

# D4 HIGHWAY BRATISLAVA, JAROVCE – IVANKA NORTH

## The Proposal of Compensatory Measures



**NÁRODNÁ DIAĽNIČNÁ SPOLOČNOSŤ**

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Banská Bystrica, July  
2014

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## I. BASIC DATA ON THE PROPOSER

### ***I.1. Name***

Národná diaľničná spoločnosť, a.s.

### ***I.2. Identification No.***

35 919 001

### ***I.3. Registered office***

Mlynské nivy 45, 821 09 Bratislava

### ***I.4. Name, surname, address, telephone number and other contact data of the authorized representative of the Proposer***

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### ***I.6. Information whether the proposal comprises the information that may not be published and why***

The project comprises no information that may not be published.

## II. THE DESCRIPTION OF THE PLAN OR PROJECT

### *II.1. Name of the plan/project*

D4 Highway Bratislava, Jarovce – Ivanka North

### *II.2 The brief description of the plan or project affecting the location of the protected area system*

The construction of "Highway D4 Bratislava, Jarovce – Ivanka North" begins by the connection to the existing highway D2 in the GSI "Jarovce", on the territory of the capital city of the Slovak Republic, in the municipal part Bratislava – Jarovce. The highway D4 is lead on the following route:

- ***In the section from 0.000 - 4.851***, to the North of Jarovce in the route of variant "E" - green (in accord with the recommendation of the Ministry of Environment of the Slovak Republic in the Final Opinion of EIA Process No. 318/2010-3.4/ml of 28.9.2011), by overpass bridges above the road III/2046, above the railway route of Bratislava – Rusovce and above the relaying of road I/2 in the grade separated intersection "Rusovce", further by a bridge above Jarovce branch, through rowing track and above the Danube river, further on the left bank of the Danube river by a flyover bridge over the protected territory of the European importance SKÚEV 0295 Biskupické Luhy (Natura 2000), outside PR Gajc. The negative impacts of the passage of highway D4 through this territory shall be eliminated by leading the highway on a flyover bridge (the overall length of the flyover bridge is 3,152 m).
- ***In the section from km 4.851 – 8.500*** the route of highway D4 passes from variant "E" – green to variant "C" – red (in accord with the recommendation of the Ministry of Environment of the Slovak Republic in the Final Opinion of EIA Process No. 318/2010-3.4/ml of 28.9.2011), while it bypasses the gravel mining area of Podunajské Biskupice from South and East. In km 6.736 the D4 crosses the planned expressway R7 by underpass in GSU "Ketelec" and in km 7.962 it crosses the access road to gamekeeper's lodge in Topoľové by underpass. When compared to the original route assessed in the EIA process, in accord with the recommendations of the Final Opinion of EIA Process No. 5461/07-7.3/ml for R7 Bratislava – Dunajská Lužná of 9.5.2009, , the route of highway D4 is shifted in GSI "Ketelec" by ca 235 to the North, while the location of highway D4, expressway R7 and the shape of GSI "Ketelec" are based on the blue variant (A2), recommended in the Technical Study "Expressway R7 Bratislava Ketelec – Bratislava Prievoz" and from the design proposed in the zoning and planning decision documentation for "Expressway R7 Bratislava – Dunajská Lužná".

A large bilateral pull-off site "Rovinka" is designed between km 8.300 to 9.350.

- ***In the section from km 8.500 – 15.000*** the route of highway D4 continues in the route of variant "C" - red (in accord with the recommendation of the Ministry of Environment of the Slovak Republic in the Final Opinion of EIA Process No. 318/2010-3.4/ml of 28.9.2011), in the cadastral territory of Podunajské Biskupice, where it crosses by overpass the old Danube embankment (a cultural and technical monument), the road I/63 in the GSI "Rovinka" between Podunajské Biskupice and the village of Rovinka, it passes by the area of Strabag, a.s. from south, it crosses the railway track of Bratislava – Dunajská Streda by overpass bridge, and crosses Vinohradnícka street by underpass between Podunajské Biskupice and the village of Miloslavov.

In km 14.500, they plan to construct a grade separated intersection "Podunajské Biskupice" (D4 with R1). Further, the route of highway D4 continues to the West of village of Most pri Bratislave.

- ***In the section from km 15.000 – 22.590076***, the route of highway D4 continues in the route of variant "C" - red (in accordance with the recommendation of the Ministry of Environment of the Slovak Republic in the Final Opinion of EIA Process No. 318/2010-3.4/ml of 28.9.2011), with the specification of directional run of the highway D4 pursuant to the recommended variant in the Technical Study "Highway D4 Bratislava, km 15.0 – Ivanka North intersection– Rača intersection" (elaborated in 10.2012 by the Association "D4 Bratislava, Jarovce – Rača") on the basis of the geodetic survey of the terrain while respecting the protective zones and interests of the airport of M.R.Štefánik.

The route of highway D4 continues to the West of the village of Most pri Bratislava, where it intersects the road II/572 at GSI "Most pri Bratislave", crosses the Little Danube River by a bridge and bypasses the gravel pit Zelená voda from the West. It bypasses the airport of M.R. Štefánik, continues in concurrence with Šúrsky kanál Channel to the West of the village of Ivanka pri Dunaji, intersects the road I/61 Bratislava - Senec at GSI "Ivanka - West", it intersects the railway route of Bratislava - Štúrovo by a grade separated bridge and ends at the GSI "Ivanka - North, by connecting to the existing highway D1, while the highway D4 is lead under the existing D1.

The overall length of the designed section is 22.590 076 km.

### ***II.3. Description and location of all activities and project parts with a possible impact on the biotopes of European importance, the species of European importance, the biotopes of the species of European importance, birds, including migrating species and their biotopes and the overall coherence of the European system of protected territories***

In the section from ca km 2.600 to 5.300, the structure shall pass the territory of the location belonging to Natura 2000 network (km 2.674 – 4.584 through the CHVÚ Dunajské Luhy, km 4.584 – 5.320 through the ÚEV Biskupické luhy).

The entire protected territory is located on the flyover bridge having the length of 3,152 m, the adjacent sections of highway D4 are lead in the filling or smaller bridge objects.

In the section of passage through the protected territories, forest biotopes under flyover bridge shall be liquidated and tree cut to the inevitable extent (the temporary seizure by structure), including the stands in the bank, in addition it shall come to the seizure of the grassland and the seizure of agricultural land.

In addition to the seizures of necessary areas, the construction and operation of the highway shall mean the new accumulation in the emission load of the territory and the disturbance in the form of noise and human activities related in particular to the construction of the highway.

The part of the intention is also the interconnection of left-side and right-side cycling route using the bridges on D4, which will bring the growth in tourism activities also on the left bank of the Danube river, thus in area that has not been exploited in notably intense way till now, for the reason of worse accessibility, than the right side of the river. Thus also the disturbing impact on the surrounding area shall automatically increase.

Water areas under the bridges shall be touched only on the place of the construction of pillars in the water course (the location of the pillars directly in the water course is taken into account only in the main stream of the Danube River).

All the above activities of a human with regards to the highway D4 as a separate structure and the operation of the highway and the development of tourism activities in the territory shall mean the new impacts in the territory, including the impacts on the overall coherence of the European system of protected territories.

The activities may be summarized as follows:

- Direct seizure of the biotopes
- Influencing of the use of nesting and feeding biotopes or other exploitation of the territory of the concerned subjects of protection due to the impact of noise and emissions coming from the highway
- The increase in the tourist activities in the territory by the increase of the scope of cycling routes and their interconnection, which shall relate to the increase in the noise level and the direct impact on the subjects of protection (wilful or unintentional killing of individuals, direct or indirect interventions in the biotopes)

### III. THE ASSESSMENT OF NEGATIVE IMPACTS

#### III.1. Name and code of the affected locations of the system of protected territories

On the basis of the identified inputs and outputs of the intention, on the basis of the location of the intention in the territory and on the basis of further substantial characteristics of the territory, the following Territories of European Importance (hereinafter referred to as the "EÚV" as well) and the Protected Avian Territories (hereinafter referred to as the "CHVÚ" as well) were selected as the concerned ones:

**CHVÚ Dunajské luhy (SKCHVU007)**

**ÚEV Biskupické luhy (SKUEV0295)**

**CHVÚ Sysľovské polia (SKCHVU029)**

**ÚEV Ostrovné lúčky (SKUEV0269)**

**CHVÚ Malé Karpaty (SKCHVU014)**

**ÚEV Bratislavské luhy (SKUEV0064)**

There are also other ÚEVs in the wider surroundings of the intention, however they were assessed as non-impacted by the intention. The reason is mainly the distance of the locations from the intention related to the subjects of protection, for which the locations of Natura 2000 system were declared and the size of their territories (thus the consideration of the chance of occurrence of the subject of protection in the proximity of the intention, or other type of impact by the intention).

The following locations are considered:

**ÚEV Hrušov (SKUEV0270)**

**ÚEV Šúr (SKUEV0279)**

**ÚEV Homol'ské Karpaty (SKUEV0104)**

#### III.2. Subject of the protection of the affected locations of the system of protected territories

##### CHVÚ Dunajské luhy

**Table 1:** In the Protected Avian Territory (CHVÚ), the following bird species are the subject of protection:

Slovak name	Latin name	Supposed count of nesting pairs <sup>1</sup>			Count of individuals wintering in the SR <sup>2</sup>
		in CHVÚ	in the SR	in the EU (thou.)	
<b>Black Stork</b>	<i>Ciconia nigra</i>	4 - 6	400 - 600	7.8 - 12	0 - 2
<b>Sand Martin</b>	<i>Riparia riparia</i>	180 - 420	10 – 20 thou.	5,400 - 9,500	0
<b>Little Bittern</b>	<i>Ixobrychus minutus</i>	12 - 34	200 - 400	60 – 120	0
<b>Mediterranean Gull</b>	<i>Larus melanocephalus</i>	30 - 70	50 - 125	120 - 320	0

<sup>1</sup>Reporting Article 12 v 1.1, Database, quoted on 4.2.2014. Available at: <https://www.sopsr.sk/reporting/2012/>, European Environment Agency, quoted on 4.2. 2014. Available at: <http://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=SKCHVU007>

<sup>2</sup>Reporting Article 12 v 1.1, Database, quoted on 4.2.2014. Available at: <https://www.sopsr.sk/reporting/2012/>



<b>Black Kite</b>	<i>Milvus migrans</i>	5 - 6	15 - 20	64 - 100	0
<b>Common Goldeneye</b>	<i>Bucephala clangula</i>	0	0	490 - 590	9,000
<b>Red-crested Pochard</b>	<i>Netta rufina</i>	7 - 18	10 - 40	27 - 59	0 - 10
<b>Common Pochard</b>	<i>Aythya ferina</i>	0	500 - 1,000	210 - 440	6,300 - 6,900
<b>Tufted Duck</b>	<i>Aythya fuligula</i>	0	250 - 500	730 - 880	25,000 -
<b>Garganey</b>	<i>Anas querquedula</i>	1 - 7	100 - 200	390 - 590	0 - 30
<b>Gadwall</b>	<i>Anas strepera</i>	12 - 21	50 - 80	60 - 96	0 - 240
<b>Common Redshank</b>	<i>Tringa totanus</i>	3 - 8	35 - 70	280 - 610	0
<b>Marsh Harriers</b>	<i>Circus aeruginosus</i>	7 - 16	1,000 - 1,500	93 - 140	0
<b>Tawny Pipit</b>	<i>Anthus campestris</i>	4 - 6	200 - 250	1,000 - 1,900	0
<b>White-tailed Eagle</b>	<i>Haliaeetus albicilla</i>	1 - 4	10 - 14	5 - 6.6	40 - 80
<b>Smew</b>	<i>Mergellus albellus</i>	0	0	8.1 - 17	100 - 700
<b>Common Tern</b>	<i>Sterna hirundo</i>	110 - 240	810 - 815	270 - 570	0
<b>Common</b>	<i>Alcedo atthis</i>	20 - 45	700 - 1,300	79 - 160	700 - 1,400
<b>Little Egret</b>	<i>Egretta garzetta</i>	2 - 5	0 - 30	68 - 94	0

### ÚEV Biskupické luhy

The Protected Territory of the European Importance (ÚEV) Biskupické luhy was declared for the purpose of the protection of the following subjects of protection:

#### Biotope (\* designates the priority biotope)

- 3150 Natural eutrophic and mesotrophic dead waters with the vegetation of floating and/or immersed vascular plants of Magnopotamion or Hydrocharition type
- 6210 Xerophilous grass and herb bushy stands on lime subsoil (\*important sites of Orchideaceae)
- 91F0 Inundated oak-elm-ash forests alongside lowland rivers
- 91G0\* Carpathians and Pannonian oak-hornbeam forests
- 91H0\* Thermophilic Pannonian oak forests

#### Species (\* designates the priority species)

- Bullhead (*Cottus gobio*)
- European Fire-bellied Toad (*Bombina bombina*)
- Stag Beetle (*Lucanus cervus*)
- Great Capricorn Beetle (*Cerambyx cerdo*) Kessler's
- Gudgeon (*Gobio kessleri*)
- Danube Ruffe (*Gymnocephalus baloni*)
- European Beaver (*Castor fiber*)
- Mehelyi's Root Vole\* (*Microtus oeconomus mehelyi*)

