Improvement of Navigation Conditions
on the Romanian - Bulgarian Common Sector of the Danube

FAST DANUBE 2 KICK-OFF MEETING

Co-funded by the
European Union

Moderator: Romeo Soare, AFDJ Galati, Romania

24.04.2025, Sofia, Bulgaria

Agenda

Time	Topic
11:00 - 11:20	**Welcoming speeches** ▪ Mr. Angel ZABURTOV, Deputy Minister of Transport and Communications, Republic of Bulgaria; ▪ Ionuț-Cristian SĂVOIU, State Secretary, Ministry of Transport and Infrastructure, Romania.
11:20 - 11:40	**Speeches from representatives of:** ▪ Herbert PRIBITZER, DG MOVE; ▪ Anna LIVIERATOU, CINEA; ▪ Manfred SEITZ, Danube Commission.
11:40 - 12:10	**FAST Danube project results (Feasibility study)**
12:10 - 12:40	**FAST Danube 2 project**
12:40 - 13:00	**Discussion and Q&A session**
13:00 - 13:05	**Closure of the kick-off meeting**
13:05 - 14:00	**Networking lunch (cocktail)**

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Welcoming speeches



Angel ZABURTOV,
Deputy Minister of Transport and Communications
Republic of Bulgaria



Ionuț-Cristian SĂVOIU,
State Secretary,
Ministry of Transport and Infrastructure
Romania

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Welcoming speeches

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Herbert Pribitzer,
Adviser of the European Coordinator, Rhine-Danube ETC/ TEN-T Directorate-General for Mobility and Transport

Anna LIVIERATOU,
The European Climate, Infrastructure and Environment Executive Agency (CINEA)

Manfred Seitz,
General Director of the Danube Commission

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FAST DANUBE Project results (Feasibility study)

Claudiu Dutu - AFDJ Galati
Bozhidar Yankov - EAEMDR
24.04.2025, Sofia

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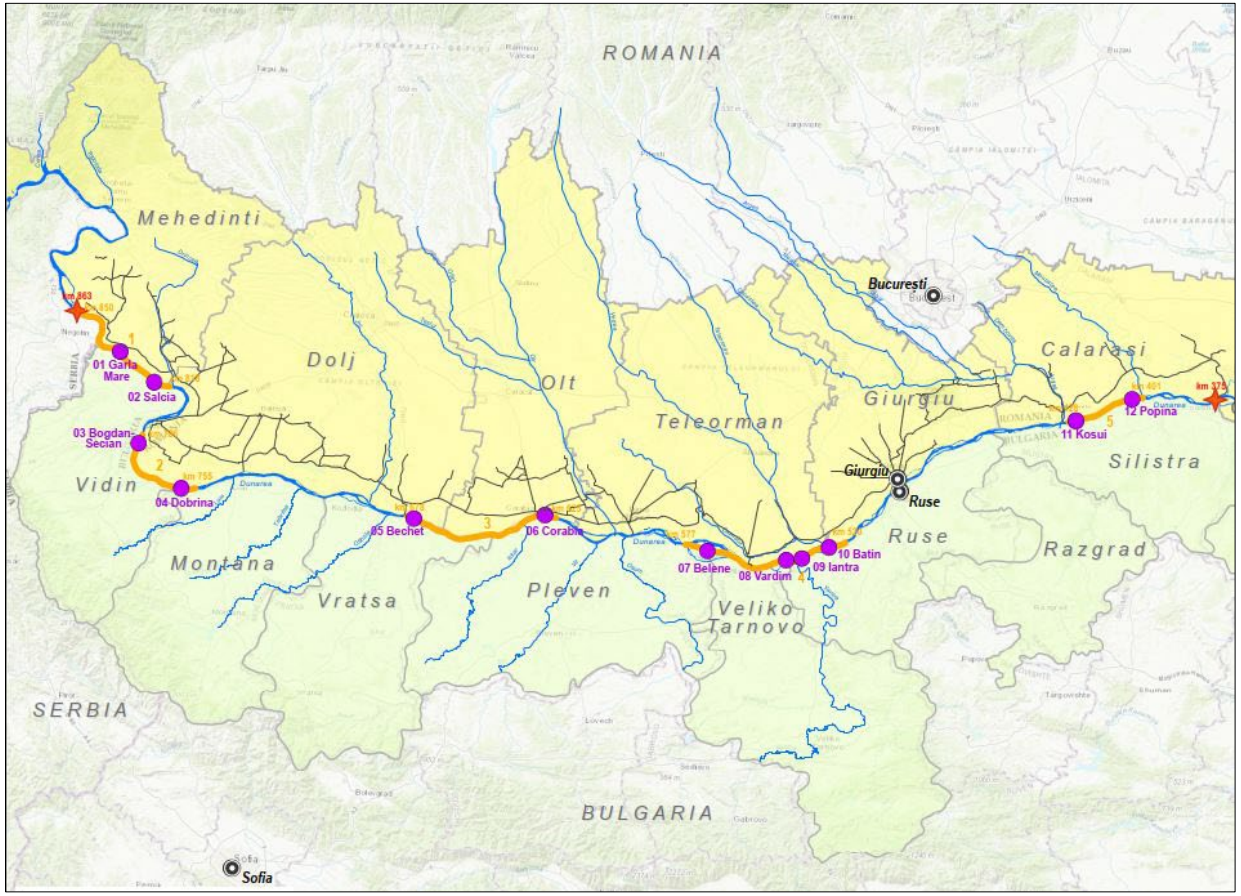
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- *Located on a **pre-identified section of the Rhine-Danube Corridor (Bulgarian-Romanian common section);***

- *Aims **to accelerate the removal of an existing bottleneck along this cross-border section of the Danube** as it will identify the works to achieve stable navigation conditions all year round;*

- *It is part of a **Global Project to implement the Fairway Rehabilitation and Maintenance Danube Master Plan**.*



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FAST DANUBE goals and objective

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FAST DANUBE goals:

Implement a strategy to improve navigation based on:

- *Increasing the number of days per year during which the minimum conditions are provided for navigation traffic through the Rhine – Danube corridor. The target increase in usage is from a current level of 280 days to 340 days/year.*
- *Increasing traffic safety;*
- *Increasing the total goods transported; to be targeted as a 20% increase in traffic compared with 2014 usage levels; presumably measured in tonnage.*

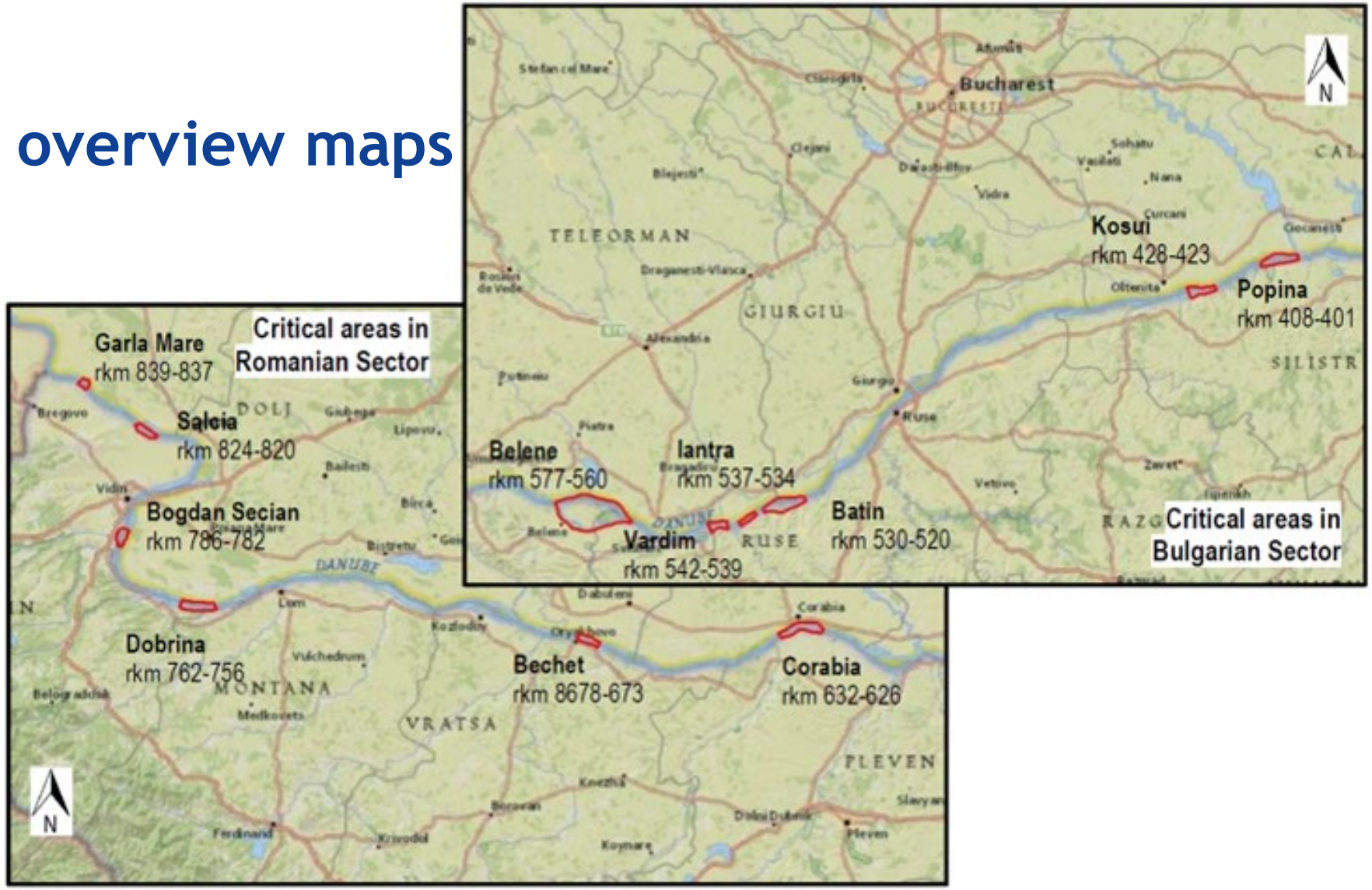
FAST DANUBE objective:

Ensure unimpeded navigation for at least 340 days/year, including Q= approx. 3000 m^3/sec, by maintaining a fairway of adequate width and depth with an appropriate alignment.

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Critical areas overview maps



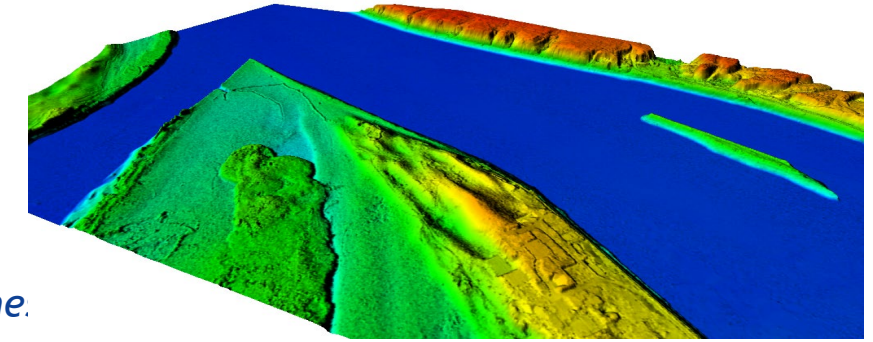
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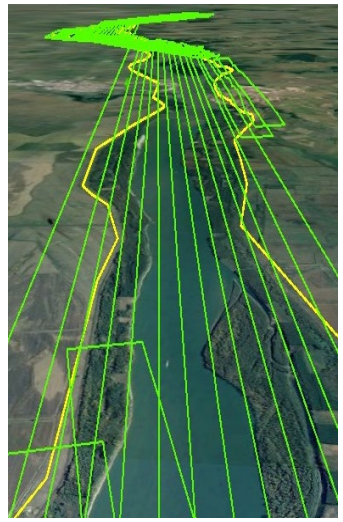
Measurements Field Surveys

Co-funded by the European Union

Hydrographic measurements: 2 campaigns, 2017

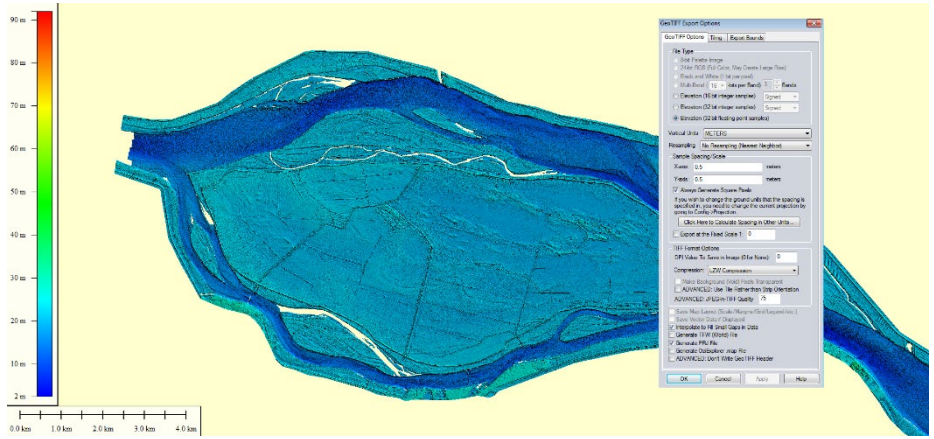
- *Location of profiles in the critical zones:*
  - *Every 500 m on the navigable branch*
  - *At entrance, middle and exit from secondary branches*
- *Location outside critical zones*
  - *Every 5000 m and/or mid-islands, on both Danube branche*
- *Results: Integrated grids – Bathymetry/LIDAR in digital format, 0.5 m resolution, bathymetric maps, transverse profiles, map of talweg line, water level records*





Field surveying by aerial LiDAR scanning: 2 campaigns, 2017

- *250m buffer from first firm ground plus an extension to known ditches (total area 1013 sqkm) - including islands;*
- *Results: continuous DTM grid (50cm/50cm)*



Hydrodynamic measurements:

- *Water level;*
- *Current speed and direction;*
- *discharge*

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Measurements Field Surveys

Co-funded by the European Union





Sediments field measurements campaign: 2 campaigns, 2017

- *6890 suspended and 1553 riverbed sediment samples were taken – first campaign*
- *5273 suspended and1128 riverbed sediment samples – second campaign*
- *Results: riverbed sediment and suspended sediment grain size distribution*

Geotechnical survey: 1 campaign, 2017

- *30 boreholes on the Bulgarian bank and 30 on the Romanian, down to 15m depth from the surface, geotechnical laboratory testing*
- *Results: geotechnical characterization.*



Site visits in all CPs: 1 campaign, 2021

- *site observations of landslide areas – Bulgarian bank.*



Scientific fishing:

- *migratory fish species (2 campaigns, 2017)*
- *non-migratory fish (1 campaign, 2020).*

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Measurements Field Surveys

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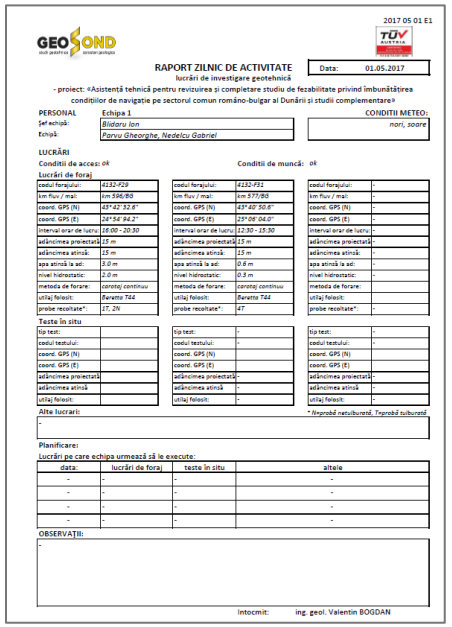












2017 05 01 E1

GEOSOND

RAPORT ZILNIC DE ACTIVITATE

Data: 01.05.2017

lucrări de investigare geotehnică

- proiect: «Asistență tehnică pentru revizuirea și completare studiu de fezabilitate privind îmbunătățirea condițiilor de navigație pe sectorul comun româno-bulgar al Dunării și studii complementare»

PERSONAL	Echipa 1	CONDITII METEO:
Șef echipă:	Blidaru Ion	nori, soare
Echipă:	Parvu Gheorghe, Nedelcu Gabriel	

LUCRĂRI

Condiții de acces: ok — Condiții de muncă: ok

Lucrări de foraj

codul forajului:	4232-P29	codul forajului:	4232-P31	codul forajului:	-
km fluv. / mal:	km 506/80	km fluv. / mal:	km 577/80	km fluv. / mal:	-
coord. GPS (N)	43°42'52.6"	coord. GPS (N)	43°40'50.6"	coord. GPS (N)	-
coord. GPS (E)	24°54'94.2"	coord. GPS (E)	25°06'04.0"	coord. GPS (E)	-
interval orar de lucru:	16:00 - 20:30	interval orar de lucru:	12:30 - 15:30	interval orar de lucru:	-
adâncimea proiectată:	15 m	adâncimea proiectată:	15 m	adâncimea proiectată:	-
adâncimea atinsă:	15 m	adâncimea atinsă:	15 m	adâncimea atinsă:	-
apa atinsă la adâncimea:	3.0 m	apa atinsă la adâncimea:	0.6 m	apa atinsă la adâncimea:	-
nivel hidrostatic:	2.0 m	nivel hidrostatic:	0.3 m	nivel hidrostatic:	-
metoda de forare:	carotaj continuu	metoda de forare:	carotaj continuu	metoda de forare:	-
utilaj folosit:	Beretta T44	utilaj folosit:	Beretta T44	utilaj folosit:	-
probe recoltate*:	27, 2N	probe recoltate*:	47	probe recoltate*:	-

Teste în situ

tip test:		tip test:	-	tip test:	-
codul testului:		codul testului:	-	codul testului:	-
coord. GPS (N)		coord. GPS (N)	-	coord. GPS (N)	-
coord. GPS (E)		coord. GPS (E)	-	coord. GPS (E)	-
adâncimea proiectată:		adâncimea proiectată:	-	adâncimea proiectată:	-
adâncimea atinsă		adâncimea atinsă	-	adâncimea atinsă	-
utilaj folosit:		utilaj folosit:	-	utilaj folosit:	-

Alte lucrări:

-

* Înprobă netulburată, Înprobă tulburată

Planificare:

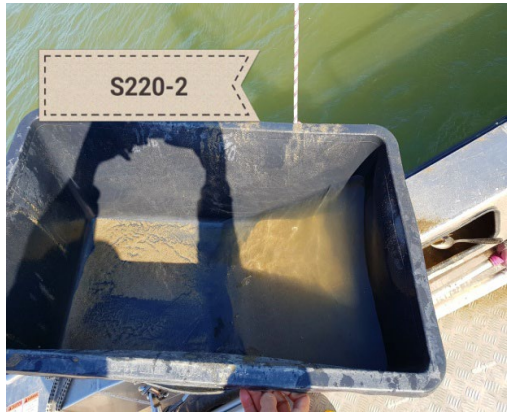
Lucrări pe care echipa urmează să le execute:

data:	lucrări de foraj	teste în situ	altele
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

OBSERVAȚII:

-

Întocmit: ing. geol. Valentin BOGDAN





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Measurements Field Surveys

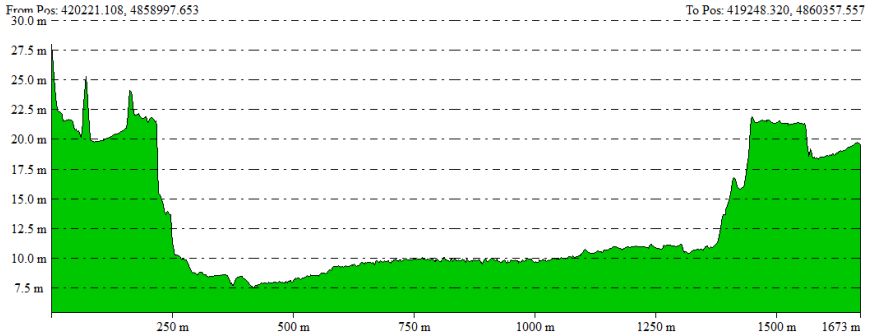
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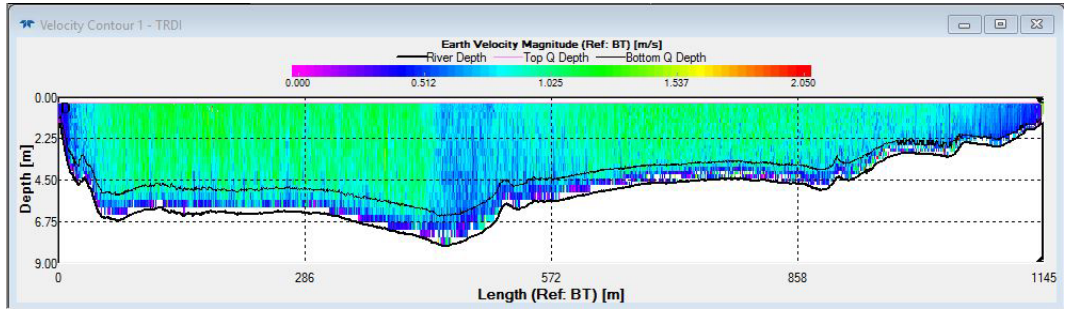


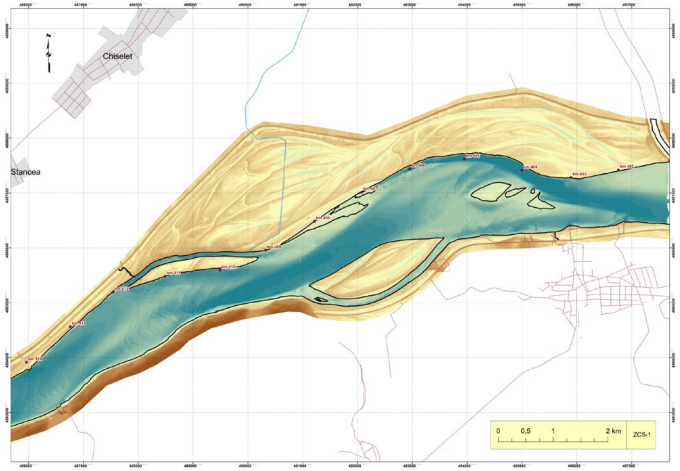
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1	X	Y	ELEV
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3	420220.8	4858998	27.728
4	420220.5	4858998	27.457
5	420220.2	4858999	27.192
6	420219.9	4858999	26.909
7	420219.7	4859000	26.658
8	420219.4	4859000	26.355
9	420219.1	4859000	26.039
10	420218.8	4859001	25.769
11	420218.5	4859001	25.461
12	420218.2	4859002	25.149
13	420217.9	4859002	24.864
14	420217.6	4859003	24.601











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Hydrodynamic Mathematical Modelling
Model software packages

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1D modelling:

- *Flood Modeller Pro software package;*
- *free surface flow Saint-Venant equations;*
- *modules: incl. sediment transport.*

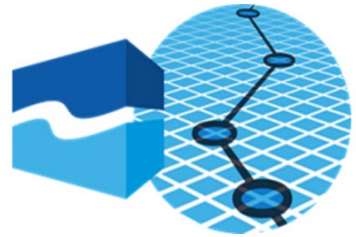
Flood Modeller Suite

Developing software for over **40** years

Over **25,000** registered users

Used across over **150** countries

Located in more than **120** countries with over **200** offices



2D modelling:

- *MIKE 21 Flow FM software;*
- *free surface flow integrated Navier-Stokes equations, using a flexible grid;*
- *modules: hydrodynamic module, cohesive/non-cohesive sediment transport, morphology.*

Navigation simulation modelling:

- *SHIPMA (v7) software developed by **MARIN and Deltares**;*
- *fast-time simulator uses autopilot algorithm to simulate control of the vessel.*

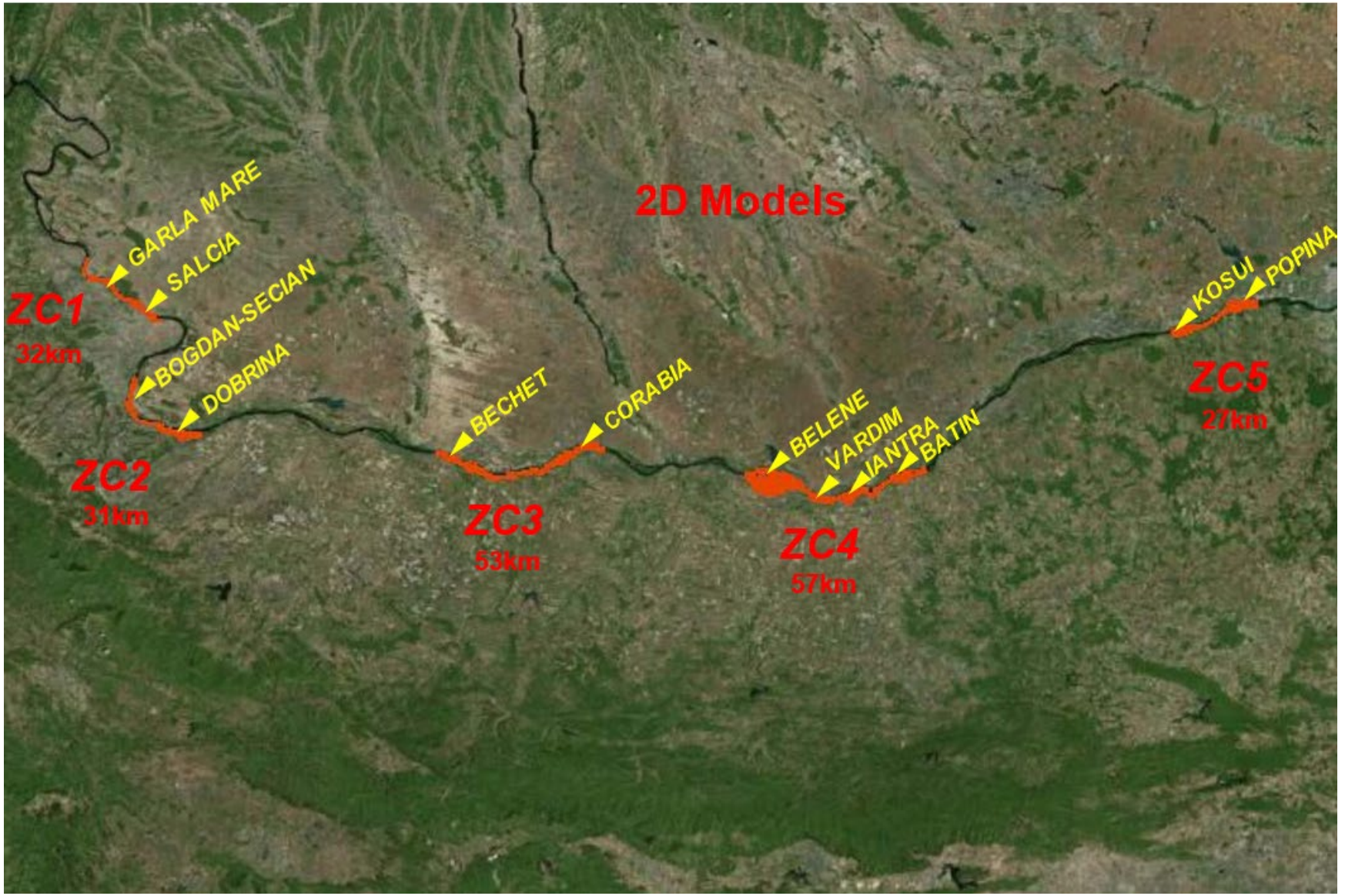
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1 D Modelling



