Regional Water Management Authority in Wrocław

ENVIRONMENTAL MANAGEMENT PLAN

ODRA-VISTULA
FLOOD MANAGEMENT PROJECT – 8524 PL

Environmental category B – according to OP 4.01 of WB

Component 2:

Flood Protection of the Nysa Kłodzka Valley

Sub-component 2A:

Active protection

Contract for works 2A.1:

Construction of "Boboszów" –
a dry flood control reservoir on Nysa Kłodzka River
and
Construction of "Roztoki Bystrzyckie" –
a dry flood control reservoir on Goworówka stream

Task 2A.1/2:

Construction of "Roztoki Bystrzyckie" –
a dry flood control reservoir on Goworówka stream

FINAL VERSION

Issue	Date	Author	Checking person	Approval by the Client	Description
	November 28th, 2016				

ODRA-VISTULA
FLOOD MANAGEMENT PROJECT
co-financed by:
World Bank, Loan Agreement No. 8524 PL
Council of Europe Development Bank, Framework Loan Agreement No. LD 1866
Cohesion Fund of the European Union (IEOP 2014-2020)
State budget

ENVIRONMENTAL MANAGEMENT PLAN

Component: ***2 – Flood Protection of the Nysa Kłodzka Valley***
Sub-component: ***2A – Active protection***
Contract: ***2A.1 – Construction of "Boboszów" – a dry flood control reservoir on Nysa Kłodzka River and Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream***
Part of Contract: ***Implementation of Task 2A.1/2 – Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream***

Project Implementation Unit:
Regional Water Management Authority in Wrocław

Authors of the study:

Odra-Vistula Flood Management Project Implementation Unit
in the Regional Water Management Authority in Wrocław

Technical Assistance Consultant of RZGW in Wrocław
for the Odra River Basin Flood Protection Project –
Joint Venture of *AECOM I&E UK Ltd, Halcrow Group Ltd, BRL Ingenierie and AECOM Polska Sp. z o.o.*

Wrocław, November 2016

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List of basic definitions and abbreviations used in the EMP

Name	Description
BGW	Body of Ground Water
BP	Bank Procedure[1]
BSW	Body of Surface Water
Consultant / Engineer / Contract Engineer	A company or a legal person providing the service of a Technical Assistance Consultant for the Regional Water Management Authority in Wrocław as part of OVFMP
Contract / Contract for works	Contract for works *2A.1 Construction of "Boboszów" – a dry flood control reservoir on Nysa Kłodzka River and Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream*
Contractor / Task Contractor / Contract Part Contractor	A company or a legal person implementing the Part of Contract for works *2A.1 Construction of "Boboszów" – a dry flood control reservoir on Nysa Kłodzka River and Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream* concerning Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream*
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
Environmental decision / DEC	Decision on the environmental conditions
ESMF	Environmental and Social Management Framework for OVFMP[2]
EU	European Union
IEOP	Infrastructure and Environment Operational Programme
IMGW	Institute of Meteorology and Water Management
Investor / Employer / PIU	Regional Water Management Authority in Wrocław / OVFM Project Implementation Unit
LA&RAP	Land Acquisition and Resettlement Action Plan
LSMP	Local spatial management plan
OP	Operational Policy (of the World Bank)[3]

[1] The World Bank's Operational Policies and Procedures are presented in the document entitled *The World Bank Operational Manual*, available on the following website: *https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx*.

[2] The document is available on the website of OVFM PCU, at the following address: *http://www.odrapcu.pl/popdow_dokumenty_RPZSiSS.html*. and on the World Bank's website, at the following address: *http://documents.worldbank.org/curated/en/717671468333613779/Poland-Odra-Vistula-Flood-Management-Project-environmental-and-social-management-framework*.

[3] See the footnote for *BP* (Bank Procedure)

ORBMP	Odra River Basin District Management Plan
PAD	Project Appraisal Document[4] for OVFMP
Part of Contract / Part of Contract for works	Part of Contract for works *2A.1 Construction of "Boboszów" – a dry flood control reservoir on Nysa Kłodzka River and Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream* concerning Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream*
PCU / OVFM PCU	Project Coordination Unit / OVFM Project Coordination Unit
PIO	Project Implementation Office – an organisational unit allocated as part of PIU
POM	Project Operations Manual[5] for OVFMP
Project / OVFMP / OVFM Project	Odra-Vistula Flood Management Project
RDOŚ	Regional Directorate for Environmental Protection
Road manager	An organizational unit fulfilling the obligations of managing public roads as defined by the *Public Road Act* or the obligations of managing a non-public road
RZGW	Regional Water Management Authority
SHP Plan	Safety and health protection plan
Task	Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream*, constituting a Part of Contract for works *2A.1*
UBSW	Unified Body of Surface Water
WMP	Waste Management Programme
World Bank / WB	International Bank for Reconstruction and Development / World Bank
ZMiUW	Board of Amelioration and Hydraulic Structures

[4] The document is available on the World Bank's website, at the following address: *http://documents.worldbank.org/curated/en/320251467986305800/Poland-Odra-Vistula-Flood-Management-Project*.

[5] The document is available on the website of OVFM PCU, at the following address: *www.odrapcu.pl/lp.php?plik=doc/POM_PL.pdf*.

List of abbreviated names of legal acts used in the EMP

The names of legal acts cited in the text of this EMP are provided in abbreviated versions. Full names of those legal acts are stated on the list below.

Name in the text	Full name (with publication reference)
Birds Directive	Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (EU OJ L 288 of 06.11.2007)
Construction Law	Act of July 7th, 1994 Construction Law (consolidated text: Journal of Laws of 2016, item 290)
Environmental Protection Law	Act of April 27th, 2001 Environmental Protection Law (consolidated text: Journal of Laws of 2016, item 672)
EPA Regulation	Regulation of the Council of Ministers of November 9th, 2010 on projects likely to have significant effects on the environment (consolidated text: Journal of Laws of 2016, item 71)
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (EU OJ L 206 of 22.07.1992, as amended)
Inland Fishing Act	Act of April 18th, 1985 on inland fisheries (consolidated text: Journal of Laws of 2015, item 652)
Nature Conservation Act	Act of April 16th, 2004 on nature conservation (consolidated text: Journal of Laws of 2015, item 1651 as amended)
Public Road Act	Act of March 21st, 1985 on public roads (consolidated text: Journal of Laws of 2015, item 460 as amended)
Waste Act	Act of December 14th, 2012 on waste (consolidated text: Journal of Laws of 2013, item 21 as amended)
Water Framework Directive (WFD)	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (EU OJ L 327 of 22.12.2000, as amended)
Water Law	Act of July 18th, 2001 Water Law Act (consolidated text: Journal of Laws of 2015, item 469 as amended)

EXECUTIVE SUMMARY

This Environmental Management Plan (EMP) concerns Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream*, which constitutes a part of Sub-component *2A* within the Odra-Vistula Flood Management Project (OVFMP) and is implemented as the Part of Contract for works *2A.1*.

The EMP presents i.a. the following information:

- a short description of the OVFM Project and its Component 2, which includes the Task in question (chapter 1.1 and 1.2);
- a description of the Task constituting the subject of this EMP (chapter 2);
- characterization of institutional, legal and administrative conditions of Task implementation, including the current status of EIA procedures for the Task (chapter 3);
- a description of individual elements of the environment in the surroundings of the Task (chapter 4);
- a summary of the Environmental Impact Assessment for the Task (chapter 5);
- a description of mitigation measures aimed at eliminating or limiting the potential negative environmental impact of the Task (chapter 6) together with tables presenting those measures (Appendix 1);
- a description of environmental monitoring measures binding on the Task (chapter 7) together with tables presenting those measures (Appendix 2);
- a description of the course of public consultations conducted at particular stages of developing the environmental documentation for the Task (chapter 8);
- a description of the organizational structure of EMP implementation (chapter 9);
- an EMP implementation schedule and a description of reporting procedures (chapter 10);
- a list of source materials cited in the EMP (chapter 11);
- copies of administrative decisions in the scope of environmental protection issued for the Task (Appendix 4).

Characterization of the Task

The subject of the Task discussed in this EMP is the construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream, with a maximum flooding area of 48.7 ha and a maximum retention volume of approx. 2.75 mln m^3. The reservoir dam shall cross the valley of the Goworówka stream approx. 0.5 km upstream of its estuary to the Nysa Kłodzka river, west of the Roztoki village (Lower Silesian Province, Kłodzko district, Międzylesie Municipality). The reservoir shall control 94% of the Goworówka stream basin, with a total surface area of approx. 34 km^2.

Scope of the Task

The scope of Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream* includes the following elements:

- construction of a dam for a dry flood control reservoir (750 m long and maximally 15.5 m high) with relief devices and instrumentation;
- relocation and regulation of Goworówka and Nowinka stream beds;
- development of the upstream and downstream stations;
- construction of a utility building;

- installation of road infrastructure and lighting;
- development of the reservoir basin;
- relocation of the roads colliding with the reservoir dam (including district road No. 3233D);
- performance of additional activities in the scope of environmental protection.

nstitutional, legal and administrative conditions

The Task is implemented in accordance with relevant national provisions of environmental protection in the scope of its characteristics, anticipated potential environmental impact and location in relation to protected areas.

The status of EIA administrative procedures

The following administrative decisions in the scope of environmental protection are among the ones issued for the Task in question in the years of 2015-2016:

- a decision on the environmental conditions for the construction of "Roztoki Bystrzyckie" dry flood control reservoir;
- a decision on the environmental conditions for the reconstruction of district road No. 3233D;
- a decision exempting from provisions related to protection of plant and animal species.

The status of elements of the environment in the surroundings of the undertaking

As a result of works related to identifying the values of the natural and cultural environment it has been established that the Task implementation area and its surroundings are characterized by i.a. the following environmental conditions:

- the planned reservoir is located within the boundaries of a Body of Surface Water (BSW) named PLRW60004121169 *Nysa Kłodzka from the source to Różanka* and Body of Ground Water (BGW) No. 125;
- the presence of the following was established in the Task implementation area and its immediate surroundings: 14 protected species of plants and fungi, 88 protected animal species and 3 types of natural habitats listed in Annex I to EU *Habitats Directive*;
- in the Task implementation area and its immediate surroundings, there are no Natura 2000 sites nor other areas or objects protected by the *Nature Conservation Act*;
- in the reservoir surroundings (beyond the Task implementation area), there are 3 monuments and 4 protection zones related to protection of objects of cultural value.

Summary of the Environmental Impact Assessment

Earth surface and landscape

Task implementation is related to permanent transformation of the earth surface for the construction of the reservoir dam and reconstruction of district road No. 3233D, which shall also influence the landscape on a local scale.

Climate

Task implementation has no influence on the climate status.

Atmospheric air

The influence of Task implementation on the sanitary status of the air is limited in time to the construction stage and is not significant.

Soils and grounds

Task implementation is related to permanent transformation of the earth surface (including soil and grounds) for the construction of the reservoir dam and reconstruction of district road No. 3233D, as well as to the possibility of polluting the substrate at the construction stage. At the operation stage, Task implementation has no influence on the soil and ground status.

Surface waters

At the construction stage, Task implementation shall have an influence on the surface water status (by influencing the biological, hydromorphological and physical-chemical elements of water quality), but the influence shall be local and reversible, so it shall not be significant or constitute a hazard to the achievement of the environmental objective for the Body of Surface Water (BSW). At the operation stage, Task implementation has no influence on surface waters, except the planned reduction of catastrophic flows of the Goworówka stream downstream of the reservoir.

Groundwater

Instances of short-term, transient, local lowering of the groundwater table may take place at the construction stage in relation to performing the necessary excavation drainages. At the operation stage, in the periods when the reservoir is filled with water, the groundwater level in its surroundings shall increase, but that impact shall be short-term and transient due to the short time of water damming in the reservoir.

Acoustic climate

The influence of Task implementation on the acoustic climate is limited in time to the construction stage and is not significant.

Biotic nature

Task implementation shall have a negative impact on 3 types of natural habitats, 8 protected plant species and several dozen protected animal species (including: 2 butterfly species, 2 species of fish and lampreys, 4 species of amphibians and reptiles, approx. 60 bird species, 7 species of flightless mammals and 6 bat species) present in the designed reservoir area. That impact stems first and foremost from the necessary scope of land occupation, tree felling and stream regulation, and shall be significantly reduced owing to planned mitigation measures. Task implementation does not influence the status of Natura 2000 sites nor other protected areas or natural objects.

Cultural monuments and material goods

Task implementation has no influence on cultural monuments.

The influence of Task implementation on the status of the remaining material goods is related to the necessity of introducing changes to the existing infrastructural objects (district road No. 3233D, a municipality road, a medium voltage power line, a gas pipeline) and to the use of the land located within Task boundaries. Additional impacts related to using the existing road network as access roads to the construction site may occur at the construction stage.

Human health and safety

Task implementation does not generate significant hazards to human health and safety. These may only occur in the case of breakdowns, catastrophes and other random incidents (e.g. pollutant leak, fire, finding unexploded bombs or unfired rounds, flood). The EMP defines appropriate conditions aimed at preventing such events and minimizing their potential effects.

Mitigation and monitoring measures

Chapter 6 and 7 and Appendix 1 and 2 to the EMP describe and present in tables a set of mitigation and monitoring measures aimed at eliminating or limiting the negative environmental impact of the Task and ensuring effective implementation of EMP conditions. Those measures contain conditions defined in the issued administrative decisions in the scope of environmental protection and additional conditions established when developing the EMP.

Public consultations

Chapter 8 of the EMP contains a report of public consultations conducted as part of EIA procedures for the planned Task, including:

- public consultations for the document entitled *Environmental and Social Management Framework (ESMF)* for OVFM Project (2015);
- public consultations conducted at the stage of issuing environmental decisions for the Task (2015);
- public consultations for this Environmental Management Plan (2016) – the final version of the EMP text shall be supplemented with that description after conducting the EMP draft publication procedure and completing its public consultations.

1. INTRODUCTION

This Environmental Management Plan (EMP) concerns Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream*, which constitutes a part of Sub-component *2A* within the Odra-Vistula Flood Management Project (OVFMP) and is implemented as the Part of Contract for works *2A.1*.

1.1. ODRA-VISTULA FLOOD MANAGEMENT PROJECT (OVFMP)

The Odra-Vistula Flood Management Project (OVFMP) is aimed at increasing the flood protection level of people living in selected areas of the Odra river basin and the Upper Vistula river basin as well as institutional strengthening of governmental administration in the scope of ensuring more effective protection against summer floods, winter floods and flash floods.

The project has five components (including three investment components and two institutional/organizational components):

Component 1 – Flood Protection of the Middle and Lower Odra, including:

Sub-component 1A – Flood protection of areas in Zachodniopomorskie Voivodship;

Sub-component 1B – Flood Protection of Middle and Lower Odra;

Sub-component 1C – Flood protection of Słubice city.

Component 2 – Flood Protection of the Nysa Kłodzka Valley, including:

Sub-component 2A – Active protection;

Sub-component 2B – Passive protection.

Component 3 – Flood Protection of the Upper Vistula, including:

Sub-component 3A – Flood protection of Upper Vistula towns and Kraków;

Sub-component 3B –Protection of Sandomierz and Tarnobrzeg;

Sub-component 3C – Passive and active protection in Raba Sub-basin;

Sub-component 3D – Passive and active protection in San basin.

Component 4 – Institutional Strengthening and Enhanced Forecasting

Component 5 – Project Management and Studies

Detailed information and additional documents concerning the OVFM Project are available on the website of the Odra-Vistula Flood Management Project Coordination Unit (*http://www.odrapcu.pl*) and on the website of the World Bank (*http://documents.worldbank.org/curated/en/docsearch/projects/P147460*).

1.2. FLOOD PROTECTION OF THE NYSA KŁODZKA VALLEY (COMPONENT 2 OF THE OVFMP)

Component 2 of the OVFM Project entitled *Flood Protection of the Nysa Kłodzka Valley* is aimed at providing flood protection for Kłodzko and other smaller towns and villages of the Kłodzko Valley as far as to the city of Bardo, located at the inlet to the Valley from the side of Wrocław.

Two Sub-components shall be implemented within the Component:

Sub-component 2A – Active protection

This Sub-component concerns construction of dry flood control reservoirs located on the Nysa Kłodzka river and its tributaries in the Kłodzko Valley, and includes the following four investment Tasks:

2A.1/1 – Construction of "Boboszów"
– a dry flood control reservoir on Nysa Kłodzka River;

2A.1/2 – Construction of "Roztoki Bystrzyckie"
– a dry flood control reservoir on Goworówka stream;

2A.2/1 – Construction of „Szalejów Górny"
– a dry flood control reservoir on Bystrzyca Dusznicka River;

2A.2/2 – Construction of „Krosnowice"
– a dry flood control reservoir on Duna stream.