## CHVÚ Sysľovské polia

**Table 2:** In the Protected Avian Territory (CHVÚ), the following bird species are the subject of protection:

Slovak name	Latin name	Supposed count of nesting pairs <sup>3</sup>			Count of individuals wintering the	Count of individuals wintering the
		in the	in SR	in the EU		
<b>Great Bustard</b>	<i>Otis tarda</i>	3-5	10	31 - 36	100	150 - 200
<b>Greater White-fronted Goose</b>	<i>Anser albifrons</i>	(	0	62 - 72	1,500	3,700 – 4,600
<b>Taiga Bean Goose</b>	<i>Anser fabalis</i>	(	0	140	2,500	2,500
<b>Red-footed Falcon</b>	<i>Falco vespertinus</i>	5 - 20	5 - 20	26 - 39	0	0

## ÚEV Ostrovné lúčky

The Protected Territory of the European Importance (ÚEV) Ostrovné lúčky was declared for the purpose of the protection of the following subjects of protection: Biotopes (\* designates the priority biotope)

91E0\* Inundated willow-poplar and alder forests

3150 Natural eutrophic and mesotrophic dead waters with the vegetation of floating and/or immersed vascular plants of *Magnopotamion* or *Hydrocharition type*

6210 Xerophilous grass and herb bushy stands on lime subsoil (\*important sites of *Orchideaceae*)

91F0 Inundated oak-elm-ash forests alongside lowland rivers

### Species

Flat Bark Beetle (*Cucujus cinaberinus*)

Yellow-Spotted Whiteface (*Leucorrhinia pectoralis*)

Stag Beetle (*Lucanus cervus*)

Great Capricorn Beetle (*Cerambyx cerdo*)

Kessler's Gudgeon (*Gobio kessleri*)

Whitefin Gudgeon (*Gobio albipinnatus*)

Bullhead (*Cottus gobio*)

Danube Ruffe (*Gymnocephalus baloni*)

Streber (*Zingel streber*)

Amur Bitterling (*Rhodeus sericeus amarus*)

European Fire-bellied Toad (*Bombina bombina*)

Danube Newt (*Triturus dobrogicus*)

Greater Mouse-eared Bat (*Myotis myotis*)

European Beaver (*Castor fiber*)

<sup>3</sup> <http://natura2000.eea.europa.eu> (quoted on 17.3.2014) – data of 10/2012,

## CHVÚ Lesser Carpathians

**Table 3:** In the Protected Avian Territory (CHVÚ), the following bird species are the subject of protection:

Slovak name	Latin name	Supposed count of nesting pairs <sup>4</sup>			Count of individuals wintering in the SR
		in the CHVÚ <sup>5</sup>	in the SR	in the EU (thou.)	
<b>Saker Falcon</b>	<i>Falco cherrug</i>	4	19 - 45	360 - 540	10 - 25
<b>European Honey-buzzard</b>	<i>Pernis apivorus</i>	40	900 - 1,300	110 - 160	0
<b>Middle Spotted Woodpecker</b>	<i>Dendrocopos medius</i>	300	2,500 - 4,000	140 - 310	4,000 – 10,000
<b>White-backed Woodpecker</b>	<i>Dendrocopos leucotos</i>	60	1,500 - 2,500	180 - 550	3,000 - 6,000
<b>Syrian Woodpecker</b>	<i>Dendrocopos syriacus</i>	50	1,500 - 2,500	530 - 1,100	2,500 - 5,000
<b>Black Woodpecker</b>	<i>Dryocopus martius</i>	60	1,500 - 2,500	740 - 1,400	4,500 - 6,500
<b>Eurasian Eagle-owl</b>	<i>Bubo bubo</i>	13	300 - 400	19 - 38	700 - 1,000
<b>Black Stork</b>	<i>Ciconia nigra</i>	6	400 - 600	7.8 - 12	0 - 2
<b>European Nightjar</b>	<i>Caprimulgus europaeus</i>	15	1,000 - 2,000	470 - 1,000	0
<b>Peregrine Falcon</b>	<i>Falco peregrinus</i>	3	120 - 150	12 - 25	5 - 10
<b>Collared Flycatcher</b>	<i>Ficedula albicollis</i>	3,900	70,000 - 150,000	1,400 - 2,400	0
<b>Red-breasted Flycatcher</b>	<i>Ficedula parva</i>	500	5,000 – 10,000	1,200 - 10,000	0
<b>Red-backed Shrike</b>	<i>Lanius collurio</i>	1,400	65,000 - 130,000	6,300 - 13,000	0
<b>Grey-headed</b>	<i>Picus canus</i>	100	1,500 - 2,000	180 - 320	3,500 - 6,000
<b>Barred Warbler</b>	<i>Sylvia nisoria</i>	250	3,000 - 6,000	460 - 1,000	0
<b>Common Quail</b>	<i>Coturnix coturnix</i>	50	2,000 - 6,000	730 - 2,400	0
<b>Eurasian Wryneck</b>	<i>Jynx torquilla</i>	400	2,500 - 4,000	580 - 1,300	0
<b>Spotted Flycatcher</b>	<i>Muscicapa striata</i>	1,000	65,000 - 150,000	6,000 - 19,000	0
<b>Common Redstart</b>	<i>Phoenicurus phoenicurus</i>	600	10,000- 15,000	6,800 - 16,000	0
<b>Common Stonechat</b>	<i>Caxicola torquata</i>	1,000	30,000- 50,000	2,000 - 4,600	0
<b>European Turtle Dove</b>	<i>Streptopelia turtur</i>	600	15,000 - 30,000	3,500 - 7,200	0
<b>Eastern Imperial</b>	<i>Aquila heliaca</i>	3	35 - 40	850 - 1,400	20 - 50

<sup>4</sup> <http://atlas.vtaky.sk>, Kopecká (2011), <http://natura2000.eea.europa.eu>, Reporting Article 12 in 1.1, Database, quoted on 4.2.2014. Available at: <https://www.sopsr.sk/reporting/2012/>

<sup>5</sup> data of 2005

## ÚEV Bratislavské luhy

The Protected Territory of the European Importance (ÚEV) Bratislavské luhy was declared for the purpose of the protection of the following subjects of protection:

Biotopes (\* designates the priority biotope)

- 91E0\* Inundated willow-poplar and alder forests
- 3150 Natural eutrophic and mesotrophic dead waters with the vegetation of floating and/or immersed vascular plants of *Magnopotamion* or *Hydrocharition* type
- 3260 Lowland to montane water courses with the vegetation of *Ranunculion fluitantis* and *Callitricho- Batrachion* association
- 91F0 Inundated oak-elm-ash forests alongside lowland rivers

### Species:

- Flat Bark Beetle (*Cucujus cinnaberinus*)
- Bullhead (*Cottus gobio*)
- European Fire-bellied Toad (*Bombina bombina*)
- Eriogaster (*Eriogaster catax*)
- Stag Beetle (*Lucanus cervus*)
- Large Copper (*Lycaena dispar*)
- Barbastelle (*Barbastella barbastellus*)
- Greater Mouse-eared Bat (*Myotis myotis*)
- Pond Bat (*Myotis dasycneme*)
- Amur Bitterling (*Rhodeus sericeus amarus*)
- Scarce Large Blue (*Maculinea teleius*)
- Thick Shelled River Mussel (*Unio crassus*)
- Streber (*Zingel streber*)
- Kessler's Gudgeon (*Gobio kessleri*)
- Hungarian Quaker (*Dioszeghyana schmidtii*)
- Fenton's Wood White (*Leptidea morsei*)
- Yellow-spotted Whiteface (*Leucorrhinia pectoralis*)
- Danube Ruffe (*Gymnocephalus baloni*)
- White-finned Gudgeon (*Gobio albipinnatus*)
- Danube Newt (*Triturus dobrogicus*)
- Marsh Fritillary (*Euphydryas aurinia*)
- Water Beetle (*Graphoderus bilineatus*)
- Golden Spined Loach (*Sabanejewia aurata*)
- Eurasian Beaver (*Castor fiber*)

### ***III.3. Objectives of the protection of the locations and the most important elements contributing to the location integrity***

#### **CHVÚ Dunajské luhy**

- **The assurance of a favourable p condition of the biotopes of bird species of the European importance and the biotopes of migrating bird species** of Black Stork, Sand Martin, Little Bittern, Mediterranean Gull, Black Kite, Common Goldeneye, Red-crested Pochard, Common Pochard, Tufted Duck, Garganey, Gadwall, Common Redshank, Western Marsh Harrier, Tawny Pipit, White-tailed Eagle, Smew, Common Tern, Common Kingfisher, Little Egret and the assurance of the conditions for their survival and reproduction.
- **The assurance of a favourable condition of the biotopes and the assurance of conditions for survival and reproduction of migrating water birds, the birds creating groups during migration or wintering.** This considers mainly the following species: Common Sandpiper, Eaton's Pintail, Northern Shoveler, Garganey, Eurasian Wigeon, Mallard, Gadwall, Greater White-fronted Goose, Greylag Goose, Taiga Bean Goose, Grey Heron, Common Pochard, Tufted Duck, Greater Scaup, Ferruginous Pochard, Common Goldeneye, Whooper Swan, Mute Swan, Eastern Great Egret, Common Coot, Common Snipe, Tasmanian Native-hen, Arctic Loon, Red-throated Loon, Armenian Gull, Mew Gull, Black-headed Gull, Great Snipe, Velvet Scoter, Common Scoter, Smew, Common Merganser, Red-breasted Merganser, Red-crested Pochard, Great Cormorant, Great Crested Grebe, Red-necked Grebe, Black-necked Grebe, Water Rail, Tricolored Grebe and Green Sandpiper.

The territory is represented by the main course of the Danube and its left bank with inundated forests. The sufficient amount of natural water biotopes (water courses, swamps) as well as artificial water reservoirs provides good preconditions for nesting of Little Egret (*Egretta garzetta*), Little Bittern (*Ixobrychus minutus*), Common Tern (*Sterna hirundo*), Garganey (*Anas querquedula*), Common Redshank (*Tringa totanus*). The presence of forest biotopes, especially long-stemmed stands with the occurrence of nesting places of White-tailed Eagle (*Haliaeetus albicilla*), Black Stork (*Ciconia nigra*) and Black Kite (*Milvus migrans*) increases the value of the protected avian territory even more.

#### **ÚEV Biskupické luhy**

- **Protection of biotopes of the European importance:** Thermophilic Pannonian oak forests (91H0), the Carpathian Pannonian oak and hornbeam forests (91G0), the Inundated oak-hornbeam and ash forests alongside lowland rivers (91F0) and the species of the European importance: Great Capricorn Beetle (*Cerambyx cerdo*), Stag Beetle (*Lucanus cervus*), Dioszeghyana schmidtii, Bullhead (*Cottus gobio*), Danube Ruffe (*Gymnocephalus baloni*), Kessler's Gudgeon (*Gobio kessleri*), European fire-bellied Toad (*Bombina bombina*) and Eurasian Beaver (*Castor fiber*).

In addition to the typical inundated forests, the subject of protection are also the Carpathian and Pannonian oak and hornbeam forests, thermophilic Pannonian oak forests, natural eutrophic and mesotrophic dead waters, xerothermic grass and herbaceous as well as shrubby stands on calcareous subsoil. The contrast of very wet and very dry biotopes on rather small area is the precondition for a huge variety of species of plants and animals with the occurrence of many rare and endangered species.

#### **CHVÚ Sysľovské polia**

- **the conservation of biotopes of the birds of the European importance and the biotopes of migrating birds-** Great Bustard, Greater White-fronted Goose, Taiga Bean Goose, Red-footed Falcon and **the assurance of the conditions for their survival and reproduction**

The territory represents the Pannonian type of lowland represented mainly by agrocoenoses and scarce belts of windbreaks and shrubs, mostly secondary xerothermic to semixerothermic grassy and herbaceous communities rich in species on loess and alluvia of the Danube river. The tufty grass species and the closed vegetation cover determine the appearance of the biotope resembling the grass communities on fallow land. The prevailing part of the territory is however agriculturally intensively utilised – the target crops are mainly the cultures of cereals, the growth of Alfalfa, sunflower and rape kale. The windbreak belts and shrubs are formed in particular by Black Locust, Tree of Heaven, Field Maple, Wild Pear tree and Elder.

### ÚEV Ostrovné lúčky

- **Protection of biotopes of the European importance:** Inundated oak-elm and ash forests alongside the lowland rivers (91F0), inundated willow-poplar and alder forests (91E0), Xerophilic grassy and herbaceous and shrubby growths on calcareous underbed (6210), Natural eutrophic and mesotrophic still waters with vegetation of floating and/or immersed vascular plants of Magnopotamion or Hydrocharition (3150) type and the species of the European importance: Great Capricorn Beetle (*Cerambyx cerdo*), Red Flat Bark Beetle (*Cucujus cinnaberinus*), Stag Beetle (*Lucanus cervus*), Dragonfly (*Leucorrhinia pectoralis*), Bullhead (*Cottus gobio*), Streber (*Zingel streber*), Danube Ruffe (*Gymnocephalus baloni*), Gobiid Fish (*Proterorhinus marmoratus*), Amur Bitterling (*Rhodeus sericeus amarus*), Kessler's Gudgeon (*Gobio kessleri*), White-finned Gudgeon (*Gobio albipinnatus*), European Fire-bellied Toad (*Bombina bombina*), Danube Newt (*Triturus dobrogicus*), European Beaver (*Castor fiber*) and Greater Mouse-eared Bat (*Myotis myotis*).

The territory of the European importance Ostrovné lúčky includes the preserved fragments of the originally vast inundated forests alongside the Danube River, located at its right bank in the proximity of Rusovce and Čunovo. The biotopes of softwood and hardwood inundated forest, still water and river branches rotate here on a rather small area - in a sharp contrast with very rare xerophilous grassy communities. Such dry places are located on the places with massive gravel alluvia reaching high above the level of ground water.