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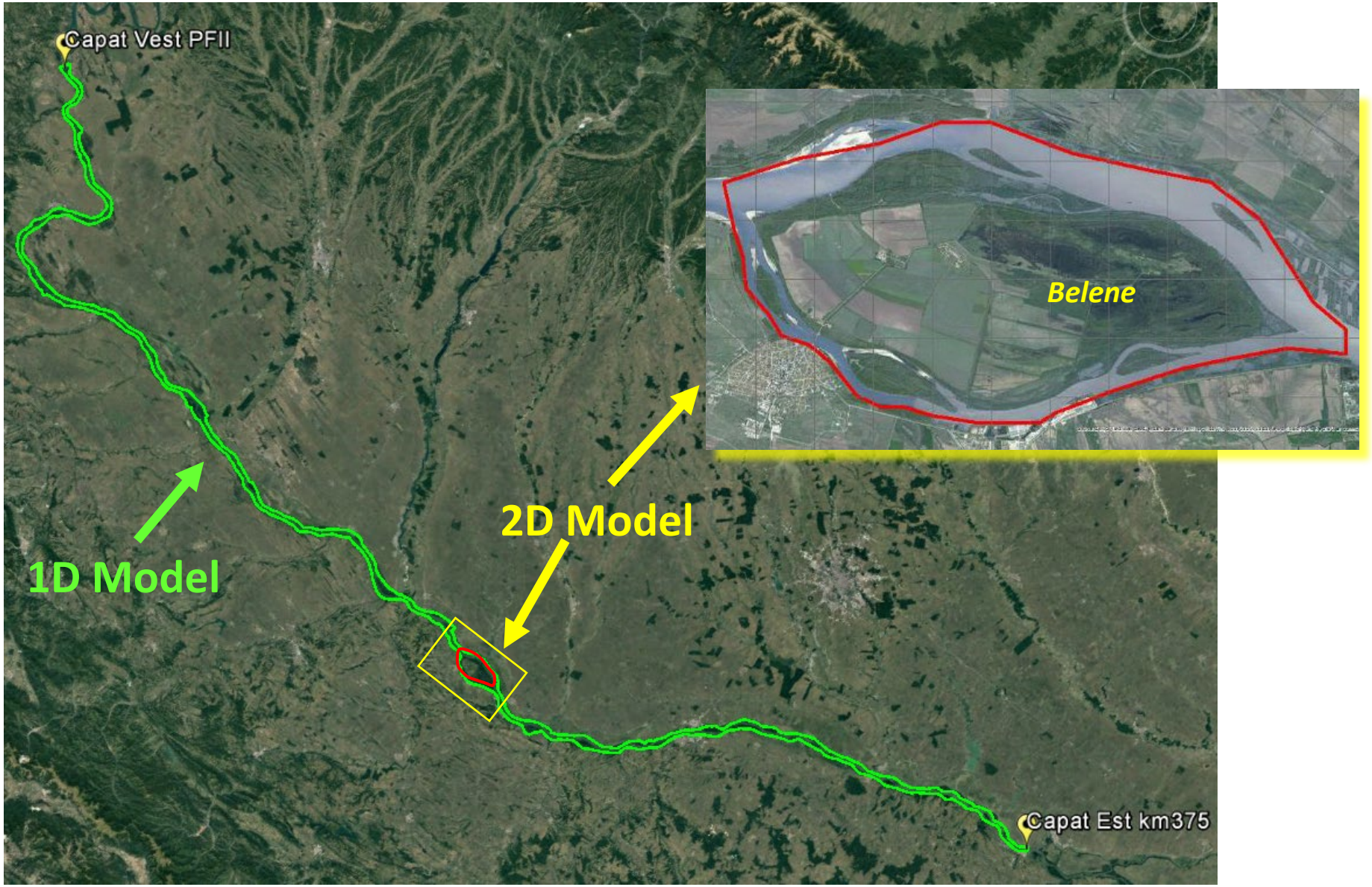
2 D Modelling



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1 D and 2 D Modelling

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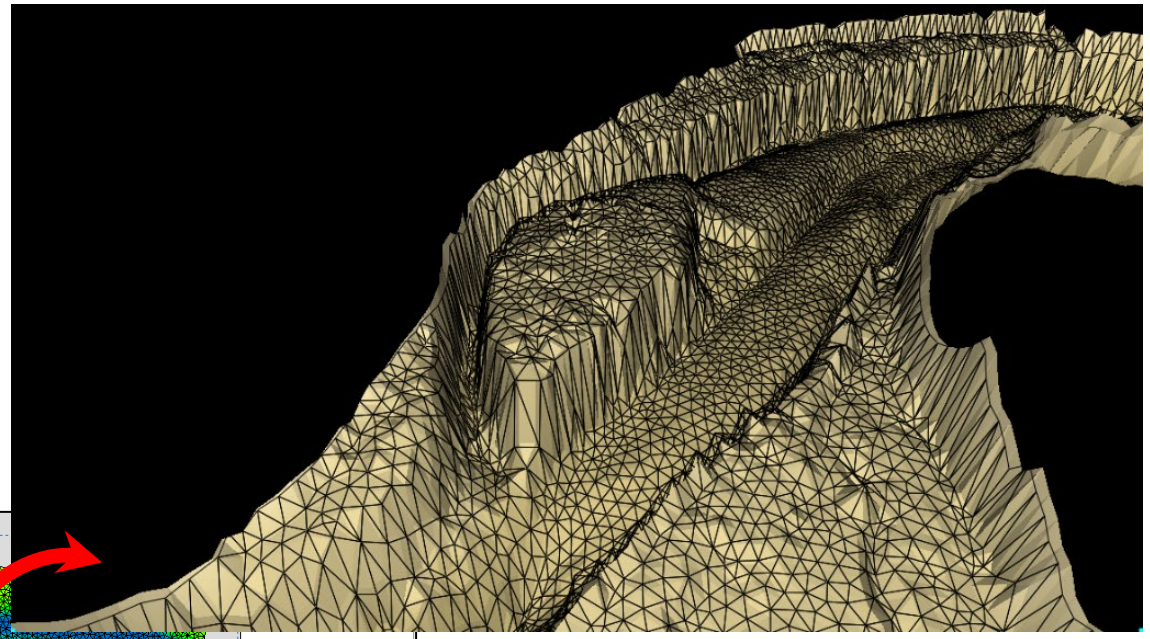


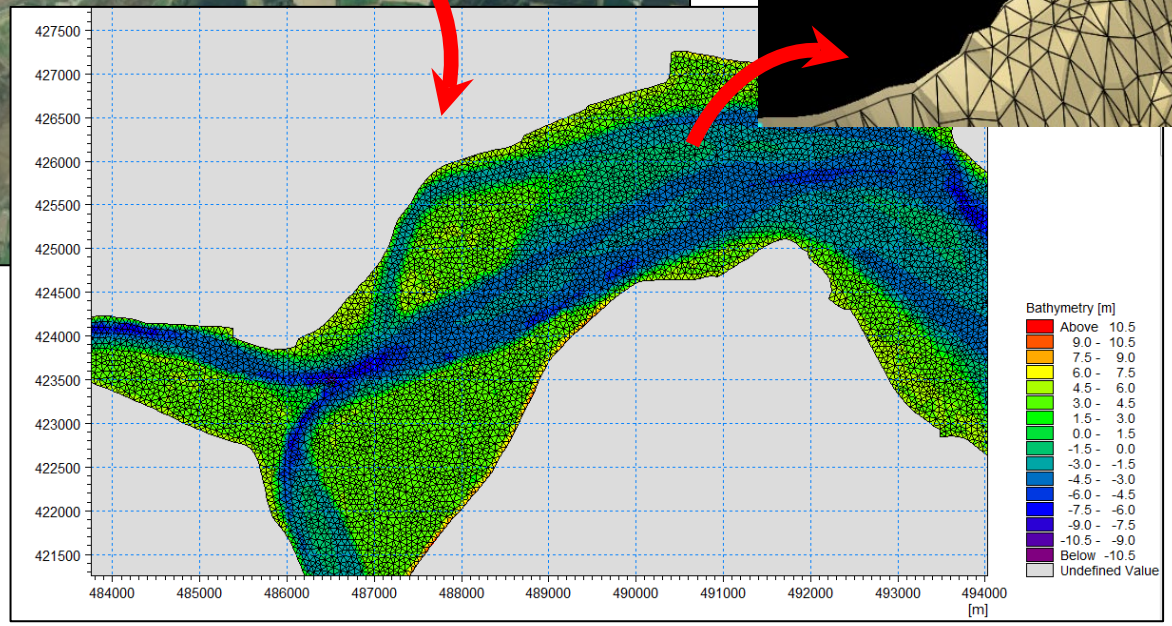
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Hydrodynamic Mathematical Modelling
Model Build / Calibration

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Example MIKE 21 FM 2D Model – River Humber CH2M Halcrow

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After modelling

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Preliminary design:

- *Base scenario (do nothing),*
- *2 alternative scenarios,*
- *Testing scenarios*
  - *From navigation point of view*

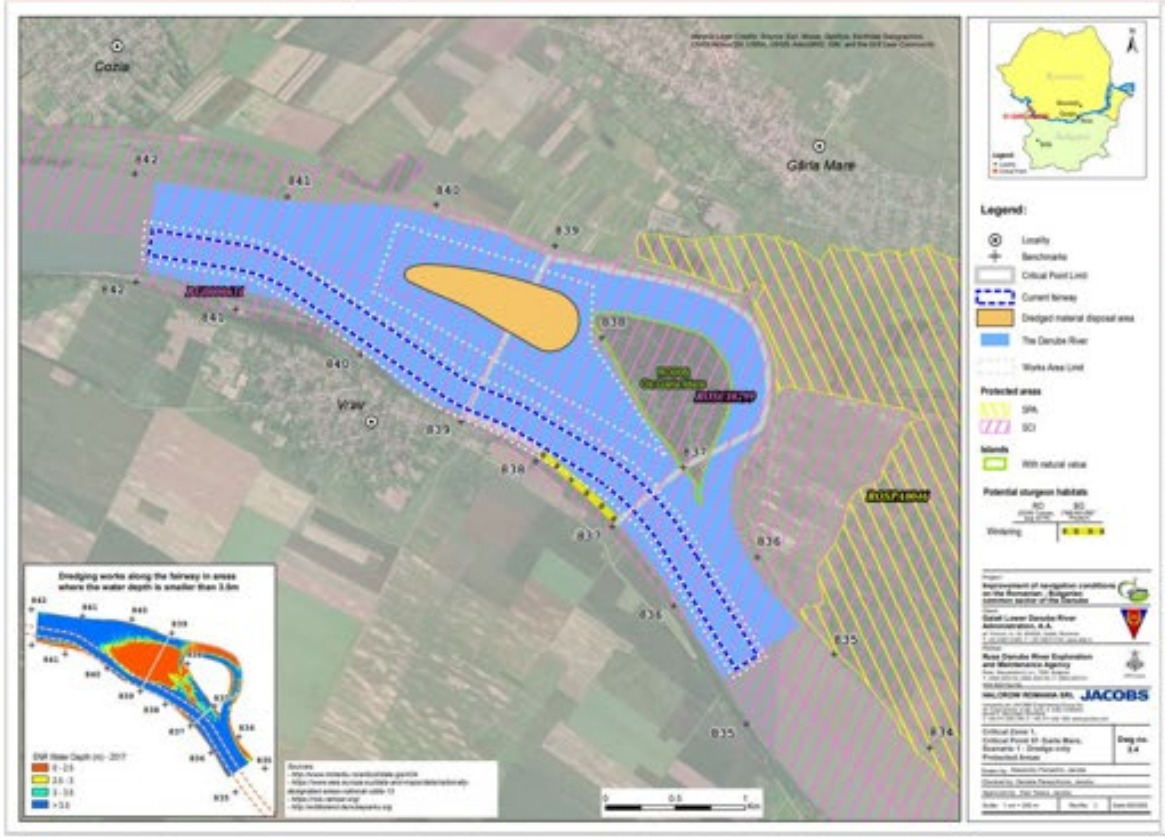
12 Critical Points, with alternative scenarios

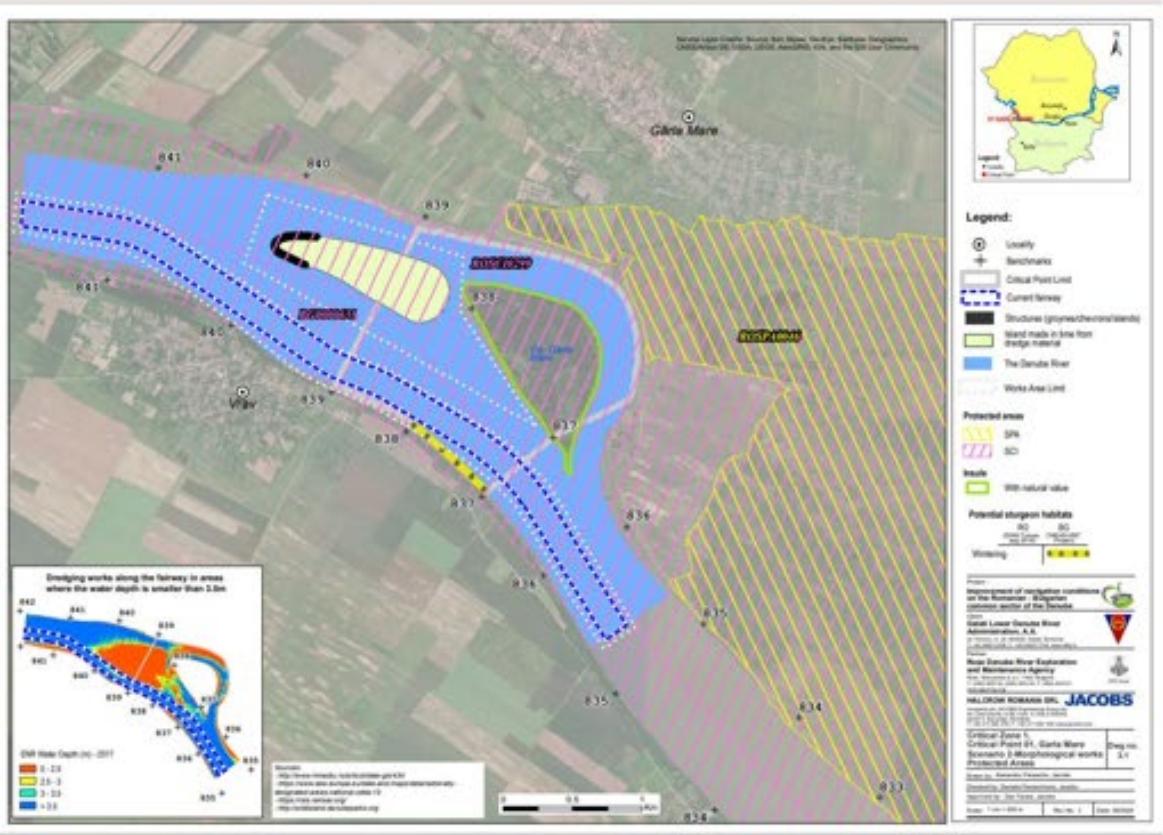
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Gârla Mare

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Location	First preference	Second preference
Garla Mare	Dredge only with in-channel disposal	Morphological - island



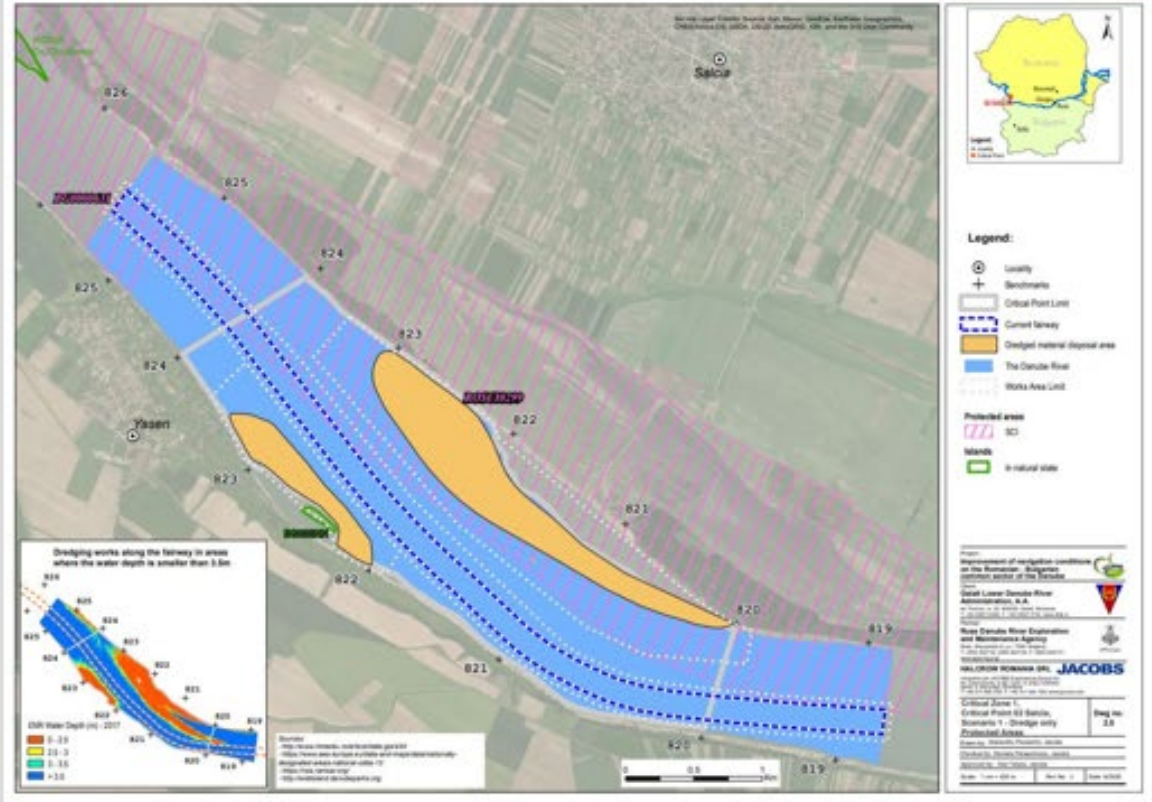


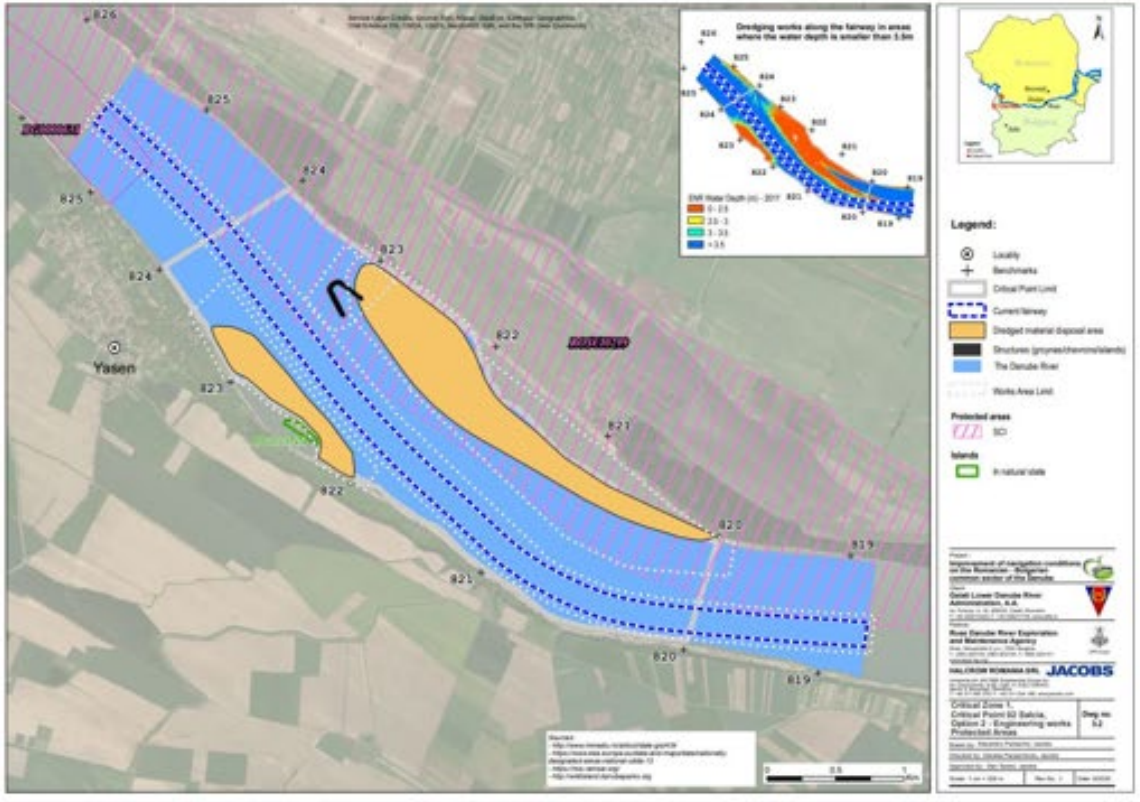
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Salcia

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Location	First preference	Second preference
Salcia	Dredge only with in-channel disposal	Engineering - chevron



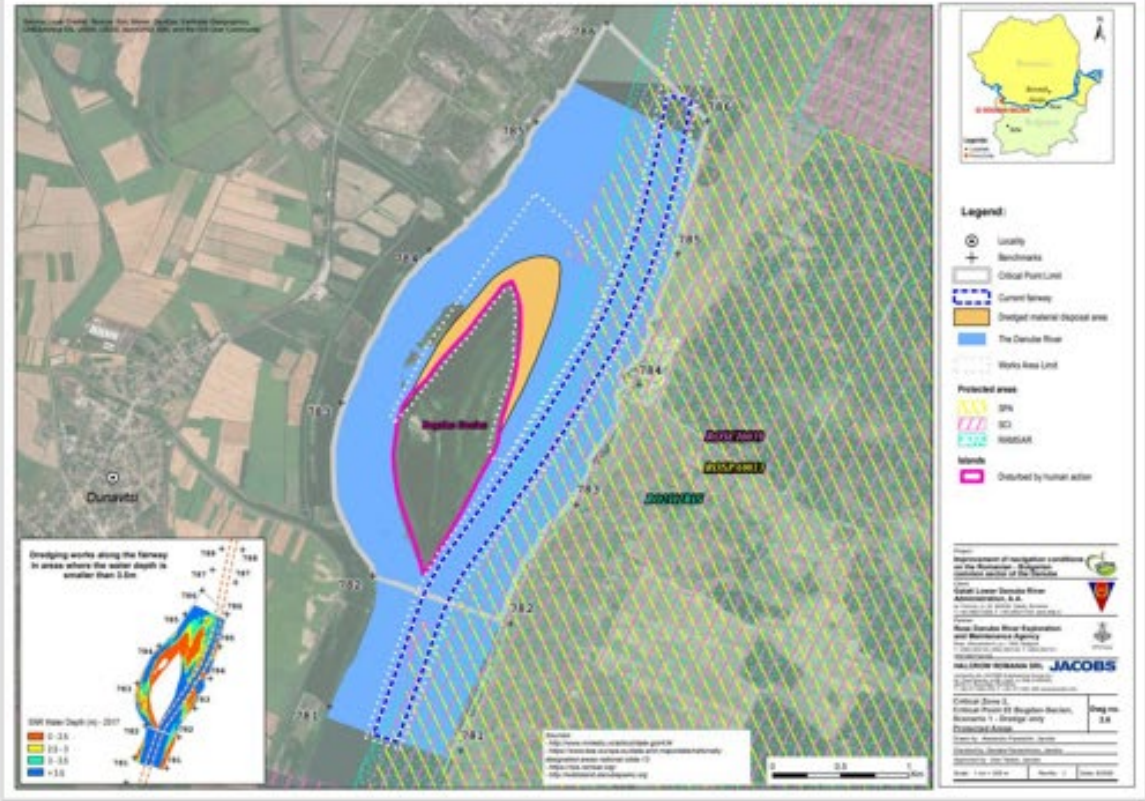


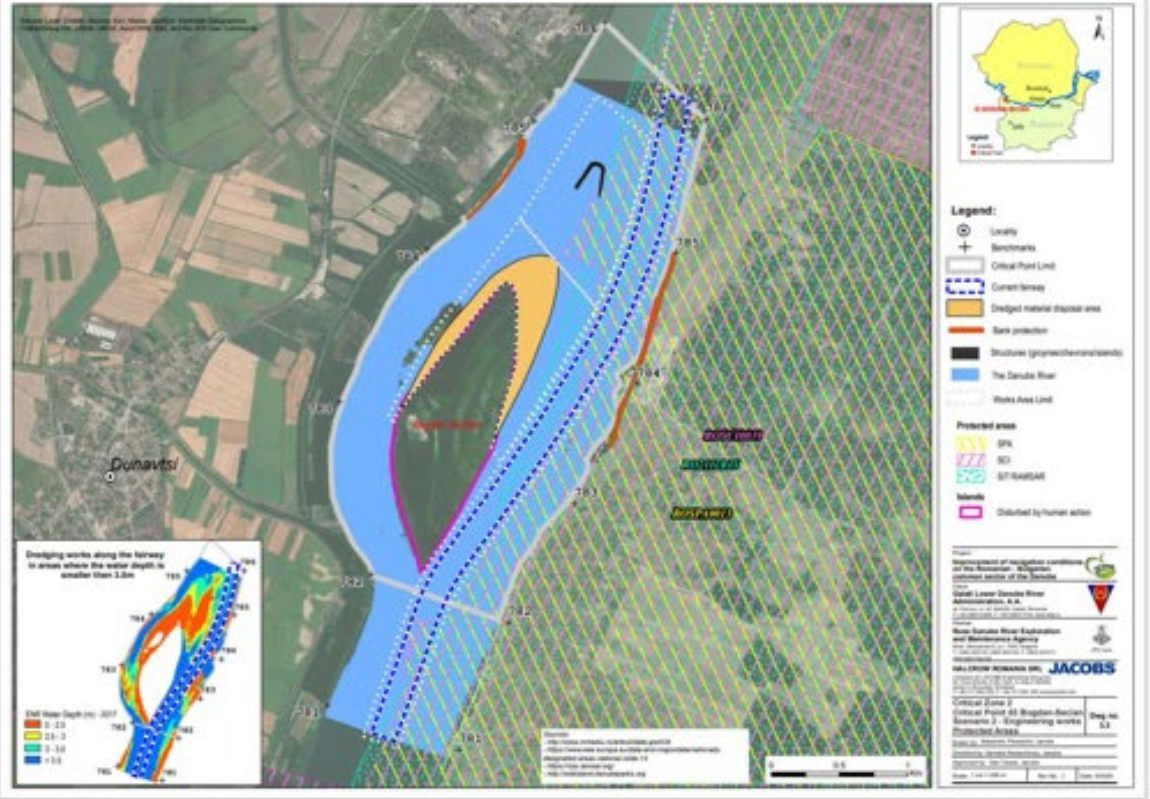
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Bogdan Secian

