

**FINAL REPORT ON THE IMPLEMENTATION OF THE MEASURES
SPECIFIED IN THE ENVIRONMENTAL MANAGEMENT PLAN
for the period of November 1, 2020 – March 31, 2022**

Odra-Vistula Flood Management Project

OVFMP Subcomponent	3D Passive and active protection in San basin
Contract Task	3D.2/1 – Construction of the right embankment of the Biała River in the City of Tarnów
Investor / Project Implementation Unit	The State Water Holding Polish Waters Regional Water Management Authority in Cracow 22. Marszałka J. Piłsudskiego St., 31-109 Cracow, Poland
Project Implementation Office (PIO)	Project Implementation Office in Cracow 22. Marszałka J. Piłsudskiego St., 31-109 Cracow, Poland
Works Contractor	KELLER POLSKA Sp. z o.o. 172. Poznańska St., 05-850 Ożarów Mazowiecki, Poland
Engineer	AECOM Polska Sp. z o.o. Project Office: 1. Pokoju Alley, 31-548 Cracow, Poland

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INTRODUCTION

This document constitutes the Contract Engineer's final report for the period of **November 2020 - March 2022**. The document presents a report on the implementation of the measures specified in the Environmental Management Plan for Works Contract 3D.2/1 – *Construction of the right embankment of the Biala River in the City of Tarnów*, being a part of Subcomponent 3D under the Odra-Vistula Flood Management Project (OVFMP).

The report presents the measures and events on the construction site and within the area of its impact in reference to ESHS (environmental, social, health and safety) issues. The report covers the period from the date of commencement of the construction works covered by Contract 3D.2/1 (**November 2, 2020**) to the date of their completion, which occurred on **March 17, 2022**. On **October 14, 2022**, the final acceptance of Contract execution took place.

The following is presented respectively for this Contract:

- implementation status of ESHS-related issues (proceedings and decisions obtained within the implementation period of construction works, inspections, controls, exceptional events, failures and catastrophes, etc.);
- implementation status of the mitigation measures specified in Appendix 1 to the EMP,
- implementation status of the monitoring measures specified in Appendix 2 to the EMP,
- summary.

1 BASIC INFORMATION ON CONTRACT 3D.2/1

1.1 GENERAL INFORMATION

Contract 3D.2/1 referred to the construction of the right flood embankment of the Biała River over the total length of about 695 m. The aim of the Contract implementation was closing a flooding zone of the Biała River in Tarnów between the high bank forming a railway embankment of PKP (Cracow – Medyka railway line) and the existing embankment (area of św. Katarzyny Street). It is necessary to improve flood safety, protect the inhabitants, and limit flood damage in the areas beyond the embankment located along the right section of the Biała River in Tarnów, where there is no protection in the form of flood embankments.

An agreement with the Contractor for Contract OVFMP 3D.2/1 was signed on September 10, 2020. On October 21, 2020 the Investor handed the construction site over to the Contractor, and the commencement of works took place on 11/02/2020.

Name of Contract

Contract 3D.2/1: Construction of the right embankment of the Biała River in the City of Tarnów

Contractor

KELLER POLSKA Sp. z o.o.
172. Poznańska St., 05-850 Ożarów Mazowiecki, Poland

List of tasks

The construction of the embankment included, inter alia, the following elements:

- Reinforcement of slopes and of the embankment crest with rip-rap over a length of about 10 m from the junction of the designed embankment with the railway embankment at embankment chainage km 0+000 – 0+010,
- Sowing the embankment crest with grass mix at embankment chainage km 0+010-0+168, and 0+180-0+660,
- Reinforcement of the embankment crest with concrete slabs at the embankment crossing and at the entry road onto the embankment from the flood road at embankment chainage km 0+168 – 0+180 and 0+660 – 0+695,
- Development of a flood road at the 3.5 m wide embankment strip footing, hardened over a width of 3.0 m with breakstone, at embankment chainage km 0+060-0+168 and km 0+180-0+660,
- Development of a technical lane with an average width of 3.0 within the embanked area at chainage km 0+000 – 0+695 and in the area beyond the embankment at chainage km 0+000 - 0+053 and 0+156 – 0+695,

