The State Water Holding Polish Waters
Regional Water Management Authority in Rzeszów

ENVIRONMENTAL MANAGEMENT PLAN

FINAL VERSION

ODRA RIVER BASIN FLOOD PROTECTION PROJECT
Loan Agreement no. 8524 PL

Environmental category B – in accordance with WB OP 4.01

Component 3:

Flood protection of the Upper Vistula

Subcomponent 3D:

Passive and active protection in San basin

Works Contract 3D.3

Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce

Issue	*Date*	*Authors*	*Reviewer*	*Client's approval*	*Description*
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ODRA-VISTULA FLOOD MANAGEMENT PROJECT

co-financed by:

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State Budget

ENVIRONMENTAL MANAGEMENT PLAN

Component 3: Flood protection of the Upper Vistula

Subcomponent 3D: Passive and active protection in San basin

Works Contract 3D.3: *Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce*

Environmental category B – in accordance with WB OP 4.01

Project Implementation Unit:

State Water Holding Polish Waters represented by the Director of the Regional Water Management Authority in Rzeszów with office at 17B Hanasiewicza Street, 35-103 Rzeszów

The document prepared by:

State Water Holding Polish Waters represented by the Director of Regional Water Management Authority in Rzeszów OVFM PIO

AECOM Polska Sp. z o.o. The Technical Assistance Consultant

Rzeszów – November 2020

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LIST OF BASIC DEFINITIONS AND ABBREVIATIONS APPLIED IN THIS EMP NAME

Name	Description
World Bank (WB)	International Bank for Reconstruction and Development http://www.worldbank.org/
H&S	Health and Safety
PCU / OVFM PCU	Odra-Vistula Flood Management Project Coordination Unit http://odrapcu2019.odrapcu.pl/
CEB	Council of Europe Development Bank https://coebank.org/en/
Environmental Decision (WD)	Decision on environmental conditions
EHS Guidelines	World Bank Group Environmental, Health, and Safety Guidelines https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/
ES/ES Policy	The Environmental and Social World Bank Policy – ES, concerning environmental and social issues (i.e. in the scope of the environmental protection, health and safety at work and of the social issues, including gender equality, protection of minors, protection of particularly vulnerable people (including the disabled), sexual harassment, sexual violence, awareness and prevention of HIV/AIDS)
ESMF	Environmental and Social Management Framework http://www.odrapcu.pl/doc/OVFMP/Ramowy_Plan_Zarządzania_Srodowiskiem_i_Społeczenstwem.pdf
GDOŚ	General Directorate for Environmental Protection
MGR	Major Groundwater Reservoirs
CI	Contract Engineer
IMGW-PIB	Institute of Meteorology and Water Management National Research Institute
BSW	Body of Surface Water
BGW	Body of Groundwater
PIO	Project Implementation Office – created within PIU separate organizational unit responsible for the implementation of Works Contract
PIU / OVFM PIU	OVFM Project Implementation Unit

Name	Description
PIU / Investor / Employer (to December 31, 2017)	Podkarpackie Board for Amelioration and Hydraulic Structures in Rzeszów
PIU / Investor / Employer (from January 1, 2018)	State Water Holding Polish Waters in Warsaw, represented by the Director of Regional Water Management Authority in Rzeszów / OVFM Project Implementation Unit
Consultant/Engineer/Contract Engineer	Company or legal person providing services for the Investor Technical Assistance Consultant for the OVFM Project – AECOM Polska Sp. z o.o.
Contract / Contract 3D.3 / Works Contract / Works Contract 3D.3	Contract 3D.3 *Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce*
KZGW	National Water Management Authority
LSDP	Local Spatial Development Plan
EIA	Environmental Impact Assessment
PAD	Project Appraisal Document for the World Bank approval of a Loan to the Polish Government to implement OVFMP http://documents.worldbank.org/curated/en/2015/07/24763021/poland-odra-vistula-flood-management-project
Waste MP	Waste Management Plan
PGW WP	State Water Holding Polish Waters
BIOZ Plan	Health and Safety Plan developed based upon Article 21a item 4 of the Act of July 7, 1994 – Building Law Act
POM	Project Operations Manual prepared by the Odra Vistula Flood Management Project Coordination Unit, Wroclaw 2015 http://www.odrapcu.pl/doc/POM_PL.pdf the binding version is the English one: http://www.odrapcu.pl/doc/POM_ENG.pdf
LA&RAP	Land Acquisition and Resettlement Action Plan
Project / OVFMP / OVFM Project	Odra-Vistula Flood Management Project
Designer	Company or a legal person drawing up the design documentation
PZMiUW	Podkarpackie Board for Amelioration and Hydraulic Structures in Rzeszów
EMP	Environmental Management Plan
RDOŚ	Regional Directorate for Environmental Protection
RZGW	Regional Water Management Authority

Name	Description
DQAP / SPZJ	Detailed Quality Assurance Plan
Epidemic state	Legal situation introduced in a given area in connection with the occurrence of an epidemic, in order to undertake anti-epidemic and preventive actions to minimize the effects of an epidemic as specified in the Act on combating infectious diseases
Epidemic risk state	Legal situation introduced in a given area in connection with the risk of occurrence of an epidemic, in order to undertake anti-epidemic actions as specified in the Act on combating infectious diseases
WIOŚ	Provincial Inspectorate for Environmental Protection
Contractor	Company or a legal person implementing the Works Contract 3D.3
Roads authority	Agency responsible for management of public roads in accordance with the Act on public roads

LIST OF ABBREVIATED TITLES OF LEGAL ACTS APPLIED IN THIS EMP

Titles, publication reference and abbreviated titles of legal acts quoted within contents of this EMP are given in the table below.

Abbreviated title	Full title (with publication reference)
CC	The Act of April 23, 1964 Civil Code (consolidated text: OJ of 2019, item no. 1145 as amended)
PC	The Act of June 6, 1997 Penal Code (consolidated text: OJ of 2020, item no. 1444)
LC	The Act of June 26, 1974 Labor Code (consolidated text: OJ of 2020, item no. 1320)
APC	The Act of June 14, 1960 Code of Administrative Procedure (consolidated text: OJ of 2020, item no. 256 as amended)
BIOZ Regulation	Regulation of the Minister of Infrastructure of June 23, 2003 on Information Concerning Safety and Health Protection and Safety and Health Protection Plan (Journal of Laws of 2003, No.120, item 1126)
Regulation on the protection of fungi species	Regulation of the Minister of Environment of October 9, 2014 on the protection of fungi species (OJ of 2014, item no. 1408)
Regulation on the protection of plant species	Regulation of the Minister of Environment of October 9, 2014 on the protection of plant species (OJ of 2014, item no. 1409)
Regulation on the protection of animal species	Regulation of the Minister of Environment of December 16, 2016 on the protection of animal species (OJ of 2016, item no. 2183)
EIA Regulation	Regulation of the Council of Ministers of September 10, 2019 on the investment that may significantly affect the environment (consolidated text: OJ of 2019, item no. 1839)
Water MP	Regulation of the Council of Ministers of October 18, 2016 on Water Management Plan for waters within the Vistula River Basin (Journal of Laws 2016, item 1911)
Noise level Regulation	Regulation of the Minister of Environment of June 14, 2007 on admissible noise levels in the environment (consolidated text: OJ of 2014, item no. 112)
Regulation on works prohibited for juveniles	Regulation of the Council of Ministers of August 24, 2004 on the list of prohibited work for juveniles and the conditions for their employment in some of these works (consolidated text: OJ of 2016, item no. 1509)
APC	The Act of March 21, 1985 on the public roads (consolidated text: OJ of 2020, item no. 470 as amended)

Abbreviated title	Full title (with publication reference)
EPI Act	The Act of July 20, 1991 on the Environmental Protection Inspectorate (consolidated text: OJ of 2020, item no. 995 as amended)
Waste Act	The Act of December 14, 2012 on the waste (consolidated text: OJ of 2020, item no. 797 as amended)
EIA Act	Act of October 3, 2008 on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments (consolidated text: OJ of 2020, item no. 283 as amended)
NP Act	Act of April 16, 2004 on the nature protection (consolidated text: OJ of 2020, item no. 55 as amended)
Act on heritage protection	The Act of July 23, 2003 on the protection of heritage and on the care for heritage (consolidated text: OJ of 2020, item no. 282 as amended)
Act on combating infectious diseases	The Act of December 5, 2008 on preventing and combating infections and infectious diseases in humans (consolidated text: OJ of 2019, item no. 1239 as amended)
SLI Act	The Act of April 13, 2007 on the State Labour Inspectorate (consolidated text: OJ of 2019, item no. 1251)
SSI Act	The Act of March 14, 1985 on the State Sanitary Inspectorate (consolidated text: OJ of 2019, item no. 59 as amended)
EPL Act	The Act of April 27, 2001 Environmental Protection Law (consolidated text: OJ of 2020, item no. 1219 as amended)
Building Law Act	Act of July 7, 1994, Construction Law (consolidated text: OJ of 2020, item no. 1333)
Water Law Act	The Act of July 20, 2017 Water Law (consolidated text: OJ of 2020, item no. 310 as amended)
Equal Treatment Act	The Act of December 3, 2010 on implementation of some regulation of the European Union in reference to equal treatment (consolidated text: OJ of 2016, item no. 1219)
Damage Act	The Act of April 13, 2007 on preventing damages to the environment and their removal (consolidated text: OJ of 2019, item no. 1862 as amended)

Summary

This Environmental Management Plan (EMP) refers to Works Contract 3D.3 ***Łęg IV*** – *extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce*.

Contract 3D.3 remains a part of Subcomponent 3A implemented within *Odra-Vistula Flood Management Project* (OVFMP), co-financed by the International Bank for Reconstruction and Development (World Bank), and by the Council of Europe Development Bank, European Union Cohesion Fund, and by the State Budget.

This EMP includes the following elements:

- Brief description of the OVFM Project (Chapter 1.1);
- Description of Works Contract 3D.3, to which this EMP refers to (Chapter 2);
- Institutional, legal and administrative conditions for implementation of the aforementioned Contract with specified binding state legal acts on environmental protection, main stages of the EIA procedure, and also the current course of EIA procedure for the aforementioned Contract (Chapter 3);
- Description of individual elements of the environment in the area of the aforementioned Contract (Chapter 4);
- Summary of the environmental impact assessment (Chapter 5);
- Description of mitigation measures to eliminate or limit the adverse impact of the aforementioned Contract on the environment (Chapter 6), including a tabulated summary of those measures (Appendix 1 – Plan of mitigation measures);
- Description of environmental monitoring measures for the aforementioned Contract (Chapter 7), including a tabulated summary of those measures (Appendix 2 – Plan of monitoring measures);
- Description of the course of public consultations on particular stages of environmental documentation development for the aforementioned Contract (Chapter 8);
- Description of the organizational structure for implementation of the EMP (Chapter 9);
- Implementation schedule and description of reporting procedures (Chapter 10).

Appendices to this EMP include: a tabulated summary for the plan of mitigation measures (Appendix 1) and for the plan of monitoring measures (Appendix 2), the list of national legal acts related to environmental protection (Appendix 3), copies of decisions, resolutions, permits and / or notes referring to the environmental protection (Appendix 4) and graphical appendices, including: a map presenting location of the Contract (Appendix 5), a map with location of the Contract in reference to protected areas (Appendix 6), a map with location of the Contract in reference to areas under potential flood threat (Appendix 7), a map with location of the Contract in reference to areas excluded from the potential flood threat (Appendix 8), a map presenting location of the Contract in reference to natural habitats and protected species occurrence sites (Appendix 9), and a map with location of the Contracts' elements (Appendix 10).

Specificity of the Works Contract

The Works Contract 3D.3 refers to the extension of flood protection embankments of the estuarine section of the Łęg river - the left embankment at km 0+082-5+030 and the right embankment at km 0+000-5+236. The Contract will be executed in Podkarpackie Province, within the District of Tarnobrzeg, in the Commune of Gorzyce.

Scope of the Works Contract

The scope of Works Contract 3D.3 comprises the following elements:

- raising the existing crest of embankments;
- changing the geometry of the embankments' cross-section;
- compacting and sealing the body of embankments and their subsoil;
- reconstruction of flood protection infrastructure (in particular embankment sluices, abutments, ditches, culverts and embankment crossings, amelioration pumping station and outlet from the sewage treatment plant);
- construction of technological roads;
- redevelopment of the high-voltage overhead power line;
- redevelopment of the medium voltage overhead power line;
- development of the crest and slope of embankments.

Need to implement the Works Contracts

The implementation of Works Contract 3D.3 results from the necessary improvement of flood protection and the reduction of flood losses in the areas situated along the estuarine section of the Łęg river valley within the boundaries of the Gorzyce commune. The Contract 3D.3 is complementary to two other Works Contracts (3B.2 and 3D.1) executed by PGW WP RZGW in Rzeszów within the OVFM Project.

The works in question appear in item "ID 3_506_W" (item number: 1030) in List no. 1 Appendix no. 2 titled "*Investments that do not affect reaching the good status of water adversely or that do not deteriorate the status of water*" to the MasterPlan for the Vistula river-basin (2014)[1].

Institutional, legal and administrative conditions

The Works Contract 3D.3 is implemented in accordance with relevant state regulations on the environmental protection and in conformity with proper policies of the World Bank, while considering its characteristics, expected potential impact on the environment, and location in reference to the protected sites.

[1] See: description in the footnote in Chapter 1.

Status of administrative procedures for the EIA

In case of the Works Contract in question, in year 2017 the following administrative decision in the scope of environmental protection has been issued:

- Decision of the Regional Director for Environmental Protection in Rzeszów of August 18, 2017 on environmental conditions (ref.: WOOŚ.4233.4.2015.MG.65 – Appendix 4a to this EMP).

Current condition of the environment surrounding the Works Contract

As a result of works done to identify values of the natural and cultural environment, it has been identified that the implementation area for Works Contract 3D.3 and its neighborhood are characterized by the following environmental conditions:

- Implementation area for the aforementioned Works Contract is located within the boundaries of four Bodies of Surface Water (BSW), i.e. Łęg from Murynia to the estuary (RW200019219899), Strug (RW2000172198949), Sokolniki (RW2000172198929), Sanna (RW200017219898).
- Within the implementation area for the aforementioned Works Contract there are no Natura 2000 sites or other areas and objects under protection based upon the Act on the Nature Protection, while two Natura 2000 site - Lower San River Valley PLH180020 and Pieprzowe Mountains PLH260022 are located at a distance of less than 1 km from the borders of the investment area.
- The existence of five types of natural habitats listed in Appendix 1 of the Habitat Directive have been found in the implementation area of the aforementioned Contract and its direct neighborhood.
- Within the implementation area for the aforementioned Works Contract and in its close vicinity it was found that 2 species of protected plants, 1 species of protected mosses, and also 8 species of insects, 2 species of molluscs, 4 species of fish, 10 species of amphibians, 3 species of reptiles, 7 precious species of birds and several species of bats and other mammals subject to legal protection occur.
- No heritage protected based upon regulations on the protection of heritage and on the care for heritage is present within the implementation area for the aforementioned Works Contract. Within the implementation area for the aforementioned Works Contract there are 3 historic buildings, including one architectural monument entered into the register of monuments and two archaeological sites entered into the provincial register of monuments

Summary of the environmental impact assessment

Impact on land surface and landscape

Implementation of the project is associated with small acquisition of land and with local cutting of trees and bushes, but those are of a small scale and do not considerably affect the landscape adversely.

Impact on climate

Implementation of the planned Works Contract does not affect the condition of climate.

Impact on the quality of air

Impact of the planned Works Contract on the quality of air is limited in time to the construction stage and it is not significant.

Impact on soils and grounds

Implementation of the planned Works Contract is associated with a small permanent transformation of land surface (including soils and grounds) for the extension (in particular by widening) of the existing flood protection embankment, as well as with a potential possibility of contamination of the subbase on the construction stage. At the operational stage, project implementation shall not affect the condition of soils and grounds. If the conditions determined in Appendix 1 to the EMP would be met properly, project performance would not affect the condition of soils and grounds adversely.

Impact on surface water and groundwater

The execution of the planned Works Contract will not have a significant impact on the condition of surface water or groundwater. The planned reconstruction of hydrotechnical facilities and ditches being the tributaries of the Łęg river shall not affect the morphological continuity of the river, and shall also not affect water's hydromorphological, biological, and physical-chemical elements adversely. The performance of construction works is associated with a potential possibility of contaminating surface water and / or groundwater. If the planned mitigation measures determined in Appendix 1 to the EMP would be met properly, project performance would not affect the condition of soils and grounds adversely.

The impact on acoustic climate

Impact of the planned Works Contract on the acoustic climate is limited in time to the construction stage, and it is not significant.

Impact on biotic nature

Implementation of the planned Works Contract will cause small adverse impacts on 3 types of natural habitats, 1 protected species of plants and about 20 protected species of animals occurring on the area of planned works and their surroundings. Those impacts – resulting mainly from the necessary acquisition of land, traffic of vehicles and machines in the construction period, and cutting of trees and bushes – shall be considerably reduced due to the planned mitigation measures and they shall not have a significant impact on the state of resources of the above-mentioned habitats and species, even on a local scale. Project implementation does not affect significantly the condition of Natura 2000 sites or other protected areas.

Impact on cultural heritage and material goods

Implementation of the planned Works Contract does neither affect cultural heritage nor material goods adversely. The operational stage is associated with a positive impact on material goods, by improving the flood safety of areas located on the area beyond the embankment of the Łęg river.

Impact on health and safety of people

Implementation of the planned Works Contract does not generate significant hazards to health and safety of people. They may emerge only in case of a failure, catastrophes, or other random events (such as e.g. leakage of pollutions, fire, finding of unexploded shells and misfires, flood).

The EMP determines relevant conditions for prevention of such events and for mitigation of their potential effects. The investment's operation will contribute to a positive impact on health and safety of people and their assets, in terms of protection of people and their material goods against flooding during high water levels.

Other ES hazards

Regardless of the ones listed above, other ES related types of issues or hazards as accidents and near misses, cases of sexual harassment or mobbing, cases of labor law violation, cases of sexually transmitted diseases (including HIV/AIDS) or other infectious diseases (including those caused by coronaviruses, e.g. COVID-19), and others, may occur during implementation of the Works Contract. This EMP determines relevant conditions to prevent hazards of those types and to efficiently react to the cases of their occurrence.

Mitigation measures and monitoring measures

Chapters 6 and 7 of and Appendixes 1 and 2 to this EMP described and present – in a tabular form – a set of mitigation measures and monitoring measures to eliminate or limit adverse impact of the planned Works Contract on the environment, and to assure efficient implementation of the EMP's conditions. Those measures contain conditions determined in the binding decision on environmental conditions, as well as additional conditions provided on the stage of works on the EMP.

Social consultations

Chapter 8 of the EMP provides a relation of public consultations held under the EIA procedure for the planned Works Contract, including the following:

- Public consultations on the document titled *Environmental and Social Management Framework (ESMF)* for the OVFM Project (2015).
- Public consultations held on the stage of issuing the environmental decision for the assignment comprising the planned Works Contract (2015-2017).
- Public consultations for this Environmental Management Plan (2020).

1 Introduction

The present document presents the Environmental Management Plan (EMP) for the Works Contract 3D.3 ***Łęg IV*** *– extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce.*

The Works Contract 3D.3 remains a part of Subcomponent 3A implemented within *Odra-Vistula Flood Management Project* (OVFMP), co-financed by the International Bank for Reconstruction and Development (World Bank), and by the Council of Europe Development Bank, European Union Cohesion Fund, and by the State Budget.

In reference to the environmental screening described in the Environmental and Social Management Framework for the OVFM Project, the works in question appear in item "ID 3_506_W" (item number 030) in List no. 1 Appendix no. 2 titled *"Investments that do not affect reaching the good status of water adversely or that do not deteriorate the status of water"* to the MasterPlan for the Vistula river-basin (2014)[2].

1.1 Odra-Vistula Flood Management Project

The main objective of the OVFM Project is to protect people in flood plains within selected parts of river basins of the two greatest Polish Rivers – Vistula and Odra – against hazards caused by extreme floods. Implementation of the most urgent flood protection assignments was forecast within the framework of the OVFMP.

The OVFM Project consists of the following 5 Components:

- Component 1 – Flood Protection of the Middle and Lower Odra;
- Component 2 – Flood protection of the Nysa Kłodzka Valley;
- Component 3 – Flood Protection of the Upper Vistula;
- Component 4 – Institutional Strengthening and Enhanced Forecasting;
- Component 5 – Project Management and Studies.

[2] The MasterPlans for the Vistula River Basin and for the Odra River Basin remain a result of establishments made with the European Commission, which led to implementation of "*Action Plan for Strategic Planning in Water Management*" by Poland (resolution of the Council of Ministers of July 2, 2013, ref. no.: 118/2013).
The MasterPlans were an update to water management plans, since their previous update in 2015, and subsequently their results – in terms of investments, which affect or which may affect the status of water bodies – were transferred to the updated water management plans (adopted by the resolution of the Council of Ministers of October 18, 2016 [OJ item no. 1967]).

Component 3, under which the Works Contract being the subject of the EMP is being implemented, is divided into the following 4 Subcomponents:

- Subcomponent 3A – Flood Protection of Cracow and Wieliczka;
- Subcomponent 3B – Protection of Sandomierz and Tarnobrzeg;
- Subcomponent 3C – Passive and Active Protection in Raba Sub-basin;
- Subcomponent 3D – Passive and Active Protection in San Basin.

Detailed information on the Project may also be found in the Environmental and Social Management Framework published at e.g. websites of the World Bank[3] and of the Odra-Vistula Flood Management Project Coordination Unit[4]. A detailed description of the Project is also given in PAD[5] and in the Project Operations Manual[6].