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Location	First preference	Second preference
Bogdan Secian	**Dredge only with in-channel disposal**	Engineering – chevron, bank stabilization



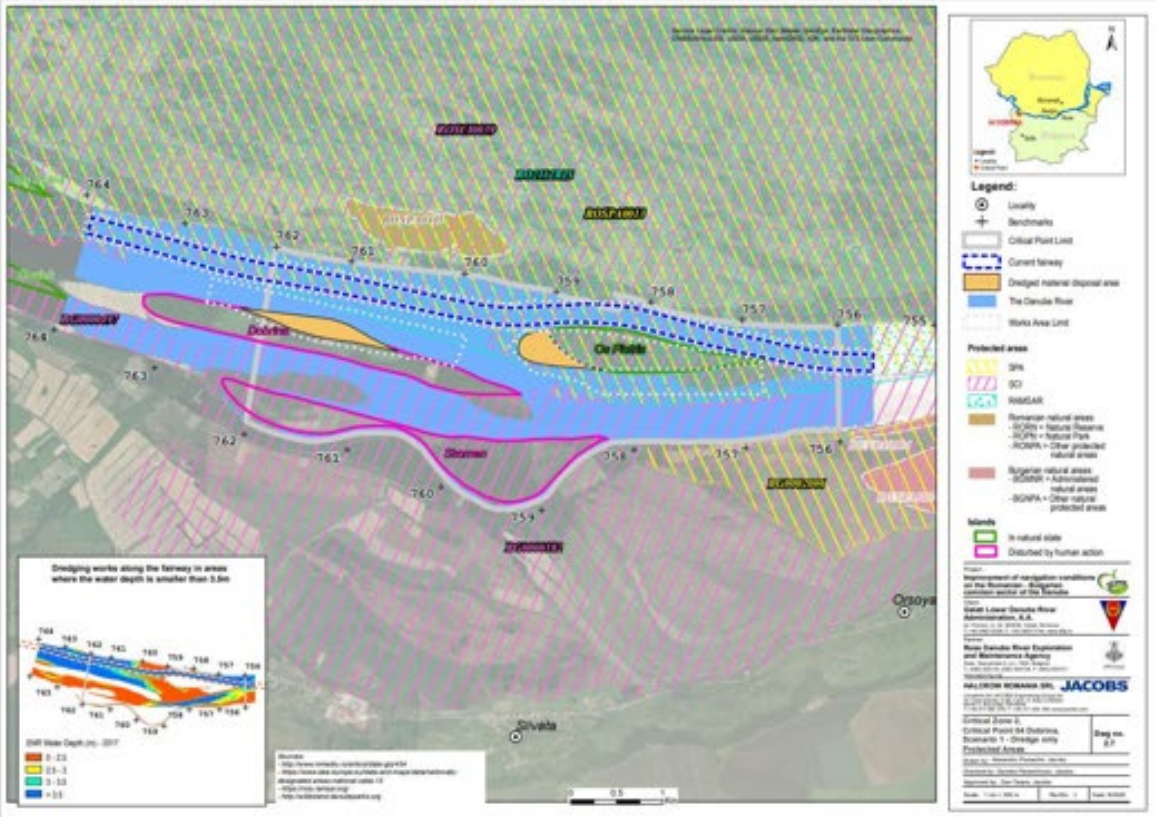


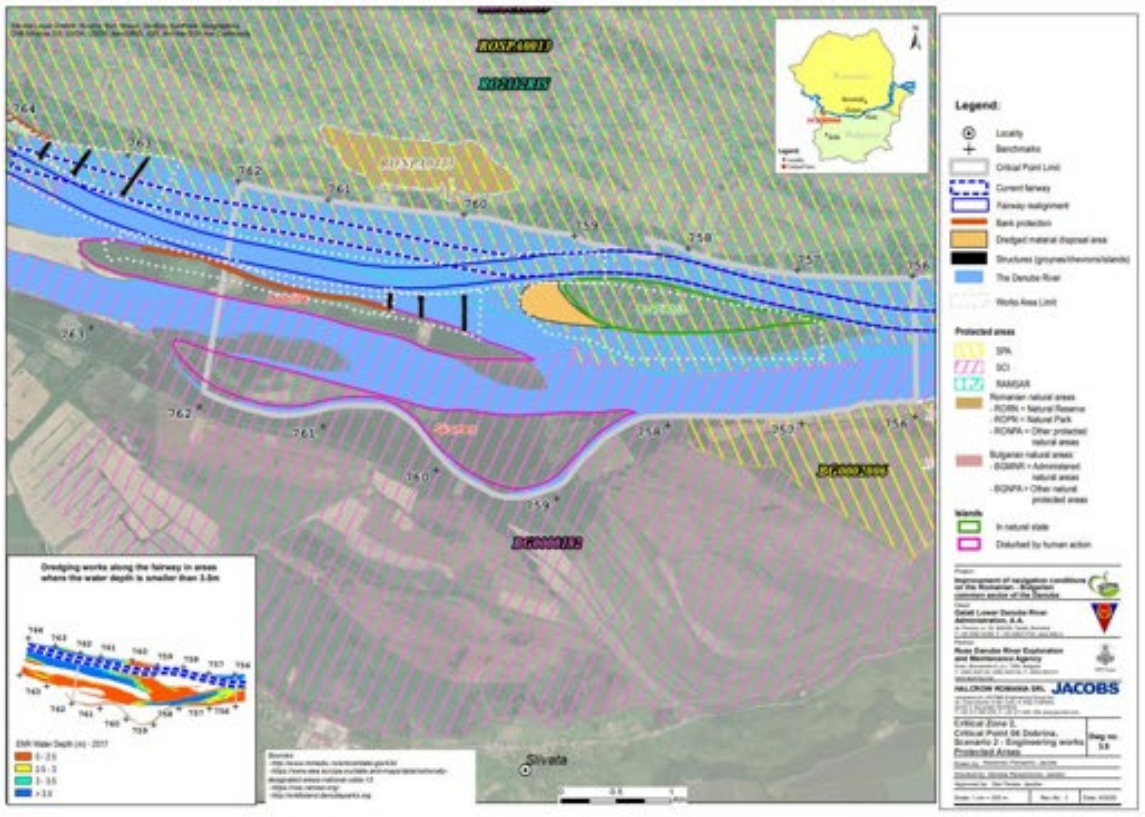
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Dobrina

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Location	First preference	Second preference
Dobrina	Dredge only with in-channel disposal	Engineering – groynes, bank stabilizations



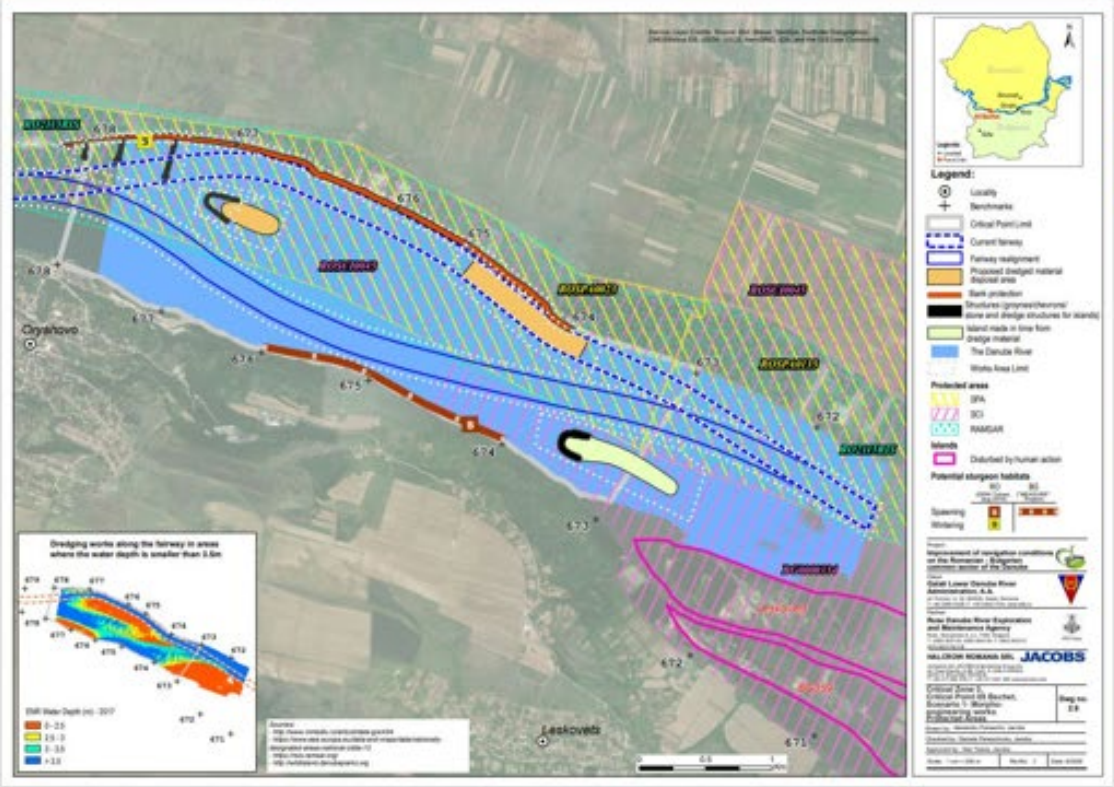


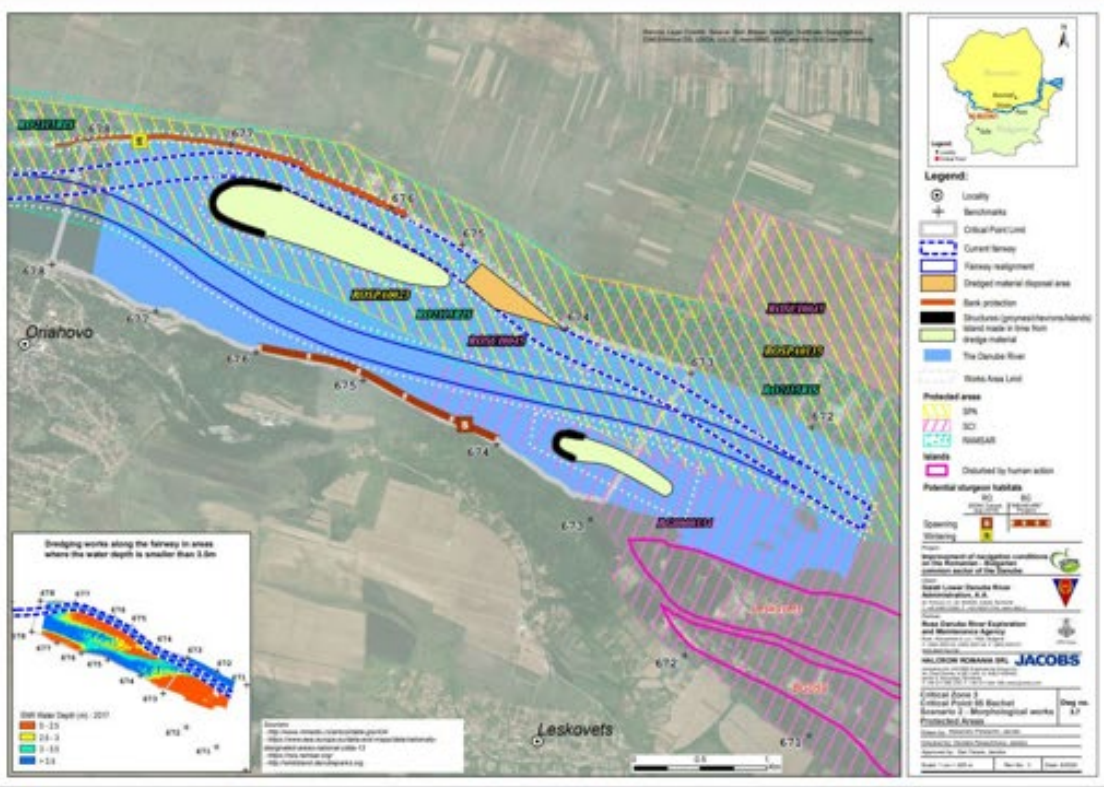
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Bechet

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Location	First preference	Second preference
Bechet	**Morpho-engineering – groynes, chevron, bank stabilization, island & fairway realignment**	Morphological option – islands, bank stabilization, with fairway realignment



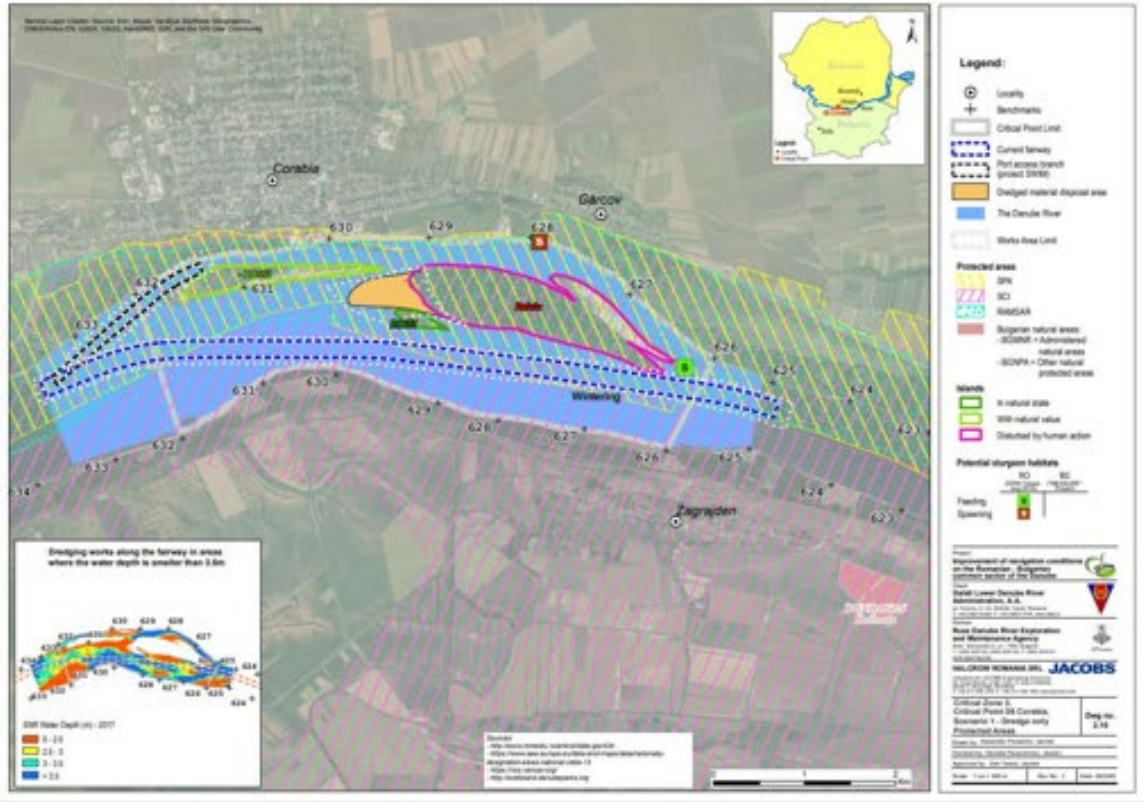


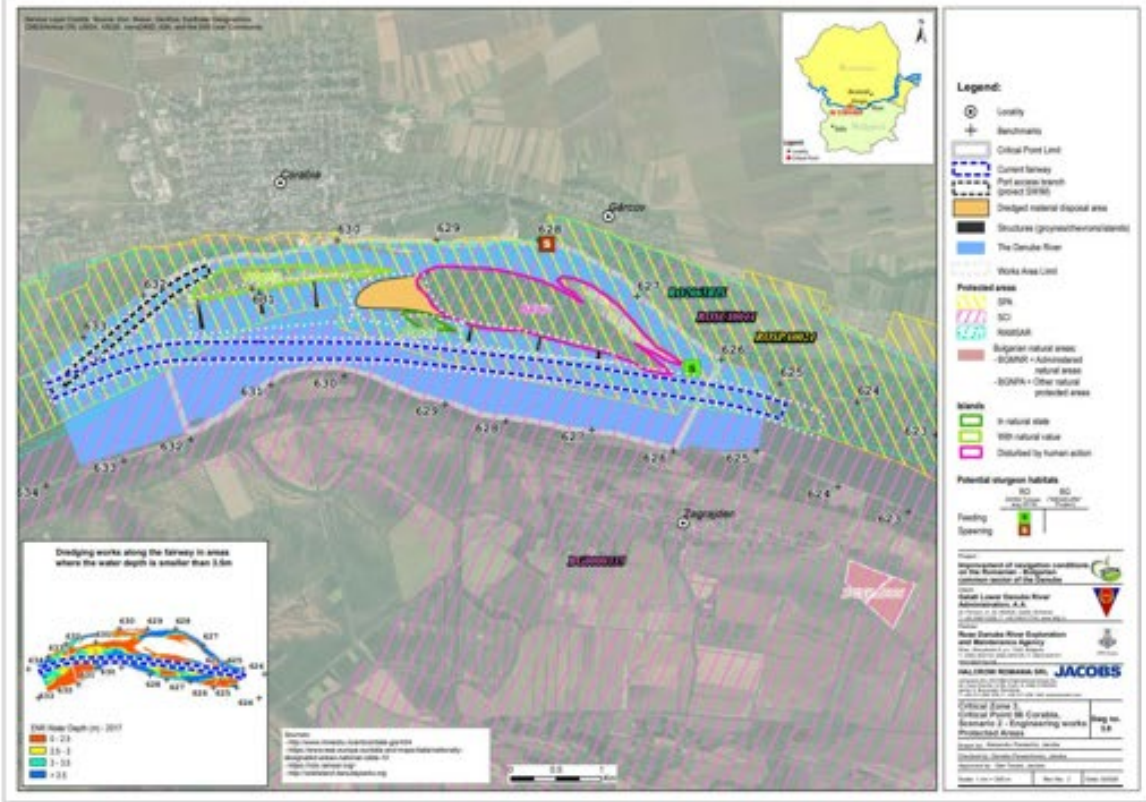
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Corabia

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Location	First preference	Second preference
Corabia	Dredge only with in-channel disposal, SWIM access channel	Engineering - groynes with SWIM access channel



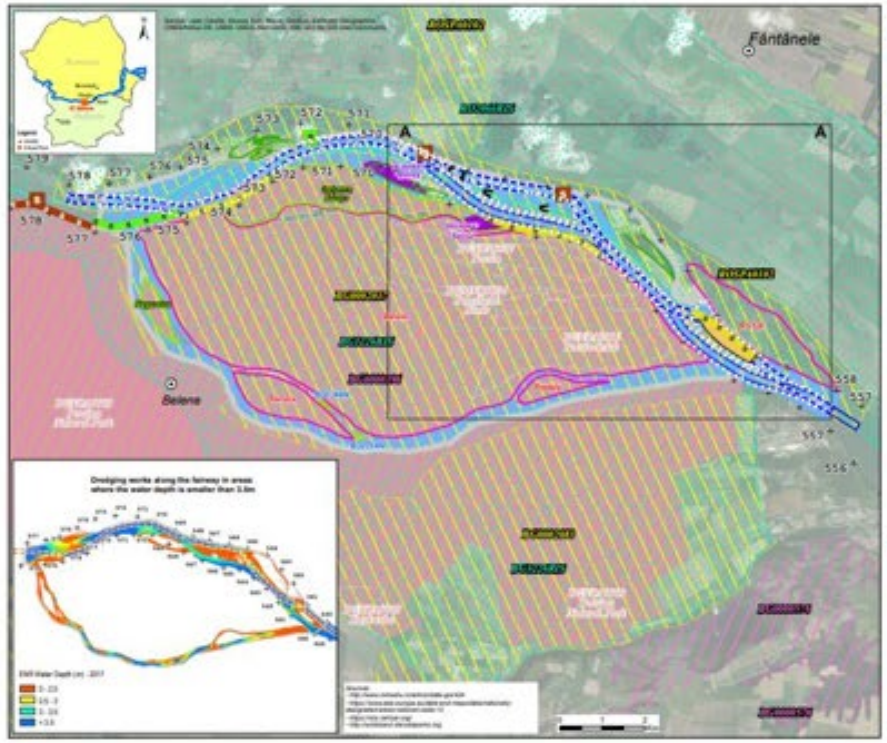


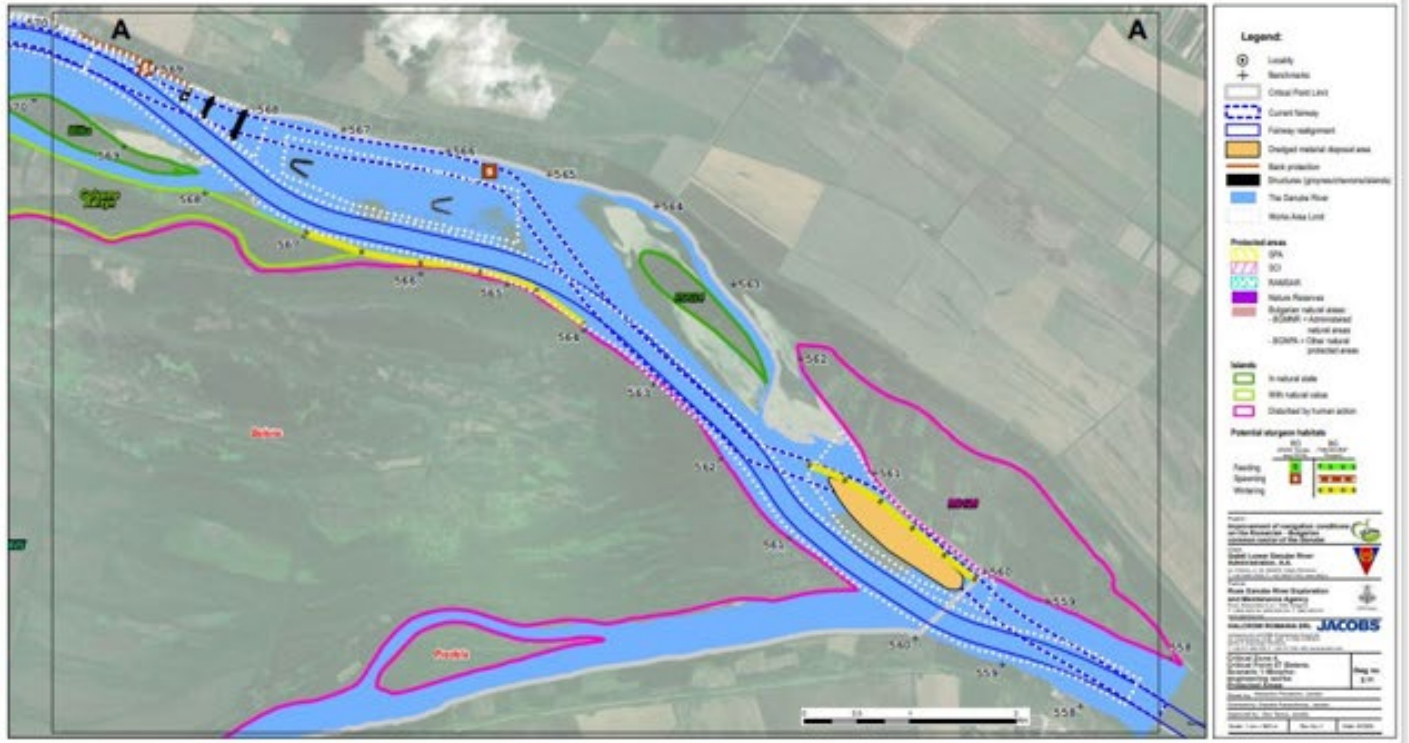
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Belene

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Location	First preference	
Belene	Engineering - chevrons and groynes with fairway realignment	