Sub-component 2B – Passive protection

This Sub-component concerns protection of the areas along the Nysa Kłodzka river and its tributaries in the Kłodzko Valley using measures of passive flood protection, and includes the following four investment Tasks:

2B.1/1 – Flood protection of Nysa Kłodzka River Valley;

2B.1/2 – Flood protection of Ścinawka River Valley;

2B.2/1 – Flood protection of Biała Lądecka River Valley and Morawka River;

2B.2/2 – Flood protection of Bystrzyca Dusznicka River Valley
and Kamienny Potok River.

2. DESCRIPTION OF THE TASK

The Task constituting the subject of this EMP concerns the construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream. The Project Implementation Unit (PIU) for the Task is the Regional Water Management Authority in Wrocław.

2.1. LOCATION OF THE TASK

The Task shall be implemented in the Lower Silesian Province, Kłodzko district, Międzylesie Municipality, in two village administration units: Roztoki and Michałowice.

The dry flood control reservoir shall be constructed west of Roztoki, approx. 11 km south of Bystrzyca Kłodzka and approx. 4 km north of Międzylesie. The reservoir was designed in the Goworówka stream valley, in the estuary section of the stream (the reservoir dam is located approx. 0.5 km upstream of the estuary to the Nysa Kłodzka river). In the reservoir basin, there are estuaries of three tributaries of the Goworówka stream: Nowinka, Cieszyca and Bielica. The northern part of the dam of the designed reservoir crosses the existing district road No. 3233D between Roztoki and Gajnik.

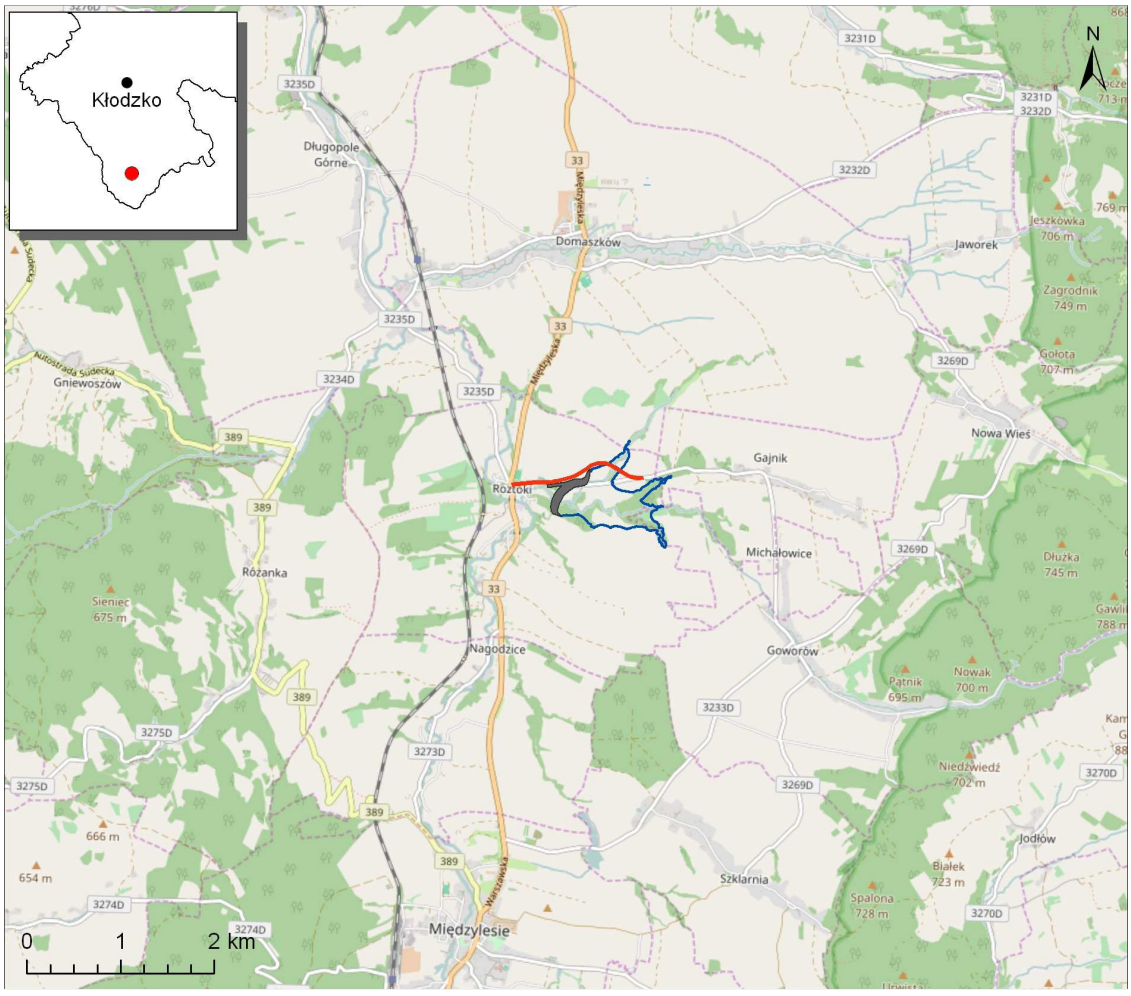


Figure 1. Location of the Task (a general map).
(source: © authors OpenStreetMap; license: *http://www.openstreetmap.org/copyright*).

2.2. CHARACTERIZATION OF THE TASK

The "Roztoki Bystrzyckie" dry flood control reservoir shall have a maximum flooding area of 48.7 ha and a maximum retention volume of approx. 2.75 mln m^3. The main elements included in the Task scope are listed below.

Construction of a reservoir dam

The reservoir dam is located approx. 0.5 km upstream of the Goworówka stream estuary, with the crest at an elevation of approx. 420 m AMSL and periodic damming reaching approx. 14.5 m. It is designed as an earth-fill dam.

The basic technical parameters of the designed dam are as follows:

- maximal dam height – 15.5 m;
- dam length – 750 m;
- dam crest width – 6 m;
- inclination of the upstream and downstream slope – 1:3.

The reservoir relief devices are designed in the form of two independent systems: sluice devices and spillway devices.

The sluice devices shall pass water during normal reservoir operation as well as flood waters. They are designed in the form of a 115.5 m long and 11.4 m wide reinforced concrete tunnel divided into three openings (width: 4.0 m, 1.7 m and 1.7 m). In normal conditions, the water flowing in the river shall pass through the main tunnel. The assumed width of that tunnel shall make it possible to shape a bed in its channel which shall be similar to the natural Goworówka stream bed and thus to ensure correct conditions for fish living and migration. Moreover, two vertical chimneys (shafts) shall be built in the dam body; their elevation shall exceed that of the dam slope and they shall allow sunlight to access the main tunnel. 8 chambers for bats shall be developed in those shafts.

The spillway devices are designed in the form of two pipelines with diameters of 3.6 m, running along the right dam head, with outlets to the Goworówka stream located approx. 100 m downstream of the tunnel outlet.

The reservoir shall be equipped with instrumentation.

Relocation and regulation of watercourse beds

The planned works related to the existing watercourse beds include i.a. the following:

- relocation of the Goworówka stream bed on the section upstream of the dam (a new 6 m wide and approx. 80 m long bed shall be constructed);
- relocation of the Goworówka stream bed on the section downstream of the dam (a new 7 m wide and approx. 150 m long bed shall be constructed);
- regulation of the existing Goworówka stream bed on the section downstream of the dam (an approx. 65 m long section downstream of the relocated section);
- relocation of the Nowinka stream bed on the section colliding with the designed reservoir dam (a new 3 m wide and approx. 225 m long bed shall be constructed);
- regulation of the existing Nowinka stream bed on the section between the end of the relocated section of that stream and its estuary to Goworówka (an approx. 275 m long section downstream of the relocated section).

When one adds the construction of an approx. 115 m long section of the Goworówka stream bed running in the main tunnel of the reservoir, the total length of relocated and regulated watercourse bed sections shall reach approx. 400 m for the Goworówka stream and approx. 500 m for the Nowinka stream.

Development of the upstream and downstream stations

The planned scope of works at the upstream station includes i.a. clearing the area after the works related to bed relocation and regulation of the Goworówka and Nowinka streams as well as construction of an access road to the upstream station. Trees and shrubs shall be removed from the area between the dam slope and the Nowinka stream, and then the area shall be levelled.

The planned scope of works at the downstream station includes i.a. clearing the area after the works related to bed relocation and regulation of the Goworówka stream. Trees and shrubs shall be removed from that area and then the area shall be levelled.

Construction of a utility building

A utility building with a surface area of approx. 150 m^2 has been designed next to the right dam head.

Installation of road infrastructure and lighting

The designed works include i.a.:

- construction of an internal road leading to the downstream station of the spillway devices (approx. 410 m long, running along the western slope of the dam body);
- construction of an internal road leading to the upstream station of the spillway devices (approx. 660 m long, running along the eastern slope of the dam body);
- construction of an internal road leading to the spillway devices and the utility building (approx. 480 m long, on the northern side of the dam);
- construction of a crossing along the dam crest (approx. 740 m long);
- installation of lighting for the dam and the access road.

Development of the reservoir basin

The designed works in the reservoir basin area include i.a.:

- relocation of a 20 kV medium voltage overhead power line beyond the reservoir basin area;
- reconstruction of G200 underground gas pipeline with a pressure of 1.6 MPa to adjust the gas pipeline to operation in the conditions of water damming in the reservoir (demolition of the existing gas pipeline in the reservoir basin and construction of a new gas pipeline along the existing gas pipeline route, on a section of approx. 830 m).

Relocation of the roads colliding with the reservoir dam

Due to the collision of the existing roads with the course of the designed reservoir dam, it is necessary to perform i.a. the following works:

- relocation of a section of district road No. 3233D. The section is approx. 500 m long and runs in the reservoir basin, colliding with the course of the northern part of the dam body (includes demolition of the existing road bridge on the Nowinka stream and construction of a new bridge in the course of the relocated road section);
- relocation of an approx. 240 m long section of a municipality dirt road colliding with the course of the southern end of the dam body.

Performance of additional activities in the scope of environmental protection

Additional activities in the scope of environmental protection include i.a.:

- performance of plantings of riparian forest and oak-hornbeam forest tree covers with a surface area of approx. 16 ha;
- development of the area in the reservoir basin transforming it into meadows with a surface area of at least 3 ha;
- installation of 3 nest boxes for White-throated dipper and 32 boxes for bats;
- performance of plantings of trees and shrubs along the new section of district road No. 3233D.

3. INSTITUTIONAL, LEGAL AND ADMINISTRATIVE CONDITIONS

3.1. INSTITUTIONS INVOLVED IN TASK IMPLEMENTATION

The Task Investor is the Regional Water Management Authority in Wrocław, which acts in the name and on behalf of the State Treasury. Moreover, at the construction and operation stages, Task implementation may require involving public administration bodies on the central, regional and local level. For the purposes of the current coordination of the Project implementation, an organizational unit named Odra-Vistula Flood Management Project Coordination Unit was established.

3.2. BINDING NATIONAL LEGAL ACTS CONCERNING THE ENVIRONMENT

Under Polish law, the investment process in the scope concerning the environment is governed by about a dozen of acts and regulations. Appendix 3 presents a list of selected primary legal acts related to the abovementioned thematic scope and binding in the period of the works on the EMP. The number and content of the legal acts listed there may change when the national provisions in the scope of environmental protection are amended. In each case, the Contractor is obliged to observe all legal regulations binding in Poland throughout the Contract term.

3.3. THE EIA PROCEDURE IN POLAND

A description of the Environmental Impact Assessment procedure binding under Polish law is included in the *Environmental and Social Management Framework (ESMF)*, published i.a. on the website of the Odra-Vistula Flood Management Project Coordination Unit[1] and of the World Bank[2].

3.4. GUIDELINES OF THE WORLD BANK

The Task in question is co-financed by the World Bank and its implementation conditions in the scope of environmental protection comply with WB *Operational Policies* and *Bank Procedures* in the scope of environmental protection, including i.a. the following policies and procedures: *OP/BP 4.01* (concerning the Environmental Impact Assessment), *OP/BP 4.04* (concerning natural habitats) and *OP/BP 4.11* (concerning cultural resources).

The source texts of the abovementioned policies and procedures are included in a document entitled *The World Bank Operational Manual*[3] and their descriptions are presented i.a. in the *Environmental and Social Management Framework (ESMF)*.

[1] On the website: *http://www.odrapcu.pl/popdow_dokumenty_RPZSiSS.html*.

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

[3] On the website: *https://policies.worldbank.org/sites/PPF3/Pages/Manuals/Operational%20Manual.aspx*.

3.5. CURRENT STATUS OF EIA PROCEDURES FOR THE TASK

The following decisions in the scope of environmental protection have been obtained for the Task in question:

A) A decision on the environmental conditions for reservoir construction

According to the classification included in the *EPA Regulation*, the undertaking concerning construction of a dry flood control reservoir (which covers the primary scope of the Task) belongs to group I, i.e. to undertakings which might always have a significant impact on the environment and for which conducting an Environmental Impact Assessment is required before issuing a decision on the environmental conditions.

The proceedings concerning issuing a decision on the environmental conditions for reservoir construction, during which the Environmental Impact Assessment was carried out, was concluded by issuing a decision of the Regional Director for Environmental Protection in Wrocław of December 18th, 2015 on the environmental conditions (ref. No.: WOOŚ.4233.1.2015.AW.23 – Appendix 4a to the EMP). That decision received an order of immediate enforceability. Moreover, on March 1st, 2016, the Regional Director for Environmental Protection in Wrocław issued a decision on rectifying an obvious typographic mistake in clause I.2.1 of the abovementioned decision (ref. No.: WOOŚ.4233.1.2015.ŁCK.26 – Appendix 4b to the EMP).

B) A decision on the environmental conditions for the reconstruction of a district road

The undertaking concerning reconstruction of district road No. 3233D (constituting a part of the Task) belongs to group II, i.e. to undertakings which might have a potential significant impact on the environment and for which conducting an Environmental Impact Assessment may be required before issuing a decision on the environmental conditions.

In the course of the conducted proceedings concerning issuing a decision on the environmental conditions, the conducting body obtained a decision of the Regional Director for Environmental Protection in Wrocław expressing an opinion about lack of the necessity for conducting an environmental impact assessment for this part of the Task. The proceedings concerning issuing a decision on the environmental conditions was concluded by issuing a decision of the Mayor of Międzylesie City and Municipality of January 15th, 2016 on the environmental conditions (ref. No.: ITiG.603.2-D.2015.2016 – Appendix 4c to the EMP), stating lack of necessity of conducting an Environmental Impact Assessment.

C) A decision exempting from provisions related to protection of species

Scaring and disturbing as well as destruction of specimens and habitats of protected plant and animal species may take place during Task implementation, so on October 12th, 2015, the Regional Water Management Authority in Wrocław, as the Investor, submitted an application for issuing a decision exempting from bans related to specimens of plants and animals covered by species protection to the Regional Directorate for Environmental Protection in Wrocław. The administrative proceedings concerning that case was concluded by issuing a decision of the Regional Director for Environmental Protection in Wrocław of January 13th, 2016 exempting from bans related to plants and animals covered by species protection (ref. No.: WPN.6401.271.2015.BP.2), presented in Appendix 4d to the EMP.

Copies of the abovementioned administrative decisions issued in the years of 2015-2016 are shown in Appendix 4 to the EMP.

Regardless of the above, the Contractor is obliged to obtain all further administrative decisions if it becomes necessary during Task implementation.

4. DESCRIPTION OF ELEMENTS OF THE ENVIRONMENT IN THE SURROUNDINGS OF THE TASK

This chapter describes the status of elements of the environment in the surroundings of the Task on the basis of the information contained in the EIA Report (2014) with supplementations.

4.1. EARTH SURFACE AND LANDSCAPE

Considering the physical-geographical division of Poland, the planned investment is located within the Kłodzko Valley mesoregion, which borders on the Śnieżnik Massif in the east and on the Bystrzyckie Mountains in the west. That mesoregion belongs to the Middle Sudety macroregion.

The landscape surrounding the area of the planned Task is dominated by wavy relief of the upland type. The upland areas located on two sides of the Kłodzko Valley are small, slightly wavy uplifts with an average height of approx. 500 m AMSL, crossed by shallow valleys of numerous streams. This area has the nature of a denuded upland with local hills and, due to surrounding mountain massifs, is a typical mid-mountainous depression. Eastern slopes of that area gradually rise towards the Śnieżnik Massif, while its eastern slopes (which are much gentler) rise towards the Bystrzyckie Mountains.

The area has a cultural-cultivation landscape. Most of the area is occupied by spacious farmlands and semi-wild mountain meadows situated mainly on the slopes of hills. There are riparian forests on flooding terraces in stream valleys and oak-hornbeam forests on steep slopes of stream valleys and on ravine slopes.