[3] http://documents.worldbank.org/curated/en/717671468333613779/Poland-Odra-Vistula-Flood-Management-Project-environmental-and-social-management-framework

[4] http://odrapcu2019.odrapcu.pl/popdow_o_projekcie/

[5] http://documents.worldbank.org/curated/en/320251467986305800/Poland-Odra-Vistula-Flood-Management-Project

[6] http://www.odrapcu.pl/doc/POM_PL.pdf
(a binding English version is available at:
http://www.odrapcu.pl/doc/POM/ENG.pdf)

2 Works Contract Description

The Works Contract 3D.3 concerns the extension of the left river embankment at chainage km 0+082-5+030 and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce (altogether 10,184 m of the length of the embankments).

The Works Contract 3D.3 is fully complementary to Contract 3B.2[7] and Contract 3D.1[8], and together with them it concerns the strengthening of the flood protection system in the Vistula river basin by improving and upgrading the technical condition of flood protection infrastructure. The Works Contract 3D.3, the subject of which is the extension of the left and right embankment of the Łęg river, complements the actions taken by PGW WP RZGW in Rzeszów in scope of flood protection of the Vistula valley.

The Project Implementation Unit (PIU) for the Contract is the State Water Holding Polish Waters, represented by the Director of Regional Water Management Authority in Rzeszów with its office at 17B Hanasiewicza Street, 35-103 Rzeszów.

According to the valid bidding documents, the planned Contract's implementation time is about 24 months.

[7] Works Contract 3B.2 – Vistula Stage 2 - Extension of the right embankment of the Vistula River at the distance of 13.959 km, the right embankment of the San River at the distance of 2.193 km and the left embankment of the Łęg river at the distance of 0.112 km, in the municipality of Gorzyce and the municipality of Radomyśl nad Sanem, Podkarpackie province.

[8] Works Contract 3D.1 – San III - extension of the left bank of the San River at km 0+000-4+445, the municipality of Gorzyce, Podkarpackie province.

2.1 Location of the Works Contract

The Works Contract 3D.3 implementation area is located in Poland, Podkarpackie Province, within the Commune of Gorzyce (District of Tarnobrzeg), within the boundaries of four registration areas: area 2 – Gorzyce, area 4 – Sokolniki, area 7 – Zalesie Gorzyckie, area 8 – Orliska.

The area includes the estuarine section of the Łęg River - the right tributary of the Vistula, belonging to the Upper Vistula Water Region. It is located within the area administered by the Regional Water Management Authority in Rzeszów, Drainage Basin Administration in Stalowa Wola. The estuarine section of the Łęg runs from south-east to north-west and then from south to north between the towns of Gorzyce in the east, Orliska in the south, Sokolniki in the south-west, Trześń in the west and Zalesie Gorzyckie in the north-west. The length of the section of the Łęg River along which the project will be implemented is about 5 km. The length of the embankments planned to be extended is 10,184 m (left embankment - 4,948 m, right embankment - 5,236 m).

Location of the Works Contract 3D.3 has been presented on the drawing presented below (Fig. 1) and in Appendix 5 to this EMP – Map with location of the Contract.

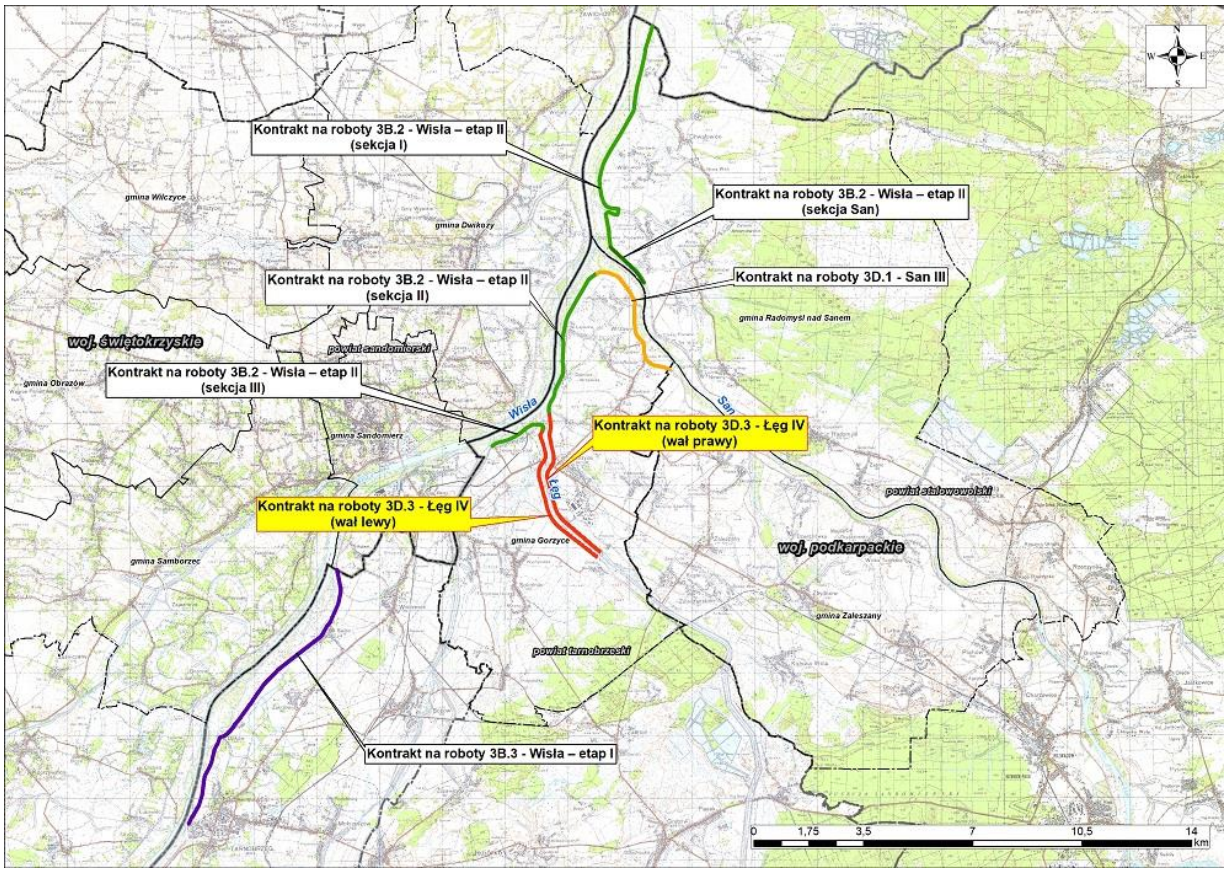


Fig. 1. Location of the Works Contract 3D.3
(reference: own study)

2.2 Specificity of the Works Contract

The extension of the embankments of the Łęg River will be carried out at the following chainage: km 0+000 to km 5+236 of the right embankment and km 0+082 to km 5+030 of the left embankment. The scope of Works Contract 3D.3 comprises the following elements[9]:

- raising the existing crest of embankments

  It is planned to raise the existing crest of the embankment to the ordinates of 1.0 m above the level of the authoritative water table (Q1%) and also to the ordinates of 0.3 m above the level of the control water table (Q0.3%). The left embankment is planned to be raised between 0.4 m and 1.6 m, while the right embankment is planned to be raised between 0.5 m and 1.4 m above the existing level.

- changing the geometry of the embankments' cross-section;

  The crest of the left embankment of the Łęg River will be raised mostly (4,362 m) by superstructure of the downstream slope (relocating the crest towards the area beyond the embankment), while the raising of the crest of the right embankment will be implemented mostly (5,087 m) by superstructure of the upstream slope (relocating the crest towards the embanked area). Along the short sections of both embankments (311 m of the left embankment and 141 m of the right embankment), the crest will be raised in the axis of the existing embankment. In this way, the storage capacity of the embanked area will be maintained.

- compacting and sealing the body of embankments and their subsoil

  Under the Works Contract 3D.3, the existing body of the embankment will be compacted with vibrating rollers and the slopes will be compacted with vibrating plates after removing in prior the 0.2 m thick topsoil layer. The new embankment will be made using the soils indicated in the design, by building in layers with their simultaneous compaction. The benching of the existing slopes of the embankment will be made for a better connection of the existing embankment with the new embankment.

  The extension of the left embankment assumes the use of the currently existing vertical screen in the foot of the upstream slope and of the inclined, waterproofing screens in the upstream slope. The existing vertical screen reaches a depth of 8-10 m. The inclined sealing exists in the form of a bentonite mat on the section from km 0+082 to km about 0+700, while on the remaining section it is in the form of 2.5 mm thick PVC foil.

  In the sections where the embankment will be extended towards the area beyond the embankment, an extension of the existing sealing will be applied by means of an overlap for the bentonite mat and a weld for PVC foil. The new sealing will be bonded to the existing one after the top parts of the film and the bentonite mat have been uncovered and cleaned.

[9] The characteristics of the Works Contract provided in this EMP are for reference only and do not replace the design documentation. The Contractor is obliged to perform the works in accordance with the design documentation and with Technical Specifications corresponding with particular branches.

The new vertical screen in the foot of the upstream slope, using the technology of deep soil mixing up to the depth of 10 m, will be made in the places where the embankment crest is connected with the embankment modernized under the Vistula Stage II contract (km 0+100.0-0+198.8), connections on both sides with the bridge within the national road E77 (km 0+967.0-1+132.7; km 1+265.9-1+388.2) and with a bridge within the Gorzyce - Orliska municipal road (km 4+921.8-5+019.7).

The total length of the new screen will be 475 m and the effective width of the screen column 40 cm.

In connection with the execution of vertical screens, a new sealing will be made inclined in the following form:

- bentonite mat at km 0+100.0-0+700.0;
- PVC foil at km 0+100-0+199, km 0+967.0-1+132.7, km 1+265.9-1+388.2, km 4+921.8-5+019.7.

As part of the extension of the right-hand embankment, a new sealing will be executed of the upstream slope with 1.5 mm thick PVC foil and sealing of the embankment's base in the foot of the upstream slope with a new vertical waterproofing screen in the technology of deep soil mixing to the depth of 10 m will be performed on the sections of km 0+003.2-1+733.2 and km 1+774.2-5+217.8.

The entire length of the right embankment being reconstructed is now sealed with 2.5 mm thick PVC foil. A vertical waterproofing screen exists in the crest of the embankment existing at the section of km 0+000.0-0+480.0.

The total length of the vertical screen will be 5,366 m and the effective width of the screen column 40 cm.

In connection with the execution of vertical screens, a new sealing will be made inclined in the form of PVC foil at the sections of km 0+003.2-1+733.2 and km 1+774.2-5+217.8.

The connection points of vertical and inclined screens will be sealed with clay and cement plugs. In places where pipe structures collide (embankment sluices and outlet from the sewage treatment plant), steel sheet piles driven into the depth of the designed screen will be applied alternatively instead of a screen of deep mixing.

Protection from casing pipes will be used in places of collision with the underground infrastructure of the new vertical screen. In the places where the vertical screen will be installed under the power lines, the temporary deactivation of power transmission will be agreed or the above works will be carried out in the above-mentioned places in synchrony with the works related to the relocation of power poles included in the detailed design.

The compacting and sealing the body of embankments and their subsoil will reduce the risk of their washout, weakening of the structure and interrupting the continuity under the influence of flood water pressure.

A leachate drainage in the form of a drainage stone made every 20 m will be constructed on the downstream side of the extended left embankment. On the downstream slope, the place where the drainage outlet is located will be secured with a mesh and stone mattress.

- reconstruction of flood protection infrastructure (including locks, culverts, embankment crossings) and construction of a technological road

  The reconstruction of the flood protection infrastructure will include:

  - reconstruction of four embankment sluices - it is planned to reconstruct four embankment culverts (sluices): 1 facility on the left embankment in km 1+006 and 3 facilities on the right embankment in km 0+965, km 1+605 and km 2+087;
  - reconstruction of the outlet abutment from the Gorzyce sewage treatment plant located at the right embankment - the pipeline from the Gorzyce sewage treatment plant located at km 3+840 of the right embankment is planned to be extended together with strengthening of both slopes of the embankment in the outlet area;
  - reconstruction of the amelioration pumping station located at the left embankment, which includes:
    - reconstruction of the inlet channel on a section with a length of approx. 100 m – mowing vegetation on the bottom and on slopes, desludging and reinforcement of the bottom, reinforcement of the slopes;
    - reconstruction of the equalizing tank – construction of two additional inlets in the front walls, replacement of concrete stairs to the platform, installation of automatically cleaned gratings, repair of concrete surfaces (slopes of the tank, the platform);
    - reconstruction of the pumping station building – e.g. cleaning and painting the elevation, cleaning and painting the interior of the building, including social rooms, replacement of water and electrical installations, thermal insulation of the ceiling, cleaning the existing and installation of additional elements of the pump chambers;
    - replacement of pumping sets with new ones of higher capacity, replacement of the fittings;
    - construction of the sluice structure with the simultaneous demolition of the left embankment of the Łęg River at approx. km 1+214 – 1+242, and construction of a temporary outlet channel, and then the reconstruction of the embankment with reinforcement of the landside slope and sealing the waterside slope and construction of double-sided slope stairs;
    - demolition of the existing pressure pipelines and construction of new ones, construction of the pipelines passage through the embankment in the form of a retaining wall;
    - demolition of the existing pressure pipelines outlet and construction of a new one to the existing outlet channel;
    - correction and reinforcement of the outlet channel to the Łęg iver;
    - repair of the fence and the development of the pumping station area.
  - reconstruction and construction of embankment ditches – the existing embankment ditches along the right bank are planned to be reconstructed in two sections at km 0+449.1-1+446 (length of 997.1 m) and km 1+893.1-2+450 (length of 557.4 m), and also:

- desilting, levelling of the vertical alignment of the longitudinal profile and cross-section of the ditch (tributary of the Łęg River) at km 1+006 of the left embankment, at the length of 121.0 m and strengthening of the bottom and slopes of the ditch with lattice plates at the length of 5.0 m.
- reconstruction of the ditch (a tributary of the Łęg River) at km 3+840 of the right embankment at a length of 26.0 m, strengthening the bottom and slopes of the ditch with lattice plates at a length of 5.0 m and with rip-rap and stone mattresses at a length of 21.0 m.

- construction of culverts under flood roads - under the flood roads along the right embankments, six culverts will be constructed in sections at km 0+682.8-0 +718.8, km 0+920.6-0+938.2, km 0+973.1-0+995.4, km 1+352.4-1+387.4, km 2+091.7-2+118.7, km 2+346.7-2+375.0.
- reconstruction of embankment crossings - 26 embankment crossings (13 on the left and 13 on the right embankment) and reconstruction or construction of new descent roads with a lane width of 3.0-3.5 m in places of existing traffic facilities is planned, at the sections:
  - left embankment at km 0+140.0-0+180.0; km 0+630.6-0+780.2; km 0+904.7-1+002.8; km 1+067.4-1+160.6; km 1+174.2-1+193.4; km 1+274.7-1+350.1; km 1+520.0-1+675.0; km 1+941.0-2+056.0; km 2+107.0-2+124.0; km 3+045.0-3+180.0; km 3+991.3-4+103.4; km 4+494.6-4+524.3; km 4+961.3-5+030.0.
  - right embankment at km 0+358.0-0+500.2; km 0+802.0-0+940.0; km 1+501.2-1+505.2; km 1+536.8-1+600.0; km 1+733.4-1+750.8; km 1+758.2-1+814.1; km 2+233.0-2+372.0; km 2+621.9-2+752.0; km 3+286.0-3+415.0; km 3+571.8-3+625.4; km 3+912.5-3+961.9; km 4+025.0-4+150.1; km 5+226.1-5+236.0.

- construction of technological roads

  Technological roads will be constructed as temporary roads used at the stage of investment implementation, which will include the following sections of existing public roads, as well as new, reinforced temporary roads:

  - road W854R (asphalt pavement, length of 2975 m);
  - road G10 (crushed stone pavement, length of 2215);
  - road 100106R (asphalt pavement, length of 690 m);
  - road by the embankment (crushed stone road, length of 2330 m);
  - road 100112R (asphalt pavement, length of 172 m);
  - road by the embankment (crushed stone road, length of 2431 m);
  - temporary road (concrete slab pavement, length of 6471 m).

  Roads will be prepared by restoring the binder course and the wear course, by reinforcement with a crushed stone layer or by reinforcement with concrete slabs.

- redevelopment of the high-voltage overhead power line;

  The reconstruction of the HV-110kV overhead power line Gorzyce – Ożarów.

- redevelopment of the high-voltage overhead power line;

The reconstruction of the 15kV overhead medium voltage line Trześń – Stalowa Wola.

- development of the crest and slope of embankments

  The last stage will include the development of the crest and slope of planned embankments, ordering the site by, among other things, constructing ramps, installing hectometer posts and executing dam gates.

The location of components of Works Contract 3D.3 is shown in the map in Appendix 10 to this EMP – Map with location of the Contract's elements.

3 Institutional, legal and administrative conditions

3.1 Institutions involved in implementation of the Contract

The investor for the Contract is the State Water Holding Polish Waters in Warsaw, represented by the Director of the Regional Water Management Authority in Rzeszów (PGW WP RZGW in Rzeszów).

Additionally, at the stage of construction and operation, Contract implementation may require involving public administration bodies on the central, regional and local level. An ongoing coordination of the OVFM Project implementation by particular PIUs is the task of the OVFM Project Coordination Unit (see Chapter 9.1).

3.2 Applicable national legislation concerning the environment protection

In accordance with the Polish Law, the investment process related to the environmental protection remains a subject of several acts and regulations. A summary of selected, basic legal acts in that scope, which are binding for works on the EMP, has been presented in Appendix 3 to this EMP – List of national legal acts related to environmental protection. The number and contents of legal acts given there may be modified along with adjustments to environmental protection provisions valid in the territory of Poland. The Contractor is obliged – except for application of rules determined under this EMP – to apply valid provisions of the state law in the scope of environmental protection.

3.3 EIA procedure in Poland

The description of the environmental impact assessment procedure in Polish legislation is included in the Environmental and Social Management Framework (ESMF) published on the i.a. web pages of the World Bank (WB)[10] and the Odra-Vistula Flood Management Project Coordination Unit[11]. Furthermore, in case of the EIA procedure legal regulations listed in Appendix 3 to this EMP – List of national legal acts related to environmental protection – are in force.

3.4 World Bank requirements

The Contract in question shall be co-funded by e.g. the International Bank for Reconstruction and Development (World Bank). As a consequence, the conditions for its implementation in the scope of environmental protection shall correspond with Operational Policies and Bank Procedures in the range of environmental protection, including the following policies and procedures, e.g.: *OP/BP 4.01* (on environmental impact assessment), *OP/BP 4.04* (on

[10] At: http://documents.worldbank.org/curated/en/717671468333613779/Poland-Odra-Vistula-Flood-Management-Project-environmental-and-social-management-framework

[11] At: http://odrapcu2019.odrapcu.pl/popdow_dokumenty/

environmental habitats), and *OP/BP 4.11* (on cultural resources). A description of the aforementioned World Bank Policies is given in the *Environmental and Social Management Framework (ESMF)*, as published e.g. at websites of the World Bank[12] and of the Odra-Vistula Flood Management Project Coordination Unit[13]. Original contents of the aforementioned policies and procedures may be found at websites of the World Bank[12].

3.5 The current condition of EIA procedure for the Works Contract 3D.3

In accordance with a classification given in the EIA Regulation, the assignment forming the subject of Contract 3D.3 is qualified to the group of assignments, which may potentially significantly affect the environment (so-called Group II – Article 3 (1) item 67 of the i.e. EIA Regulation), for which, prior to issuing a decision on environmental conditions, it may be required to conduct an environmental impact assessment.

A proceeding on the issuance of a decision on environmental conditions, conducted between August 2015 and August 2017, has been completed with the issuance of a decision by the Regional Director for Environmental Protection in Rzeszów dated August 18, 2020 on environmental conditions (ref. no.: WOOŚ.4233.4.2015.MG.66 – Appendix 4a to this EMP) establishing environmental conditions for the project.

A copy of the above-mentioned decision is presented in Appendix 4a to this EMP - Decisions, resolutions, permits, notices.

3.6 Grievance redress mechanisms

All project affected persons (PAPs) will have access to adequate and accessible grievance redress mechanisms. Everyone has the right to file a complaint or motion. Submitting grievances and requests is free of charge. Furthermore, in accordance with the regulations, the person filing a complaint or request may not be exposed to any damage or allegation on account of such submission.

More information on Grievance redress mechanisms employed for projects co-financed from World Bank funds can be found in the Odra-Vistula Flood Management Project Operations Manual (POM) available on the website of the Project Coordination Unit[13].

[12] At: https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx#S3-2 (in the part titled *Investment Project Financing / Environmental and Social Safeguard Policies*).
[13] At: http://www.odrapcu.pl/doc/POM_PL.pdf.

4 Description of environmental elements

4.1 The surface of the earth and landscape

According to the physical-geographical regionalization by Kondracki (2001), the implementation site for the Works Contract 3D.3 is located in the northern part of the Sandomierz Valley (the Sandomierz Valley comprises mainly areas between the Upper Vistula Valley and the valley of the Central and Lower San), within the mesoregion of the Nadwiślańska Lowland:

- megaregion: Carpathian Region;
- province: Western Carpathian Mountains with Western and Northern Podkarpacie;
- subprovince: Northern Podkarpacie;
- macroregion: Sandomierska Valley;
- mesoregion: Nadwiślańska Lowland.

Morphologically, the area is not very diversified, flat, slightly sloping to the north-east (about 142 m above sea level in the northern part and about 150 m above sea level in the southern part) with a typical agricultural landscape of a lowland area. In the surroundings of the Contract area there are morphological forms influencing the landscape values, such as flood and overflow terraces of the Vistula and San, side valleys, oxbow lakes and dunes.