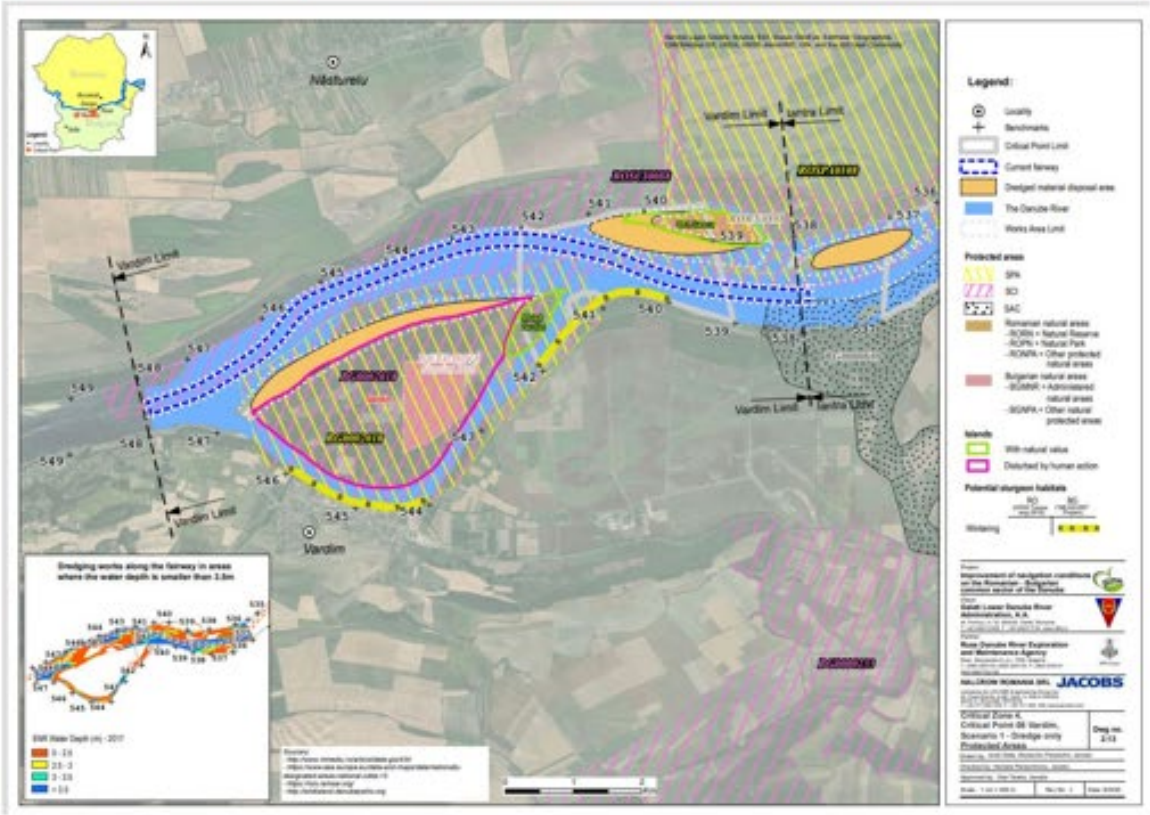


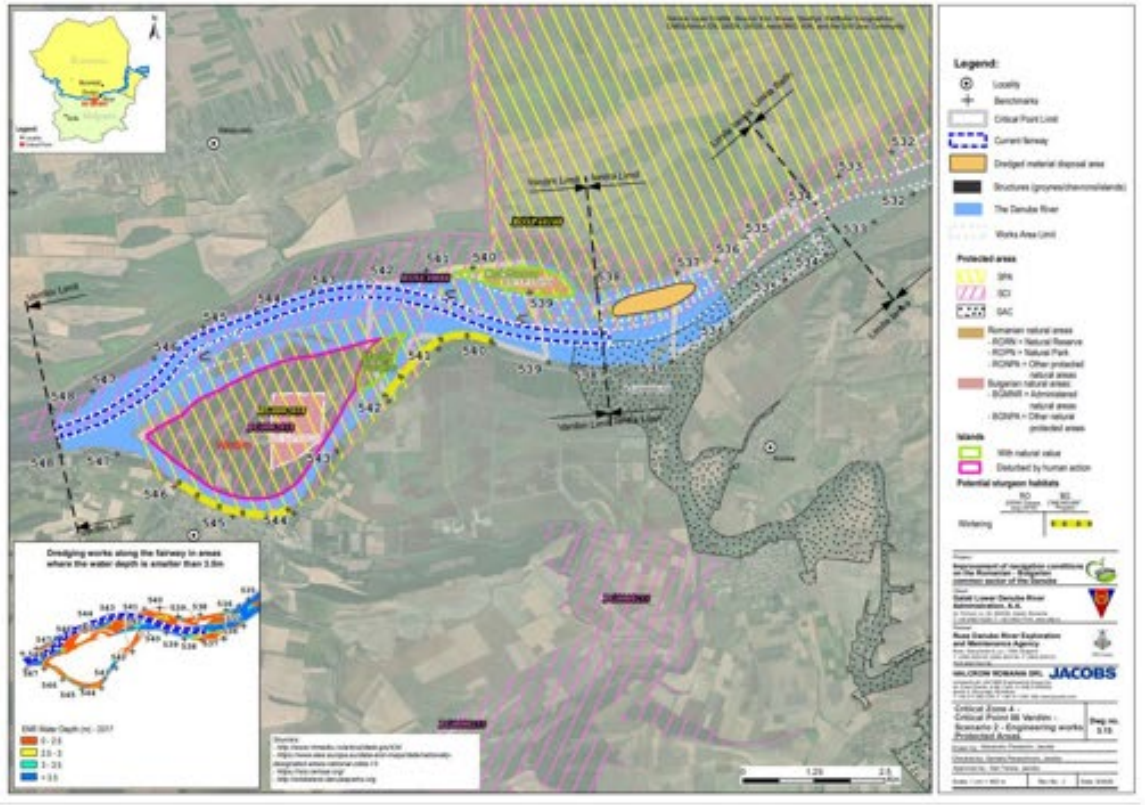
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Vardim

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Location	First preference	Second preference
Vardim	Dredge only with in-channel disposal	Engineering - chevrons



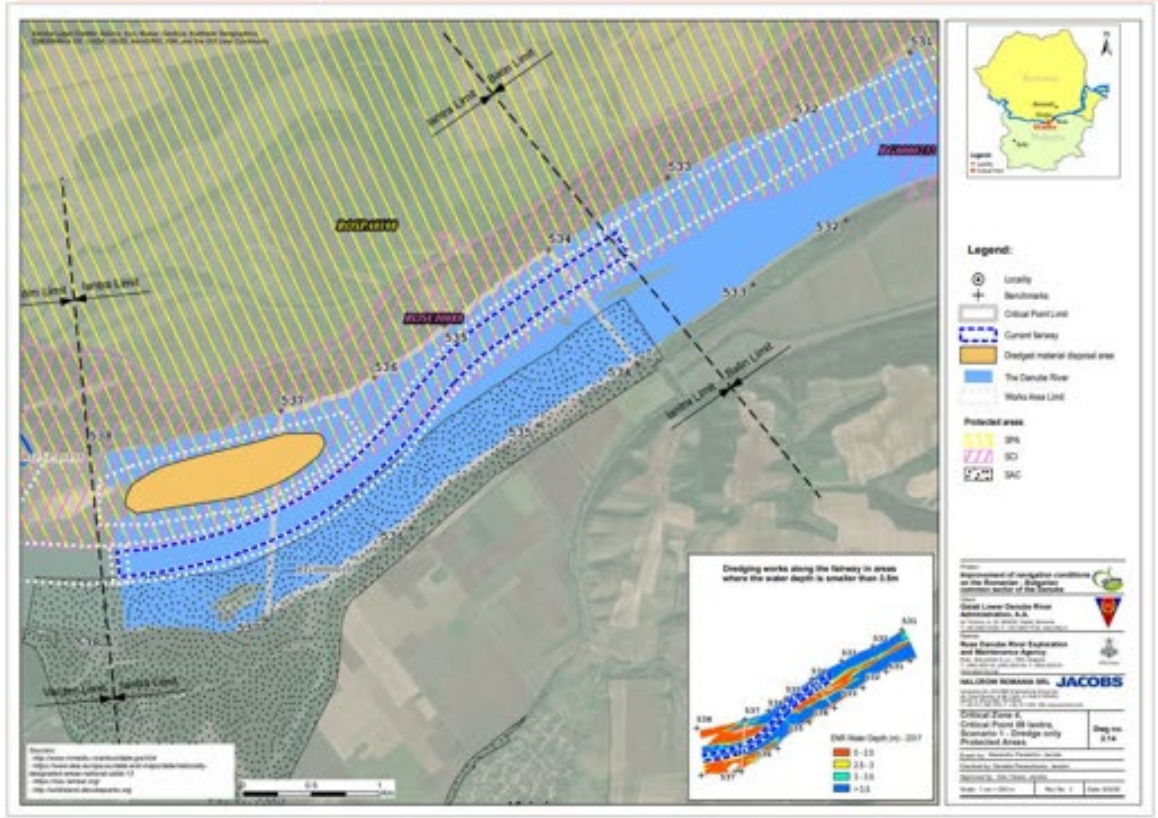


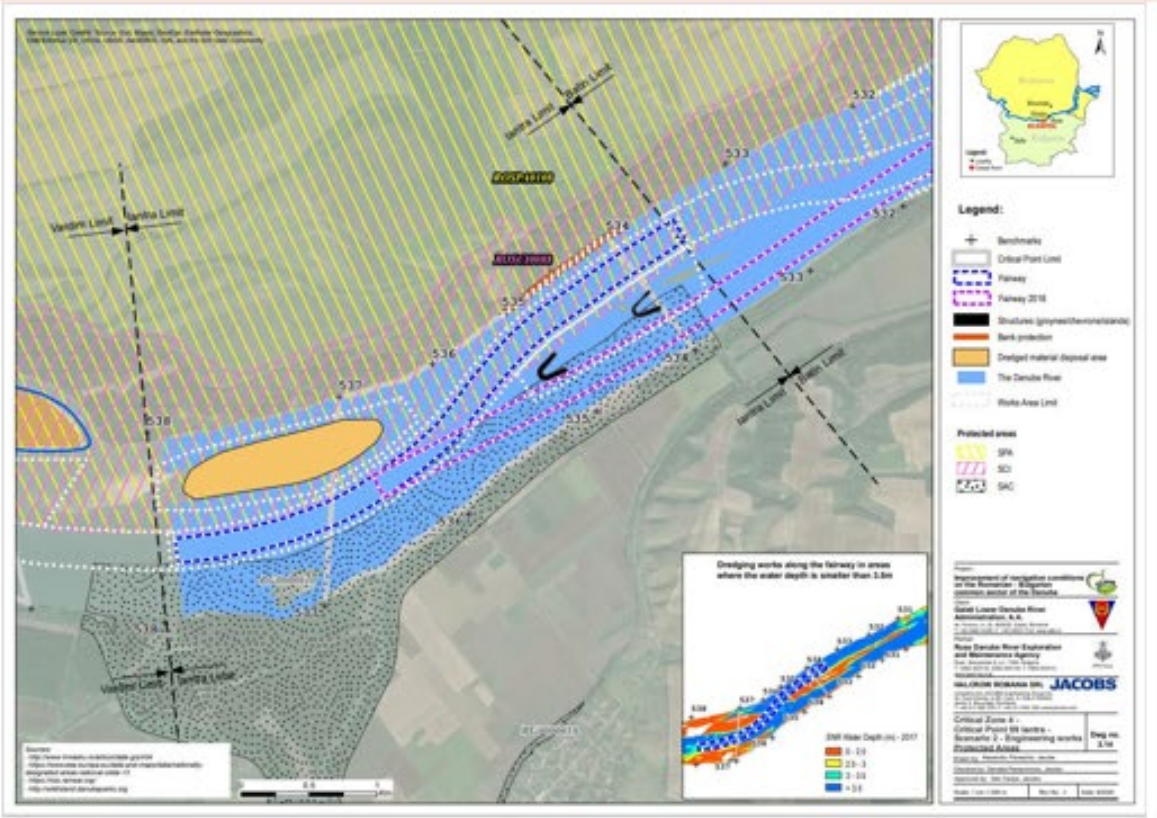
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Iantra

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Location	First preference	Second preference
Iantra	Dredge only with in-channel disposal	Engineering - chevrons, bank stabilization with fairway realignment



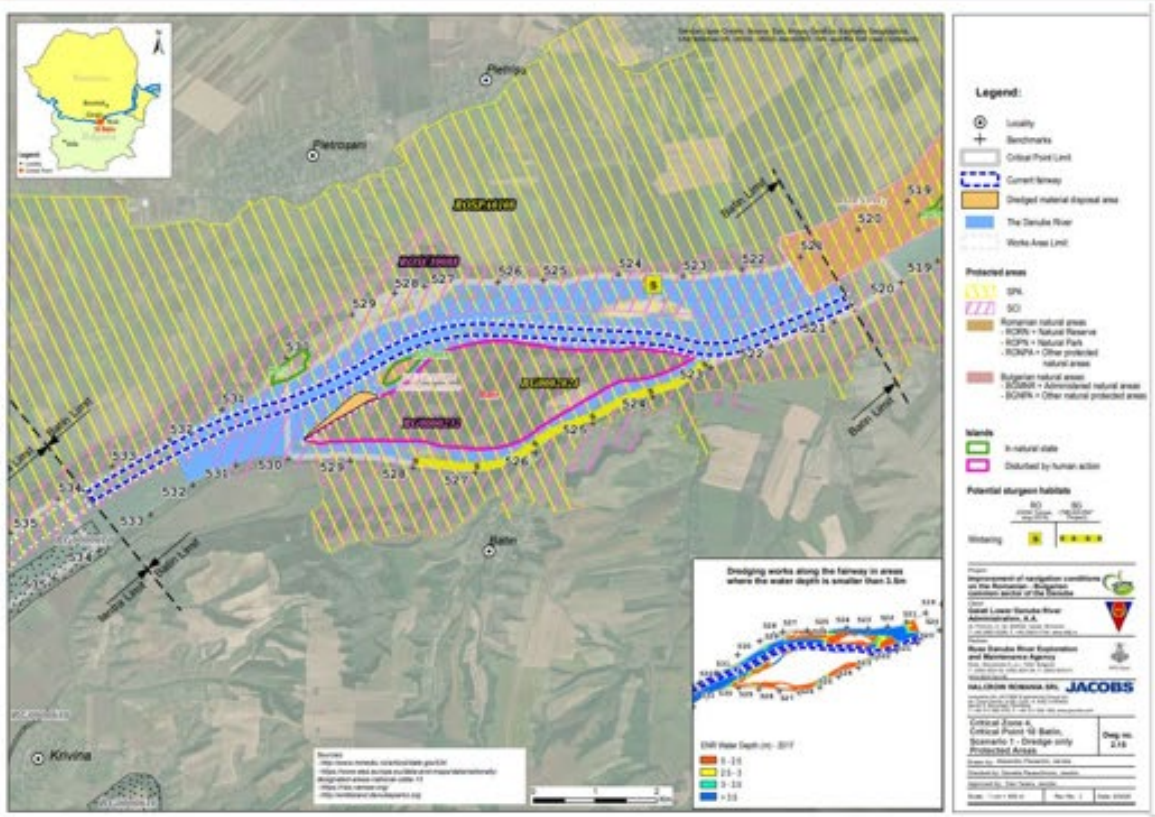


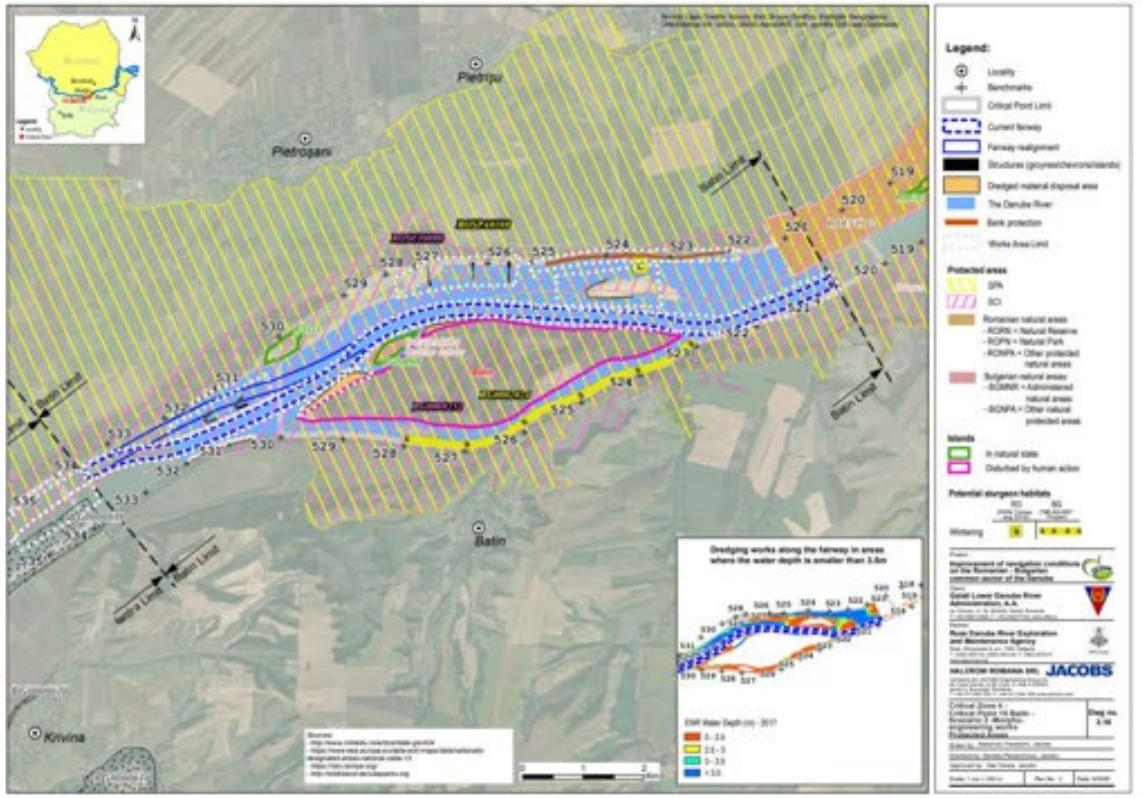
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Batin

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Location	First preference	Second preference
Batin	Dredge only with in-channel disposal	Morpho-engineering - chevrons, groynes, bank stabilization with fairway realignment



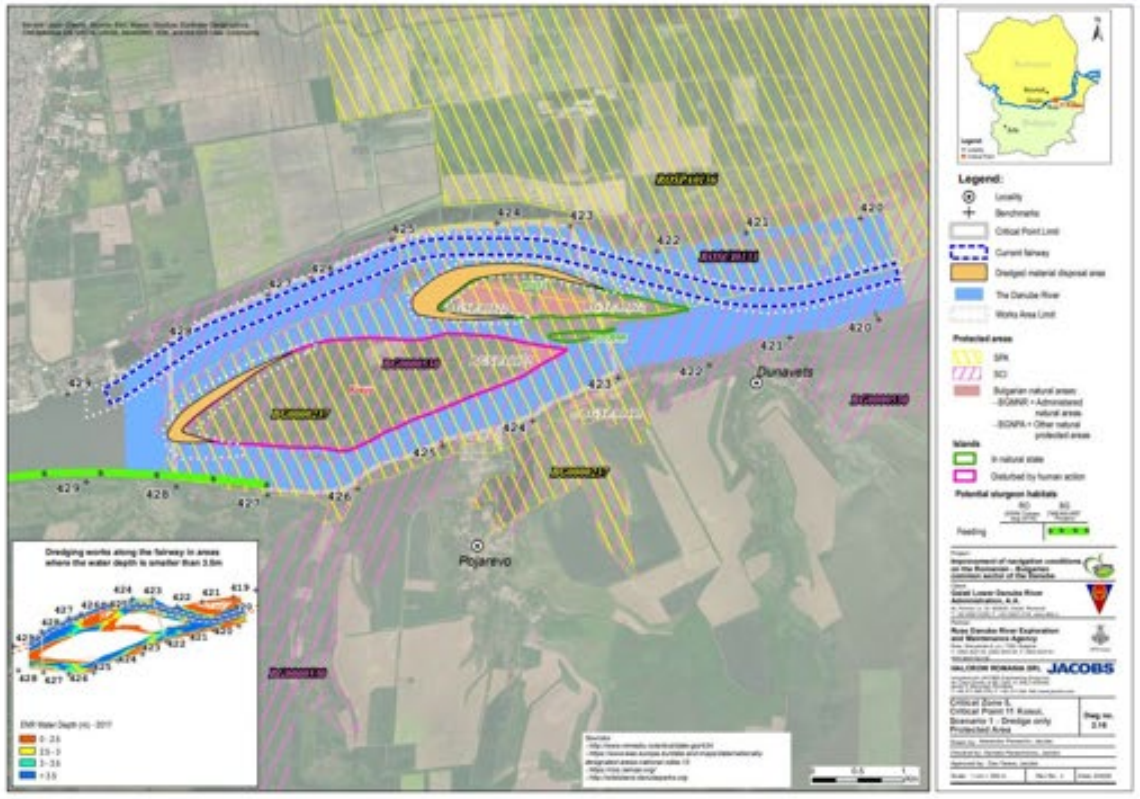


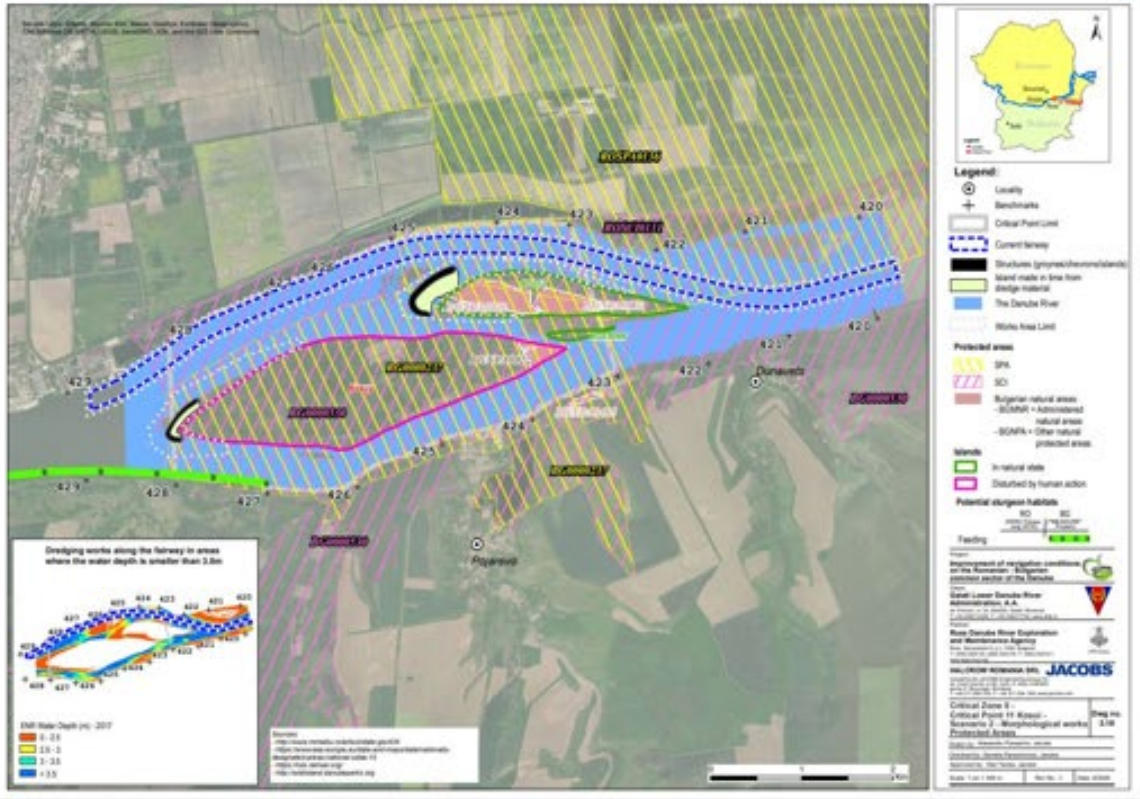
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Kosui

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Location	First preference	Second preference
Kosui	Dredge only with in-channel disposal	Morphological - islands



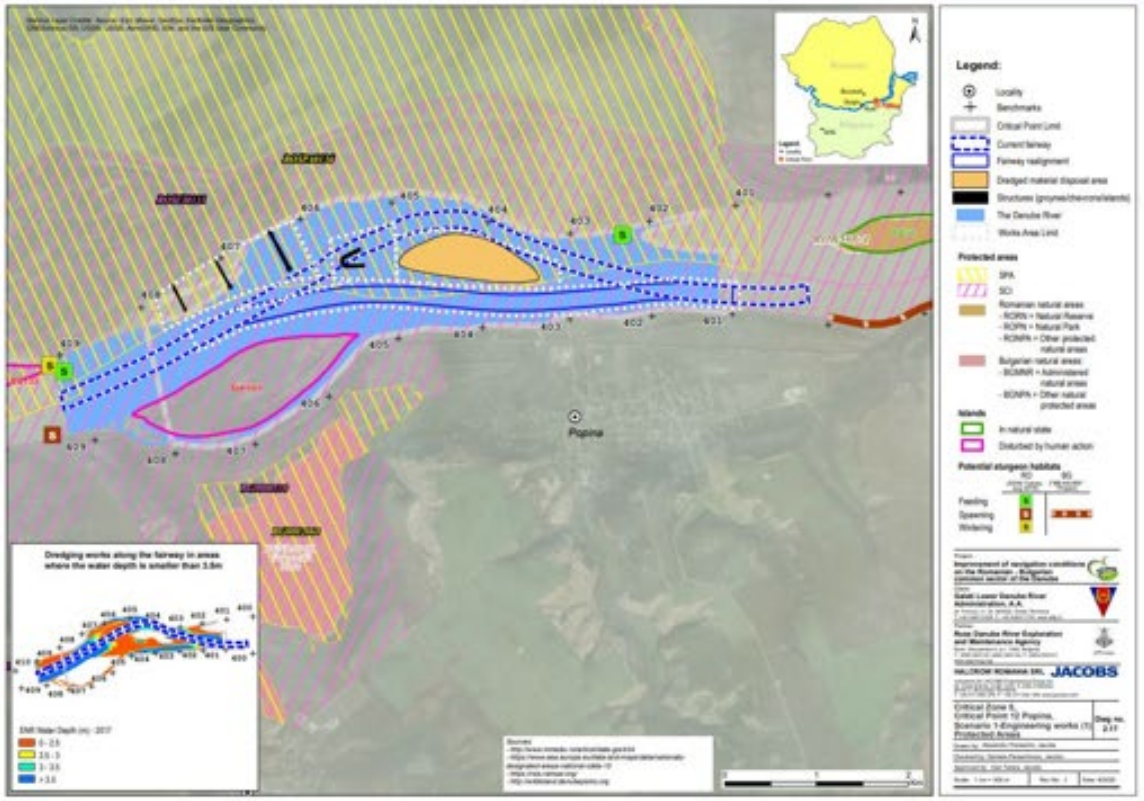


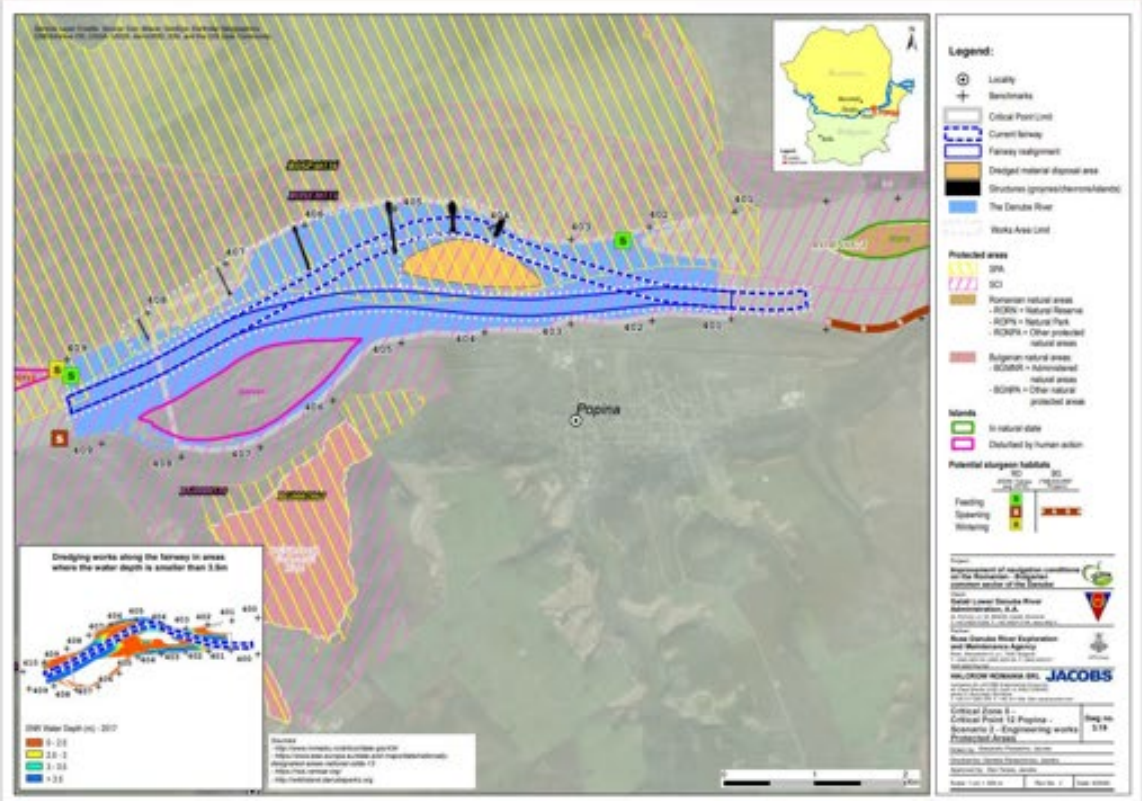
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Popina