- Development of the entry road onto the embankment crest from the flood road at chainage km 0+646 over a length of 12.0 m, inclination of 1:12, width of 3.5 m, reinforced with concrete slabs over a width of 3.0 m,
- Development of an embankment ramp at embankment chainage km 0+168-0+180,
- In the area of the embankment ramp: development of 2 entry roads from the flood road – 3.5 m wide, 11.0 m long, and inclination of 1:12 each, reinforced with concrete slabs over a width of 3.0 m and development of 2 entry roads from the embanked area – width of 3.5 m and inclination of 1:12, over a length of about 59 m and 50 m, respectively, reinforced with concrete slabs over a width of 3.0 m,
- Development of 4 embankment turnpikes at chainage km 0+010, 0+163, 0+185, and 0+655,
- Development of 7 hectometre posts at chainage about km 0+049, 0+149, 0+249, 0+349, 0+449, 0+549, 0+649.
- Development of an anti-filtration membrane at the embankment crest on a depth of 1.0 m b.g.l., with a minimum thickness of 0.4 m and a depth of 8.0 m at embankment chainage km 0+005 – 0+695,
- Demolishing fencing of allotment gardens (including a fence located in the area of the Biała river bed over a length of 1,100 m) over a total length of about 8,913 m,
- Development of fencing for gardens on the landside of the embankment – over a length of about 500 m at embankment chainage km 0+174 – 0+695,
- Demolishing the free-standing objects (so-called garden sheds) at the designed embankment and in the area of the shaped embanked area,
- Demolishing internal underground water-supply system for allotment gardens over the total length of about 438 m,
- Demolishing internal underground power line for allotment gardens over the total length of about 85 m,
- Redevelopment of two water-supply valves,
- Redevelopment of a section of water-supply connection reaching a free-standing object – over a length of about 21 m,
- Redevelopment of a section of medium pressure gas piping, including demolition of the existing piping over a length of 31.7 m and developing a new piping section in the same spot over a length of 31.7 m and providing protective tubes over a length of 28.2 m and 6.0 m,
- Protection of the existing teletechnical cables through application of 4 protective tubes,

- Redevelopment of the existing overhead power and lighting network, including e.g. removal of the existing 3 and construction of 3 new posts, and replacement of 1 existing post, removal of the existing and development of new power cables,
- Redevelopment of a section of the storm drain system, including e.g. removal of a piping section and of the existing outlet, and discharge of water through the designed outlet and opened ditch to the Biała River over a length of about 40.0 m; the ditch reinforced using openwork slabs on geo-textile and a palisade made of wooden piles, as well as reinforcement of ditch slopes using rip-rap on geo-textile.
- Protection of the existing sewerage system through the assembly of tight manholes for the existing chambers (3 items) and the assembly of a non-return valve at the existing chamber Ø1500 – 1 item,

1.2 BASIC DATES OF THE CONTRACT

Date of signing the Contract:	September 10, 2020
Commencement date of Works:	November 2, 2020
Time for Completion (acc. to Contract of 10.09.2020):	240 days from the date of handing over the Construction Site by the Employer – October 21, 2021
Time for Completion (acc. to Amendment no. 5):	512 days
Amendment no. 1 was signed on:	11/24/2020
Amendment no. 2 was signed on:	06/18/2021
Amendment no. 3 was signed on:	09/20/2021
Amendment no. 4 was signed on:	06/15/2022
Amendment no. 5 was signed on:	09/26/2022
Completion date of Works:	March 17, 2022
Date of signing the final acceptance certificate:	October 14, 2022

2 MEASURES AND EVENTS RELATED TO THE ENVIRONMENT, LOCAL COMMUNITY, HEALTH AND SAFETY

2.1 CONTRACTOR'S MEASURES

Within the entire implementation period of construction works, the Contractor conducted construction works under Contract 3D.2/1, and, inter alia, implemented the particular measures determined in the Environmental Management Plan in the scope attributable to the Contractor.