4.2 Climate

According to the climatic regionalization of Poland (A. Woś, 1993), the implementation site of the Works Contract 3D.3 is located in the northern part of the Sandomierz Region - XXII (one of the smallest), covering the area between the Carpathian foothills (Outer Carpathians) and the confluence of the Vistula and San Valleys. It is a region with a lowland climate, with a large number of very warm and sunny days and average rainfall (575-725 mm). Average annual air temperatures are 6-8^{o}C. The average temperature for January is -3.5^{o}C and for July +18^{o}C. Winter in the area lasts for an average of 92 days and summer for 95 days, resulting in a fairly long growing season of 210-220 days. In the vicinity of the project area, i.e. at the confluence of the Vistula and Łęg valleys, the local climatic conditions, precisely because of the proximity of large river valleys, are being modified, which results in, among other things, greater possibility of fog formation, cold air stagnation or temperature inversions.

4.3 Air quality

In Podkarpackie Province, the monitoring of atmospheric air is carried out by the provincial Inspectorate for Environment Protection in Rzeszów. The concentrations of gaseous pollutants covered by the research program in the years 2010-2014 (sulfur dioxide, nitrogen dioxide, carbon monoxide, benzene and ozone as a criterion of health protection and sulfur dioxide, nitrogen dioxide and ozone as a criterion of plant protection) reached low values in the entire Podkarpackie Province. No exceedances of the airborne criteria values valid for these substances have been found for both health and plant protection reasons. Elevated contents in the so-called Podkarpackie zone (the area of Podkarpackie Province without the city of Rzeszów) in the years of 2010-2014 were found for benzo(a)pyrene, PM2.5 and PM10 dust.

Due to the lack of measurement stations of the monitoring network near the project site, the air quality for this area is difficult to determine precisely. The status of air quality in this area may be mainly influenced by numerous brickyards, the bituminous mass production plant - RPRD S.A. Plant in Sokolniki, industrial activities carried out mainly in neighboring communes (in Sandomierz, Tarnobrzeg and Stalowa Wola), traffic routes with heavy traffic, as well as emissions from domestic furnaces and heating systems. The industrial pollutants emitted to the atmosphere in this area are sulfur dioxide, nitrogen oxides, energy dusts, production dusts, carbon monoxide, fluorine compounds, hydrogen sulfide and hydrocarbons.

4.4 Soil and land

The soil structure within the implementation site of the Works Contract 3D.3 is typologically formed by mineral soils in the form of river muds formed from river sediments and alluvial sediments of modern accumulation terraces, including mainly silt clay and dusty sands (the granulation structure is dominated by the dust fraction). Soils of this type are found practically in the entire Łęg valley and in the valleys of nearby rivers.

They are mostly used as a substrate for meadows and pastures, in other areas they are wasteland. These soils are mostly slightly acidic, transiting to neutral (in profile to a depth of 0.5 m above sea level), periodically excessively damp (not wet). The largest share of arable land is in class IIIa and IIIb, which accounts for 41.0% of the total arable land, while class IV prevails in grassland (40.0% of the total area). The soils have good humus content and are rich in nutrients such as phosphorus, nitrogen and calcium. In terms of agricultural suitability, the soils are included in the wheat-beet complex. The weakest soils (due to their excessive drying and low humus content), i.e. podzolic soils, are found in the vicinity of the villages of Furmany and Sokolniki, to the south-west of the project site. Due to relatively fertile soils, individual farming, characterized by high fragmentation, plays a dominant role in the analyzed area.

4.5 Surface waters

The implementation site of the Works Contract 3D.3 is located in the basin of the central Vistula River, in the area of the mouth of the Łęg River. The modernized sections of the embankments are located between 25 m and about 250 m from the riverbed of the Łęg River (depending on the fragment of the embankment) and about 225 m from the riverbed of the Vistula River in the initial section (km 0+000).

The River Łęg, which is the subject of this project, is a right-bank tributary of the Vistula with a total length of 81.6 km and a catchment area of 960.2 km^2. The Łęg is the largest river in the former Sandomierz Primeval Forest, and its sources are located in the southern part of the Kolbuszowski Plateau. All surface watercourses from the central part of the Plateau enter the Łęg River. The Łęg River flows into the Vistula at km 274+000 of chainage, near the village of Zalesie Gorzyckie. The investment will be carried out at km 0+000-5+236 of the river, for which a base flow rate of Q1%= 324 m^3/s was assumed.

According to the hydrographic division of Poland, the analyzed area is located in the Upper Vistula Water Region, in the right-bank part of the Vistula river basin, administratively subordinate to the Regional Water Management Authority (RZGW) in Rzeszów. The water region of the Upper Vistula includes the Vistula river basin, from the cross-section below the

mouth of the Przemsza (Chełmek municipality in Małopolskie province) to the mouth of the Sanna (Annopol municipality in Lubelski province), with a total area of 47 515 km² (including 43 109 km² within boundaries of Poland), which is about 25% of the Vistula river basin area. The water region covers fragmented areas of five provinces, including almost entirely Małopolskie and Podkarpackie province.

The Water Management Plan was established for the Vistula River Basin, adopted with the Regulation of the Council of Ministers of October 18, 2016 on Water Management Plan for waters within the Vistula River Basin. The catchment area of the Łęg River was divided into 20 river bodies of water, which were included in 2 combined bodies of surface water (CBSWs): GW0505 Łęg from sources to Murynia estuary together with it and CBSW GW0506 Łęg from estuary of Murynia to the estuary. The planned project lies on the area of four BSWs (Fig. 2) belonging to CBSW GW0506 Łęg from estuary of Murynia to the estuary:

– Łęg from Murynia to the estuary (RW200019219899);
– Strug (RW2000172198949);
– Sokolniki (RW2000172198929);
– Sanna (RW200017219898).

BSW Łęg from Murynia to the estuary (RW200019219899) covers the majority of the area of the Works Contract 3D.3. In terms of abiotic type, the Łęg in this section is classified as a sandy-clayey lowland river (19). The BSW belongs to natural water bodies. Its total area is 138.51 km^2. In accordance with the characteristics sheet (2012), BSW Łęg from Murynia to the estuary is monitored. Its ecological potential has been described as "moderate", its chemical status as "good" and its overall status as "poor water status".

BSW Strug (RW2000172198949), within which there is a fragment of the left embankment of the Łęg River at km about 1+200 - 1+800, includes the catchment area of the Strug stream, which in terms of typology adopted in PGW is a lowland sandy stream (17). The area of the BSW is 15.46 km^2. According to the characteristics sheet it is a natural body of water and is not monitored. The ecological potential of BSW Strug is defined as "below good", the chemical status as "good" and the overall status of BSW Strug as "poor water status".

BSW Sokolniki (RW2000172198929), in the area of which lies the southern part of the left embankment, according to the typology adopted in PGW is a lowland sandy stream (17), with an area of 25.95 km^2. It is a natural water body and is not monitored. According to the characteristics sheet, the ecological potential of BSW Strug is defined as "below good", the chemical status as "good" and the overall status of the BSW as "poor water status".

BSW Sanna (RW200017219898) includes the Sanna catchment area, which is a lowland sandy stream (17). The total area of the BSW is 21.95 km^2. There is a small fragment of the right embankment in its area at km about 0+000 - 0+400. It is a natural water body and is not monitored. According to the characteristics sheet prepared in 2002, the ecological potential of BSW Sanna is defined as "below good", the chemical status as "good" and the overall status of the BSW as "poor water status".

Location of the Works Contract in reference to the BSW is given on a figure below (Fig. 2).

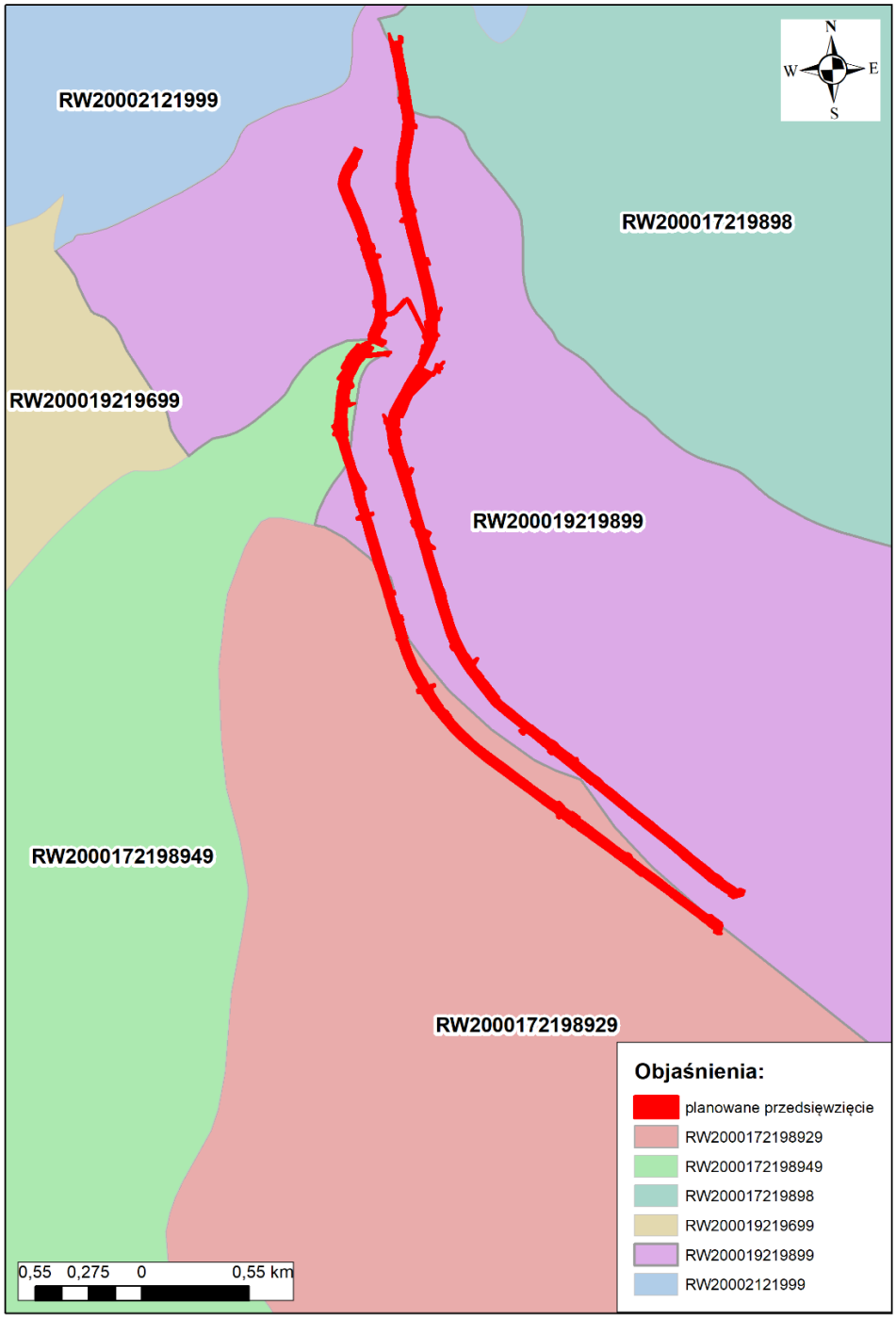


Fig. 2. Location of the Works Contract 3D.3 in reference to the BSW (reference: own study)

The condition of surface waters within the boundaries of the bodies of surface water is monitored on an ongoing basis as part of the state environmental monitoring and its results are published periodically on the websites[14] of the Chief Inspectorate for Environmental Protection. According to the survey carried out in 2018 as part of the monitoring of the Chief Inspectorate for Environmental Protection "Assessment of the condition of river bodies and dammed reservoirs in 2017-2018" (Table 1), only BSW Strug presented a moderate ecological status. Its condition has improved since 2012, while the ecological condition of BSW Łęg from Murynia to the estuary has deteriorated. According to the monitoring of the Chief Inspectorate for Environmental Protection, the chemical status of all the discussed BSWs has deteriorated and in 2018 was described as "below good". This is due to the fact that the discussed BSWs were not monitored in 2012 and the assessment of their chemical status was transferred for each of them from a different BSW, which was considered similar under the National Environmental Monitoring and which was subject to monitoring. Currently, three out of the four discussed BSWs (apart from BSW Sanna) are monitored. The general assessment of the condition of the discussed BSWs in 2018 remained unchanged - "poor water status" was found. The monitoring of the Chief Inspectorate for Environmental Protection did not include the BSW Sanna. The description of the status of the monitored BSWs based on the results of monitoring in 2018 is presented in the table below.

BSW	Class of biological elements	Class of physiochemical elements	Status/ecological potential	Chemical status	BSW status
Łęg from Murynia to the estuary	Poor	Below good	Poor	Below good	Poor water status
Strug	Moderate	Below good	Moderate	Below good	Poor water status
Sokolniki	Poor	Below good	Poor	Below good	Poor water status

For all the discussed BSWs, in accordance with the rWMP, objectives have been set for achieving good ecological status and good chemical status of the waters, while recognizing the risk of failing to meet these objectives. Therefore, a derogation has been granted to postpone the date for achieving the good water status. In the case of the BSW Łęg from Murynia to the estuary, it was postponed to 2027 and in the case of the other three BSWs, the deadline was postponed to 2021 on the grounds of technical impossibility and disproportionate costs.

[14] http://www.gios.gov.pl/pl/stan-srodowiska/monitoring-wod and http://www.gios.gov.pl/pl/stan-srodowiska/monitoring-wod#mon_wod_pow

4.6 Groundwaters

According to the system of hydrogeological units ("Regional hydrogeology of Poland", Polish Geological Institute, 2007), the implementation site of the Works Contract 3D.3 is located entirely in the Vistula province in the region of the Upper Vistula in the subregion of the Pre-Carpathian Foredeep basin.

One usable aquifer was distinguished in the area of the Gorzyce commune - the groundwater level within the Quaternary floor associated with river accumulation formations. On the hydrogeological map of Poland in the scale of 1 : 50 000, this region corresponds to hydrogeological unit 12aQII. The occurrence depth of the usable table level is below 5 m b.g.l. The aquifer is made up of river sands with admixtures of silts and gravels and interbeddings of layers of glaciofluvial sands. The thickness of the aquifer at the investment site varies from 10 to 60 m, on average 20 m. The groundwater horizon is unconfined. Below the Quaternary, in the deposits of the Miocene and older, there is water with increased general mineralization, having no usable importance. The waters of the Quaternary floor are supplied by direct rainwater infiltration. The drilled groundwater horizon depth is varied and generally ranges from 1.0 to 5.8 m b.g.l. The established water horizon ordinate ranges from 137.71 to 143.52 m above sea level. The general main groundwater flow takes place to the north.

The whole area of Works Contract 3D.3 implementation is located within the area of the Main Groundwater Reservoir (GZWP) No. 425 Dębica – Stalowa Wola – Rzeszów. This is a quaternary reservoir with the porous nature of aquifers. It is one of a dozen or so, the largest reservoir in the pre-Carpathian range in terms of area and size of available resources. It occupies the area of approximately 2158 km^2, approximately from the line Dębica - Rzeszów - Przeworsk in the south to the Zawichost area in the north. The aquifers of the reservoir are made of quaternary sands and gravel. The free water table of the Quaternary floor is deposited quite shallow, mostly at the depths of 1-5 m b.g.l. The estimated total available resources of the reservoir are 26 612 m^3/h (638 688 m^3/d). No protection area has been established for GZWP No. 425.

According to the new division of the BGW into 172 parts, which was established as a result of the update of the Water Management Plans, the implementation site of the Works Contract 3D.3 is within the limits of BGW 135 (code PLGW2000135) with an area of 1594.0 km^2 (Fig. 3). The BGW includes a fragment of the right-bank part of the Vistula river basin above the mouth of the San River, which forms the Łęg and Trześniówka river basins. The unit consists of a Quaternary aquifer made up mainly of sands and gravels of channeled valleys. The Quaternary floor is supplied by rainwater infiltration. The limits of the BGW 135 were separated on surface watersheds or surface watercourses, which do not constitute boundaries for groundwater, therefore water exchange with adjacent units may take place.

The quantitative and qualitative status of groundwater within the boundaries of the groundwater body covering the area of the planned project is monitored on an ongoing basis as part of the state environmental monitoring and its results are published periodically on the

websites of the[15] Polish Geological Institute and the National Research Institute. The quantitative status of the BGW 135 on the basis of research carried out as part of the State Environmental Monitoring in 2016 was assessed as "good" and the chemical status as "poor", while still in 2012 the chemical status was also "good". It was estimated that the range of contamination covers 59% of BGW area. The achievement of the environmental objective, i.e. maintaining good chemical and quantitative status, is not at risk.

Location of the Works Contract in reference to the BGW was presented on the drawing given below (Fig. 3).

[15] https://www.pgi.gov.pl/psh/psh-2/monitoring-wod-podziemnych.html and http://mjwp.gios.gov.pl/raporty-art/2017.html

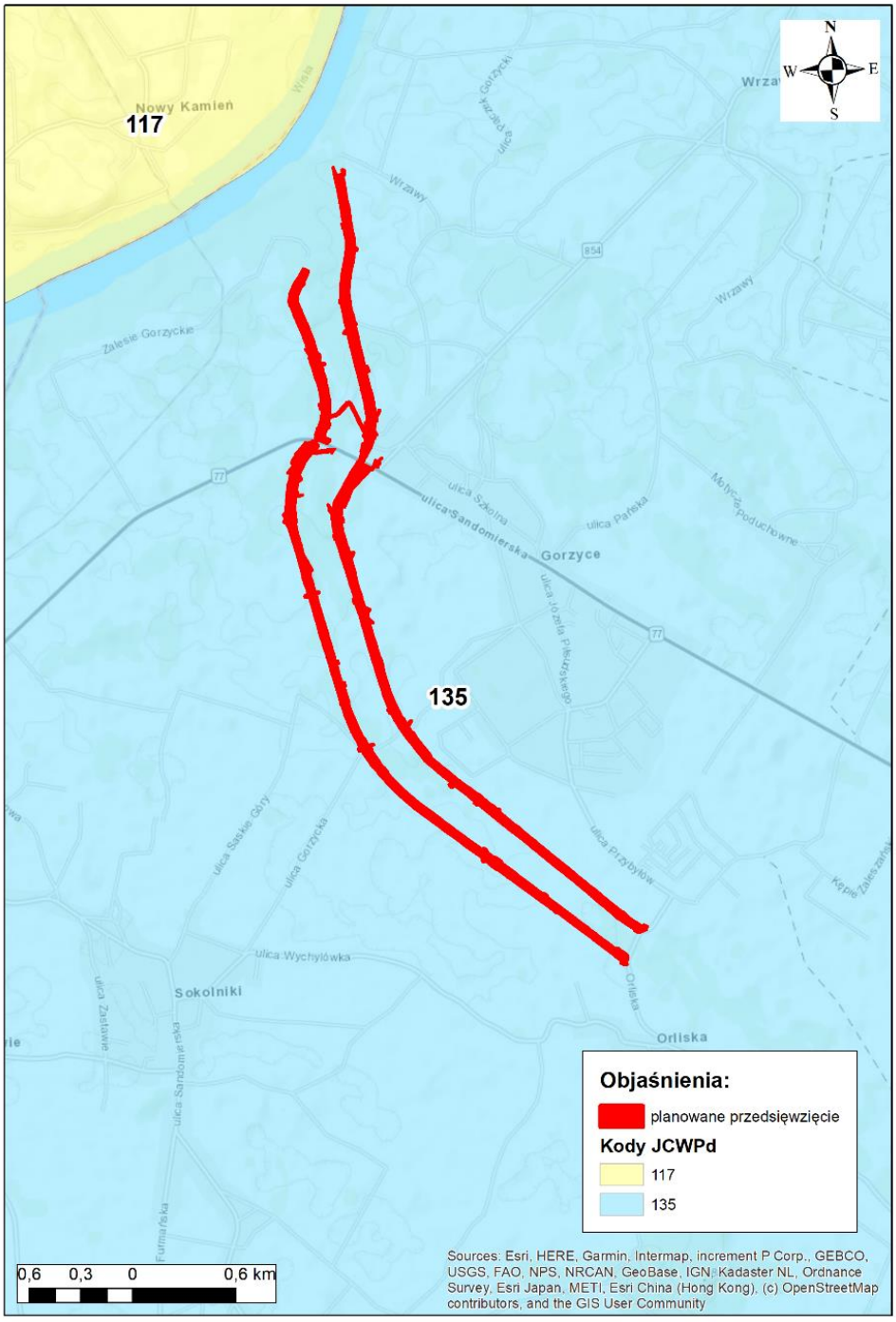


Fig. 3. Location of the Works Contract 3D.3 in reference to the BGW (reference: own study)

4.7 Acoustic climate

The Works Contract 3D.3 will be executed within the administrative borders of the Gorzyce commune (Podkarpackie province, Tarnobrzeg district), in the vicinity of agricultural areas, buildings of the towns of Gorzyce and Zalesie Gorzyckie as well as in the vicinity of transport routes such as national road DK77 from Sandomierz to Stalowa Wola and commune road 100130R Gorzyce - Orliska. Therefore, the acoustic climate is shaped mainly by transport facilities and traffic by the operation of nearby building structures (including residential and farm buildings), as well as technological facilities - the amelioration pumping station and sewage treatment plant in Gorzyce and by the use of agricultural land with agricultural machinery. There is also a service and industrial area in Gorzyce in the vicinity of the implementation site of the Works Contract 3D.3, with a plant producing ready-mixed concrete Beton-Bud and one of the largest plants producing pistons for car engines in the region, Federal-Mogul. Facilities related to temporary stay of children and youth, i.e. primary schools, kindergartens are located further away from the investment area.