### CHVÚ Lesser Carpathians

- **The preservation of the biotopes of the bird species of the European importance and the biotopes of migrating bird species:** Saker Falcon, European Honey-buzzard, Middle Spotted Woodpecker, Eurasian Eagle-Owl, Eurasian Nightjar, Black Stork, White-backed Woodpecker, Syrian Woodpecker, Black Woodpecker, Peregrine Falcon, Collared Flycatcher, Red-breasted Flycatcher, Red-backed Shrike, Grey-faced Woodpecker, Barred Warbler, Common Quail, Eurasian Wryneck, Spotted Flycatcher, Common Redstart, European Stonechat, European Turtle-Dove and Eastern Imperial Eagle and **the assurance of their survival and reproduction.**

In the CHVÚ Malé Karpaty, mainly the forest biotopes within the 1st vegetation (oak) to 4th vegetation level (beech) are abundant.

The grassy and herbaceous growth as well as shrubby communities take not so large areas in the marginal parts of the territory and in the valleys of forest complexes. Also the parts of vineyards mainly at the foot of the East slopes of Pezinok Carpathians were included in the CHVÚ. A special biotope of birds is represented by numerous rock formations with rock walls in the mountain range of Pezinok Carpathians.

## ÚEV Bratislavské luhy

- **Protection of biotopes of the European importance:** Inundated oak-elm and ash forests alongside the lowland rivers (91F0), inundated willow-poplar and alder forests (91E0), Lowland to montane water courses with the vegetation of the alliance of *Ranunculion fluitantis* and *Callitriche-Batrachion* (3260), Natural eutrophic and mesotrophic still waters with vegetation of floating and/or immersed vascular plants of Magnopotamion or Hydrocharition (3150) type and the species of the European importance:

Creeping Marshwort (*Apium repens*), Scarce Large Blue (*Maculinea teleius*), Large Copper (*Lycaena dispar*), Diving Beetle (*Graphoderus bilineatus*), Marsh Fritillary (*Euphydryas aurinia*), Eastern Eggar (*Eriogaster catax*), False Ringlet (*Coenonympha oedippus*), Ground Beetle (*Carabus variolosus*), Violet Click Beetle (*Limoniscus violaceus*), Stag Beetle (*Lucanus cervus*), Compton Tortoiseshell (*Nymphalis vaualbum*), Fenton's Wood White (*Leptidea morsei*), Dragonfly (*Leucorrhinia pectoralis*), *Dioszeghyana schmidtii*, *Bolbelasmus unicornis*, Bullhead (*Cottus gobio*), Streber (*Zingel streber*), Balon's Ruffe (*Gymnocephalus baloni*), Tubenose Goby (*Proterorhinus marmoratus*), Golden Loach (*Sabanejewia aurata*), Amur Bitterling (*Rhodeus sericeus amarus*), Kessler's Gudgeon (*Gobio kessleri*), White-finned Gudgeon (*Gobio albipinnatus*), Danube Newt (*Triturus dobrogicus*), European Fire-bellied Toad (*Bombina bombina*), Lesser Horseshoe Bat (*Rhinolophus hipposideros*), Greater Mouse-eared Bat (*Myotis myotis*), Pond Bat (*Myotis dasycneme*), European Beaver (*Castor fiber*) and Barbastelle Bat (*Barbastella barbastellus*).

The territory is covered with valued stands of willow-poplar and oak-elm and ash inundated forests with the occurrence of many old trees of a unique ecological value. Forest management took place here only to a limited extent. In addition to the inundated forests, we can find there also the remnants of forest steppes or important plant communities of dead water and water courses.

### ***III.4. Biotopes of European importance and species of European importance, including birds and their biotopes that are the subject of protection and priority biotopes of European importance that shall be negatively affected***

(for example their representative character or the situation in their protection pursuant to Article 65 Para 1 Letter o) of the Act, the degree of isolation and their roles and functions within the given location)

The given subjects of protection with proven significantly negative impact within the reasonable assessment pursuant to the stipulations of Article 6 (3) and 6 (4) of the Council Directive No. 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. Namely **Black Kite** (*Milvus migrans*), **White-tailed Eagle** (*Haliaeetus albicilla*) and **Black Stork** (*Ciconia nigra*), that are the subject of protection in the CHVÚ Dunajské luhy (SKCHVU007).

#### **Black Kite (*Milvus migrans*)**

It lives in Slovakia in particular in hilly areas, wide valleys between mountain ranges, as well as inundated forests and lower mountain ranges. It loves forest landscape interwoven with free areas (fields, hayfields), almost always in the proximity of water, large rivers or water reservoirs.

The European Black Kites are flighty to migrating. They can seldom winter in the proximity of

their nesting place, or fly just to South Europe. However, in majority of cases they winter in South Africa. The notable migrating destinations are Gibraltar and the Near East. Just little portion of birds migrate through Italy. They fly away to their wintering places soon, usually in second half of August, they return in first half of April.





It nests in Slovakia and the entire Europe individually, extraordinary semi-colonially. It often nests in the colonies of other birds – Grey Herons, White Storks- or in their proximity Pairs are maybe permanent and both birds arrive to their nesting places together. After arrival, they show their wedding flights. Their part is catching with claws while flying high in the air and subsequent falling together almost to the earth, while rotating around. They build their nests on trees. They often use the old nests of other birds - Herons, Cormorants, Crows, Storks, etc. In addition to vegetable material, pieces of paper, cloths, plastic, cords, etc. often occur in the nest lining. They start laying eggs at the end of April, beginning of May. Their number is 2-3 and they are laid in the interval of 2-3 days. Incubations starts prior to laying the last egg. Both parents participate in hatching, female more. Egg heating takes 28-32 days. Male fetches food to the female while hatching. The weakest baby bird is often suppressed by the older ones and it sometimes dies. They stay in nests for 42-46 days. They leave the nests in July in our place. They reach gonad maturation stage at the age of at least 2 years. They can stay with parents in the nesting territory even for another year, while not being scared away.

Black Kite feeds on various food. Fish prevail in their food in the proximity of water. Mammals may prevail elsewhere, in particular rodents or birds. It hunts or amphibians, in particular frogs and reptiles not so much. Insect may form a large portion. It is known it often steals food from other bird species, in particular the birds of prey. It often collects animals struck by cars on the roads. While living in cities or their proximity, it feeds mostly on waste. It often eats carcasses. They can collect food from water level also while flying.

The considered area uses the part of its nesting population of Slovakia that inter alia uses also the inundated forests of the Morava river and Latorica river, the Borsá nížina Lowland, the Podunjská nížina lowland and the Východoslovenská rovina Flatland. The feeding territory may be rather large, according to the local conditions, even 5 or more kilometres away from their nest. The abundance of nesting population within the entire Slovak Republic was assessed in 1999 to the 40 to 60 pairs, the long-term population trend shows its significant decrease.

In past (1970 - 1980), several pairs nested the part of the Protected Avian Territory affected by the construction of highway D4 annually, their number decreased in the 1990s, yet nesting was still regular (1 - 3 pairs). Nowadays, it nests only irregularly, however it occurs every year. The decrease in the number of nesting pairs was very significant in our entire section of the Danube river (e.g. just 2 pairs in the entire CHVÚ in 2009 and no pair in the entire CHVÚ in 2011) or in the entire Slovakia and Black Kite belongs to our the most endangered bird species.

The assessment of the condition of the species from the point of view of protection pursuant to Article 12 of the directive 2009/147/EC - unfavourable (U2).

The role and function within the given location – predator.

### **White-tailed Eagle (*Haliaeetus albicilla*)**

It lives in the proximity of large rivers and water reservoirs, with a sufficient amount of fish and water fowl.

There must be old forests with large trees nearby.

Adult birds from the Central European area are mostly regular and they spend winter in the proximity of the nesting place. Young birds are unsettled to migrating and they winter in Western or Southern Europe. Nordic birds are migrating and they may winter in our place.

The pairs of White-tailed Eagle are stable for many years and they mostly disintegrate only after the death of any of the partners. It nests rather soon, the engagement flights and nest construction start at the end of December already. The part of their wedding flights is mutual catching in the air using their claws, accompanied with noisy crying. It nests in high massive trees, the most frequently on poplars, beeches and pines. There must be a good landing space for nest location. It is sensitive to disrupting during nesting. Its nest very large. In majority of cases, the pair has several nests in the territory, it uses them in rotation. Female lays 1-3 eggs in the second half of February already, or at the beginning of March. Incubation takes 36-40 days. Mostly female hatches, being altered by male for a short time. The nesting care takes 80-90 days. At least two months after leaving their nest, the young birds are fully nutritionally dependant upon parents that feed them. They reach gonad maturation stage approximately at the age of 5.

The composition of food of White-tailed Eagle is variegated. The greatest portion of its food is fish, followed by small to medium-sized mammals and various bird species. It often eats also carcasses, in particular in winter.



White-tailed Eagle nested on the Slovak side of the Danube river till the mid of the 1960s. Its extinction in Slovakia after this period relates to the overall decrease in the European population in the 1960s and 1970s as the consequence of excessive chemisation of environment, as well as the consequence of a direct chase by a man - shooting, egg collection, trapping, falconry. Since the 1980s, the population starts growing and White-tailed Eagles appeared also in our place most frequently, in particular in winter period. First two pairs nested on our territory after more than 30 years in 1998.

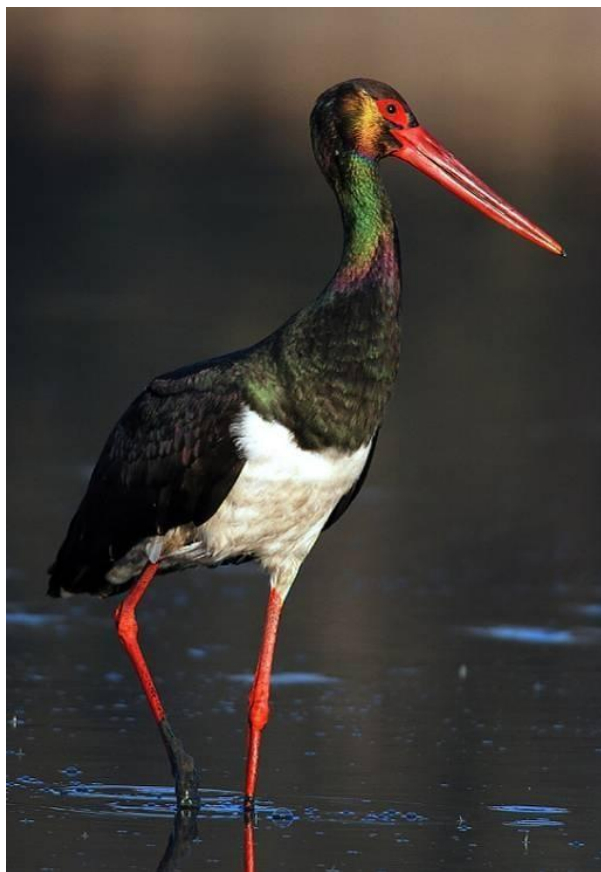
In addition to the Danube, it nests near the Morava river and Zemplínska Šírava reservoir, near the Latorica river, on trees in all cases, at the amount of ca 6 pairs. The stable wintering place of White-tailed Eagle is the territory in the section of the Danube river and the Morava river in the areas bordering with Hungary, Austria and the Czech Republic. It winters on the Váh River, the Hron River and other water courses that do not freeze in winter. The abundance of wintering population is substantially higher than the nesting population, they assess ca 60 - 80 individuals winter in our place.

The contemporary population of White-tailed Eagle in the CHVÚ Dunajské luhy are 4 pairs (2006-2011). This is the biggest nesting place of the species in Slovakia and the majority of the Slovak population of White-tailed Eagle nests here. (2009). Contemporary (2009-2011) one pair nests in the territory directly affected by the construction of the highway D4.

The assessment of the condition of the species from the point of view of protection pursuant to Article 12 of the directive 2009/147/EC - favourable (FV).

The role and function within the given location – predator.

### **Black Stork (*Ciconia nigra*)**



A migrating species, it arrives in March to April, leaves in August or even in September. It rests in forests, both inundated and deciduous, mixed or evergreen, from lowlands up to the altitude of ca 1,000 m a.s.l.. The reproduction period is from April till August.

Black stork nests in solitude. The nest made of branches and twigs is hidden in the crowns of high trees, in particular deciduous or they are built on inaccessible rocks. They occupy also the old nests left by large birds of prey. It has several nests in its territory, it alters them within the years. The nest is usually on the top of a dry tree, however it may nest also in the central part of a crown near the stem, if there is sufficient space for arrivals and departures from side. A shallow nest is made of thick and dry branches placed in several layers. It is usually really big, since Black Storks return to the same place every year and they constantly repair their nest and add something to it. They are reinforced with Greensward and Couch-grass in the central part. The upper part is made of thinner branches and laid out with moss, dry grass,

sometimes leaves and hair.

You can sometimes find also paper, clothes or potato tops in the valley of the nest. It differs from the nests of large birds by the layers of the given materials.

It catches fish up to 25 cm size, in addition to them also water insects, frogs and newts. In the areas with wet meadows, it feeds mainly on grasshoppers, in addition to it also on frogs, rodents and baby birds. It gets food from places up to the distance of 10 km from its nest. Fluffs, so called pellets, are formed from the indigestible parts of the food of Storks, the vomit them similarly as owls and birds of prey.

Nowadays, approximately 400 to 600 pairs of the species live in Slovakia. The most important negative impacts on this species can be considered to be, similarly as in the case of the previous species, the exploitation not only of inundated forests and their surrounding, caused by forest management, the exploitation of the country for sports and recreation purposes.

as for the entire Slovakia, Black Stork occurs in summer on the entire territory, save the North and West part of the Podunajská nížina Lowland.