4.2. CLIMATE

There is moderate Central European mid-mountainous climate in the area of the Task in question. It is determined by two factors: the altitude above mean sea level and the orographic system. Seasons of the year are easily recognizable and identified by temperature changes (warm and humid spring, warm and often dry summer, cool and humid autumn and frosty winter with significant snowfall). The cloud cover is medium in autumn and winter and is the smallest in summer.

4.3. ATMOSPHERIC AIR

In the region of the planned reservoir construction, there are no industrial plants or production and breeding plants which could significantly deteriorate the sanitary status of the air. The only major source of air pollution is Kłodzko-Boboszów district road No. 33, running approx. 400 m west of the designed reservoir dam. Emission from so-called low sources (mainly home furnaces) may also determine air pollution in the discussed region. The planned reservoir is located several hundred meters to several kilometres away from buildings of nearby villages or larger city centres, so one can expect that concentrations of the discussed pollution in the region of the planned investment should be much lower than the concentrations of background pollution measured in Międzylesie city.

4.4. SOILS AND GROUNDS

Farmlands constitute 63% of the surface in Międzylesie Municipality. The northern and north-eastern part of the municipality, including Roztoki, Gajnik, Michałowice and Goworów precincts, is located lower than its remaining area and covered almost exclusively with brown soils and podzol deluvial soils, formed as a result of washing from areas located above.

4.5. SURFACE WATERS

Międzylesie Upland, within the boundaries of which the planned Task is located, is an area with a dense, well-developed hydrographic network. It is located in the river basin of Nysa Kłodzka – a left-hand side tributary of the Odra river. Nysa Kłodzka is the biggest river here; it flows meridionally through the central part of the Upland and, via its system of tributaries, collects waters from the Upland and drains the slopes of surrounding mountains. The water-way network in the Upland is formed by the following streams: Głownia, Bielica, Kamionka, Kamieńczyk, Różanka, Wapniarka, Polnik, Goworówka, Cieszyca, Owczy Potok, Nowinka and Szklarka, as well as a dozen of smaller unnamed watercourses.

The Goworówka stream, on which the planned reservoir shall be located, is a third-order watercourse and a right-hand side tributary of the Nysa Kłodzka river. It is located in the southern part of the Middle Odra water region and in the area of the Nysa Kłodzka balance basin. It flows from the slope of Puchacz mountain (980 m AMSL) located in the Śnieżnik Massif and enters into the Nysa Kłodzka river (at its chainage km 171.15) in Roztoki village. The hydrographic network in the Goworówka stream basin is well-developed and includes two main right-hand side tributaries (Nowinka and Cieszyca streams) and one left-hand side tributary (Bielica stream). Estuaries of all three abovementioned tributaries of the Goworówka stream are in the basin of the designed reservoir.

Selected physical-geographical data of the Goworówka stream basin:

- basin surface area – 34.55 km^2;
- watercourse length together with the dry valley – 11.36 km;
- average basin slope – 14.4‰;
- tree stand rate – 44%.

The largest Goworówka tributary, the Nowinka stream, flows from the foot of Goworek Mountain in the Śnieżnik Massif. It is 10.7 km long, its basin surface area is 7.6 km^2 and the average basin slope reaches 30.8‰. The Cieszyca stream is 6 km long and flows from the slopes of Dłużka mountain at an elevation of 700 m AMSL. Its slope is especially big, reaching 48.3‰.

The Goworówka stream and its tributaries belong to a Body of Surface Water (BSW) named PLRW60004121169 *Nysa Kłodzka from the source to Różanka*.

The values of characteristic flows for the Goworówka stream basin at the cross-section of the "Roztoki Bystrzyckie" reservoir dam (calculated using the values recorded at the Międzylesie water-gauge cross-section on the Nysa Kłodzka river) are as follows:

Characteristic flow	Flow intensity Q [m^3/s]
NNQ (absolutely lowest flow)	0.040
SNQ (average low flow)	0.079
SSQ (average lowest flow)	0.529
SWQ (average highest flow)	10.1
WWQ (absolutely highest flow)	88.9

Arrangements stemming from the *Odra River Basin District Management Plan* (ORBDMP)

The designed reservoir is located in the Middle Odra water region, in the Nysa Kłodzka balance basin, in the basin of a Body of Surface Water (BSW) named PLRW60004121169 *Nysa Kłodzka from the source to Różanka*, which belongs to Unified Body of Surface Water (UBSW) code SO0901.

Nysa Kłodzka from the source to Różanka BSW is 44.73 km long and its basin surface area is 130.31 km^2. The basin of this BSW includes the Nysa Kłodzka river on the section from the source to the Różana river estuary together with its main tributaries.

According to the binding *Odra River Basin District Management Plan*, the BSW in question, including Goworówka, belongs to type 4 – an upland silicate stream with coarse-grained substrate. *Nysa Kłodzka from the source to Różanka* BSW is a natural water body the status of which was assessed as bad. Thus, the environmental objective for this BSW is the achievement of a good water status by obtaining a good ecological status and a good chemical status. The BSW in question is threatened with a risk of failure to achieve the environmental objective according to the WFD, and therefore it received a derogation under Article 4(7) of the WFD with the following justification: "due to the planned activities in the scope of implementing investments which cause changes in BSW physical characteristics and are of overriding public interest, i.e. flood protection, and the implementation of those plans prevents the achievement of assumed environmental objectives by the BSW".

Moreover, the area of *Nysa Kłodzka from the source to Różanka* BSW features detailed environmental objectives, set out due to the presence of protected areas included in the lists referred to in Article 113 Par. 4 of the *Water Law*, such as:

- bodies of water intended for water uptake for the purposes of providing the population with water for consumption, i.e. BSW code RW60004121169 and BGW with the following codes: PLGW5100110, PLGW6220111 and PLGW6220112,
- areas sensitive to eutrophication caused by pollution coming from municipal sources (the entire area of Poland),
- water bodies intended for recreational purposes, including bathing, i.e. BSW code RW60004121169,
- areas intended for protection of natural habitats or species for which maintenance or improvement of water status is an important protection factor (i.a. a Natura 2000 site SCI: "Góry Bialskie i Grupa Śnieżnika" – PLH020016).

The planned Task, consisting in the construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream, was included in a supplementary study for the *Odra River Basin District Management Plan* (so-called *MasterPlan*) under No. 1_458_O (Annex

No. 2, List No. 1) and was classified there as an investment which does not have a negative impact on achieving a good water status or does not deteriorate water status.

4.6. GROUNDWATER

The factors shaping the hydrogeological conditions in the surroundings of the planned investment are: geological structure, tectonics, significant lithofacies diversification as well as varying and limited distribution of aquifers. There are shallow, subsoil waters in the alluvial sand-gravel Quaternary deposits, which fill the valley bottoms of Nysa Kłodzka and its tributaries. These normally lie directly on the eluvium (rock rubble) of Cretaceous or crystalline rocks. The waters of that layer usually occur at a depth of 1.0-2.0 m BGL. They are characterized by small efficiency and low stability of the water table, which usually depends on the water level in the watercourses and on precipitation. Waters of the Quaternary layer are locally present in slope covers and flat piedmont cones. This layer is related to numerous leaks and seeps.

The aquiferous Cretaceous layer is the main source of providing the population with water in this area. Two aquifer levels were determined in it: an upper one and a lower one. Both levels are characterized by much diversified hydrogeological conditions, especially uneven formation of permeable layers and their varying thickness. Groundwater in the rock substrate was reached by boring at a depth of 2.0 to 8.6 m BGL. A characteristic feature of this zone is the relationship with tectonics and weathering degree.

The impact area of the planned reservoir is located within the boundaries of BGW code PLGW6220_110, which belongs to the Middle Odra water region and to Odra river basin area code 6000. The groundwater quantitative status and chemical status was assessed as good and the groundwater is not threatened with a risk of failure to achieve the environmental objectives. According to a new division of bodies of ground water, the Task implementation area is located in the area of BGW No. 125.

4.7. ACOUSTIC CLIMATE

There are no significant noise generators in the region of the planned Task. The biggest source of noise here is so-called traffic noise, generated by mechanical vehicles moving along national road No. 33 (from Kłodzko to Boboszów-Dolna Lipka border crossing). That road is approx. 400 m west of the designed dam. The second source of traffic noise is railway line No. 276 (from Wrocław to the state border with the Czech Republic in Lichkov and then to Prague), running approx. 700 m west of the designed dam. Less significant sources of noise shaping the acoustic climate in this region are: vehicle traffic along district road No. 3233D (Roztoki – Goworów) and seasonal agricultural works.

The nearest acoustically protected areas in the region of the planned investment are residential buildings in Roztoki village and residential buildings in Gajnik village. In Roztoki, the nearest buildings to the reservoir are those forming a group of multi-family buildings (buildings No. 28, 29, 30, 31 – residential and service buildings according to Międzylesie Municipality LSMP), situated approx. 150-240 m west of the base of the designed dam, as well as two single-family houses (buildings No. 62c and 62d – single-family residential buildings according to Międzylesie Municipality LSMP), situated approx. 240-280 m west of the dam and approx. 40-80 m of the places of performing the earthworks related to Goworówka bed regulation. The nearest residential buildings on the eastern side of the reservoir are two households in

Gajnik (buildings No. 31 and 32 – single-family residential buildings according to Międzylesie Municipality LSMP), situated approx. 1.5 km of the designed dam.

4.8. BIOTIC NATURE

4.8.1. Protected natural habitats and species

Natural habitats from Annex I to the *Habitats Directive*

3 types of natural habitats from Annex I to the *Habitats Directive* were determined in the area of the planned Task. They are:

- 6430 – mountain herbs (*Adenostylion alliariae*) and riparian herb growths (*Convolvuletalia sepium*). 9 habitat swathes were determined in total (surface area: 1.8 ha). The habitat occurs on flooding terraces of streams and rarely on wide stony banks within watercourse beds. The habitat conservation status is favourable (FV).
- 9170 – *Galio-Carpinetum* and *Tilio-Carpinetum* oak-hornbeam forests. 3 habitat swathes were determined (total surface area: 7.5 ha). Due to anthropogenic changes in habitat composition, manifesting as the presence of foreign and invasive species, the habitat conservation status was assessed as unfavourable bad (U2).
- 91E0* – riparian mixed forests of willow, poplar, alder and ash tree (*Salicetum albofragilis, Populetum albae, Alnenion glutinoso-incanae*) as well as alder forests on percolating mires. 5 habitat swathes were determined (total surface area: 29.0 ha). The habitat occurs as subtype 91E0-5 – submontane alluvial ash forest (*Carici remotae-Fraxinetum*) and occupies strips along streams, flooding terraces, 5-year flooding terraces and narrow slopes of deep small valleys. The habitat conservation status was assessed as unfavourable inadequate (U1).

A detailed description of occurrence of the abovementioned natural habitats is presented in the EIA Report prepared in 2014 for the purposes of obtaining a decision on the environmental conditions.

Protected species of plants and fungi

Occurrence of 16 plant species considered as rare (including 13 species protected in Poland) was determined in the area of the planned Task. The investment area is also a place of occurrence of 2 rare lichen species, including one lichen species under partial protection.

A list of rare and protected species of plants and fungi determined in the area of the designed reservoir is presented in Table 1 in Appendix 5. That table includes species protected under currently binding national provisions of law and the remaining rare species (those included in *Polish Plant Red Data Book* or put on the *Red List of Vascular Plants of Lower Silesia*). The table does not include species that lost their protected status in relation to changes to the list of species protected in Poland but were subject to protection in the EIA Report preparation period (and were listed in the Report as protected species).

Beside the sites of rare and protected plant species, the impact range of the planned works includes tree specimens of considerable size and substantial biocenotic significance which are not subject to any form of protection. A total of 69 such trees was identified in the entire area; they are located in forests of the oak-hornbeam type. Those trees were marked as “specimen trees” in the documentation attached to the application for issuing a decision on the environ-

mental conditions. Two of the trees listed there (No. 141 and 178 in sector F, according to the abovementioned documentation) are located in areas intended for felling.

Protected species of animals

A total of 88 protected animal species was identified within the impact area of the planned Task.

4 protected invertebrate species were determined in the area of the designed reservoir; they include 2 butterfly species (Large blue *Phengaris sp*.), which occur on 10 sites in damp meadows featuring Great burnet *Sanguisorba officinalis*. Beside the Large blue, the protected species include 2 further invertebrates identified here: Large earth bumblebee *Bombus terrestris* and Roman snail *Helix pomatia*.

Only 3 species representing fish fauna were identified in the waters of streams flowing within the designed reservoir basin. Species protection covers 2 of them: Stone loach *Barbatula barbatula* and Brook lamprey *Lampetra planeri*, but the dominant species in terms of number is Brown trout *Salmo trutta*.

Amphibians and reptiles are poorly represented in the Task implementation area despite the presence of potential habitats favouring their life and breeding. The presence of 2 protected amphibian species was determined here and the presence of 2 further was considered as highly probable. Regarding reptiles, no species was confirmed to be present, but the presence of 3 protected species was considered as highly probable (based on the presence and status of potential habitats of those species in the area).

The most numerous group of protected animals in the area in question is birds. 62 bird species covered by species protection were determined here, including 5 species from Annex I to the *Birds Directive*. The presence of birds in this area is favoured by habitat diversification within the planned reservoir: the presence of riparian forests, oak-hornbeam forests and shrubs, as well as the closeness of stream beds create good conditions for breeding, feeding and resting for many birds. Some of those species are open area birds: their mosaic is present in the agriculturally used area in the surroundings of tree stand areas.

Flightless mammals constitute a relatively small percentage of species determined in the analysed area. 7 species subject to partial protection were identified here; one of them, Eurasian otter *Lutra lutra,* is listed in Annex II to the *Habitats Directive*. Beside flightless mammals, 6 protected bat species were determined in the Task implementation area, including Barbastelle *Barbastella barbastellus* – a species listed in Annex II to the *Habitats Directive*.

A list of protected species of animals determined in the area of the designed reservoir is presented in Tables 2-6 in Appendix 5. Detailed descriptions of occurrence of individual species are presented in the EIA Report (2014).

4.8.2. Protected areas and objects

Natura 2000 sites

There are no Natura 2000 sites in the designed reservoir area or its immediate vicinity. In the further vicinity of the reservoir (up to 25 km away), there are three Natura 2000 sites belonging to a category of so-called habitat areas:

1) "Góry Bialskie i Grupa Śnieżnika" (PLH020016) – approx. 3.8 km SE of the reservoir;
2) "Dzika Orlica" (PLH020061) – approx. 8 km W of the reservoir;
3) "Góry Orlickie" (PLH020060) – approx. 24 km NW of the reservoir.

Other protected areas and objects

In the area of the designed reservoir and in its immediate vicinity, there are no area forms or spot forms of nature protection as defined by the *Nature Conservation Act*.

4.9. CULTURAL MONUMENTS

In the area of the designed "Roztoki Bystrzyckie" reservoir, there are three objects included in the register of architecture and construction of the Lower Silesian Heritage Conservator, which are subject to the conservator's protection. All three objects are located in Roztoki village (beyond the Task implementation zone). They are:

- St. Martin's parish church from the years of 1720-1730 (register No.: 881 of 28.06.1961);
- a manor house, currently house No. 16, from 1569, reconstructed in the 19th-20th c. (register No.: 1339 of 03.08.1965);
- a barn next to the manor house, from the middle of the 19th c. (register No.: 1339 of 03.08.1965).

In Roztoki, Gajnik and Michałowice village administration units, which are the nearest ones to the designed reservoir, the following protection zones were created (beyond the Task implementation area):

- a zone under partial conservator's protection ("B" zone) – includes areas in which the status of preserved elements of the past layout is relatively good. This zone was set in Roztoki and Gajnik;
- a cultural landscape protection zone ("K" zone) – includes areas of landscape integrally related to a monument complex located in its vicinity and areas with a characteristic appearance shaped as a result of human activity. This zone was set in Roztoki, Gajnik and Michałowice;
- a monument layout exposition protection zone ("E" zone) – includes areas constituting a protection of appropriate exposition of monument complexes or monument objects of special landscape value. This zone was set in Roztoki (from the Domaszków – Roztoki road in the direction of the church in Nowa Wieś);
- an archaeological observation ("AO") zone for cities and villages of medieval origin and for archaeological sites. This zone was set in Roztoki and Gajnik.

