No. 1 of 29 October 2008, on the preventive and remedial measures, provided in the Prevention and Elimination of the environmental Damages Responsibility Act and on the minimal amount of the costs and expenses for their implementation (promulgated, State Gazette, issue

17. To minimize the likelihood of dangerous geological processes, construction activity shall be monitored by engineers and geologists.

IV. During operation:

1. The built-in defragmentation and partitioning devices shall be maintained in good operational order to prevent the crossing and exit of amphibians and reptiles of the roadway.

2. Firefighting facilities shall be installed at the tunnel portals to limit the impact on natural habitats and habitats of species, protected in the Kresna-Ilindentsi and Kresna Protected Zones in case of fire.

3. The state of drainage systems and treatment facilities along the route should be maintained to prevent pollution of rivers and preserve the natural characteristics of habitats of water-borne species.

4. No illuminated billboards should be placed alongside the roadway within the territories of the Protected Zones to prevent insect clustering in illuminated areas near the road and in order to reduce the risk of collisions of hunting bats with vehicles.

5. The reclamation and landscaping of the areas, affected by the construction of the road should be carried out only with plant species, typical of the region and the use of invasive and potentially invasive alien species of higher plants in Bulgaria is not allowed to prevent the invasion of non-native species in natural habitats, subject to conservation in the Kresna-Ilindentsi Protected Zone and biodiversity in general.

6. Once the site has been put into operation, air quality control should be carried out in the residential areas of the most populated residential areas. If necessary, additional measures shall be provided for (such as appropriate afforestation, etc.).

7. Following the commissioning of the motorway section, control measurements of the equivalent noise levels in the closest sites and areas, subject to health protection shall be carried out in the town of Simitly, residential quarters of the town of Simitly - 'Dalgata mahala' and 'Oranovo', the Mineral Bath in the village of Oshtava, Cherniche and Pchelin village in the gorge, as well as in the residential quarters of the nearest residential buildings. If extraordinary noise levels are detected, additional acoustic protection measures shall be taken.

8. Monitoring of the equivalent noise levels shall be carried out in the nearest residential areas of the towns of Simitly, residential quarters of the town of Simitly 'Dalgata mahala' and 'Oranovo', the Mineral Bath in the village of Oshtava, Cherniche and Pchelin village in the gorge, according to the Self-Monitoring Plan. The plan should be coordinated with RIEW-Blagoevgrad and the Regional Health Inspectorate in Blagoevgrad and approved by the Executive Environment Agency (ExEA).

V. Measures under Art. 96, Para. 1, Subpara. 7 of the Environmental Protection Act

No.	Measures:	Period / phase of execution	Result
1.	The territories, provided for the construction of recreational sites should be studied in view of the possibility of their water supply and removal and discharging of waste water.	Design phase	Conservation of water protection zones
2.	Watertight layers should be constructed as part of the roadway when crossing the Sanitary Protection Zone (SPZ).	Design and construction	Conservation of water protection zones
3.	A lined watertight drainage system shall be designed for road pavement and road facilities within the scope of the investment proposal in the zones during the intersection of the 2nd and 3rd zones of the Sanitary Protection Zones (SPZs), whereas before the discharge of these waters in the receiving waters the construction of mud and oil collectors shall be provided.	Design and construction	Conservation of water protection zones

4.	Preliminary archaeological research shall be performed.	Prior to commencement of construction activities	Localization of all on-site visible archaeological sites and clarifying how the route and the range of Lot 3.2 of Struma Motorway communicate with their area and to what extent the construction would endanger their integrity.
5.	Rescue excavations shall be provided.	Prior to commencement of construction activities	Study of cultural layers and archaeological structures in the range of Lot 3.2 of Struma Motorway.
6.	Provide archaeological monitoring.	Construction works/Civil Engineering	The destruction of unknown archaeological sites or structures should not be allowed for
7.	Execution of blasting operations after preliminary calculation of the amount of explosive depending on the distance to residential areas	Construction works/Civil Engineering	Reduction of the extra dust and nitrogen oxides load on residential areas
8.	The use of dangerous substances and mixtures (e.g. fuel and oil, bitumen, paints and varnishes, permanent marking materials, explosive substances) should be made in conformity with the measures to prevent accidents, spillage or leakage and exposure controls, as identified by the respective regulatory/administrative act, in Safety Data Sheets and safety instructions.	Construction works/Civil Engineering	Human health and environmental protection from the impact dangerous substances and mixtures
9.	After completion of construction work, sites for temporary keeping of inert materials and building waste should be cleaned in due time, and waste will be transported to building waste treatment facilities pursuant to the Waste Management Act. If necessary, sites should be recultivated, using stored humus.	Construction works/Civil Engineering	Soil and air conservation. Restoration of damaged areas
10.	The West Aegean River Basin Directorate should provide information on the quality of water, used for technological purposes, which is used in the construction of the territory of the Sanitary Protection Zone (SPZ).	Construction works/Civil Engineering	Soil and water preservation
11.	No building materials should be used, containing priority and harmful substances, and ensure compliance with the prohibitions of Art. 118a of the Waters Act for the Protection of Groundwater from Pollution with Priority Substances. The prohibitions of Article 134 and Article 143 of the Water Act shall be observed.	Construction works/Civil Engineering	Soil and water preservation
12.	The temporary storage of waste containing priority, hazardous and noxious substances, generated in the	Construction works/Civil Engineering	Conservation of water bodies