In not so far past, 1 pair nested in the part of the CHVÚ affected by the construction of highway D4 till 1995.

Nowadays, the nesting population in the entire CHVÚ is at historical minimum, the nesting of just one pair was observed in 2009.

Despite that, Black Stork occurs in the CHVÚ every years, including the area affected by the proposed activity.

The assessment of the condition of the species from the point of view of protection pursuant to Article 12 of the directive 2009/147/EC - favourable (FV).

The role and function within the given location – predator.

### ***III.5. Social value of biotopes and species negatively affected by the plan/project***

Three bird species (see table above) shall be significantly negatively affected by the construction and operation of the highway D4 Bratislava, Jarovce – Ivanka North. Their social value is specified in the Regulation No. 158/2014 Coll. amending and supplementing the Regulation of the Ministry of Environment of the Slovak Republic No. 24/2003 Coll. implementing the Act No. 543/2002 Coll. on the protection of nature and landscape as amended.

**Table 4:** Social value of the significantly negatively affected

<b>Negatively affected species</b>	<b>Social value of an individual</b>
Black Kite ( <i>Milvus migrans</i> )	4,610.00 €
White-tailed Eagle ( <i>Haliaeetus albicilla</i> )	5,990.00 €
Black Stork ( <i>Ciconia nigra</i> )	3,220.00 €

### ***III.6. Importance of the location for biotopes and species pursuant to Clause 4 that shall be affected***

(for example, the role of the locations within the Slovak Republic, the biogeographic region and the territories of the system of protected territories should be stated)

Highway D4 Bratislava, Jarovce - Ivanka North passes through the CHVÚ in its North part, in particular the upper part of Hrušovská zdrž Dam, where the entire inundation part is not permanently flooded. Permanently increased level in this part is just in the main bed of the Danube and its branches. There are the softwood and hardwood inundated forest stands or

lowland mown meadows in the flooded part.

The compact part of the forest stands of inundated forest at the left bank of the Danube River in the wider surroundings of the intention of the highway is relatively little attacked by human activities. Thanks to its area and species composition, the forest units are a suitable refuge (in particular the **nesting biotope**) for timid bird species (**Black Stork, Black Kite, White-tailed Eagle**), that are the subject of protection in the CHVÚ Dunajské luhy.

### **Black Stork (*Ciconia nigra*)**

It lives in the forests within the CHVÚ, it uses them for nesting. It searches for food at the edges of water areas or water courses, covered with vegetation, if possible. It catches fish up to 25 cm size, in addition to them also water insects, frogs and newts.

In the parts of the CHVÚ with wet meadows, it catches also grasshoppers, in addition to it also frogs, rodents or baby birds. It gets food from places up to the distance of 10 km from its nest. It searches for peaceful and hidden places, it avoids the human settlements. It nests individually on trees.

### **Black Kite (*Milvus migrans*)**

The compact inundated forest stand in the considered territory is very suitable for its occurrence and nesting. The feeding territory may be rather large, according to the local conditions, even 5 or more kilometres away from their nest.

From this point of view, the considered territory still remains the significant location of the species and we may suppose that when the Danube population starts growing again, it would occupy the former territories in the concerned area.

### **White-tailed Eagle (*Haliaeetus albicilla*)**

The proximity of a large river and water reservoirs with a sufficient amount of fish and water birds in the concerned territory make its feeding base. The existence of old forests with large trees is suitable for its nesting.

Furthermore, the territory around the Danube river is the permanent wintering place.

With regards to the above and to the fact that there are 4 pairs of White-tailed Eagle nesting in the CHVÚ Dunajské luhy (this is the greatest nesting place of the species in Slovakia), the concerned territory is of a large importance with the species.

## ***III.7. Description of expected negative effects, description of their scope, importance, size and their location***

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*The description of the expected negative impacts (loss, damage, disturbance, direct and indirect impacts, etc.), the description of their scope (the area of the biotopes and the number of species or the areas of occurrence affected by the project), the importance and size (for example the affected area or population in relation to the overall area and population on the given location or in the entire landscape) and their location (including maps).*

The process of the assessment of impacts of environment showed the construction shall have a significant negative impact on the subjects of the protection of the CHVÚ Dunajské luhy, namely the bird species: **Black Kite (*Milvus migrans*)**, **White-tailed Eagle (*Haliaeetus albicilla*)** and **Black Stork (*Ciconia nigra*)**, in the period of implementation and operation. The subjects of protection shall be affected in particular by the following impacts: seizure (the direct intervention in the biotopes), noise and light disturbance, increased visit rate at the left-side cycling route in the inundated forests (disturbance), contacts with vehicles and the pollution of environment (the changes in immission characteristics, the pollution of aqueous environment).

### **Seizure**

Seizure represents a direct interference with the biotopes. The structure passes through the protected avian territory in its Northern part, in particular the upper part of Hrušovská zdrž.

The approximate seizure is 11.13 ha, which is 0.067% of the overall area of the CHVÚ.

In total, there are the biotopes suitable for occurrence or nesting of some species being the subject of protection in the entire area. The majority of the subjects of protection uses the territory as *feeding territories or gathering places* (migrating and wintering species).

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According to the ornithological survey (Kúdela et al., 2011), in the place of the intention of the construction, probably 1 pair of Black Stork regularly nested till 1995, nowadays the nesting population is on its minimum (1 nesting pair in the CHVÚ), however it probably comes to the increase in population recently.



In such a case it would probably come to the re-settlement of the area.

The nesting places of the species are rather rare and therefore they require a strict protection.

In past, the part of the CHVÚ in the proximity of the intention was a regular nesting place of Black Kite species. Nowadays, it nests only irregularly, however it occurs every year. Since the decrease in the species took place in the entire territory of the Slovak Republic, from the national point of view, the territory still remains the significant location of the species and we may suppose that as long as the Danube population starts again raising, the birds shall occupy the former territories in the area affected by the construction (Kúdela, Melišková, Littera, 2011).

The contemporary nesting population of White-tailed Eagle in the CHVÚ is 8 pairs (2006 - 2011). It is the greatest nesting place of the species in Slovakia. One pair nests in the territory directly affected by the construction of the intention, which is 1/4 of the overall population in the CHVÚ.

The above data imply the nesting places of the species are very rare and therefore they require a strict protection. The liquidation of the biotopes in the area of the intention would therefore be assessed as significantly negative for the species (even despite the relatively small percentage of seizure within the CHVÚ).

### **Noise and Light Disturbance**

According to Rejnen et al. (1995), noise level at which animals leave their habitats due to the excessive disturbing is different for various bird species, however average ranges from 40 to 50 dB, for forest bird species as well as for the birds living in the open sites. Therefore the values are considered as relevant (for the determination of significantly affected territory).

As long as we count the area significantly affected by the increase in noise during the operation of the intention, we shall get the number 336.9 ha (night), or 276.6 ha (day), which makes 2.04 % (night), or 1,68 % (day) of the overall area of the CHVÚ. The percentage applies to the species: Black Kite and White-tailed Eagle that use all the affected biotopes (e.g. nesting places, feeding biotopes), thus the forest biotopes in Biskupické luhy and water areas and inundation of the Danube River.

In the case of species using mainly the forest stands of Biskupické luhy, the significant extent of disturbance shall affect ca 143.9 ha, i.e. approximately 1.7% of the type of environment within the CHVÚ. This regards mainly Black Stork.

From the numbers stated above we may draw a conclusion speaking that due to the noise and light disturbance in particular from the operation of the intention, the named three bird species shall be significantly negatively affected.

### **Increased Visit Rate in the Location**

The part of the intention is the interconnection of the left-bank and right-bank cycling route using the bridges on D4, from which the lane for pedestrians and cyclists shall be separated. Therefore there are some concerns that the visit rate of the left bank shall significantly grow (nowadays it is accessible only with difficulties), which would bring about the disturbance not only in the littoral part, but also in the area of inundated forests offering the hiding place to the species sensitive to disturbance, such as Black Stork, White-tailed Eagle and Black Kite. With the impact of the increased visit rate in the considered location, there is a risk the sensitive species would be pushed out from the biotopes occupied by them till now.

The increased visit rate and related increase in the disturbance by tourists may be expected in the proximity of the existing (the cycling route at the left-bank dam alongside the left-side ingress channel) or newly built cycling routes on the left bank of the Danube River (the cycling route in parallel with the highway D4), which may increase the force acting on the sensitive bird species.

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The increased visit rate in the location of Biskupické luhy shall not contribute to the improvement of ecological conditions for sensitive bird species, it is surely perceived as negative, however it is impossible to classify it as significantly negative impact.

The other impacts that shall be demonstrated in particular in the period of operation area **the collisions with vehicles and environment pollution.**

The impacts were assessed as moderately negative.

### ***III.8. Possible cumulative impacts and other impacts that could occur as the result of combined measures of the assessed plan/project and other plans/projects***

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The current urban plan of a large territorial unit of Bratislava region, the urban plan of the capital city of the Slovak Republic, Bratislava and also the information system of SEA/EIA were used for the assessment of the cumulative impacts in particular.

The assessed intention is located in the wider surroundings of the capital city of Bratislava that is exposed to rather strong pressures on the exploitation of the territory.

From amongst the existing structures that significantly participate in the cumulative impacts, this regards the following: Highway D1 Bratislava – Trnava, 6-lane – the contemporary highway shall intersect with highway D4 in Ivanka North intersection.

Highway D2 – route: state boundary between CZ/SK (Lanžhot – Brodské) – Malacky – Bratislava – state border between SK/HU (Čunovo – Rajka), 4-lane. The contemporary highway D2 shall intersect with the assessed section of highway D4 in grade separated intersection BA Jarovce.

Highway D4, state boundary between AT/SK (Jarovce) – Bratislava, Jarovce (intersection with D2), 4-lane

– the section assessed here represent the elongation of D4 in the grade separated intersection of Jarovce. The following is stated as the public utility structures in the binding part of the Upper-tier Territorial Unit of Bratislava region. Highway D4, Ivanka North – Rača – the structure following the assessed section of the highway D4.

They shall form the bypass of Bratislava together with the other sections of highway D4.

Expressway R1, Most pri Bratislave – Vlčkovce – the structure following the section of highway D4 assessed here in Podunajské Biskupice intersection This section runs in parallel (ca 10 km) to the South-east with the existing highway D1 in the direction to Trnava.

Expressway R7 BA Prievoz – BA Ketelec – the structure following the section of highway D4 assessed here in Ketelec intersection The suppose the implementation together with the highway D4 in the section assessed here (106-2019).

Expressway R7, BA Ketelec – Dunajská Lužná - this is the continuation of the expressway from GSI Ketelec in the Eastwards direction R7 continues alongside the Danube River to Dunajská Streda – Nové Zámky – Veľký Krtíš. It shall connect to the planned R2 to Košice near Lučenec.

The route of high-speedway (VRT) within the boundaries of the city of Bratislava from the central cargo station alongside the highway D1 to Čierna voda turn and father alongside the highway D1 towards the Váh River region.

The areas for the construction of a parallel taking-off and landing tract with the existing taking-off and landing tract 13–31 and the area for the completion of the necessary infrastructure of the check-in process at the airport of M. R. Štefánik. The areas are closely adjacent to the proposed intention, they are to the West of them.

The territory and equipment of the Waterworks Wolfsthal. This waterworks should be located ca 11.5 km up the Danube River stream from the territories belonging to Natura 2000 system assessed here.

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This would mean the influence of water level in the area under the stage, the influence of biotopes in the territory assessed here may not be excluded.

Oil pipeline and product ducts of Schwechat – Slovnaft. The connection of Slovnaft with Austria. The corridor established in the urban plan of Bratislava runs through the territory of Natura 2000 system (CHVÚ Dunajské luhy and ÚEV Biskupické luhy – to the North of Kopáč island).

High-pressure gas line Slovnaft-Petržalka-Einsteinova-Mlynská dolina. The route shall run through the CHVÚ Dunajské luhy and ÚEV Biskupické luhy – to the North of Kopáč Island.

## Harbours, landing stages and related structures of transport and technical infrastructure of harbours of waterway transport on the Danube River.

Furthermore, they proposed the development function area in the area of the rowing channel at Jarovce branch and also rather vast development function area to the North-east from GSI Jarovce. The industrial area is located to the North of the existing communication E58 between GSI Jarovce and the state boundary between the Slovak Republic and Austria in the proposal.

The above mentioned numerous list of the planned intention implies the surroundings of the assessed intention is under a notable pressure of the development activities.

This regards mainly the structures of the existing transport infrastructure and industrial activities representing rather dense network in the complicated territory. As long as the structures of infrastructure (see above), development areas for residential zones and industrial areas are added to the existing intention, it is clear it could easily come to the exceeding of the bearable level of environment for keeping the objects of the individual locations of Natura 2000 system in a condition favourable from protection point of view.

In the case of the CHVÚ Dunajské luhy, the capacity of environment has already been exceeded, for the intention assessed here. With regards to the CHVÚ Dunajské luhy and ÚEV Biskupické luhy, the other intentions of line structures are planned too (oil pipeline and product duct of Schwechat – Slovnaft and the high-pressure gas line of Slovnaft-Petržalka-Einsteinova-Mlynská dolina), that shall cut the left-side Danube inundated forests in the North part and they shall represent another loss of valued biotopes.. The planned expressway R7 shall then separate the locations to the East from Kopáč Island (the connection to GSI Ketelec). In addition to the increase in noise disturbance and biotope seizure, it shall bring about also the deterioration of the migration permeability of the territory.