4.10. POPULATION AND MATERIAL GOODS

Most of the area in the designed "Roztoki Bystrzyckie" reservoir area and its immediate vicinity is occupied by spacious farmlands, semi-wild mountain meadows on the slopes of hills, as well as riparian and oak-hornbeam forests in river valleys. There are three villages near the reservoir area: Roztoki (435 residents), with buildings situated along national road No. 33, Gajnik (112 residents) and Michałowice (64 residents). There are no industrial plants or production and breeding plants in those villages. The following run through the area of the designed reservoir basin: asphalt district road No. 3233D (Roztoki – Goworów), a 20 kV power line with an NE-SW direction (supplying the nearby villages) and a pipeline with an N-S direction. Moreover, two important communication routes run west of the designed reservoir. The abovementioned national road No. 33 runs approx. 400 m away from the reservoir dam (from Kłodzko to Boboszów – Dolna Lipka road border crossing). Railway line No. 276 of international significance (from Wrocław to the state border with the Czech Republic in Lichkov and then to Prague) runs approx. 700 m away from the designed dam.

5. SUMMARY OF THE ENVIRONMENTAL IMPACT ASSESSMENT

5.1. EARTH SURFACE AND LANDSCAPE

Earth surface

The impact exerted on the earth surface shall be related to temporary and permanent land occupation. At the construction phase, temporary exclusion of land from its previous use in the Task area shall be related to establishing a construction site backyard and access roads. After construction completion, the construction site backyard and the access roads shall be demolished and the land shall be reinstated.

Permanent exclusion of land from its previous use related to the construction phase shall concern dam body foundation together with the upstream and downstream stations, construction of a new section of the municipality dirt road and construction of a new section of district road No. 3233D. Moreover, construction of new sections of Goworówka and Nowinka stream beds shall also cause permanent exclusion of land from its use. The surface area of the land excluded from use shall reach approx. 18 ha.

Landscape

The constructed dam in the form of an earth-fill embankment (750 m long and 15.5 m high), crossing the Goworówka stream valley and bed, shall be a dominant element of landscape and at the same time an alien one in the natural river valley (that effect shall be additionally strengthened by the presence of internal roads and lighting systems). Adopted technical solutions, including construction of an earth-fill dam with turfed slopes and laying underground pipelines in the dam body, shall reduce investment impact exerted on the landscape. Additional elements connected with landscape protection shall be: limitations on area occupation at the works stage, limitation on the scope of tree felling and planting trees and shrubs.

5.2. CLIMATE

Modification of climatic conditions

The designed reservoir shall be a dry one, filled with water only for a short time during flooding risk periods. Due to the short time of filling the reservoir with water, it shall have no influence on any climatic phenomena at the operation stage and the microclimate in its region shall not change.

Greenhouse gas emission

Exhaust fumes (including carbon dioxide, classified as a greenhouse gas) shall be emitted at the construction stage as a result of fuel combustion by vehicles and construction machinery. Moreover, demand for electrical energy shall occur in connection with using the construction site backyard, operating machines and devices and lighting the construction site (electrical energy consumption is related to greenhouse gas emission during its production in power plants).

The demand for electrical energy at the reservoir operation stage shall be mainly related to lighting the dam and using the utility building.

Making the Task resistant to negative phenomena accompanying climate changes

The planned reservoir was designed in accordance with binding hydraulic provisions, which take into account extreme phenomena taking place in the environment in connection with climate changes (this is governed by appropriate provisions concerning design, construction and operation of flood control reservoirs). On the other hand, construction of new dry flood control reservoirs (including the "Roztoki Bystrzyckie" reservoir) shall improve flood protection of numerous towns and villages located in the Kłodzko Valley and thus contribute to limiting the effects of negative phenomena accompanying climate changes.

5.3. ATMOSPHERIC AIR

At the construction stage, unorganized emission of exhaust fumes generated in connection with operating vehicles and construction machinery shall be the source of pollution emission to atmospheric air. The primary pollutants emitted to the air due to diesel oil combustion in machine and car engines shall be: SO_2, NO_2, CO, aliphatic hydrocarbons, soot and dust rising during the passage of cars and during earthworks, especially in long rainless periods. Since the construction site covers a relatively spacious area and the vehicles and construction machinery emitting the pollution shall not work on its entire surface area simultaneously (the works shall be performed section by section, according to their progress), one should not expect a significant influence of the works on the air pollution status beyond the Task area. One should expect local, short-term, increased concentration values of the abovementioned pollutants in the neighbourhood of operating vehicles and machines, which is a typical phenomenon of construction works and withdraws after completing the works.

The reservoir shall not require human operation at the operation stage, so car traffic and tiresomeness related to road transportation impact (emission of pollutants to the air) shall be limited only to periodic passage of cars carrying technical supervision staff arriving to inspect the dam.

5.4. SOILS AND GROUNDS

The impact exerted on the soils at the construction stage shall be first and foremost related to direct transformations of the earth surface (excavations), permanent exclusion of a part of the land from its previous use, changes to earth structure on temporarily occupied land (access roads, construction site backyards) and the possibility of soil pollution as a result of a petroleum derivative leak caused by a breakdown.

After completing the construction stage and performing correct soil reinstating, one should not expect significant changes in the soil-water conditions or soil productivity in the areas of temporary occupation.

5.5. SURFACE WATERS

Biological elements of water quality

Macrophytes, benthic macroinvertebrate fauna and phytobenthos

Bed sections of the Goworówka stream (approx. 435 m) and the Nowinka stream (approx. 200 m) shall be backfilled at the construction stage due to the necessity of relocating the sections of two watercourses colliding with the dam body construction area. The aquatic and shore flora (phytobenthos, macrophytes) as well as a part of the aquatic fauna (especially species of small size and limited locomotion abilities, including benthic macroinvertebrate fauna) present on those sections shall be destroyed. Additional losses of the resources of the abovementioned organisms shall be related to the planned works consisting in regulation (bank reinforcement) of further bed sections of the abovementioned watercourses (Goworówka – approx. 65 m, Nowinka – approx. 275 m).

Owing to the considerable length of flowing water beds located within the boundaries of the body of surface water (BSW) in question (approx. 45 km of the Nysa Kłodzka river plus its numerous tributaries), the abovementioned losses of the resources of macrophytes, phytobenthos and macroinvertebrates shall not be significant and shall not cause failure to achieve the environmental objective set for that BSW.

At the operation stage, the groups of benthic macroinvertebrates, phytobenthos and macrophytes destroyed earlier shall be gradually restored (in regulated and newly constructed bed sections of the abovementioned streams). In the case of phytobenthos, this process shall take several months, while in the case of macrobenthos and macrophytes it shall last up to 2-3 years.

Fish fauna

At the construction stage, as in the case of the abovementioned benthic organisms and macrophytes, habitats and the food base of fish shall be destroyed on the sections of liquidated watercourse beds and the status of habitats and the food base of fish on the sections subject to regulation shall deteriorate. This impact shall be of local nature, so it shall not constitute a hazard to the achievement of the environmental objective.

At the operation stage, the fish habitats destroyed or degraded earlier shall be gradually restored (in regulated and newly constructed bed sections of the abovementioned streams) in the periods described in the previous clause.

To sum up, the negative impact on the abovementioned biological elements of waters at the construction stage shall concern short (several hundred metre long) sections of Goworówka and Nowinka stream beds, which constitute less than 4% of the length of significant watercourses in the BSW. Morphological continuity of both streams shall be preserved at the reservoir construction and operation stages. Reservoir construction and operation shall not cause deterioration of the BSW ecological status.

Hydromorphological elements of water quality

Hydrological conditions

Reservoir construction and functioning shall not influence the hydrological conditions of watercourses in the scope of normal flows. At the operation stage, the reservoir shall reduce catastrophic flows, occurring once every 10 years or rarer and significantly exceeding normal high water levels. Beside the planned limitation of catastrophic flows, the designed reservoir shall not influence the hydrological regime of the watercourses.

Morphological conditions

At the construction stage, the backfilled Goworówka and Nowinka bed sections (with a total length of approx. 635 m) shall be replaced with new beds (approx. 570 m), which shall reduce the length of both watercourses by approx. 65 m (approx. 10%). The width and slopes of new beds of those watercourses shall correspond to their natural width and slopes on those sections. Regulation of the existing Goworówka and Nowinka stream beds shall cover a total of approx. 340 m. The abovementioned transformations shall cover bed sections with a total length of approx. 1000 m, which constitutes approx. 2.2% of the length of significant watercourses in the discussed BSW. After the accumulation with existing transformations (assessed in 2007 to constitute approx. 19%), one obtains M4 regulation ratio[1] of approx. 21.2%. If the Boboszów reservoir (belonging to the same body of water) is included, the value increases to 22.3% (the critical value is 50%). Physical transformations of the BSW which change the morphological conditions are not significant enough to cause lowering of the ecological status/potential assessment result. In this respect, implementation of the planned Task does not cause a hazard to the achievement of WFD environmental objectives in the next planning cycle (the year of 2021). Reservoir construction shall not have a negative influence on river continuity, either.

Physical-chemical elements of water quality

Periodic, short-term, insignificant impact on selected physical-chemical elements of water quality shall occur at the construction stage. It shall be related only to the suspension concentration increase in the water depths on the sections downstream of the performed regulation works in the Goworówka and Nowinka stream beds. The described impact does not occur at the operation stage. The quantity of suspensions penetrating into the water shall be insignificant and shall not constitute a hazard to the achievement of the environmental objective.

Assessment of the impact on the BSW covered by the Task and on the neighbouring BSW

The impact of the planned works (including the works performed in Goworówka and Nowinka stream beds) on the aquatic environment quality of *Nysa Kłodzka from the source to Różanka* BSW, including the impact on its biological, physical-chemical and hydromorphological elements, shall be insignificant. The assessment of the impact of the designed reservoir on the water for consumption has revealed that it shall exert no negative influence in this scope at the construction and operation stages. The planned Task shall not cause status deteri-

[1] M4 ratio = total length of watercourse sections on which regulation works were performed (longitudinal structures and a documented change of river course) compared to the total length of significant watercourses. It is corrected depending on the type and age of regulation: [M4 = sum of regulated L / sum of watercourse L (km/km); threshold value: 0.50 (50%)]

oration of the BSW covered by the Task or the neighbouring BSW and does not constitute a hazard to WFD environmental objectives.

5.6. GROUNDWATER

The influence on the groundwater status

The designed "Roztoki Bystrzyckie" reservoir is located beyond the Major Ground Water Reservoirs (MGWR) and beyond direct protection zones of drinking water intakes.

Instances of short-term, transient, local lowering of the groundwater table may be caused by the works related to reservoir construction in connection with performing the necessary excavation drainages at the works stage. The construction works shall not generate a negative impact on the quantitative status or the qualitative status (changes in water chemism and hydrodynamism) of the Cretaceous layer waters, which are insulated from the terrain surface by a layer of poorly permeable clay marls.

At the operation stage, surface water damming in the reservoir shall be a periodic and short-term phenomenon. However, even short-term water damming in the reservoir shall influence groundwater by elevating the groundwater drainage base in the reservoir basin area and by periodically changing the hydrogeological conditions in the immediate vicinity of the reservoir. As a result of surface water damming in the reservoir, one should expect a groundwater table level increase by approx. 2.0 m in the immediate vicinity of the reservoir. Then, natural directions of groundwater flow (currently towards the Goworówka stream valley) shall change. Reservoir damming shall cause an approximately double increase of the water flow speed under the dam and a groundwater table level increase by approx. 1.0 m downstream of the damming structure. However, that impact shall be short-term and transient due to the short time of water damming in the reservoir.

Assessment of the impact on the achievement of BGW environmental objectives

The planned Task, consisting in the construction of a dry flood control reservoir damming the water only in flood periods, shall not infringe WFD objectives, i.e. shall not cause deterioration of the groundwater quantitative status or chemical status within the boundaries of the body of ground water (BGW) covered by the Task.

5.7. ACOUSTIC CLIMATE

The anticipated scope of works shall be related to periodic noise emission at the construction stage. The sources of noise shall be the work of individual construction machines and the traffic of vehicles, including trucks. Given that the nearest buildings are situated over 100 m away from the works performance locations and separated from them by a dense tree cover belt, as well as taking into account the influence of local land configuration in the dam construction area (the works shall be performed in a river valley the high slopes of which shall constitute natural acoustic barriers limiting noise distribution to surrounding areas), one should assume that the noise level related to works performance shall not cause significant troublesomeness to the surroundings. This shall be favoured by limiting the works performance time to daytime and by the Contractor's care for the technical state of machines and devices operating on the construction site.

After completing the construction stage, reservoir operation is not related to noise emission.

5.8. BIOTIC NATURE

5.8.1. Protected natural habitats and species

Natural habitats from Annex I to the *Habitats Directive*

Implementation of the planned Task shall cause a negative impact on 3 types of natural habitats occurring in the designed reservoir area. They are:

- 6430 – mountain herbs (*Adenostylion alliariae*) and riparian herb growths (*Convolvuletalia sepium*). In relation to Task implementation, it is necessary to remove 0.08 ha of the surface area of this habitat (i.e. approx. 4% of 1.8 ha of this habitat determined here).
- 9170 – *Galio-Carpinetum* and *Tilio-Carpinetum* oak-hornbeam forests. In relation to Task implementation, it is necessary to remove 2.4 ha of the surface area of this habitat (i.e. approx. 32% of 7.5 ha of this habitat determined here).
- 91E0* – riparian mixed forests of willow, poplar, alder and ash tree (*Salicetum albo-fragilis, Populetum albae, Alnenion glutinoso-incanae*) as well as alder forests on percolating mires. In relation to Task implementation, it is necessary to remove 3.4 ha of the surface area of this habitat (i.e. approx. 12% of 29.0 ha of this habitat determined here).

This impact shall be of permanent nature (the liquidated habitat swathes shall not be restored in those locations after works completion) and its joint influence shall be reduced owing to the planned planting of trees and shrubs in determined locations.

Protected species of plants and fungi

Occurrence of 16 plant species and 2 lichen species considered as rare (including 13 plant species and 1 lichen species protected in Poland) was determined in the area of the planned Task. The following 8 plant species shall be affected by a negative influence of the planned Task at the construction stage: False hellebore *Veratrum lobelianum*, Wild garlic *Allium ursinum*, True oxlip *Primula elatior*, Spring snowflake *Leucoium vernum*, Mezereon *Daphne mezereum*, Autumn crocus *Colchicum autumnale*, Bruch's pincushion *Ulota bruchii* and Crisped pincushion *Ulota crispa*.

The loss of sites of the abovementioned protected plant species shall not be of significant nature. The population resources of the abovementioned protected species shall not be significantly reduced on a regional or local scale. The protected species determined here are locally frequent or relatively frequent and are not significantly endangered.

The investment impact on the flora was also considered in terms of the influence on tree and shrub species not subject to protection. Task implementation is related to the necessity of felling over 700 trees and shrubs (including approx. 500 trees and shrubs in connection with reservoir construction and approx. 230 trees and shrubs in connection with district road reconstruction).

Protected species of animals

Invertebrates

The implementation of the planned Task shall cause a negative impact on 2 butterfly species (Dusky large blue *Phengaris nausithous* and Scarce large blue *Phengaris teleius*) in connection with occupying the surface fragments of meadows constituting their habitat for construction purposes. Therefore, a mitigation measure was planned in the form of restoring the surface of meadows constituting the habitat of the abovementioned butterfly species.

Fish and lampreys

The implementation of the planned Task shall cause a negative impact on 2 species of fish and lampreys (Stone loach *Barbatula barbatula* and Brook lamprey *Lampetra planeri*) in connection with the planned relocation and regulation of the Goworówka and Nowinka stream bed sections (loss or periodic deterioration of habitat quality, periodic deterioration of the food base). The effects of this impact shall be limited owing to a range of mitigation measures concerning shaping the newly constructed stream beds in a manner favouring the presence of fish fauna.

Amphibians and reptiles

The planned construction works may pose a danger of trapping amphibians or reptiles in performed excavations. Vehicle and machine traffic is also a hazard as it may deteriorate the conditions of their living and breeding or pose a direct hazard to the life of their specimens. Potential pollution of the aquatic-soil environment may also be a danger to this group of animals. All the above impact is of potential nature and performing the works in accordance with the conditions determined in Appendix 1 to the EMP shall significantly reduce the risk of its occurrence.

Birds

The main forms of the negative impact of the planned Task on the bird fauna include the following:

- destruction of potential breeding grounds (groups of trees and shrubs as well as swathes of herb growths) and feeding grounds – this impact shall not cause a significant influence on the populations of individual species due to the availability of other areas of similar nature in the surroundings of the construction site;
- increased penetration of the area by humans as well as intense vehicle and construction machine traffic (scaring and disturbing of specimens) – this impact is local, short-term and limited to the period and time of works performance.

Flightless mammals

In the case of species of small land mammals, the planned construction works pose hazards analogous to those mentioned in the case of amphibians and reptiles (see above). In the case of Eurasian otter *Lutra lutra*, those hazards are supplemented with the impact related to loss or deterioration of habitat quality in the beds and on the banks of the Goworówka and Nowinka streams as a result of the planned hydraulic works. As in the case of fish and lampreys, the planned mitigation measures concerning shaping the watercourse beds shall lead to a significant reduction of the unfavourable effects of this impact.

