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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee
45th meeting
Strasbourg, 8-12 December 2025

Bureau of the Standing Committee
8-10 April 2025
Strasbourg

Complaint on stand-by: 2022/01

**Alleged habitat destruction in the area of Novi Sad due to
proposed infrastructure constructions (Serbia)**

- GOVERNMENT REPORT -

*Document prepared by the
Ministry of Environmental Protection, Serbia*



Republic of Serbia
MINISTRY OF
ENVIRONMENTAL PROTECTION
No. 001818430 2024 14850 004 008 000 001
Date: 30 January 2025
Nemanjina 22-26
Belgrade

Council of Europe
Directorate General of Democracy
Secretariat of the Bern Convention
F-67075 Strasbourg, France
Mr. Mikaël POUTIERS,
Secretary of the Bern Convention

Subject: The Progress Report concerning the Complaint No. 2022/1: the Complaint on stand-by: Serbia: Alleged habitat destruction in the area of Novi Sad due to proposed infrastructure constructions

Dear Mr. Poutiers,

Regarding the request of the Secretariat of the Bern Convention of 15 April 2024 concerning the Complaint No. 2022/1: the Complaint on stand-by: Alleged habitat destruction in the area of Novi Sad due to proposed infrastructure constructions, submitted to the Secretariat by the Non-Governmental Organisation "World and Danube", on the behalf of the Ministry of Environmental Protection, we would like to inform you of the following:

In accordance with the Decision of the Bern Convention Bureau, the Ministry of Environmental Protection, in the capacity of the competent authority which monitors the implementation of the Bern Convention in the Republic of Serbia, sent the Request number 001818430 2024 14850 004 008 000 001 of 6 June 2024 for reporting on progress to competent bodies and organisations, namely: the Provincial Secretariat for Urban Planning and Environmental Protection, the Institute for Nature Conservation of Vojvodina Province, the City Administration for Environmental Protection of the City of Novi Sad, and Public Enterprise "Urbanizam" Novi Sad and the company Corridors of Serbia LLC.

In accordance with the reports received from the above mentioned bodies and organisations, we hereby inform you of the following:

1. The Provincial Secretariat for Urban Planning and Environmental Protection, in its Statement No. 140-501-411/2022-06 of 18 July 2024, informed us that it did not have any new information on any new actions concerning the area in question.

2. Institute for Nature Conservation of Vojvodina Province (hereinafter: Institute), in its Statement number 03022-180/2 of 27 January 2025, submitted a statement of reasons on the inadequacy of the georeferenced data which had been submitted to the Institute by the Association "World and Danube", as follows:

2.1. When it submitted the georeferenced data, the Association "World and Danube" requested payment for the data from the Institute. Nevertheless, the submitted data have been deemed inadequate due to the fact that it is impossible to check their accuracy, verifiability, methodology used to collect them, and key information on the status of the identified species or habitats in the area in question. Without these elements, the relevance of the data in terms of nature conservation and potential endangered status cannot be interpreted, or may even be

misinterpreted. On these grounds, **the Institute has requested supplemental data, but such data have not been submitted yet.**

The Institute has also submitted, in the Appendix to the Report, the List of species which have been identified in separate habitats in accordance with the General Urban Plan of the City of Novi Sad in the Šodroš area, for which the Institute has issued nature conservation condition upon a request of the Ministry of Construction, Transport and Infrastructure and Corridors of Serbia LLC (03 number 020-3709/6 of 24 January 2022 and 03 number 019-384/2 of 7 March 2022).

2.3. The Institute has analysed the conformity of the data on species and habitats given in the Environmental Impact Assessment Study with the data from the Database of the Institute, stating that:

The Environmental Impact Assessment Study does not reference the amphibian and bird species which are included in the Database of the Institute, namely: Smooth newt (*Lissotriton vulgaris*) - Bern: Appendix III, Great spotted woodpecker (*Dendrocopos major*) - Bern: Appendix II, Song thrush (*Turdus philomelos*) - Bern: Appendix III and European robin (*Erithacus rubecula*) - Bern: Appendix II

The chapter of the Environmental Impact Assessment Study titled "Impacts on Fauna" does not reference any of the animal species included in the Database of the Institute.

3. The **City Administration for Environmental Protection of the City of Novi Sad** submitted the Report (number VI-501-1/2025-17 of 28 January 2025), informing the Ministry of Environmental Protection that it had no additional information or statements concerning the previously submitted Report number VI-501-1/2022-154 of 17 May 2022 and number VI-501-1/202-154a of 14 November 2022.

4. Public Enterprise "Urbanizam" Novi Sad submitted a Statement of 29 January 2025, stating that, in the area of the City of Novi Sad, for the purpose of implementation and working out the urban planning details of the Spatial Plan of the Special Purpose Area of the infrastructure corridor of the state road of class I, number 21 Novi Sad - Ruma - Šabac, it had drawn up the following planning documents:

- Detailed Regulation Plan of the section of the infrastructure corridor of the state road IB-21 from the bridge over the Danube River to the intersection Kač in Novi Sad (*Official Journal of the City of Novi Sad*, No. 38/2018)
- Detailed Regulation Plan of the section of infrastructure corridor of the state road IB-21 in the administrative area of the City of Novi Sad (*Official Journal of the City of Novi Sad*, No. 26/2017);

And that they still held the view expressed in the cited Statement, noting the fact that the assessment of possible impacts in the area in question in the Report on the Strategic Environmental Assessment concerning the General Urban Plan of the City of Novi Sad until 2030 had been from the perspective of the strategic document on the development of the City of Novi Sad, and thus the actual cumulative impact was not emphasised, and the document instead showed general measures and impact assessment in the area covered by the General Urban Plan.

5. Corridors of Serbia LLC submitted an Extract from the Environmental Impact Assessment Study for the purpose of an overview of the:

5.1 Potential impact of the proposed infrastructure on relevant species and the actual cumulative impact of activities at the location and in close vicinity of the construction site of the bridge, actual cumulative impact of activities in the area on protected species and habitats, and data on potential compensatory measures and mitigation measures, namely:

1) Areas covered by the project include areas which are remnants of the in the Danube riverbank floodplain, characterized by a relative resilience and adaptability of living communities, which have endured adverse human impacts relatively well over the previous centuries. The habitat in question and the Šodroš site are located **in the urban area, i.e. on the urban fringe**. On one side of it is the city area, on the other is the Fisherman's Island, and on the third side is the Danube River.

2) **Animal species are mostly located at the western and central parts of the site, closer to the fringe of the distributary. They are less numerous in the area where the project works are executed and in the area where the planned bridge columns are to be located. In addition, the area of works on the construction of the bridge and future bridge columns are planned to be on the fringe of the habitat, while the grade line of the bridge is designed to be above the existing terrain, at the appropriate height, so that negative impacts of the traffic would be lower. Due to the above, impact on the flora in the habitat and its surrounding area is considered negligible.**

Regarding a starlet species, the distributary itself is not important and would not play a significant role in the life of a part of the population of this species which could possibly be found in the vicinity of this area. It is important to implement or observe the full prohibition of any partitioning of the distributary or discharge of any liquid substance which would have an adverse impact not only on the starlet species, but also on all aquatic species of both plants and invertebrates and vertebrates, as well as avoid any works during the period of reproduction of ichthyofauna.

3) All species which are located in the habitat and its surrounding area adapt very fast to changes and impacts which they are already affected by, and have the capability of renewal and redevelopment on the sites.

5.2. Protection measures which would serve to contain negative consequences within acceptable limits are, for each of the observed impacts, shown in detail in the Extract from the Environmental Impact Assessment Study, and are attached with this Report, including the following:

- Technical measures during the construction phase

During the construction of a bypass around Novi Sad with a bridge over the Danube River, a series of measures need to be undertaken to minimize the possible environmental impact: 1. The Contractor is obliged to implement appropriate measures when building administrative facilities, warehouses and machinery, in accordance with applicable regulations, 2. All packaging for oil and petroleum products must be collected and carried to controlled landfills, 3. The construction site meets its needs for drinking water with delivered bottled water, 4. Fuel is delivered to the construction site in cisterns and poured directly into the machines, 5. All types of waste are handled in accordance with the Law on Waste Management and the Law on Packaging and Packaging Waste, 6. Arrange the construction site in an area of minimum size, 7. Prohibit the opening of uncontrolled access roads to certain parts of the construction site, 8. After the completion of the works, landscape all borrow pits and landfills, 9. After the completion of works, revitalise the habitat.

- Technical measures during the exploitation phase

Measures in the exploitation phase of the bypass around Novi Sad with a bridge over the Danube River entail the following: 1. Sections of the bypass around Novi Sad with a bridge over the Danube River need to be equipped with appropriate traffic signals (horizontal and vertical) 2. For the purposes of winter maintenance, all operational plans need to be drawn up taking into account nature conservation, 3. The horticulture of embankment slopes needs to be managed by improving the visual effects and preventing erosion, 4. For landscape, use the species listed in the Guidelines for Revitalisation, 5. With a view to minimizing soil salting as a consequence of winter maintenance, use other substances as a substitute for Sodium Chloride, 6. It is necessary to monitor the environmental status every five years during the first 20 years of the exploitation of the bridge, followed by a regular 10 year period.

- Measures of protection from traffic noise

During the construction of the section in question, the overall level of noise will rise. The Contractor is obliged to observe the measures of protection from noise during the execution of works which will be prescribed in the Environmental Protection Plan. The nature conservation requirements of the Institute for Nature Conservation of Vojvodina Province prescribe, as regards the impact of noise reduction, together with greening measures given in the Guidelines for Revitalisation, **placement of the sound barriers in the area of impact on the habitat as well as on Šodroš**. It may be assumed that, by practicing above measures, **noise reduction will be sufficient**, and will not have an adverse impact on fauna.

- Measures of protection from air pollution

During the execution of works, it is necessary to: 1. Prevent any occurrence of dust from uncovered parts of the route and construction site by regular humidification in dry and windy weather 2. Prevent uncontrolled dispersal of construction material from the construction site area, 3. The construction machinery and means of transport shall meet the established technical rules and be in working order.

- Measure of protection of waters

1. Laboratory tests of surface water and ground water need to be conducted right before the start of the construction works, for the purpose of determining reference values, 2. Before the discharge of water into the Danube River, it is necessary to purify the discharged water, so a separator is to be constructed right before the discharge 3. Three types of sewage pipes are provided for.

- Measures of protection of the ecological corridor and measures for reduction of adverse impacts on the areas of importance for the preservation of biodiversity

Taking into the account that areas covered by the project include habitats of protected and strictly protected wild species, the Institute for Nature Conservation of Vojvodina Province has prescribed measures

for the purpose of protection of the functionalities of the ecological corridor and conditions for reduction of adverse impacts on areas of importance for preservation of biodiversity.

Measures during the construction of the bridge include: 1. Prohibition of opening any borrow pits, disposal of waste material and placement of any temporary facilities/materials for planned works outside the planned route of the bridge within the boundaries of the habitat and in the area of direct hydrological impact (200 m), as well as in the area of the ecological corridor, 2. In all phases of construction and landscaping, preserve the existing natural vegetation, 3. The required materials for construction are to be temporarily deposited at a location planned for that purpose.

Measures for the purpose of protection of the functionalities of the ecological corridor: 1. The technical solution for the construction of the bridge and landscaping of the coastal area should enable an unobstructed passage for animals alongside the banks of the Danube River, 2. Preserve/create a coastal vegetation belt which is linked to the vegetation of the surrounding area, 3. Apply technical and biotechnical solutions (rough surface belts and slopes under 45°), avoid creation of steps, use a natural substrate, reduce impacts of lighting, 4. Provide technical solutions for all hydrotechnical facilities which create barriers for movements of animals, 5. Apply technical solutions for protection from noise.

Apply technical solutions which ensure a sustainable solution for illumination of the bridge (applying a light spectrum with a lower impact on animals).

Pending your reply, we would like to thank the Bureau in advance for its highest consideration of the report.

In the attachment of the official letter, we hereby submit the supporting documentation.

Sincerely,

Vice President of the Government and
Minister



Mrs. Irena Vujović

REPUBLIC OF SERBIA
AUTONOMOUS PROVINCE OF VOJVODINA
CITY OF NOVI SAD
CITY ADMINISTRATION FOR
ENVIRONMENTAL PROTECTION
No. VI-501-1/ 2025- 17
Date: 28TH January 2025
NOVI SAD

Republic of Serbia
MINISTRY OF ENVIRONMENTAL PROTECTION
Belgrade

Subject: Request for opinion on progress regarding the Appeal No. 2022/1: the Appeal is being monitored: Serbia: Alleged destruction of habitat on the territory of Novi Sad due to construction of infrastructure facilities

Reference: Your Request No: 001818430 2024 from 6TH June 2024

The City Administration for Environmental Protection has considered your request for reporting on progress regarding the Appeal No. 2021/1: Appeal is being monitored: Serbia: The alleged destruction of habitat on the territory of Novi Sad due to proposed construction of infrastructure facilities, No. 001818430 2024 from 6th June 2024, and states the following:

The City Administration for Environmental Protection has submitted the opinion on the appeal in question in the previous responses and has considered allegations specified in the appeal which refer to its scope of work and remains of the same opinion as referred to in submissions No. VI-501- 1/2022-154 from 17th May 2022 and No. VI-501-1/2Q22-154a from 14th November 2022.