Co-funded by the European Union

Location	First preference	Second preference
Popina	Engineering – groynes, chevron with fairway realignment	Engineering - groynes with fairway realignment





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Selecting the preferred option using Multi-Criteria Analysis (MCA)

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- *MCA is a framework to assess and compare the relative strengths/weaknesses of alternative options for navigation improvements using a set of agreed decision-criteria to score and rank them.*

- *MCA results show a clear preference for minimum interventions,* ***Dredge-only*** *at:*

- Garla Mare	*- Salcia*	*- Bogdan Secian*
- Dobrina	*- Corabia*	*- Vardim*
- Iantra	*- Batin*	*- Kosui*

- *In the cases of Bechet, Belene and Popina, dredge-only has been rejected as an ineffective sustainable approach (in the longer term) on grounds of other overriding factors. Rigid engineering, morphological and morph-engineering options are therefore selected with reference to MCA scores.*

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Types of intervention considered at all critical locations

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Key considerations:

- *Recognition that dredging can be an important intervention – requires technical, institutional and financial sustainability;*
- *Restricting rigid engineering works, as initial to the most problematic critical locations – Bechet, Belene and Popina;*
- *Preliminary environmental impact assessment at site and downstream;*
- *Introducing morphological engineering measures on a trial, monitor and adaptive basis;*
- *Implement using a phased programme, with intensive monitoring/ re-assessment as part of a strategy for adaptive management;*
- *River training with maximum use of natural (hydro-morphological) processes;*
- *Planning/conducting of detailed geotechnical surveys during the next phases (technical design/construction) of the project, to substantiate the technical solutions, in order to obtain the construction permit.*

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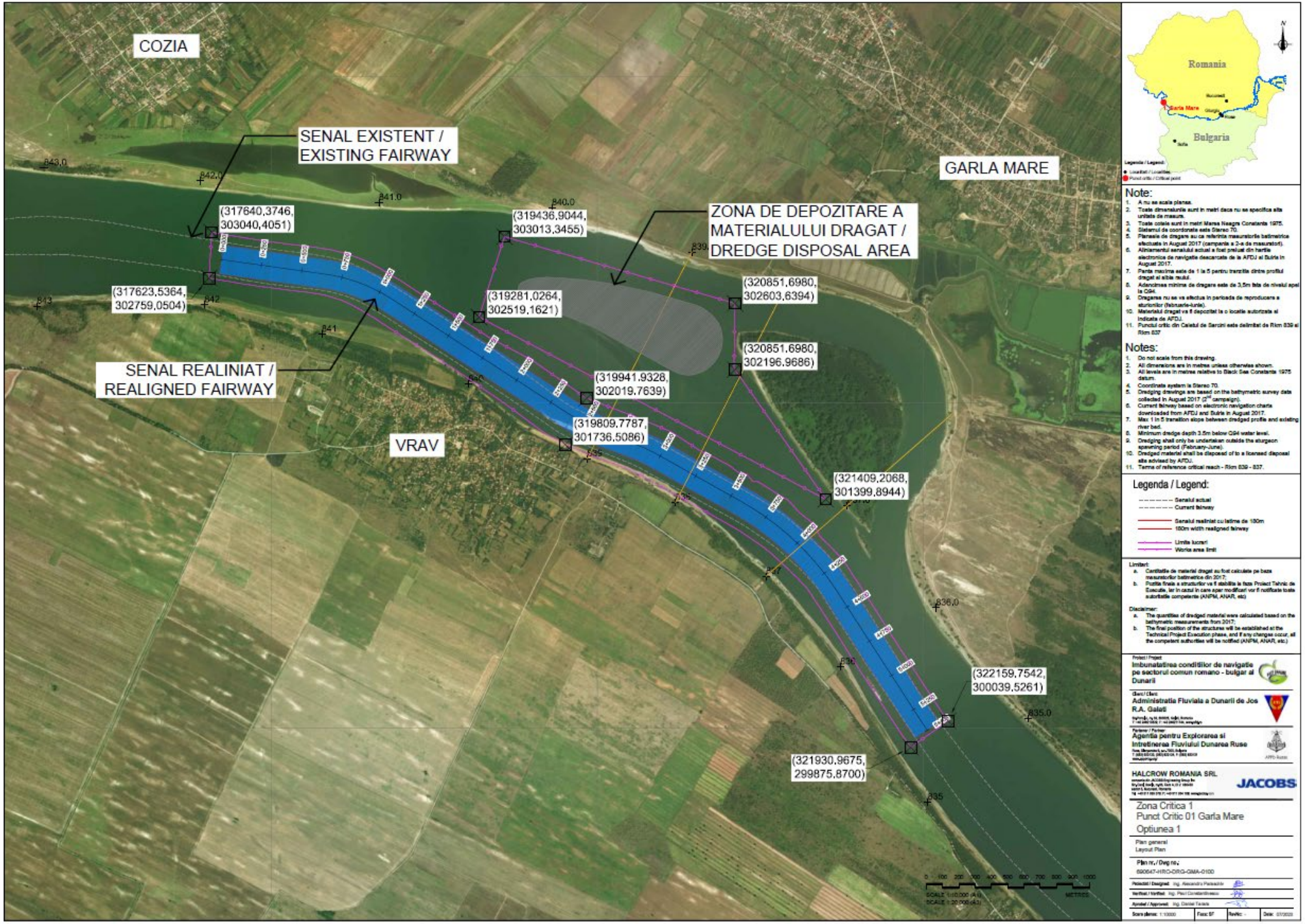
After MCA - Decision

12 Critical Points - final option

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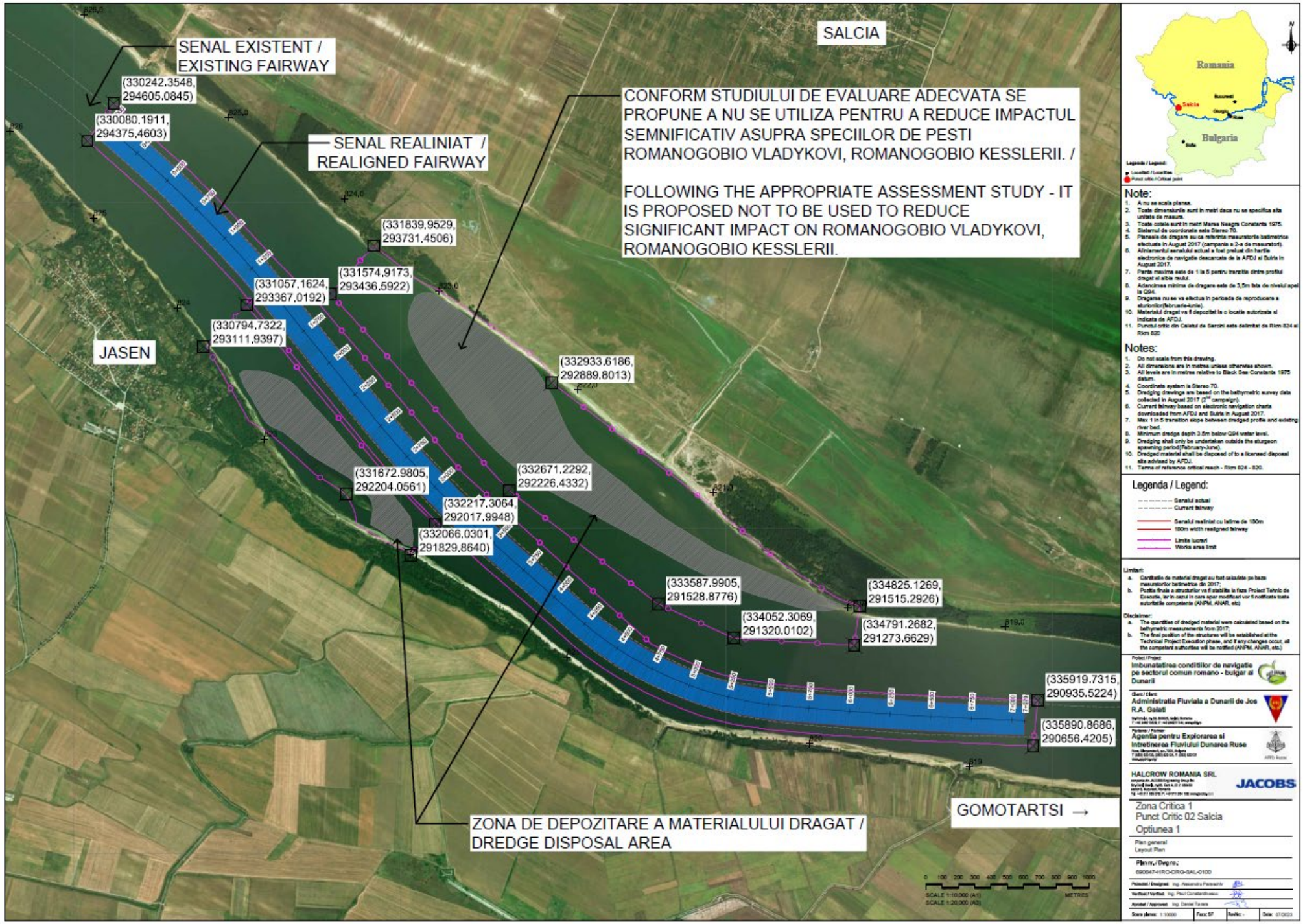
Gârla Mare



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Salcia

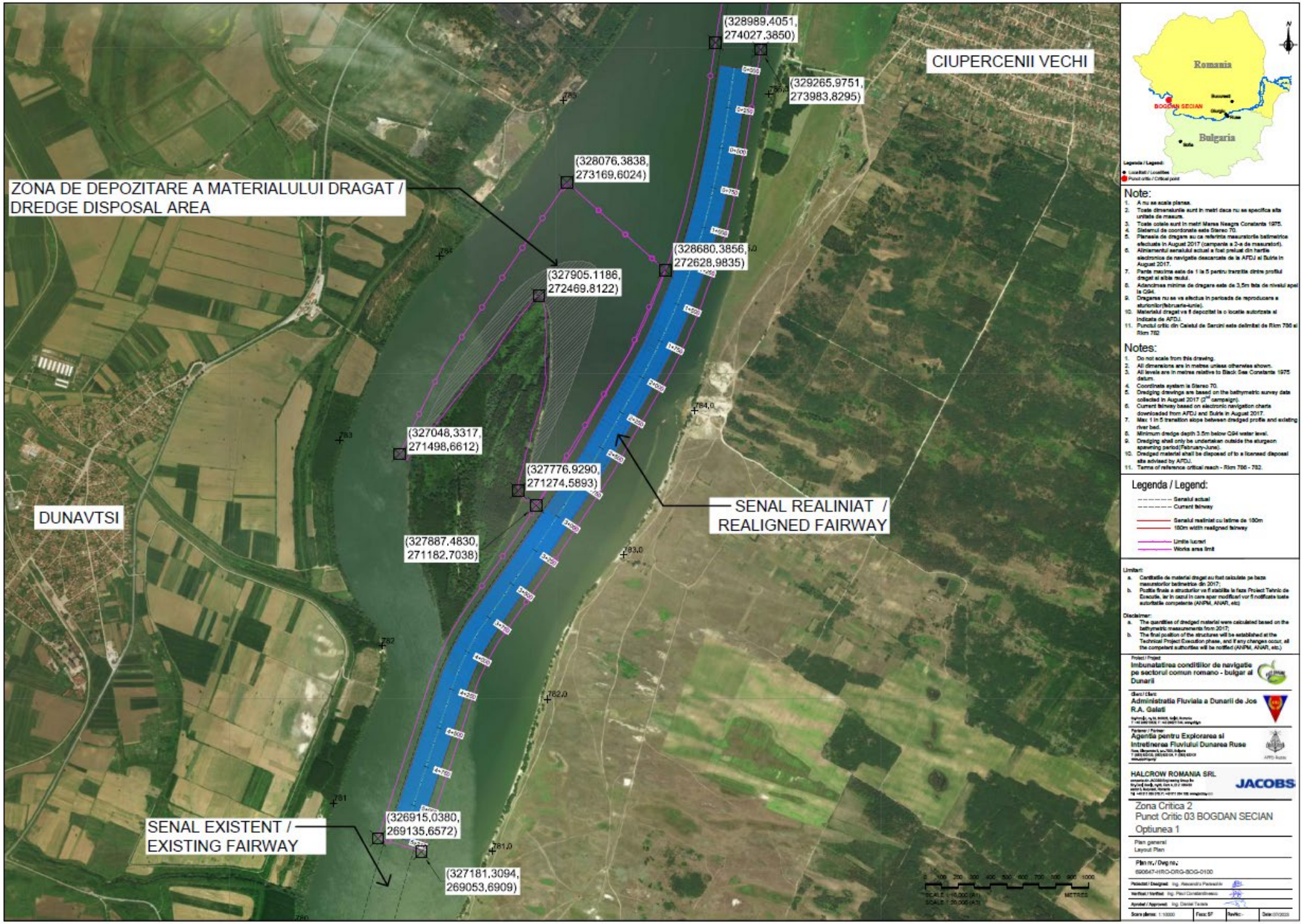


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FAST DANUBE 2

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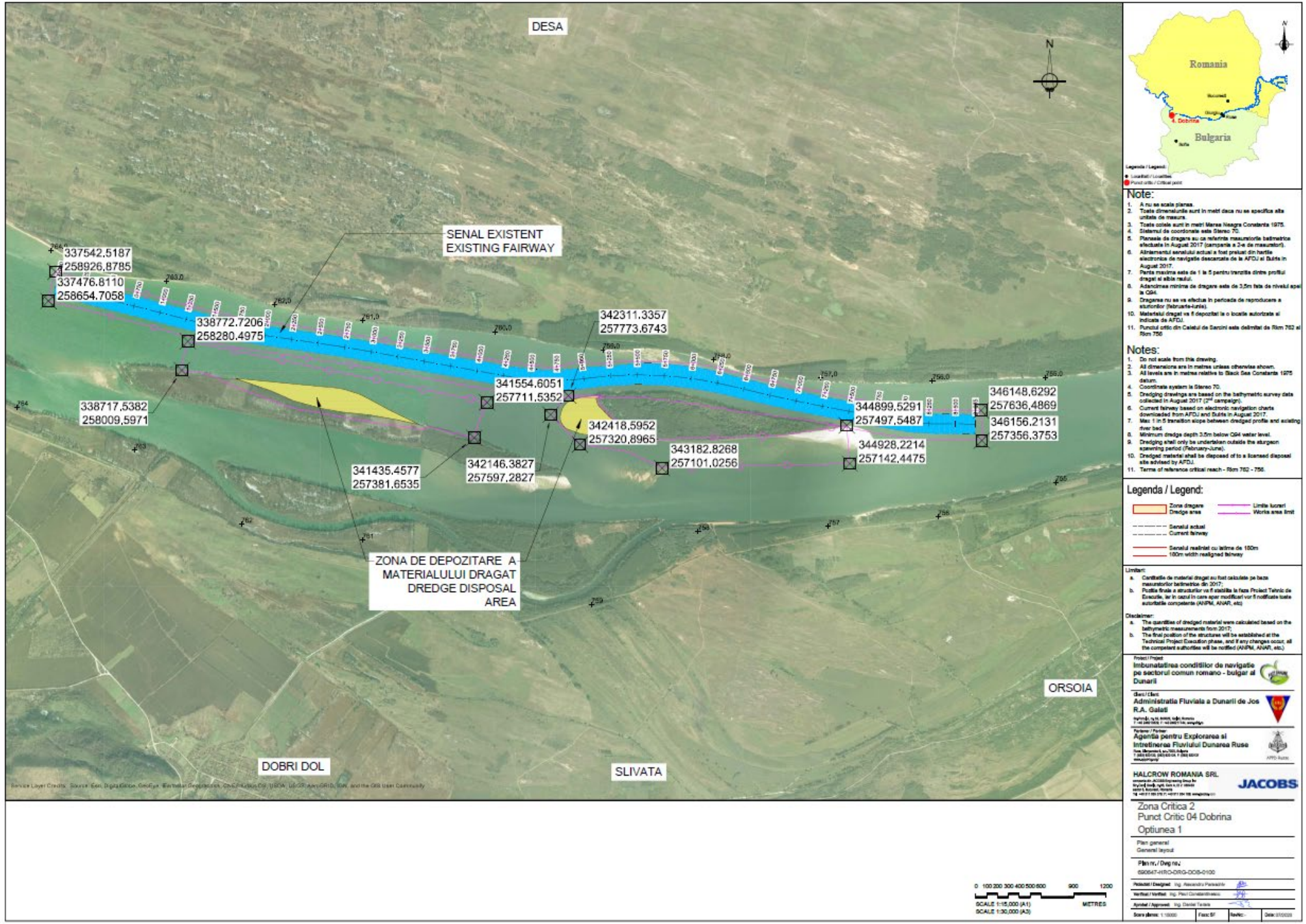
Bogdan Secian