Bats

The hazards to this group of animals are analogous to those in the case of birds, but the bats living in tree hollows are additionally more vulnerable to death during tree felling. This type of hazards was minimized owing to appropriate mitigation measures described in Appendix 1 to the EMP.

5.8.2. Protected areas and objects

Natura 2000 sites

The implementation of the planned Task (both at the construction and operation stages) does not cause a negative impact on Natura 2000 sites located in its surroundings (lack of a negative influence on Natura 2000 site integrity or network coherence).

Other protected areas and objects

The implementation of the planned Task (both at the construction and operation stages) does not cause a negative impact on protected areas and objects (other than Natura 2000 sites) located in its surroundings.

5.9. CULTURAL MONUMENTS

The implementation of the planned Task (both at the construction and operation stages) does not cause a negative impact on monuments and protection zones (including the objects and zones listed in chapter 4.9).

5.10. POPULATION AND MATERIAL GOODS

In connection with the implementation of the planned Task, it shall be necessary to introduce the following changes to the existing infrastructural objects: relocation of a section of existing district road No. 3233D (including liquidation of the existing road bridge and construction of a new road bridge on the Nowinka stream), relocation of a section of the municipality dirt road in the southern part of the reservoir, relocation of a medium voltage power line and adjusting G200 gas pipeline to operation in the conditions of periodic water damming in the reservoir.

The issues related to land purchase or changing land use, as well as possible problems connected with the influence of reservoir construction and operation on temporary occupation areas and their surroundings, are discussed in detail in the *Land Acquisition and Resettlement Action Plan* (LA&RAP) for the Task in question.

The potential negative influence on material goods at the construction stage is related to using the existing road network as access roads to the construction site. Introduction of mitigation measures in this scope shall enable limiting this impact category.

5.11. HUMAN HEALTH AND SAFETY

The implementation of the planned Task may be related to the following impact on human health and safety:

- Increase of air pollution emission

  At the construction stage, the pollution level of atmospheric air may locally and periodically increase in connection with using vehicles and construction machinery (emission of exhaust fumes). Since this impact is dispersed, local and not too intense, and owing to the distance between the construction site and the nearest buildings, the impact should not cause significant effects in relation to the health of the Contractor's staff or residents from the vicinity (see also chapter 5.3).

- Increased noise emission

  At the construction stage, the noise level related to performing the works and using vehicles and construction machinery may locally and periodically increase. Taking into account the circumstances discussed in chapter 5.7, this phenomenon should not cause significant effects in relation to the health of the Contractor's staff or residents from the vicinity.

- Petroleum derivative pollution hazard

  Bad organization of works or failure to observe appropriate standards could lead to water and soil pollution with fuels at the construction stage, which could constitute a direct or indirect hazard to the health of the Contractor's staff or residents from the vicinity. To prevent such hazards, Appendix 1 to the EMP introduces a number of conditions aimed at limiting the risk of petroleum derivative pollution at the construction stage (see also chapter 6.11).

- The possibility of a reservoir breakdown or catastrophe at the operation stage

  The issues related to the potential influence of a reservoir breakdown or catastrophe on the health and safety of the residents of towns and villages located downstream of the dam are discussed in chapter 5.12.

5.12. SPECIAL HAZARDS (CRITICAL AND EMERGENCY SITUATIONS)

The implementation of the planned Task is related to the possibility of occurrence of the following critical or emergency situations which could cause special environmental hazards:

- Uncontrolled emission (leak) of petroleum derivatives

  An emergency situation may take place at the construction stage, resulting in a leak of petroleum derivatives from vehicles, construction machinery, tanks etc. polluting surface waters or the earth surface (including soil). The risk and effects of this type of events are limited by appropriate organization of the construction site backyard, care for the appropriate technical condition of vehicles, machines and equipment used on the construction site as well as, if those events do occur, strict observance of procedures concerning emergency and critical situations, described in Appendix 1 to the EMP.

- Fire or explosion of flammable substances

  An emergency situation may take place at the construction stage in relation to a fire (e.g. as a result of an equipment breakdown, staff negligence, an explosion of flammable substances, a lightning strike etc.). The risk and effects of this type of events are limited by strict observance of OSH provisions, appropriate organization of the construction site backyard, care for the appropriate technical condition of vehicles, machines and equipment used on the construction site as well as, if those events do occur, strict observance of procedures concerning emergency and critical situations, described in Appendix 1 to the EMP.

- Finding unexploded bombs or unfired rounds

  Hazardous materials of military origin, such as unexploded bombs or unfired rounds, may be found at the construction stage. Potential hazards related to this type of situations are limited by pre-emptive sapper examination of the construction site before commencing the works, ensuring sapper supervision over the works on a running basis as well as, if such materials are found, strict observance of procedures concerning situations related to

the presence of unexploded bombs or unfired rounds, described in Appendix 1 to the EMP.

- Sudden freshets, flood

  A sudden water level increase in the watercourses on the construction site or a flood may take place at the construction stage, threatening the staff's health and life and causing material losses on the construction site. In order to minimize the possible effects of this type of events, the Contractor shall take into account the flooding risk when organizing the construction site backyard and the remaining part of the works area as well as develop a *Construction site flood management plan* and strictly observe the conditions contained in it.

- The possibility of a reservoir breakdown or catastrophe at the operation stage

  The operation of a dry flood control reservoir is related to a potential risk of water spillway above the dam crest or a dam break, e.g. as a result of long-term torrential precipitation, a breakdown of relief devices and other causes. The occurrence risk of this type of catastrophes is limited by specific design and technical solutions applied in the planned reservoir: increasing the reservoir dam crest elevation above the level required in the provisions binding on this type of hydraulic structures (the effectiveness of that measure was examined in model tests performed at the reservoir design stage), replacing the soils under the planned reservoir dam with soils ensuring dam stability, applying an anti-filtering membrane in and under the dam body, equipping the dam with two types of relief devices (sluices and spillways), equipping the reservoir tunnel with an emergency opening, increasing the efficiency of the reservoir spillway devices above the level required in the provisions and increasing the dam body width (owing to a gentle inclination of its slopes) above the size required in the provisions binding on this type of structures. Given the abovementioned protections and the fact that the reservoir design takes into account the hydrological data characterizing the scale of flows in the watercourses of this area during calculation periods, one can state that the discussed hazard is very much of a potential nature and its probability of occurrence is slight.

6. DESCRIPTION OF MITIGATION MEASURES

In order to limit the negative environmental impact of the planned Task, Appendix 1 to the EMP defines a set of mitigation measures binding on the Task Contractor. Those measures were developed on the basis of the conditions contained in the binding administrative decisions in the scope of environmental protection issued for the Task, which were supplemented with additional conditions determined at the EMP preparation stage. A list of main categories of the mitigation measures is presented below, dividing them into the environment components discussed in chapters 4 and 5 of the EMP.

6.1. EARTH SURFACE AND LANDSCAPE

The primary forms of the negative impact of the planned Task on earth surface and landscape are presented in chapter 5.1.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

– limiting the influence related to land occupations on the status of earth surface and landscape (item 4, 6, 61, 66);
– limiting the landscape value losses related to tree and shrub felling (item 58, 99, 103).

6.2. CLIMATE

Due to lack of a negative impact on the climate (see the description in chapter 5.2), it was considered as unnecessary to introduce mitigation measures.

6.3. ATMOSPHERIC AIR

The primary forms of the negative impact of the planned Task on atmospheric air are presented in chapter 5.3.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

– limiting the electrical energy consumption at the works stage (item 78);
– limiting air pollution with exhaust fumes, dusts etc. (item 79, 80).

6.4. SOILS AND GROUNDS

The primary forms of the negative impact of the planned Task on soils and grounds are presented in chapter 5.4.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

– limiting the soil resource losses related to land occupations (item 4, 5, 7, 61, 66);
– limiting the topsoil layer loss (item 11, 61);
– ensuring an appropriate chemical quality of grounds in the area of works (item 8, 10);
– limiting the ground pollution risk at the works stage (item 5, 6, 7, 64, 66, 67, 68, 69, 70, 71, 72, 73, 74, 82, 83, 84, 85).

6.5. SURFACE WATERS

The primary forms of the negative impact of the planned Task on surface waters are presented in chapter 5.5.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

– limiting the water pollution risk at the works stage (item 5, 6, 7, 40, 41, 42, 43, 57, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 82, 83, 84, 85).
– ensuring an appropriate chemical quality of grounds in the area of works (item 8, 10);
– limiting the negative influence on the biological elements of water quality (item 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 55, 56, 57).

6.6. GROUNDWATER

Due to lack of a significant negative impact on groundwater (see the description in chapter 5.6), it was considered as unnecessary to introduce mitigation measures. Groundwater protection is indirectly related to a part of the mitigation measures listed in chapter 6.5 concerning protection of surface waters against pollution.

6.7. ACOUSTIC CLIMATE

The primary forms of the negative impact of the planned Task on atmospheric air are presented in chapter 5.7.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed at:

– limiting the noise generated at the works stage (item 75, 76, 77, 78).

6.8. BIOTIC NATURE

The primary forms of the negative impact of the planned Task on biotic nature resources are presented in chapter 5.8.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

– limiting the natural resource losses related to land occupations (item 5, 6, 11, 25, 61, 67, 99, 100, 101, 102, 103);
– limiting the natural resource losses related to tree and shrub felling (item 13, 14, 15, 58, 99, 102, 103).
– eliminating or limiting the natural resource losses related to accidental deaths of specimens of protected species on the land (item 12, 25, 28, 30, 31, 33, 58);
– eliminating or limiting the natural resource losses related to accidental deaths of specimens of protected species in the aquatic environment (item 35, 36, 37, 38, 40, 41, 42, 43, 44, 55, 56, 57);
– eliminating or limiting the influence of works implementation on the breeding results of protected animal species (item 13, 16, 19, 24, 25, 28, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 55, 56, 57);
– eliminating or limiting the influence of works implementation on the migration conditions of protected animal species (item 45, 46, 47, 48, 49, 50, 56, 57, 59);

- limiting the influence of works implementation on the status of natural habitats and habitats of protected species on the construction site and its immediate vicinity (item 25, 26, 27, 33, 34, 39, 45, 46, 47, 48, 49, 50, 54, 56, 57, 58, 59, 61, 62, 99, 100, 101, 102, 103);
- limiting the influence of works implementation on the status of trees and shrubs not anticipated for felling (item 18, 19, 20, 21, 22, 23, 33);
- eliminating or limiting the influence of works implementation on the spreading of invasive plant species of foreign origin (item 32).

6.9. CULTURAL MONUMENTS

Due to lack of a negative impact on the identified cultural resources (see the description in chapter 5.9), it was considered as unnecessary to introduce mitigation measures.

In order to prevent a negative influence on the as yet unidentified cultural resources, Appendix 1 to the EMP introduces three mitigation measures aimed at implementing appropriate procedures in the case of discovering movable monuments or archaeological sites at the works stage (item 96, 97, 98).

6.10. POPULATION AND MATERIAL GOODS

In accordance with the information provided in chapter 5.10, the issues related to land purchase or changing land use, as well as possible problems connected with the influence of reservoir construction and operation on temporary occupation areas and their surroundings, are discussed in detail in the *Land Acquisition and Resettlement Action Plan* (LA&RAP) for the Task in question. The impact related to using the existing road network as access roads to the construction site shall be limited by implementing the conditions of access road use, described in item 9 of Appendix 1 to the EMP.

6.11. HUMAN HEALTH AND SAFETY

The primary forms of the negative impact of the planned Task on human health and safety are presented in chapters 5.11 and 5.12.

To limit that impact, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

- limiting the influence of the planned Task on the sanitary status of atmospheric air (listed in chapter 6.3);
- limiting the influence of the planned Task on the acoustic climate (listed in chapter 6.7);
- eliminating or limiting the risk of chemical pollution of water and ground at the works stage (listed in chapters 6.4 and 6.5);
- ensuring safety on the construction site and in its surroundings (item 87, 88, 89, 90, 91, 92);
- ensuring appropriate response in situations of special environmental hazards (item 93, 94, 95).

6.12. SPECIAL HAZARDS (CRITICAL AND EMERGENCY SITUATIONS)

The primary types of special hazards (critical and emergency situations) that potentially may occur in connection with the Task are presented in chapter 5.12.

To reduce the possible effects of such events, Appendix 1 to the EMP introduces mitigation measures aimed i.a. at:

– eliminating or limiting the risk of chemical pollution of water and ground at the works stage (listed in chapters 6.4 and 6.5);
– ensuring safety on the construction site and in its surroundings (item 87, 88, 89, 90);
– ensuring appropriate response in situations of special environmental hazards (item 93, 94, 95).

6.13. REQUIREMENTS IN THE SCOPE OF DEVELOPMENT AND IMPLEMENTATION OF THE CONTRACTOR'S SELECTED DOCUMENTS

In order to ensure appropriate organization of works performance and implement correctly the conditions determined in Appendix 1 and 2 to the Environmental Management Plan, the Contractor is obliged to develop the following documents, obtain the Engineer's approval for them and then implement them:

1) A construction site organization design, which should include i.a. the following elements:
   - backyard location;
   - backyard management;
   - backyard protection;
   - access roads;
   - environmental protection in the backyard.
2) A waste management plan, which should include i.a. the following elements:
   - found and anticipated types and quantities of waste;
   - manners of preventing the negative environmental impact of the waste;
   - the waste management manner taking into account collection, transportation, recovery and treatment;
   - the type of generated waste and the manner of its storage.
3) Quality assurance plans for individual categories of works and other types of the Contractor's measures (as needed, including as required by the Engineer), which should contain i.a.:
   - information about the planned organization of performing a given category of works or measures;
   - information about the conditions of implementing a given category of works or measures contained in the EMP;
   - information about other possible manners of preventing the negative environmental impact of a given category of works.

4) A construction site flood management plan, which should include i.a. the following elements:
   - monitoring of the hydrological-meteorological situation;
   - conditions of passing freshet flows in the works performance period;
   - rules of the Contractor's staff work during the flooding risk period;
   - primary obligations of key members of the company flood management team;
   - a list of officers during the flooding risk period;
   - a list of equipment and means of transport needed to conduct rescue actions.
5) A Safety and Health Protection Plan, which should include i.a. the following elements:
   - indication of plot/site development elements which could pose a hazard to human safety and health;
   - information about the hazards anticipated during the implementation of construction works, specifying the scale, types, place and time of the hazards, including the relation to the natural environment;
   - information about designating and marking the construction works implementation location in a manner appropriate for the hazard type;
   - information about the manner of instructing the employees before commencing the implementation of particularly dangerous works;
   - specification of the manner of storing and moving hazardous materials, products, substances and preparations on the construction site;
   - indication of technical and organizational means preventing the dangers stemming from the performance of construction works in zones of special hazard to health or in their neighbourhood, including means ensuring safe and effective communication enabling quick evacuation in case of a fire, breakdown or another hazard;
   - indication of the storage location of construction documentation and documents necessary for correct operation of machines and other technical devices.

When developing the abovementioned documents, the Contractor shall take into account relevant Operational Policies and Bank Procedures of the World Bank concerning health protection, environmental protection and safety rules.

6.14. MEASURES AT THE OPERATION STAGE

A part of the mitigation measures specified in the EMP goes beyond the construction stage and shall also be implemented in the reservoir operation period. Those measures include i.a.:

– maintenance of tree and shrub plantings on a running basis
  (item 61, 99, 103 in Appendix 1 to the EMP);
– performance of agricultural practices related to restoration of meadows
  (item 61, 100 in Appendix 1 to the EMP);
– performance of maintenance and possible repairs of nest boxes for the White-throated dipper on a running basis
  (in relation to the content of item 118 in Appendix 2 to the EMP);
– performance of maintenance and possible repairs of boxes for bats on a running basis
  (in relation to the content of item 119 in Appendix 2 to the EMP);

- performance of measures aimed at ensuring the reservoir tunnel passability for two-way migration of fish
  (in relation to the content of item 120 in Appendix 2 to the EMP);
- performance of measures aimed at eliminating invasive plant species
  (in relation to the content of item 121 in Appendix 2 to the EMP);
- ensuring reservoir area lighting in accordance with the conditions of the environmental decision (item 60 in Appendix 1 to the EMP);
- ensuring the minimum acceptable flow in the watercourses (item 38 in Appendix 1 to the EMP).

In the Defect Notification Period, the Contractor is the party responsible for implementation of the abovementioned measures (in the case of the last two measures – together with the Investor). After Contract completion, the Investor is responsible for implementation of all of the abovementioned measures.