Acting Head Jelena Moravski, sign manual.



PE "URBANIZAM"

INSTITUTE FOR URBAN PLANNING

3/III

PUBLIC ENTERPRISE "URBANIZAM", INSTITUTE FOR URBAN PLANNING OF NOVI SAD, BULEVAR CARA

LAZARA

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Number: 101/25

Date: 29 January 2025

Republic of Serbia

Ministry of Environmental Protection,

Nemanjina 22-26, Beograd

Your number: 001818430 2024 14850 004 008 000 001

SUBJECT: Statement by PE "Urbanizam" Novi Sad concerning the notification submitted by the Ministry of Construction, Transport and Infrastructure (monitoring of implementation of the Bern Convention)

As regards the notification submitted by the Ministry of Construction, Transport and Infrastructure about the fact that the City of Novi Sad is competent for the implementation and working out the urban planning details of the Spatial Plan of the Special Purpose Area of the infrastructure corridor of the state road of class I, number 21 Novi Sad - Ruma - Šabac, we hereby inform you of the following:

In the area of the City of Novi Sad, for the purpose of implementation and working out the urban planning details of the Spatial Plan of the Special Purpose Area of the infrastructure corridor of the state road of class I, number 21 Novi Sad - Ruma - Šabac, PE "Urbanizam" has drawn up the following planning documents:

- Detailed Regulation Plan of the section of the infrastructure corridor of the state road IB-21 from the bridge over the Danube River to the intersection Kać in Novi Sad (*Official Journal of the City of Novi Sad*, No. 38/2018),
- Detailed Regulation Plan of the section of infrastructure corridor of the state road IB-21 in the administrative area of the City of Novi Sad (*Official Journal of the City of Novi Sad*, No. 26/2017).

As regards the part of the letter containing a request for detailed information on the potential impact of the proposed infrastructure on relevant species and the actual, cumulative impact of activities in the area in question on protected species and habitats, PE "Urbanizam" still holds the view expressed in its previous letter No. 1105/23, and we have had no new findings on the matter.

Director

(stamp and signature)

**Dušan Miladinović, B.Sc. in
Architectural Engineering**

Delivered to:

1. Addressee
2. Archive
3. D. Miladinović
4. B. Vrbaški
5. S. Kacenberger
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** AIK Banka: 105-32666-98

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**Saobraćaj, građevinarstvo i arhitektura:**

- istraživanja, studije, planiranje, projektovanje
- bezbednost saobraćaja
- geodezija
- geotehnička istraživanja i laboratorijska ispitivanja
- nadzor nad izvođenjem radova
- sistemi za brojanje i kategorizaciju vozila

Tekući računi:

220-92174-20
165-7014715457-85
340-11007897-83
105-2561577-26
Matični broj: 20424311
PIB: 105615738

The multidisciplinary team of experts comprising of biologists, construction engineers, forestry engineers, hydrogeologists, traffic engineers, ecologists, mechanical engineers, electrical engineers, landscape architects as well as chemists, listed in detail in the Study, have been engaged on the drafting of the Environmental Impact Assessment Study for the project of construction of the ring road around Novi Sad with a bridge over the Danube River, on the route of the state road II A of the order number 111. Data on strictly protected and protected wild species, ecological corridor and habitats presented in the Study are given on the grounds of professional research as well as scientific literature, and are far more extensive and detailed than the data shown in the Decision of the Institute for Nature Conservation of Vojvodina Province under 03 No.020-3709/6, from 24th January 2022 and the protection measures implemented in the Study are in accordance with the Decision of the Institute for Nature Conservation of Vojvodina Province under 03 No.020-3709/6, from 24th January 2022.

In addition, bearing in mind the requirement to install sound barriers, which is foreseen in the requirements of the Institute for Nature Conservation of Vojvodina Province, as well as the effect of noise reduction after installation of the barriers, in combination with the greening measures provided for in the Guidelines for revitalization, the installation of the sound barriers in the impact zone of the habitat is foreseen, but also on the *Šodroš* which is located in its surrounding. By installing sound barriers on the bridge and by planting appropriate green belt in the area of the bridge which will also reduce noise, it can be considered that the noise reduction will be satisfactory and that it will not have negative effect on animals. In addition, it is expected that the animals will successfully and quickly adapt to new impacts which will appear in the course of the exploitation of the bridge.

In continuation we are enclosing the **excerpt from the Study** related to the presentation of real cumulative effects that the activity might have on the protected species and habitats in the mentioned area as well as the data on potential compensatory and mitigation measures.

Overview of the represented habitats and natural goods of special value

Natural goods of special value in the coverage area of the project

Within the scope of the project lies an area that geomorphologically, physiognomically and phytocenologically represents the remains of the wetland area in the floodland of the Danube River. Seasonal cycles of inundation and retreat of water play a crucial role in the functioning of aquatic wetland and moorland forest and meadow habitats, as well as in the life cycles of most species living in them. The arrangement of vegetation with accompanying fauna depends on the height and duration of the retention of high, surface and underground waters, as well as on the manner, speed and extent as well as the direction of their inflow and outflow, their sedimentation and the movement of sediments. Obvious interconnectedness and dependency of microhabitats in the floodplains system of the Danube River is balanced by the relative resilience and adaptability of biological communities adapted to seasonal variations and changes in the water levels, so that the life cycles and dynamics of the majority of species and their communities depend on the water regime. In the years when water levels significantly differ from the multiannual average, thanks to this flexibility, the species and communities arrange themselves during vegetation season in the space in accordance with their needs and availability of surface and underground waters. It is one of the reasons why the mentioned types of habitat and communities have endured relatively well the unfavourable human impact in the course of the centuries, which impacts, up until now, mostly took the form of occasional deforestation, as evidenced by the sporadic groves made of coppice.

Those characteristics point to dynamism of vegetation and instability of the representative plant and animal species from year to year, that is, depending on the water regime of the Danube River. However, basic habitat types which are the pillars of the ecosystem and belong to a group of habitats which have priority protection, are stable and will be presented in the continuation.

NSA22a „*Ribarsko ostrvo*“

In accordance with the requirements of the Institute for Nature Conservation of the Vojvodina Province, under 03 No.020-3709/6, from 24th January 2022, some land plots belonging to the scope of the project are within the boundaries of the habitats of strictly protected and protected wild species of national importance with the marking NSA22a *Ribarsko ostrvo*, as the project encompasses 2% of the area under protection. Parts of the mentioned plots are integral part of international ecological corridor of the Danube River.

On the territory of NSA22a habitat of the strictly protected and protected wild species of national importance, the remains of the autochthonous woods, but also its quantity, represent the basic natural value. Even though significantly degraded, they still have some of the autochthonous quality, attractive landscapes and high genetic variability.

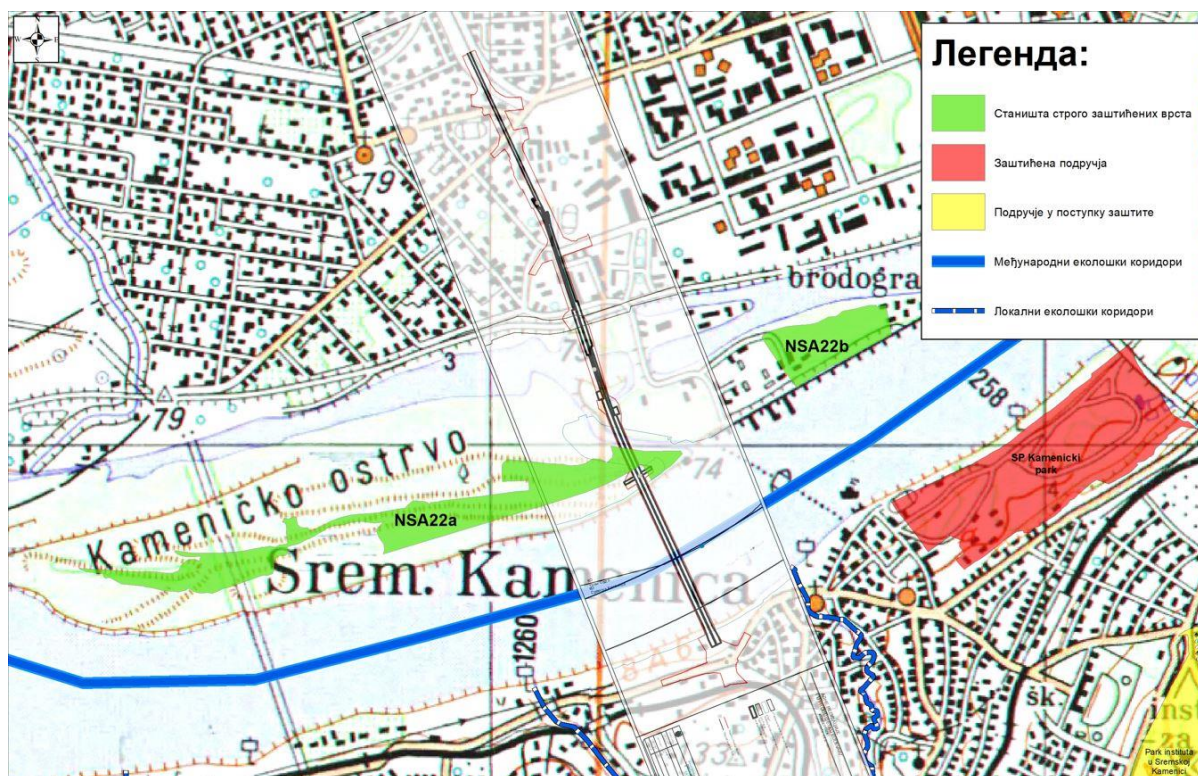


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International Ecological Corridor of the River Danube

The flow of the Danube River, both left and right bank of the Danube, the area encompassed by the project, makes an integral part of the International Ecological Corridor of the River Danube. The River Corridor encompasses the uninterrupted line water habitat adjacent to which is the mosaic of moorland, forest and grassland habitat (on both sides of the Danube), thus ensuring favourable conditions for species migration. The Danube River is one of the most significant international ecological corridors of Europe, which connects different biogeographical regions via its tributaries. On the territory of Serbia, apart from its role of international migratory route, it has special national importance, ensuring ecological connection between larger number of protected areas, amongst which are the spatial units of international importance. Ecological corridor Danube, same as the majority of corridors of the regulated watercourses, comprises of three main elements: Water body of the river, the undefended part of the floodplain and the defensive embankment. Each specie uses corridors which have habitat types which are identical or similar to the habitat type that the specie inhabits. River flow serves as migratory route to species from the damp habitats and has an important role even for movement of dryland species which "travel" by river on floating logs, branches and other floating objects carried by water currents.

Undefended part of the floodland Danube is a mosaic of forest, moorland, but often also grassland habitats. These complexes represent nodal habitats within the corridor, necessary for propagation of the slow-moving species (amphibians) and their spreading along the corridor takes place over several generations. These species migrate between spatial units which ensure conditions for feeding and propagation, and their descendants continue movement along corridor until the next favourable habitat. In this way, the transfer of genetic material is ensured and necessary gene diversity within the specie is preserved. Nodal

habitats are important because simultaneously they serve as resting and feeding ground for species migrating over larger distances. The embankment is not only the migratory route to species from grassland habitats, but also key habitat for hibernation and egg-laying of amphibians and reptiles living in the undefended part of the floodland. The pastures and woods also belong to the functional unity of the ecological corridor.

International Ecological Corridor of the River Danube is preserved and integral from the Bačka Region side, whereas the coastal areas of Srem Region are degraded by human activity.

On the mentioned location, the presence of the mammals, amphibians, reptiles and birds is recorded. Detailed description is given in Chapter 5.2.

National Park “*Fruška Gora*”

National Park *Fruška Gora*, territory belonging to III zone of protection spreads along the right bank of the Danube, that is, on the territory of the cadastral municipality of Sremska Kamenica. In this zone, the area is changed by the human activity, by changing the level of the Danube after construction of the hydroelectric plants Đerdap 1 and Đerdap 2 and additionally by construction and development of the settlement Sremska Kamenica. The road (Sremska Kamenica - Beočin) has been built in this area, but this area also houses zone with preserved natural habitats (poplar and willow forests as well as oak forests). Undefended part of the floodland Danube is a mosaic of forest and grassland habitats.