2.2 ENGINEER'S/CONSULTANT'S MEASURES

Within the entire implementation period of construction works, the Engineer/Consultant supervised the construction works under Contract 3D.2/1, and, inter alia, implemented the particular measures determined in the Environmental Management Plan in the scope attributable to the Engineer/Consultant.

2.3 INVESTOR'S MEASURES

Within the entire implementation period of construction works, the Investor performed its actions associated with implementation of Contract 3D.2/1, and, inter alia, implemented the particular measures determined in the Environmental Management Plan in the scope attributable to the Investor, and supervised the measures of the Contractor and of the Engineer/Consultant.

2.4 OTHER MEASURES

Within the entire implementation period of construction works, an epidemic state was in force at the territory of the Republic of Poland in relation to SARS-CoV-2 virus infections, causing COVID-19 disease. The activities of the Contractor, the Engineer/Consultant and the Investor in the implementation of the measures related to the Environmental Management Plan were aligned with the applicable sanitary requirements related to the prevention of the spread of the SARS-CoV-2 virus.

2.5 EXCEPTIONAL EVENTS, THREATS AND CATASTROPHES

Did not occur within the implementation period of construction works.

2.6 ACCIDENTS

Did not occur within the implementation period of construction works.

2.6.1 Accidents with participation of Contractor's employees

Did not occur within the implementation period of construction works.

2.6.2 Accidents with participation of people authorised to access the site and bystanders

Did not occur within the implementation period of construction works.

2.7 MEASURES RELATED TO ENSURING THE PAY AND WORKING CONDITIONS OF THE CONTRACTOR'S PERSONNEL

Within the entire implementation period of construction works, the Contractor ensured the appropriate conditions of work and pay for the personnel in connection with the provisions of the labour law binding in Poland.

2.8 MEASURES TO PREVENT SEXUAL HARASSMENT AND MOBBING

Within the entire implementation period of construction works, no cases of sexual harassment and mobbing occurred.

3 MITIGATION AND MONITORING MEASURES SPECIFIED IN THE EMP FOR CONTRACT 3D.2/1

Works over the preparation of the Environmental Management Plan for Works Contract 3D.2/1 were completed in September 2019 (public consultation on the draft EMP document took place from August 7 to August 21, 2019) and the final version of the EMP document was approved by the World Bank on January 27, 2020 (the so-called "*No Objection*" clause). The Environmental Management Plan is a document that systematises the activities undertaken under the Contract, obliging all those involved in the implementation of the Contract to comply with the provisions contained therein. A detailed description of the contract implementation conditions for environmental management was developed in the form of appendices to the EMP - Appendix 1 containing the Plan of mitigation measures, and Appendix 2 containing the Plan of monitoring measures.

3.1 CONDITIONS DETERMINED IN APPENDIX 1 TO THE EMP

Appendix 1 of the EMP for Contract 3D.2/1 contains 124 mitigation measures to prevent and reduce the negative environmental impacts of the project. These measures result in large part from the decision on environmental conditions (decision of the Regional Director for Environmental Protection in Cracow of November 30, 2016, ref.: ST-I.4210.1.2015.MB), but also from the World Bank's procedural requirements. The tabular list of measures includes references to the analogous provisions of the decision on environmental conditions (where the measures follow directly from the provisions of the decision), as well as a list of the units responsible for the implementation of the individual measures.

3.2 CONDITIONS DETERMINED IN APPENDIX 2 TO THE EMP

Appendix 2 of the EMP for Contract 3D.2/1 contains 124 measures aimed at monitoring the implementation of the mitigation measures described in Appendix 1. The tabular list of monitoring measures takes into account the same thematic categorisation as applied to mitigation measures. The table of monitoring measures determines the monitoring places, the method of monitoring, the period and frequency of monitoring, as well as the units responsible for conducting the monitoring.