In accordance with the classification specified in the Regulation of the Minister of Environment of June 14, 2007 on admissible noise levels in the environment, there are areas subject to acoustic protection in the vicinity of the implementation site of the Works Contract 3D in the following categories: single-family residential areas and homestead development areas.

The closest acoustically protected area - the farm building is located a few meters from the foot of the slope of the left embankment at km approx. 0+130. It should be noted that the facilities protected acoustically are only single buildings, while a decidedly greater part of the implementation site of the Works Contract 3D.3 runs through open areas such as fields, meadows or wastelands, not subject to legal protection against noise in accordance with the above-mentioned Regulation.

4.8 Nature

4.8.1 Protected natural habitats and protected species

Natural habitats from Appendix I of the Habitat Directive

The phytosociological inventory and the review of available literature data carried out at the stage of obtaining decisions on environmental conditions have revealed that:

- 5 types of natural habitats listed in Appendix 1 of the Habitat Directive have been found in the Works Contract 3D.3 implementation area and its direct neighborhood. 3150 Oxbow lakes and natural eutrophic water bodies with the communities of *Nympheion, Potamion*, 6430 Mountain tall herb communities *Adenostylion alliariae* and riverside tall herb communities *Convolvuletalia sepium*, 6440 Alluvial meadows *Cnidion dubii*, 6510 Mountain and lowland fresh meadows extensively used *Arrhenatherion elatioris* as well as 91E0* Willow-poplar-alder-ash forests *Salicetum albo-fragilis, Populetum albae, Alnenion glutinoso-incanae* and large bittercress. Natural habitats were identified in 19 locations;
- in terms of surface area, the dominant natural habitats in the surrounding area and in the Contract area are: 6510 Extensively used lowland and mountain fresh meadows

Arrhenatherion elatioris (5.47 ha) and 6440 Alluvial meadows *Cnidion dubii* (5.05 ha). The total area of inventoried natural habitats is approx. 13.39 ha.

Protected species of plants and fungi

The botanical inventory and the review of available literature data carried out at the stage of obtaining decisions on environmental conditions have revealed that:

- 2 protected species of plants were confirmed in the Works Contract 3D.3 implementation area and its direct neighborhood: Fen Violet *Viola stagnina* (strict protection) and Mouse Garlic *Alium angulosum* (partial protection). The most numerous of them - Mouse Garlic - was found on a total of 16 sites, related to the presence of habitat patches 6440 Alluvial meadows *Cnidion dubii*;
- 1 protected species of mosses was confirmed in the closest vicinity of the Works Contract 3D.3 implementation area – Tree Climacium Moss *Climacium dendroides* (partial protection);
- no protected species of fungi and lichen were confirmed in the Works Contract 3D.3 implementation area and its direct neighborhood.

Protected species of animals[16]

The zoological inventory and the review of available literature data carried out at the stage of obtaining decisions on environmental conditions revealed that:

- eight species of insects under legal protection were found in the Works Contract 3D.3 implementation area and its direct neighborhood. The most valuable are day butterflies: Large Copper Butterfly *Lycaena dispar* $^{(OS),DSII,LC,PCzK}$, Dusky Large Blue *Phengaris teleius*$^{(OS),DSII,LC,PCzK}$ and Scarce Large *Phengaris nausithous*$^{(OS),DSII,LC,PCzK}$. In addition, the following bumble bee species commonly occurring in Poland were found: Buff-tailed Bumblebee *Bombus terrestris*$^{(OC),LC}$, Red-tailed Bumblebee *Bombus lapidarius*$^{(OC),LC}$, Large Carder Bee *Bombus muscorum*$^{(OC),LC}$ and Shrill Carder Bee *Bombus sylvarum*$^{(OC),LC}$. Additionally, during the studies, a habitat of the grey bumble bee *Bombus veteranus*$^{(OC),LC,PCzK}$ rare in Poland was found;
- the evaluation of decayed places within the greenery planned to be removed under the implementation of Contract 3D.3 did not reveal the presence of saproxylphage habitats under legal protection;
- 2 species of molluscs subject to legal protection were found within the implementation site for the Works Contract 3D.3 and in its close vicinity: Roman Snail *Helix pomatia*$^{(OC),LC}$ and Yellowish Snail *Helix lutescens*$^{(OC),LC,PCzK}$ rare in Poland.

[16] The species protection status is given in the superscripts after the name of each species, according to the scheme:
SP – a strictly protected species in Poland; **(PP)** – a partially protected species in Poland;
HDII,IV,V – species from Annex II, IV and/or V of the Habitat Directive;
LC – a species included on the IUCN Red List, in the category: LC – a least-concern species.

- four species of protected fish were found in the Works Contract 3D.3 implementation site and its direct neighborhood (Łęg River): Weatherfish *Misgurnus fossilis*(OC),DSII,LC, Stone Loach *Barbatula barbatula*(OC),LC, Spined Loach *Cobitis taenia*(OC),DSII,LC and Spirling *Alburnoides bipunctatus*(OC),LC. 19 fish species have been found to be present in total;
- ten species of amphibians were found in the implementation site for the Works Contract 3D.3 (all domestic species are under legal protection). The most valuable of them are European Fire-bellied Toad *Bombina bombina* (OS),DSII,IV,LC and Great Crested Newt *Triturus cristatus*(OS),DSII,IV,LC,PCzK. Other species are under partial protection and belong to taxons that are more numerous and common in the country: Pool Frog *Pelophylax lessonae*(OC),DSIV,LC, Water Frog *Pelophylax esculentus*(OC),DSV,LC, Marsh frog *Pelophylax ridibundus*(OC),LC, European Tree Frog *Hyla arborea*(OC),DSIV,LC, Common Spadefoot *Pelobates fuscus*(OC),DSIV,LC, Moor Frog *Rana arvalis*(OC),DSIV,LC, Common Toad *Bufo bufo*(OC),LC and Common Frog (OC),DSV,LC.
- three species of reptiles were found in the Works Contract 3D.3 implementation site and its direct neighborhood (all domestic species are under legal protection): Sand Lizard *Lacerta agilis*(OC),DSIV,LC, Viviparous Lizard *Zootoca vivipara*(OC),LC and Grass Snake *Natrix natrix*(OC),LC;
- habitats of seven valuable bird species have been found in the Works Contract 3D.3 implementation site and its direct neighborhood, including four listed in Annex I of the Birds Directive: Marsh Harrier *Circus* aeruginosus(OS),DPI,LC, Corn Crake *Crex crex*(OS),DPI,LC, Red-backed Shrike *Lanius collurio*(OS),DPI,LC, Black-tailed Godwit *Limosa limosa*(OS),DPI,LC and Common Rosefinch *Carpodacus erythrinus*(OS),LC, Lapwing *Vanellus vanellus*(OS),LC and European Penduline Tit *Remiz pendulinus*(OS),LC. All the identified particularly valuable and rare bird species concern feeding, flying or scared individuals (nests of these species are located at a safe distance from the planned investment);
- a significant number of agricultural landscape birds were found in the area of trees and bushes on the Łęg River (considerable distance from the embankment) and on meadows, fields and wastelands adjacent to the embankment, in particular: Common Stonechat *Saxicola rubicola*(OS),LC, Whinchat *Saxicola rubetra*(OS),LC, Skylark *Alauda arvensis*(OS),LC, Yellowhammer *Motacilla flava*(OS),LC and Corn Bunting *Emberiza calandra*(OS),LC. Heavily marshy reeds and rushes creating excellent breeding sites exist in the embanked area, for e.g.: Sedge Warbler *Acrocephalus schoenobaenus*(OS),LC, Common Reed Bunting *Emberiza schoeniclus*(OS),LC, Marsh Warbler *Acrocephalus palustris*(OS),LC, Great Reed Warbler *Acrocephalus arundinaceus*(OS),LC, Grasshopper Warble *Locustella naevia*(OS),LC and Thrush Nightingale *Luscinia luscinia*(OS),LC. The vast majority of bird species found are breeding taxons of the studied area, however, species of birds feeding in the studied buffer or only flying were also inventoried. These included in particular Rook *Corvus frugilegus*(OS),LC, Jackdaw *Corvus monedula*(OS),LC, Swifter *Apus apus*(OS),LC and Barn Swallow *Hirundo rustica*(OS),LC.
- the presence of flying and/or feeding bats was found within the implementation site for the Works Contract 3D.3 and in its close vicinity, including, among others, Common Noctule *Nyctalus noctula*OS,DSIV,LC, Barbastella *Myotis daubentonii*OS,DSIV,LC and Pipistrelle *Pipistrellus kuhlii/nathusii/pipistrellus/pygmaeus*OS,DSIV,LC (designation possible up to species group level). No daily resting places or hibernation sites of bats were found.

- the following terifauna species under legal protection were found within the implementation site for the Works Contract 3D.3 and in its close vicinity: European Beaver, *Castor fiber*$^{(OC),DSII,IV,LC}$ (observation of individuals, numerous feeding traces, dams, trails), Otter *Lutra lutra*$^{(OC),DSII,IV,LC}$ (observation of individuals, feeding traces found), Eurasian Water Shrew *Neomys fodiens*$^{(OC),LC}$ and European Mole *Talpa europaea*$^{(OC),LC}$. In addition to the protected species, the individuals as well as traces and traces of existence of the following hunting species were found in the region and in the surroundings of the Works Contract 3D.3: *European Roe Deer* ^{LC}, Fox *Vulpes vulpes*^{LC}, Marten *Martes sp.*^{LC}, European Hare *Lepus europaeus*^{LC} and Muskrat *Ondatra zibethicus*^{LC}.

Location of the Contract in reference to the protected resources of the natural environment was presented on a map reproduced under Appendix 9 to the EMP – Map with location of the Contract in reference to natural habitats and protected species occurrence sites.

4.8.2 Protected areas

There are no areas and facilities protected under the Act of April 16, 2004 on nature protection in the implementation area of the Works Contract 3D.3 and in its immediate surrounding (up to 100 m from the borders).

The following protected sites and facilities exist in the zone from 100 m to 1.0 km from the borders of the Works Contract 3D.3 implementation area:

- Natura 2000 site Lower San River Valley PLH180020 (approx. 220 m to the east of the boundaries of the Works Contract 3D.3 implementation site, right embankment).
- Natura 2000 site Pieprzowe Mountains PLH260022 (at a distance of approx. 790 m to the west of the boundaries of the Works Contract 3D.3 implementation site, left embankment).

Location of the Contract in reference to the protected areas was presented on a map in Appendix 6 to the EMP – Map with location of the Contract in reference to natural habitats and places of presence of protected species.

4.9 Cultural landscape and monuments

According to the conservator's opinion to the construction design (letter no. T-IRN.5183.93.2017 of 27.10.2017) issued by the Provincial Office for Monument Protection with the office in Przemyśl, Branch in Tarnobrzeg, there are no historical monuments or archaeological sites in the area of the planned investment and in its immediate vicinity.

There are the following historic buildings subject to protection under the Act of July 23, 2003 on the protection of heritage and on the care for heritage in the nearest vicinity of the area of execution of the Works Contract 3D.3:

- entered in the register of monuments: the former parish house in Gorzyce (no. 81A entered on 10-08-1982), together with conservatory zones A and B covering the area of Górka Plebańska, the so-called "Pączek", and an archaeological site - an iron age settlement no. A-514 entered on 17-12-1969 in the above-mentioned register). The beginning of the zone range covering the above-mentioned objects is located at a distance of approx. 235 m to the east of the investment border (right embankment).

- entered into the provincial register of monuments: two archaeological sites, i.e.
  - traces of the settlement - Mesolithic era, a settlement from the 10th-12th cent. no. AZP 89/74- no. in the village 30;
  - traces of the Neolithic settlement/early Bronze Age, a settlement from the 12th-14th cent. no. AZP 89/74- no. in the village 31.

  These sites are located in the area including the area of Górka Plebańska, at distances of approx. 420 m and 660 m to the east of the investment border (right embankment).
- the archaeological site entered in the provincial register of monuments - a Lusatian cemetery of culture no. AZP 90/74 no. in the village 8. The site is located at a distance of about 18 m from the final section of the study, i.e. the investment boundary of the left embankment.

Moreover, in the vicinity of 1 Podwale Street in Gorzyce, there is a roadside cross at the fork of roads on the upstream slope of the right bank of the River Łęg. In the vicinity of the estuary of the Łęg River to the Vistula River, about 80 m to the north of the implementation site of the Works Contract 3D.3, there is a memorial - an obelisk commemorating the Battle of Gorzyce and Wrzawy of 1879.

4.10 Population

The works contract 3D.3 is a linear project located in the Gorzyce commune, within the geodetic boundaries of Gorzyce, Sokolniki, Zalesie Gorzyckie and Orliska. There are single, non-concentrated single-family and homestead buildings in the surrounding of the area of the Works Contract (the closest ones are located in Zalesie Gorzyckie and Gorzyce), as well as areas of compact development in Gorzyce and agricultural areas.

According to data valid for December 31, 2019[17] the Gorzyce commune is inhabited by 13 102 people, and the population density is 190 people/km^2 [18]. The flood hazard map shows that the probability of flooding in this area is high and is once every 10 years (Q 10%). It should be noted that 1 040 households and a total of 4 500 people were affected by the 2010 floods in the villages of Furmanana, Sokolniki, Orliska and Trześnia. Thus, from the point of view of public interest, the planned investment is necessary to be carried out due to the need to ensure flood protection of agricultural areas and buildings of the Gorzyce commune.

Issues associated with the social context of the planned Contract 3D.3 are described in details in the *Land Acquisition and Resettlement Action Plan* (LA&RAP) for the Contract in question.

[17] CSO - Population. Status and structure and natural traffic in the territorial section in 2019. Status as at 31 December: Population according to sex and towns: Podkarpackie, Gorzyce commune.
[18] CSO Population density and indicators, Gorzyce Commune https://bdl.stat.gov.pl/BDL/dane/podgrup/tablica

4.11 Remaining ES issues

ES related issues (i.e. the ones related to environmental, social and health and safety aspects) are regulated in Poland by many regulations included in binding legal acts, including e.g. the Act of April 27, 2001 Environmental Protection Law, the Act of October 3, 2008 on access to information on the environment and its protection, public participation in environment protection and environmental impact assessments, the Act of April 16, 2004 on the nature protection, the Act of April 13, 2007 on preventing of damages to the environment and on repairing them, the Act of December 14, 2012 on waste, the Act of July 20, 1991 on Environmental Protection Inspectorate, the Act of March 14, 1985 on the State Sanitary Inspectorate, the Act of December 5, 2008 on preventing and combating infections and infectious diseases in humans, the Act of July 7, 1994 Construction Law, the Act of July 20, 2017 Water Law, the Act of June 26, 1974 Labour Code, the Act of April 13, 2007 on the State Labour Inspectorate, the Regulation of the Council of Ministers of August 24, 2004 on the list of prohibited work for juveniles and the conditions for their employment in some of these works, the Act of December 3, 2010 on implementation of some provisions of the European Union in reference to equal treatment, the Act of April 23, 1964 Civil Code, the Act of June 6, 1997 Penal Code, and others.

Legal regulations included in those acts are to e.g.:

- assure proper condition for abiotic environment and for biotic environment on site and in the areas surrounding the implemented construction investments;
- assure safety and health of people in reference to implementation of construction investments;
- prevent cases of sexual harassment and mobbing on work sites;
- assure proper social and labor conditions, and payment for the personnel.

Supervision over observing of provisions included in the aforementioned legal acts is performed by e.g. such numerous institutions and state authorities as the: General Directorate for Environmental Protection, Regional Directorates for Environmental Protection, Environmental Protection Inspectorate, State Sanitary Inspectorate, Construction Supervision Authorities (including Provincial Construction Inspectorates and District Construction Inspectorates), State Labour Inspectorate, Ombudsman, Governmental Proxy for Equal Treatment, Governmental Proxy for Rights of the Disabled, Police, and others.

Nonetheless, considering the importance of ES issues and the requirements of international institutions financing the OVFM Project (including the World Bank), this Environmental Management Plan and other documents of the Contract contain numerous detailed conditions to assure the proper implementation of any valid provisions and to keep high proceeding standards in the aforementioned scope.

5 Summary of the environmental impact assessment

5.1 The surface of the earth and landscape

Impacts on the ground surface will be associated with temporary and permanent land occupation. In the construction phase, the temporary exclusion of land from the existing use will be connected, in particular, with construction of the operating backyards, storage yards and technological roads. The construction site, together with the sanitary and technological facilities, will be located and secured in such a way as to minimize its impact on the environment. The environmental impact, during and after the works, will be reversible due to the planned mitigation and compensation measures. After completion of the construction phase, the operating backyards and technological roads will be dismantled and the land reclaimed and developed in accordance with the design documentation.

More detailed information on the planned site activities is presented in the *Land Acquisition and Resettlement Action Plan* (LA&RAP), available on the website of the OVFM Project Coordination Unit (*www.odrapcu.pl*).

In terms of landscape values, the impact of the project will be local. The most significant permanent change in the landscape related to the planned works will be the construction of raised embankments covering the river valley, as well as the necessary cutting of trees and bushes on the body and in the immediate vicinity of the reconstructed flood embankment. This may adversely affect the aesthetic values of the valley. In the case of the works related to the redevelopment of the amelioration pumping station the most significant interference in the landscape will be temporary demolition of the Łęg River left on section of approx. 30 for the time of building new outlet structure. Otherwise no significant impact on the surrounding landscape is expected.

Considering the small spatial scope of the planned works and the relatively small scope of the necessary cutting of trees and bushes[19] (spatially limited only to places where the presence of trees and bushes would prevent the performance of construction works and/or safe operation of the constructed facilities[20]), the execution of the Works Contract 3.D.3. Łęg IV will not cause significant negative impacts on the landscape values.

Mitigation measures planned to limit the Works Contract 3D.3 implementation impact on the surface of land and on the landscape were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.1.

[19] A total of up to 821 trees, and bushes on a total area of approx. 1.176 ha, mostly growing on immediate surroundings of the reconstructed flood embankment, is planned for cutting (see also description in Chapter 5.8.1).

[20] In accordance with 176(1)(2) of the Water Law Act, in order to ensure the tightness and stability of flood embankments, it is prohibited, inter alia, to plant trees or bushes on flood embankments and within less than 3 m from the embankment foot..

5.2 Climate

Modification of climatic conditions

The implementation of the Works Contract 3D.3 is not linked to the occurrence of factors which could have a significant impact on the modification of climate conditions, either on a regional or local scale. The project implementation does not cause significant changes in the terrain, water conditions, or the current manner of using the area in question.

Emission of greenhouse gasses

Due to combustion of fuel by vehicles and construction machines on the stage of performing works, combustion gases shall be emitted, including carbon dioxide accounted as a greenhouse gas. However, in view of the small scale of construction works planned to be carried out under Contract 3D.3, as well as the periodic and transient nature of emissions during the construction phase, the above-mentioned impacts can be considered to be completely insignificant in terms of their impact on climate change.

At the stage of operation, considering the nature of the planned investment, which does not involve direct or indirect GHG emissions and activities resulting in the absorption or reduction of GHGs that exacerbate climate change - no significant impact on the climate is expected.

Adaptation of the Contract to adverse phenomena associated with climate change

The modernized flood control facilities have been designed in accordance with binding hydraulic regulations, which include extreme events occurring in the environment due to the changes of climate (it is regulated by relevant regulations on designing, construction, and use of hydrotechnical facilities). The extended embankments will be resistant to violent atmospheric phenomena, i.e. to heavy rainfall, frost, etc. In order to protect the embankments against damage caused by seepage of flood water, washout and breaking of the body or landslides, a new vertical screen has been designed in places of the redeveloped amelioration facilities. Contract performance will improve flood protection for the localities located on the area beyond the embankment of the Łęg River in Gorzyce commune and thus it would contribute to the reduction of effects of adverse phenomena accompanying the changes of climate (sudden downpours causing sudden swells in the Vistula River basin).

5.3 Sanitary condition of air

The impact on the sanitary condition of the atmospheric air will take place mainly at the construction stage, as a result of emission of gases - exhaust gases from engines of construction vehicles and machines and dusts emitted during earthworks and during transport of bulk materials on and in the vicinity of the construction site. Due to the planned actions limiting the risk and effects of the above-mentioned emissions, the execution of construction works within the scope of the Works Contract will not cause a significant negative impact on the sanitary condition of air.

At the operational stage, the impact on the condition of the atmospheric air will be limited to occasional emission of exhaust gases associated with the performance of works connected with maintenance of flood embankments, i.e. grass mowing and periodical flood embankment condition checks.

Mitigation measures planned to limit the Works Contract 3D.3 implementation impact on the sanitary condition of air were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.3.

5.4 Soil and land

The Works Contract 3D.3 implementation impact on soils will only relate to the construction stage and will be mainly associated with:

- removal of the top soil layer,
- earthworks,
- modification of soil structure at temporarily acquired land for technological roads and construction sites,
- possible pollution the soil due to emergency leakage of diesel derivatives from transport equipment and machinery.

Except for the listed impact forms there shall be no interference in the soil layer. No new structures will be erected or other structures will be erected.

These impacts will be local in nature, and no significant changes in soil and water conditions or soil productivity can be expected after completion of the construction phase and proper land reclamation. At keeping the environmental protection and H&S standards there shall be no significant impact on and deterioration of the quality of soil in connection with the performance of construction works.

No mass movements (landslides, creeping, subsidence, etc.) or other negative geodynamic processes related to e.g. tectonics of the analyzed area have been or are not expected to occur in the subsoil in the area of the Works Contract 3D.3.

Implementation of the planned Works Contract shall not cause adverse impact on soils and subsoil, both at the stage of implementation and operation.

The mitigation measures planned to limit the Works Contract 3D.3 implementation impact on the quality of soils and grounds were tabulated in Appendix 1 to this EMP and described in Chapter 6.4.