In general, the greatest problem shall be a high spatial fragmentation of the territory and the seizure of valuable biotopes together with a significant increase in noise pollution in the case of some types of structures.

### ***III.9. Mitigating measures within the project***

*(State how they shall be implemented and how could they avoid the negative impacts on the location or reduce the impacts)*

#### Project preparation phase:

- Red sewage system is designed with a sufficient capacity so that the hazardous substances coming from transport (oil substances, tyre wear, brake wear, etc.) could be always entrapped.- The administrator of the communication shall regularly check and maintain in fully operable condition the safety elements for water protection.

*The measure shall be implemented during the construction and operation (check) and it shall prevent the contamination of surface and ground water in the territory.*

- Draining of the bridge structures (the Danube, Little Danube Rivers and other water courses) shall be dealt with by sewer system with routing to sufficiently rated safety element for water protection, such as they are dealt with in the zoning and planning decision documentation

*The measure shall be implemented during the construction and operation (check) and it shall prevent the contamination of surface and ground water in the territory.*

- As for the bridge structures running through the location of Natura 2000 system, the silent expansion blocks shall be used, they shall reduce the noise in the area under the bridge.

*The measure shall reduce the noise load of the surrounding environment to maximum extent, whereby the scope of the concerned locations of Natura 2000 system shall be reduced*

- As for the bridge structures running through the locations of Natura 2000 system, 4 m high anti-noise walls shall be installed at both sides.

*The measure shall reduce the noise load of the surrounding environment to maximum extent, whereby the scope of the concerned locations of Natura 2000 system shall be reduced*

#### Implementation phase.

- The observation of the conditions specified in the planning permission shall be regularly checked by the eco-supervisor of the construction.

*The measure shall prevent the undesirable impacts outside the seizure of the structure and it shall ensure the meeting of the other proposed mitigating measures.*

- The cutting of trees in the structure seizure area shall take place in the period outside bird nesting.

*The measure should prevent the endangerment of the reproduction cycle of bird species till the period of young bird taking out.*

- In the proximity of Biskupice branch (ca km 4.590 – 4.720 of the intention), the earth stripping shall take place outside the period of reproduction of Root Vole (in months: XII – I at the best).

*The measure shall prevent the disturbance of the reproduction cycle of the individuals of the protected species.*

- It shall be necessary to immediately level the terrain depressions in which water could stay during the construction, since they would become the biotope for the reproduction of amphibians. If necessary, the migration barriers shall be installed during the construction for the protection of amphibians.

*The measure should prevent the death loss of amphibians directly on the site.*

- The equipment of the construction mechanisation shall be complemented by emergency pack comprising a sorbent.

The biodegradable (degradable in nature) service fluids shall be used to a maximum possible extent, the mechanisation working on the structure must be maintained in a suitable technical condition (no dropping).

*The measure should prevent the pollution of soil and ground water and thus also the indirect impact on the surrounding biotopes.*

- the construction yards and material dump sites shall be located outside the location of Natura 2000 system.

*Thus the possible risks of contamination of the territory directly within the territories of Natura 2000 shall be avoided.*

#### Operation phase:

- Through the representatives of the ŠOP SR, the relevant self-governments and SVP, š.p. it is necessary to prevent the location of new stands with refreshment alongside the entire left-bank cycling route in the area of CHVÚ Dunajské luhy.

*The objective of the measure is to minimise the disturbance of birds by tourists and sportsmen in the concerned protected territories.*

- The construction shall not disturb the existing system of bars and barriers preventing the unauthorized drive into the area of CHVÚ Dunajské luhy at both sides of the Danube River

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*The role of the measure is to minimise the disturbance by an increased visit rate in the CHVÚ Dunajské luhy.*

- The space under the flyover bridge shall be left as much as possible in a natural condition (clay subsoil with rocks in enclaves with fractions up to 30 cm that shall increase the variability of environment) while respecting the needs and requirements of the bridge body maintenance.

*The measure shall improve the migration permeability of the territory under the future flyover bridge, in particular for reptiles and small animals.*

- The regular inspections and disposal activities shall prevent the expansion of invasive plant species into the areas with removed vegetation cover during the construction.

*The measure should prevent the expansion of invasive plants, so that the biotopes in the proximity of the intention would not be devalued after the return to close-to-nature condition.*

## IV. ALTERNATIVE SOLUTIONS

### IV.1. Identification and description of possible alternative solutions including zero alternative

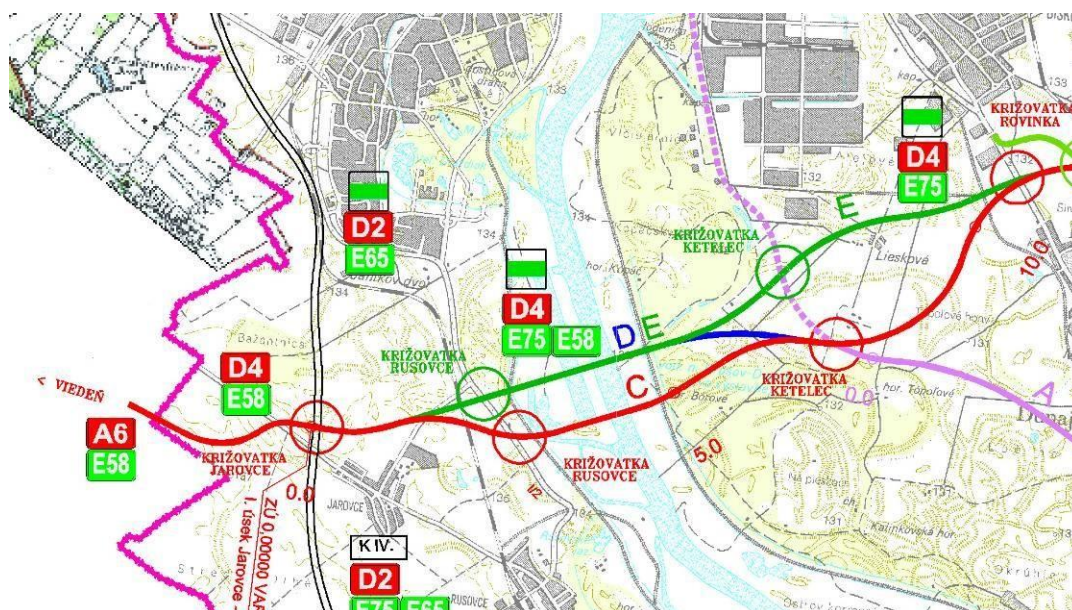
(method of identification, procedures, methods)

The location of the given section of highway D4 was the subject of several studies dealing with its location to the South and South-east from the capital city of Bratislava. These were the following studies:

- **"Transport and urban study of zero circuit around Bratislava", hereinafter referred to as the DUŠ** (elaborated by DOPRAVOPROJEKT, a.s. in 02.2002 ).
- **"Highway D4, Jarovce intersection on D2 – Senec intersection on D1"** , the technical study (elaborated by Alfa 04 a.s. in 06.2005 )
- **"Highway D4, the section of Jarovce – Ivanka North"** , the optimisation of the location of the intersections on D4, technical study ( elaborated by Geoconsult,s.r.o., in 12.2007 )
- **"The feasibility and purposefulness study for route of D4 Bratislava Jarovce – Ivanka North – Stupava South – state border between SR / RR,** ( elaborated by DOPRAVOPROJEKT, a.s. in 09.2009 )

On the basis of the comments raised prior to and during the EIA process, three variants of highway D4 were finally optimised differing in particular by passage through the Danube River and by passage through the protected territory NATURA 2000 (km 0.000 –11.000):

- variant "C" (by bridges above the Danube River) - red
- variant "D" (by a tunnel under the Danube River) - blue
- variant "E" (by bridges above the Danube River) - green



KRIŽOVATKA = INTERSECTION , ÚSEK = SECTION



***VARIANT "C" (RED)***

The beginning of the section is in the GSI "Jarovce", where highway D4 connects to highway D2. The route continues to the North from the municipal part of BA – Jarovce, it crosses the railway route of Bratislava – Rusovce, road I/ 2 and the right-side embankment of the waterworks Gabčíkovo, at the South edge of Jarovce branch and the planned rowing track, perpendicularly on a bridge above the Danube River and its left-side embankment.

At the right bank of the Danube, it passes by the natural reserve (PR) Dunajské ostrovy and the protected territory belonging to Natura 2000 (Ostrovne lúčky).

On the left bank of the Danube River, it passes as an jetty through PR Gajc (in its narrowest spot) and the Protected Landscape Area (CHKO) Dunajské luhy, that is the part of the protected territory Natura 2000 (Biskupické Luhy). The negative impacts of the passage of highway D4 through this territory shall be eliminated by leading the highway on a flyover bridge till km 5.545.

The bridge over the Danube River is designed in category D 33.5/120 (six-lane), farther with four-lane width arrangement with wider central separating belt so that the possible prospective broadening of the highway D4 to six-lane towards the axis of the highway D4 would be possible up to GSI "Ivanka - West" (the intersection of highway D4 with road I/61). The pathways for pedestrians and cyclists shall be designed within the bridge above the Danube River.

On the left bank of the Danube River, the highway D4 continues to the South of the area of gravel mining in Ketelec, where it shall intersect the expressway R7 with grade separated intersection and the planned municipal collector from Prístavná street, running to the West of Slovnaft, a.s. In km 9.250 of the D4, a large bilateral resting place of "Rovinka" is designed.

The route of highway D4 further intersects the road I/63 by grade separated intersection between the municipal part of Bratislava - Podunajské Biskupice and the village of Rovinka (at GSI "Rovinka") and the railway route of Bratislava – Dunajská Streda. It continues to the North of the village of Most pri Bratislava, where it should intersect the new, prospective expressway Bratislava - Vlčkovce and road I/572 by grade separated intersection (in accordance with the intentions of NDS, a.s.). The interconnection of both roads with highway D4 shall be in one GSI "Most pri Bratislava" by means of collector lanes.

The route of highway D4 further continues before taking-off and landing track of VPD 13-31 of the Airport of M.R. Štefánik and it intersects the Little Danube River by a bridge. In this section, the highway D4 runs in a notch so that it would respect the protective zones of the elongated track of VPD 13-31 of the airport. The highway D4 then passes above the future water area of the western edge of the mining area as a bridge.

Furthermore, the route of D4 is lead to the East of the area of former agricultural cooperative in the location of Prucká sihoť (farther from the airport). On the place of intersection with the planned VPD 13L–31R of the airport the highway D4 is lead in a notch of ca 6.8 – 7.2 m under the terrain level so that it would be possible to additionally build the overage of the highway in the form of "Zálesie" tunnel in future (within the construction of VPD 13L–31R).

The route of highway D4 continues farther in a low fill on the right bank, alongside the Šúr channel, while respecting its protective zones, it intersects by grade separated intersection (bridge) the road I/61 the prospective communication between the municipal part Tanieriky and Sakoň, it intersects in grade separated way the railway route of Bratislava - Galanta and ends on the place of connection of highway D1 in GSI "Ivanka - North". The overall length of the variant "C" is 22.801 km.

#### ***VARIANT "D"- (BLUE)***

The beginning of the section from GSI "Jarovce" up to km 1.0 is designed the same way as in the variant "C", farther the route of highway D4 crosses the railway route of Bratislava - Rusovce in grade separated way (by an underpass), from GSI "Rusovce" it continues in a line through the "Danube" tunnel having the length of 2.550 km under Jarovce branch and under the main course of the Danube River, more to the North than in the case of variant "C".

From GSI "Ketelec" in km 7.195, the D4 (clover-shaped intersection of highway D4 with expressway R7 - alt. A or tubular shape at R7 - alt. C), continues in the route pursuant to variant "C" till GSI "Ivanka - North" where it ends by connecting to highway D1.

The overall length of the variant "D" is 22.661 km.

The route of tunnel shall be created by two independent routes of directional lanes of the highway, each for one tunnel pipe. As for direction, the route goes with regards to the character of the crossed barrier in a direct line. The mutual distance of the axes of the tunnel pipes has the value of the double its diameter, i.e. 24 m.

The highway D4 is designed in the tunnel in category 2T 8 (four-lane), the other sections outside the tunnel are designed identically as in variant "C". In the case of a tunnel design of the passage of highway D4 across the Danube River, no pavements for pedestrians and routes for cyclists shall be designed in this corridor (just the exit ones).

### ***VARIANT "E" (GREEN)***

The route of highway D4 is lead in section from km 0.000 – 4.851 the same ways as in variant "D", while crossing with railway track of Bratislava – Rusovce is designed by overpass, the route then continues with a bridge having the length of 2.722 km above Jarovce branch and the main course of the Danube river. From km 4.851, the route continues to the North of the planned gravel-sand mining in "Ketelec" and the local part named Lieskové.

In km 8.700 of the D4, a large bilateral resting place of "Rovinka" is designed. After the GSI "Rovinka" (the intersection of D4 with road I/63), from km 11.119 the D4 continues in the route pursuant to variant "C" up to the GSI "Ivanka – North".

The overall length of the variant "E" is 22.169 km.

### ***"ZERO" VARIANT***

The zero variant represents the condition when all transportation by car must be served by the system of roads and highways in the considered territory, while the planned investment would not take place and the existing road network would be forced to manage the growing traffic demands. The main transportation function is nowadays fulfilled by the sections of highway D1 and D2 passing through the built-up territory of Bratislava, they are complemented with the considered roads of class I, II. and III.