	process of construction within the boundaries of the Sanitary Protection Zones (SPZs), as in the case of the absence of certain SPZ of water sources for drinking water and mineral waters, the recommendations of the River Basin Directorate 'West Aegean Region' shall be applied.		
13.	Compliance with the conditions for disposal of dredging spoils and rock – in authorized landfills and subject to the provision of stability	Construction works/Civil Engineering	Conservation of the earth's bowels
14.	When discovering rock masses in the preparation of the road track and tunnelling works, the passing of the tunnels shall be carried out in the volume and approach, similar to the exploration of deposits for building materials.	Construction works/Civil Engineering	Conservation of the earth's bowels
15.	Conduction of surveys of the content of radioactive substances or increased contents of ore mineralization in rocks before their incorporation in embankments at the site and/or land filling	Construction works/Civil Engineering	Conservation of the earth's bowels
16.	The removed humus layer should be stored at the designated landfills and subsequently used for the reclamation of damaged/eroded land territories.	Construction works/Civil Engineering	Soil preservation
17.	Execution of construction work outside the range of the road should not be allowed.	Construction works/Civil Engineering	Prevention of soil damaging outside the construction zone
18.	Timely performance of re-cultivation activities of embankments within the road.	Construction works/Civil Engineering	Preventing the occurrence of erosion processes
19.	The prohibitions, restrictions and limitations in case of proven necessity, according to the requirements of Annex 2 to Art. 10, Para. 1 of Ordinance No. 3 *on the conditions and procedure for the study, design, validation and operation of the sanitary-protection zones around the water sources and the facilities for drinking water supply and around the water sources of mineral waters, used for healing, prophylactic, drinking and hygiene needs* (SG, issue No. 88 of 2000), as well as the prohibitions and restrictions, according to the requirements of Art. 25, Para. 1 and Art. 26, Para. 1 and Para. 2 of *Regulation No. 14 on the resort resources, resorts and spas* (State Gazette, issue 1987, amended and supplemented). SG. No. 70 of 2004).	Construction and operation	Protecting the resort 'Oshtava Hladka Banya'
20.	Waste generated should be collected separately and stored at sites till their disposal for treatment, according to the	Construction works/Civil Engineering	Collection and storage of waste in accordance with the requirements of the waste

	requirements of the Waste Management Act and its implementing regulations.		management legislation.
21.	Using technically sound means of transportation for the transport of hazardous and industrial waste on and off site. Transportation of hazardous waste should only be made in closed metal containers/tanks.	Construction works/Civil Engineering	Soil and water protection.
22.	The construction waste shall be treated and transported by the Contracting Authority, the construction waste owner or another entity, meeting the requirements of Art. 35 of the WMA on the basis of a written agreement.	Construction works/Civil Engineering	Waste management in accordance with the Waste Management Act and its implementing regulations.
23.	The sites for temporary storage of building materials and wastes should be located within the range of the road, in the alienated roadway, where there is enough space.	Construction works/Civil Engineering	Waste management in accordance with WMA
24.	Waste petrol oils generated from emergency oil change should be collected in a manner allowing their regeneration – in closed containers that are chemically resistant, preventing spill or leakage, labelled and stored in a covered place.	Construction works/Civil Engineering	Soil and water protection.
25.	The organization responsible for the maintenance of the road surface should provide waste containers and transportation to waste treatment facilities according to Art. 12, item 2 of the Waste Management Act.	Operation	Reducing the harmful impact of waste on human health and the environment
26.	In the landscaping of the road route and the reclamation of disturbed terrains, typical plant species should be used and the use of invasive and potentially invasive alien species of higher plants in Bulgaria shall not allowed.	Operation	Conservation of biodiversity

This decision concerns only the investment proposal, which has been subject to the EIA, carried out under the procedure of the Environmental Protection Act.