5.5 Surface waters

The impact factors of the Works Contract 3D.3 on the elements of surface water quality will be mainly related to the performed works of demolition and strengthening of the bottom and slopes of ditches. Typical negative impacts associated with renovation, upkeeping or maintenance works for the project under consideration include:

- disturbance of species living in ditches or in their immediate vicinity;
- destruction or disturbance of habitats on the banks of ditches (direct destruction, removal of trees and bushes, crushing, backfilling);
- periodic sludge as a result of works.

Other factors that may have a negative impact on the water environment will be works related to the transformation of fragments of the structure of ditches' banks, directly in their initial and

final sections, as well as the transformation of morphology through the relocation of fragments if ditches, in order to ensure the proper functioning of embankment equipment.

The performance of construction works is associated with the potential contamination of the soil and water environment as a result of e.g. breakdown of construction machinery or vehicles causing leakage of oil derivatives, etc. The contractor is obliged to conduct ongoing monitoring of water quality in order to prevent the possibility of exceeding the permissible levels of pollution. Notwithstanding the foregoing, carrying out works in riverbeds or channels, as well as on the banks of waters must comply with World Bank guidelines contained in the document *"Environmental, Health and Safety Guidelines for Ports, Harbors, and Terminals"*[21]

The works provided for in the Works Contract 3D.3 are not related to the permanent abstraction of water (surface or underground water), introduction of sewage to water or ground, substances particularly harmful to the aquatic environment (to water, ground or sewage facilities). The intervention in the riverbed of the River Łęg will only take place if works are carried out related to the strengthening of the slope of the ditches that flow into the river. These works will not affect the ecological condition/potential of BSWs. The implementation of the Works Contract 3D.3 will not change the magnitude and dynamics of water flows in the river, nor do they affect the frequency and extent of flooding of river waters into the areas of the current embanked area.

The above-mentioned factors will not affect the elements of the ecological status of BSWs, i.e. biological, hydromorphological and physicochemical elements. With regard to the objective of achieving good chemical status, there is no threat of deterioration of chemical condition quality indicators as a result of the investment. It is estimated that the negative factors impacting the elements of ecological status of waters at the stage of investment implementation will be of short-term and reversible nature, therefore they will not result in lowering the class of any of the elements of ecological status/potential of BSW. On the other hand, the stage of embankments' operation will not generate new, negative impacts, which are important to achieve the environmental objectives set for BSW.

Mitigation measures planned to limit the Works Contract 3D.3 implementation impact on the quality of surface water were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.5.

5.6 Groundwaters

The extension and modernization of flood embankments will not involve any groundwater abstraction or discharge of wastewater to the environment at the works implementation site. No significant negative impacts on circulation conditions or groundwater quality are expected at the stage of conducting construction works. The water will be used for technological, construction and social-domestic purposes. Water will be delivered to the construction site with barrel transport vehicles.

[21] The document is available on the website: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_ehs-portsharborsterminals

The risk of emission of pollutants to the soil and water environment at the stage of implementation may only result from the failure of the Contractor to meet standard environmental protection requirements applied during construction works, i.e. inappropriate waste storage, inappropriate sewage management on construction sites, use of motor vehicles and construction machinery and equipment contrary to their intended use or outside the areas designated for this purpose or as a result of extraordinary events, i.e. equipment failures, road traffic collisions or sudden adverse weather conditions or natural disasters. There is an increased risk of emission of pollutants to the soil and water environment then in the form of leakage of harmful liquid or semi-liquid substances (fuels, oil, lubricants) from vehicles and construction machinery and equipment and their infiltration into the ground or surface runoff.

No mechanical lowering of groundwater levels or works that could significantly affect water conditions, e.g. by significantly changing infiltration conditions, are foreseen. A procedure that may shape the conditions of water circulation may be e.g. a segmental removal of the humus layer, which is one of the factors influencing the infiltration of rainwater, but such an impact will be minimal against the background of all hydrogeological conditions.

Compliance with environmental and occupational health and safety standards will be very important, e.g. due to the shallow water table of the main usable aquifer, lack of isolating layer, as well as the important role of the Quaternary level in water supply to the northern part of the Podkarpackie region (Major Groundwater Reservoir No. 425 Dębica - Stalowa Wola - Rzeszów).

During the operational phase, the impact of the Works Contract 3D.3 on the groundwater level will be temporary and will only occur during the passage of the flood wave. This will be connected with the execution of a waterproofing screen in the body of the embankment, which will change the conditions of water flow in the ground in the periods of swells, when the hydraulic gradient is changed by raising the water table dammed in the embanked area.

The reconstruction of the existing flood embankment will not break the hydraulic connection between river and underground waters because the proposed anti-filtration screens in the flood embankment will not reach the impermeable subsoil layer, therefore the flow of groundwater in the subsoil layers below the screen will be possible.

In consideration of the above circumstances, it was concluded that the performance of the Works Contract 3D.3 will not pose a threat to the achievement of the environmental objectives set for BGW 135 under the update of "Water Management Plan for waters within the Vistula River Basin". It will not cause deterioration of the quantitative and chemical status of groundwater within the limits of the BGW.

Mitigation measures planned to limit the Works Contract 3D.3 implementation impact on the quality of groundwater were tabulated in Appendix 1 to this EMP and described in Chapter 6.6.

5.7 Acoustic climate

The implementation site of the Works Contract 3D.3 is located in the vast majority in the vicinity of open areas, mostly used for agriculture as meadows and pastures. The planned occupation of the land for the planned structures includes the existing flood embankments, together with the adjacent area used both for the construction of new buildings and for the reconstruction of existing facilities and for temporary necessary construction facilities.

The analysis carried out at the stage of environmental impact assessment showed that the closest located areas under acoustic protection (most often single, single-family, non-concentrated residential buildings and homesteads) are located in the vicinity of only a few short sections of embankments (in the towns of Gorzyce, Zalesie Gorzyckie), i.e.:

- right embankment km 1+565 residential building, at a distance of about 10 m and farm building at km 1+575, at a distance of about 10 m;
- right embankment km 1+673 farm buildings, at a distance of about 15 m;
- right embankment km 1+710 farm building, at a distance of about 10 m;
- right embankment km 1+735 residential building, at a distance of about 15 m;
- left embankment km 0+080 residential buildings, at a distance of about 10 m;
- left embankment km 0+130 farm building, at a distance of about 10 m.

The sources of noise will be the work of construction machines and vehicle traffic (including, among others, trucks) at the stage of construction works. The impact will be periodic as well as local in nature (limited to the construction site, its immediate vicinity and the roads by which the transport will take place). No significant noise emissions are expected at the operation stage of the investment.

Mitigation measures planned to limit the implementation impacts of the planned investment on the acoustic climate were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.7.

5.8 Nature

5.8.1 Impact on the protected natural habitats and on the protected species of plants, fungi, and animals

Impact of the Works Contract 3D.3 on the protected elements of the natural environment shall be related to:

- removal of up to 821 trees, and accompanying bushes with the area of approx. 1.176 ha (only non-protected species and specimens) directly colliding with the planned works. The greenery will only be removed in the very close vicinity of the extended sections of embankments (see description in Chapter 4.8.1);
- destruction of approximately 0.80 ha of natural habitats (habitat 3150 - approximately 0.1 ha, habitat 6440 - approximately 0.66 ha, habitat 6510 - approximately 0.13 ha), which represents approximately 6% of the area of all inventoried natural habitats (see description in Chapter 4.8.1);

- destruction of fragments of the habitat of Mouse Garlic over an area of approximately 2.15 ha (representing approximately 21% of the total area of all inventoried communities) (see description in Chapter 4.8.1);
- a threat of the entry of synanthropic and invasive vegetation during the implementation of the investment;
- destruction of fragments of habitats of Scarce Large Blue Butterfly and Dusky Large Blue Butterfly (area of habitats to be destroyed - 1,236 ha, which accounts for about 9.9% of all inventoried habitats of the species), Roman Snail (area of habitats to be destroyed - about 0.04 ha, representing approximately 1.28% of all inventoried habitats of the species) and Yellowish Snail (area of habitats to be destroyed - about 0.074 ha, representing approximately 1.3% of all inventoried habitats of the species) and bumblebee feeding grounds (see description in Chapter 4.8.1);
- destruction of fragments of habitats and scaring of individuals of amphibians: Water Frog (area of habitats to be destroyed – approx. 0,179 ha, accounting for approx. 1.5 % of all inventoried habitats of the species), European Fire-bellied Toad (area of habitats to be destroyed – approx. 0,065 ha, accounting for approx. 1.5 % of all inventoried habitats of the species), Great Crested Newt (area of habitats to be destroyed – approx. 0,033 ha, accounting for approx. 2.3 % of all inventoried habitats of the species), Moor Frog (area of habitats to be destroyed – approx. 0,027 ha, accounting for approx. 1.4 % of all inventoried habitats of the species) and destruction of fragments of habitats and scaring of individuals of reptiles: Sand Lizard (area of habitats to be destroyed – approx. 0,005 ha, accounting for approx. 0.9 % of all inventoried habitats of the species), Grass Snake (area of habitats to be destroyed – approx. 0,006 ha, accounting for approx. 8.6 % of all inventoried habitats of the species) as well as Viviparous Lizard (area of habitats to be destroyed – approx. 0,112 ha, accounting for approx. 26.5 % of all inventoried habitats of the species) (see the description in Chapter 4.8.1);
- scaring and destruction of breeding habitats of birds (during removal of trees and bushes as well as occupation and topsoil removal) nesting in the zone of vegetation growing on the embankment and its immediate surroundings (see description in Chapter 4.8.1);
- destruction of fragments of habitats and scaring of individuals of European beaver (area of habitats to be destroyed – approx. 0.24 ha, accounting for approx. 2 % of all inventoried habitats of the species). Interference in the beaver habitat will mainly concern the conservation stage of the drainage ditch at km 1+400 - 1+500 and km 2+000 - 2+100 (embanked area on the right side of the river) as well as the occupation of a fragment of the oxbow lake at km 1+050 - 1+150 (see description in Chapter 4.8.1);
- The above-mentioned impacts – resulting mainly from the necessary acquisition of land, traffic of vehicles and machines in the construction period, and cutting of trees and bushes – shall be partly reduced due to the planned mitigation measures and overall they will not have a significant impact on the state of resources of the above-mentioned habitats and species, even on a local or regional scale. At the operational stage, the planned project does not have any negative impact on the protected resources of the natural environment (among others, it does not affect the conditions of migration of aquatic organisms and functioning of the ecological corridor along the Łęg river).

In accordance with the binding provisions, removal of habitats and disturbance of protected species shall require a prior obtainment of relevant administrative decisions allowing for exceptions from bans related to the protected species (according to conditions described under item 49 of Appendix 1 to the EMP).

Mitigation measures planned to limit the Works Contract 3D.3 implementation impact on the protected elements of natural environment were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.8.

5.8.2 Impact on protected areas

Implementation of the planned Works Contract 3D.3 – both: on the performance stage, as well as on the use stage – shall not cause adverse impact on protected areas and objects located in its wide neighborhood. According to the information presented in Chapter 4.8.2, the nearest protected areas and sites are located at a distance of approx. 220 m to the east of the boundaries of the Works Contract 3D.3 implementation site (right embankment). The scope of works planned to be carried out under the Works Contract does not cause any environmental impact beyond the boundaries of the works area and its immediate surroundings.

5.9 Cultural landscape and monuments

Due to the lack of historical objects and archaeological sites in the implementation site of the Works Contract 3D, no significant negative impact on the cultural landscape and monuments is expected.

The Works Contract shall not cause considerable adverse impact on cultural landscape and monuments on the performance stage, as well as on the use stage. What is more, the use stage of the investment will have a positive impact on monuments and material assets, providing them with increased flood safety.

However, if no archaeological monument has been registered in the implementation site of the Works Contract for 3D.3 so far, this does not exclude the possibility of its existence. In such a situation, the expected earthworks may potentially result in discovering new archaeological heritage. For now, no archaeological sites were identified within the area in question (the nearest archaeological site is located at a distance of approx. 18 m from the boundaries of the Contract implementation zone – see description in Chapter 4.9). As a consequence, there is no basis at the moment to forecast adverse impact of the planned works on the cultural landscape and on monuments.

Mitigation measures planned to limit the potential impacts of the investment implementation on the cultural environment were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.9.

5.10 Tangible assets

The execution of the Works Contract 3D.3 works is aimed at protecting material goods by reducing the flood hazard. Most of the residential and commercial buildings in the area of the embankment are located at a considerable distance from the project area. There are only single, non-concentrated single-family residential and farmstead buildings in the direct vicinity

of the investment (mainly in Zalesie Gorzyckie and Gorzyce), therefore it is possible to have an impact on the above-mentioned buildings located in the vicinity. However, these impacts will be short-term and related to the construction phase.

The project has been designed in such a way that it is not necessary to evacuate and demolish residential buildings, while at the operation stage, the investment will have a positive impact on the population and material assets by increasing flood safety. In addition, most of the construction works will be carried out at a considerable distance from built-up areas. The Contractor shall be responsible for planning, organizing and conducting construction works in such a way that no threat to material goods will occur. He will also be responsible for any damage caused by him or his sub-contractors to cubature facilities, structures, roads, elements of technical infrastructure (ditches, culverts, transmission networks), as well as information boards, cultural objects, etc. After the completion of the construction, as a consequence of commissioning the modernized embankment for construction, the threat to the material resources of nearby towns will be significantly reduced. Therefore, no negative impacts on material goods are expected.

Issues associated with the social context of the Works Contract 3D.3 implementation, including expropriation of properties, restriction of the previous use method, or access to properties, are described in details in the Land Acquisition and Resettlement Action Plan (LA&RAP) for the Contract in question.

5.11 Human health and safety

The construction works carried out under the Works Contract 3D.3 may temporarily deteriorate the quality and standard of living of residents, but that impact shall be temporary and reversible. This impact will be associated both with increased noise emissions in the vicinity of the works being carried out and a slight increase in air dustiness as a result of the use of construction vehicles and machinery (exhaust emissions). However, it shall be emphasized that those impacts would be temporary and limited, and they would cease at the completion. The inappropriate organization of works and lack of compliance with relevant standards could lead to contamination of soil and water with oil-derived substances at the stage of construction works, which could result in a direct or indirect threat to the health of the Contractor's staff or local residents. Issues related to the possibility of embankment failure or catastrophe are discussed in Chapter 5.12.

The execution of the Works Contract 3D.3 will contribute to a positive impact on the health and safety of people and their assets. The main objective of the Contract is to protect people and their material goods against flooding during high water levels. Operations of the developed hydrotechnical facilities shall increase the feeling of safety among people living in the nearby areas.

Mitigation measures planned to limit the negative impact on the health and safety of people were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.11.

5.12 Extraordinary hazards to the environment

Implementation of the planned Works Contract is associated with a possibility of occurrence of the following crisis or emergency situations, which may cause exceptional hazard to the environment:

- Uncontrolled emission (leakage) of diesel substances

  There may be an emergency situation on the performance stage, what would result in a leakage of diesel derivatives from vehicles, construction machines, tanks, etc., polluting surface water of land surface (including soil). Limitation of the risk and effects of such events takes place based upon proper organization of the site facilities and care for the proper technical conditions of vehicles, and machines and equipment applied on site, and – in case of their occurrence – based upon application of procedures referring to crisis and emergence situations described in the EMP.

- Fire or explosion of flammable substances

  An emergency situation may occur at the stage of construction connected with the occurrence of fire (e.g. due to equipment failure, personnel's negligence, explosion of flammable substances, lightning stroke, etc.). Limitation of the risk and effects of such events takes place based upon strict observance of H&S rules, proper organization of the site facilities and care for the proper technical conditions of vehicles, and machines and equipment applied on site, and – in case of their occurrence – based upon application of procedures referring to crisis and emergence situations described in the EMP.

- Finding unexploded shells

  Dangerous military materials, e.g. unexploded shells and ordnance, may be found on the performance stage. Limitation of a potential hazard associated with such events takes place based upon provision of an ongoing sapper supervision over the works, and – in case of identifying such materials – upon strict observance of procedures referring to cases of identifying presence of unexploded shells and ordnance described in the EMP.

- Sudden flood swelling, flood

  Water level may raise immediately in water courses within the construction site or a flood may occur on the performance stage, what would pose risk to health and life of the personnel and cause material damage on site. In order to minimize potential effects of such events the Contractor shall consider flood threat at organizing the site facilities and the remaining part of the construction site, and shall develop a *Flood Protection Plan for the Construction Site* and shall strictly apply conditions contained therein.

- Potential failure of flood embankment at the operation stage

  Flood embankment operation is associated with a potential risk of water overflow through the embankment crest or of breaking the embankment due to the occurrence of an exceptionally strong and long-lasting impoundment of river water causing long-term flooding of the inter-embankment zone areas or exceptional increase of water level in the inter-embankment zone. Specific design and technical solutions applied for the modernized flood protection embankment are employed to limit the risk of occurrence of such disasters, in accordance with valid design guidelines for hydraulic structures (in particular dimensions of flood protection embankment, appropriate selection of materials for embankment

construction, application of required membranes, works technology providing the necessity of specific compaction of the embankment, etc.). Considering the above safeguards and the fact that the extension of the embankments was designed according to hydraulic data characterizing the scale of flows existing in rivers on this area in calculation periods, it can be concluded that the probability of occurrence of the discussed hazard is negligible.

Mitigation measures planned to limit the effects of potential crisis situations, which may emerge due to or in the time of Works Contract 3D.3 implementation, were tabulated in Appendix 1 to this EMP – Plan of mitigation measures – and described in Chapter 6.12.

5.13 Other ES hazards

Implementation of the Works Contract 3D.3 may relate to numerous impacts related to ES issues (i.e. environmental, social and health and safety aspects). Except for the issues discussed above in Chapters 5.1-5.12, the following additional issues or hazards related to that subject may occur during implementation of the Contract, e.g.:

- Accidents and near misses, including participation of people associated with implementation of the Contract and/or of third parties;
- Cases of such unacceptable behavior on work sites as sexual harassment or mobbing;
- Cases of intentional or unintentional violation of labor law's provisions, including the ones associated with social conditions and labor conditions, and with payment to the personnel;
- Cases of infections with sexually transmitted diseases (including HIV/AIDS) or other infectious diseases (including those caused by coronaviruses, e.g. COVID-19), resulting from the lack of knowledge or from non-compliance with applicable rules on preventing and controlling infections of that type.

Due to significant social effects of those hazards, this Environmental Management Plan and other documents of the Contract contain numerous detailed conditions to prevent and efficiently react in case such events occur, and to assure proper implementation of any provisions of national legislation in that scope (see e.g. chapter 6.13).

5.14 Cumulative impact

Two other tasks are currently being carried out under the OVFMP in the area of the Gorzyce commune:

- "Vistula Stage 2 - Extension of the right embankment of the Vistula River at the distance of 13.959 km, the right embankment of the San River at the distance of 2.193 km and the left embankment of the Łęg river at the distance of 0.112 km, in the municipality of Gorzyce and the municipality of Radomyśl nad Sanem, Podkarpackie province" (Contract 3B.2 Flood protection of Tarnobrzeg City) is planned for implementation in the years of 2019-2020.
- "San III - extension of the left bank of the San River at km 0+000-4+445, the municipality of Gorzyce, Podkarpackie province" (Contract 3D.1 Program for the San. Passive protection in San basin) planned for implementation in 2020-2021.

The implementation site of the Works Contract 3D.3 is adjacent to the area of the first one – "Vistula Stage 2 - Extension of the right embankment of the Vistula River at the distance of 13.959 km, the right embankment of the San River at the distance of 2.193 km and the left embankment of the Łęg river at the distance of 0.112 km, in the municipality of Gorzyce and the municipality of Radomyśl nad Sanem, Podkarpackie province", and even directly connects with it in the northern part, in the initial section of both the left (km 0+082) and right bank (km 0+000) of the Łęg River.

The information presented, inter alia, in the Environmental Management Plan as well as in the environmental decisions issued for the aforementioned projects, provides that it does not involve the occurrence of significant emissions or other significant impacts on the environment, the scale of which would result in the possibility of occurrence of significant threats to the abiotic or biotic environment, even if construction works for both Contracts are conducted at the same time. It can be concluded by analyzing the mitigation measures described in the EMP documents for both projects that if construction works are carried out in accordance with the conditions contained therein, there is no risk of significant cumulative negative impacts, even if both projects are implemented at the same time in two neighboring locations. It is expected that by the time the construction works on the extension of the embankment of the River Łęg are commenced, the works on the extension of the right bank of the Vistula river in the sections adjacent to the area of the analyzed project will be completed.

The area of the project "San III - extension of the left bank of the San River at km 0+000-4+445, the municipality of Gorzyce, Podkarpackie province" is located at a distance of at least 4 km from the banks of the Łęg River, therefore no accumulation of impacts associated with the implementation of both projects is expected.

Therefore, environmental impacts of a negative nature (short-term construction nuisance) will not be cumulative. On the other hand, the implementation of all tasks, including this one, will contribute to the accumulation of positive effects in the flood protection system in the Upper Vistula river basin.

The authors of this EMP are not aware of any other planned projects that could lead to the occurrence of cumulative environmental impacts with the effects of Works Contract 3D.3.

6 Description of mitigation measures

In order to limit potential adverse impact of the planned Contract onto particular elements of the environment, Appendix 1 to this EMP provides a list of mitigation measures binding for the Contractor of Works Contract 3D.3. The measures have been developed based upon the conditions included in the binding decision on environmental conditions, including a supplementation with additional conditions determined at the development of the EMP. A summary of main mitigation measures' categories has been presented in the following parts of this chapter, with a breakdown into particular components of the environment discussed in Chapters 4 and 5 of the EMP.