The results of capacity assessment imply some sections of the highway D1 led in the built-up territory of Bratislava would not meet the demands of the traffic load within the time horizon of 2015, since they are loaded in particular by city transport. Furthermore, the sections of roads if class I – I/61 and I/63 are not suitable, they have exceeded the allowed intensity of traffic even nowadays and they directly affect the transport on the selected sections within zero variant.

Further sections of highway D1 would become unsuitable within the time horizon of 2010, 20130 and 2040 due to the increase in transport.

**The Report of the Assessment of Impacts of Highway D4, Jarovce – Ivanka North** (elaborated by Geoconsult, s.r.o, Bratislava, 04/2010) **thus assessed the following variants:**

- **"C" red** – the modification of variants "A" and "B" specified in the intention
- **"D" blue** – tunnel variant under the Danube river
- **"E" green** – an alternative design (trestle) of passing the Danube river) in the route of the tunnel variant, recommended in the Highway D4 Feasibility and Purposefulness Study
- **Zero variant**

## ***IV.2. Evaluation of considered alternatives and justification of selected alternative***

*(the reasons on the basis of which and who reached the conclusion that there are no alternative designs)*

The assessment definitively considered alternatives of the routing of highway D4 in this

territory took place within the EIA process, or in the Assessment Report. The assessment was summarized in the Final Opinion issued by the Ministry of Environment of the Slovak Republic under No. 318/2010-3.4/ml on 28.9.2011.

The impacts of the individual variants were assessed from the point of view of their significance and time course of the effect coming from the identification of inputs and outputs of the proposed activity, while the basic classification is their significance in the modification of the contemporary condition of environment, either in negative or also positive direction, as well as the point of view of their effect in time. The assessment was quantified and the results were summed up in the Table pursuant to the following scale.

- level 1 - very significant impacts
- level 2 - significant impacts
- level 3 - less significant impacts
- level 4 - impacts of no importance

The expected impacts from the point of view of time may be classified as follows:

- a - the impacts during construction
- b - the impacts during operation
- c - the impacts during construction and operation

When assessing the individual impacts from the point of view of their significance, they considered the fact the considered territory represents the heavily anthropogenically modified agricultural landscape in the proximity of the agglomeration of the capital city of Bratislava, the villages of Most pri Bratislava and Ivanka pri Dunaji. The obverse is the beginning of the section, where the highway passes the protected territories and the territories of Natura 2000 system. Emergency situations were not considered in the assessment.

**Table 5:** Supposed impacts of the assessed variants in the EIA process

Environmental component	SUPPOSED NEGATIVE IMPACT FROM THE POINT OF SIGNIFICANCE AND TIME		
	"D" VARIANT - blue	"C" VARIANT - red	"E" VARIANT - green
Rock environment and relief	1a	4a	4a
Surface water	2c	2c	2c
Groundwater	1a,2b	2c	2c
Soils	1a	1a	1a
Air	3a, 4b	3a, 4b	3a, 4b
Biota and biotopes	2a, 3b	1a, 2b	1a, 2b
Protected territories, Natura 2000, the Territorial System of Ecological Stability	2a, 3b	1a, 2b	1a, 2b
Countryside scenery	4c	3c	3c
Quality of life of the concerned	2a, 3b	2a, 3b	2a, 3b
Territorial development	4c	3c	3c
Infrastructure and transport	2a	2a	2a
Health risks for population	2a, 4b	2a, 4b	2a, 4b

The evaluation of the considered alternative designs may be described as follows too.

*Rock environment and relief* - variant "D", the tunnel one, shall have very significant impact on rock environment, in particular in the section of the tunnel, including exit and entry ramps, since it shall pass through highly permeable horizons of gravels where it may come to the pollution of environment and also from the point of view of geotechnical risks the building of the tunnel with entry and exit ramps shall be very demanding as for the assurance of the stability of rock environment with regards to its high water bearing capacity and unfavourable engineering and geological properties (Quaternary and Neogene sediments) for tunnel punching

In the route of variants "C" and "E" the rock environment and relief can be characterised as well load-bearing, without significant geodynamical phenomena and favourable engineering and geological properties. The impacts of the proposed activity are assessed as inconsiderable and just during the construction.

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*Surface water* in the territory is represented by the water courses - the Danube, the Little Danube and Šúr channel, Biskupice branch, the water courses of channels built within the VDG and the water areas of gravel pit Zelená voda.

Surface water is very vulnerable (possible direct pollution) in particular during the construction.

Variant "D" is in the Danube section lead in a tunnel, the proposed technology of tunnel punching does not suppose possible impact on the quality and regime of surface water in the considered territory during construction, however the right-bank ingress channel may be directly affected, since it is in a close proximity of the proposed West portal for punching.

In the considered territory, the *ground water* is very vulnerable with regards to high permeability of the environment. The impact of routing the highway with regards to its position in the CHVO Žitný ostrov is considered to be significant during both construction and operation, while in the case of variant "D", the risk of impact on ground water is very significant during the construction.

*Soil* are affected in particular by seizures, thus it is very significant impact in particular during the construction.

*Air pollution* is affected by the overall quality of air in the territory. With regards to the fact the contemporary transport shall be practically just re-distributed and it shall proportionally increase even in the case D4 would not be constructed, just the accumulation of air pollution shall change upon bad dispersion conditions, yet in the open countryside outside the village residential area, where there is substantially better ventilation. The impact is considered to be inconsiderable during the operation. During the construction, it may come to the accumulation of air pollution near construction yards and on the access roads to the construction site at the time of deployment of construction machines and transport capacities in earth works. The impact may be considered to be less significant, however it shall be just temporary.

*Biota, biotopes, protected territories, Natura 2000 and ÚSES* - in variant "D" the territory is just partially affected by the intervention in forest stands and ecologically significant segments of landscape, while it shall come also to the local tree cutting. We consider this impact to be significant during the construction, when it shall come to a direct liquidation of forest stands. During the operation, the impact of variant "D" shall be less significant from the point of view of stress factors.

From the point of view of impacts on fauna and flora, in variants "C" and "E", the territory is directly affected in particular by the intervention in the biotopes of the European importance and ecologically notable segments of landscape, while it shall come to a considerable tree cutting. This impact is considered to be very significant during construction for both variants, when it shall come to the direct liquidation of biotopes. During the operation, the impact of both variants may be considered to be significant with regards to the production of stress factors (noise, vibrations).

*The impacts on the landscape scenery* of variant "D" may be considered to be inconsiderable during the construction and operation, with regards to the character of contemporary landscape. Variant "D" routed under the surface shall have a minimum impact on the scenery of the landscape in the protected territory, however it shall be necessary to pay a sufficient attention to the incorporation of entries and exits to the landscape scenery in the case of portal and pre-portal sections of a tunnel

In the case of variants "C" and "E", the impacts on the landscape scenery may be considered to be less significant during both construction and operation, with regards to the character of contemporary landscape. However, the bridge object bridging the Danube River in the protected territory shall have a different impact, where it shall be necessary to ensure its architectonic design incorporated in the territory of Dunajské luhy, while considering the requirements for the minimisation of the impacts on migration and flying over of the birds.

*The quality of life of the concerned inhabitants* shall be perceived differently during construction and differently during the operation. It shall be heavily affected by the

accumulation of negative factors during construction, such as noise, vibrations, locally increased air pollution with imissions from traffic, the restriction of traffic on contemporary communications and thus also the origin of collapses in traffic. Thus we consider this impact to be significant during construction and less significant during the operation for all variants.

From amongst the negative impacts, the proposed activity affecting *the territorial development* brings about the restrictions and limits for further exploitation of the territory in the corridor of highway with regards to its protective zone and in particular by the division of the territory with a line structure and its barrier effect.

The negative impact shall be demonstrated in the territory in the proximity of Jarovce branch, where they plan the urbanisation of the location for the purposes of recreation, sports and tourism. Green variant "E" interferes with the territory in more significant way, variant "C" to smaller extent and variant "D" not at all.

*Infrastructure and transport* shall be significantly affected during the construction for the reason of inevitable relaying of networks and communications, traffic restriction, etc. The impact shall significantly act during the construction in all variants.

*Health risks* are related in particular with operation, mainly the increased noise. During the construction, noise and air pollution from transport on the construction site shall locally significantly affect the concerned parts of the villages in the proximity of construction yards, the facilities on the site, access roads in all variants. During the operation, health risks, in particular noise, shall be eliminated by technical measures, the impacts shall be insignificant.

*Positive impacts* during construction is supposed in the form of the increase in the production of construction industry, which would bring about the increase demand after other production activities too, in particular in the production of construction raw materials and products. During the production, demand after services related to the construction of demanding work shall increase. During the operation, the significant positive impact shall be the deviation of transport outside the village residential area of the concerned villages and the relief of zero variant, which shall have the overall impact also on the improvement of the accessibility of the territory, the improvement of transport relations in the entire region and the improvement of contemporary unfavourable impacts in particular on the inhabitants (noise reduction, air pollution, health risks and the overall well-being and quality of the affected inhabitants).

### ***Justification of the selection of chosen alternative***

On the basis of the results of the process of the assessment carried out pursuant to the Act No. 24/2006 Coll. on the assessment of the impacts on environment, the Ministry of Environment of the Slovak Republic issued the Final Opinion (318/2010-3.4/ml) on 28.9.2011, where it recommended the following variant of highway D4:

- ***km 0.0 – 5.5 - variant "E" - green***
- ***km 5.5 – 7.5 – connection to variant "C" – red*** (when dealing with D4 and GIS "Ketelec", it is necessary to respect the position of expressway R7, D4 and the design of GSI "Ketelec" from the zoning and planning decision documentation "Expressway R7 Bratislava – Dunajská Lužná" and to consider the planned elongation of the expressway R7 up to GSI "Prievoz" within the prepared construction of the "Expressway R7 Bratislava Ketelec – Bratislava Prievoz"),
- ***km 7.5 – the end of the section in the route of variant "C" – red*** (with the clarification of the routing of highway D4 in contact with the protective zones of the Airport of M.R.Štefánik, to finally design the vertical adjustment and shape of the GSI "Ivanka – North" with relation to the design of the subsequent section of D4 Ivanka North – Rača intersection).

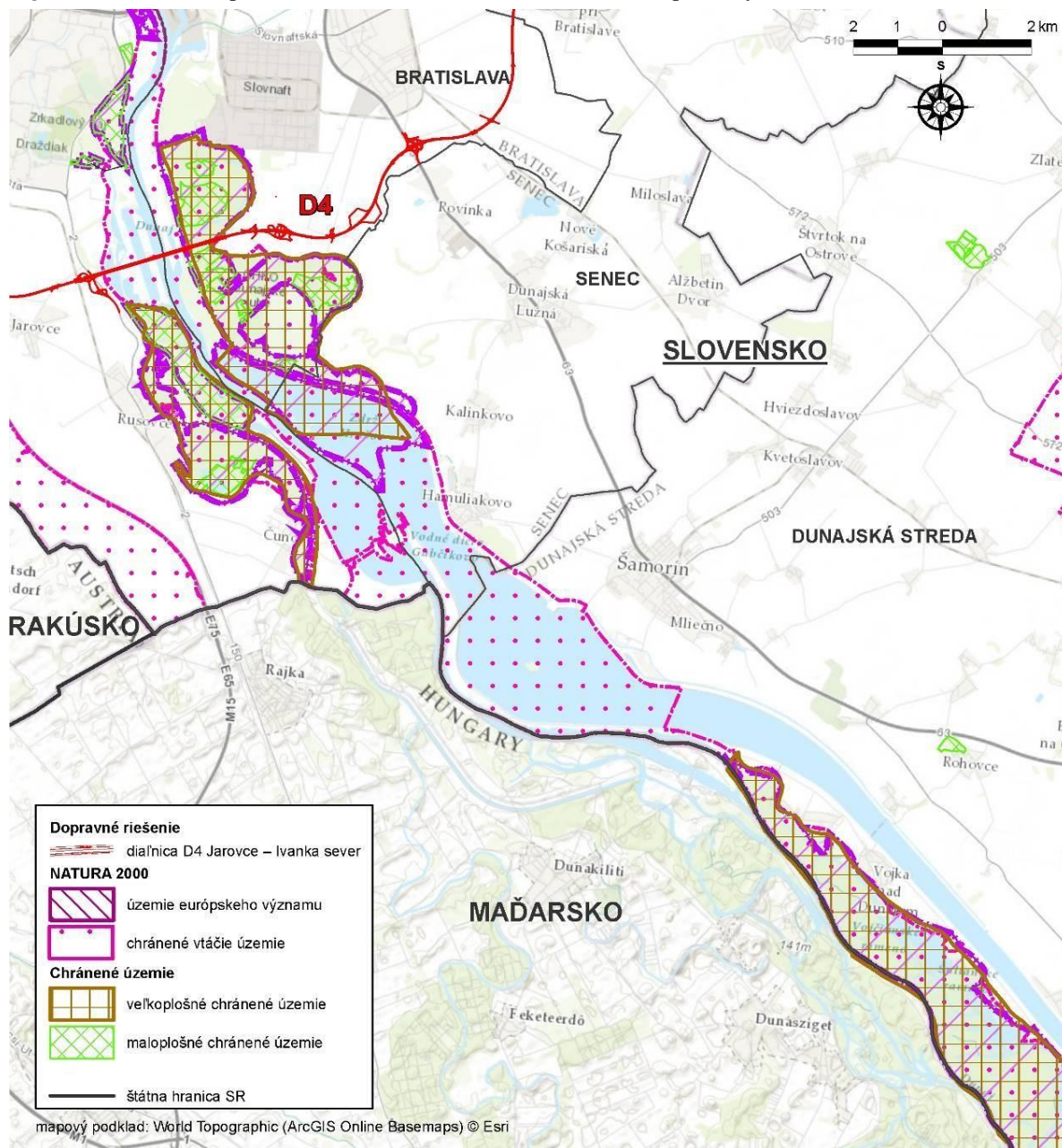


**Brief justification of the selection of chosen alternative**

1. The environmentally best-acceptable solution, no forest cutting on the right bank of the Danube
  - does not interfere with the PR Dunajské ostrovy and the protected territories of the European importance Natura 2000 at the right bank of the Danube River. In comparison with the route of D4 pursuant to the urban plan of the capital city of the Slovak Republic of Bratislava, the recommended variant of D4 does not interfere with the protected territories of PR Gajc ad PR Kopáčsky ostrov at the left bank of the Danube River, the route runs in the territory outside the 5th level of protection = ban of structure placing.
2. The intersection with the Danube River is perpendicular and in a direct route, which makes the construction of a bridge above the Danube River and flyover bridges simpler (it enables the application of the technology of bridge sliding out.
3. The intervention in the territory of the CHK Dunajské luhy and the protected territory of the European importance Natura 2000 on the left bank of the Danube River is minimised to the maximum extent, while the negative impacts of the passage of highway D4 through the territory shall be eliminated by leading the highway D4 on the flyover bridge up to km 5.500, which shall enable the migration of game under the highway D4. The other measure is the implementation of compensatory measures-
4. The length of route of D4 is shorter when compared to the other variants.
5. The highest savings of time of travellers,
6. The lowest operation costs of vehicles,
7. It respects the prevailing part of raised objections in the process of the assessment of impacts on environment, the recommended variant suits the majority of public, the majority of concerned authorities and organisations.
8. The substantial part of the route of highway D4 is designed in accordance with the urban plan of the capital city of Bratislava, small deviations in the routing of D4 and the design of GSI result from the detailed verification within zoning and planning decision documentation, while all of them were duly justified.