7. DESCRIPTION OF MONITORING MEASURES

Appendix 2 to the EMP defines a set of monitoring measures binding on the Task Contractor. Those measures were developed on the basis of the conditions contained in the binding administrative decisions issued for the Task, which were supplemented with additional conditions determined at the EMP preparation stage.

The monitoring measures listed in Appendix 2 to the EMP belong to three main categories:

- monitoring of implementation of all mitigation measures listed in Appendix 1 to the EMP (item 1-115 in Appendix 2 to the EMP);
- monitoring of the status of selected elements of the environment defined in the decision on the environmental conditions (item 116-121 in Appendix 2 to the EMP);
- monitoring of implementation of the abovementioned measures monitoring the status of selected elements of the environment (item 122 in Appendix 2 to the EMP).

8. PUBLIC CONSULTATIONS

8.1. PUBLIC CONSULTATIONS FOR THE *ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK* FOR THE OVFMP (2015)

The draft of the document entitled *Environmental and Social Management Framework (ESMF)* for the OVFM Project (including Component 2, which covers the present Task) was subject to the procedure of public consultations conducted in accordance with *OP 4.01* Operational Policy of the World Bank. Their aim was to enable the public to familiarize itself with the content of that document and ensure the possibility of submitting remarks, questions and motions concerning the content.

The documentation of the public consultation process for the abovementioned document is available on the website of the Odra-Vistula Flood Management Project Coordination Unit[1].

8.2. PUBLIC CONSULTATIONS AT THE STAGE OF ENVIRONMENTAL PROCEDURES FOR THE TASK (2015)

In terms of national administrative procedures in the scope of EIA, Task *2A.1/2 Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream* consists of two undertakings subject to separate EIA procedures, i.e.: (1) construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream and (2) reconstruction of district road No. 3233D.

A full EIA (according to polish legislation) was conducted for the undertaking concerning reservoir construction. With regard to the undertaking concerning district road reconstruction, the relevant local body determined lack of the need for conducting an environmental impact assessment (see chapter 3.5). However, one has to indicate here that the district road reconstruction was an element of the environmental documentation for the reservoir, but it was excluded from the EIA procedure due to formal reasons (see chapter 3.5).

A) Public consultations concerning the decision on the environmental conditions for reservoir construction

In the scope concerning issuing the decision on the environmental conditions for the construction of "Roztoki Bystrzyckie" reservoir, the consultations with the society's participation were conducted by a relevant local body issuing the decision, i.e. the Regional Director for Environmental Protection in Wrocław.

In an announcement of September 30th, 2015 (ref. No.: WOOŚ.4233.1.2015.AW.17), the Regional Director for Environmental Protection in Wrocław published the required information concerning the planned undertaking. That announcement was placed on the notice board and the website of the Regional Directorate for Environmental Protection in Wrocław and on the notice boards of the Międzylesie City and Municipality Office and the Bystrzyca Kłodzka City and Municipality Office as well as published in a local extra to *Gazeta Wyborcza* newspaper.

Within the deadline provided by the law (and after its expiration), the conducting body received no remarks or motions related to the undertaking in question.

[1] On the website: *http://www.odrapcu.pl/popdow_dokumenty_RPZSiSS.html*.

On December 18th, 2015, the Regional Director for Environmental Protection in Wrocław issued a decision on the environmental conditions for the construction of "Roztoki Bystrzyckie" reservoir (ref. No.: WOOŚ.4233.1.2015.AW.23). That decision was published via an announcement and was not appealed against.

B) Public consultations concerning the decision on the environmental conditions for district road reconstruction

In the scope concerning issuing the decision on the environmental conditions for the reconstruction of district road No. 3233D, the consultations with the society's participation were conducted by a relevant local body issuing the decision, i.e. the Mayor of Międzylesie City and Municipality.

In an announcement of February 6th, 2015 (ref. No.: ITiG.603.2.2015), the Mayor of Międzylesie City and Municipality published the required information concerning the planned undertaking. That announcement was placed on the notice boards of the Międzylesie City and Municipality Office and of the Bulletin of Public Information of the Międzylesie City and Municipality Office.

Within the deadline provided by the law (and after its expiration), the conducting body received no remarks or motions related to the undertaking in question.

On January 15th, 2016, the Mayor of Międzylesie City and Municipality issued a decision on the environmental conditions for reconstruction of district road No. 3233D (ref. No.: ITiG.603.2-D.2015.2016). That decision was published via an announcement and was not appealed against.

8.3. PUBLIC CONSULTATIONS FOR THE EMP (2016)

The draft of the present document was subject to the public consultation procedure conducted in accordance with the Operational Policies of the World Bank (*OP 4.01*).

After preparing the draft EMP and obtaining – upon its basis – the World Bank's acceptance (so-called "no objection") for commencing the publication procedure, on the 12th of October 2016 a digital version of the EMP was published at publicly accessible websites: website of the Regional Authorities for Water Management (RZGW) in Wrocław – *http://wroclaw.rzgw.gov.pl* (Fig. 2) and website of the OVFMP Project Coordination Unit – *http://www.odrapcu.pl* (Fig. 3), and a hard copy was made available in the office of the RZGW in Wrocław (Wrocław, 34. Norwida Street), in the office of the RZGW in Wrocław, Inspectorate in Kłodzko (Kłodzko, 1. Kościuszki Street), and in the City and Municipality Office of Międzylesie (Międzylesie, 1. Wolności Square).

Detailed information on the access to this document and on the possibility of informing conclusions and comments (along with indication of detailed contact data: e-mail address, telephone number, snail mail addresses, where the project document was made accessible, office opening hours) were publicly informed in the announcement (Fig. 4) placed in the following locations:

- websites of the RZGW in Wrocław – *http://wroclaw.rzgw.gov.pl* (Fig. 5) and of the City and Municipality Office of Międzylesie – *http://www.miedzylesie.pl* (Fig. 6);
- in local press, including local supplements to *Gazeta Wyborcza* (Fig. 7) and to *Gazeta Wrocławska* (Fig. 8);

- on information boards in: RZGW in Wrocław, RZGW in Wrocław – Inspectorate in Kłodzko, City and Municipality Office of Międzylesie, and localities of Roztoki and Gajnik.

The aforementioned announcement also included information on the possibility of taking part in a meeting and in a discussion opened for interested people, organizations and institutions, which was planned for the 26th of October 2016 (including information on a place, date and time of the meeting).

The publication was completed after 10 working days, i.e. on the 25th of October 2016. During the publication period the draft EMP has been overviewed by the interested people, but – until the completion of works on this document – neither remarks nor questions were provided in relation to contents of the draft document.

After completion of the publication, an opened meeting for interested people, organizations and institutions was held on the 26th of October 2016 at 4:30 p.m. in a Village Common Room in Roztoki, where a public presentation of and discussion on the draft EMP were organized (Fig. 9 and 10). 11 people participated in the meeting, including: the representatives of local community and authorities, PCU, RZGW in Wrocław, and the Consultant. The meeting lasted for 1 hour and the following questions were asked:

1) *Does to purpose of constructing the planned reservoirs in the Kłodzka Dale relate to protection of river or stream valleys, where they will be located, or does it mainly relate to the protection of major cities like Kłodzko or Wrocław?*

   In reference to the question it was clarified that the purpose of constructing each of the reservoirs is the flood protection for valleys of rivers and streams located downstream of the given reservoir, as well as enhancement of protection for bigger towns of the Kłodzka Dale, i.e. Międzylesie, Bystrzyca Kłodzka or Kłodzko. It was also noted that except for constructing dry flood protection reservoirs, the flood protection for Kłodzka Dale shall be improved due to passive protection actions (regulation of rivers and streams), included in the scope of Subcomponent 2B of the OVFMP Project.

2) *Why the flood protection reservoirs constructed under the OVFMP Project were designed as dry ones, and not wet ones, which might have provided numerous additional benefits for local communities?*

   In reference to the question it was clarified that a strategic aim for all actions under the OVFMP Project is the flood protection for land within selected areas of the Odra and Vistula river basins. In case of such mountainous areas as Kłodzka Dale, with heavy and rapid (i.e. hard to be forecasted) rainfall, dry reservoirs provide higher flood protection level for areas located downstream of the reservoir (maximum flood contingency capacity) and the highest protection level for the flood protection structure itself (it is not necessary to discharge water from the reservoir in advance in case of a rapid rainfall hazard).

3) *What is the planned implementation schedule for the Task?*

   In reference to the question it was clarified that selection of the Contractor and commencement of the construction works for the *Task 2A.1/2* is planned for 2017, and completion of construction for all elements of Component 2 of the OVFMP Project shall take place in 2022.

4) *How will the employees performing the construction works be recruited? What will the forecasted employment rate be?*

   In reference to the question it was clarified that the employees will be recruited by the Contractor of works, which will be selected in a bidding procedure. The practice shows that at least some of the employees will most likely be hired among the local people living in the area of the construction site. As for the number of personnel engaged in the construction works, it will be a Contractor's decision and it is currently hard to forecast the quantity of this parameter. Considering the planned scope of construction works it may be however stated that it shall undoubtedly be at least several dozens of people.

Considering the character of aforementioned questions, which were asked during the meeting, and the lack of remarks and conclusions of the public during the publication of the draft EMP, the authors of the EMP for the *Task 2A.1/2* stated that its contents do not require modification resulting from the publication procedure. After supplementation of the document with a memo on the publication procedure and after other improvements resulting from the remarks provided with the conditional consent of the World Bank for the publication of draft document, the final EMP was submitted to the World Bank in order to obtain the final acceptance clause, i.e. "no objection".

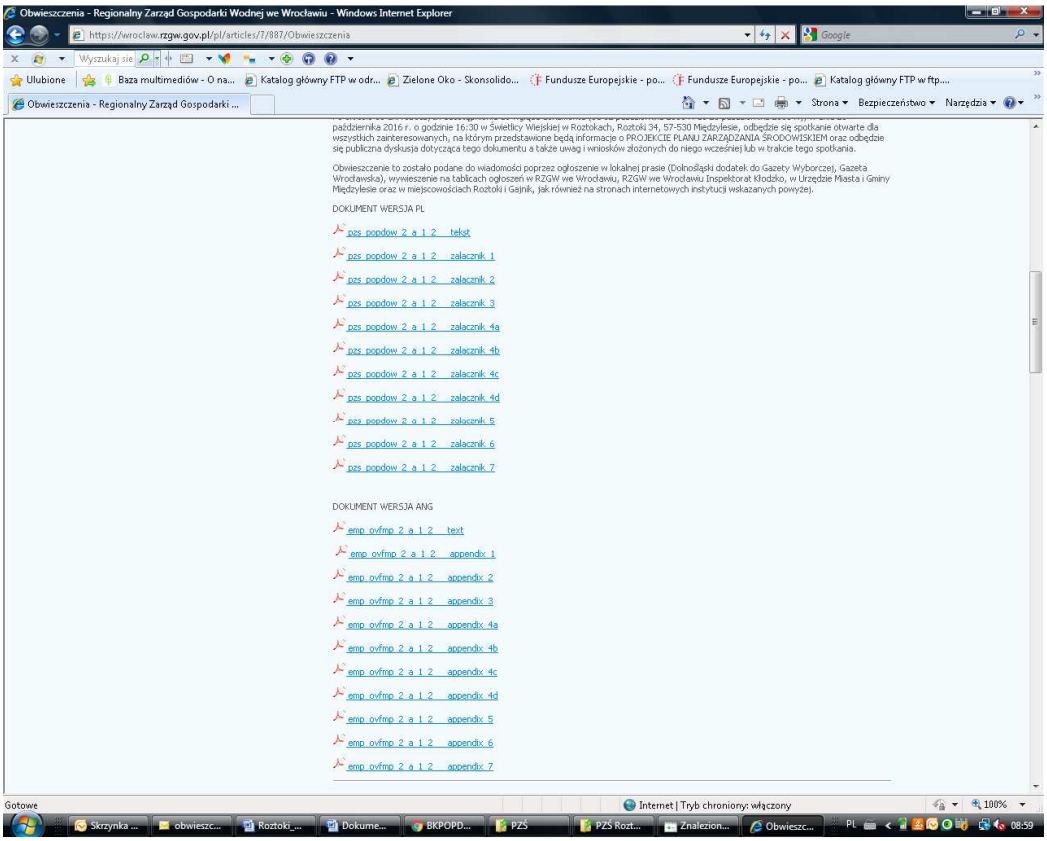


Figure 2. Digital version of the draft EMP published at the website of the RZGW in Wrocław.

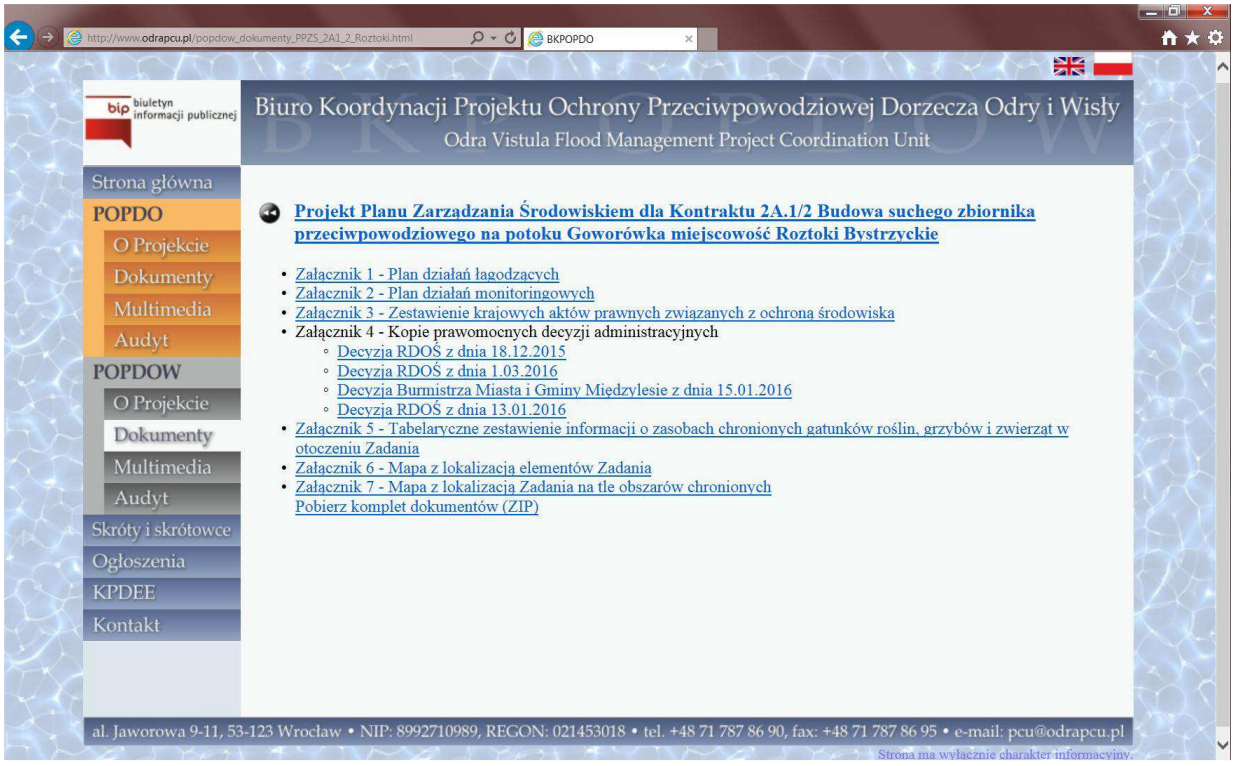


Figure 3. Digital version of the draft EMP published at the website of the OVFMP Project Coordination Unit.

OBWIESZCZENIE

Zgodnie z wymaganiami Banku Światowego (polityka operacyjna OP 4.01), instytucji współfinansującej realizację *Projektu ochrony przeciwpowodziowej w dorzeczu Odry i Wisły*,

podaje się do publicznej wiadomości, co następuje:

Regionalny Zarząd Gospodarki Wodnej we Wrocławiu (RZGW Wrocław) udostępnił do wglądu wszystkim zainteresowanym osobom i instytucjom PROJEKT PLANU ZARZĄDZANIA ŚRODOWISKIEM dla Komponentu 2 Ochrona przed powodzią Kotliny Kłodzkiej, Podkomponent 2A Ochrona czynna, Zadanie 2A.1/2 Budowa suchego zbiornika przeciwpowodziowego na potoku Goworówka miejscowość Roztoki Bystrzyckie (nazywany dalej PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM).