In the event of changing the Contracting Authority, the parameters of the investment proposal or some of the circumstances under which this EIA decision has been issued, the Contracting authority / the new Contracting Authority shall inform the Ministry of Environment and Waters (MOEW) in accordance with Art. 99, Para. 7 of the Environmental Protection Act.

Pursuant to Art. 99, Para. 8 of the Environmental Protection Act, the EIA decision shall lose its legal effect, provided that within 5 (five) years from the date of its issuance the investment proposal has not started.

In case of non-fulfilment of conditions and measures in the EIA decision, the faulty persons shall be liable under Art. 166, Para. 2 of the Environmental Protection Act.

Pursuant to Art. 22, Para. 3 of the EIA Ordinance, I hereby assign to the Director of RIEW-Blagoevgrad and the Basin Directorate 'West Aegean Region' the control over the fulfilment of the conditions, specified in this decision.

Stakeholders may appeal against the decision within 14 days of its notification before the Supreme Administrative Court under the Administrative Procedure Code (APC).

Pursuant to Art. 60, Para. 1 of the Administrative Procedure Code (APC), the Contracting Authority - the Road Infrastructure Agency has filed a request with MOEW, under Incoming Reference No. EIA-85 / 3 October 2017 and a supplement of Incoming Reference No. EIA-85 / 5 October 2017 to allow for preliminary implementation of the EIA decision of an investment proposal for *'Improving the route of Lot 3.2 of Struma Motorway'* (the Decision).

Having considered the request of the Road Infrastructure Agency, which motivates the provision of citizens' lives and health and the protection of a particularly important state and public interest, I have reached the following conclusion:

The Struma Motorway has the status of a site of national importance, according to the Council of Ministers Decree No. 250 / 25 April 2013 within the meaning of § 5, item 62 of the Supplementary Provisions of the Spatial Development Act.

Lot 3.2 of Struma Motorway is a part of Trans-European Motorway (TEM) North-South and a part of the Pan-European Transport Corridor IV. As a road artery, it is of great significance for the integration of the National Transport Infrastructure into the European Transport System. It offers the shortest route, connecting the navigable route of the Danube River and the Aegean Sea and has an important role for the countries of the ViceGrad Four - connecting Romania, Bulgaria and Greece, and more generally – the Baltic, Black and Aegean Seas. This route is the route with the heaviest traffic in Bulgaria in the North-South direction. At the same time, Lot 3.2 of the Struma Motorway is the most dangerous road section, passing through the Kresna Gorge, where there are many traffic accidents **(**TA) with a large number of killed and injured drivers.

According to the opinion, issued by the RIA of Reference No. 49-00-72 dated 7 September 2017 of the Bulgarian Association of Victims of Road Accidents / BAVRA /, the following statistics are presented:

Data on the number of Road Traffic Accidents in the Area for the period 2012 - 2016			
	Number of road accidents/vehicle crashes	Number of human casualties	Number of injured people
Kresna Gorge (15 km long road route)	270	25	119
Blagoevgrad - Sandanski (length of the road route - 65 km)	893	52	300

By separating the traffic into separate lanes under the Eastern option G 10.5 m, the road safety will be improved significantly by implementing the appropriate measures, agreed with the traffic police. With the realization of the site, the number of crashes will be reduced. In this sense, preliminary enforcement is necessary due to the existence of the required prerequisites in Art. 60, Para. 1 of the APC, namely to ensure the life and health of citizens and to protect particularly important state and public interests.

In addition, time is a major factor in the realization of the site, given the need to comply with commitments already made to the European Commission, namely the completion of the construction of Struma Motorway, Lot 3 by the end of 2023. The seasonal nature of part of the activities, subject to the realization of the site, the existence of technical rules - internal and normative for the execution of the different construction activities, determine in their totality also the necessity of their timely assignment, respectively fulfilment. Therefore, the presumption of prior enforcement of this administrative act is fully justified. With the completion of Lot 3.2, the construction phase of the entire highway is completed, for which Bulgaria has undertaken commitments as outlined above.

Pursuant to Art. 19, Para. 1, Subpara. 1 of the Road Act, the Road Infrastructure Agency manages the national roads, which serve for the transport of passengers and goods within the meaning of the Roads Act. The protection of all persons, using the republican roads has a priority to protecting the

interests of individual economic operators who might be affected by it. Given the important geographical location of the country, the membership in the European Union and the forthcoming winter season, the protection of public interests, related to the increasing requirements for the country's road infrastructure, the Republican road network needs to be built, maintained and managed qualitatively, yet in a timely manner.