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Dobrina

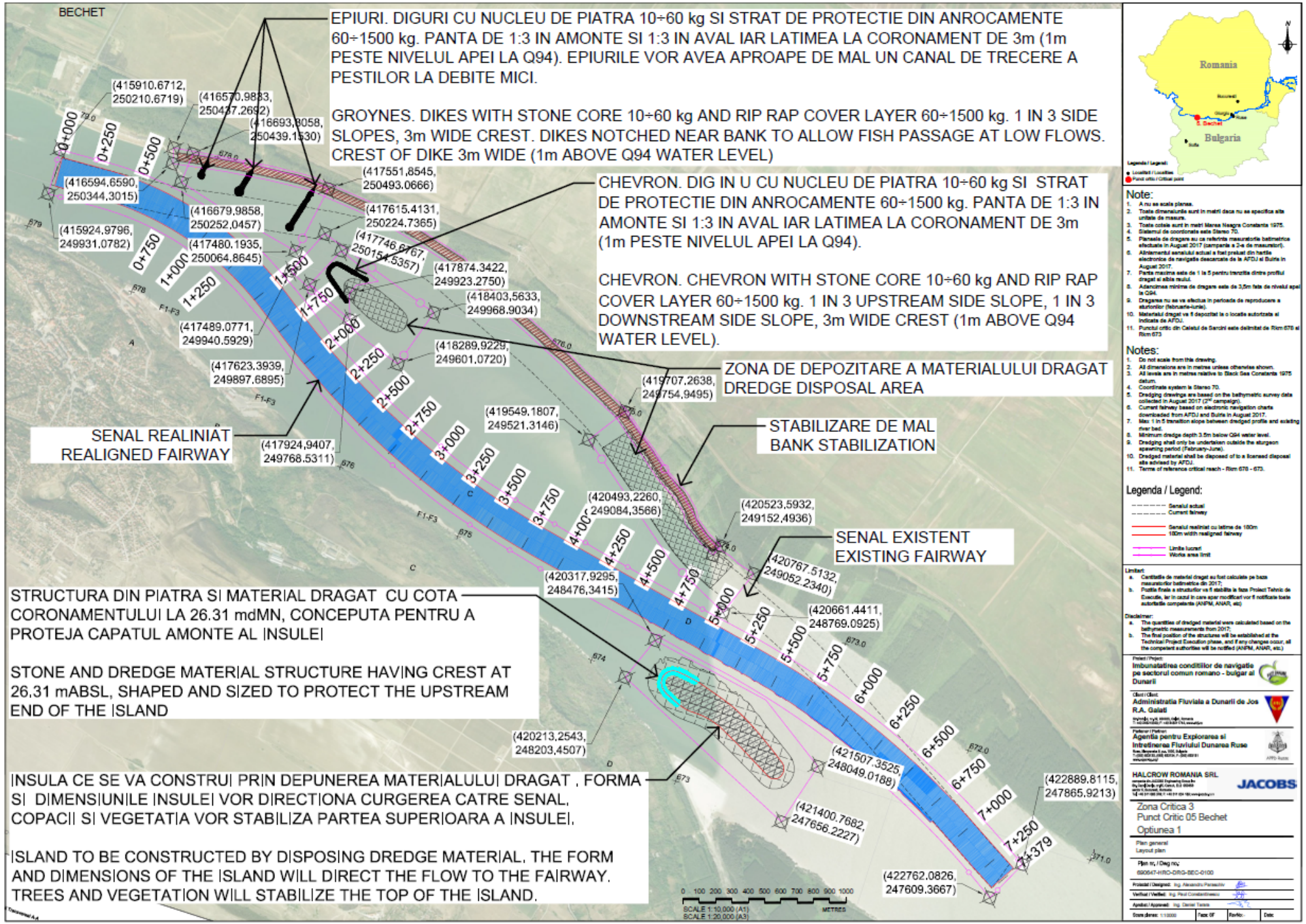


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Bechet

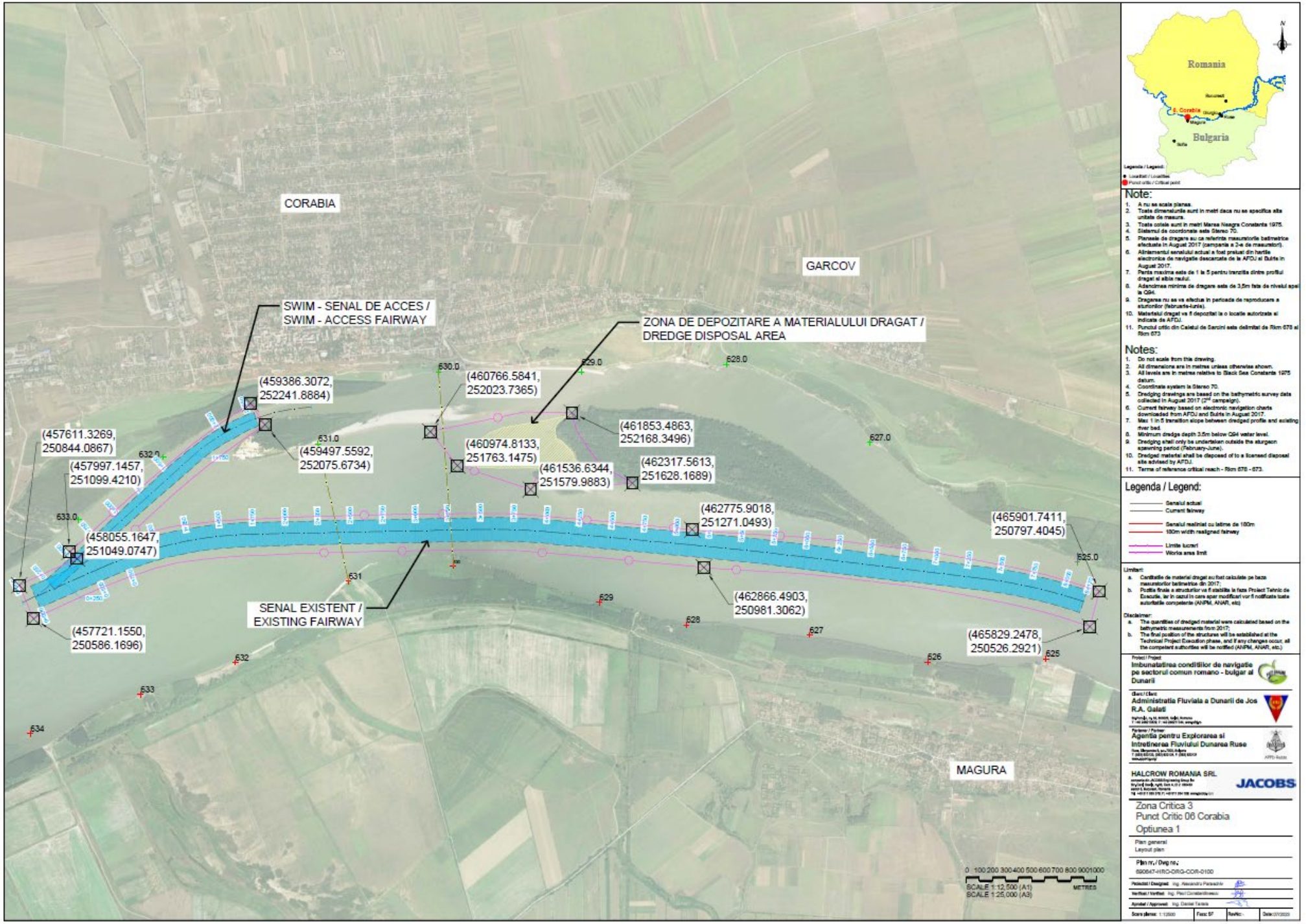


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Corabia

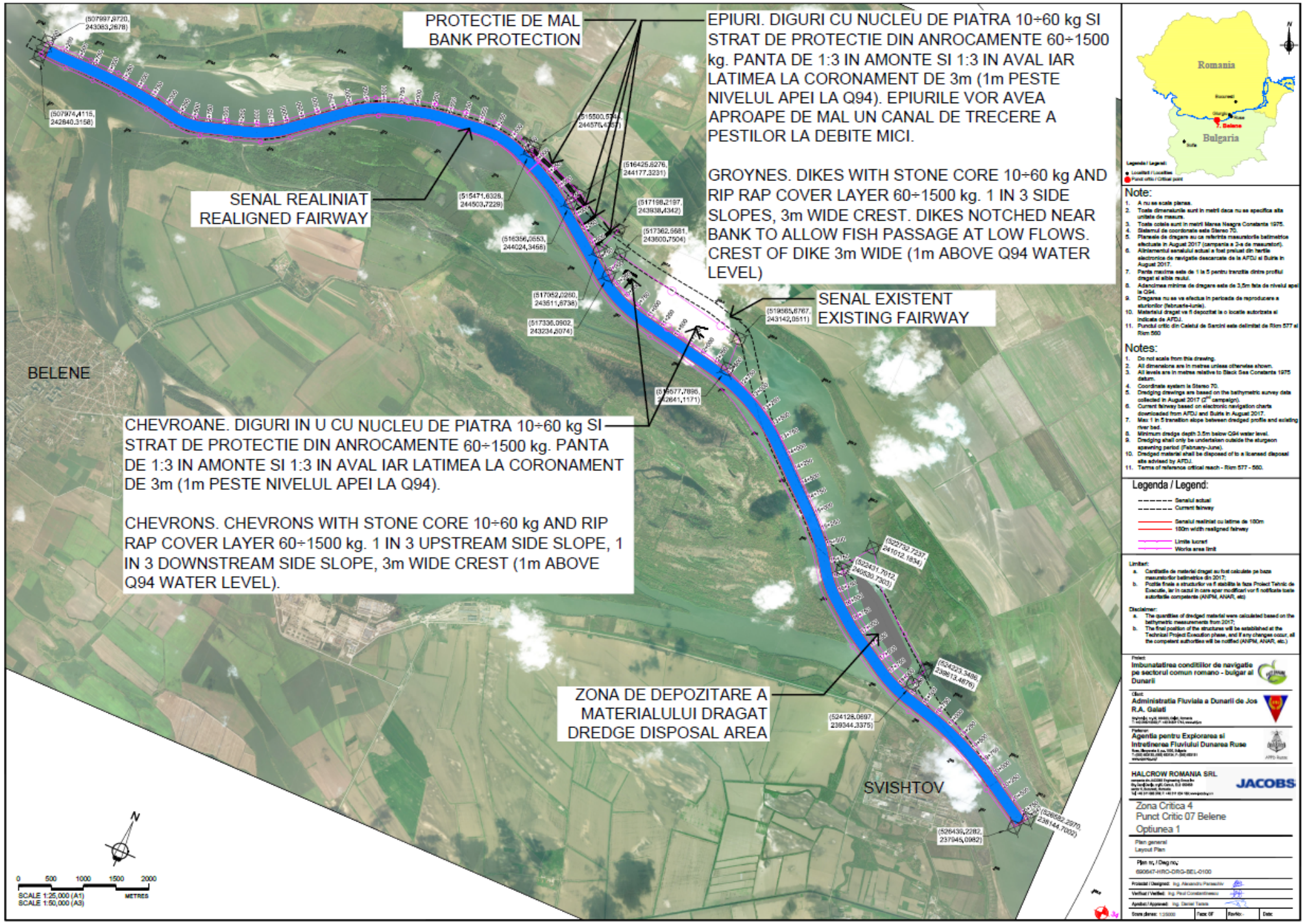


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Belene

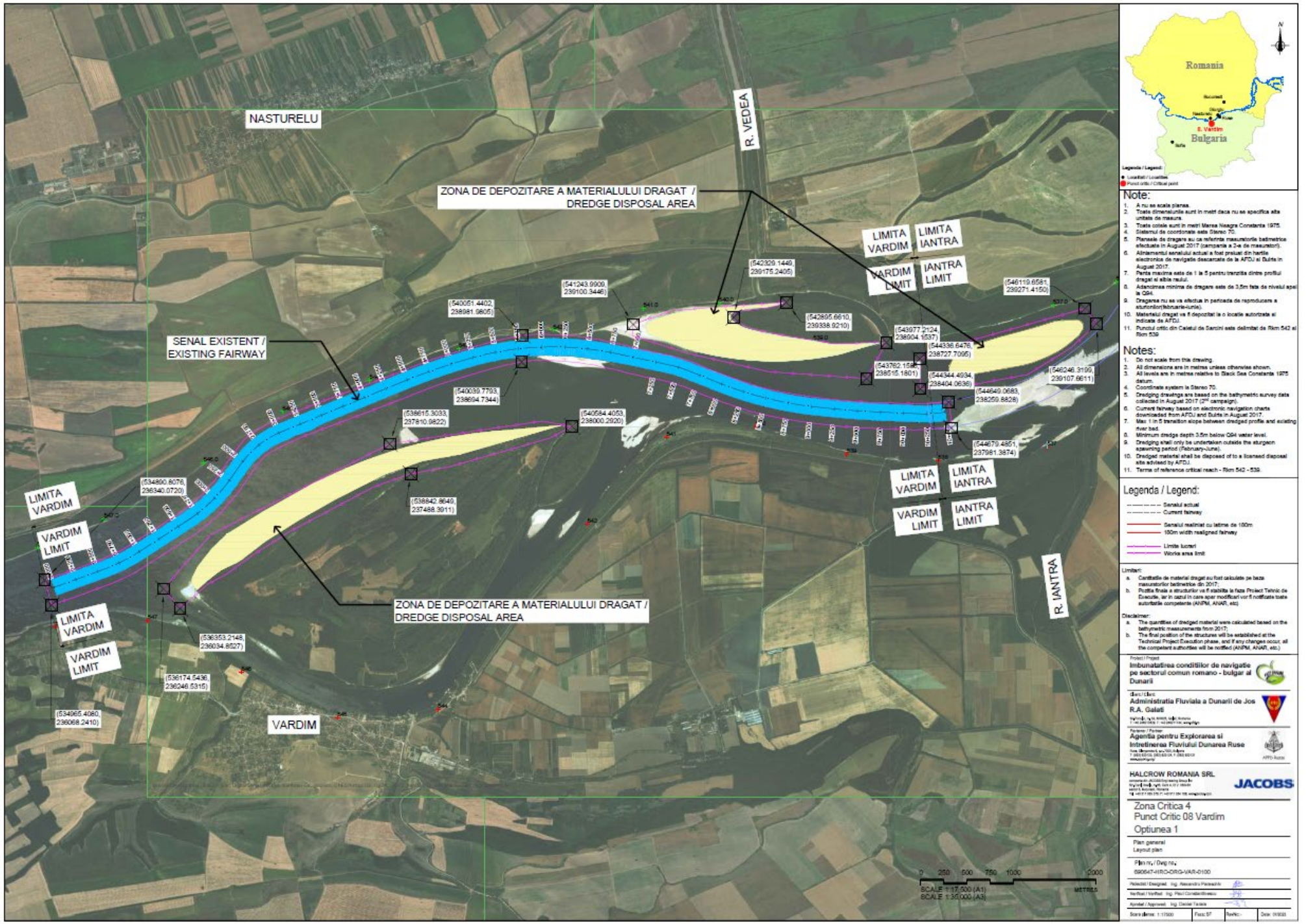


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Vardim

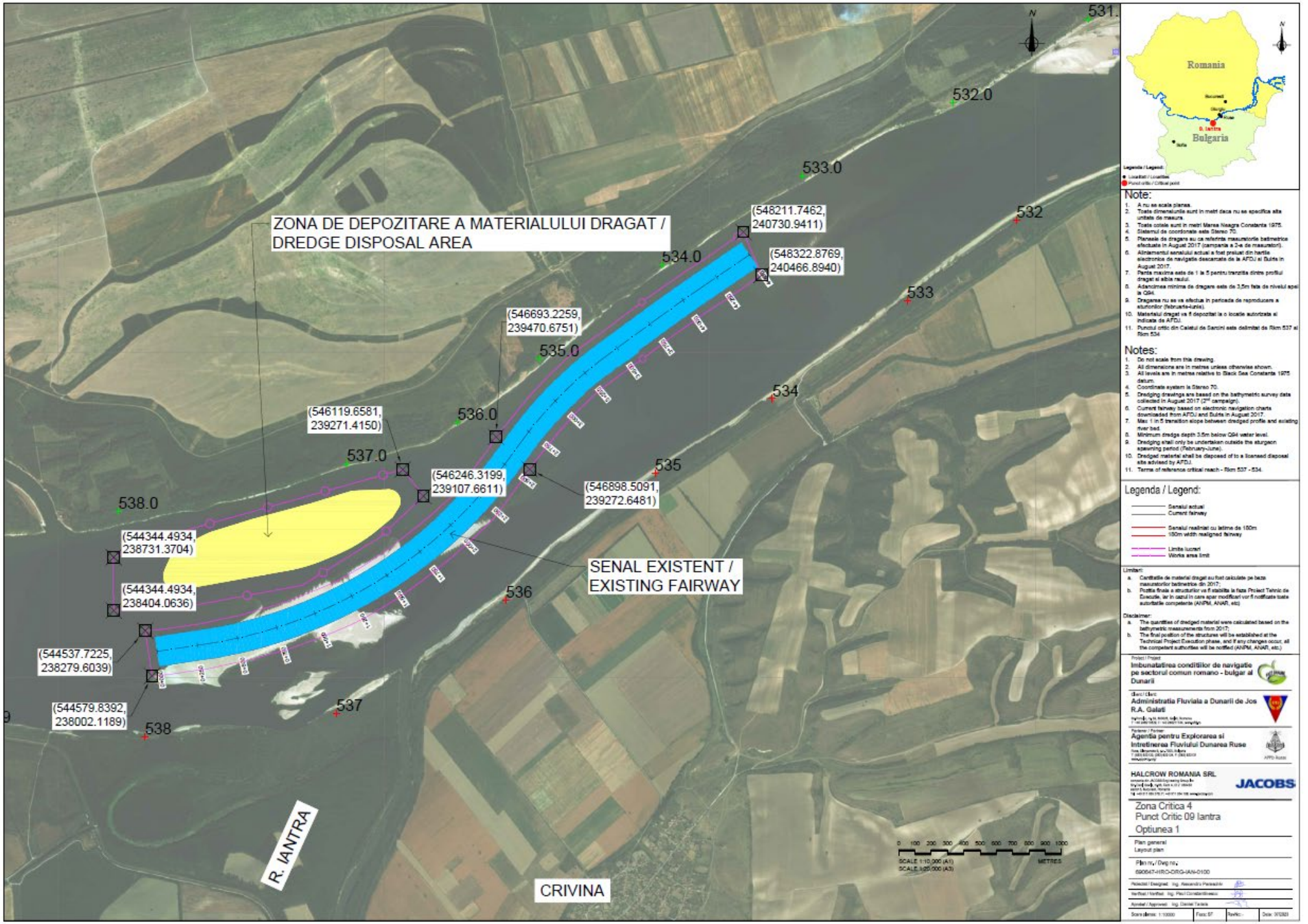


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Iantra

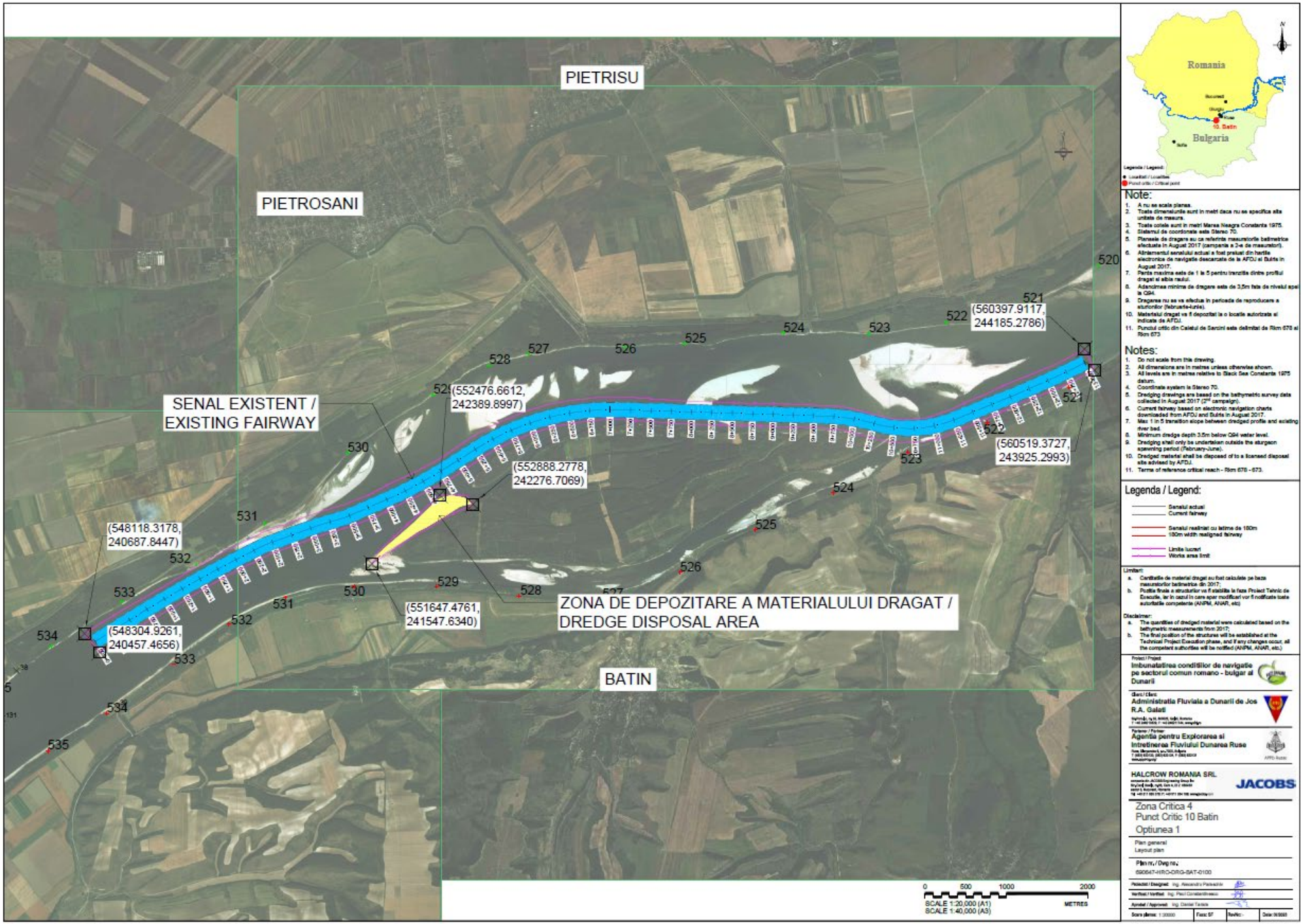


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Batin

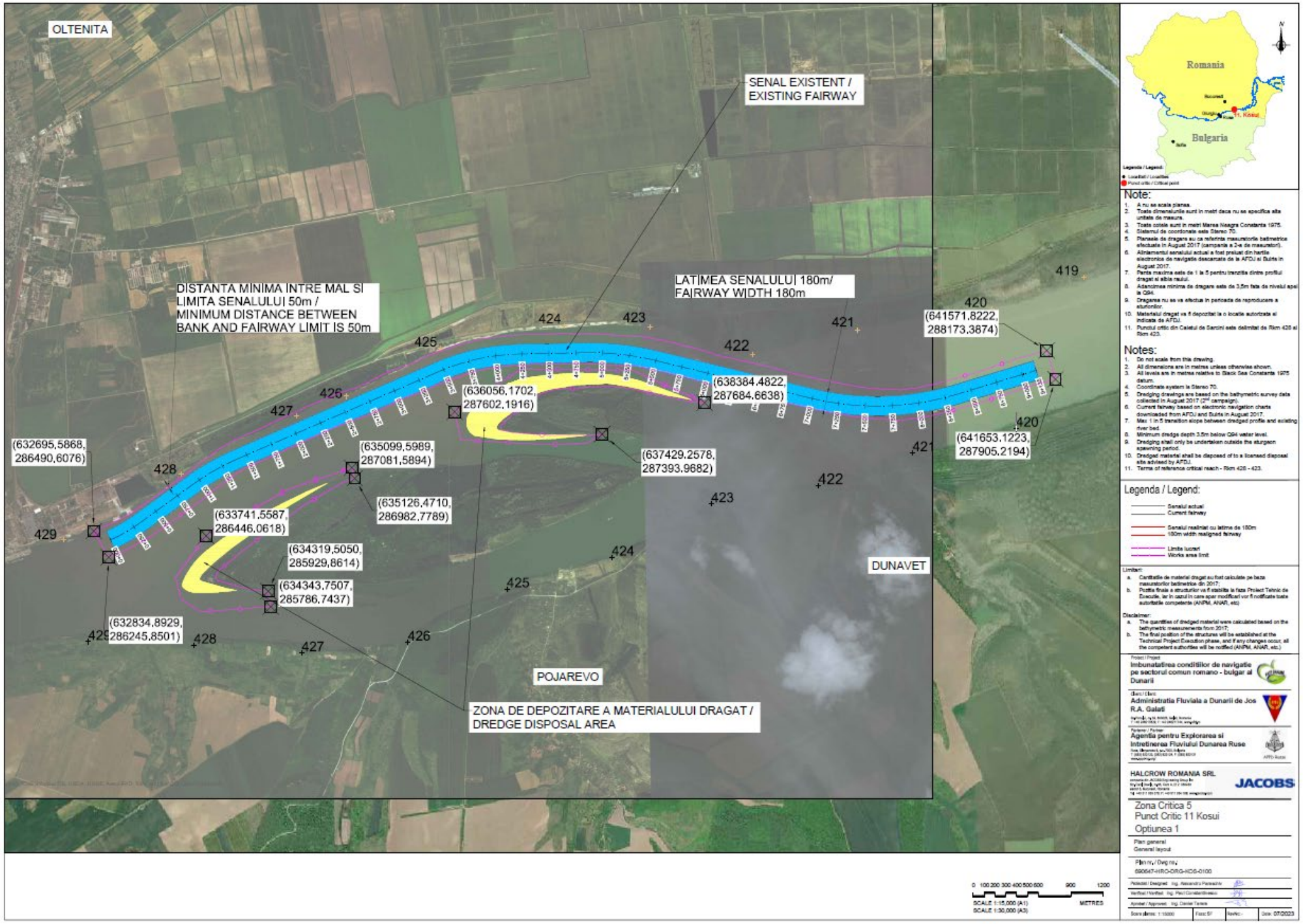


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Kosui

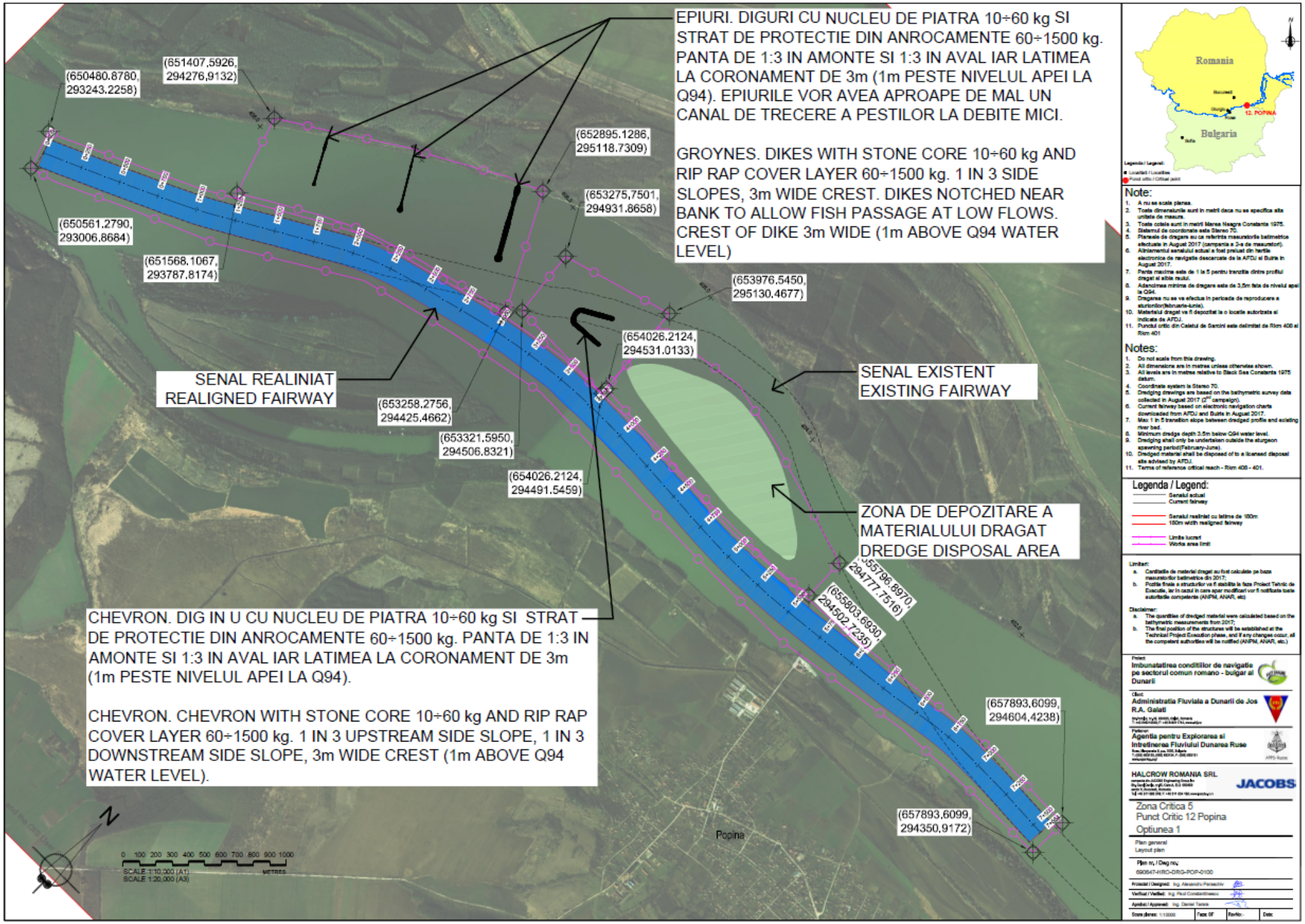


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Popina



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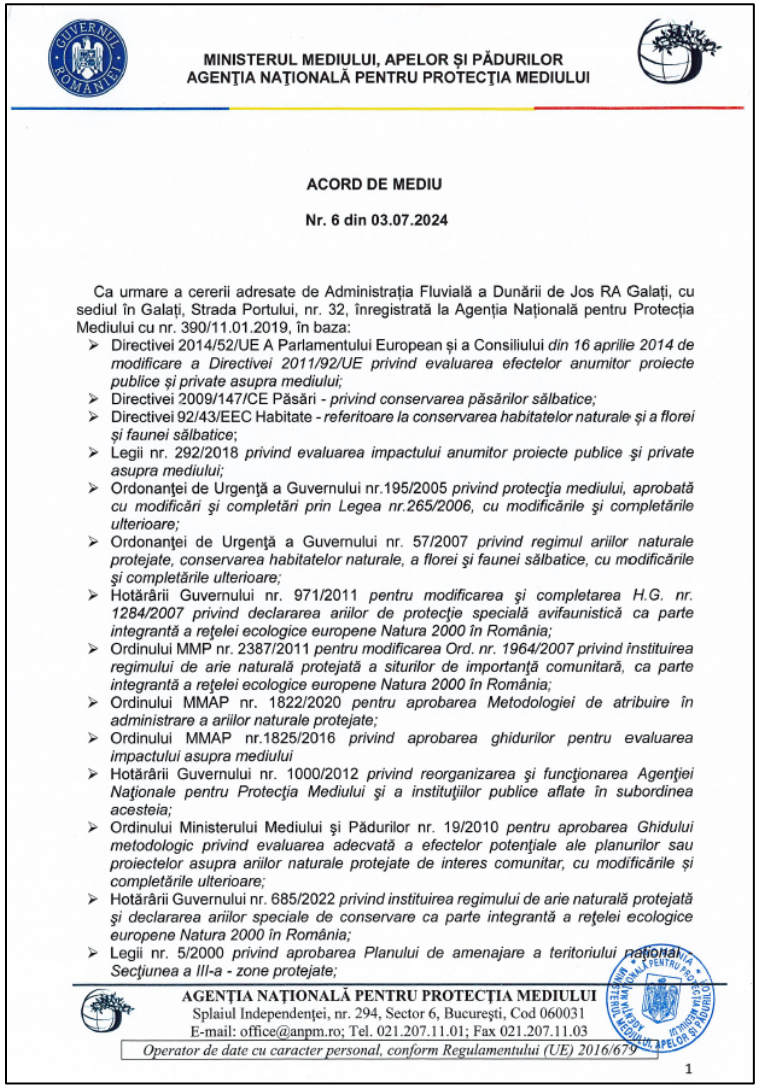