Każdy zainteresowany może:

A) zapoznać się z PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM od dnia 12 października 2016 r. do dnia 25 października 2016 r włącznie (10 dni roboczych), w siedzibie:

- Regionalnego Zarządu Gospodarki Wodnej we Wrocławiu, ul. C.K. Norwida 34, 50-950 Wrocław w dniach roboczych od godziny 8:00 do 14:00.
- Regionalnego Zarządu Gospodarki Wodnej we Wrocławiu, Inspektorat w Kłodzku, ul. Kościuszki 1, 57-300 Kłodzko w dniach roboczych od godziny 8:00 do 14:00.
- Urzędu Miasta i Gminy Międzylesie, pl. Wolności 1, 57-530 Międzylesie, pokój nr 17 w dniach roboczych od godziny 8:30 do 14:30.

lub poprzez stronę internetową:

- Regionalnego Zarządu Gospodarki Wodnej we Wrocławiu pod adresem: www.wroclaw.rzgw.gov.pl
- Urzędu Miasta i Gminy Międzylesie pod adresem: www.miedzylesie.pl
- Biura Koordynacji Projektu pod adresem – www.odrapcu.pl,

B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM w formie pisemnej oraz ustnej do protokołu pod w/w adresami lub w formie elektronicznej na adres e-mail: oppkk@wroclaw.rzgw.gov.pl w dniach od 12 października 2016 r. do 25 października 2016 r. (włącznie).

Instytucją właściwą do rozpatrzenia uwag i wniosków jest Regionalny Zarząd Gospodarki Wodnej we Wrocławiu.

Osobą kontaktową w RZGW Wrocław jest:
Mariola Pimpicka
Regionalny Zarząd Gospodarki Wodnej we Wrocławiu
ul. C.K. Norwida 34, 50-950 Wrocław
w dniach roboczych od godziny 8:00 do 14:00, tel. (71) 337 88 94.

Po okresie 10 dni roboczych udostępnienia do wglądu dokumentu (od 12 października 2016 r. do 25 października 2016 r.), w dniu 26 października 2016 r. o godzinie 16:30 w Świetlicy Wiejskiej w Roztokach, Roztoki 34, 57-530 Międzylesie, odbędzie się spotkanie otwarte dla wszystkich zainteresowanych, na którym przedstawione będą informacje o PROJEKCIE PLANU ZARZĄDZANIA ŚRODOWISKIEM oraz odbędzie się publiczna dyskusja dotycząca tego dokumentu a także uwag i wniosków złożonych do niego wcześniej lub w trakcie tego spotkania.

Obwieszczenie to zostało podane do wiadomości poprzez ogłoszenie w lokalnej prasie (Dolnośląski dodatek do Gazety Wyborczej, Gazeta Wrocławska), wywieszenie na tablicach ogłoszeń w RZGW we Wrocławiu, RZGW we Wrocławiu Inspektorat Kłodzko, w Urzędzie Miasta i Gminy Międzylesie oraz w miejscowościach Roztoki i Gajnik, jak również na stronach internetowych instytucji wskazanych powyżej.

Figure 4. Announcement on public hearings for the draft EMP submitted to local press and published on the web sites and on the bulletin boards.

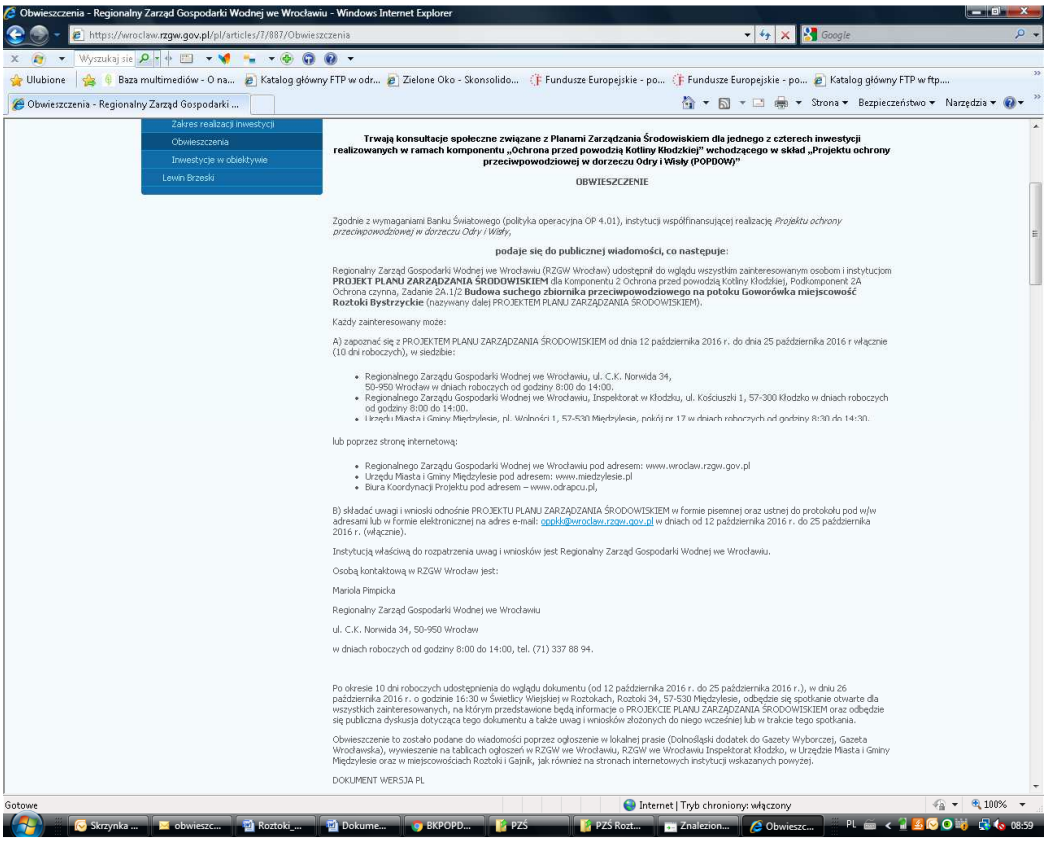


Figure 5. Announcement on public hearings for the draft EMP published at the web site of the RZGW in Wrocław.

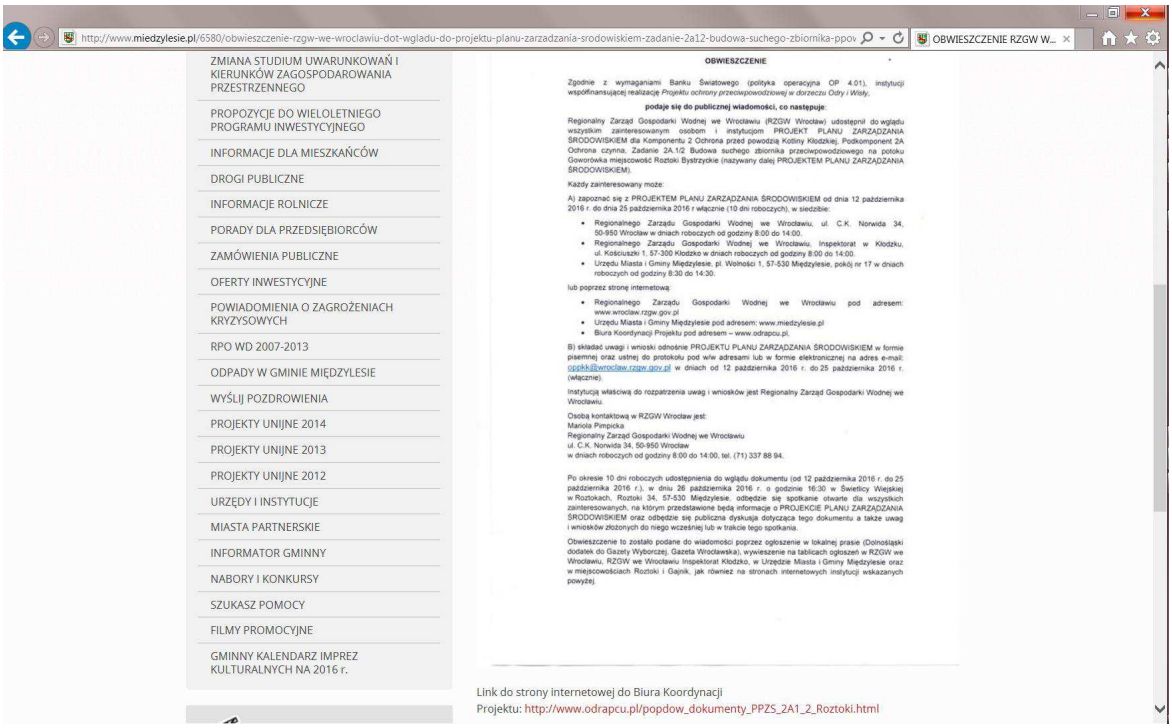
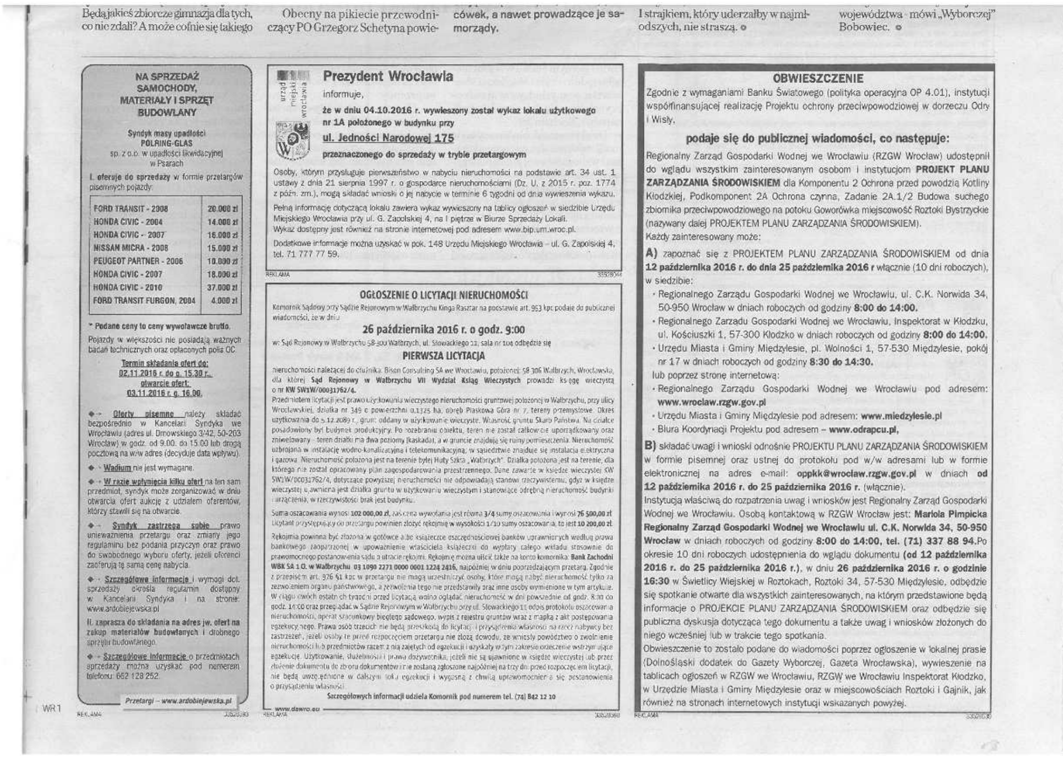


Figure 6. Announcement on public hearings for the draft EMP published at the web site of the City and Municipality Office of Międzylesie.



Prezydent Wrocławia

informuje,

że w dniu 04.10.2016 r. wywieszony został wykaz lokalu użytkowego nr 1A położonego w budynku przy ul. Jedności Narodowej 175 przeznaczonego do sprzedaży w trybie przetargowym

Osoby, którym przysługuje pierwszeństwo w nabyciu nieruchomości na podstawie art. 34 ust. 1 ustawy z dnia 21 sierpnia 1997 r. o gospodarce nieruchomościami (Dz. U. z 2015 r. poz. 1774 z późn. zm.), mogą składać wnioski o jej nabycie w terminie 6 tygodni od dnia wywieszenia wykazu.

Pełną informację dotyczącą lokalu zawiera wykaz wywieszony na tablicy ogłoszeń w siedzibie Urzędu Miejskiego Wrocławia przy ul. G. Zapolskiej 4, na I piętrze w Biurze Sprzedaży Lokali.

Wykaz dostępny jest również na stronie internetowej pod adresem www.bip.um.wroc.pl.

Dodatkowe informacje można uzyskać w pok. 148 Urzędu Miejskiego Wrocławia – ul. G. Zapolskiej 4, tel. 71 777 77 59.

OBWIESZCZENIE

Zgodnie z wymaganiami Banku Światowego (polityka operacyjna OP 4.01), instytucji współfinansującej realizację Projektu ochrony przeciwpowodziowej w dorzeczu Odry i Wisły,

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Każdy zainteresowany może:

A) zapoznać się z PROJEKTEM PLANU ZARZĄDZANIA ŚRODOWISKIEM od dnia **12 października 2016 r. do dnia 25 października 2016 r** włącznie (10 dni roboczych), w siedzibie:

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lub poprzez stronę internetową:

- Regionalnego Zarządu Gospodarki Wodnej we Wrocławiu pod adresem: **www.wroclaw.rzgw.gov.pl**
- Urzędu Miasta i Gminy Międzylesie pod adresem: **www.miedzylesie.pl**
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B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM w formie pisemnej oraz ustnej do protokołu pod w/w adresami lub w formie elektronicznej na adres e-mail: **oppkk@wroclaw.rzgw.gov.pl** w dniach **od 12 października 2016 r. do 25 października 2016 r.** (włącznie).

Instytucją właściwą do rozpatrzenia uwag i wniosków jest Regionalny Zarząd Gospodarki Wodnej we Wrocławiu. Osobą kontaktową w RZGW Wrocław jest: **Mariola Pimpicka Regionalny Zarząd Gospodarki Wodnej we Wrocławiu ul. C.K. Norwida 34, 50-950 Wrocław** w dniach roboczych od godziny **8:00 do 14:00, tel. (71) 337 88 94.** Po okresie 10 dni roboczych udostępnienia do wglądu dokumentu **(od 12 października 2016 r. do 25 października 2016 r.)**, w dniu **26 października 2016 r. o godzinie 16:30** w Świetlicy Wiejskiej w Roztokach, Roztoki 34, 57-530 Międzylesie, odbędzie się spotkanie otwarte dla wszystkich zainteresowanych, na którym przedstawione będą informacje o PROJEKCIE PLANU ZARZĄDZANIA ŚRODOWISKIEM oraz odbędzie się publiczna dyskusja dotycząca tego dokumentu a także uwag i wniosków złożonych do niego wcześniej lub w trakcie tego spotkania.

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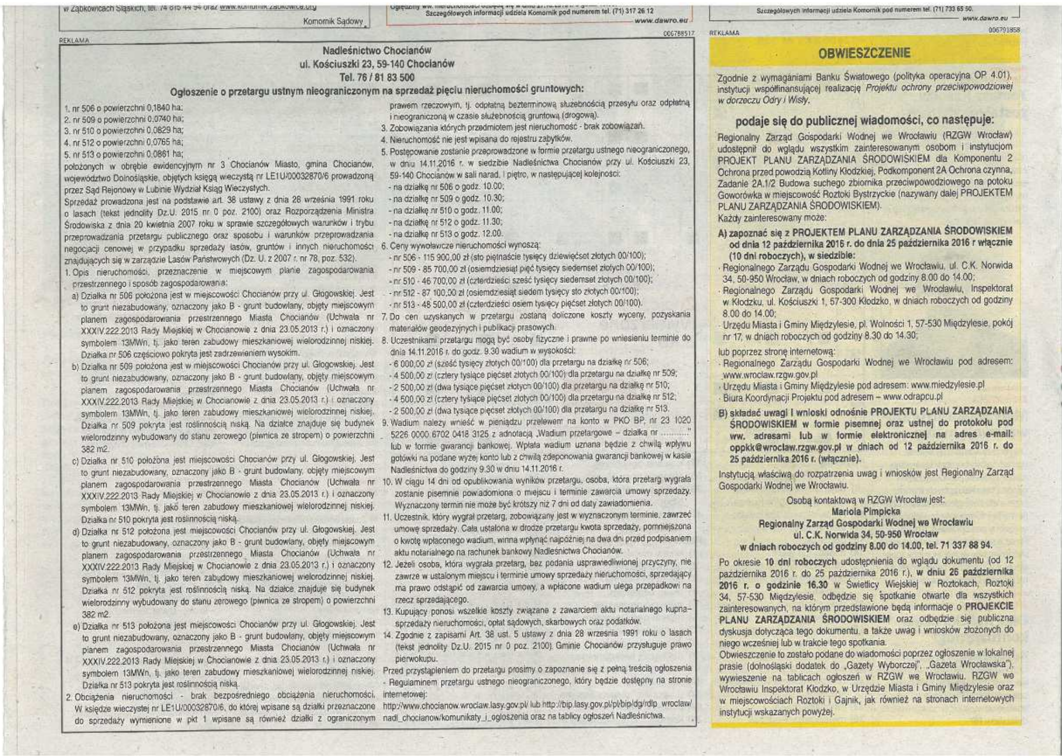
Figure 7. Announcement on public consultation for the draft EMP published in a local supplement to *Gazeta Wyborcza*.



