

# **ANNEX TO 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:**


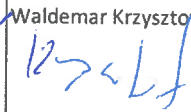
*Active protection*

### **Contract for works 2A.2:**

*Construction of “Szalejów Górny” –  
a dry flood control reservoir on Bystrzyca Dusznicka River  
and  
Construction of “Krosnowice” –  
a dry flood control reservoir on Duna stream*

### **Task 2A.2/1:**

*Construction of “Szalejów Górny” –  
a dry flood control reservoir on Bystrzyca Dusznicka River*

Issue	Date	Author	Checking person	Approval by the Client	Description
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**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.2 – Construction of “Szalejów Górny” – a dry flood control reservoir on Bystrzyca Dusznicka River and Construction of “Krosnowice” – a dry flood control reservoir on Duna stream*

**Part of Contract:** *Implementation of Task 2A.2/1 – Construction of “Szalejów Górny” – a dry flood control reservoir on Bystrzyca Dusznicka River*

**Project Implementation Unit:**  
**State Water Holding Polish Waters**  
**Regional Water Management Authority in Wrocław**

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## 1. INTRODUCTION

### *Works characteristics*

This annex to the EMP for the 2A.2/1 Contract for works includes the amended scope of works related to execution of the 8.1 service road located within the Construction Site.

Due to the updated Detailed Design for Szalejów reservoir, in the part concerning the 8.1 service road, the land take for the road construction must be widened for additional 3-4 m. There is no change in alignment of the proposed road, which stay as originally designed. Taking into account the local field conditions, in order to assure correct works execution, it would be necessary to lift the gradeline elevations of the service road. The right-of-way width was increased and this, in turn, resulted in a necessity of making a ditch within the 8.1 road drainage being designed.

Within the service road and its parallel ditch, the invasive plant species, such as *Reynourtia x bohémica* (Bohemian knotweed) and *Reynourtia sachalinensis* (giant knotweed) are present.

Owing to its biological features, such as fast vegetative growth, great regeneration rate (ability of a plan regeneration from a small rhizome piece) and the ability to take root up to 2-3 m (GDEP 2015<sup>1</sup>), the invasive reynourtia species constitute a real hazard for the technical condition of the planned service road No. 8.1, as well as other technical structures the construction of which is planned in the areas covered by reynourtia species (such as, e.g. revetments of Bystrzyca Dusznicka riverbank slopes). Reynourtrias have a negative impact on the technical structures since the fissures and gaps existing in the hydraulic engineering and road structures may be penetrated by the plants and this may result in significant damages of the infrastructure and, in turn, it constitutes a real threat for their assumed lifespan.

Taking into account high reproduction abilities of the underground rhizomes (including the pieces remaining in the ground<sup>2</sup>), removal of the entire soil layer containing overground and underground parts of the invasive reynourtia species is necessary for the planned 8.1 road and the adjacent ditch, as well as other areas where construction of technical structures is planned. The soil containing the invasive reynourtia species, or their fragments, must be removed outside the Construction Site and disposed in a way not constituting a hazard for the plants spreading in the new spots.

### *Location*

The service road No. 8.1, along with the ditch, and the areas of other technical structures on the invasive reynourtia species areas, pursuant to the species presence survey carried out by the Works Contractor. The works are carried out within Szalejów Górny cadastral precinct, Klodzko borough, Klodzko county, Lower Silesia province.

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<sup>1</sup> Tokarska-Guzik B., Fojscik B., Bzdęga K., Urbisz A., Nowak T., Pasierbiński A., Dajdok Z. 2015. Guidelines concerning reynourtrias elimination in Poland. General Directorate for Environmental Protection

<sup>2</sup> Alberternst i Bohmer 2011. NOBANIS – Invasive Alien species Fact Sheet – *Fallopia japonica*. Online Database of the North European and Baltic Network on Invasive Alien Species – Nobanis.

## **2. ENVIRONMENTAL CONDITIONS FOR THE EXECUTION**

A significant section of the planned 8.1 road and the ditch runs along the 91E0 natural habitat - willow, poplar and alder-ash (*fraxinus*) floodplain forests - habitat patches, not planned for tree felling, which are protected against destruction in accordance with the EMP conditions. The planned soil removal and disposal from the places where invasive reynoutria plants species occur outside the Construction Site is advantageous when it comes to the local biodiversity protection. The activities related to the invasive species elimination in the Task implementation area have also been determined in pos. 38 App. 1 of the contract-specific EMP.