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Environmental Permits



MINISTERUL MEDIULUI, APELOR ŞI PĂDURILOR
AGENŢIA NAŢIONALĂ PENTRU PROTECŢIA MEDIULUI

ACORD DE MEDIU

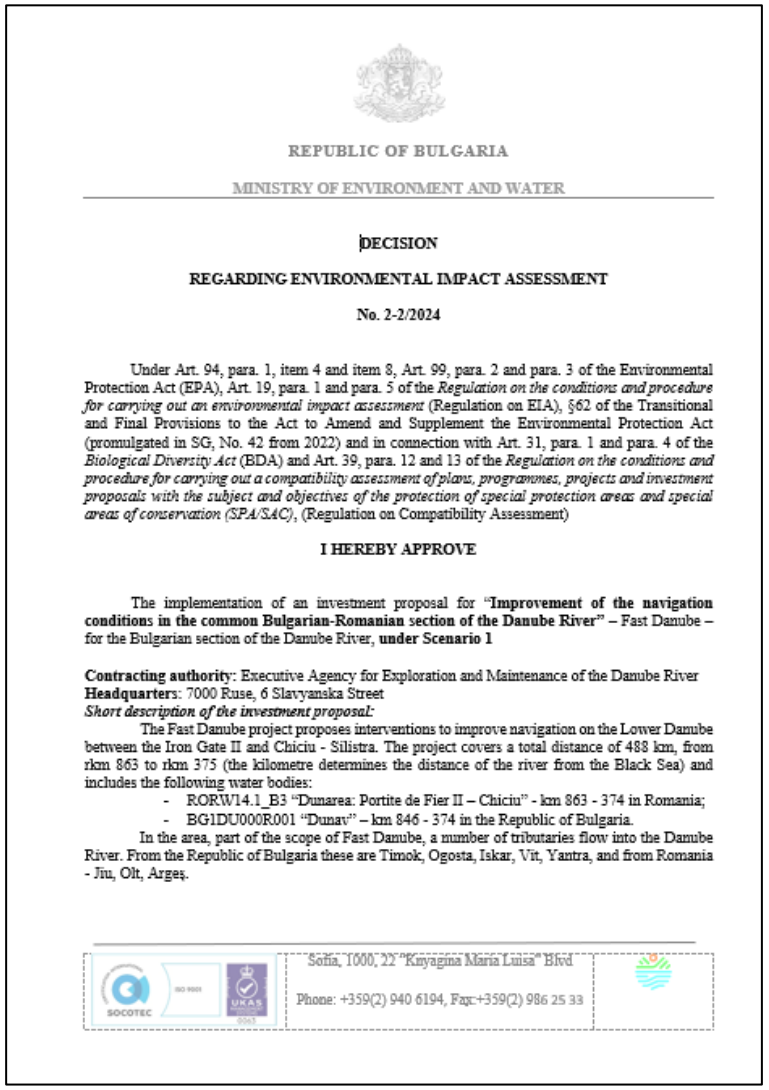
Nr. 6 din 03.07.2024

Ca urmare a cererii adresate de Administrația Fluvială a Dunării de Jos RA Galați, cu sediul în Galați, Strada Portului, nr. 32, înregistrată la Agenția Națională pentru Protecția Mediului cu nr. 390/11.01.2019, în baza:

- Directivei 2014/52/UE A Parlamentului European și a Consiliului *din 16 aprilie 2014 de modificare a Directivei 2011/92/UE privind evaluarea efectelor anumitor proiecte publice și private asupra mediului;*
- Directivei 2009/147/CE Păsări - *privind conservarea păsărilor sălbatice;*
- Directivei 92/43/EEC Habitate - *referitoare la conservarea habitatelor naturale și a florei și faunei sălbatice;*
- Legii nr. 292/2018 *privind evaluarea impactului anumitor proiecte publice și private asupra mediului;*
- Ordonanței de Urgență a Guvernului nr.195/2005 *privind protecția mediului, aprobată cu modificări și completări prin Legea nr.265/2006, cu modificările și completările ulterioare;*
- Ordonanței de Urgență a Guvernului nr. 57/2007 *privind regimul ariilor naturale protejate, conservarea habitatelor naturale, a florei și faunei sălbatice, cu modificările și completările ulterioare;*
- Hotărârii Guvernului nr. 971/2011 *pentru modificarea și completarea H.G. nr. 1284/2007 privind declararea ariilor de protecție specială avifaunistică ca parte integrantă a rețelei ecologice europene Natura 2000 în România;*
- Ordinului MMP nr. 2387/2011 *pentru modificarea Ord. nr. 1964/2007 privind instituirea regimului de arie naturală protejată a siturilor de importanță comunitară, ca parte integrantă a rețelei ecologice europene Natura 2000 în România;*
- Ordinului MMAP nr. 1822/2020 *pentru aprobarea Metodologiei de atribuire în administrare a ariilor naturale protejate;*
- Ordinului MMAP nr.1825/2016 *privind aprobarea ghidurilor pentru evaluarea impactului asupra mediului*
- Hotărârii Guvernului nr. 1000/2012 *privind reorganizarea și funcționarea Agenției Naționale pentru Protecția Mediului și a instituțiilor publice aflate în subordinea acesteia;*
- Ordinului Ministerului Mediului și Pădurilor nr. 19/2010 *pentru aprobarea Ghidului metodologic privind evaluarea adecvată a efectelor potențiale ale planurilor sau proiectelor asupra ariilor naturale protejate de interes comunitar, cu modificările și completările ulterioare;*
- Hotărârii Guvernului nr. 685/2022 *privind instituirea regimului de arie naturală protejată și declararea ariilor speciale de conservare ca parte integrantă a rețelei ecologice europene Natura 2000 în România;*
- Legii nr. 5/2000 *privind aprobarea Planului de amenajare a teritoriului național - Secțiunea a III-a - zone protejate;*

AGENŢIA NAŢIONALĂ PENTRU PROTECŢIA MEDIULUI
Splaiul Independenței, nr. 294, Sector 6, București, Cod 060031
E-mail: office@anpm.ro; Tel. 021.207.11.01; Fax 021.207.11.03
Operator de date cu caracter personal, conform Regulamentului (UE) 2016/679

1



REPUBLIC OF BULGARIA

MINISTRY OF ENVIRONMENT AND WATER

DECISION

REGARDING ENVIRONMENTAL IMPACT ASSESSMENT

No. 2-2/2024

Under Art. 94, para. 1, item 4 and item 8, Art. 99, para. 2 and para. 3 of the Environmental Protection Act (EPA), Art. 19, para. 1 and para. 5 of the *Regulation on the conditions and procedure for carrying out an environmental impact assessment* (Regulation on EIA), §62 of the Transitional and Final Provisions to the Act to Amend and Supplement the Environmental Protection Act (promulgated in SG, No. 42 from 2022) and in connection with Art. 31, para. 1 and para. 4 of the *Biological Diversity Act* (BDA) and Art. 39, para. 12 and 13 of the *Regulation on the conditions and procedure for carrying out a compatibility assessment of plans, programmes, projects and investment proposals with the subject and objectives of the protection of special protection areas and special areas of conservation (SPA/SAC)*, (Regulation on Compatibility Assessment)

I HEREBY APPROVE

The implementation of an investment proposal for "**Improvement of the navigation conditions in the common Bulgarian-Romanian section of the Danube River**" – Fast Danube – for the Bulgarian section of the Danube River, **under Scenario 1**

Contracting authority: Executive Agency for Exploration and Maintenance of the Danube River
Headquarters: 7000 Ruse, 6 Slavyanska Street
Short description of the investment proposal:
The Fast Danube project proposes interventions to improve navigation on the Lower Danube between the Iron Gate II and Chiciu - Silistra. The project covers a total distance of 488 km, from rkm 863 to rkm 375 (the kilometre determines the distance of the river from the Black Sea) and includes the following water bodies:

- RORW14.1_B3 "Dunarea: Portite de Fier II – Chiciu" - km 863 - 374 in Romania;
- BG1DU000R001 "Dunav" – km 846 - 374 in the Republic of Bulgaria.

In the area, part of the scope of Fast Danube, a number of tributaries flow into the Danube River. From the Republic of Bulgaria these are Timok, Ogosta, Iskar, Vit, Yantra, and from Romania - Jiu, Olt, Arges.

Sofia, 1000, 22 "Knyagina Maria Luisa" Blvd
Phone: +359(2) 940 6194, Fax:+359(2) 986 25 33

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
Gârla Mare (rkm 839 - 837)	Vrav: rkm 841 - 842 (1 km)	• Geodetic surveying; • Engineering and geological mapping • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies); • Laboratory studies to determine the physico-mechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Salcia (rkm 824 - 820)		• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies and experimental filtration studies); • Laboratory studies to determine the physicomechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

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Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Bogdan Secian (rkm 786-782)	Dunavtsi: - rkm 781,5-782,5 (1 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Dobrina (rkm 762 - 756)	Orsoya: - rkm 752 - 758 (6 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies, elastometry, experimental filtration studies); • Laboratory studies to determine the physicomechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

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Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Bechet (rkm 678 - 673)	Northern bank of Pireto Island: - rkm 669.5 - 672.5 (3 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies, elastimetry, experimental filtration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

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Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Corabia (rkm 632 - 626)	Zagrazhden: - rkm 624,5 - 625 (0.5 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Belene (rkm 577-560)	- rkm 559 - 561 (2 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting field tests (penetration studies, experimental filtration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Vardim (rkm 542-539)	- rkm 539.2 - 540 (0.8 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Yantra (rkm 537 - 534)		• Geodetic surveying; • Engineering and geological mapping; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Batin (rkm 530 - 520)	- rkm 524 - 528 (4 km) - rkm 520 - 523,5 (1.5 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies, elastimetry, experimental filtration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in basic and special load combinations and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Kosui (rkm 428 - 423)		• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting field tests (penetration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Research activities for the next stage of the project

Co-funded by the European Union

Critical point	Km range of the exploration activities	Research activities for the next stage of the project
CP Popina (rkm 408 - 401)	rkm 408 - 403,90 (4.1 km) rkm 400 - 401,80 (1.8 km)	• Geodetic surveying; • Engineering and geological mapping; • Conducting exploratory drillings; • Conducting geophysical surveys; • Conducting field tests (penetration studies); • Laboratory studies to determine the physical and mechanical properties of engineering and geological varieties; • Assessment of the stability of slope sections in a basic and special combination of loading and predictive analysis for changes in stability during project implementation; • Hydrographic measurements and riverbed models; • Construction of a control and measurement system and regular monitoring activities.

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Mitigating measures

Co-funded by the European Union

Measure code	Measures
M1	*For the implementation of the project, an **Environmental Management Plan** (EMP) should be developed, which details all measures to avoid and reduce the impact.*
M2	*At the start of an activity, an inspection is carried out by a team of biodiversity experts in order to assess the presence of conservation-significant species in the area and to **confirm that all measures have been taken to avoid or reduce the impact on these species**, including relocation operations (when applicable). It is recommended that the presence of experts be ensured throughout the entire period of activity implementation.*
M3	*In order to mitigate the risk of pollution of the Danube River, a **Pollution Prevention and Response Plan** will be developed and implemented during both the construction and operational phases. The implementation of this plan will be guided by a comprehensive monitoring program, which will outline the necessary activities to prevent contamination of the river's waters.*

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Mitigating measures

Measure code	Measures
M7	*If hazardous substances (such as oils or petroleum products) are stored within the construction site setup, **floating protective barriers** must be installed around the site **to prevent water pollution** resulting from potential leaks of hazardous materials from equipment located on-site.*
M10	*With the exception of works at the critical point Bechet (bank reinforcement, groynes, and deforestation), the critical point Popina (groynes, chevrons, and deforestation), the critical point Belene (chevrons, groynes, bank reinforcement, and deforestation), and the designated deposition zones located on the islands at the critical points of Corabia, Vardim, and Kosui, **the project owner shall not undertake any other permanent interventions that could result in the loss of habitat areas or species habitats subject to protection within the Natura 2000 sites**, either during construction or operation phases, along the Danube riverbank in the vicinity of these critical points. This is to ensure that no further loss occurs of habitat type 92A0 or habitats of community-protected species (e.g., Lutra lutra, or nesting bird species along the riverbank).*

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Mitigating measures

Measure code	Measures
M11	*It is recommended to **limit or avoid the use of auditory warning devices**, such as horns, sirens, and similar equipment, by vessels involved in construction activities, workers, or any other project-related machinery during both the construction and operational phases. This measure aims to prevent disturbance or displacement of birds and mammals from the project area.*
M13	*In order to avoid a decline in fish population numbers due to mortality at sensitive developmental stages (eggs or juvenile specimens), **dredging activities should be avoided** during the period from March to the second half of July, which is considered a critical spawning period for fish.* *To prevent disturbance to breeding birds, dredging activities should also be avoided during the same period — from March to the second half of July — as this is a sensitive time for bird reproduction.*

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Thank you for your attention!

Claudiu Dutu - AFDJ Galati
Bozhidar Yankov - EAEMDR
24.04.2025, Sofia

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Improvement of Navigation Conditions
on the Romanian - Bulgarian Common Sector of the Danube

FAST DANUBE 2

Co-funded by the
European Union

Mihaela IRIMIA - AFDJ Galati
Ivelin ZANEV - EAEMDR

24.04.2025, Sofia

General information

Project name:
Improvement of Navigation Conditions on the Romanian Bulgarian Common Sector of the Danube
Acronym: **FAST Danube 2**

Project partners:

Romania:



- River Administration of the Lower Danube Galati – AFDJ Galati - Lead partner

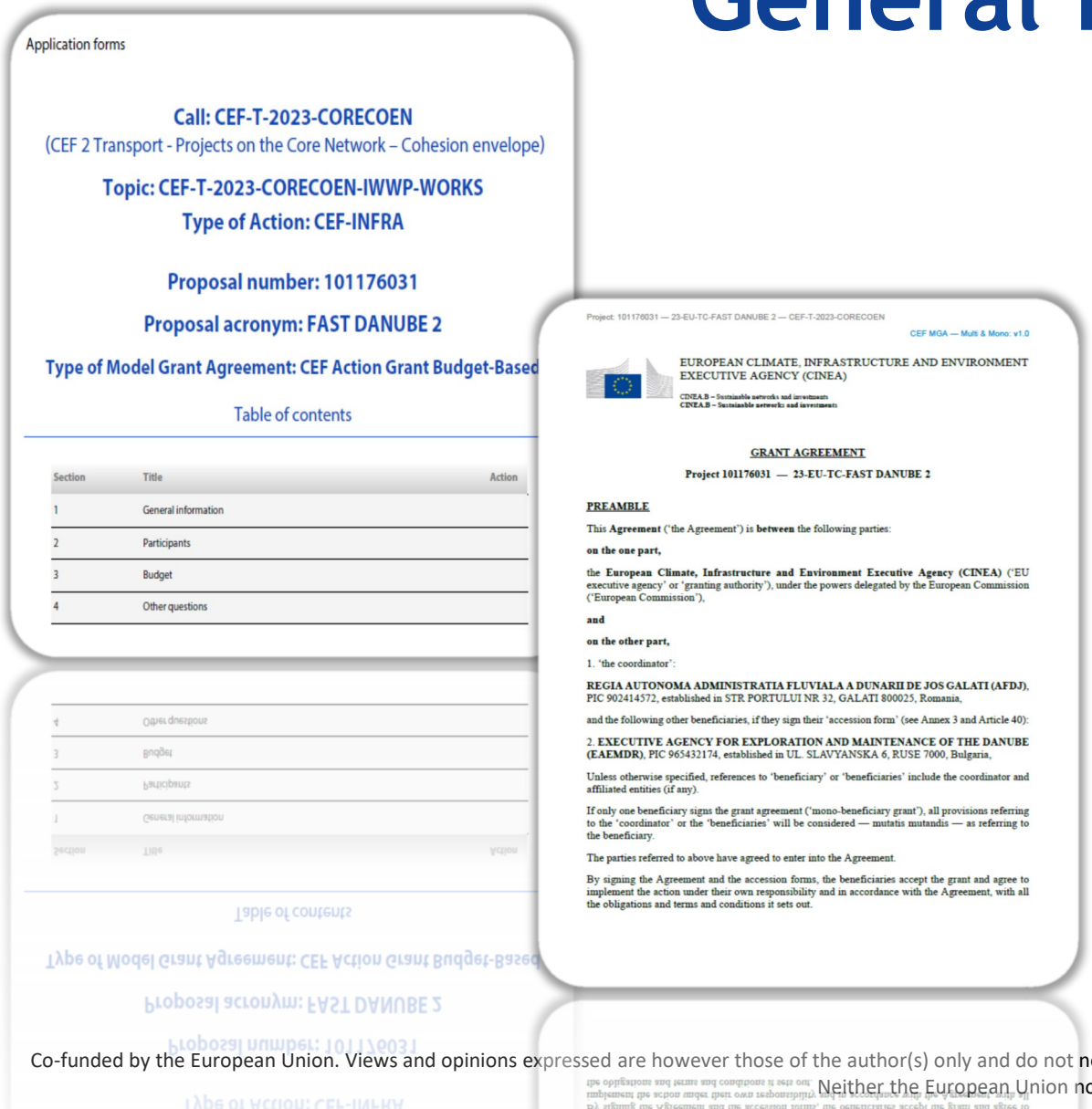
Bulgaria:



- Executive Agency for exploration and maintenance of the Danube river - EAEMDR Ruse - Partner;
- Ministry of Transport and Communications - Affiliated partner.

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General information


Application forms

Call: CEF-T-2023-CORECOEN
(CEF 2 Transport - Projects on the Core Network – Cohesion envelope)

Topic: CEF-T-2023-CORECOEN-IWWP-WORKS
Type of Action: CEF-INFRA

Proposal number: 101176031

Proposal acronym: FAST DANUBE 2

Type of Model Grant Agreement: CEF Action Grant Budget-Based

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Section	Title	Action
1	General information	
2	Participants	
3	Budget	
4	Other questions	

Project: 101176031 — 23-EU-TC-FAST DANUBE 2 — CEF-T-2023-CORECOEN

CEF MGA — Multi & Mono: v1.0

EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

CINEA.B – Sustainable networks and investments
CINEA.B – Sustainable networks and investments

GRANT AGREEMENT

Project 101176031 — 23-EU-TC-FAST DANUBE 2

PREAMBLE

This **Agreement** ('the Agreement') is **between** the following parties:

on the one part,

the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and

on the other part,

1. 'the coordinator':

REGIA AUTONOMA ADMINISTRATIA FLUVIALA A DUNARII DE JOS GALATI (AFDJ), PIC 902414572, established in STR. PORTULUI NR 32, GALATI 800025, Romania,

and the following other beneficiaries, if they sign their 'accession form' (see Annex 3 and Article 40):

2. **EXECUTIVE AGENCY FOR EXPLORATION AND MAINTENANCE OF THE DANUBE (EAEMDR)**, PIC 965432174, established in UL. SLAVYANSKA 6, RUSE 7000, Bulgaria,

Unless otherwise specified, references to 'beneficiary' or 'beneficiaries' include the coordinator and affiliated entities (if any).

If only one beneficiary signs the grant agreement ('mono-beneficiary grant'), all provisions referring to the 'coordinator' or the 'beneficiaries' will be considered — mutatis mutandis — as referring to the beneficiary.

The parties referred to above have agreed to enter into the Agreement.

By signing the Agreement and the accession forms, the beneficiaries accept the grant and agree to implement the action under their own responsibility and in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

Application Form (submitted): 30.01.2024

Grant agreement (signed): 10.10.2024

Budget: approximately 230 mil. EURO

CEF funding 85 %.

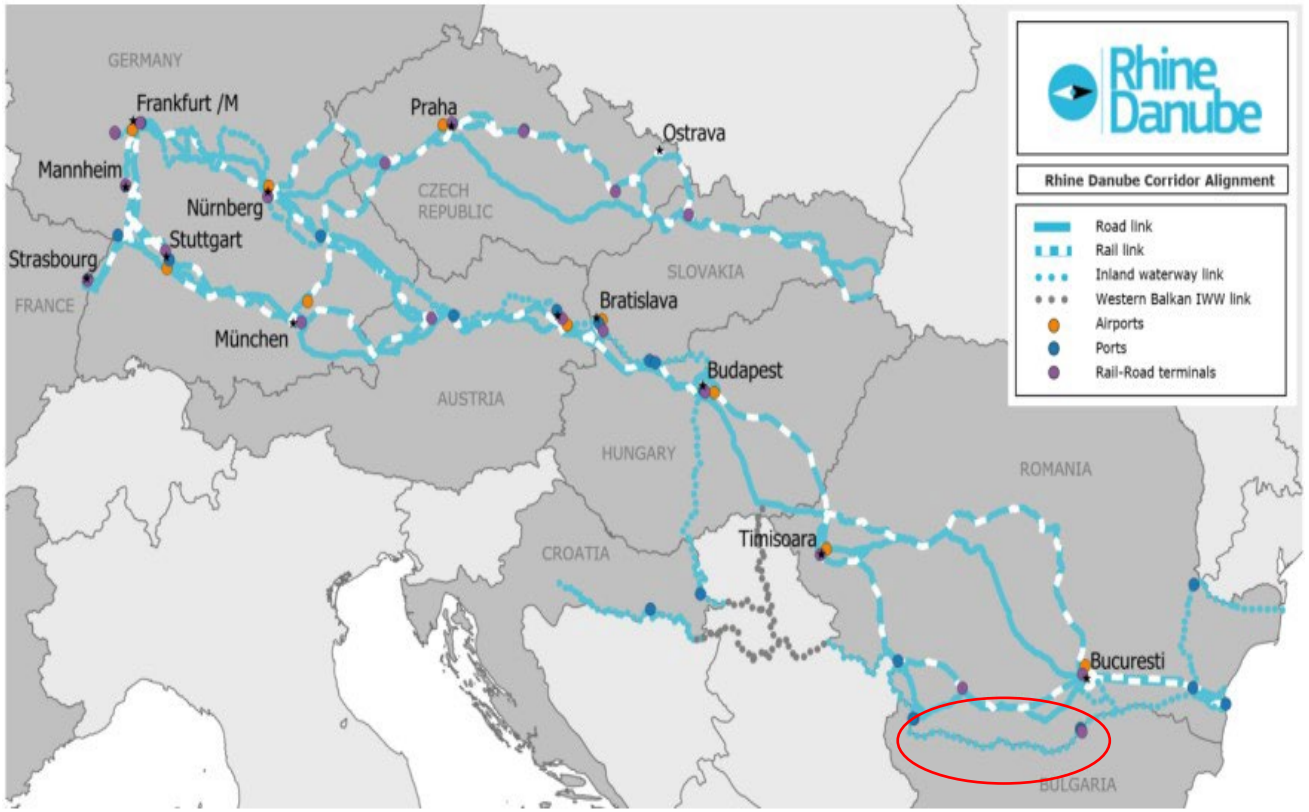
Project duration: 01.04.2024 – 31.12.2028

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Co-funded by the European Union

General information

The Romanian-Bulgarian common sector is the longest cross border sector of the Danube, around 470 km, where the minimum fairway parameters according to Danube Commission recommendations are not met all year around, even if an important effort is done for the fairway maintenance and, therefore, the works for ensuring a 'Good Navigation Status' are necessary.



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GOALS & OBJECTIVES



Co-funded by the European Union

FAST DANUBE 2 goals:

Implement a strategy to improve navigation based on:

- Increasing **traffic safety**;
- Increasing **the number of days per year during which the minimum conditions are provided** for navigation traffic through the Rhine – Danube corridor. The target increase in usage is from a current level of 280 days to 340 days/year.
- Increasing the total goods transported; to be targeted as a **20% increase in traffic** compared with 2014 usage levels; presumably measured in tonnage.

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GOALS & OBJECTIVES



Co-funded by the European Union

The FAST DANUBE 2 Project aims the **improvement of the navigation conditions on the Romanian - Bulgarian common sector of the Danube, from km 845 to km 375**, by ensuring the fairway parameters over a minimum period of **340 days/year**.

The improved condition of the fairway is expected to **increase the attractiveness of the waterborne transport**, with positive effects from climate change and sustainable development perspectives.

The project is expected to multiply the benefits at corridor level and to bring **advantages for all the riparian States and for the EU**.

Therefore, the core objectives of the project include enhancing navigation conditions, eliminating navigational blockages, ensuring year-round navigability, and boosting connectivity between TEN-T network points.

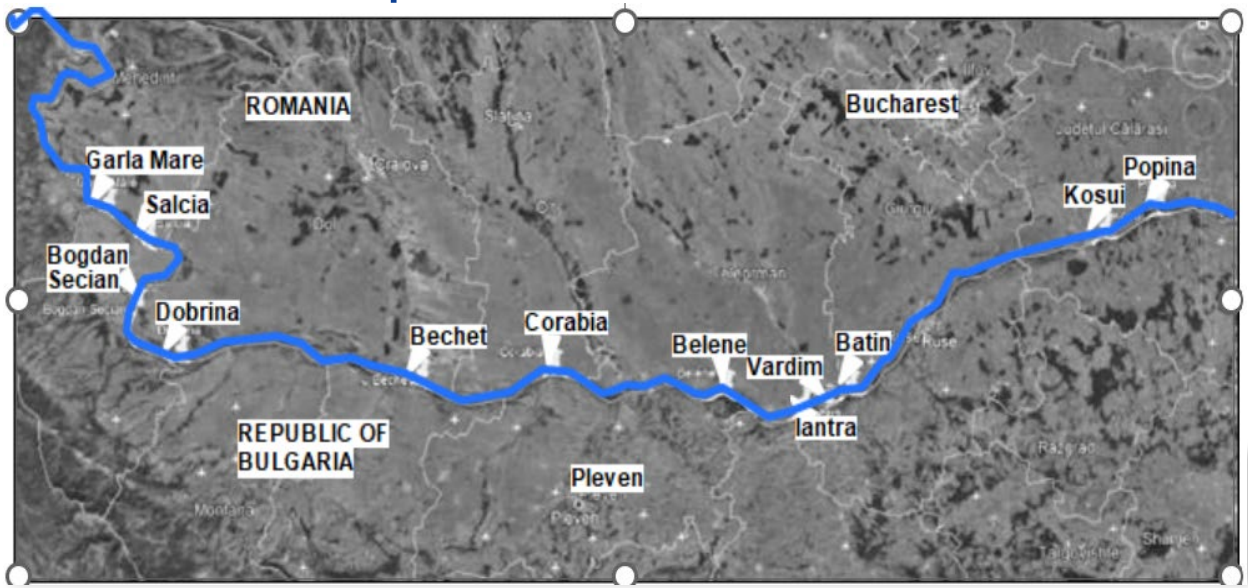
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The Project consists in design and execution of works in 12 critical areas along the Danube sector, accompanied by supervision services and environmental monitoring services in accordance with the requirement of the Environment Protection responsible bodies.





The 12 critical areas are equally distributed on Romania and Bulgaria territories.