Notwithstanding the above (in accordance with the condition in item no. 110 in Appendix 1 to the EMP), the Contractor shall be obliged to apply and observe all ES policies' requirements and conditions (i.e. the ones related to environmental, social and health and safety issues) as determined in the Contract documents, in the Operational Policies and Procedures of the World Bank[22] concerning protection of health and environment, as well as safeguard policies, in the WBG's Environmental, Health and Safety (EHS) Guidelines[23], in the ES Code of Conduct (developed on the stage of filing a bid[24]), in documents of the Contractor listed in Chapter 6.14 and in item no. 89 in Appendix 1 to the EMP, and as results from the legislation valid in Poland (including the Labor Code, the Construction Law, and others).

Temporary and permanent land acquisitions in connection with the implementation of the Contract will take place according to the rules specified in the Land Acquisition and Resettlement Action Plan (LA&RAP).

6.1 The surface of the earth and landscape

Basic forms of the adverse impact of the planned implementation of Works Contract 3D.3 on the surface of land and on the landscape were provided in Chapter 5.1.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit the impact on the condition of land surface and landscape associated with land acquisition (e.g. items no. 5, 6, 9, 13, 14, 15, 26, 27, 51, 54, 56, 57, 63, 65);
- Limit the damage to landscape values associated with the removal of trees and bushes (e.g. items no. 16, 17, 19, 20, 21, 22, 23, 24, 25).

[22] Available on e.g. a website:
https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx#S3-2
(in part titled *Investment Project Financing / Environmental and Social Safeguard Policies*).

[23] The guidelines are published on the World Bank's internet service at:
https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/ and
https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p

[24] In accordance with conditions given in the bidding documents in part ITB 11.1 (h).

6.2 Climate

Due to the absence of adverse impact on the climate (see: description under Chapter 5.2), it was not stated necessary to implement mitigation measures for that environmental component. Some mitigation measures – listed in Chapter 6.3 – are indirectly connected to the protection of climate, and they refer to the protection of air against contamination with combustion gas.

6.3 Sanitary condition of air

Basic forms of potential adverse impact of the planned Works Contract 3D.3 on the air were presented in Chapter 5.3.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit the contamination of air with combustion gas (e.g. items no. 60, 76);
- Limit the contamination of air due to emission of dust (e.g. items no. 77, 78).

6.4 Soil and land

Basic forms of potential adverse impact of the planned Works Contract 3D.3 on soils and grounds were presented in Chapter 5.4.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit the damage to soil due to land acquisition (e.g. items no. 5, 6, 13, 14, 15, 26, 27, 50, 51);
- Limit the loss of topsoil layer (e.g. items no. 52, 53, 54, 55, 56, 57);
- Limit the risk of polluting the ground on the performance stage (e.g. items no. 58, 59, 60, 67, 68, 69, 70, 71, 72, 73, 74, 84, 85, 86, 87, 88).

6.5 Surface waters

Basic forms of potential adverse impact of the planned Works Contract 3D.3 on surface water were presented in Chapter 5.5.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit the risk of polluting the water on the performance stage (e.g. items no. 5, 6, 13, 14, 15, 26, 27, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 84, 85, 86, 87, 88);
- Limit the risk of polluting the water on the operational stage (e.g. items no. 59);
- Limit the risk of adverse impact on biological elements of the water quality (e.g. items no. 47, 61, 62, 63, 64, 65).

6.6 Groundwaters

Due to the fact that the potential implementation impact of the project on groundwater (as described in Chapter 5.6) essentially overlaps impacts on the ground environment and on the surface water (described in Chapters 5.4 and 5.5), it was not stated necessary to implement additional mitigating measures in that scope, i.e. other than mitigation measures for the ground environment (see: description in Chapter 6.4) and mitigation measures for the surface water (see: description in Chapter 6.5).

6.7 Acoustic climate

Basic forms of potential adverse impact of the planned Works Contract 3D.3 on the acoustic climate were presented in Chapter 5.7.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit noise generated on the performance stage and to limit the impact of that noise on acoustically protected sites (e.g. items no. 14, 15, 76, 79, 80, 81, 82, 83).

6.8 Nature

Basic forms of potential adverse impact of the planned Works Contract 3D.3 on the abiotic nature's resources were presented in Chapter 5.8.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit losses in environmental resources associated with land acquisition, including acquisition of environmental habitats and habitats of plants and animals (e.g. items no. 6, 13, 14, 15, 27, 28, 31, 32, 63, 48, 52, 54, 55, 56, 57);
- Limit losses in environmental resources associated with logging of or damages to trees and bushes (e.g. items no. 16, 17 18, 19, 20, 21, 22, 23, 24, 25, 49);
- Eliminate or limit losses in environmental resources associated with accidental mortality of specimens of protected species on site (e.g. items no. 18, 26, 27, 28, 33, 34, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 52, 53, 62, 63, 64, 65);
- Eliminate or limit the works performance impact on the results of breeding and migration of protected animal species (e.g. items no. 26, 27, 28, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 47, 48, 49, 58, 59, 61, 62, 63, 64, 65);
- Eliminate or limit the performance impact on the spread of invasive plant species of foreign origin (e.g. items no. 29, 30, 48);
- Limit the risk of adverse impact on biological elements of the water quality (e.g. items no. 47, 61, 62, 63, 64, 65).

6.9 Cultural landscape and monuments

In accordance with a description given in Chapter 5.9, the planned implementation of Works Contract 3D.3 does not provide adverse impact on known cultural assets. In order to eliminate the potential adverse impact on yet undiscovered cultural objects, Appendix 1 to the EMP imposed an obligation to ensure archaeological supervision (connected with accidental finds) for the duration of earthworks (item 100, 101, 105).

6.10 Tangible assets

In accordance with the information given in Chapter 5.10, issues related to land acquisitions or changes in land use, as well as possible problems related to the impact of the execution of the Contract on the temporary occupation areas and their surroundings, are discussed in detail in the Land Acquisition and Resettlement Action Plan (LA&RAP) for this Contract.

In order to eliminate the potential adverse impact of the works on material goods, Appendix 1 to the EMP implements mitigation measures to provide protection for buildings, roads, and other infrastructural elements against unfavorable impact of the works and / or transportation associated with implementation of the Works Contract (items no. 5, 6, 7, 8, 9, 11, 12, 91). Some mitigation measures listed under Chapter 6.1, as well as measures listed under items no. 3 and 4 in Appendix 1 to the EMP – in reference to the purchase and to the compensation due to implementation of the Contract, are indirectly associated with the protection of material goods, and those are to limit the impact of land acquisition during the works (according to the rules specified in the Land Acquisition and Resettlement Action Plan).

6.11 Human health and safety

Basic forms of the adverse impact of the planned implementation of Works Contract 3D.3 on the health and safety of people were presented in Chapters 5.11 and 5.12.

For the purpose of limiting those impacts Appendix 1 to the EMP implements mitigation measures to e.g.:

- Limit the impact of the planned works on the sanitary condition of air (listed under Chapter 6.3);
- Limit the impact of the planned works on the acoustic climate (listed under Chapter 6.7);
- Eliminate or limit the risk of chemical contamination of water and ground on the performance stage (listed under Chapters 6.4 and 6.5);
- Secure safety on site and in its vicinity (items no. 7, 8, 10, 11, 12, 58, 59, 89, 90, 91, 92, 93, 94, 95, 106, 110, 118, 119, 120 and others mentioned in Chapter 6.12 and 6.13);
- Assure proper reaction in case of exceptional hazards (items no. 96, 98, 99, 118).

6.12 Extraordinary hazards to the environment

Basic types of exceptional hazards (crisis situations), which may potentially occur due to the implementation of Works Contract 3D.3 were presented in Chapter 5.12.

In order to limit potential effects of crisis situations Appendix 1 to the EMP implements mitigation measures to e.g.:

- Eliminate or limit the risk of chemical contamination of water and ground on the performance stage (listed under Chapters 6.4 and 6.5);
- Secure safety in case of fire (e.g. item no. 89);
- Secure safety in case of identifying unexploded shells and ordnance (e.g. items no. 89, 90, 99, 106);
- Secure safety in case of flood (e.g. items no. 96, 97);
- Assure proper reaction in case of exceptional hazards (items no. 96, 98, 99, 118).

6.13 Other ES hazards

Exemplary forms of additional hazards associated with ES issues (other than the ones discussed previously in Chapters 5.1-5.12) were presented in Chapter 5.13.

In order to prevent hazards of that type, except for the measures listed in Chapters 6.1-6.12, Appendix 1 to this EMP implements additional mitigation measures to e.g.:

- prevent accidents and near misses on work site and in other places related to the implementation of the Contract (e.g. items no. 110, 111, 112, 113, 118 and others listed in Chapters 6.11 and 6.12);
- combat such unacceptable behavior on work site as cases of sexual harassment or mobbing (e.g. items no. 114, 115, 118);
- assure proper social conditions, and labor conditions and payment to the personnel engaged in implementation of the Contract, in compliance with the law (e.g. items no. 116, 117, 118);
- assure proper procedures for ongoing information provision on issues and hazards associated with the aforementioned subject (e.g. item no. 118);
- reduce the risk of spreading infectious diseases, especially sexually transmitted diseases (including HIV/AIDS) and diseases caused by coronaviruses (e.g. COVID-19) (e.g. items no. 119, 120).

6.14 Requirements for implementation of action plans in the construction phase

For the purpose of providing proper performance organization, as well as for the proper implementation of conditions determined under Appendices 1 and 2 to the Environmental Management Plan, the Contractor is obliged to develop and obtain the Engineer's acceptance for the following documents, which shall subsequently be implemented (see also item no. 89 in Appendix 1 to the EMP):

- Construction site organization plan, which should contain such elements as e.g.:
  - location of the construction site facility,
  - managing the construction site facility,
  - securing the construction site facility,
  - service roads,
  - environmental protection on the site facilities, technological roads, and yards.
- Waste management plan, which should contain such elements as e.g.:
  - encountered and estimated types and volumes of waste,
  - means of preventing adverse impact of waste on the environment,
  - manners of waste management taking into account collection, transport, recovery and treatment of waste,
  - type of generated waste and way of its storage.
- Quality assurance plans (general one and detailed ones), which should contain such elements as e.g.:
  - works performance organization,
  - organization of traffic on the construction site together with marking of the works,
  - OH&S and environment protection,
  - list of working teams,
  - scope of duties of the key personnel,
  - quality controls,
  - methods for controlling the level of noise emissions as well as air, soil and water pollution (to the extent relevant to the type of works),
  - laboratory tests.
- Flood protection plan for the site for the performance time, which shall contain the following:
  - monitoring hydrological and weather situation,
  - conditions for allowing overflows in the period of works performance,
  - the rules of work for the Contractor's team in the period of flood risk,
  - basic duties of the managing staff during the flood risk,
  - list of people with assigned duties in the period of flood risk,
  - list of equipment and transport means needed to conduct rescue actions

- SHPP which should contain among others such elements as:
  - indication of land development elements, which may create safety and health risks,
  - information concerning expected hazards that could occur during the performance, defining the scale and types of hazards and the place and time of occurrence, including reference to the natural environment,
  - information on separation and marking of places of conducting construction works, according to the hazard type,
  - information on the way of conducting training of employees prior to the commencement of particularly hazardous works,
  - determining the method of storing and transport of hazardous materials, products, substances and preparations at the construction site,
  - indication of technical and organizational measures preventing hazards resulting from the performance of construction works in the zones of particular health danger or close to them, including those ensuring fast and efficient communication, enabling immediate evacuation in the case of fire, accident or other threats,
  - indication of the storage location of construction documentation and documents necessary for proper operation of machines and other technical devices.
  - information related to the current rules of conduct in case of an epidemic state or an epidemic risk state being announced (including conditions given in item no. 120 in Appendix 1 to the EMP).

At developing the aforementioned documents the Contractor shall include e.g. provisions of the decision on environmental conditions (and of other administrative decisions related to the environmental protection, if applicable), conditions determined in the EMP, the appropriate Operational Policies and Procedures of the World Bank[25] concerning protection of health and environment, as well as safeguard policies, the WBG's Environmental, Health and Safety (EHS) Guidelines[26], the ES Code of Conduct (developed on the stage of filing a bid[27]) and binding provisions of the state law (including the Labour Code, the Construction Law, and others).

[25] Available on e.g. a website:
https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx#S3-2
(in part titled *Investment Project Financing / Environmental and Social Safeguard Policies*).

[26] The guidelines are published on the World Bank's internet service at:
https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/ and
https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p

[27] In accordance with conditions given in the bidding documents in part ITB 11.1 (h).

7 Description of environmental monitoring measures

Appendix 2 to this EMP provides a summary of monitoring measures binding for the Contractor for the Works Contract 3D.3. Those measures have been developed based upon the conditions included in the valid decision on environmental conditions, along with additional conditions established on the stage of EMP development.

Monitoring measures listed in Appendix 2 to the EMP belong to one category:

- Monitoring for implementation of mitigation measures from Appendix 1 to the EMP (items no. 1-120 in Appendix 2 to the EMP).

8 Social consultations

8.1 Public consultations on Environmental and Social Management Framework (2015)

The draft of Environmental and Social Management Framework (ESMF) was subject to public consultations conducted in accordance with the World Bank's operational policy OP 4.01. Their purpose was to allow the society to acknowledge contents of that document and to assure the possibility of filing potential remarks, enquiries, and applications to its contents.

Documentation on the public consultations process for the ESMF is available on a website of the Odra-Vistula Flood Management Project Coordination Unit[28,29].

8.2 Public consultations on the EIA stage (2015-2017)

In accordance with the Polish EIA procedure, on the stage of issuing a decision on environmental decision, the planned project falling within the scope of the Works Contract 3D.3 shall be subject to obligatory public consultations. On the EIA procedure stage, the consultations with the public were done by the unit issuing the ED, i.e. RDOŚ in Rzeszów. The description of individual stages of the EIA proceedings conducted at the stage of issuing the decision on environmental conditions, together with the description of public consultations conducted by RDOŚ in Rzeszów within the framework of the aforementioned proceedings, is presented in the text of the decision of the Regional Director for Environmental Protection in Rzeszów dated August 18, 2017 on environmental conditions (ref. no..: WOOŚ.4233.4.2015.MG.66), in Appendix 4a to this EMP – Decisions, resolutions, permits, notices.

8.3 Public consultations of the Environmental Management Plan (2020)

The draft of this EMP was subject to the procedure of public consultations conducted in accordance with the operational policy of the World Bank (OP/PB 4.01). Due to the threats associated with coronavirus epidemic causing COVID-19 disease, the action plan related to publication of the EMP took into account guidelines under the Technical Note of the World Bank "*Public Consultation and Stakeholder Engagement in World Bank Supported Activities, in the event of restrictions on public meeting*"[30]

[28] http://www.odrapcu.pl/doc/OVFMP/RPZSiS_Zalacznik_08_Raporty_z_procedury_upublicznienia_projektu_EMAF.pdf

[29] http://www.odrapcu.pl/doc/OVFMP/RPZSiS_Zalacznik_09_Raporty_z_konsultacji_spolecznych_RAF.pdf

[30] In case of procedures applied prior to the occurrence of coronavirus pandemic, one has resigned of providing a hard copy of the draft EMP for review in offices and in public offices, the publication period has been extended (up to 15 working days), and an open public debate in the end of the publication period for the draft EMP was cancelled. Instead of the aforementioned debate, a teleconference (webinar) was organized on the last day of consultations, and it consisted of a presentation of the draft EMP and a Q&A session.

After preparing the draft EMP and obtaining – upon its basis – the PCU's acceptance (consent to publish) for commencing the publication procedure, on October 23, 2020, a digital version of the draft EMP was published at the following publicly accessible websites: on the website of PGW WP RZGW in Rzeszów – *https://rzeszow.wody.gov.pl* (Fig. 4), OVFM Project Coordination Unit – *http://odrapcu2019.odrapcu.pl* (Fig. 5) and Commune Office of Gorzyce – *http://www.gminagorzyce.pl* (Fig. 6)

Detailed information on the access to that document and on the possibility of informing conclusions and comments (along with indication of detailed contact data: snail mail addresses, e-mail address, telephone number) were publicly informed in the Announcement (Fig. 7) available between 10/23/2020 and 11/13/2020 in the following locations:

- website of PGW WP RZGW in Rzeszów – *https://rzeszow.wody.gov.pl* (Fig. 4), website of OVFM Project Coordination Unit – *http://odrapcu2019.odrapcu.pl* (Fig. 5) and website of the Commune Office of Gorzyce – *http://www.gminagorzyce.pl* (Fig. 6);
- notice boards located in the commune area and in the offices of above mentioned institutions (Fig. 8);
- social media, at *https://www.facebook.com/GorzyceFace* (contrary to the information provided in the Announcement, for technical reasons, i.e. deactivation of the online account, the information was not published on the website of *https://www.facebook.com/gorzyce24*) (Fig. 9);
- website of local press at *https://nowiny24.pl* and in printed local press – *Nowiny* (Fig. 10).

The aforementioned announcement also included information on the possibility of taking part in a publicly accessible teleconference (webinar), which was planned for November 13, 2020 (including information on date and time of the teleconference), and information on a link allowing for downloading "*Step by step manual*" and a link allowing for accessing the teleconference.

Information on the commenced publication procedure for the draft EMP and on the possibility of notifying motions and remarks has also been e-mailed to the following persons, institutions, and organizations:

- Commune Head of Gorzyce,
- Commune Council of Gorzyce,
- Koalicja Ratujmy Rzeki [Save the Rivers Coalition],
- Siostry Rzeki [Sisters of the River],
- Towarzystwo na Rzecz Ziemi [Society for the Earth],
- Fundacja Greenmind [Greenmind Foundation].

The publication of the draft EMP, officially launched on October 23, 2020, was completed after 15 working days, i.e. on November 13, 2020. During that period, until the commencement of the publicly available teleconference (webinar), neither remarks nor questions were provided in relation to contents of the draft EMP (neither as a hard copy nor by e-mail or phone).

On the last day of the publication period, November 13, 2020, from 5:00 pm to 7:00 pm, the publicly accessible teleconference (webinar) was organized for interested people, organizations, and institutions, and it consisted of a presentation on the draft EMP for the Contract 3D.3 and of a Q&A session (Fig. 11 and 12). At least 14 people attended the tele-

conference (according to anonymous data available from Microsoft Teams software). During the teleconference the attendees asked four questions (using an on-line form available to all persons attending the webinar). Particular questions are discussed below, including the answers provided:

1) *When is contract work planned to commence?*

   In response, it was informed that the tender procedure is currently underway and the exact date of commencement of works will be known when the Contractor is selected. However, the commencement of works under the Contract is expected in the first quarter of 2021, if everything goes according to schedule.

2) *Will the works on the left and right embankments take place simultaneously, or will one of the embankments be modernized first, and the other only after the works on the first embankment are completed?*

   In response, it was informed that the works would probably run on both embankments simultaneously. It was explained that it results from the specifics and conditions for this Contract: the embankment, as an active protective device, must be technically possible to protect it during expansion at any time. Thus, the entire embankment cannot be opened at once, and the works are carried out in sections usually not longer than approx. 300 m. Moreover, due to the lack of access to the embankments via roads from the sideways, all transport will have to be carried out along the embankments, both along the right and left embankments. It will be necessary to distribute the transport workload on the existing access roads, which will be hardened again after completion of works by pouring a new pavement. It was also informed that at this stage the details are not known yet and they will be presented in the schedule prepared by the Contractor selected through a tender.

3) *Are any power cuts foreseen during the planned construction works, due to the reconstruction of medium and high voltage overhead lines?*

   In response it was explained that power distribution companies are required to provide energy by the agreements signed with their recipients, therefore, it is assumed that the energy supply will be ensured, despite the ongoing works. In addition, high and medium voltage power lines are connected in the so-called 'loops' that allow them to be double-sided powered. It was also noted that the team did not have technical knowledge in the field of energy, to provide a full answer to this question.