Overview of the represented habitat types

The left bank of the Danube, which covers the protected area NSA22a *Ribarsko ostrvo* and the ecological corridor of the Danube River, represents the region with the mosaic-type habitat on the relatively levelled terrain, encompassing floodland and occasionally flooded forest and meadow type of vegetation. The right bank of the Danube, which represents the area of the ecological corridor of the Danube River, covers the region of mosaic-type habitat with dominant presence of floodlands and occasionally flooded forest vegetation and the fragments of flooded meadow vegetation, together with the presence of open sandy alluvium with a dynamic type of vegetation (it develops under the significant influence of the Danube River water level). On the right side of the Danube, narrow strip of vegetation has been preserved, whereas the majority of it has been changed by human activity. Large-scale works on the regulation of the Danube flow, reclamation of wetlands (especially wet meadows which have been completely destroyed), construction of the hydroelectric plant Đerdap, expansion of invasive plant species, urbanization and the like, have decisively affected the conservation, authenticity and diversity of flora, vegetation and habitat types as well as the wetland landscape.

The left and right banks of the Danube, in the sense of the presence and distribution of different vegetation and habitat types, are primarily dependent on the geomorphological characteristics of the terrain.

The basic types of habitat together with the overview of the most important plant communities are given in the continuation, the habitats have been classified and their importance for protection determined in accordance with the Rulebook on criteria for selection of habitats, on types of habitats, sensitive, rare and the types of habitats with priority protection as well as on protective measures for their preservation, (The Official Gazette of the Republic of Serbia, No. 35 from 26th of May 2010) hereinafter Rulebook for Habitats.

Aquatic vegetation

Aquatic vegetation consists of communities of aquatic plants that form characteristic belts in the water basin from the banks to the deepest parts of the bed. Aquatic marshland vegetation is better developed on the left bank of the Danube (Riverbank of Bačka Region), dominated by communities of hornwort (*Ceratophyllum demersum*), spiked water milfoil and pondweed (*Myriophyllum-Potamogeton*), fringed water lily and common frogbit (*Hydrocharitaceae-Nymphoidaceae peltatae*), whereas on locations more exposed to nitrification and pollution, communities of duckweed (*Lemna* spp.).

Depending on the physico-chemical properties of the water environment and the type of substrate, these zones occupy different positions and their prevalence is to a greater or lesser extent dependent on the effects of negative influences, especially pollutants (groundwater quality) and invasive species (which are the first to inhabit bare areas, degraded by infrastructure works).

Marshland vegetation

Marshland vegetation mainly grows on the left bank of the Danube, which is covered by the Project, but, depending on the water level, also on the right bank also covered by the Project. This type of vegetation grows in the riverbank zone of the marshes and backwaters or on depression marshes, where the level of underground water is higher and the substrate is highly porous and anaerobic.

The species that prefer pioneer habitats on bare, newly dried shores or sandbars of fine silt and sand are particularly important here, such as some new species of marshland birds that nest in those habitats, amphibians and reptiles that inhabit them, or communities of vegetation on low muddy banks from genus *Nanocyperion flavescentis*, that belong to pebbly riverbanks without vegetation (type of habitat with priority protection, selected as EMERALD habitat in accordance with the Rulebook on Habitats).

In addition, on the territory which is covered by the bridge construction plan, the communities of reedbeds (*Caricetum gracilis*), which belong to Wet Pannonian meadows, which are habitat types with priority protection, that is, they belong also to selected EMERALD habitats and priority NATURA 2000 habitats in accordance with the Rulebook for Habitats. This community is characteristic for sunny or semi-shaded wide, levelled, shallow depressions and for the occasionally flooded parts of marshes and backwaters, sometimes along the lower border of the forests and groves of white willow (*Salix alba*) (also a habitat type with priority protection according to the Regulation on Habitats). These communities have almost homogenous composition and coverage of 100%. They appear in the form of covering along the banks of backwaters, and its composition is dominated by species such as: Clustered flatsedge (*Cyperus glomeratus*), water smartweed (*Polygonum amphibium*), marsh-bedstraw (*Galium palustre*), great yellow-cress (*Rorippa amphibia*), yellow iris (*Iris pseudacorus*), water forget-me-not (*Myosotis scorpioides*), purple loosestrife (*Lythrum salicaria*) and the like. This is one of the typical and relatively prevalent communities in the riverbank of the Danube and entire Vojvodina Province

The remnants of meadows and secondary grasslands

Fragments of grassland are present along the defensive embankment on the left and right bank of the Danube, as well as in the areas used for recreational purposes (location for

recreational fishing, grass strips along roads and the like), and are covered by the Project. These plant communities create the habitat type which does not belong to the habitats with priority protection in accordance with the Rulebook on Habitats. However, they represent the necessary habitats for animal species. Inter alia, they represent food sources for numerous invertebrates (especially pollinating insects, such as bees, bumblebees, butterflies, etc.), surfaces for laying of eggs by reptiles and hibernation places for amphibians.

Forest habitats

On the area belonging to a wider area covered by the Project, on the left and right bank of the Danube, the green corridor of woods is located along the riverbank comprising of: willow and poplar forests, pioneer osier willow communities and mixed oak forests. The plant communities of these forests belong to different habitats of the broad-leaved hygrophilous forests, which belong to habitat types with protection priority, such as: White willow forest (*Salix alba*), white willow forest (*Salix alba*) and poplars (*Populus* spp.), black poplar forest (*Populus nigra*). First two habitats are priority NATURA 2000 habitats or selected EMERALD habitats, that is, they belong to the category of habitats - Frag (A) (fragile habitat due to functional instability and sensitivity to degradation, whereas the third one is a priority NATURA 2000 habitat and habitat of national importance as Frag (A). Shrubbery of almond willow (*Salix triandra*) belongs to the priority type of habitat based on the two other categories. Seen from the vegetation perspective, forest vegetation belongs to genus *Salicion alba* and inhabits all parts of alluvial plain. The appearance of certain plant community depends on the hydrological situation. Characteristic species are: *Salix alba*, *Populus nigra*, *Populus alba*, *Ulmus effusa*, *Ulmus minor*, *Fraxinus angustifolia*, *Frangula alnus*, *Viburnum opulus*, *Cornus sanguinea*, *Crataegus nigra*, *C. rhipidophylla*, *C. monogyna*, *Rubus* spp. and others

White poplar forest with black hawthorn represents the most prevalent type of forest vegetation on the wider area. It appears on the higher parts of the terrain (ridges) where the floodwater remains shorter time. The presence of the black hawthorn (*Crataegus nigra*) is recorded in immediate vicinity of the planned bridge. The specie is on the list of the Addendum II - Protected wild plant, animal, fungi species.

This forest habitat has the most complex structure, it has a closed structure and a large coverage. As such, it is of great importance as a habitat for many groups of invertebrates, amphibians, reptiles, birds and mammals. Diversity of species in these forests is significant. The level of development of all three layers contributes to this. Understorey is made of *Salix alba*, *Ulmus campestris*, *Crataegus nigra*, *Viburnum opulus*, *Quercus robur*, *Fraxinus angustifolia*, *Vitis vulpina*, *Prunus* spp, *Rubus caesius*, *Cornus sanguinea*, *Humulus lupulus*, *Clematis vitalba*, in addition to species *Populus nigra* and *Populus alba*. Shrub layer is made of: *Galanthus nivalis*, *Inula britannica*, *Scrophularia nodosa*, *Cardamine pratensis*, *Ficaria verna*, *Viola* spp., *Hypericum perforatum*, *Menta* sp. and others. This type of forest is located also on the side of Bačka Region and Srem Region, even though, on the Srem side, it is present in degraded form and in smaller fragments.

On the riverbank, occupying smaller areas, is the community of white willow which follows the course of the river in the form of narrow belt. This community has a canopy with a dense structure, whereas in the herb layer the following have been recorded: *Agrostis alba*, *Polygonum mite*, *Myosotis scorpioides*, *Lythrum salicaria*, *Potentilla reptans*, *Lysimachia nummularia*, *Galium palustre*, *Menta aquatica*, *Rorippa sylvestris*.

On the fresh sandy alluviums, which represent a pioneer type of habitat with a very dynamic development, the saplings of the specie *Salix triandra* are recorded.

Today's appearance and the state of the forest is the result of interaction of different ecological conditions, biological characteristics of present species and pronounced anthropogenic influence.

On the majority of the area, the presence of invasive species has been found, of which the most common are: green ash (*Fraxinus pennsylvanica*), ash-leaved maple (*Acer negundo*), false indigo-bush (*Amorpha fruticosa*), whereas on the higher altitudes, common hackberry (*Celtis occidentalis*) also appears. Besides ligneous invasive species, herbaceous invasive plants have been found in these woods: Ragweed (*Ambrosia artemisiifolia*), knotweed (*Reynoutria* spp.), golden rods (*Solidago* spp.), aster (*Symphyotrichum* spp., *Erigeron* spp.) and so on.

Overview of protected and rare plant and animal species

The Danube River represents the habitat of numerous species of fish such as: Petromyzontidae (*Eudontomyzon mariae* - Ukrainian brook lamprey); Cyprinidae (*Alburnus alburnus* – common bleak, *Alburnus sarmaticus* – ray-finned fish, *Aspius aspius* – asp, *Ballerus ballerus* – zope, *Abramis brama* – common bream, *Ballerus sapa* – White-eye bream, *Barbus barbus* – common barbel, *Blicca bjoerkna* – white bream, *Cyprinus carpio* – common carp, *Carassius gibelio* - Prussian carp, *Chondrostoma nasus* – common nase, *Leuciscus idus* – ide, *Pelecus cultratus* – ziece, *Rutilus rutilus* – roach, *Romanogobio vladykovi* – Danube whitefin gudgeon, *Scardinius erythrophthalmus* – common rudd, *Squalius cephalus* – common chub, *Tinca tinca* – tench, *Hypophthalmichthys molitrix* - silver carp, *Hypophthalmichthys nobilis* - Big head, *Pseudorasbora parva* - stone moroko); Cobitidae (*Cobitis elongatoides*, *Cobitis elongata*); Siluridae (*Silurus glanis* – wels catfish); Esocidae (*Esox lucius* – northern pike); Percidae (*Perca fluviatilis* – European perch, *Sander lucioperca* – zander. (Source: Programme of management of parts of fishing areas of Srem, Banat and Bačka. For fishing waters of the Danube River from 1433rd river km to 1297th river km, the Danube from 1112nd river km to 1075th river km, the Danube from 1233rd river km to 1187th river km, the Sava from 207th river km to 123rd river km, the Sava from 96th river km to 49th river km and Studva, save for fishing waters within the boundaries of protected areas for period from 2016 to 2025).

On the territory of the NSA22a habitat of the strictly protected and protected wild species of national importance, the remains of the autochthonous woods, but also their quantity, represent the basic natural value. Even though significantly degraded, they still have some of the autochthonous quality, attractive landscapes and high genetic variability.

Two types of plants are priority NATURA 2000 species: *Galanthus nivalis* L. and *Marsilea quadrifolia* L., whereas 12 species are categorised as protected and 33 as protected wild plant species.

Flora and fauna

The Danube River with its riverbank is the habitat of numerous plant and animal species.

The Danube (river basin and the embankment) is an international ecological corridor. The Ecological corridor of international importance defined by the Regulation on ecological network - the Danube with the river basin belt and the embankment. In the Article 4 (Regulation on ecological network, The Official Gazette of the RS, No. 102/ 2010 from 30th December of 2010), ecological corridor is an ecological pathway and/or connection that allows for the movement of individual animals of a population and the flow of genes between the protected areas and the ecologically important areas from one location to another and which makes part of an ecological network.

Watercourses with the function of ecological corridors and their riverbank belt simultaneously represent habitats inhabited by protected species that are listed in the rulebooks and contribute to the preservation of the dynamics of the populations and biological communities of protected species at the level of the region, considering that the number of species and individual animals of natural value shows seasonal variability recording the highest values in the periods of migrations of individual animal groups. The preservation of water quality and passability of these ecological corridors as well as the preservation of the biggest portion of the bank in its close-to-natural condition is necessary for a long-term survival of protected species and biodiversity of the wider region.

Flora

For purposes of drafting the study, in addition to field research, previously collected data on recorded plant species on the wider area covered by the bridge construction plans have been used.