In view of the above, I believe that the provisions and prerequisites, provided in the hypothesis of Art. 60, Para. 1 of the APC, which underlie the pre-implementation of this decision, as this will accelerate the final completion of the Struma Motorway implementation, which will ensure the life and health of citizens and will protect particularly important state and public interests within the meaning of that provision.

In view of the above, I find the request of the Contracting Authority justified and I also find that the prerequisites of Art. 60, Para. 1 of the Administrative Procedure Code, namely to ensure the life and health of citizens and to protect particularly important state and public interests, which is why

HEREBY ORDER THE FOLLOWING

Allow the preliminary implementation and enforcement of this Decision.

Pursuant to Art. 60, Para. 4 of the APC, the order for admission of preliminary enforcement is subject to appeal through the Minister of Environment and Water before the Supreme Administrative Court within three days of its notification.

Date:…….. **MINISTER:**

NENO DIMOV

WILD ANIMALS PROTECTION FACILITIES
SITE: ROAD I-1 / E79 FROM KM 375+606.24 TO KM 396+137
SECTION: FROM KM 375+606.24 TO KM 396+137

The purpose of the designed facilities is to reduce/eliminate the negative impact of the operation of Lot 3.2 of Struma Motorway, right roadway, in the section, coinciding with the existing road I-1 / E79. These impacts have been identified in the Report for Assessment of the Degree of Impact /RADI/ and Report on the Environmental Impact Assessment /REIA/, and were assessed as significant with respect to the reptile species, subject matter of preservation within the Kresna – Ilindentsi Protected Area (*Testudo hermanni, T. graeca, Elaphe quatuorlineata, E. situla*), as well as amphibians and reptiles with a higher nature protection status (included in Appendix 3 to the Biodiversity Act /BDA/ and/or the Bulgarian Red Book), which were not subject to protection in the Protected Area (*Pelobates syriacus, Bufo bufo, B. viridis, Telescopus falax* etc.). The following impacts were identified – increased death rate during operation, as a result of running over by passing motor vehicles and a barrier effect, mainly due to the increased death rate. The combination of these two impacts may result in functional fragmentation of the populations of the mentioned species, which could result in the subsequent distinction of the two sub-populations (to the west and to the east of the route) of the species, limited in their distribution to the lowest parts of the gorge.

The prevention/reduction of such impacts may be ensured by the implementation of two types of measures – fencing facilities, preventing any access to the roadway, and thus – preventing the death of members of the species mentioned, as well as passageway facilities, allowing their unobstructed passage under the roadbed.

1. Fencing Facilities

The fencing facilities are made of a net with 0,5/0,5 cm openings, and height of 120 cm above the ground, and an underground part - 20 cm (built into the ground). They are combined with the standard fence, where applicable and where possible, or as separate facilities in all other cases. These facilities cover the entire length of the right roadway, on both sides, with the exception of the bridges and tunnels. They are to be positioned in such a way that to virtually fence every above-ground portion of the road.

2. Passageway facilities

Passageway facilities shall be constructed along the entire right roadway, with the exception of the bridges and tunnels, which are also facilities, enabling the unobstructed passage of wild animals from one side of the motorway to the other. The passageway facilities are basically existing facilities – sewers, underpasses etc., some of them modified and some (most of them) newly designed. Within the Protected Area, from km 381+100 to km 396+137, a total of 172 facilities have been designed, of which 50 have a diameter of 50 cm, and the other – over 80 cm. Without consideration of the tunnels and bridges (two tunnels, four major and one minor bridges with a total length of 964 m), the average density of the other passageway facilities us 82 m (one facility every 82 m).

In our opinion, the combination of protective and passageway facilities will fully eliminate the risk of death and will reduce the barrier effect for the following species: Testudo hermanni, T. graeca, Elaphe quatuorlineata, E. situla, as well as for other amphibians, reptiles and small mammals, including protected animals in the Protected Area.

- MARCH 2017 –

REPUBLIC OF BULGARIA

Struma Motorway Lot 3.2

Progress since November 2016

09 March 2017

1. INTRODUCTION

The Struma Motorway project has been monitored by the Bureau and Standing Committee of the Bern Convention for years and as part of this process Recommendation No. 98 (2002) has been issued. Following a complaint from local NGOs, the progress of the project has been reported at the 35th and 36th Meetings of the Standing Committee, and reviewed at meetings of the Bureau in 2015 and 2016.