### **3. MITIGATING AND MONITORING ACTIVITIES**

The works Contractor is obliged to exercise all measures that are determined necessary for the type of the performed works, conditions of works execution, as defined in App. 1 and 2 EMP for the 2A.1/1 Contract for works. Considering the fact that the soil from the areas where invasive reynoutria species are present cannot be re-used at the Construction Site, the soils will be collected from the current areas and managed by disposal beyond the construction site, in a way safe for the environment.

Should such a need be determined at the works execution stage, other required administrative decisions shall be obtained by the Contractor.



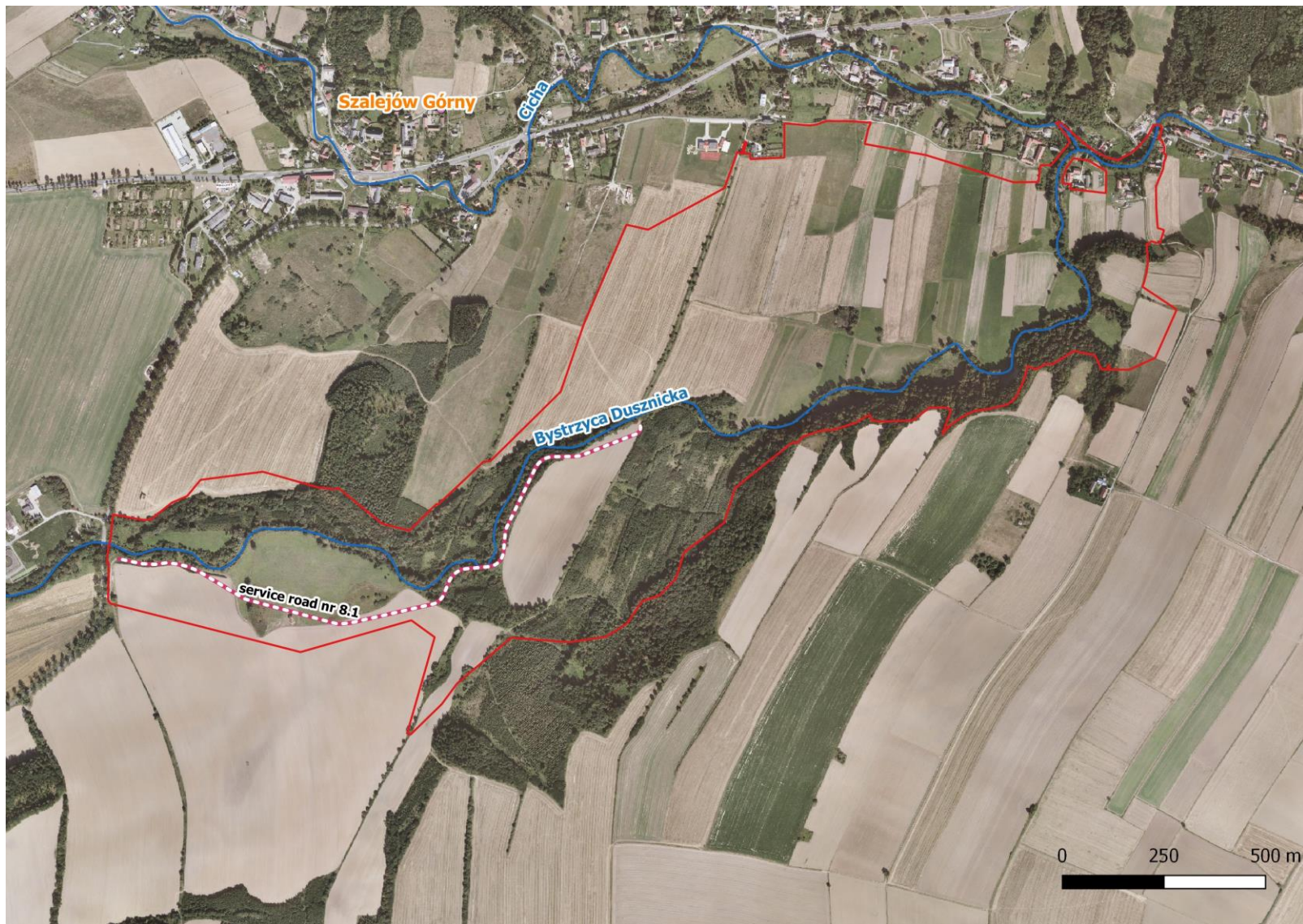


Fig. 1 Location of the 8.1 service road within the Construction Site of the 2A.2/1 Contract.