During the period of construction and exploitation of the bridge on the Danube, on the section between Novi Sad and Sremska Kamenica, the location within the area designated for new bridge, the location of the construction works and temporary facilities as well as the location in its immediate vicinity will be exposed to the risk of degradation and pollution. Because of the natural values recorded in the area, it is protected as NSA22a *Ribarsko ostrvo*, whereas the Danube River and its left and right bank are recognized as International Ecological Corridor of the River Danube and enjoy international protection. The area of bridge construction encompasses floodland and occasionally flooded area of the Danube, where mosaic habitats have developed - broad-leaved hygrophilous forests, (white willow forests (*Salix alba*), white willow forests (*Salix alba*) and poplars (*Populus* spp.), white poplar forest (*Populus alba*) with common hawthorn (*Crataegus monogyna*) and other). All these woods belong to habitats type with protection priority, both in accordance with national and European legislation. These habitats are rich in species, and in accordance with the previous research, 283 plant species have been recorded. Of which, two are priority NATURA 2000 species: *Galanthus nivalis* L. and *Marsilea quadrifolia* L., whereas 12 species are categorised as protected and 33 as protected wild plant species. Data is listed in the table, where categories of endangerment have been indicated in accordance with the Rulebook on proclamation and protection of strictly protected and protected wild species of plants, animals and fungi: 5/2010-46, 47/2011-134, 32/2016-59, 98/2016-97. List does not include invasive species, which are listed in detail in the chapter on recorded types of habitats. In the analysis of the importance of certain recorded species (primarily ligneous), which do not enjoy protection as individual species, priority is given to the data in the chapter on habitat types, because certain species are habitat-builders and therefore enjoy protection.

Table: Overview of recorded plant species on the location of the bridge construction and its vicinity (I – strictly protected, II – protected wild plant species in accordance with the Rulebook on proclamation and protection of strictly protected and protected wild species of plants, animals and fungi: 5/2010-46, 47/2011-134, 32/2016-59, 98/2016-97)

Species	I	II	International Importance
<i>Achillea millefolium</i> L.		x	
<i>Alchemilla arvensis</i> Scop.		x	
<i>Althaea officinalis</i> L.		x	
<i>Thelypteris palustris</i> Schott	x		
<i>Blackstonia perfoliata</i> subsp. <i>serotina</i>	x		
<i>Cardamine parviflora</i> L.		x	
<i>Centaureum erythraea</i>		x	
<i>Cornus mas</i> L.		x	
<i>Crataegus monogyna</i> Jacq.		x	
<i>Crataegus nigra</i> W. et K.		x	
<i>Crataegus pentagyna</i> W. et K.		x	
<i>Epilobium hirsutum</i> L.		x	
<i>Epilobium parviflorum</i> Schreb.		x	
<i>Euphrasia officinalis</i> L.		x	
<i>Fragaria vesca</i> L.		x	
<i>Galanthus nivalis</i> L.		x	x
<i>Galium rubioides</i> L.		x	
<i>Gentiana pneumonanthe</i> L.	x		
<i>Glycyrrhiza glandulifera</i> W. & K.	x		
<i>Heracleum sphondylium</i> L.		x	
<i>Hottonia palustris</i> L.	x		
<i>Hypericum perforatum</i> L.	x		
<i>Hypericum quadrangulum</i> L.		x	
<i>Iris pseudacorus</i> L.		x	
<i>Iris sibirica</i> L.	x		
<i>Lathyrus palustris</i> L.	x		
<i>Leucojum aestivum</i> L.		x	
<i>Limosella aquatica</i> L.		x	
<i>Marsilea quadrifolia</i> L.	x		x
<i>Nuphar luteum</i> Sm.	x		
<i>Nymphaea alba</i> L.	x		
<i>Origanum vulgare</i> L.		x	
<i>Peucedanum officinale</i> L.		x	
<i>Primula veris</i> L.		x	
<i>Quercus robur</i> L.		x	
<i>Ranunculus aquatilis</i> L.	x		
<i>Ranunculus flammula</i> L.		x	
<i>Rosa canina</i> L.		x	
<i>Senecio doria</i> L.		x	
<i>Silene viscosa</i> Pers.		x	
<i>Sonchus palustris</i> L.		x	
<i>Symphytum officinale</i> L.		x	
<i>Teucrium chamaedrys</i> L.		x	
<i>Teucrium scordium</i> L.		x	
<i>Utricularia vulgaris</i> L.		x	
<i>Valeriana dioica</i> L.	x		

On the location of the bridge construction, the natural environment and wild plant species as well as the habitats constructed on the given location are exposed to different anthropogenic pressures. In the previous period the course of the Danube River has been regulated in this area, the embankment for flood protection has been constructed, and the appearance of the region and the state of the habitat has been changed due to construction of the hydroelectric plant Đerdap 1 and Đerdap 2, downstream on the Danube. In addition, on the location and in the close vicinity of the location, on which the bridge construction is foreseen, the area has been reforested and restored by human activity. Besides, recreational activities take place on a daily basis. In the period of high-water levels of the Danube, the area is flooded, and water stays for longer or shorter periods, depending on the height, incline and structure of the terrain. This is also influenced by the developed vegetation, so in the developed forests, water stays longer compared to the areas that are bare from which the surface layer of the soil quickly runs off and washes away.

On the location, the plant world is threatened by winter road maintenance (salinization of the soil), pollution of the underground waters as well as the pollution that comes from the Danube River. The plants are important biomediators, which absorb large quantities of heavy metals from the water, soil, but also air. When those concentrations are high due to occasional intentional or accidental pollution of water, soil or air, the plants spontaneously absorb those toxic elements. In extraordinary levels, these toxic elements affect the growth and development of the plants, but the negative effect presents itself also indirectly if they serve as food to animals or human, thus affecting their health.

In the area of the NSA22a habitat of the strictly protected and protected wild species of national importance, particularly important plant species are: White willow (*Salix alba*), black poplar (*Populus nigra*), almond willow (*Salicetum triandrea*), narrow-leaved ash (*Fraxin angustifolia*) and black hawthorn (*Crataegus nigra*).

Species *Populus* spp, *Salix alba* and *Fraxinus angustifolia* are not protects in accordance with the Rulebook on strictly protected and protected wild plant and animal species (RULEBOOK on o proclamation and protection of strictly protected and protected wild species of plants, animals and fungi, The Official Gazette of the RS, No. 5 from 5th February 2010, 47 from 29th June 2011, 32 from 30th March 2016, 98 from 8th December 2016/Rulebook on species), however, those are construction (basic) type habitats with priority protection (RULEBOOK on criteria for selection of habitat types, on habitat types, sensitive, threatened, rare and habitats with priority protection and on protective measures for their preservation (The Official Gazette of the RS, No. 35 from 26th May 2010) and that is why they are selected as important. They enjoy protection through the Rulebook on habitats.

The white willow is a deciduous tree from the willow family (*Salicaceae*), which, as a prominent hygrophyte inhabits moist habitats. It is up to 30 m tall and has a wide canopy. The bark of white willow is brownish grey and furrowed. The tips of the branches are bent downwards. The leaves are lanceolate with a pointed tip and narrowly tapered into a short petiole. The upper side of the leaf is dark green and smooth, and the lower side is white due to tiny hairs. In autumn, the leaves acquire an orange-reddish colour, which contributes to the aesthetics of the space, Blooms in early spring. It grows fast, its life is relatively short. The wood is massive and strong, but has minimal rot resistance. Even though it does not enjoy protection as protected species it is a construction type for habitat with priority protection and therefore is itself protected by the law on national and international level.

Black poplar is a dioecious, anemophilic, hygrophilic, heliophilic and fast-growing species. Deciduous tree up to 35 m tall and 2(3) m girth, broad, branched and loose canopy. The bark on younger trees is smooth, ash-grey, and on older trees it is darker, deeply fissured, up to 5 cm thick. The root system is developed, heart-shaped. The leaves are triangular, juicy, dark green. It blooms in fourth month before leafing. Male flowers are in drooping catkins, female on peduncles. The fruit is spherical in shape, and the seed is a nut enveloped in pappus. One of our most endangered species because it spontaneously interbreeds with introduced poplars. Even though it does not enjoy protection as protected species it is a construction type for habitat with priority protection and therefore is itself protected by the law on national and international level.

Almond willow (lat. *Salix triandra*) is a deciduous species from the willow family (lat. *Salix triandra*) Grows as a shrub or low tree in the European, South-West and Central Asia. Almond willow forest is a pioneer community, which develops on the lowest levels of sandbars or depressions from which the water retreats latest, as it is the lowest belt of the ligneous vegetation. Optimal phase is achieved between the fourth and eighth year, and the development is finished around tenth.

Narrow-leaved ash (lat. *Fraxinus angustifolia*) is a type of deciduous tree that grows up to 30 meters in height. It has elongated oval and rounded canopy. It spreads in central, eastern, western and southern Europe, mainly as a tree of lowland flooded forests. As a type of hardwood, it is longer lasting than willows and poplars. Even though it does not enjoy protection as protected species it is a construction type for habitat with priority protection and therefore is itself protected by the law on national and international level.

Fauna

The Danube River represents the habitat of numerous species of fish such as: Crucian carp, sturgeon, common bream, catfish, common carp, European perch, tench, burbot, common barbel, weatherfish, common bream.

Amphibians

On the location and in the immediate vicinity, two types of amphibians have been recorded - complex of green frogs (*Pelophylax kl. esculentus*) and European tree frog (*Hyla arborea*). The presence of the following can be assumed: European green toad (*Bufo viridis*), common toad (*Bufo bufo*), Danube crested newt (*Triturus dobrogicus*), fire-bellied toad (*Bombina bombina*) and agile frog (*Rana dalmatina*).

The structure of aquatic habitat and surrounding area represents unfavourable habitat type for majority of other types of amphibians, it is possible to record the presence of some other species, but exclusively in transit and with shorter stay. However, the mentioned species of toads spend majority of its life cycle far away from the water, returning only to reproduce. Mentioned species of toads prefer stagnant water. After the period of reproduction, they reduce their activity to a minimum and over a very small spatial area. These species can be found in terrestrial habitats at some distance from the water. Mentioned species have adapted extremely well to life in urban surrounding. Habitats within the location, particularly thicket and grassland, have some potential to support certain amphibian species, including those that have been recorded or are believed to have appeared. However, water is crucial for reproduction period. Therefore, during the period of spawning (early spring), most of these species migrate to aquatic habitats, most often to the Šodroš backwaters.

Aquatic habitats on the *Kameničko ostrvo* are of great importance for the preservation of local amphibian populations, and they are not endangered by this project.

All identified species of tailless amphibians are important for conservation. However, considering their status of protection at all levels (LC), their small numbers and the fact that they can be found extremely rarely in the localities themselves (not a single reproductive centre and/or water body is located at the points of interest), the conservation value for their populations in the locality is estimated as lesser to moderately local, and are therefore considered insignificant.

Reptiles

The species recorded on the site and in the immediate surroundings are green lizard (*Lacerta viridis*), wall lizard (*Podarcis muralis*), slow worm (*Anguis fragilis*), grass snake (*Natrix natrix*) and European pond turtle (*Emys orbicularis*). Mentioned species of lizards are also the most numerous and very adaptable. Grass snake was noticed on the riverbanks and is present in the parts of backwaters where the green frog is most numerous.

In the wider area, the presence of the following species is to be expected: Aesculapian snake (*Zamenis longissimus*) and tessellated water snake (*Natrix tessellata*). Of mentioned species, European pond turtle, Aesculapian snake, grass snake, tessellated water snake are strictly protected. Strictly protected species of reptiles mostly represent species related mainly to water and pond habitats (European pond turtle, grass snake and tessellated water snake).

All species, save for the slow worm, green lizard and wall lizard, are important for preservation. However, considering their status of protection at all levels (LC), their small numbers and the fact that they can occasionally be found in the localities, the conservation value for their populations in the locality is estimated as lesser to moderately local, and are therefore considered insignificant.

Mammals

In the course of realization of additional activities on the drafting of the study, no presence of the mammals has been detected. However, species that might be present on the locality of interest, as well as in the broader surrounding area are: Northern white-breasted hedgehog (*Erinaceus roumanicus*), Eurasian water shrew (*Neomys fodiens*), Mediterranean Water Shrew (*Neomys anomalus*), European mole (*Talpa europaea*), Eurasian otter (*Lutra lutra*), least weasel (*Mustela nivalis*), European polecat (*Mustela putorius*), representatives of martens (*Martes sp.*) many rodent representatives (Rodentia) as well as many representatives of the order of bats (Chiroptera).

All mentioned species of mammals are of importance for preservation. However, considering their status of protection at all levels (LC), their small numbers and the fact that they can extremely rarely be found in the localities, the conservation value for their populations in the locality is estimated as lesser to moderately local, and are therefore considered insignificant.