The non-existence of alternative designs is the result of the long.-term study of routing of "zero circuit" of the capital city of Bratislava, that clearly proved the selected route is the least interference with the close-to-nature and ecologically valued locations and it is efficiently feasible. The fact that any other routing would not stay out of the ecologically valued and protected territories is proven by the following figure. The following map segment shows that any alternative of a surface routing of the highway D4 would not stay out of the CHVÚ Dunajské Luhy, since this protected territory is earmarked from the capital city of Bratislava to the South-east at the length of ca 150 km alongside the Danube River (see the following map segment'.

Fig. 1 Location of the protected territories to the South-east of the capital city of Bratislava



**Transport design:**

- highway D4 Jarovce – Ivanka North

**NATURA 2000**

- the territory of the European importance
- protected avian territory

**Protected territory**

- large-area protected territory
- small-area protected territory
- state boundary of the Slovak Republic

SLOVENSKO = SLOVAKIA

MAĎARSKO = HUNGARY

RAKÚSKO = AUSTRIA

## V. URGENT REASONS OF HIGHER PUBLIC INTEREST

*The description of the reasons of higher public interest and clarification why the given reasons are considered to be such reasons.*

In the case of the intention of construction and operation of highway D4 Bratislava, Jarovce – Ivanka North, the reasons of higher public interest may be defined in the following groups of interests. The interests of social and economical character, the interests in the improvement of health and safety of people, the interests in the favourable impact on the components of environment the maximum possible extent.

### **The Interests of Social and Economical Character**

The social and economical effects of the construction and operation of the highway D4 Bratislava, Jarovce - Ivanka North shall be manifested in transport parameters by re-distribution of traffic after the commencement of the use of new structural work, but also on the original part of the concerned road network, by reaching higher driving speed, travel speed and safety of users and by the reduction of negative impacts on the concerned population as the consequence of higher quality of new structural work in comparison with the deteriorating contemporary situation.

The economical effects shall be manifested in particular in the final clients of the given section of road network by reduction of their costs (fuel consumption) related to the transport of cargo and passengers, or to the operation of the vehicles. The social effects shall be shown on the drop of travel time spent by the passengers of passenger vehicles and buses.

The positive impact of the investment is also the increase in the performance of road network in the given location and partially on the territory of entire Bratislava and also the improvement of serviceability as well as the creation of conditions for the development of the territory of interest (the positive impact for the placement of prospective investments in this region, a good transport accessibility is very important for investments, the positive impact on the urban development of satellite cities and villages of Bratislava) and also the creation of job opportunities in the period of construction, when we may suppose the job for several hundreds of employees, similarly in the period of operation we may expect the job for several tens of employees.

### **Interests in the Improvement of Health and Safety of People**

After putting the structure to operation the benefits of the assessed activity shall be immediately visible for the inhabitants of the concerned villages by re-distribution and subsequent reduction of traffic intensity on the concerned road network that shall take place due to the commencement of the use of new, given section of highway. By reducing the traffic load, the quality and comfort of life in particular of the inhabitants nearby the roads leading through a village residential area, by reducing noise, vibrations and emissions, the safety of traffic and accident rate shall be improved.

### **Interests in the Improvement of Environment Components**

Air - nowadays transport is provided for via the network of town communications, they shall be relieved by load that shall be taken over by highway D4. Thus they expect the reduction of harmful substances from automotive transport in particular on municipal communications on which the entire transit runs nowadays.

Noise load – through the reduction of traffic load of the concerned municipal and village communications it shall automatically come also to the reduction in noise load coming from the transport in these sections.

Soil and water – due to the supposed reduction of accident rate the risk of soil and water contamination due to possible accidents would be reduced too.

## VI. COMPENSATORY MEASURES

### ***VI.1. Overall objectives and individual objectives in relation to biotopes and species and ecological processes that must be compensated. Reasons why the suggested measures are suitable for the compensation of negative effects***

*Overall objectives and individual objectives in relation to biotopes and species and ecological processes (functions) that must be compensated. Reasons why the suggested measures are suitable for the compensation of negative effects*

The overall objective of compensatory measures shall be the assurance of conditions or the preservation of the population of three bird species: Black Kite (*Milvus migrans*), White-tailed Eagle (*Haliaeetus albicilla*) and Black Stork (*Ciconia nigra*) in a favourable condition from the point of view of their protection. The condition of the species from the point of view of protection is considered to be favourable when the data of the population dynamics of the species suggest the viable element of the biotope maintained for a long time, natural area of the species has not been diminished and there are sufficient biotopes (§ 5 for long-term preservation of its population. (Article 5 Para 1 of the Act No. 543/202 Coll.).

Therefore it is decisive for the preservation of bird species population to maintain or improve the ecological condition of the biotopes the species are bound to.

The compensatory measures in this case should directly replace (several times) the concerned nesting and feeding biotopes of the named bird species to such an extent that the overall objective of the favourable condition of the named subjects of protection would be maintained. The compensatory measures shall directly replace the taken over or otherwise affected nesting and feeding biotopes, affected by the construction and operation of highway D4, in particular a new forest shall be planted for the cleared or otherwise touched forest areas, new grassland with permanent grass growth shall be planted for taken over and otherwise affected grassland, the area of Biskupice branch shall be revitalised for the restriction in the use of water areas as feeding biotope in order to improve the food assortment in the other territory of CHVÚ. Their location is proposed in the places of minimum anthropogenic activities, which even stresses their suitability together with other reasons that are described in detail in the following chapters.

### ***VI.2. Scope of compensatory measures and their location in relation to the location negatively affected by the plan/project***

*Scope of compensation measures (areas, size of population) and their location in relation to the location negatively affected by the plan/project*

The scope and segmentation of compensatory measures is described in details by the following Table.

**Table 6:** The segmentation and scope of compensatory measures for the intention of D4 Bratislava, Jarovce – Ivanka North

SCOPE OF COMPENSATORY MEASURES	SEGMENTATION WITHIN THE ZONING AND PLANNING DECISION DOCUMENTATION FOR HIGHWAY D4 D4
New forest areas (20 ha)	Object 071 <b>Compensatory measure 1</b> , the change of the lands to a forest
	Object 072 <b>Compensatory measure 2</b> , the change of the lands to a forest in the cadastral territory of Čunovo
	Object 073 <b>Compensatory measure 3</b> , the change of the lands to a forest in the cadastral territory of Čunovo
New grassland (30 ha)	Object 074 <b>Compensatory measure 4</b> , the grassing of lands in cadastral territory of Podunajské Biskupice
	Object 075 <b>Compensatory measure 5</b> , the grassing of lands in cadastral territory of Kalinkovo
Making the Biskupice branch passable	Object 076 <b>Compensatory measure 6</b> , making the Biskupice branch passable
	Object 077 <b>Compensatory measure 6</b> , a bridge on a forest road above Biskupice branch
The assurance of the protection of existing forest stands (20 ha)	<b>Compensatory measure 7</b> , The protection of forest biotopes by law

The part of the territory negatively affected by the intention of the construction and operation of highway D 4 may be located in the surroundings of an imaginary line between the village of Jarovce and the South-east edge of the industrial area of Slovnaft, a.s. In relation to this concerned territory, the compensatory measures are located in wider surroundings of the concerned territory so that they would bring about the ecological effect without further undesirable impacts and also so that they would be accessible for the individuals the habitats of which shall be destroyed by the intention or otherwise affected by it.

All the compensatory measures are at the distance of up to ca 5.5 km from the intention. Making the Biskupice branch passable is located to the North of highway D4, other compensatory measures to the South to South-east of highway D4.

### ***VI.3. Identification and location of areas where compensation measures should be applied and the identifications of ownership, user and rental relations on the place the compensation measures take place***

*Identification and location of areas where compensation measures (including maps) should be applied and the identifications of ownership, user and rental relations on the place the compensation measures take place*

#### **Compensatory measure 1 - in the documentation for site permit, Object 071**

District:	Bratislava V
Municipality:	Bratislava- municipal part Rusovce
Cadastral territory:	Rusovce
Plot of land of C-KN Register:	313/1
Area:	7.4659 ha
Ownership:	private
Land type pursuant to Land Register:	arable land
Used by:	Agricultural Co-operative Poľnohospodárske družstvo Dunaj Bratislava Rusovce

**Compensatory measure 2 - in the documentation for site permit, Object 072**

District: Bratislava V  
Municipality: Bratislava- municipal part Čunovo  
Cadastral territory: Čunovo  
Plot of land of C-KN Register: 1446, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464/1, 1464/2, 1464/3, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507  
Area: 9.0333 ha  
Ownership: private, state (SPF)  
Land type pursuant to Land Register: arable land, permanent grassland, built-up areas and courtyards, other areas  
Used by: Agricultural Co-operative Poľnohospodárske družstvo Dunaj Bratislava Rusovce

**Compensatory measure 3 - in the documentation for site permit, Object 073**

District: Bratislava V  
Municipality: Bratislava- municipal part Čunovo  
Cadastral territory: Čunovo  
Plot of land of C-KN Register: 1540, 1541/1  
Area: 8.9109 ha  
Ownership: private  
Land type pursuant to Land Register: arable land, gardens  
Used by: Agricultural Co-operative PD Dunaj Bratislava Rusovce

**Compensatory measure 4 - in the documentation for site permit, Object 074**

District: Bratislava II  
Municipality: Bratislava- municipal part Podunajské Biskupice  
Cadastral territory: Podunajské Biskupice  
Plot of land of C-KN Register: 5888  
Area: 22.6297 ha  
Ownership: private, state (SPF)  
Land type pursuant to Land Register: arable land  
Used by: Agricultural Co-operative PD Podunajské Biskupice

**compensatory measure 5 -- in the documentation for site permit, Object 075**

District: Senec  
Municipality: Kalinkovo  
Cadastral territory: Kalinkovo  
Plot of land of C-KN Register: 1099/3, 1099/6, 1099/9, 1099/10  
Area: 9.7407 ha  
Ownership: private, state (SPF, Lesy SR, š.p.)

Land type pursuant to Land Register: arable land  
Used by: Agricultural Co-operative PD Podunajské Biskupice

**Compensatory measure 6 - in the documentation for site permit, Object 076**

District: Bratislava II  
Municipality: Bratislava- municipal part Podunajské Biskupice,  
Bratislava - municipal part Ružinov  
Cadastral territory: Podunajské Biskupice, Ružinov  
Plot of land of C-KN Register: 3880/69, 3880/90, 3985/10, 3990/13, 3990/20, 3993/7,  
3993/11, 3996, 3997, 3998/8, 3998/14, 3998/15,  
3998/16, 3998/18, 3998/19, 4069/1, 4072/2, 5331/1,  
6248/3, 6250/13, 6250/18, 6250/19, 6250/20, 6250/22,  
6250/27, 6250/28, 6251/10, 6251/11, 6251/13, 6251/14,  
6267/1, 6267/6, 6269/1, 6269/2, 6269/10, 6269/11,  
6269/12, 6269/13, 6292/1, 6292/9, 6292/10, 6292/11,  
6292/12  
Area: 1.4196 ha (permanent seizure) and 12.0113 (seizure up to  
1 year)  
Ownership: private, state (SVP, Lesy SR, š.p.)  
Land type pursuant to Land Register: arable land, permanent grassland, forest stands,  
water area, built-up areas and courtyards, other areas  
Used by: Lesy SR, š.p., SVP, š.p

**Compensatory measure 7**

District: Senec, Bratislava V  
Municipality: Kalinkovo, Bratislava- municipal part Čunovo, Dunajská  
Lužná  
Cadastral territory: Kalinkovo, Čunovo, Nové Košariská  
Plot of land of C-KN Register: 1510, 1432, 1440, 1399, 1489, 1444, 1443, 1442, 1441,  
1435, 1436, 1437, 1433, 1431, 1445, 1434, 1397, 1395,  
1398, 1400, 1093/3, 1100/3, 1098/3, 1093/2, 1093/7,  
1095/1, 2765  
Area: 23.4461 ha  
Ownership: private, state (SPF, Lesy SR, š.p., Bratislava)  
Land type pursuant to Land Register: forest lands  
Used by: Lesy SR, š.p.