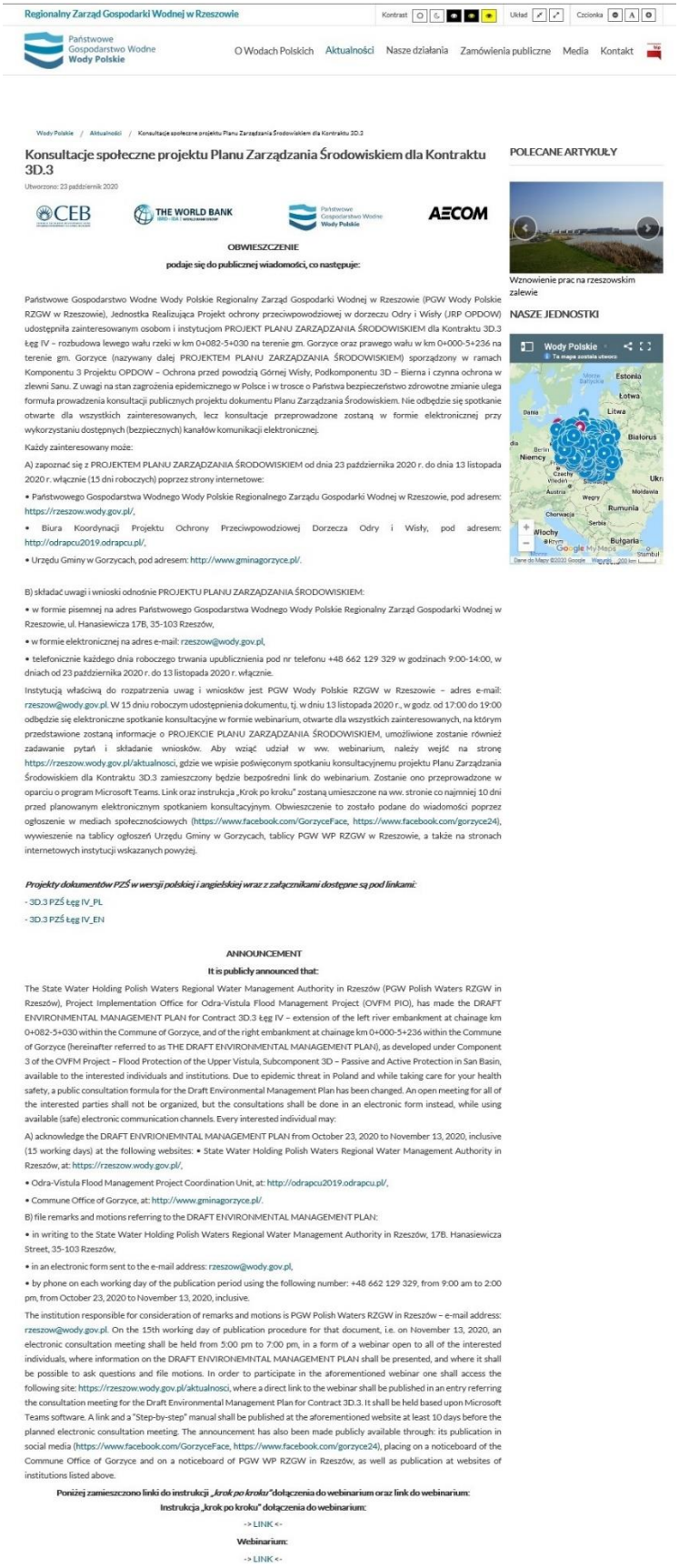
4) *Will a foot and bicycle bridge on Łęg river be available during the construction phase of works (connection between Sokolniki and Gorzyce villages)?*

   In the answer, it was explained that despite the fact that the foot and bicycle bridge on Łęg will be located outside of the construction site, the access itself to the footbridge on both sides will run through the construction site. As the Contractor is responsible for the construction site, his duty, in accordance with the regulations, is to mark all access roads to the construction site with appropriate warning signs "Construction site - no entry". Therefore, for formal and legal reasons, it will not be possible to use this footbridge. In the event that the residents need to use the footbridge in the future, it will

be necessary to start talks and make arrangements on this matter with the Contractor, in which the Consultant's Team will participate.

After answering all of the questions the teleconference was over.

After completing the public consultations period, the Report on public consultations of the draft EMP and the final version of the EMP for the Contract 3D.3 were prepared. Subsequently, both of these documents were submitted to the World Bank for the final approval clause, the so-called "no objection".



Regionalny Zarząd Gospodarki Wodnej w Rzeszowie

Państwowe Gospodarstwo Wodne Wody Polskie

O Wodach Polskich | Aktualności | Nasze działania | Zamówienia publiczne | Media | Kontakt

Wody Polskie / Aktualności / Konsultacje społeczne projektu Planu Zarządzania Środowiskiem dla Kontraktu 3D.3

Konsultacje społeczne projektu Planu Zarządzania Środowiskiem dla Kontraktu 3D.3

Utworzono: 23 październik 2020

OBWIESZCZENIE

podaje się do publicznej wiadomości, co następuje:

Państwowe Gospodarstwo Wodne Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Rzeszowie (PGW Wody Polskie RZGW w Rzeszowie), Jednostka Realizująca Projekt ochrony przeciwpowodziowej w dorzeczu Odry i Wisły (JRP OPDOW) udostępniła zainteresowanym osobom i instytucjom PROJEKT PLANU ZARZĄDZANIA ŚRODOWISKIEM dla Kontraktu 3D.3 Łęg IV – rozbudowa lewego wału rzeki w km 0+082-5+030 na terenie gm. Gorzyce oraz prawego wału w km 0+000-5+236 na terenie gm. Gorzyce (nazywany dalej PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM) sporządzony w ramach Komponentu 3 Projektu OPDOW – Ochrona przed powodzią Górnej Wisły, Podkomponentu 3D – Bierna i czynna ochrona w zlewni Sanu. Z uwagi na stan zagrożenia epidemicznego w Polsce i w trosce o Państwa bezpieczeństwo zdrowotne zmianie ulega formuła prowadzenia konsultacji publicznych projektu dokumentu Planu Zarządzania Środowiskiem. Nie odbędzie się spotkanie otwarte dla wszystkich zainteresowanych, lecz konsultacje przeprowadzone zostaną w formie elektronicznej przy wykorzystaniu dostępnych (bezpiecznych) kanałów komunikacji elektronicznej.

Każdy zainteresowany może:

A) zapoznać się z PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM od dnia 23 października 2020 r. do dnia 13 listopada 2020 r. włącznie (15 dni roboczych) poprzez strony internetowe:

- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalnego Zarządu Gospodarki Wodnej w Rzeszowie, pod adresem: https://rzeszow.wody.gov.pl/,
- Biura Koordynacji Projektu Ochrony Przeciwpowodziowej Dorzecza Odry i Wisły, pod adresem: http://odrapcu2019.odrapcu.pl/,
- Urzędu Gminy w Gorzycach, pod adresem: http://www.gminagorzyce.pl/.

B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM:

- w formie pisemnej na adres Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Rzeszowie, ul. Hanasiewicza 17B, 35-103 Rzeszów,
- w formie elektronicznej na adres e-mail: rzeszow@wody.gov.pl,
- telefonicznie każdego dnia roboczego trwania upublicznienia pod nr telefonu +48 662 129 329 w godzinach 9:00-14:00, w dniach od 23 października 2020 r. do 13 listopada 2020 r. włącznie.

Instytucją właściwą do rozpatrzenia uwag i wniosków jest PGW Wody Polskie RZGW w Rzeszowie – adres e-mail: rzeszow@wody.gov.pl. W 15 dniu roboczym udostępnienia dokumentu, tj. w dniu 13 listopada 2020 r., w godz. od 17:00 do 19:00 odbędzie się elektroniczne spotkanie konsultacyjne w formie webinarium, otwarte dla wszystkich zainteresowanych, na którym przedstawione zostaną informacje o PROJEKCIE PLANU ZARZĄDZANIA ŚRODOWISKIEM, umożliwione zostanie również zadawanie pytań i składanie wniosków. Aby wziąć udział w ww. webinarium, należy wejść na stronę https://rzeszow.wody.gov.pl/aktualnosci, gdzie we wpisie poświęconym spotkaniu konsultacyjnemu projektu Planu Zarządzania Środowiskiem dla Kontraktu 3D.3 zamieszczony będzie bezpośredni link do webinarium. Zostanie ono przeprowadzone w oparciu o program Microsoft Teams. Link oraz instrukcja „Krok po kroku" zostaną umieszczone na ww. stronie co najmniej 10 dni przed planowanym elektronicznym spotkaniem konsultacyjnym. Obwieszczenie to zostało podane do wiadomości poprzez ogłoszenie w mediach społecznościowych (https://www.facebook.com/GorzyceFace, https://www.facebook.com/gorzyce24), wywieszenie na tablicy ogłoszeń Urzędu Gminy w Gorzycach, tablicy PGW WP RZGW w Rzeszowie, a także na stronach internetowych instytucji wskazanych powyżej.

Projekty dokumentów PZŚ w wersji polskiej i angielskiej wraz z załącznikami dostępne są pod linkami:

- 3D.3 PZŚ Łęg IV_PL
- 3D.3 PZŚ Łęg IV_EN

ANNOUNCEMENT

It is publicly announced that:

The State Water Holding Polish Waters Regional Water Management Authority in Rzeszów (PGW Polish Waters RZGW in Rzeszów), Project Implementation Office for Odra-Vistula Flood Management Project (OVFM PIO), has made the DRAFT ENVIRONMENTAL MANAGEMENT PLAN for Contract 3D.3 Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce (hereinafter referred to as THE DRAFT ENVIRONMENTAL MANAGEMENT PLAN), as developed under Component 3 of the OVFM Project – Flood Protection of the Upper Vistula, Subcomponent 3D – Passive and Active Protection in San Basin, available to the interested individuals and institutions. Due to epidemic threat in Poland and while taking care for your health safety, a public consultation formula for the Draft Environmental Management Plan has been changed. An open meeting for all of the interested parties shall not be organized, but the consultations shall be done in an electronic form instead, while using available (safe) electronic communication channels. Every interested individual may:

A) acknowledge the DRAFT ENVRIONEMNTAL MANAGEMENT PLAN from October 23, 2020 to November 13, 2020, inclusive (15 working days) at the following websites: • State Water Holding Polish Waters Regional Water Management Authority in Rzeszów, at: https://rzeszow.wody.gov.pl/,

- Odra-Vistula Flood Management Project Coordination Unit, at: http://odrapcu2019.odrapcu.pl/,
- Commune Office of Gorzyce, at: http://www.gminagorzyce.pl/.

B) file remarks and motions referring to the DRAFT ENVIRONMENTAL MANAGEMENT PLAN:

- in writing to the State Water Holding Polish Waters Regional Water Management Authority in Rzeszów, 17B. Hanasiewicza Street, 35-103 Rzeszów,
- in an electronic form sent to the e-mail address: rzeszow@wody.gov.pl,
- by phone on each working day of the publication period using the following number: +48 662 129 329, from 9:00 am to 2:00 pm, from October 23, 2020 to November 13, 2020, inclusive.

The institution responsible for consideration of remarks and motions is PGW Polish Waters RZGW in Rzeszów – e-mail address: rzeszow@wody.gov.pl. On the 15th working day of publication procedure for that document, i.e. on November 13, 2020, an electronic consultation meeting shall be held from 5:00 pm to 7:00 pm, in a form of a webinar open to all of the interested individuals, where information on the DRAFT ENVIRONEMNTAL MANAGEMENT PLAN shall be presented, and where it shall be possible to ask questions and file motions. In order to participate in the aforementioned webinar one shall access the following site: https://rzeszow.wody.gov.pl/aktualnosci, where a direct link to the webinar shall be published in an entry referring the consultation meeting for the Draft Environmental Management Plan for Contract 3D.3. It shall be held based upon Microsoft Teams software. A link and a "Step-by-step" manual shall be published at the aforementioned website at least 10 days before the planned electronic consultation meeting. The announcement has also been made publicly available through: its publication in social media (https://www.facebook.com/GorzyceFace, https://www.facebook.com/gorzyce24), placing on a noticeboard of the Commune Office of Gorzyce and on a noticeboard of PGW WP RZGW in Rzeszów, as well as publication at websites of institutions listed above.

Poniżej zamieszczono linki do instrukcji *„krok po kroku"* dołączenia do webinarium oraz link do webinarium:

Instrukcja „krok po kroku" dołączenia do webinarium:

-> LINK <-

Webinarium:

-> LINK <-

POLECANE ARTYKUŁY

Wznowienie prac na rzeszowskim zalewie

NASZE JEDNOSTKI

Wody Polskie

Fig. 4. Announcement on public consultations for the draft EMP with a link for downloading the documents and to a webinar, as published at the website of the PGW WP RZGW in Rzeszów

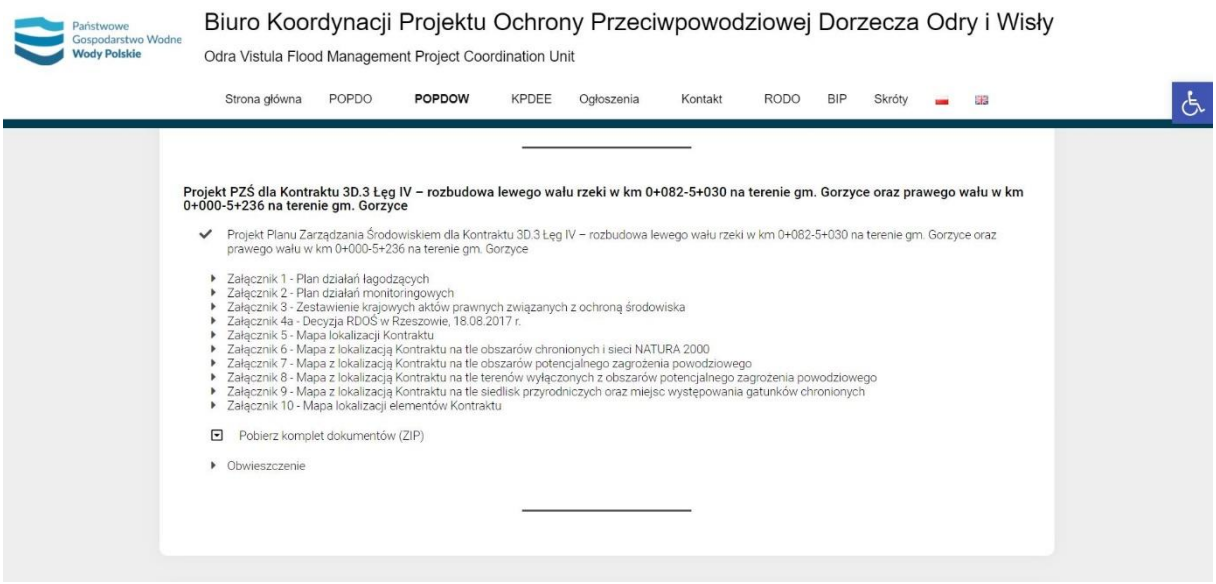


Fig. 5. Digital version of the draft EMP and announcement on public consultations for the draft EMP published at the website of the OVFM PCU.

Fig. 6. Announcement on public consultations for the draft EMP with a link for downloading the documents published at the website of the Commune Office of Gorzyce.

OBWIESZCZENIE

podaje się do publicznej wiadomości, co następuje:

Państwowe Gospodarstwo Wodne Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Rzeszowie (PGW Wody Polskie RZGW w Rzeszowie), Jednostka Realizująca *Projekt ochrony przeciwpowodziowej w dorzeczu Odry i Wisły* (JRP OPDOW) udostępniła zainteresowanym osobom i instytucjom **PROJEKT PLANU ZARZĄDZANIA ŚRODOWISKIEM** dla Kontraktu 3D.3 ***Łęg IV – rozbudowa lewego wału rzeki w km 0+082-5+030 na terenie gm. Gorzyce oraz prawego wału w km 0+000-5+236 na terenie gm. Gorzyce*** (nazywany dalej PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM) sporządzony w ramach Komponentu 3 Projektu OPDOW – *Ochrona przed powodzią Górnej Wisły*, Podkomponentu 3D – *Bierna i czynna ochrona w zlewni Sanu*.

Z uwagi na stan zagrożenia epidemicznego w Polsce i w trosce o Państwa bezpieczeństwo zdrowotne zmianie ulega formuła prowadzenia konsultacji publicznych projektu dokumentu Planu Zarządzania Środowiskiem. Nie odbędzie się spotkanie otwarte dla wszystkich zainteresowanych, lecz konsultacje przeprowadzone zostaną w formie elektronicznej przy wykorzystaniu dostępnych (bezpiecznych) kanałów komunikacji elektronicznej.

Każdy zainteresowany może:

A) zapoznać się z PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM od dnia **23 października 2020 r.** do dnia **13 listopada 2020 r.** włącznie (15 dni roboczych) poprzez strony internetowe:

- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalnego Zarządu Gospodarki Wodnej w Rzeszowie, pod adresem: https://rzeszow.wody.gov.pl/,
- Biura Koordynacji Projektu Ochrony Przeciwpowodziowej Dorzecza Odry i Wisły, pod adresem: http://odrapcu2019.odrapcu.pl/,
- Urzędu Gminy w Gorzycach, pod adresem: http://www.gminagorzyce.pl/.

B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM:

- w formie pisemnej na adres Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Rzeszowie, ul. Hanasiewicza 17B, 35-103 Rzeszów,
- w formie elektronicznej na adres e-mail: rzeszow@wody.gov.pl,
- telefonicznie każdego dnia roboczego trwania upublicznienia pod nr telefonu **+48 662 129 329** w godzinach **9:00-14:00**,

w dniach od **23 października 2020 r.** do **13 listopada 2020 r.** włącznie.

Instytucją właściwą do rozpatrzenia uwag i wniosków jest PGW Wody Polskie RZGW w Rzeszowie – adres e-mail: rzeszow@wody.gov.pl.

W 15 dniu roboczym udostępnienia dokumentu, tj. w dniu **13 listopada 2020 r.**, w godz. **od 17:00 do 19:00** odbędzie się elektroniczne spotkanie konsultacyjne w formie webinarium, otwarte dla wszystkich zainteresowanych, na którym przedstawione zostaną informacje o PROJEKCIE PLANU ZARZĄDZANIA ŚRODOWISKIEM, umożliwione zostanie również zadawanie pytań i składanie wniosków.

Aby wziąć udział w ww. webinarium, należy wejść na stronę https://rzeszow.wody.gov.pl/aktualnosci, gdzie we wpisie poświęconym spotkaniu konsultacyjnemu projektu Planu Zarządzania Środowiskiem dla Kontraktu 3D.3 zamieszczony będzie bezpośredni link do webinarium. Zostanie ono przeprowadzone w oparciu o program Microsoft Teams. Link oraz instrukcja „Krok po kroku" zostaną umieszczone na ww. stronie co najmniej 10 dni przed planowanym elektronicznym spotkaniem konsultacyjnym.

Obwieszczenie to zostało podane do wiadomości poprzez ogłoszenie w mediach społecznościowych (https://www.facebook.com/GorzyceFace, https://www.facebook.com/gorzyce24), wywieszenie na tablicy ogłoszeń Urzędu Gminy w Gorzycach, tablicy PGW WP RZGW w Rzeszowie, a także na stronach internetowych instytucji wskazanych powyżej.

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Fig. 7 Announcement on public consultations for the draft EMP submitted to the local press and published on the web sites and on the notice boards.

Fig. 8. Announcement on public consultations for the draft EMP placed on the notice board in the Commune Office of Gorzyce building.

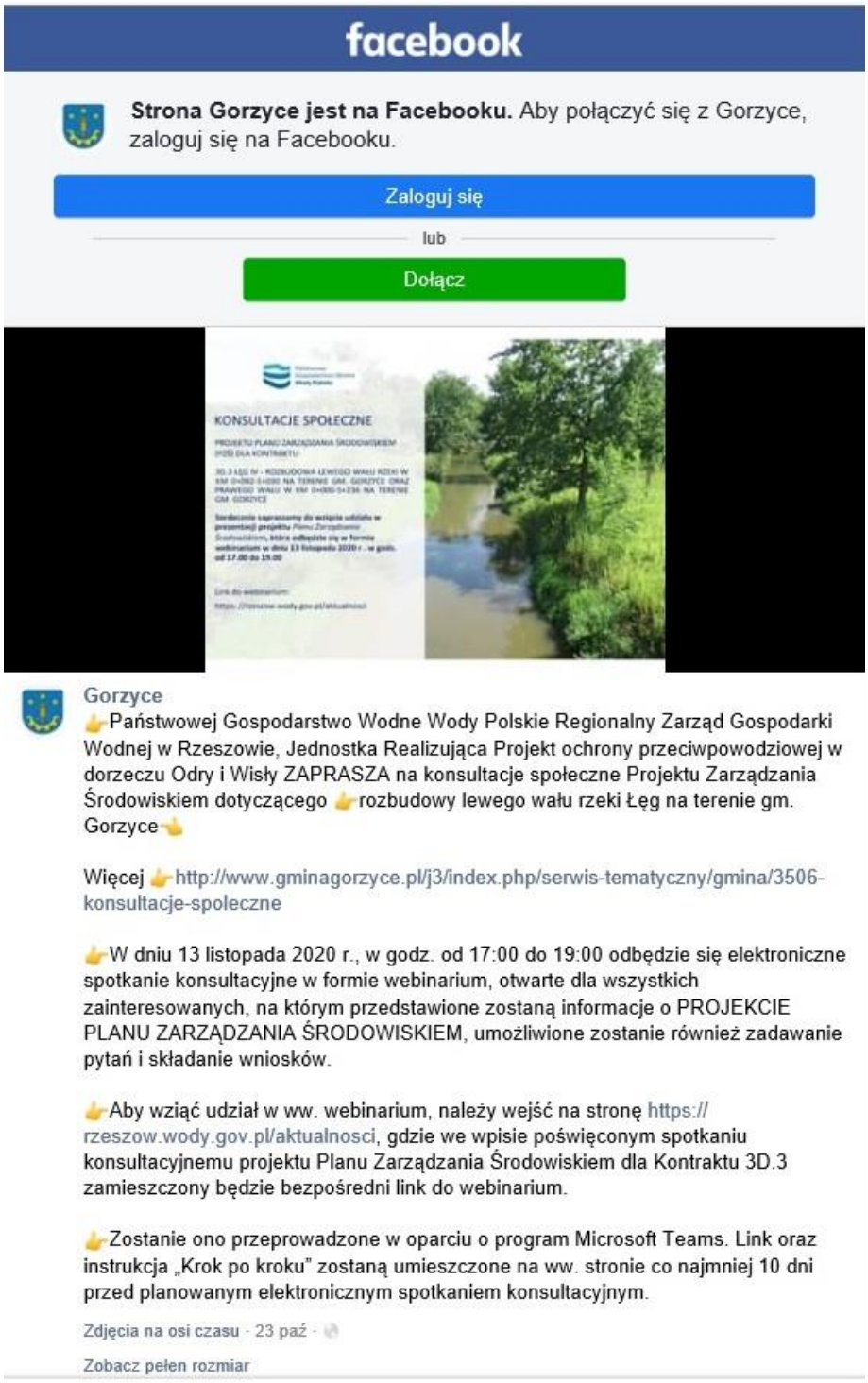

Fig. 9. Announcement on public consultations for the draft EMP posted on social media (Facebook: Gorzyce).

26 ogłoszenia drobne

Nowiny Piątek-niedziela, 23-25.10.2020

REKLAMA

RZUĆ PALENIE
www.odczulanie.pl
Jednorazowy zabieg i zrywasz z nałogiem
RZESZÓW, ul Słowackiego 24/19, II piętro
Tel. 17/8540596
KIELCE, ul. Zagnańska 84 a/8
Tel. 41/3625014

REKLAMA

Sąd Okręgowy w Rzeszowie
wynajmie lokal użytkowy o pow. 160,94 m² z przeznaczeniem na prowadzenie bufetu-stołówki.
Oferty należy składać do dnia 6.11.2020 r.
Informacje pod nr tel. 17/87-56-235.