Birds

On the location and in the immediate vicinity, the forest, pond, marshland and riverbank birds as well as the birds of urban green areas have been recorded on the site and in the immediate surroundings.

Forest birds: Circa 60 species have been recorded, amongst which certain number of non-nesting birds, that is, species appearing during wintering and migration, as well as the generalists, which successfully inhabit several different habitat types. Typical representatives are: Eurasian sparrowhawk (*Accipiter nisus*), common buzzard (*Buteo buteo*), tawny owl (*Strix aluco*), Eurasian hoopoe (*Upupa epops*) (fringes of the forest), black woodpecker (*Dryocopus*

martius), 3 European green woodpecker (*Picus viridis*), grey-headed woodpecker (*Picus canus*), great spotted woodpecker (*Dendrocopos major*), middle spotted woodpecker (*Dendrocopos medius*), Lesser spotted woodpecker (*Dryobates minor*), Eurasian nuthatch (*Sitta europaea*), short-toed treecreeper (*Certhia brachydactyla*), spotted flycatcher (*Muscicapa striata*), Collared flycatcher (*Ficedula albicollis*), marsh tit (*Poecile palustris*), Icterine warbler (*Hippolais icterina*), Eurasian golden oriole (*Oriolus oriolus*).

The birds of ponds, marshes and riverbank: great number of birds appears in the aquatic and wet habitats which are dependent on the Danube. Amongst which are 20 species which are regularly present: mute swan (*Cygnus olor*), mallard (*Anas platyrhynchos*), garganey (*Spatula querquedula*), grey heron (*Ardea cinerea*), great egret (*Ardea alba*), The little egret (*Egretta garzetta*), black-crowned night heron (*Nycticorax nycticorax*), white stork (*Ciconia ciconia*), great cormorant (*Phalacrocorax carbo*), little grebe (*Tachybaptus ruficollis*), white-tailed eagle (*Haliaeetus albicilla*), Eurasian coot (*Fulica atra*), common moorhen (*Gallinula chloropus*), black-headed gull (*Larus ridibundus*), northern lapwing (*Vanellus vanellus*), little ringed plover (*Charadrius dubius*), common sandpiper (*Actitis hypoleucos*), green sandpiper (*Tringa ochropus*), common kingfisher (*Alcedo atthis*).

The birds of urban green areas: The significant number of birds has adapted to the life in urban areas, where they are finding suitable conditions and necessary resources. However, majority of species in urban areas, of which the following are present: common kestrel (*Falco tinnunculus*), Eurasian sparrowhawk (*Accipiter nisus*), long-eared owl (*Asio otus*), Eurasian scops owl (*Otus scops*), little owl (*Athene noctua*), Syrian woodpecker (*Dendrocopos syriacus*), white wagtail (*Motacilla alba*), black redstart (*Phoenicurus ochruros*), common starling (*Sturnus vulgaris*), Eurasian tree sparrow (*Passer montanus*), house sparrow (*Passer domesticus*), greenfinch (*Carduelis chloris*), goldfinch (*Carduelis carduelis*), serin (*Serinus serinus*).

Impact of the bridge construction on the flora and habitats on the location of and in the immediate vicinity of the construction site

The process of degradation of the habitat and pollution of the flora varies depending on the two basic types of activities: pollution during the construction and pollution during exploitation of the bridge. The biggest influence on flora in the area in question is already present as an impact that arises from the occupation of the space.

During the phase of bridge construction, on the construction site, the habitats will be temporarily degraded. In its scope those are considered to be degradations of the highest order for the micro location of the bridge construction site and the temporary facilities. Degradation will present itself in the form of removal of ligneous and shrubby species inhabiting the site of bridge construction as well as the space of temporary facilities construction. The herbaceous layer of plants will be exposed to intense trampling and pressure due to the movement of machines and people. On the locations in the immediate vicinity of the bridge construction site, whereon the construction activities do not take place, the habitats and plants will not be degraded. They will be exposed to possible pollution (unplanned pollution of water, air and soil). The last phase of bridge construction must include also revitalization of habitat with appropriate plant species, in order to restore the living world. Revitalization should be aligned with the constructed bridge infrastructure and should ensure normalization of living conditions in the habitat. In addition, the bridge and auxiliary facilities infrastructure should be maintained.

Impact of the bridge exploitation on the flora and habitats on the location of and in the immediate vicinity of the construction site

During exploitation, the impact on the flora and habitat will depend on the activities related to the bridge. In the first 20 years, the plant life and habitats in the area that will have been revitalized according to the revitalization plan (which will be done in accordance with the "Guidelines for the revitalization of the area of construction of the Sremska Kamenica-Noví Sad bridge and its surroundings"), will intensively develop and change, and these changes will also affect changes in living conditions the animals. Therefore, it is necessary to conduct monitoring after five, 10, 15 and 20 years, as well as every ten-years after that.

During the exploitation of the bridge, plant life and habitats may be accidentally or deliberately affected by pollution. If there is a spillage of accidental substances, there may be an increase in air pollution. Habitats (of which primarily meadows and secondary grassland areas) will be negatively affected by road maintenance, under the pressure of maintaining greenery (direct impact on animals that inhabit these grassland habitats). Negative impact shall persist even during winter period (salinization of the soil with salts used for winter road maintenance).

Even during construction and exploitation of the bridge, the habitats and the living world will be under pressure, if there is pollution of water, air and soil. During exploitation, the impact of air pollution on the flora within the habitat NSA22a, will present itself in the form of plant damage, that first occurs on leaves, followed by retarded growth and development. In addition, it is important to emphasise that deciduous species have greater resistance to pollution thanks to the natural ability to regenerate assimilation organs. Changes on the leaves as indicators of hazardous substances in the surrounding air include decay/discoloration of leaves on the fringes or in the space between leaf veins, the surface of the leaf becomes bronze or silvery, chlorosis - loss of chlorophyll takes place. Spotting or damage in the form of spots is present on the surface of the leaf.

The impact of the soil pollution on the flora in the area of the road is limited in space, along the edge of the road. Certain impacts, in the area along the road, can be expected to present themselves in the form of salinization of the soil as a consequence of winter maintenance.

The clearing of the vegetation in the zone of construction works on the section in question in the vicinity of the habitat NSA22a as well as the opening of access roads, the movement and work of machinery will lead to certain impacts on the ecosystems which are of temporary or permanent nature. Majority of animals will leave its habitats due to clearing of the vegetation, some individual animals will die during construction works, and there might occur some temporary disruption in the food chain. Temporary interruptions in the established corridors which animals use for movement might take place, noise negatively affects fauna, and the dust settles on the nearby vegetation.

The biggest impact on the ecosystems in the phase of exploitation presents itself through the effect of space occupation. The procedure for quantification of the impact on ecosystems for the section in question is possible only by defining areas with complete loss of existing ecosystems, with altered ecosystems and defining areas that will be under certain influences. Complete loss of various ecosystems occurs in the area covering surfacing, shoulder, support structures, drains, bicycle and pedestrian paths. The areas which cover road bed, and which are subject to greening after the construction, as a part of frontage development, represent areas with changed ecosystems and are suffering the heaviest negative impact arising from the road.

Impact on fauna

As the newly designed ring road with a bridge passes over the Danube River, the assumption is that the new facility will have the greatest impact on animals dependent on water as an ecosystem. By respecting the requirements of nature protection and water conditions, negative impacts will be reduced to a minimum.

This part of the Danube represents the area of the habitat of zander, catfish and common carp. Also present are ide and common barbel, and in reservoirs and smaller ponds, Prussian carp and common bream.

It is necessary to avoid the works in the period of reproduction of ichthyofauna. Special type of danger for the fauna of the area in question is possible soil, surface and underground water and air pollution in case of accident. In case of traffic accident on the bridge, there is a possibility of pollution and negative impact on animals dependent on aquatic environment.

Changes in the functioning of ecosystems present themselves in the form of emergence of new road routes in relation to the already existing network of local roads, because interceptions of established paths of animals on route to river might be expected. Changes may encompass degradation of the quality of habitat along the road, fragmentation of the habitat, change of shape and geometry.

The habitat in question as well as the location *Šodroš* are in the urban zone, that is, at the fringe of the urbanized area. On the one side is a city zone, on the other is *Ribarsko ostrvo* and on the third side is the Danube River. In this surrounding, the presence of noise is evident, but also other impacts created by surrounding urbanized area and contents in this location (chalets, hospitality establishments and other) to which the flora and fauna is exposed. Location is in the undefended part and, in addition to impacts created by surrounding urbanized area and contents, it is exposed to impacts arising from changes in the water level in the Danube bed. The water level in the river directly affects the flora and fauna in the habitat and its surrounding, and depending on it, it brings about the devastation, that is, the destruction in certain parts of the habitat, and sometimes the entire habitat.

When it comes to sterlet, the backwaters do not represent an important part that might have a major role in the life of the part of this specie's population that can be found in the vicinity of this area. It is important to carry out and adhere to the full ban on damming the backwater or spilling any liquid substance that might have a harmful effect not only on the sterlet but also on all aquatic species, both plants and invertebrates and vertebrates.

These species found in the habitat and its surrounding quickly adapt to the changes and impacts that they have been exposed to so far as they have ability of renewal and development in these locations.

Fauna is mostly located in the western and central part of the habitat, closer to the fringes of backwaters, whereas their numbers are smaller in the zone of works foreseen by this project and in the zone of the planned bridge pillars. In addition, the zone of bridge and pillar construction is foreseen at the very fringe of the habitat, whereas the grade line of the bridge is designed above the existing terrain at appropriate height so as to lessen negative impact of the traffic. Due to all this, the impact on the fauna in the habitat and its surrounding is considered insignificant.

PROTECTION MEASURES FORESEEN BY THE ENVIRONMENTAL IMPACT ASSESSMENT STUDY

The protection measures that might reduce the consequences to acceptable limits, cover numerous activities for each of the detected impacts both in the phase of the construction and exploitation of the ring road around Novi Sad together with the bridge over the Danube.

Technical measures during construction of the facility

During construction of the ring road around Novi Sad with the bridge over the Danube, series of measures have been undertaken minimising the possible impact on environment.

1. On the occasion of construction of site offices, storage facilities and mechanization, the contractor undertakes appropriate measures which are in accordance with the regulations in force related to this area, as well as adheres to all measures defined in the study in question.
2. All packaging for oil and other oil derivatives must be collected and taken to regulated landfills. In addition, it is necessary to implement systematic collection of solid waste that normally accumulates in the course of construction and stay of workers in the construction site area (food packaging, other solid waste) and dispose them on regulated landfills.
3. The needs of the construction site related to potable water are secured in the form of bottled water delivered on a daily basis. The food is delivered on a daily basis at a certain time at the construction site and distributed accordingly.
4. The fuel is delivered to the construction site in tanker trucks and is poured directly into the machines. For lesser fuel needs such is the case of diesel-electric generators and vibratory plates, the contractor may opt for delivery of fuel in barrels as a possible way of fuel procurement, and their storage on the temporary settlement can be on the locations safe for housing of flammable substances.
5. All types of waste must be handled in accordance with the Law on waste management and the Law on packaging and packaging waste. The Law on waste management and secondary legislation define which type of waste can be disposed on the landfills, and the packaging from oil and other oil derivatives cannot be disposed on the landfill, irrespective of its being plastic, metal or any other type of packaging.
6. It is necessary to organize the construction site in the minimal space needed for its functioning, and when selecting location, care should be taken to avoid areas with prominent characteristics of flora and fauna so as to avoid unnecessary loss of biotope.
7. It is necessary to implement protection on all parts of terrain outside of the immediate construction works zone, which means that outside of the route of the ring road around Novi Sad with the bridge over the Danube, the existing areas cannot be used as permanent or temporary dumps for material, borrows or as plateaus for parking or machinery repairs. The landfill for waste is located in the City Landfill - public utility company for waste management, and on the basis of previously obtained approval (shown in the Addendum to the Study) it shall be used for disposal of waste material from the excavations. Gravel pit located near Kać, is approved for the project of the state road IB BR. 21 Novi Sad - Ruma and, as the needs of this project are small, it shall be used for securing material for construction of the ring road around Novi Sad with the bridge over the Danube.
8. Organise collection of humus material and its safeguarding in regulated landfills so that it can be used for restoration and biological protection in the course of finishing works.
9. All handling of oil and its derivatives in the course of construction and refuelling of the machines, must be carried out at a specially designated place with maximum protection measures so as to avoid spillage. All packaging for oil and other oil derivatives must be collected and taken to regulated landfills. In addition, it is necessary to implement systematic collection of solid waste that normally accumulates in the course of construction and stay of workers in the construction site area (food packaging, other solid waste) and dispose them on regulated landfills.
10. Ban the opening of uncontrolled access road to certain parts of the construction site.