This report summarises the progress of the environmental procedures and project preparation since November 2016. As this is a regular communication to the Bureau, only relatively *limited* background information about the project is included and the main focus is progress. Background information has been provided as part of previous communications to the Bureau and the Standing Committee (please see for example T-PVS/Files(2016)11[1]).

2. PROJECT SUMMARY

Struma Motorway is an important road link connecting the capital of Bulgaria, Sofia, and Greece. Most of the motorway has been constructed but the most difficult section remains. It is called Lot 3 of Struma Motorway and is the main priority of Operational Programme Transport and Transport Infrastructure 2014-2020.

There is an existing road (E-79) in the direction of Struma Motorway. It passes through the environmentally sensitive Kresna Gorge for about 20 km. The gorge hosts two Natura 2000 sites, as well as a number of national protected areas. Due to the difficult terrain and the high volume of heavy goods vehicles using the existing road there is a very high rate of traffic accidents in the Kresna Gorge area. In the period 2010-2015 the statistics indicate 68 accidents/year, about 4 fatalities/year and 26 injured/year. The road also passes through Kresna town which increases the exposure of the population to accidents, noise and pollution. The accidents in Kresna town are also a serious issue demanding solution.

There has been an EIA procedure carried out in 2007 and a new formal EIA procedure has commenced in 2014 and is ongoing.

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1 https://wcd.coe.int/com.instranet.InstraServlet?command=com.instranet.CmdBlobGet&InstranetImage=2943139&SecMode=1&DocId=2362790&Usage=2

3. DESIGN OF THE ALTERNATIVES

3.1 Introduction

During the period of project preparation more than 20 alternatives have been proposed. The main alternatives being considered in recent years are as follows:

- Long Tunnel Alternative (2008-2015) – a tunnel with length of 15.4 km at the west side of Kresna Gorge going parallel to the existing road through the gorge;
- Dual Carriageway Alternatives (2014, 2015) – there have been two alternatives for doubling the existing road through the gorge designed in 2014 and 2015;
- New Eastern Alternatives (2016-) – the first of these alternatives was proposed by the authorities in early 2016 and includes the construction of a two-lane bypass of Kresna Gorge, so that traffic in one direction can use the bypass and the traffic in the other direction could use the existing road. A full dual carriageway bypass following the same route has also been considered.

Details regarding the state of preparation of the alternatives follow.

3.2 Long Tunnel Alternative

This is the preferred alternative from the EIA/AA decisions from 2008. The design was carried out in the period 2013-2015 and features a tunnel with a length of 15.4 km. As the preliminary analyses demonstrated that the environmental and other impacts of the tunnel would be significant, a new EIA/AA procedure to evaluate these impacts commenced in late 2014.

3.3 Dual Carriageway Alternatives

After significant environmental and feasibility problems with the Long Tunnel Alternative became apparent in 2014, the authorities attempted to find a "backup" solution. In order to minimise the effects on the environment the motorway was downgraded to a dual carriage road with lower speed and the existing road through the gorge was included in the design as one of the carriageways.

A feasibility design for a dual carriageway road through Kresna Gorge was carried out in 2014 and a preliminary design was completed at the end of 2015. The two alignments are being evaluated as part of the new EIA/AA.

3.4 New Eastern Alternatives

In an attempt to avoid Kresna Gorge altogether, in May-June 2016 the Road Infrastructure Agency formulated a completely new eastern alternative. It featured the construction of a unidirectional two-lane road to bypass Kresna Gorge so that traffic in one direction uses the new road and the traffic in the other direction uses the existing road.

A feasibility design was carried out in 2016 and a competition for the preliminary design was announced in late 2016. The deadline for submission of designs was in February 2017 and there have been two proposals received. The proposals are presently being evaluated by the Road Infrastructure Agency and the evaluation is expected to be completed in April 2017.

The feasibility design from 2016 has been considered sufficiently mature for the purposes of EIA/AA and is being evaluated as part of the procedure.

Further to demands from environmental NGOs the authorities agreed to evaluate as part of the EIA/AA an additional alternative for the construction of a full dual carriageway bypass of the gorge.

4. ENVIRONMENTAL IMPACT ASSESSMENT / APPROPRIATE ASSESSMENT

The EIA/AA procedure was initiated in December 2014 and in the beginning of 2015 the communities affected by the project were notified about it. The initial scope of the EIA/AA included the comparison of the Long Tunnel Alternative and the Dual Carriageway Alternative.

In May 2015, the Ministry of Environment and Water issued specific instructions to NCSIP on how to proceed with the development of the EIA/AA for the project. It was specifically noted that preference must be given to complying with Recommendation No. 98.