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Work Packages

WP1 Project Management, Communication and Dissemination

- T1.1 - Project Management
- T1.2 - Communication & Dissemination

WP2 Design of Works

- T 2.1 Procurement Procedure for design and works
- T 2.2 Design of the works
- T 2.3 Environmental offsetting/ Compensation
- T 2.4 Designer Assistance during the Construction

WP3 Execution of Works

- T 3.1 Dredging Works
- T 3.2 River Training Works - Belene Area
- T 3.3 River Training Works - Bechet Area
- T 3.4 River Training Works - Popina Area

WP4 Supervision and management of works

- T4.1 Procurement procedure
- T4.2 Supervision and management of works

WP5 Environmental Monitoring

- T5.1 - Procurement procedure
- T5.2 - Environment Monitoring Services

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WP1
Project Management, Communication and Dissemination

T1.1 - Project Management

T1.2 - Communication & Dissemination



Objectives

Ensuring the project implementation in accordance with the strategic objectives

Ensuring the compliance of the expenditures with the provisions of the Grant Agreement, public procurement contract and national legislation

Ensuring the compliance with the Grant Agreement requirements in terms of reporting and any other obligation of the Beneficiary

Ensuring the visibility of CEF financing as well as of the results achieved by implementation of the project

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WP1
Project Management, Communication and Dissemination



T1.1 - Project Management

T1.2 - Communication & Dissemination

The Task covers all project management activities required to realize the project and to ensure overall coherence making use of the established management structure. It includes structuring and monitoring of the project schedule in line with the Grant Agreement.

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WP2
Design of Works

T 2.1 Procurement Procedure for design and works

T 2.2 Design of the works

T 2.3 Environmental offsetting/ Compensation

T 2.4 Designer Assistance during the Construction

- Successfully tendering and contracting of the design and execution of works, in accordance with the Romanian procurement legislation (EU Directive 25/2014). A joint procurement procedure will be conducted based on a common procurement agreement to be signed between the project parties;
- Successful completion of the additional site investigations and numerical and physical modelling;
- Compliance of the design documentation with the options and solutions approved at the feasibility stage and with the project approval requirements;
- Ensuring any necessary modification/ detailing/ reauthorization etc. during the construction period.

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WP2
Design of Works

T 2.1 Procurement Procedure for design and works

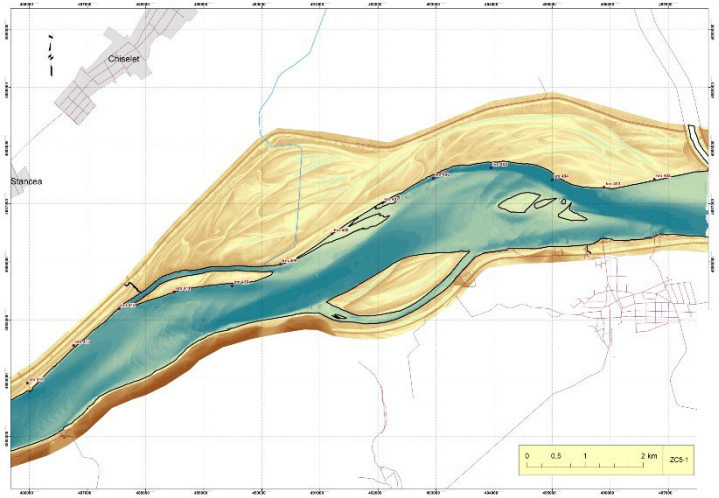
T 2.2 Design of the works

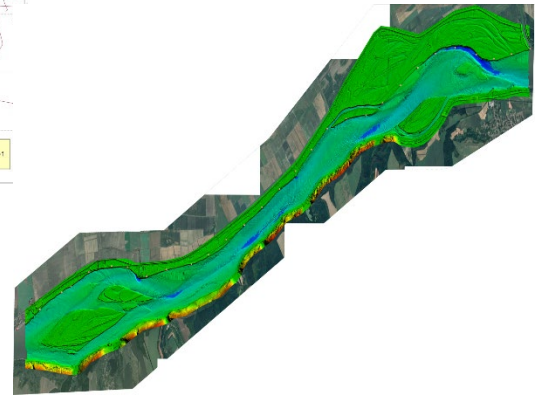
T 2.3 Environmental offsetting/ Compensation

T 2.4 Designer Assistance during the Construction

The following measurements will be carried out:

- bathymetric
- hydrodynamic
- geotechnical
- sediment measurements





Geotechnical investigations will be carried out to determine the physical and mechanical characteristics of the banks and bed of the Danube, for the locations where engineering structures will be built and for the identification and dimensioning of landslides and bank erosion.

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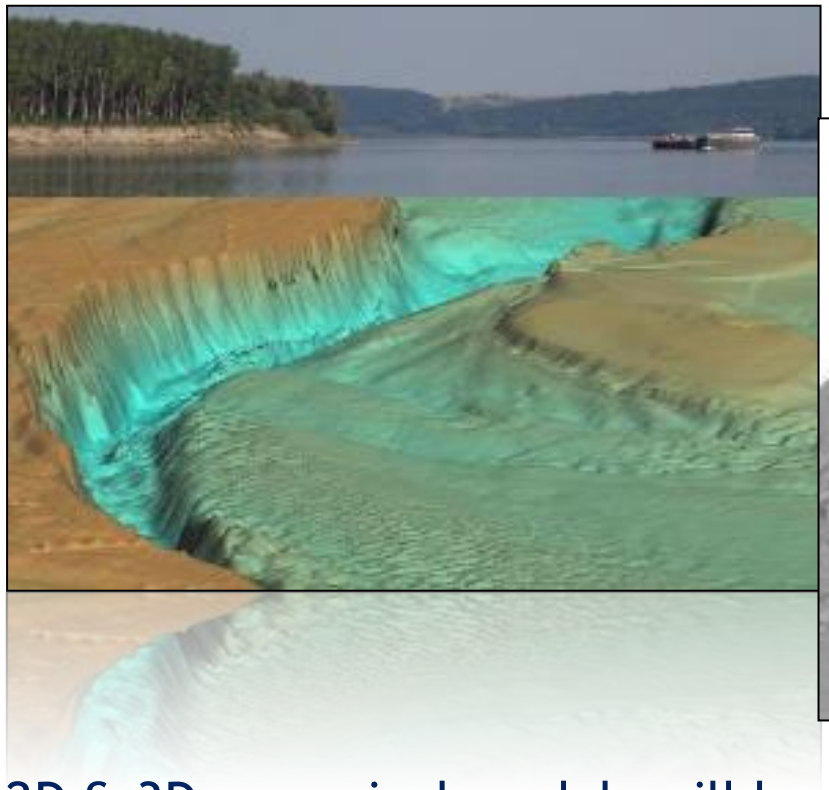
WP2
Design of Works

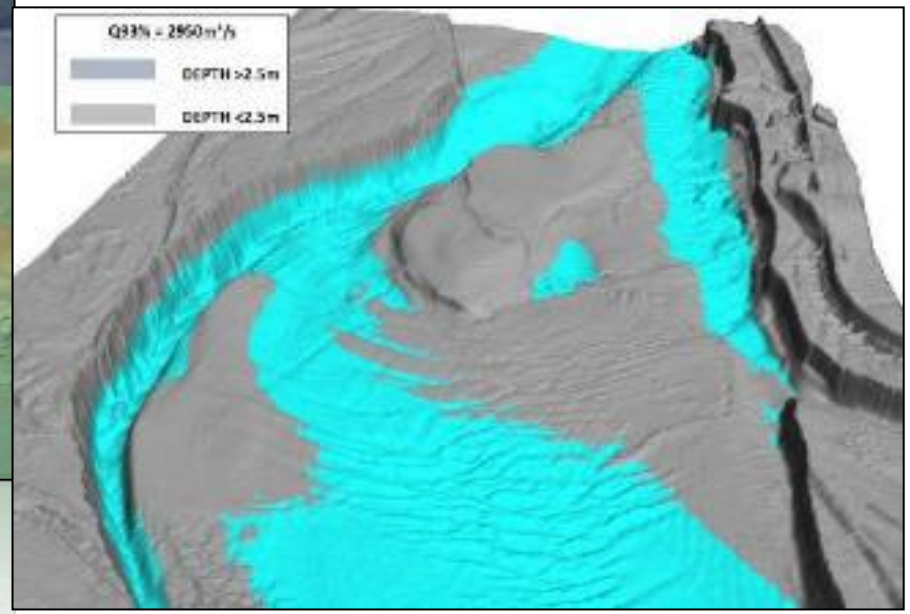
T 2.1 Procurement Procedure for design and works

T 2.2 Design of the works

T 2.3 Environmental offsetting/ Compensation

T 2.4 Designer Assistance during the Construction





2D & 3D numerical models will be developed

Following the development of the detailed technical project, steps will be taken to obtain building permits from both the Romanian and Bulgarian authorities.

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WP3
Execution of Works

T 3.1 Dredging Works

T 3.2 River Training Works - Belene Area

T 3.3 River Training Works - Bechet Area

T 3.4 River Training Works - Popina Area

- Completion of Contractor's site organization, including the mobilization of the necessary equipment;
- Completion of capital dredging in 12 locations in Romania and Bulgaria;
- Completion of hydrotechnical works in 3 locations in Romania and Bulgaria;
- Achieving the expected technical characteristics of works, as well as the expected performance in terms of navigation and environmental protection.

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Works for improvement of the fairway condition:

- ***Dredging works*** in 12 critical locations (110 km in total);
- ***Bank stabilization*** in 3 locations (5.45 km in total);
- ***Groynes*** for limiting the movement of sediments, in 3 critical locations
  (Belene, Bechet, Popina – 2.6 km in total);
- ***Chevrons*** to modify the hydraulic flow and sediment response of the river, in 3 critical locations
  (Belene, Bechet, Popina – 1.9 km);
- ***Artificial Island*** to modify the hydraulic flow and sediment response of the river along the envisaged sector (1.2 million cubic meters).







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What we do

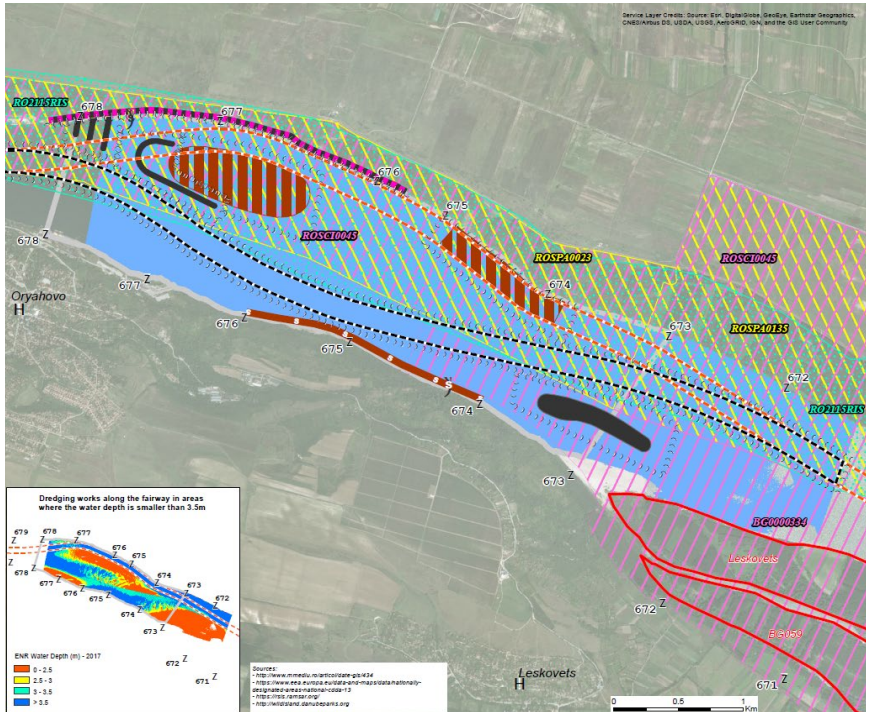
- Capital dredging works in all 12 critical locations, of up to 3.5m depth below ENR are proposed across the width of 180m on the existing fairway route or, in some cases, on a realigned fairway route, adapted to the natural evolution of the river in that section. Dredged material will be disposed of in special designated disposal areas, subject to authorities' approval. The locations carefully chosen giving regards to the existing environment and to naturally integrate with the characteristics of the flow and the riverbed morphology.

- River training structures: in 3 critical locations: Bechet, Belene, Popina

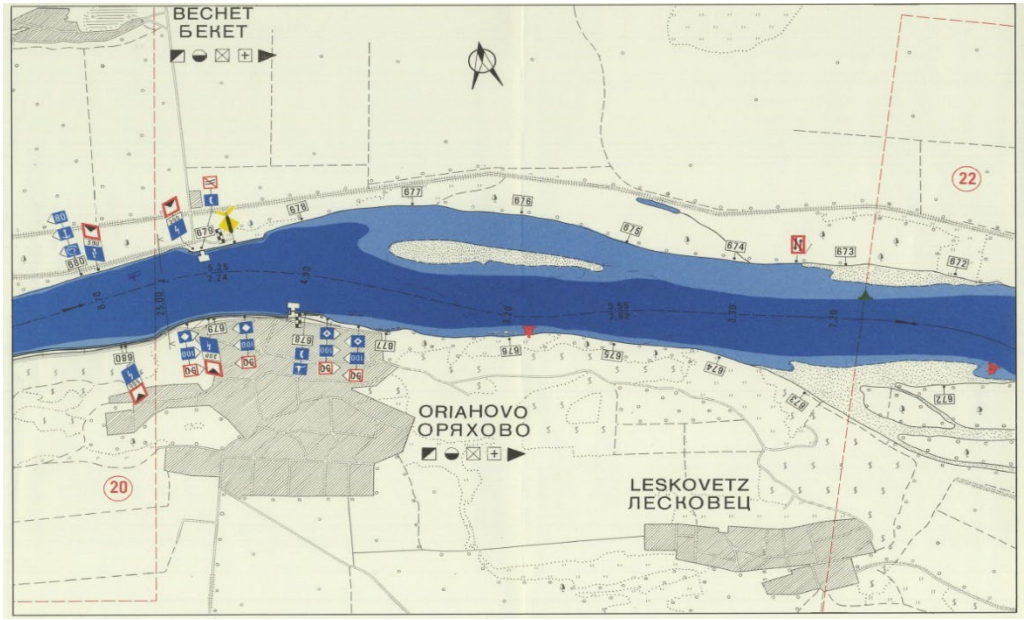
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BECHET - Critical point

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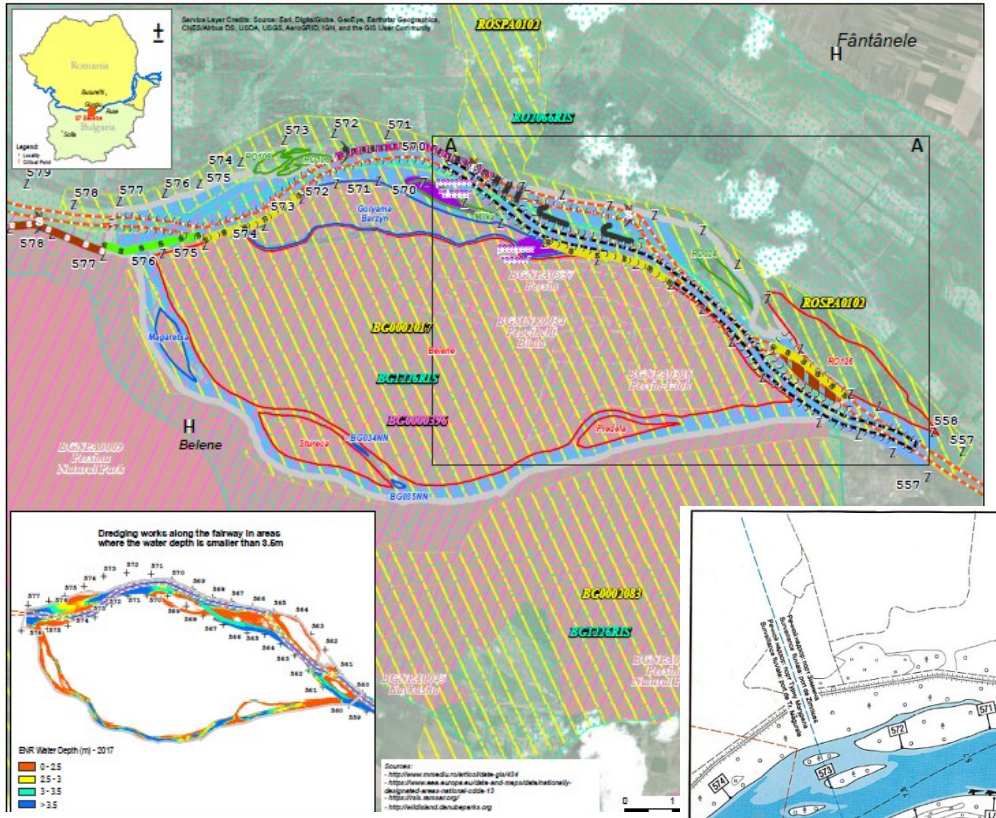
- Three groynes on Romanian bank
- Chevron (U-shaped dike)
- Artificial island by building a protection 'nose' (u-shaped type structure)
- Bank protection on Romanian side

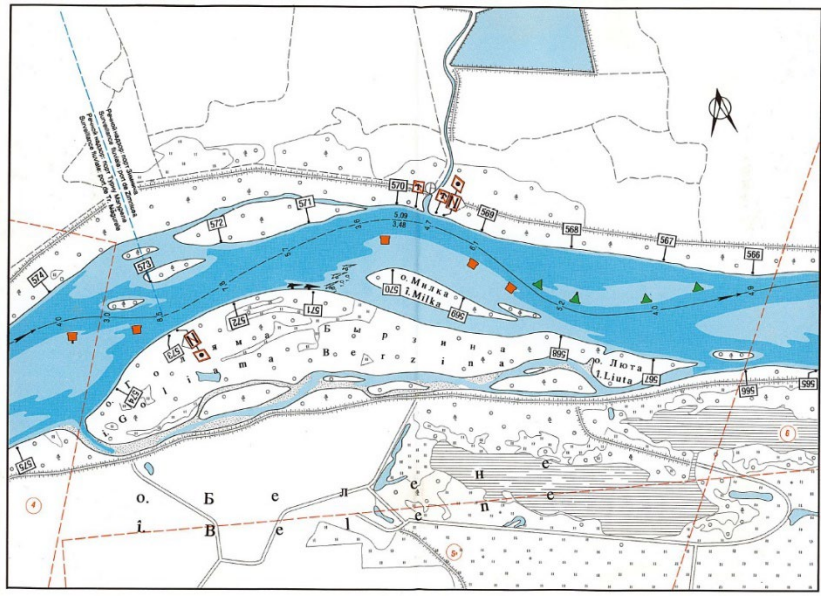


Fairway realignment over ~7.4 km to reinstate the fairway trajectory

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BELENE - Critical point





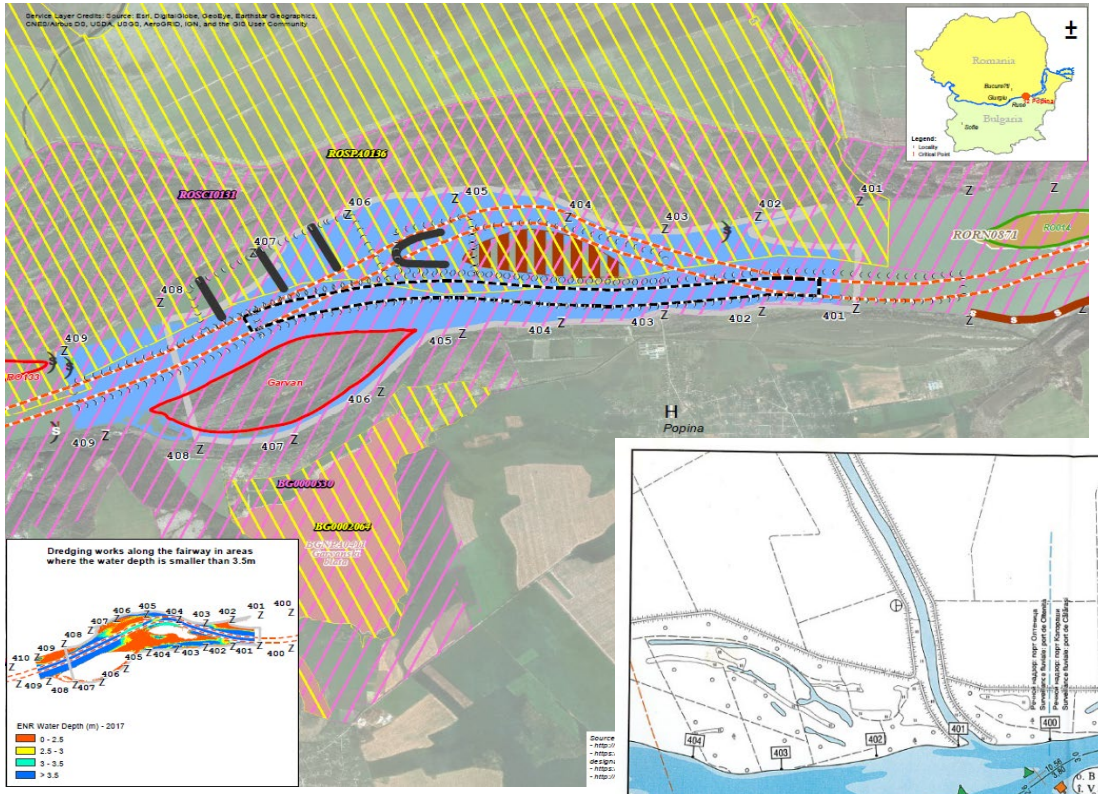
- Three groynes on Romanian bank
- Two chevrons
- Bank protection on Romanian side

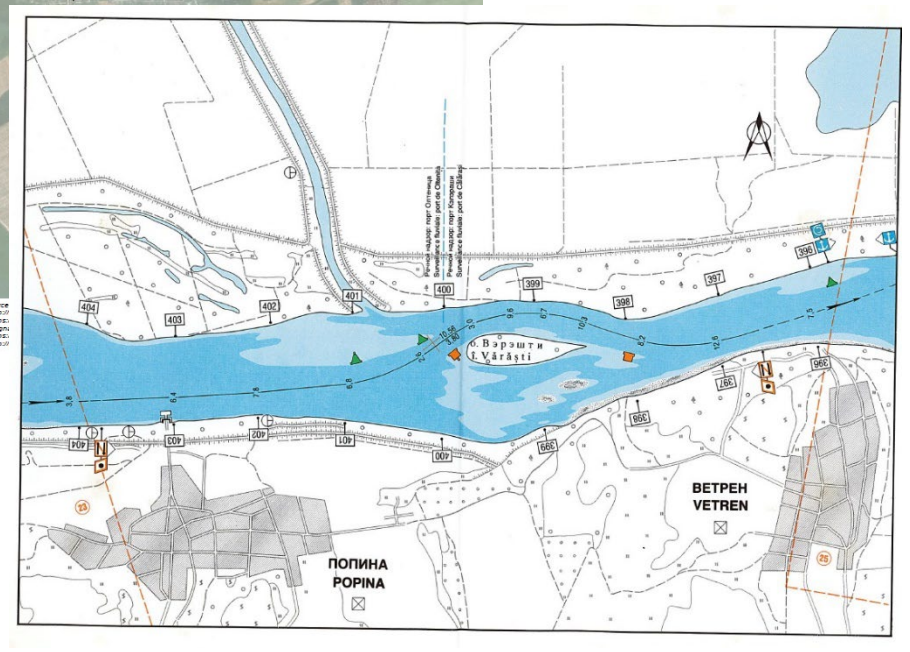
Realignment of fairway in two areas from:

- km569 to 564;
- km561.5 to 556.7.

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POPINA - Critical point





- Three groynes on Romanian bank from km407.5 to km 406.5
- One chevron upstream of km405
- Realignment of fairway from km 407.5 to 401

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WP4
Supervision and management of works

T4.1 Procurement procedure

T4.2 Supervision and management of works

- Ensuring the **professional supervision and verification of the design documentation** developed by the Contractor (including site investigation reports, modelling reports, documentation for permits and authorization). A joint procurement procedure will be conducted based on a common procurement agreement to be signed between the project parties;
- Ensuring the **permanent supervision of works on site**, including quality and quantity supervision;



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WP5 Environmental Monitoring

T5.1 - Procurement procedure

T5.2 - Environment Monitoring Services

- **Detailed planning of environmental monitoring**, in accordance with the provisions of the Environmental Permit. The award of the Environmental monitoring contract will be as a result of a joint procurement procedure, based on a common procurement agreement signed between the parties;
- **Assessing the status of the environmental factors** (biotics and non-biotics factors) by defining a set of relevant indicators to be monitored during the execution of works and after their completion;
- **Monitoring and reporting the impact of works on the environmental factors**, in accordance with the provisions of the Detailed Monitoring Plan as agreed with the Environment Protection Agency (Romania) and the Ministry of Environment and Water (Bulgaria);
- **Monitoring and reporting the impact of works at their completion**, assessing also the residual impact of the works; the monitoring period after the completion of works will be established through the Environmental Permit.

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What we do

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WP5 Environmental Monitoring

T5.1 - Procurement procedure

T5.2 - Environment Monitoring Services

Will be monitored:

- River morphology
- Hydrodynamic parameters of the water flow
- Sediment characteristics
- Geotechnical parameters for the Danube riverbed and banks
- Physico-chemical parameters: water turbidity, oxygenation conditions, nutrients.
- Specific non-synthetic pollutants - metals: Cu, Zn, As, Cr.

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What we do

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WP5 Environmental Monitoring

T5.1 - Procurement procedure

T5.2 - Environment Monitoring Services

Will be monitored:

- Biological parameters: phytoplankton, phytobenthos, macrophytes, benthic invertebrate fauna, etc.
- Chemical parameters: Hg, Pb, Ni, Cd
- Parameters of biodiversity potentially affected by works to improve navigation conditions

In according with the Environmental Permits issued in Romania and with the Environmental Decision issued in Republic of Bulgaria, the monitoring program will be carried out 2 years before the start of the works, during the execution of the works (2 years) and 3 years after the works for the environmental factors without biodiversity and 5 years for biodiversity

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Thank you for your attention!

Mihaela IRIMIA - AFDJ Galati
Ivelin ZANEV - EAEMDR
24.04.2025, Sofia

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Discussion and Q&A



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Thank you for your participation in the FAST Danube 2 Kick-off meeting!

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