- Organize parking of machinery only at the designated places. At the designated place for machinery parking, undertake special measure of protection against pollution of soil with oil and oil derivatives. If pollution of soil with oil or in any other way occurs, it is necessary to remove that layer of soil and dispose it at the landfill. In the construction works zone, the washing of machines and vehicles as well as washing of concrete mixer or the uncontrolled removal of remaining parts of the concrete mass onto any surfaces outside of the route of the section in question should be banned.

11. Upon completion of the works, it is necessary to restore all borrows and landfills on the basis of special projects so as to prevent further degradation of soil and to improve visual effect.

12. Upon completion of works, it is necessary to revitalize the habitat and renew the life in accordance with the Plan for revitalization, that is, the appropriate technical documentation for revitalization (greening) of the area, which should be an integral part of the project and carried out in parallel with the bridge construction. This plan must be prepared in accordance with the requirements defined in the Guidelines for revitalization of the area of the construction of the bridge Sremska Kamenica - Novi Sad with its surroundings.

Technical measures during exploitation

Measures in the phase of exploitation of the ring road around Novi Sad with the bridge over the Danube imply the following activities:

1. It is necessary to equip the section of the ring road around Novi Sad with the bridge over the Danube with appropriate horizontal and vertical signage that includes all types of necessary prohibitions and notices.

2. For winter maintenance procedures it is necessary to draft necessary operational plans taking into consideration environmental protection.

3. Soft landscaping should be carried out on the slopes of the embankment in the sense of improvement of visual effect and reduction of the impact of surface erosion. In addition, all measures for restoration of the road soil should be foreseen.

4. During the activities of landscaping it is necessary to use species mentioned in the Guidelines for revitalization of the area of construction of the bridge Sremska Kamenica - Novi Sad with its surroundings.

5. In view of minimising the effects of salinization of the soil in the surrounding area of the ring road around Novi Sad with the bridge over the Danube which occurs as a consequence of winter maintenance, the use of sodium-chloride should be substituted with other substances that have similar or better defrosting effect. In case sodium-chloride is used for maintenance, it is extremely important to precisely plan time and quantity.

6. All possible content accompanying the planned road must be designed and constructed in agreement with the basic function of this road with prior drafting of the Environmental Impact Assessment Study. Group of accompanying facilities must be equipped with special containers for collection of solid waste so as to avoid the pollution of soil in the zone of the road during exploitation. The containers must be emptied by authorized company and solid waste must be disposed on the regulated landfill.

7. It is necessary to conduct regular monitoring of the state of environment every five years during the first 20 years of the bridge exploitation (in the given period, the habitats will be intensively renewed on the revitalized area), and then, regularly in the period of ten years on the territory of NSA22a and the International Ecological Corridor of the River Danube.

Traffic noise protection measures

During the construction of the section in question, there will be increase in the total level of noise. The constructor is obligated to adhere to noise protection measures during the construction works which will be regulated through the Plan for environmental protection, wherein the procedure during the works will be defined in order to reduce the impact from noise.

The road traffic through the ring road around Novi Sad with the bridge over the Danube will result in endangerment of the surrounding population due to noise.

On the grounds of the traffic noise analyses, the position of necessary structures for noise protection was defined both on the left and the right side of the section in question. This analysis foresees protective structures in the residential area, and the positions of the structures are given in the following table:

Table: Position of the noise protection structures

Structure	Road segment	Position	Length	Hight
Wall 1	0+140m to 0+695m	Right side	555m	2m
Wall 2	0+533m to 0+697m	Right side	164m	2m
Wall 3	0+697m to 0+898m	Right side	200m	2m
Wall 4	0+140m to 0+799m	Left side	659m	2m
Wall 5	0+775m to 0+105m	Left side	331m	2m
Wall 6 (habitat)	0+898m to 1 +800	Right side	902m	2m

NOTE: Exact lengths and positions of noise protection barriers will be determined after detailed analysis in the following phases of the project drafting (main design, approval planning).

The position of protective structures is defined in relation to position of endangered residential buildings provided that the safety requirements have been respected as well as in relation to the roadway of the state road.

If, in the course of exploitation the impacts on the buildings exceed the limits, it is necessary to consider implementation of measures on the buildings themselves.

Positions of the noise protection structures are shown in the graphical addendum to the Study.

One of the factors affecting the level of traffic noise is the state of the surfacing, so its regular maintenance is envisaged as one of the general protection measures.

Bearing in mind the requirement to install sound barriers, which was provided for in the requirements of the Institute for Nature Conservation of Vojvodina Province, as well as the effect of noise reduction due to installation of the barriers, in combination with greening measures provided for in Revitalization Guidelines which will be included in the revitalization plan, it is foreseen to install sound barriers in the zone of impact on the habitat, but also on the Šodroš which is located in its surrounding.

The expected level of noise in the Habitat NSA22a, as well as in Šodroš, has been calculated in the software Candnaa, which will be reduced by 6-8 dB by installation of sound barriers. Barriers for protection of the habitat from noise are envisaged from the 1300 Kaplar street, all the way to the beginning of the water mirror of the Danube, in a length of 900m, on the right side of the road.

By installing the sound barriers on the bridge and by planting appropriate green belt in the area of the bridge, which also has a noise reduction purpose, it can be considered that the noise reduction will be satisfactory and that noise will not have negative effect on animals. In addition, it is expected that the animals will successfully and quickly adapt to new impacts which will appear in the course of the exploitation of the bridge.

Air protection measures

During execution of works, it is necessary to prevent raising of dust from the exposed parts of the route and the construction site by regular sprinkling in dry and windy weather.

It is necessary to prevent uncontrolled removal of construction material from the construction site area in transportation vehicles by cleaning them before they leave the construction site and enter the public transport infrastructure, by covering bulk cargo during transport on the public traffic infrastructure and by sprinkling exposed parts of the route and construction site.

Deployed construction mechanization and transportation vehicles must comply with the legal technical standards. In addition, they must be in proper working conditions during the execution of works.

During the execution of works, protection measures imply prevention of dust raising from the exposed parts of the route and the construction site by regular sprinkling in dry and windy weather. It is necessary to prevent uncontrolled removal of construction material from the construction site area in the transportation vehicles by cleaning them before they leave the construction site and enter the public transport infrastructure, by covering bulk cargo during transport on the public traffic infrastructure and by sprinkling exposed parts of the route and the construction site. Contractor must implement protection measures during construction so as to ensure that the limits related to air pollution are not exceeded as a consequence of construction works.

The Law on Air Protection (The Official Gazette RS, no 36/09, No. 10/13 и 26/21) provides for technical and other requirements that the fuel must meet, methods of its control, the manner of assessing the quality and the proofs of compliance, which are prescribed by a special regulation, that is, standard, in accordance with the law. The fuel put into circulation, that is, used as energy fuel and fuel for mobile sources of pollution must not be imported or put into circulation if it does not comply with prescribed quality standards. The emissions from the mobile sources of pollution are controlled on the occasion of regular as well as extraordinary roadworthiness tests in accordance with the special regulation. Mobile sources of pollution cannot get the certificate on roadworthiness if the pollutants in their exhaust fumes exceed the emission limits.

General measures for air protection can be applied which may cover use of ecological alternative types of engine fuels, by reducing the consumption of fossil fuels, by greening along the road infrastructure and by selecting appropriate planting material for that purpose.

Water protection measures

Description of the existing condition

Of existing installations on the location, the most important are the following collectors:

- On the Patrijarha Pavla Boulevard there is a collector with profile 320/170 cm which continues along the Cara Lazara Boulevard with the same profile.

- In the Heroja Pinkija Street there is a sewer with profile a Ø 900 mm, which runs towards the existing pumping station "Liman IV".
- There is a collector 200/160 cm in Narodnog Fronta Street. Secondary network was implemented with profiles from Ø250 mm to Ø 600 mm.

The existing sewage network is kept in its entirety in the Plan, with the possibility to reconstruct the deteriorated sections relocating them in the street cross-section. The plan allows for construction of primary and secondary sewage network in accordance with the intended use of the surrounding area.

Future condition

Newly designed drainage system can be classified in three groups, that is, three types of recipients:

- Existing system of stormwater sewage of the City of Novi Sad
- Planned pumping station *Južni Telep* at the corner of Sime Matavulja Street and the extension of Europa Boulevard
- River Danube

The existing stormwater sewage is designed to receive stormwater from the Europa Boulevard to road segment 0+440. The areas in question are already existing therefore no additional load is expected to come from the stormwater.

From the road section 0+440 to 1+110, complete system of stormwater runs toward the future pumping station *Južni Telep* at the corner of Sime Matavulja Street and the extension of Europa Boulevard. On the location of the future pumping station three outlets have been envisaged. The total quantity of water at the point of discharge is c. 1000l/s.

The following stormwater sewage systems are planned for this section:

- On the terrain system Ns_27 (subbranch from Ns_27.1 to Ns_27.32)
- On the terrain system Ns_28 (subbranch from Ns_28.1 to Ns_28.26)
- On the terrain system Ns_29 (subbranch from Ns_29.1 to Ns_29.15)
- On the terrain system Ns_30 (this system is recipient for the system from the bridge M_8)
- From ramps system Rampa_1
- From ramps system Rampa_2
- From ramps system Rampa_3
- From ramps system Rampa_4
- From ramps system Rampa_5
- From ramps system Rampa_6
- From ramps system Rampa_7

System Ns_29 is at the same time recipient of the part of the water collected from the bridge, that is, the system M_7.

The remaining part of stormwater sewage of the Novi Sad side runs towards toward two separators, and the recipient is the Danube River. Separators are on the right side, seen from the point of view of the road section at the km 1+223 and km 1+398.

The following stormwater sewage systems are planned for this section:

- On the separator SEP_2_BE (km 1+223), the system Ns_31 (subbranches from Ns_31.1 to Ns_31.4) is attached.

- On the separator SEP_4_BE (km 1+398), the system Ns_32 (subbranches from Ns_32.1 to Ns_32.7) is attached.

SEP_2_BE is the recipient of the water from the facility at the same time. From the bridge come systems M_9, M_10, M_11 and M_12. From the ramps come systems Rampa_8 and Rampa_9.

The following systems are attached on the SEP_4_BE from the facility: M_13, M_14 and Ramp_10.

Before releasing the water into the Danube River, it is necessary to clean the runoff, and for this reason, separators are planned to be installed before the outlet (2 on the Novi Sad side and 3 on the Srem side). The separators are made of waterproof concrete. At the point of discharge into the recipient, lining (construction of the outlet structure) is envisaged in order to prevent erosion at the point of outlet.

The main principle for conducting the route of the stormwater sewage collector was to conduct the route as much as possible along the route foreseen in the planning document and in the green belt.

Stormwater sewage collectors are foreseen in diameters from $\varnothing 250$ to $\varnothing 800$. PVC pipes type SN8 are adopted for diameters up to $\varnothing 400$. PP pipes type SN16 are adopted for bigger diameters.

The minimum longitudinal grade of the collector is 0.25%, while the maximum longitudinal grade is 6.00%. Grade line of the pipeline is determined by the downstream boundary elements, that is, in certain places, by a fixed grade of the inflow into the existing stormwater shafts.

The project design complies with the requirement that oil-polluted stormwater from handling areas as well as water from washing and maintenance of those areas is conducted by means of special network through a settler for mechanical impurities and a separator for fats and oils and light liquids and only then is it discharged into the recipient.

Sewage pipes

Three types of sewage pipes have been envisaged: PVC sewage of the class SN8 for diameters up to $\varnothing 400$. Polypropylene (PP) smooth pipes type SN16 are intended for $\varnothing 500$ mm diameters. Corrugated PP pipes, class SN8, are intended for diameters bigger than $\varnothing 500$ mm. Connection pipe-shaft is done with elastic joint over KGF insert for the shaft. Connecting elements of sewage is done by means of elbows with rubber gasket for pipes of class SN8, which ensure waterproof connection of elements. All pipes and fittings have an elbow/joint on at least one end. Pipes are intended to be installed underground and under heavy load, do not install pipes and fittings at temperatures below 5°C. Pipes must be laid carefully on a previously prepared sand bed, while laying and assembling the pipes, check that they are laid in the intended grade without horizontal and vertical breaks. It is necessary to control the grade with a geodetic instrument in the presence of the supervising engineer. The works must be executed in all respects according to the technical regulations for the intended type of pipe, i.e., in accordance with the requirements of EN 1610, in the manner foreseen by the pipe manufacturer and in accordance with the instructions of the supervising engineer.