***VI.4. Description of the place of planned implementation of compensatory measures. Occurrence of biotopes and species and the state of their protection, the use of the territory prior to the location of compensatory measures etc.***

*Description of the place of planned implementation of compensatory measures. Occurrence of biotopes and species and the condition of their protection (Article 5 Para 2 of the Act), the utilisation of the territory prior to the location of compensatory measures, etc.*

**Compensatory measure 1 - in the documentation for site permit, Object 071**

The areas intended for the implementation of the compensatory measure 1 - the planting of a new forest is nowadays intensively cultivated agricultural area used mainly for growing of cereals. There are the remnants of inundated forests (From the West and South part) located in the proximity of the area, having various age and species composition, or in other words various ecological quality.



There is another intensively agriculturally used area from the North, the East side is restricted by the cycling route and right-side ingress channel of the waterworks Gabčíkovo.

The area belongs to the large-area protected territory CHKO Dunajské Luhy, zone D – level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll. on nature and landscape protection. The territory earmarked for the compensatory measure 1 is also the part of CHVÚ Dunajské Luhy with the reasonable legislative protection.



### **Compensatory measure 2 - in the documentation for site permit, Object 072**

The areas selected for the implementation of the compensatory measure 2 - the planting of a new forest is nowadays intensively cultivated agricultural area used mainly for growing of cereals, similarly as the area for compensatory measure 1. There are the remnants of inundated forests in the proximity of the areas from all sides, mainly of older age (several ten years old).

The area belongs to the large-area protected territory CHKO Dunajské Luhy, zone D – level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll. on nature and landscape protection. The territory earmarked for the compensatory measure 2 is also the part of CHVÚ Dunajské Luhy with the reasonable legislative protection.



### **Compensatory measure 3 - in the documentation for site permit, Object 073**

The areas selected for the implementation of the compensatory measure 3 - the planting of a new forest is nowadays intensively cultivated agricultural area used mainly for growing of cereals, similarly as the other areas intended for afforestation. There are the remnants of inundated forests in the proximity of the areas from all sides, mainly of older age (several ten years old), the forest defining the forest from South is rather narrow.

The area belongs to the large-area protected territory CHKO Dunajské Luhy, zone D – level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll. on nature and landscape protection, the remaining part of the area is outside the CHKO Dunajské Luhy, level of protection I in accordance with the stipulations of the Act No. 543/2002 Coll. on nature and landscape protection applies here. The territory earmarked for the compensatory measure 3 is also the part of CHVÚ Dunajské Luhy with the reasonable legislative protection.



**Compensatory measure 4 - in the documentation for site permit, Object 074**

The implementation of the compensatory measure 4 - the planting of grassland is nowadays the cultivated agricultural area used in rotation as grassland or as arable land. The selected area represent a part of such cultivated area, in particular it is its South-east section. In the proximity of the area (from the South and East side), there are the remnants of inundated forests, mainly of older age (several tens year old) and the remaining part is earmarked by agricultural land.

The area belongs to the large-area protected territory CHKO Dunajské Luhy, zone D – level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll. on nature and landscape protection. Identically, the area for compensatory measure 4 is also the part of CHVÚ Dunajské Luhy with the reasonable legislative protection.



**Compensatory measure 5 - in the documentation for site permit, Object 075**

The area for compensatory measure 5 - the planting of grassland is nowadays the cultivated agricultural area used for the intensive cultivation of various crops. There are the remnants of inundated forests in the proximity of the area (from West and East side), they penetrate also to the part of the earmarked area for grass planting in its Easter part. The area is restricted from the North by agricultural land, there is mainly grassland from the South in the proximity of left-side ingress channel of the waterworks Gabčíkovo.

The area belongs to the large-area protected territory CHKO Dunajské Luhy, zone D – level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll on nature and landscape protection. The Nature and Landscape Protection Section Identically, the area for compensatory measure 5 is also the part of CHVÚ Dunajské Luhy with the reasonable legislative protection and the part of ÚEV Biskupické luhy with the reasonable legislative protection.



#### **Compensatory measure 6 - in the documentation for site permit, Object 076**

The Biskupice branch itself or its remnants together with the areas indented for its revitalisation and making it passable is located in the forest units on the left bank of the Danube. From the point of view of the conservation condition, the area belongs to the large-area protected territory CHKO Dunajské Luhy, zone D – level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll on nature and landscape protection. Furthermore, it is the part of CHVÚ Dunajské Luhy with a due legislative protection and the part of ÚEV Biskupické luhy with the reasonable legislative protection.

The water area is used for fishing, the surrounding forest stands are prevalingly subjected to forest management, which corresponds also to their ecological quality, save several preserved sections of stands on the bank in the proximity of Biskupice branch with relatively original species composition and natural development.

A small part of the territory earmarked for compensatory measure 6 is formed by grassland, mowed in the proximity of artificial embankments, yet left for natural succession elsewhere.



#### **Compensatory measure 7**

All the forest areas selected for the provision of compensatory measure 7 – the increase of the legislative protection of selected forest stands belong to the CHKO Dunajské Luhy, zone D. - level of protection II in accordance with the stipulations of the Act No. 543/2002 Coll. on nature and landscape protection. Furthermore, they are the part of CHVÚ Dunajské Luhy with a due legislative protection and the part of ÚEV Biskupické luhy with the reasonable legislative protection.

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The areas are used for forest management activity as inundated forest stands in the long run. However, it shall be necessary to stress out here that nowadays they create the last remnants of not very well original inundated forest stands of high ecological value without the significant portion of invasive plant species, thus it is possible to say that they are in a favourable condition from the point of view of the biotope condition.

There are two types of forest biotopes on the selected forest areas, namely: Ls1.1 – Willow-poplar lowland inundated forests (forest plot No. 470C), second type is Ls1.2 – Oak-elm and ash lowland inundated forests (forest plot No. 6, 467 I.PS, 467 III.PS, 469 and 470A).



#### ***VI.5. Supposed results how the proposed measures shall compensate the negative effects of the project/plan for the integrity of the location and how they would allow the preservation of the compactness of the system of protected territories***

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The project of compensatory measures (the compensatory measure 1 to 3 - new forest stand planting) creates sufficient preconditions for the contemporary fragmented forest territory near municipal part of Bratislava - Čunovo to provide sufficiently suitable conditions for nesting of White-tailed Eagle after the afforestation of the selected areas and the unification of the fragmented territories. White-tailed Eagle nested in this location in past, but its nesting place has ceased due to the anthropogenic impacts, therefore after compacting the forest stand, there is a great change of its return to this area of CHVÚ for the purpose of nesting.

The revitalisation of Biskupice branch and making it passable (compensatory measure 6) shall replace the negative impacts induced by the construction and operation of highway D4 to the biotopes of Black Stork in the CHVÚ Dunajské luhy by the improvement and extension of food biotope in the territory, which should identically affect its population in the concerned part of the CHVÚ in a positive way.

The creation of grassland (compensatory measures 4 and 5) shall replace the negative impacts for Black Kite by the expansion of suitable feeding biotopes for the species. This should identically positively affect the maintenance or expansion of the population of the species in the entire CHVÚ.

The compensatory measure 7 - the improvement of the protection of the existing forest stands by law should fulfil the function of the suitable nesting biotope for all concerned species till the newly established forest areas shall be ecologically able to fulfil the function of nesting biotope. Thus we may say the objective of the measure is the preservation of suitable nesting biotopes to maximum possible extent in the concerned territory.

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## ***VI.6. The schedule of the implementation of compensatory measures stating the information when the achievement of expected results is foreseen***

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*The schedule of the implementation of compensatory measures stating the information when the achievement of expected results is foreseen*

After the zoning and planning decision shall be issued for all its parts and after the settlement of the ownership relations, the project of compensatory measures as such shall be the subject of planning permit, including the obtaining of all necessary consents and permits.

After the planning permit issuance it shall be necessary to implement the compensatory measures so that the protection of the overall coherence of the European system of protected territories would be ensured even after the commencement of the construction of highway D4 Bratislava, Jarovce – Ivanka North.

The expected results from the implementation of compensatory measures shall practically arrive in the case of planting the grassland, making Biskupice branch passable within 1 year. The effect of the improvement of the protection in the selected already existing forest stands shall take place practically immediately after the termination of the implementation of the measure. In the case of newly planted forest stands, the required results (including the ecological functions) may be expected after 40 years as of the completion of the planting at the soonest.

The particular schedule is the part of the document as a separate Annex 1 The Schedule of Compensatory Measures.

## ***VI.7. List of required permits for the implementation of compensatory measures pursuant to special regulation, if necessary, the subjects responsible for their obtaining and preliminary consents of the owners of lands on the place of the planed compensatory measures with their implementation***

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*The list of required permits for the implementation of compensatory measures pursuant to special regulation, if necessary, the subjects responsible for their obtaining and preliminary consents of the owners (administrators, leaseholders) of lands on the place of the planed compensatory measures with their implementation*

### **The list of required permits for the implementation of compensatory measures**

- zoning and planning decision
- the decision on the change in the exploitation of the territory (grassland, forest areas),
- planning permission.

### **The preliminary consents of the owners of the plots of land**

In accordance with the law in force (the Building Code No. 50/1976 Coll. as amended, Article 38a, Article 108), it is not necessary to require the consent of the owners of the plots of land for the implementation of the compensatory measures for highway D4 Bratislava, Jarovce – Ivanka North, since the named construction is of a public interest.

## ***VI.8. Costs and method of funding of the proposed compensatory measures***

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The price of the implementation of the project of compensatory measures is in this stage of project preparation assessed at the amount of 9,6932,060.- EUR and it covers their implementation and the subsequent care after them. The care after the newly established areas

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and objects is quantified almost to 30,000.- EUR for 10 years and it represents for the forest stands the repeated afforestation, protection against game, mowing and the weeding out cutting, in the case of grassland it is mowing, turning and pushing off the dry grass, for the bridge object and Biskupice branch itself (the objects 076 and 077) it would regard the painting of the structures and other small treatments.

The costs of the implementation of the project of compensatory measures and the subsequent care after them are included in the costs of the construction of the highway D4 Bratislava, Jarovce – Ivanka North, identically as the costs of the purchase of the lands necessary for their construction or the compensation for the limitation of the ownership rights related to the other concerned lands.

### ***VI.9. Subjects responsible for the implementation of compensatory measures***

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The investor shall be responsible for the implementation of the project of compensatory measures the intention of which requires the implementation of such project. In this case it is NDS, a.s. as the state company.

### ***VI.10. Plan of monitoring of the compensatory measures including the proposal of supposed corrective measures stating the subjects responsible for their implementation***

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The monitoring of the success (operability) of the compensatory measures shall be the subject of the activity of the ŠOP SR as the state institute responsible for nature conservation that shall decide if necessary also on the corrective measures (their contents and scope cannot be specified in details nowadays, even whether they would be necessary). The investor of the construction of highway D4 Jarovce – Ivanka North, thus NDS, a.s. shall be responsible for the implementation of the possible corrective measures.

The scope of the monitoring of the success of the compensatory measures may be summarised in the following points:

- Monitoring of the impact of the intention during operation of the highway on bird populations that are the subjects of protection in the CHVÚ Dunajské luhy. This is the monitoring of the density of occurrence of the individual bird species up to the distance of min. 500 m at both sides of the highway. The monitoring should start one year before the construction and it should continue every year, minimally till the 5th year of the operation.
- The monitoring of the condition of compensatory measures and their development in time. The monitoring should capture the development of the biotopes and their gradual taking-over of the functions for which they were implemented. It is necessary to start with the monitoring immediately after the implementation of compensatory measures. The assessed duration is 3 years for grassland, 5 years for the monitoring of the operability of passable Biskupice branch, 10 years for newly established forest areas and 20 years for already existing forest stands.
- The monitoring of the exploitation of the areas of compensatory measures by the individual bird species, i.e. the monitoring of their occurrence (population density) and what is the purpose of the use of the areas by the individual bird species being the subjects of protection. The frequency of the type of monitoring is necessary annually for 5 years as of their implementation, subsequently every 5 years for another 20 years.

It is necessary to note the monitoring of the rate of success of the compensatory measures can be modified for the purpose of the provision of objective and trustworthy results if necessary.

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#### ***IV.11. Detailed implementation project of compensatory measures.***

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It is the part of this document as a separate Annex No. 2 Detailed implementation project of compensatory measures.

##### **Elaborated by:**

Mgr. Marek Sekerčák      - Professionally qualified person pursuant to the Act No. 543/2004 Coll.  
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Ing. Adéla Lepková

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##### **Responsible investigator:**

**Mgr. Tomáš ŠIKULA**      - Professionally qualified person pursuant to the Act No. 543/2004 Coll.  
   - Professionally qualified person pursuant to the Act No. 24/2006 Coll.  
   - Expert in the list of experts pursuant to the Act No. 382/2004 Coll., field:  
   Protection of environment, fields: Assessment of damages in environment,  
   Nature and landscape protection

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## Disclaimer

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The name of this document in Slovak is *Návrh kompenzačných opatrení*. The file name has not been changed.

We hereby confirm that the European Bank for Reconstruction and Development shall have no responsibility for the translated content.

Project Implementation Services, spol. s r. o.  
Consultant under Consultancy Contract C31934

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