In the period November – December 2015 consultations of the scope and content of the EIA report were carried out. After receiving comments from the relevant authorities and NGOs the scope was revised and forwarded in December 2015 to JASPERS for review and comments.

In January 2016 JASPERS' recommendations and methodological comments on the EIA process and content of the EIA report were received. As a result, a working document was prepared and agreed upon. The document was also reviewed and agreed by the Ministry of Environment and Water. The document was then forwarded to the services of EC (DG ENV and DG REGIO) and the Bureau of the Bern Convention for information.

In March 2016 MoEW issued specific requirements and recommendations to the scope and content of the EIA report. The letter confirmed that the scoping document is in compliance with the applicable requirements and underlines that the EIA report must include detailed environmental analysis of all alternatives mentioned in the scoping document. This was also in line with the general recommendations of DG ENV received at meetings in March and May 2016.

In 2016 the EIA scoping document was revised to take into account the instructions received by MoEW, various recommendations from third parties and to provide for the evaluation of the newly developed eastern alternative.

The revised scope was once again made subject to public consultations in October – November 2016. The comments and recommendations were reflected in the scoping document and consequently, MoEW issued an approval letter (*Appendix 1* to this report).

In February 2017, the EIA scoping document (*Appendix 2*) was forwarded to DG ENV and JASPERS for information. The progress of project preparation and EIA/AA were discussed on 15 February 2017 at a meeting between DG ENV, DG REGIO and JASPERS.

The EIA/AA report is expected to be ready in early April 2017.

After the EIA/AA report is available it will undergo a quality review by MoEW and will be made subject to public consultations – expected to take place in June 2017.

Struma Motorway Lot 3.2 in Kresna Gorge is still not under construction. Construction may commence only after an alternative has been selected as part of the EIA/AA process and an EIA decision has been issued.

Appendix 1

REPUBLIC OF BULGARIA

Ref. No OBOC-85/13.01.2017

TO
MS. ILIANA ZAHARIEVA
MEMBER OF THE MANAGEMENT BOARD OF
ROAD INFRASTRUCTURE AGENCY
3, Makedonia Blvd.
1606, city of Sofia

To your Ref. No 04-09-1/03.01.2016

COPY:
REGIONAL INSPECTORATE OF ENVIRONMENT AND WATER – BLAGOEVGRAD
WEST-AEGEAN BASIN DIRECTORATE
MUNICIPALITY OF SIMITLI
MUNICIPALITY OF KRESNA
MAOYRALTY VILLAGE OF ZHELEZNITSA
MAOYRALTY VILLAGE OF KRUPNIK
MAOYRALTY VILLAGE OF GRADEVO
MAOYRALTY VILLAGE OF POLETO
MAOYRALTY VILLAGE OF GORNA BREZNITSA
MAOYRALTY VILLAGE OF DOLNA GRADESHNITSA
MAOYRALTY VILLAGE OF CHERNICHE
MAOYRALTY VILLAGE OF BREZHANI
MAOYRALTY VILLAGE OF RAKITNA
MAOYRALTY VILLAGE OF MECHKUL
MAOYRALTY VILLAGE OF SLIVNITSA
MAOYRALTY VILLAGE OF OSHTAVA
MAOYRALTY VILLAGE OF STARA KRESNA
MAOYRALTY VILLAGE OF VLAHI

Regarding: ***Terms of Reference on scope and contents of Environmental Impact Assessment (EIA) of Investment Proposal for "Improving the Route of Lot 3.2 of Struma Motorway"***

DEAR MS. ZAHARIEVA,

In relation with the presented in the Ministry of Environment and Water (MoEW) (with incoming No OBOC-85/03.01.2017) Terms of Reference for determination of the scope and the contents of EIA of the abovementioned Investment Proposal (IP), we are of the opinion that:

I. With regard to the Terms of Reference on Environmental Impact Assessment (EIA):

The Terms of Reference were developed in compliance with the requirements of Art. 95, Para. 2 and Para. 3 of the *Environmental Protection Act* (EPA) and taking into consideration Art. 10, Para. 1 and Para. 3 of the *Ordinance on the conditions and the procedures for implementing an Environmental Impact Assessment* (the Ordinance on EIA).