Shafts

The sewer shafts are designed as a round type reinforced concrete shafts with a clear span of $\varnothing 1000$ mm and $\varnothing 1500$ mm. Founding is on a layer of compacted gravel 20 cm thick. Shafts are prefabricated and made of reinforced waterproof concrete MB40 with diameters of $\varnothing 1000$ mm, $\varnothing 1600$ mm and $\varnothing 2000$ mm with the addition of a conical part and a settler. They

are equipped with cast-iron step irons and cast-iron sewer covers for a traffic load of 400kN. They are ordered per piece, according to the attachment of details and longitudinal profiles. The connection between the sewer pipe and the shaft is watertight, with an elastic joint and is achieved by installing the KGF inlet in the shaft. If the horizontal angle of the connection of the gully to the street shaft does not deviate more than 30° from the right angle, the connection is made directly to the intended sewage shaft. Reinforced concrete rings for the newly designed AB shafts are made of waterproof concrete MB40. They must be prefabricated. The connection of elements is done by means of rubber gaskets or special bituminous mass.

Gullies

Gullies for collection of runoffs are introduced into newly designed shafts. Connection of the gully to the shaft is done via a pipe inlet for shaft (KGF joint) which ensures elastic watertight connection. The body of the gully is made of watertight concrete, internal diameter Ø500, with the settler of 80 cm. The gully connection is made of PVC pipe, diameter Ø200. The longitudinal grade of the gully connection is from 0.5% to 2.0%. The position of the gully is aimed to be next to the road in the green area, the so-called gully niches.

Laboratory tests of the surface and underground water should be done immediately before the start of construction works, in order to establish reference values.

Protection measures for ecological corridor and measures for reducing negative impact on the area of importance for conservation of biological diversity

Considering that the scope of the project covers the habitats of protected and strictly protected wild species, the Institute for Nature Conservation of the Autonomous Province prescribed the measures for preservation of ecological corridor functionality and the requirements for reduction of negative impact on the areas of importance for preservation of biological diversity.

1) Measures during bridge construction encompass:

1. Opening of the borrow, the disposal of waste material and installation of any temporary facilities/material for purpose of works outside of the planned route of the bridge within the boundaries of the Habitat NSA22a and in the zone of the direct hydrological influence (200 m) on the habitats is banned, as well as in the areas of the ecological corridor that are in a natural or near-natural state;
2. In all phases of construction and development of the area, preserve to the greatest extent possible existing natural vegetation within the boundaries of the habitats of strictly protected and protected species and the ecological corridor;
3. On the occasion of the execution of construction and earthworks during the construction of the bridge in question with access roads, temporarily deposit the material and soil in the designated place. In addition, it is necessary to prevent the material and soil from reaching the watercourse.

2) Measures for protecting the functionality of ecological corridor encompass the following:

1. The technical design for the construction of bridge, as well as the improvement of the riverbank zone under the bridge should allow for the unimpeded passage of animals along the Danube bank, including large game and small, poorly mobile species;

2. It is necessary to preserve/create a belt of vegetation along the riverbank connected to the vegetation of the surrounding area, as a prerequisite for the functionality of the corridor;
3. It is necessary to apply technical and biotechnical solutions, which ensure the passability of the Danube bank under the bridge by providing belts along the slopes of the artificial sections of the bank (belts with a rugged surface and an inclination of less than 45°) and on the horizontal surfaces of the riverbank, which will be passable even for small animals by avoiding the creation of vertical surfaces (e.g., stairs) and larger artificial surfaces. In addition, it is necessary to enable the safe movement of larger wild species by applying adequate landscaping (natural substrate on the largest possible surface of the riverbank, reduced lighting effects). The width of the horizontal area favourable for the movement of game at the medium water level should be at least 4 m, and the height at least 4 m;
4. In all hydrotechnical facilities that create a barrier for the movement of animals along the bed or bank (e.g., steep artificial surfaces, shafts, stormwater drains or steep walls) technical solutions should be provided (e.g., rugged surfaces, horizontal ditches, section of slopes of less than 45°) that ensure safe movement of small animals within the bed, that is, enable exit from the bed or buildings;
5. Apply technical solutions for noise protection, in view of protecting inhabitants in the affected zone and in view of reducing disturbance of wild species in the habitats and ecological corridor. In case of application of transparent protective walls, on all transparent units whose area is greater than 1m², it is mandatory to apply a picture ("black shadow") of a predator in order to reduce the accidental injuries of birds;

3) Apply appropriate technical solutions ensuring sustainable solution for bridge lighting (economic and ecological aspects) and reduction of negative effects of night lighting on wild species:

1. In order to protect the air and river migratory corridor, select lighting models for direct lighting with the protection against the dispersion of light towards the sky and the Danube, that is, towards the indicated habitat. The height of installation, spacing and the direction of the light bodies should be determined in accordance with the need to protect the undefended part of the floodplain and the Danube riverbank strip from lighting;
2. Apply a light spectrum that has less impact on nocturnal animals, in accordance with sensitivity of the area. In case there is a need to light the bridge, use, as a permanent night lighting, a blue or green light spectrum that has the least effect on nocturnal species. Where appropriate, consider occasional lighting of individual spatial units, with sensors (sensors should not be activated by movement of game along the corridor);
3. In order to protect the migratory route of the riverbank belt from night lighting and disturbance of wild species, the access ramps for pedestrians and cyclists planned to be set up at the pillar located at the edge of the NSA22a habitat should be moved towards the interior of the settlement, in accordance with the regulations on the protection of migratory routes (Article 80 of the Law, the Regulation on ecological network, the Law on ratification of the Convention on the Conservation of European Wildlife and Natural Habitats).

4) Apply appropriate measures for conservation of water quality in accordance with articles 97 and 98 of the Law on water (Official Gazette of the Republic of Serbia, No. 30/2010, 93/2012, 101/2016, 95/2018 and 95/2018 - other law), by respecting the ban on the discharge of untreated and insufficiently treated wastewater into the final recipient, whereby: the quality of the purified effluent must meet the prescribed criteria for discharge into the sewer in accordance with the rules for the removal and pre-treatment of waste water, that is, into the final recipient, in accordance with the requirements of the Regulation on the limit values of the emission of polluting substances into water and the deadlines for their achievement (The Official Gazette of the RS, no. 67/2011, 48/2012 and 1/2016). Oil-polluted water should be

removed from asphalt handling areas to the place of its appropriate pre-treatment (via oil separators and settlers for extraction of mineral oils and fast-precipitating impurities) before their discharge into the sewage network or the final recipient;

5) *Waste created during construction*, use and maintenance must be temporarily stored in appropriate manner until its final disposal, in accordance with Article 3 of the Law on Waste Management (The *Official Gazette of the Republic of Serbia*, No. 36/2009, 88/2010, 14/2016 and 95/2018-other law) in accordance to which the waste management must be carried out in a manner allowing for control and application of measures for mitigation of: a) water, air and soil pollution; b) danger for flora and fauna; c) danger from occurrence of accident, explosion and fire; d) negative impact on landscape and natural goods of special value; e) noise levels and unpleasant odours;

6) *In the project documentation it is necessary* to foresee also appropriate techniques and other measures and procedures in case of possible accidents;

7) *For purpose of clearing vegetation*, especially ligneous species, it is necessary to procure approval of competent authorities and ensure supervision of the Institute; ensure protection of wild species during execution of works.

1. If the earthworks (digging ditches, foundation and so on) take place in the period between 10th February and 15th October, regular monitoring of all excavations opened for more than one day must be secured. In case of loss of amphibians or other protected or strictly protected animals (shrews, hedgehogs, turtles, frogs, etc.) inside ditches/holes, it is necessary to apply protection by installing a temporary fence (low plastic fence or similar) which would prevent small animals from falling in, or by installing ramps that would assist animal exit (slats, boards or other objects with rugged surface set at an angle smaller than 45° which supports the animal exit from the ditch/hole).

2. Clearing of the trees with hollows that are a nesting place for birds or are used for hibernation of bats, should be carried out in the period from 1st August to 1st November.

3. If, during the execution of works on the section of the river, a strictly protected and protected plant or animal species is found, the Institute for Nature Conservation of Vojvodina Province should be informed immediately.

8) *Measures for restoration of riverbank vegetation encompass:*

- Due to its biological importance (conservation of ecological corridor), it is necessary to draft a plan of revitalization, that is, appropriate technical documentation for revitalization (greening) of the area, which should be an integral part of the project and implemented in parallel with the bridge construction. This plan must be prepared in accordance with the requirements defined in the Guidelines for revitalization of the area of the construction of the bridge Sremska Kamenica - Novi Sad with surroundings.

1. The existing natural vegetation within the boundaries of the habitat of strictly protected and protected species and the ecological corridor should be restored to the greatest extent possible as close to the original state in accordance with the "Guidelines for the revitalization of the construction area of the Sremska Kamenica - Novi Sad bridge and its surroundings".

2. Establish continuity of green areas whose structure supports the functions of the ecological corridor. Improve the continuous belt of multi-storey protective greenery, ensure grass belt with minimal width of 5 m, in all respects in accordance with the "Guidelines for the revitalization of the construction area of the Sremska Kamenica - Novi Sad bridge and its surroundings".

- Planting of invasive species is forbidden when planning high greenery in the zone of influence of the selected habitat and ecological corridor (distance of 500m).

9) *The finder is obligated to report found geological and paleontological finds* (fossils, minerals, crystals, etc.) that might be a protected natural value, to the competent Ministry within eight days from the day of discovery, and take measures to protect them against destruction, damage or theft.

10) *It is necessary to align the infrastructure solution* with all regulations in force, so as to ensure air, water and soil protection.

11) *The persons in charge of execution of works* in the field must be aware of measures for protection of wild species as well as with concrete measures to be enforced during the works;

12) The project technical documentation with the finally agreed list of plots and cadastral data accompanying the plots which are listed in the Preliminary design and for which the mentioned permits are issued, should be submitted to the Institute for their opinion ;

13) At least 8 days before starting the execution of works, the Institute for Nature Conservation of Vojvodina Province must be informed thereof in view of realization of the supervision over prescribed requirements and protective measures.

On the section in question, on the banks of the Danube, the movement of individual animals ensures the exchange of genetic material between populations of wild species of the spatially separated habitats. Due to absence of large-scale seasonal migrations, temporary reduction of ecological corridor passability during the construction of the bridge will not have significant consequences on the condition of wild specie populations for whom the long-term survival of the corridor is of vital importance. Graphic image whereon the area left open for movement of the game is given in the graphical addendum of the Study.

A strip of vegetation with a minimum width of 4-5m along the riverbank will be preserved in the manner described below. This belt is not destroyed in any of its part, considering that these parts have not been used either for the installation of a temporary fence or for the disposal of materials. This part will be treated only to the extent that it is necessary for permanent conformation to its designated use in accordance with the Project, and in order to ensure stability.

The movement of wild species through the construction site and their unimpeded passage during the works will be ensured by installing a reinforcement mesh with 15x15 cm openings inside the fence that separates the construction site from the Danube bank. By installing this mesh of some 1-3m length at every 30m of the fence, the return of those individual animals to the vegetation belt of the riverbank will be ensured. The installation of this fence is the Contractor's obligation. The envisaged protection measures are explained in the document of the Institute for Nature Conservation of the Vojvodina Province from 5th September 2023.

The designed solution complies with the measures for protection of fauna. The manner of implementation of these measures is shown on the longitudinal profiles in the graphical addendum 2.6.5.5, whereon the space left open for unimpeded movement of animals specified in the requirements of the Institute for Nature Conservation of the Vojvodina Province is presented.

On the occasion of the evaluation of the existing vegetation for purpose of drafting of the Exterior improvement project, no tall vegetation was recorded in the area of the NSA22a habitat that needs to be evaluated. The Study specifies represented habitat types on micro and macro location (habitats of protected and strictly protected species).

The Exterior improvement project envisages within its scope, in the area overlapping with the Habitat NSA22a, but also in the bridge zone in the immediate vicinity of the habitat, the lower-

story vegetation, that is, the pioneer communities of shrubby vegetation. The aforementioned categories of greenery are envisaged to be put in place under the bridge structure, which is located at a height of 18-20 m. In the strip which is 5 m wide, on the eastern and western sides of the bridge, low deciduous trees characteristic of the riverbank area of this habitat are envisaged. The existing natural vegetation of the mentioned area will be restored using the species proposed in the Guidelines for the revitalization of the Sremska Kamenica - Novi Sad bridge construction area and its surroundings prepared by the Institute for Lowland Forestry and the Environment and the Institute for Nature Conservation of the Vojvodina Province.