Nadleśnictwo Chocianów
ul. Kościuszki 23, 59-140 Chocianów
Tel. 76 / 81 83 500

Ogłoszenie o przetargu ustnym nieograniczonym na sprzedaż pięciu nieruchomości gruntowych:

OBWIESZCZENIE

Zgodnie z wymaganiami Banku Światowego (polityka operacyjna OP 4.01), instytucji współfinansującej realizację *Projektu ochrony przeciwpowodziowej w dorzeczu Odry i Wisły*,

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- Biura Koordynacji Projektu pod adresem – www.odrapcu.pl

B) składać uwagi i wnioski odnośnie PROJEKTU PLANU ZARZĄDZANIA ŚRODOWISKIEM w formie pisemnej oraz ustnej do protokołu pod ww. adresami lub w formie elektronicznej na adres e-mail: oppkk@wroclaw.rzgw.gov.pl w dniach od 12 października 2016 r. do 25 października 2016 r. (włącznie).

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ul. C.K. Norwida 34, 50-950 Wrocław
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Figure 8. Announcement on public consultation for the draft EMP published in a local supplement to *Gazeta Wrocławska*.

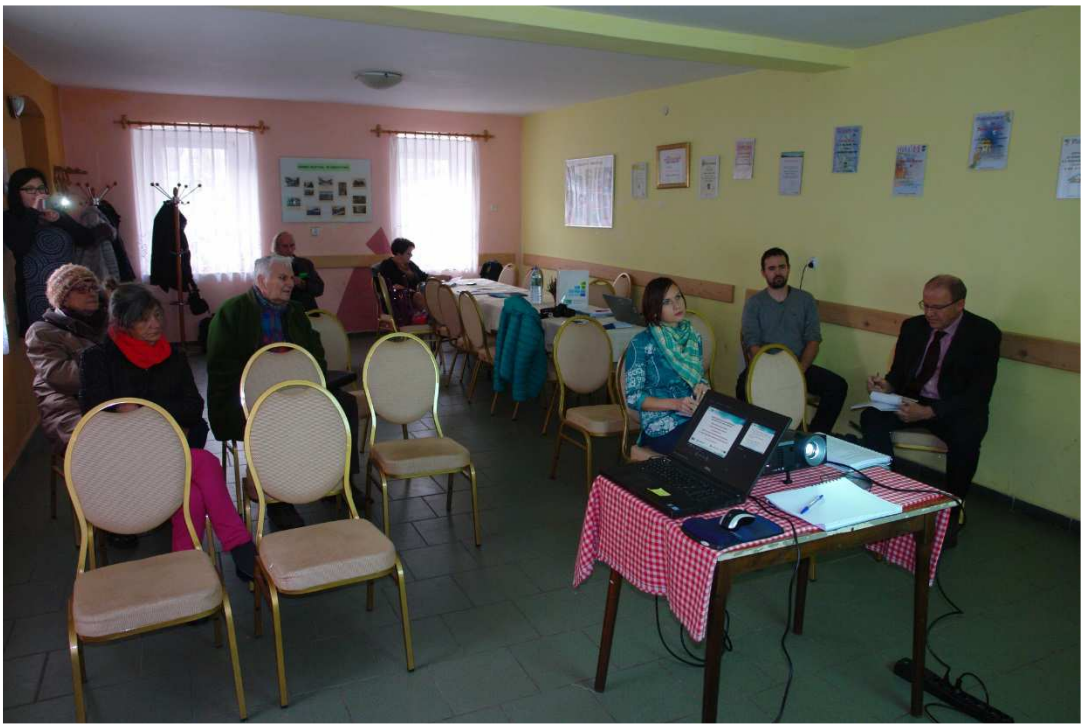

Figure 9. Public hearings for the draft EMP held in a Village Common Room in Roztoki, on the 26th of October 2016.

Figure 10. Public hearings for the draft EMP held in a Village Common Room in Roztoki, on the 26th of October 2016.

9. ORGANIZATIONAL STRUCTURE OF EMP IMPLEMENTATION

The Task being the subject of this EMP is implemented within the Odra-Vistula Flood Management Project (see chapter 1.1), co-financed using the World Bank's funds. Therefore, the EMP implementation supervision structure has to comply with both the provisions of Polish law and the requirements of the World Bank.

9.1. ODRA-VISTULA FLOOD MANAGEMENT PROJECT COORDINATION UNIT (OVFM PCU)

The entity responsible for overall coordination of implementing the individual parts of the EMP within the OVFM Project is the Project Coordination Unit (PCU), which is currently a state budgetary unit responsible to the President of the National Water Management Authority.

OVFM PCU tasks include i.a.:

- cooperation with the Minister of Finance, the Minister of the Interior and Administration, the Minister of the Environment, the National Water Management Authority and other government and local government administration bodies related to OVFM Project implementation;
- coordination of activities of individual Project Implementation Units and supporting those units in the scope of EMP implementation;
- monitoring and assessment of EMP implementation progress;
- cooperation with the World Bank on a running basis, including development of quarterly reports on OVFM Project implementation.

9.2. PROJECT IMPLEMENTATION UNIT (PIU) AND PROJECT IMPLEMENTATION OFFICE (PIO)

The entity directly responsible for implementing the EMP for the Task and monitoring EMP implementation progress is the Project Implementation Unit (PIU), i.e. RZGW in Wrocław, as a state budgetary unit responsible to the President of the National Water Management Authority.

In relation to OVFM Project implementation, the Project Implementation Office (PIO) was established as a separate organizational unit directly responsible to the Director of RZGW in Wrocław and supervised by him/her. Such a structure is transparent and its decision-making level is situated very high, which increases EMP implementation efficiency.

As part of EMP implementation supervision, the PIO performs the following tasks:

- monitoring of EMP implementation progress;
- financial management and account management;
- preparation of the necessary reports for the purposes of EMP implementation monitoring and for the purposes of coordination of EMP implementation by all the involved services.

The scope of duties of PIO employees related to EMP implementation supervision is as follows:

- management and coordination of as well as supervision over EMP monitoring implemented by the Consultant/Engineer and the Contractor;

- direct supervision over correct Task implementation;
- cooperation with the PIU;
- administrative and legal supervision over EMP implementation;
- verification of EMP implementation reports and accounts prepared by the Consultant/Engineer and the Contractor;
- financial supervision over EMP implementation;
- supervision over the correctness of applying formal procedures concerning EMP implementation which stem i.a. from the requirements of the Contract for works, *the Construction Law*, *the Environmental Protection Law* and other documents.

9.4. CONSULTANT/ENGINEER

The role of the Consultant/Engineer is supporting the PIU (RZGW in Wrocław) in effective implementation of the entire investment process, from undertaking preparation to its settlement.

The Consultant/Engineer shall be selected using the QCBS (Quality- and Cost-Based Selection) method, in accordance with *Guidelines: Selection and Employment of Consultants by World Bank Borrowers*. The Consultant/Engineer shall be obliged to supervise EMP implementation, in accordance with the scope defined in the Consultant/Engineer's contract, which shall include i.a.:

- monitoring of EMP implementation by the Contractor;
- monitoring the Contractor's actions;
- checking the quality of the construction works performed and the construction products used to build by the Contractor, in particular preventing the use of construction products which are defective or are not allowed for use in civil engineering;
- representing RZGW in Wrocław on the construction site by controlling the compliance of construction implementation with the project, the building permit, the provisions in the scope of environmental protection and the principles of technical knowledge;
- supervising all issues related to environmental protection by experienced specialists in the scope of environmental protection and by the Engineer's remaining staff;
- constant monitoring of the correctness of implementing the measures mitigating the negative environmental impact;
- performance of additional examinations if it becomes necessary to verify the Contractor's accounts;
- identification of problems stemming from the adverse environmental impact of construction works implementation and submitting proposed solutions to those problems;
- checking and accepting the construction works to be covered up and temporary construction works, participation in tests and technical acceptance of technical devices and systems as well as preparation of and participation in acceptance activities of ready structures and commissioning them;
- confirmation of actually performed works and removed defects as well as, on the Investor's request, inspection of construction settlement.

9.5. CONTRACTOR

A Contractor shall be selected to implement the construction works. The Contractor shall be responsible i.a. for EMP implementation. The Contractor's duties in this scope include:

- performance of construction works in accordance with the rules defined in the EMP, Contract conditions, design documentation, binding provisions of law and requirements of administrative decisions issued for the Task;
- implementation of the Engineer's recommendations (including those of the environmental supervision specialists and the Investor's supervision inspector) concerning EMP implementation;
- ensuring the preparation of i.a. the following documents before construction commencement: a safety and health protection plan, a waste management plan, a quality assurance plan, a construction site flood management plan for the works implementation period and a construction site organization design;
- maintenance of construction documentation;
- preparation of monthly accounts and reports on inspections;
- preparation of accounts concerning environmental protection;
- applying to RZGW in Wrocław for changes in design solutions if this is justified by the necessity of increasing the implementation safety of construction works or streamlining the construction process in the scope concerning EMP implementation.

10. EMP IMPLEMENTATION SCHEDULE AND REPORTING PROCEDURES

EMP implementation enables the parties involved in the preparation, implementation and supervision of the Contract for works to do the following:

- identify various environmental aspects which significantly influence the environment status so that they can be controlled, corrected and reduced but, consequently, produce economic effects;
- correct unfavourable consequences of conducted works during their implementation, which is beneficial to the environment and the financial results;
- define the objectives and tasks implemented within the adopted environmental policy, which are included in the EMP, require outlays and yield measurable effects;
- identify and eliminate potential hazards and breakdowns as well as prevent and remove environmental effects which may be related to them and cause losses disproportionate to prevention costs;
- use natural goods rationally with minimal environmental losses and optimal generation of costs.

Moreover, implementation of the recommendations and measures stemming from the EMP may reduce or even eliminate contractual risks, in particular:

- the risk of the Contractor skipping the environmental protection issues in the task implementation process;
- the risk of escalation of protests by the local community as a result of the Contractor's failure to observe the works implementation technologies and the environmental procedures approved by the Engineer;
- the risk of additional environmental penalties;
- the risk of bearing additional environmental losses.

Bearing in mind the significance of the issues determining the environmental and social conditions, the following EMP implementation procedures are anticipated:

a) before selecting the Contractor of works, the Employer shall submit the draft of this EMP to the World Bank in order to receive an opinion;

b) after receiving a positive opinion from the Bank, the EMP shall undergo public consultations;

c) after conducting the public consultations (and supplementing the document with consultation results), the EMP shall be supplemented and its final version shall be submitted to the World Bank for approval;

d) after EMP approval by the World Bank, the final document shall be included in the bidding documents concerning Contractor selection;

e) all actions of the Contractor of works shall be reported regularly (once a month) in terms of the obligations stemming from the EMP and other contract documents. They shall be reported in Polish and English, both in a printed version and in an electronic version. Those reports shall require the Engineer's and the Employer's approval.

Moreover, appropriate units involved in Task implementation are obliged to meet additional obligations in the scope of monitoring and reporting the issues related to environmental pro-

tection, which are defined in the administrative decisions issued for the Task in question (see chapter 3.5) and presented in Appendix 1 and Appendix 2 to the EMP.

It is planned that the Contractor shall prepare collective reports on environmental monitoring at the works implementation stage. The reports shall be confirmed by environmental supervision specialists from the Contractor's team, approved by the Engineer's nature supervision staff and submitted to the RDOŚ via the PIU. A detailed scope of the report shall be determined by the Engineer (the commencement report, the periodic (monthly) report, the quarterly report, the ad hoc report, the closure report). The Engineer shall also define their preparation deadlines.

The OVFM Project reporting system shall be based on monthly reports submitted by Contractors to the PIO via the Engineer and on the Engineer's monthly reports. Monthly reports on EMP implementation shall also be prepared (by the Contractor and the Engineer) – as part of the monthly reports or as separate documents. Collective quarterly reports shall also be developed on this basis.

The PIU shall submit quarterly reports concerning its implemented tasks to the PCU. They shall contain the required set of information and descriptions enabling the PCU to prepare the OVFM Project quarterly report. Moreover, especially in the case of problems with implementation of the Contract for works, the PCU shall expect the PIO to submit information sets and data every month.

The following reporting procedures were defined:

1) Reporting:
   a) reports (the commencement, monthly, quarterly and final ones) prepared by the Contractor of works;
   b) report overview by the Engineer;
   c) submitting the report to the Employer (for information purposes);
   d) submitting the report to the RDOŚ in Wrocław (only in the scope stemming from the issued administrative decisions);
   e) submission of a quarterly report by the PIU to the PCU.
2) Archiving:
   a) Contractor: 1 copy of each report in the electronic version, for 5 years after the Contract completion date;
   b) Engineer: 1 copy of each report in the electronic version, for 5 years after Contract completion;
   c) Employer: 1 copy of each report in the electronic version, for 5 years after the Contract completion date.
3) Evaluation:
   a) assessment (on a running basis) of implementation results of the planned actions stemming from the EMP;
   b) analysis (on a running basis) of documentation (the Contractor's reports) by the Engineer;
   c) submission of reliable information on the course of the construction process to the Employer, with special consideration for the implementation of the measures limiting

the negative environmental impact and the recommendations stemming from the environmental decisions;

d) preparation and submission of quarterly reports by the PCU to the World Bank.

The following are planned:

- *ex-ante* evaluation: a report before commencing Contract implementation (the Engineer's report);
- evaluation on a running basis: the Engineer's quarterly reports;
- *ex-post* evaluation:
  - a report after completing Contract implementation (final reports on EMP implementation prepared by the Contractor and the Engineer);
  - a report on EMP implementation after the Defect Notification Period, prepared by the Engineer.

11. LIST OF SOURCE MATERIALS

1) *Project Operations Manual (POM) for the Odra-Vistula Flood Management Project.* OVFM Project Coordination Unit. Wrocław, October 2015.

2) *Environmental and Social Management Framework for the Odra-Vistula Flood Management Project – a final document.* RZGW in Szczecin, RZGW in Wrocław, RZGW in Kraków, ZMiUW of the Lubuskie Province in Zielona Góra, West-Pomeranian ZMiUW in Szczecin, ZMiUW of the Świętokrzyskie Province in Kielce, Lower-Silesian ZMiUW in Wrocław, ZMiUW of the Małopolskie Province in Kraków, ZMiUW of the Podkarpackie Province in Rzeszów, IMGW – National Research Institute. April 2015.

3) *The environmental impact report for the designed undertaking entitled: "Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream near Roztoki, Międzylesie Municipality, Lower Silesian Province"*. Hydroprojekt Wrocław Sp. z o.o. Wrocław, August 2014.

4) *Project Information Card entitled "Construction of "Roztoki Bystrzyckie" – a dry flood control reservoir on Goworówka stream near Roztoki, Międzylesie Municipality, Lower Silesian Province in the scope of reconstruction (demolition and construction in a new location) of Roztoki-Goworów-Międzylesie district road No. 3233D together with construction of the necessary exits"*. Hydroprojekt Wrocław Sp. z o.o. Wrocław, March 2015.

12. LIST OF APPENDICES

Appendix 1. Plan of mitigation measures

Appendix 2. Plan of monitoring measures

Appendix 3. List of national legal acts related to environmental protection

Appendix 4. Copies of administrative decisions in the scope of environmental protection issued for the Task:

a. Decision of the Regional Director for Environmental Protection in Wrocław of December 18th, 2015 on the environmental conditions for the construction of "Roztoki Bystrzyckie" dry flood storage reservoir (ref. No.: WOOŚ.4233.1.2015.AW.23)

b. Decision of the Regional Director for Environmental Protection in Wrocław of March 1st, 2016 on rectifying an obvious typographic mistake in the decision on the environmental conditions of December 18th, 2015 (ref. No.: WOOŚ.4233.1.2015.ŁCK.26)

c. Decision of the Mayor of Międzylesie City and Municipality of January 15th, 2016 on the environmental conditions for the construction of "Roztoki Bystrzyckie" dry flood storage reservoir in the scope of the reconstruction of district road No. 3233D (ref. No.: ITiG.603.2-D.2015.2016)

d. Decision of the Regional Director for Environmental Protection in Wrocław of January 13th, 2016 exempting from bans related to plants and animals covered by species protection (ref. No.: WPN.6401.271.2015.BP.2)

Appendix 5. Tabular summary of information on resources of protected species of plants, fungi and animals in the area of Task and its surroundings

Appendix 6. Map presenting the location of main elements of the Task

Appendix 7. Map presenting Task location in relation to protected areas