We have the following remarks under the proposed scope of the Assessment, which are necessary to be reflected in the final variant of the Terms of Reference and to be taken into consideration at the development of the EIA Report:

Under component "*Waters":*

The measures, which are input for the concerned by the Investment Proposal water sites in the River Basin Management Plan 2016-2021 of the West-Aegean Basin Directorate, approved by Decision No 1108/29.12.2016 of the Council of Ministers should be taken into consideration at the development of the EIAR in the section "Waters"

We inform you herein that, in view of the proposed new alternatives for the passing of the route beyond the Kresna Gorge (Eastern Alternatives) an opinion was requested by the Director of Water Management Basin Directorate West-Aegean Region about the admissibility of the Investment Proposal with regard to the regimes defined in the ratified plans for management of the river basins of the East-Aegean Region, on the grounds of Art. 4a of the Ordinance on EIA, which opinion we shall additionally present to you.

Under component "Biological Diversity":

• The structure and the contents of the updated Terms of reference with regard to component Biological Diversity are in compliance with the requirements of Art. 10, Para. 3, items 3 and 4 of the Ordinance on EIA and of Art. 95, Para. 2 of the Environmental Protection Act.

In view of the availability of many species with nature protected status in Section 3.5. *"Flora and Fauna Elements of the National Ecological Network "* of the Terms of Reference it is anticipated that updated information about the flora and the fauna in the area of the project routes of the Motorway should be presented in the Report on EIA. It is anticipated that the expected impacts on the species during the construction and the operation of all the project alternatives proposed by the Contracting Authority should be specified and evaluated. It is expected that in the EIA Report should be made analyses and assessment, which should reflect the impact from the implementation of the Investment Proposal on the species from Annex 3 of the *Biological Diversity Act,* as well as mitigation measures for their preservation should be proposed.

Under factor "Wastes":

At the development of the EIA Report and the passing to the following stages of implementation of the Project, the following should be taken into consideration:

1. The wastes formed should be handed over on the grounds of written contracts to persons in possession of the relevant document pursuant to Art. 35 of the *Waste Management Act* (WMA);

2. The wastes which will be formed during the period of implementation of the Project (during the construction and the operation), should be treated in compliance with the requirements of the Waste Management Act and the subordinate regulations for its application;

3. The Contracting Authority shall be responsible for the development of a Construction Wastes Management Plan, in accordance with the Waste Management Act and the *Ordinance on Management of Construction Wastes Prior to the Commencement of Construction and Assembly Works and/or Removal of Construction*.

4. With regard to the management of the earth masses generated during the construction the requirements of the Waste Management Act and the provisions under Art. 22 of the Waste Management Act of the relevant municipalities, which territory the Investment Proposal is to be realized on, should be applied ;

5. “Sites for permanent storage of earth masses” are anticipated in Alternative “Long Tunnel Alternative”, the “Kresna” Tunnel. In this connection we are of the opinion that it should be clarified what is meant by this term used;

6. The location of the sites for storage of earth masses, which shall be used on the site and grounds for excavated earth masses, which do not correspond to the design specifications for use in the construction, should be coordinated with the relevant municipal administration;

7. In item 1 C of the Terms of Reference, in the section “During the operation period”, the expression “transportation means out of use” to be replaced by “out of use motor vehicles”.

Protected areas:

Several alternatives for the implementation of the indicated Investment Proposal - G20 – blue and red; Eastern Alternative G 10.50; Long Tunnel Alternative, “Kresna” Tunnel are considered in the presented supplemented Terms of Reference on the scope and contents of the EIAR. The following alternatives are anticipated to be considered for the implementation of the Investment Proposal - Eco A – eastern alternative; Eco B – eastern alternative; Western alternative; East Alternative of NGO of 2002; Eastern Alternative G- 20 beyond Kresna Gorge.

In the Terms of Reference is recorded that there are three protected areas under the *Protected Areas Act* (PAA) within the area of the Investment Proposal for a route of Lot 3.2, which will be considered in the EIA Report, namely:

• Protected area (PA) “Kresna Gorge”, designated as a buffer area of Reserve Tisata by Order No 130/22.02.1985 of the of the Chairman of CPNE (SG, issue 24/1985), amended by Order No.844/31 October 1991 (SG, issue 24/1985) of the Minister of Environment and re-classified into protected area by Order No. РД - 56/30 January 2008 (SG, issue 29/2008) of the Minister of Environment and Water.

• Tisata” Reserve (R) is designated with Decree № 6663/05.12.1949 of the Ministry of Forests, by an Order No. 440/09.12.1977 (SG issue 6/1978) of CPNE and Order No. 844/31.10.1991 (SG issue 93/1991) of MOE for changes in the area.

• Protected area Moravska, designatd as a natural landmark by the means of Order No. 133/22.02.1985 of CPNE (SG issue 26/1985), with category changed to protected area by the Order No. 727/28.09.1991 of MOE (SG issue 87 of 1991).