The width of the area in question in the habitat area does not hinder the movement of animals, and corridors for animals have been preserved in the part of that area, and no habitat type has been permanently destroyed in that area. The total area of the NSA22a habitat is 198,070 m², of which the area covered by the Project for the ring road around Novi Sad with the bridge over the Danube is 3,885 m², which is less than 2% of the total area of the habitat. In addition to the aforementioned facts, the City of Novi Sad has additionally financed the drafting of the Guidelines for the revitalization of the Sremska Kamenica - Novi Sad bridge construction area and its surroundings, which describe the current state of the environment, and according to which a revitalization plan for a wider area than the area covered by the project will be drafted, and the study in question will propose drafting of this plan.

Protection measures for archaeological sites

The Institute for the Protection of Cultural Monuments of the City of Novi Sad has prescribed the conservation requirements for purpose of undertaking the measures of technical protection and other works, No. 280/1-2021, of 2nd December 2021 and the contractor is obligated to comply with them.

The requirements cover the following:

1. On the occasion of the execution of earthworks for the construction of the investment facility in question (in the area of the construction of access roads, feeder roads, embankments, access ramps, roundabouts and accompanying infrastructure), archaeological conservation supervision and control of earthworks are obligatory.
2. If archaeological finds, skeletal finds and necropolis remains are uncovered during the construction works, on the grounds of Article 109 of the Law on Cultural Goods (The Official Gazette of the RS, No. 71/94), the Investor and the Contractor are obligated to suspend the works, leave the finds in its location in the position in which they have been uncovered and inform thereof the competent Institute for Protection of Cultural Monuments of the City of Novi Sad.

Investor, that is, the Contractor must report the works to the Institute for Protection of Cultural Monuments of the City of Novi Sad at least 30 days before the beginning of those works in order to ensure control of the implementation of protection measures.

Measures in case of an accident

Considering that there is a probability of an accident involving vehicles transporting hazardous substances, in case of extraordinary situations, provided that the special approval of the competent bodies is obtained, it is necessary to foresee special protection measures. Series of measures which are planned for purpose of general environmental measures come to the fore and contribute to the reliability of the entire system in cases of accidental pollution. In the event of an accident with a vehicle carrying hazardous cargo in a powder or granular state, the traffic is stopped and redirected to the nearest bridge or the nearest parallel road (the

closest bridge over the Danube is the Slobode Bridge, Novi Sad - Sremska Kamenica) and a request is forwarded to a specialized service which is to perform the operation of hazardous cargo removal and road sanitation. The bulk powder or granular material must be removed from the road exclusively by mechanical means (returning it into a new and appropriate packaging, cleaning, vacuuming and so on), without rinsing it with water. The traffic can be reinstated on the mentioned section only after qualified experts confirm that the sanitation of a roadway and the upper part of the road is carried out in its entirety.

If there is an accident with the vehicle carrying liquid hazardous substances, the traffic is immediately stopped as in the previous case and redirected to parallel road. In the meantime, competent service on the municipal level is alarmed and specialized teams for accident recovery are deployed. The spilled substance is removed from the roadway by means of special sorbents. On the occasion of removal of the spilled substance from the bridge a care must be taken to prevent the liquid from reaching the river. If the liquid has gotten out of the section and polluted the soil, the restoration is carried out by means of its removal. All substances collected in this manner are treated in accordance with the special procedures of regeneration or are disposed of in landfills designated for that type of substance.

The measures envisaged as a part of previously defined procedures are obligatory and they must be applied in order to reduce the impacts of the planned section to its acceptable levels



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CORRIDORS OF SERBIA

Број: T-2/25-ONS

Date: 21st January 2025

MINISTRY OF ENVIRONMENTAL
PROTECTION

Sector for environmental protection
management

Department for environmental impact assessment of the projects and
activities

Omladinskih brigada 1,
11070 Novi Beograd

Project: Ring road around Novi Sad with the bridge over the Danube River on the route of
the state road II of the order No. 111

Subject: Submission of the documentation related to submitted request,

ref: Your e-mail from 13th January (Our No. Y-24/25-ons)

To whom it may concern,

Regarding the request you have submitted by e-mail on 13th January 2025 (Our number Y-24/25-ons from 20th January 2025 in which you have requested response from us regarding the presentation of real cumulative impacts of the activities in the area of the protected habitat types as well as data on potential compensatory and mitigation measures on the project of construction of the ring road around Novi Sad with the bridge over the Danube River on the route of the state road IIA of the order No. 111.

In accordance with the above, we are hereby sending you:

- The explanation and the excerpt from the Environmental Impact Assessment Study regarding the presentation of the real cumulative effects that the activity in the mentioned area might have on the protected species and habitats as well as the data on potential compensatory and mitigation measures and
- The Report on the undertaken measures and monitoring on the construction site on the part of the Contractor.

We are at your disposal for any further explanations.

Yours sincerely,

Enclosed:

1. Explanation and the Excerpt from the Environmental Impact Assessment Study:
2. Report on the undertaken measures and monitoring on the construction site on the part of the Contractor.

Corridors of Serbia, Ltd, Beograde
acting Director, Aleksandar Antić,



INSTITUTE FOR NATURE CONSERVATION OF
VOJVODINA PROVINCE

Serbia • 21101 Novi Sad • Radnička 20A
Phone: 021/4896-301 • Fax: 021/66-16 252
e-mail: novi.sad@pzzp.rs • www.pzzp.rs/



Number: 03 022-180/2
Date: 27 January 2025

Republic of Serbia
Ministry of Environmental Protection
Omladinskih brigada 1, 11070 Belgrade

Subject: Submitting a statement

To Whom It May Concern,

In accordance with your request for a statement, which you submitted in your e-mail of 17 December 2024, with an attached extract from the corresponding “Environmental Impact Assessment Study for the project of construction of a bypass around Novi Sad with a bridge over the Danube River on the route of the state road of class IIA number 111”, the Institute for Nature Conservation of Vojvodina Province hereby submits this:

1. List of species and types of habitats from the Bern Convention list which have been identified in separate habitats in accordance with the General Urban Plan of the City of Novi Sad in the Šodroš area, for which the Institute has issued nature conservation requirements upon a request of the Ministry of Construction, Transport and Infrastructure and Corridors of Serbia LLC:

AMPHIBIANS

Smooth newt (*Lissotriton vulgaris*) - Bern: Appendix III

Danube crested newt (*Triturus dobrogicus*) - Bern: Appendix II

European tree frog (*Hyla arborea*) - Bern: Appendix II

European fire-bellied toad (*Bombina bombina*) - Bern: Appendix II

Common toad (*Bufo bufo*) - Bern: Appendix III

European green toad (*Pseudepidalea viridis*) - Bern: Appendix II

Agile frog (*Rana dalmatina*) - Bern: Appendix II

REPTILES

European pond turtle (*Emys orbicularis*) - Bern: Appendix II

Aesculapian snake (*Zamenis longissimus*) - Bern: Appendix II

Grass snake (*Natrix natrix*) - Bern: Appendix III

Dice snake (*Natrix tessellata*) - Bern: Appendix II

BIRDS

Great spotted woodpecker (*Dendrocopos major*) - Bern: Appendix II

Common wood pigeon (*Columba palumbus*) - Bern: /

Song thrush (*Turdus philomelos*) - Bern: Appendix III

European robin (*Erithacus rubecula*) - Bern: Appendix II

2. As regards your request for a statement of reasons concerning inadequacy of the georeference data which have been submitted to the Institute by the Association “World and Danube”, and the Institute’s request for a supplement thereof, we hereby notify you of the following:

In addition to the fact that the Association “World and Danube” requested payment for the georeference data when it submitted them, these data are also inadequate due to the fact that it is impossible to check their accuracy, verifiability, methodology used to collect them, and key information on the status of the known species or habitats in the area in question. Without these elements, the relevance of the data in terms of nature conservation and potential endangered status cannot be interpreted or may even be misinterpreted.

3. The results of the conformity verification of data on species and habitats from the Environmental Impact Assessment Study for the project of construction of a bypass around Novi Sad with a bridge over the Danube Riber on the route of the state road of class IIA number 111 (Study) and data from the database of the Institute for Nature Conservation of Vojvodina Province (Database):

The Study does not reference the following species which are referenced in the Database:

AMPHIBIANS

Smooth newt (*Lissotriton vulgaris*) - Bern: Appendix III

BIRDS

Great spotted woodpecker (*Dendrocopos major*) - Bern: Appendix II

Common wood pigeon (*Columba palumbus*) - Bern: /

Song thrush (*Turdus philomelos*) - Bern: Appendix III

European robin (*Erithacus rubecula*) - Bern: Appendix II

The chapter of the Study titled “Impacts on Fauna” does not reference any of the animal species referenced in the Database.

Yours sincerely,

Director

(stamp and signature)

Željka Jeličić Marinković

Logo Public Company “Urbanizam”

Institute for Urban Planning

PUBLIC COMPANY “URBANIZAM” INSTITUTE FOR URBAN PLANNING NOVI SAD, BULEVAR CARA LAZARA STREET 3/III

Telephone: +381 21 48-02-199, Fax: +381 21 455-395

E-mail: office@nsurbanizam.rs

www.nsurbanizam.rs

Number: 1105/23

On: 27th June 2024

Republic of Serbia

Ministry of Environmental Protection

Nemanjina Street 22-26, Belgrade

Your number: 001818430 2024 14850

004 008 000 001

Rectangular stamp attached hereto:

The Administration for Joint Services of the
Republic Bodies

Records management office 1033

Received on: 04th July 2024

Inserted by handwriting:

480 04 1818430 2024, *the rest illegible*

SUBJECT: Response of the Public Company “Urbanizam” Novi Sad to the Complaint 2022/1, Alleged habitat destruction in the area of Novi Sad due to proposed infrastructure construction

With reference to the statements of the Decision of the Bern Convention Standing Committee Bureau that the response to the subject complaint did not specify detailed information on the potential impact of the proposed infrastructure on the relevant species and the actual, cumulative impacts of the activities in the concerned area on protected species and habitats, Public Company “Urbanizam” states the following:

As regards the planning documentation, the strategic document used for assessing possible impact on the concerned area is the Report on the Strategic Environmental Impact Assessment of the General Urban Plan of the City of Novi Sad until 2030. The General Urban Plan in and of itself is a strategic document for the development of the city of Novi Sad, and therefore it did not deal in detail with the real, cumulative impacts specifically for this area, but the document provided general measures and estimated impacts at the level of the spatial scope of the General Urban Plan.

We consider that the detailed data on the potential impact of the proposed infrastructure on the relevant species and the actual, cumulative impacts of the activities in the concerned area on protected species and habitats, have been defined in the Environmental Impact Assessment Study of the project: The Construction of a bypass around Novi Sad with a bridge over the Danube River on the route of IIA-class state road No. 111 on cadastral plot No. 4227/4 and 4440 Cadastral Municipality Novi Sad II and other cadastral plots in CM Sremska Kamenica, prepared by “MHM-PROJEKT” LLC from Novi Sad.

Should you need any additional information from our scope of competence, we are at your disposal. Contact person: Dejana Negovanović, MSc Environmental Engineer, tel. 021/4802-109.

A round seal attached hereto: Public Company “Urbanizam” Institute for Urban Planning, Novi Sad, coat of arms II.

Director

Dušan MILADINOVIĆ, Architectural Engineer

Delivered to:

1. The addressee
2. Archive
3. D. Miladinović
4. B. Vrbaški
5. S. Kacenberger
6. D. Negovanović

TIN No. 100237773

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Unique ID No. 08113700

**Poštanska štedionica Bank:
200-2632220102934-31

Business Activity Code: 7111

** AIK Bank:105-32666-98



Republic of Serbia
Autonomous Province of Vojvodina
**Provincial Secretariat for Urban Planning and
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www.ekourbapv.vojvodina.gov.rs

No: 140-501-411/2022-06 Date: 18th July
2024

MINISTRY OF ENVIRONMENTAL PROTECTION
Nemanjina 22- 26
11000 Beograd

Reference: Your number: 001818430 2024 14850 004 008 000 001

**Subject: Progress Report concerning the Appeal No. 2022/1: The appeal is being monitored:
Serbia: Alleged destruction of the habitat on the territory of Novi Sad due to construction of
infrastructure facilities**

Regarding the Decision of the Bureau of the Standing Committee of the Bern Convention in relation to the Appeal No. 2022/1: Appeal is being monitored: Serbia: Alleged destruction of habitat on the territory of Novi Sad due to construction of infrastructure facilities and drafting of the progress report in relation to the above appeal, which you have submitted to us on 18th June 2024 together with the memo No. 001818430 2024 14850 004 008 000 001, we are hereby informing you that the Secretariat for Urban Planning and Environmental Protection is not in possession of the requested data and that it has not, since the report submitted under No. 140-501-411/2022-06 from 13th December 2022, had any other proceedings related to mentioned location.

**PROVINCIAL
SECRETARY**

Nemanja Erceg, sign
manual

Delivered:
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