AUTOPROMOCJA

Czytaj tak, jak lubisz
nowiny24.pl
nowiny24

AUTOPROMOCJA

Tradycje i dokonania pokoleń druhów OSP w wyjątkowej książce

KRONIKA
Ochotniczych Straży Pożarnych Województwa Podkarpackiego

- papier kredowy
- twarda oprawa
- 144 strony

nowiny

Książka w cenie 39 zł do nabycia w Biurze Ogłoszeń, ul. Unii Lubelskiej 3, 35-016 Rzeszów. Zamówienie z dostawą do domu: tel. 17 86 72 277 lub e-mail: album@nowiny24.pl

REKLAMA

OBWIESZCZENIE

podaje się do publicznej wiadomości, co następuje:

Państwowe Gospodarstwo Wodne Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Rzeszowie (PGW Wody Polskie RZGW w Rzeszowie), Jednostka Realizująca *Projekt ochrony przeciwpowodziowej w dorzeczu Odry i Wisły* (JRP OPDOW) udostępniła zainteresowanym osobom i instytucjom **PROJEKT PLANU ZARZĄDZANIA ŚRODOWISKIEM** dla Kontraktu 3D.3 *Łęg IV – rozbudowa lewego wału rzeki w km 0+082-5+030 na terenie gm. Gorzyce oraz prawego wału w km 0+000-5+236 na terenie gm. Gorzyce* (nazywany dalej PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM) sporządzony w ramach Komponentu 3 Projektu OPDOW – *Ochrona przed powodzią Górnej Wisły*, Podkomponentu 3D – *Bierna i czynna ochrona w zlewni Sanu*.

Z uwagi na stan zagrożenia epidemicznego w Polsce i w trosce o Państwa bezpieczeństwo zdrowotne zmianie ulega formuła prowadzenia konsultacji publicznych projektu dokumentu Planu Zarządzania Środowiskiem. Nie odbędzie się spotkanie otwarte dla wszystkich zainteresowanych, lecz konsultacje przeprowadzone zostaną w formie elektronicznej przy wykorzystaniu dostępnych (bezpiecznych) kanałów komunikacji elektronicznej.

Każdy zainteresowany może:

A) zapoznać się z PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM od dnia **23 października 2020 r.** do dnia **13 listopada 2020 r.** włącznie (15 dni roboczych) poprzez strony internetowe:
- Państwowego Gospodarstwa Wodnego Wody Polskie Regionalnego Zarządu Gospodarki Wodnej w Rzeszowie, pod adresem: https://rzeszow.wody.gov.pl/,
- Biura Koordynacji Projektu Ochrony Przeciwpowodziowej Dorzecza Odry i Wisły, pod adresem: http://odrapcu2019.odrapcu.pl/,
- Urzędu Gminy w Gorzycach, pod adresem: http://www.gminagorzyce.pl/.

B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM:
- w formie pisemnej na adres Państwowego Gospodarstwa Wodnego Wody Polskie Regionalny Zarząd Gospodarki Wodnej w Rzeszowie, ul. Hanasiewicza 17B, 35-103 Rzeszów,
- w formie elektronicznej na adres e-mail: rzeszow@wody.gov.pl,
- telefonicznie każdego dnia roboczego trwania upublicznienia pod nr telefonu **+48 662 129 329** w godzinach **9:00-14:00**,

w dniach od **23 października 2020 r.** do **13 listopada 2020 r.** włącznie.

Instytucją właściwą do rozpatrzenia uwag i wniosków jest PGW Wody Polskie RZGW w Rzeszowie – adres e-mail: rzeszow@wody.gov.pl.

W 15 dniu roboczym udostępnienia dokumentu, tj. w dniu **13 listopada 2020 r.** w godz. **od 17:00 do 19:00** odbędzie się elektroniczne spotkanie konsultacyjne w formie webinarium, otwarte dla wszystkich zainteresowanych, na którym przedstawione zostaną informacje o PROJEKCIE PLANU ZARZĄDZANIA ŚRODOWISKIEM, umożliwione zostanie również zadawanie pytań i składanie wniosków.

Aby wziąć udział w ww. webinarium, należy wejść na stronę https://rzeszow.wody.gov.pl/aktualnosci, gdzie we wpisie poświęconym spotkaniu konsultacyjnemu projektu Planu Zarządzania Środowiskiem dla Kontraktu 3D.3 zamieszczony będzie bezpośredni link do webinarium. Zostanie ono przeprowadzone w oparciu o program Microsoft Teams. Link oraz instrukcja „Krok po kroku" zostaną umieszczone na ww. stronie co najmniej 10 dni przed planowanym elektronicznym spotkaniem konsultacyjnym.

Obwieszczenie to zostało podane do wiadomości poprzez ogłoszenie w mediach społecznościowych (https://www.facebook.com/GorzyceFace, https://www.facebook.com/gorzyce24), wywieszenie na tablicy ogłoszeń Urzędu Gminy w Gorzycach, tablicy PGW WP RZGW w Rzeszowie, a także na stronach internetowych instytucji wskazanych powyżej.

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!!!PROMOCJA Toyota Corolla, Salon Toyota Rzeszów, www.dakar-toyota.otomoto.pl, 17/8555288.

!!!Promocja Toyota Yaris, 2019r., Salon Toyota Rzeszów, www.dakar-toyota.otomoto.pl, 17/8555288.

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Fig. 10. Announcement on public consultations for the draft EMP, published in the local press (Nowiny – printed version).

Fig. 11. Presentation on the draft EMP for the Contract 3D.3 presented during the teleconference (webinar) of November 13, 2020 – first slide.

Fig. 12. Presentation on the draft EMP for the Contract 3D.3 presented during the teleconference (webinar) of November 13, 2020 – penultimate slide.

9 Organizational structure of EMP implementation

Works Contract 3D.3 is a part of the Odra-Vistula Flood Management Project co-financed from the funds of the World Bank, the Council of Europe Development Bank, the European Union Cohesion Fund, and the State budget. Therefore, the structure of supervision over implementation of the EMP must correspond to both: regulations of the Polish law, as well as the requirements of the World Bank.

9.1 Odra-Vistula Flood Management Project Coordination Unit

The overall coordination of the implementation of the individual EMPs within the Project is the responsibility of the Project Coordination Unit (PCU), which functions as an organizational unit within the structures of the National Water Management Authority (KZGW), which is an organizational unit of the State Water Holding Polish Waters (PGW WP).

The PCU assignments are as follows:

- management of tasks of Project Implementation Offices (PIO/JRP) and Project Implementation Units (PIU/JWP), within the scope of tasks included in the Project;
- Technical assistance and support to the PIOs and PIUs in the implementation of the tasks of the Project, including the application of World Bank procedures on procurement, environmental protection and social issues,
- Preparation of annual work programs for the Project and evaluation of their progress;
- Supervise the work of the Project and evaluate their progress;
- Ongoing control and monitoring of funds allocated for the implementation of the Project and participation in the management of funds of the Project,
- Reporting, including preparation and submission of quarterly reports on the implementation of the Project to the World Bank, the CEB and the Steering Committee.

9.2 Project Implementation Unit

An entity which is directly responsible for implementation of the EMP for the Contract and for monitoring of the progress of its implementation is the Project Implementation Unit (PIU), i.e. State Water Holding Polish Waters, Regional Water Management Authority in Rzeszów.

Due to implementation of the OVFM Project, the Project Implementation Office (PIO) was assigned within the PIU structure, which is a separate structure supervised by the President of State Water Holding Polish Waters. This structure is transparent and has a high decisive level, which increases the effectiveness of the Contract implementation.

As part of EMP implementation, PIO fulfils the following tasks:

- monitoring of the EMP implementation progress;
- financial management and bookkeeping;

- preparing required reports for the needs of EMP implementation monitoring and coordination of its execution by all services engaged into EMP implementation;

The scope of PIO employees' duties connected with the fulfilment of supervision over EMP[31] implementation is as follows:

- managing, coordinating, and supervising the EMP implemented by the Designer, the Consultant, and the Contractor;
- direct supervision over the correct Contract implementation;
- cooperation with the PCU;
- conducting an administration and legal supervision over EMP implementation;
- verifying the Reports and accounts of EMP implementation prepared by the Consultant and Contractor;
- conducting a financial supervision over EMP implementation;
- supervising the proper application of formal procedures during implementation of the EMP, as required by the Works Contract, the Building Law, the Environmental Protection Law, and others.

9.3 Engineer - Consultant

The role of the Engineer is to support the PIU (PGW WP RZGW in Rzeszów) in an effective conduction of the whole investment process (from preparation of the Contract to its settlement).

The Consultant/Engineer shall be selected using QCBS method (quality and cost based selection), in accordance with the "Guidelines: Selection and Employment of Consultants by World Bank Borrowers".

In accordance with the scope specified in the Contract Engineer Agreement, the Engineer/Consultant shall be obliged to perform e.g. the supervision over EMP[32] implementation, comprising the following:

- monitoring of EMP implementation, as done by the Contractor;
- monitoring the Contractor's activities;
- checking the quality of construction works performed by the Contractor and built-in construction products, and especially preventing the usage of building materials which are defective and not accepted for use in the construction industry;
- representing the Investor on site by performing the control of the compliance of the construction process with the design and with the construction permit/investment project

[31] This supervision is carried out mainly by the Environmental Specialist in the PIO team
[32] This supervision is carried out mainly by the Environmental Management Expert, OH&S Specialist, Supervision Inspectors and Resident Engineer.

implementation permit, and with regulations related to the environmental protection and technical know-how;

- supervision over all issues related to the environmental protection by specialists experienced in the field of environmental protection (including a key environmental management expert) and by other Engineer's personnel;
- continuous monitoring of the implementation of the measures mitigating the negative impact on the environment;
- conducting additional studies, if it is necessary to verify the Contractor's reports;
- identifying problems resulting from a harmful environmental impact of the implementation of construction works on environment and presenting a proposal for solving such problems;
- verifying and accepting construction works being covered or of concealed works, participation in tests and technical commissioning of technical installations and devices, as well as preparation of and participation in performing the commissioning activities for finished engineering objects and handing them over for use;
- confirming actually completed works and eliminating defects upon the Investor's request; controlling the financial settlements of the construction.

9.4 Contractor

A Contractor shall be selected for the purpose of performance, and it shall be responsible for implementation of individual EMPs. The Contractor's liabilities in that scope are as follows:

- conducting construction works according to the rules specified in the EMP, in accordance with contract conditions and design documentation, pursuant to applicable legal provisions and requirements of administrative decisions issued for this Contract;
- appointment of the EMP Coordinator, mentioned in item no. 102 of Appendix 1 to the EMP;
- ensuring permanent nature supervision (including a team of experts-naturalists listed in item no. 103 of Appendix 1 to the EMP), sapper supervision (according to item no. 106 of Appendix 1 to the EMP) and archaeological supervision (according to item no. 105 of Appendix 1 to the EMP);
- ensuring the permanent H&S supervision, referred to in item no. 112 of Appendix 1 to the EMP;
- ensuring the Sexual Harassment and Mobbing Prevention Specialist, referred to in items no. 114 of Appendix 1 to the EMP;
- carrying out the Engineer's recommendations (including the recommendations of environmental supervision experts and the Investor's supervision) concerning the implementation of EMP;
- ensuring – prior to the commencement of works – the preparation of: BIOZ Plan, Waste Management Plan, Quality Assurance Plan/Plans, Flood Protection Plan for the site for the performance time, and Construction Site Organization Plan;

- if it will be necessary, the Contractor's environmental team would develop necessary materials and applications for the obtainment of permits/decisions for departures from bans to protect species of plants, fungi or animals based upon the rules of and in the mode specified by the NP Act (of April 16, 2004). The above-mentioned decisions issued by RDOŚ/GDOŚ are to be requested for by the Contractor. The Contractor's duty is to implement the provisions of obtained decisions for departure from the protection of species of plants, fungi or animals;
- keeping the construction site documentation;
- drafting the reports (e.g. monthly report and final report, report to the RDOŚ and/or to the GDOŚ [the latter only in the scope resulting from decisions obtained from those authorities on the implementation stage, if the Contract would need to obtain such decisions]);
- preparing memos and reports concerning the environmental protection;
- applying to the Investor for modification of design solutions, if it is justified by a necessity of increasing safety for performance of the construction works or improving the construction process related to implementation of the EMP;
- repairing the potential faults/defects, which would be notified by the Engineer and/or by the Investor (in case the notification period for defects, guarantee, and warranty would be supported by the Engineer) during the works and during the defects, guarantee, and warranty notification period. The Contractor is obliged to report any actions implemented to remove the faults/defects. The report shall be filed to the Engineer/Investor.

10 EMP implementation schedule and reporting procedures

Implementation of the EMP shall allow the parties involved in the preparation, performance and supervision of the Works Contract, to:

- identify different environmental aspects which have a considerable impact on the condition of the environment and therefore to control, correct, and reduce them but which, consequently, generate economic effects;
- rectify adverse impact of the works conducted during the implementation to the benefit of the environment and financial results;
- determine the aims and tasks performed within the adopted environmental policy, covered by EMP, which require expenditure and bring tangible effects;
- identify and eliminate prospective hazards and failures, preventing and removing the environmental effects which may be connected with them and which may entail losses disproportional to the preventive costs;
- reasonably use the nature's resources, with minimum environmental loss and the optimum generation of costs.

Furthermore, implementation of recommendations and measures required under the EMP may reduce or even eliminate a risk of occurrence of adverse social, environmental and economic events and phenomena related to the Contract, and in particular:

- a risk to ignore the environmental protection issues during the process of implementation of measures by the Contractor;
- a risk of the escalation of the local community protests as a result of a failure of the Contractor to adhere to technologies for conducting the works and environmental procedures approved by the Engineer;
- a risk of additional environmental penalties;
- a risk of incurring additional losses in the environment.

Taking into account the significance of the aspects specifying the environmental conditions and community conditions, the following EMP implementation procedures are anticipated:

- prior to the selection of the Contractor, the Employer shall submit a draft of this EMP to the PCU in order to obtain its opinion;
- after obtaining a positive opinion of the PCU for the submitted draft of the EMP, this document shall be attached to the Bidding Documents for appointment of the Contractor;
- then, the EMP shall be consecutively subject to public consultations according to the currently applicable procedure;
- at the same time, the Employer shall submit the draft of this EMP to the World bank in order to inform about the pending procedure and for possible opinion;

- after the public consultations, the EMP shall be suplemented with the results of consultations and submitted in its final version for the approval by the World Bank (expressing No Objection); after expressing No Objection by the World Bank, this EMP shall be made public in its final version valid for the Contract attached to the Bidding Documents for appointment of the Contractor;
- the EMP shall be attached to the Bidding Documents for appointment of the Contractor no later than before selection of the Contractor and signing of the Works Contract, so that the final price of the Contractor's offer refers to and takes into account all the conditions contained in the EMP;
- all activities of the Contractor shall be systematically reported (once a month), in Polish and, if required, in English, in paper and in electronic versions, with reference to the obligations required by the EMP and other contractual documents. These reports will be subject to the approval of the Engineer and the Employer.

Furthermore, relevant units involved in implementation of the Contract shall be obliged to fulfil additional obligations related to monitoring and reporting of issues associated with the environmental protection, as determined in administrative decisions issued for the subject Contract (see: Chapter 3.5) and given in Appendix 1 and Appendix 2 to this EMP (Plan of mitigation measures, Plan of monitoring measures).

Monitoring at the works execution stage involves the preparation of summary reports on monitoring of nature by the Contractor, confirmed by the experts of the Contractor's environmental team, approved by the Engineer's environmental team, and submitted to RDOŚ by the PIU. For the nature supervision, at least 8 visits per month are recommended, and during the spring and autumn migration of amphibians, herpetological supervision will be carried out continuously. Each visit will be accompanied by a description of the situation in the form of a Nature Supervision Sheet, possible indications for the contractor together with photographic documentation. Detailed contents of the report shall be defined by the Engineer (commencement report, periodical reports – monthly, ad-hoc, closure); it shall also determine the due dates. Within six months after the completion of the works, a report on the conducted nature supervision together with photographic documentation should be submitted to the present Authority.

The progress reporting system under the Project shall also base on monthly reports submitted by Contractors to the PIO through the Engineer, and upon Engineer's monthly and quarterly reports. Monthly and quarterly reports on the EMP implementation (Contractor's and Engineer's) shall be prepared as a part of monthly reports or as a separate document.

The PIU shall supply the PCU with quarterly reports in the part referring to Task implementation. They shall include a required set of information and descriptions enabling the preparation of the Project quarterly report by the PCU. Furthermore, especially in the case of problems with the Works Contract implementation, the PCU shall expect the PIU to submit summaries and data in the monthly periods.

The following reporting procedures are determined:

1. Reporting:
    a) Reports (monthly, quarterly, ad-hoc, final) shall be developed by the Contractor;

b) Report review by the Engineer,

c) Submission of a report to the Employer (for information),

d) Provision of a report to RDOŚ and / or GDOŚ (only in a scope resulting from administrative decisions issued on the performance stage, if they would require reporting of measures in question);

e) Submission of the PIU's quarterly report to the PCU;

f) Final report on implementation of the EMP prepared by the Engineer (after verification by the PIU and by the PCU, submitted to the World Bank not later than 3 months after the completion of works).

2. Archiving:

a) Contractor: 1 copy of each report in an electronic version for 5 years from the date of the Works Contract completion;

b) Engineer: 1 copy of each report in an electronic version for 5 years from the date of the Works Contract completion;

c) Employer: 1 copy of each report in an electronic version for 5 years from the date of the Works Contract completion.

3. Evaluation:

a) ongoing assessment of the outcomes of the planned measures implementation which arise from the EMP;

b) Ongoing analysis of documentation (the Reports of the Contractor) by the Engineer.

c) providing the Employer with reliable information on the course of the construction process, with special consideration of implementation of the measures limiting the adverse impact on the environment, and recommendations arising from environmental decisions;

d) development and provision of quarterly reports to the World Bank by the PCU.

The following is planned:

- *Ex-ante* evaluation: Report prior to the commencement of the Works Contract implementation (Engineer's Report);
- ongoing evaluation: Engineer's quarterly reports,
- *Ex-post* evaluation:
  - Report upon the completion of the works (final reports on implementation of the EMP developed by the Contractor and by the Engineer);
  - EMP Report upon expiry of the Defects, Guarantee and Warranty Notification Period drawn up by the Engineer.

11 Reference documents

1. Project Information Sheet for the contract titled "Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce", WTU Sp. z o.o., Rzeszów, July 2015.
2. Project's environmental impact report "Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce", WTU Sp. z o.o., Rzeszów, August 2016.
3. Decision on environmental conditions dated August 18, 2017 (ref. no.: WOOŚ.4233.4.2015.MG.65) for the project titled "Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce", Regional Director for Environmental Protection in Rzeszów.
4. MasterPlan for the Vistula River Basin. KZGW, Warsaw 2014.
5. Aquatic legal survey for execution of water facilities under the project titled: "Contract 3D.3 Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce", Rzeszów, July 2015.
6. Detailed design "Łęg IV – extension of the left river embankment at chainage km 0+082-5+030 within the Commune of Gorzyce, and of the right embankment at chainage km 0+000-5+236 within the Commune of Gorzyce", WTU Sp. z o.o., Rzeszów, November 2016.
7. Report on the environment for Podkarpackie Province in 2017. Provincial Inspectorate for Environmental Protection in Rzeszów, Rzeszów 2018.
8. Study of conditions and directions of spatial development for the commune of Gorzyce, Appendix No. 1 to Resolution No. L/321/18 of the Commune Council of Gorzyce of February 28, 2018.
9. Environmental Protection Program for the Gorzyce Commune for 2015 – 2018 with the perspective for the years 2019 – 2022.
10. Regional geography of Poland, J. Kondracki, Warsaw, 2000.
11. Assessment of the condition of river bodies and dammed reservoirs in 2017-2018, GIOŚ, Warsaw.
12. World Bank Operational Policy OP 4.01 – Environmental Impact Assessment (https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx#S3-2 [in the part titled: *Investment Project Financing / Environmental and Social Safeguard Policies*]).
13. Environmental and Social Management Framework, final document, April 2015 (http://odrapcu2019.odrapcu.pl/en/popdow_documents/).

14. Poland – Odra-Vistula Flood Management Project: environmental and social management framework (http://documents.worldbank.org/curated/en/2015/04/24502899/poland-odra-vistula-flood-management-project-environmental-social-management-framework).
15. Odra-Vistula Flood Management Project – Project Operations Manual, Wrocław 2015 (http://www.odrapcu.pl/doc/POM_PL.pdf)
16. Website: http://odrapcu2019.odrapcu.pl/popdow_dokumenty/.
17. Website: www.isok.gov.pl/.
18. Geo-service GDOŚ http://geoserwis.gdos.gov.pl/mapy/

12 List of drawings

13 Appendices

Appendix 1. Plan of mitigation measures

Appendix 2. Plan of monitoring measures

Appendix 3. List of national legal acts connected with environmental protection

Appendix 4. Decisions, resolutions, permits, notices

Appendix 5. Map with location of the Contract

Appendix 6. Map with location of the Contract in reference to protected areas

Appendix 7. Map with location of the Contract in reference to areas under potential flood threat

Appendix 8. Map with location of the Contract in reference to areas excluded from the potential flood threat

Appendix 9. Map with location of the Contract in reference to natural habitats and protected species occurrence sites

Appendix 10. Location map of the contract elements

Appendix 11. Report of consultation