In connection with the stated hereinabove we inform you that natural landmark Momina Skala, designated by Order No 468/30.12.1977 of the Chairman of CPNE with the Council of Ministers (promulgated SG, issue 6/1978) and protected area Natural habitat of the plane - Buyna , designated as a natural landmark by Order No 1427/13.05.1974 of the Ministry of Forests and Environmental Protection (promulgated, SG, issue 44/1974) and re-categorized into a protected apea by Order No РД - 647/25.05.2003 of the Ministry of Environment and Water (promulgated, SG, issue 60/2003) should also be considered.

From the proposed variants and alternatives for realization of the Investment Proposal, the following concern protected areas within the meaning of the Protected Areas Act:

- Alternative G-20 red and Alternative G-20 blue – according to the attached geodetic surveying the route is within the scope of the existing road, and partially affects protected area Kresna Gorge. In compliance with item b of the permission regime, introduced by Order No 130/ 22.02.1985 of the Chairman of CPNE (promulgated, SG, issue 24/1985) “the maintenance and the reconstruction of the international road Sofia – Kulata” is permitted within the limits of the buffer zone. In this connection Alternative G-20 red and blue are **admissible** with regard to the regimes of the protected area.

- ECO A – eastern alternative concerns protected area “Kresna Gorge”. According to item b of the prohibition regime, introduced by the indicated hereinabove Order No 130/22.02.1985 “the construction of buildings and roads” is prohibited within the limits of the protected area. In this connection and in view of the circumstance that this alternative variant is related to the construction of

a new route, we are of the opinion that the same is **inadmissible** with regard to the regimes of the protected area.

- Western alternative passes through protected area Natural habitat of the plane - Buyna. According to the order for designation "the cutting, trimming and damaging trees as well as uprooting of any plants" is prohibited within its limits. Within this connection the indicated alternative is **admissible** for realization with the elongation of the anticipated tunnel and its passing under the quoted protected area with a view of not affecting existing vegetation.

All the alternatives of routes for realization of the Investment Proposal are within the limits of protected areas under the *Biological Diversity Act* BG0002003 "Kresna" for conservation of wild birds, environment and waters and BG0000366 "Kresna – Ilindentsi" for conservation of the natural habitats and of the wild flora and fauna and the realization of each of them is not in conflict with the introduced by Order No РД - 748/24.10.2008 (promulgated, SG, issue97/2008) of the Minister of Environment regime of protected area for conservation of the wild birds BG0002003 "Kresna".

In view of the circumstance that at stage Terms of Reference from the procedure under the sequence established by Chapter Six of the Environmental Protection Act new alternatives are proposed for realization, they will be evaluated both in the EIA Report and in the Report on the Degree of Impact Assessment (RDIA). The assessment should be in compliance with the requirements of Art. 23, Para. 2 of the Ordinance on Environment and these included in letter with outgoing No OBOC-85/13.05.2015 of the Ministry of Environment and Water, by which an assessment for the need of development of RDIA was made.

II. The following steps, which you should undertake as a Contracting Authority of the Investment Proposal are to present to the Ministry of Environment and Water:

• A request for issuance of a decision under EIA **in conformity with model form according to Annex No 8,** to which to present one copy of the EIA Report with all the attachments in hard copy and electronically for evaluation of the quality of the Report, including RDIA, non-technical summary and a final variant of the Terms of reference on EIA **with reflected remarks indicated above and with presented results of consultations conducted,** in fulfillment of your obligation pursuant to Art. 95, Para. 3 of the Environmental Protection Act;

• A copy of a document for paid fee (1500 BGN) under Art. 1, Para. 5, item 2, letter "a" of the *Tariff of Fees Collected in the System of the Ministry of Environment and Water*. You should effect the payment through a bank transfer into account:

IBAN BG35 BNBG 9661 3000 1387 01,

BIC BNBGBGSD.

We remind you that pursuant to Art. 13, Para. 2 of the Ordinance on EIA you are obligated to provide equality of the contents in the documentation (the report and all its attachments) in hard copy and electronically.

We inform you that on the grounds of Art. 2a, Para. 5, item 4 of the Ordinance on EIA, the procedure under EIA (inclusive of the CA) for the Investment Proposal indicated above may be terminated when no report on EIA is submitted for over 12 months on the evaluation of its quality pursuant to Art. 13 of the Ordinance on EIA after consultations held with regard to scope and contents of EIA pursuant to Art. 10, Para. 5 of the same Ordinance.

IVELINA VASILEVA /*Sgd. Ill*./
Minister of Environment and Water
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