4 MITIGATION AND MONITORING MEASURES SPECIFIED IN THE EMP FOR CONTRACT 3D.2/1

Supervision over the implementation of the mitigation measures and monitoring measures specified in the EMP for Contract 3D.2/1 was conducted at the level of all organisational units participating in the execution of the Contract, i.e. the Works Contractor, Engineer, Project Implementation Office (PIO) and Project Coordination Unit (PCU). Information on the scope of the particular units' activities is presented below.

4.1 WORKS CONTRACTOR

The Site Manager was the person directly responsible for implementing the measures defined in the EMP on behalf of the Works Contractor. In order to provide support to the Site Manager in the implementation of the EMP, environmental and nature supervision was appointed within the Contractor's team, consisting of a person in the role of EMP Coordinator. The role of the EMP Coordinator was to cooperate with the Site Manager, the rest of the Contractor's personnel and the Environmental Management Expert in the Engineer's team in ensuring the implementation of the EMP conditions, and also to conduct reporting in the above-mentioned scope. Furthermore, in accordance with item 99 and 105 of Appendix 1 of the EMP, the Contractor has ensured the participation of a team of experts of archaeological and sapper supervision, in the scope consistent with the requirements of the EMP. At the end of each month of construction works, the EMP Coordinator in the Contractor's team drew up a so-called Checklist describing in detail the current implementation status of the individual EMP conditions for the given month. The checklist was forwarded to the Environmental Management Expert in the Engineer's team as an appendix to the Report on EMP implementation, along with other appendices, in the form of a botanical note, a zoological note, a herpetological note and photographic documentation.

4.2 ENGINEER

The Environmental Protection Supporting Expert, cooperating in this regard with the Engineer and other members of the Engineer's team providing investor's supervision over the project implementation, exercised direct supervision over the implementation of the EMP conditions on behalf of the Engineer's team. The Environmental Protection Supporting Expert cooperated with the support experts in the Engineer's team, and was in regular contact with the EMP Coordinator in the Contractor's team, establishing the scope of conditions needed to be met at a given stage of the works, overseeing the implementation status of individual EMP conditions, participating in problem solving and conducting the site inspections. After the end of each reporting period (month and quarter), the Expert reviewed the Contractor's environmental documentation, including the Checklist for the implementation of EMP measures, and prepared his own reports submitted to the Project Implementation Office.

4.3 PROJECT IMPLEMENTATION OFFICE (PIO)

The Environmental Specialist, cooperating in this regard with the Head of the PIO, other members of the PIO team, as well as other organisational units of RZGW in Cracow, exercised direct supervision over the implementation of the EMP conditions on behalf of the Project Implementation Office (PIO). The Environmental Expert and the Head of the PIO remained in contact with the Environmental Management Expert in the Engineer's team, overseeing the implementation status of the particular conditions of the EMP and engaging in resolving the current issues. After the end of each reporting period (month and quarter), the Environmental Specialist and the Head of the PIO reviewed the Contractor's and Engineer's environmental documentation.

4.4 PROJECT COORDINATION UNIT (PCU)

The Environmental Protection Expert, cooperating in this regard with the other members of the PCU's team, exercised direct supervision over the implementation of the EMP conditions on behalf of the Project Coordination Unit. The Expert remained in regular contact with the Head of the PIO and with the Environmental Specialist in the PIO team. He/she also cooperated with those responsible for the implementation of the EMP on behalf of the other organisational units of the investment process, namely the Environmental Management Expert in the Engineer's team, as well as the Site Manager and the Environmental Coordinator in the Contractor's Environmental Supervision. The Environmental Management Expert oversaw the implementation status of individual EMP conditions, by engaging in resolving the current issues and by participating in site inspections. After the end of each quarterly reporting period, the Expert reviewed the environmental documentation provided by the PIO and prepared an input to the PCU's reports subsequently submitted to the World Bank.

5 REPORT ON THE IMPLEMENTATION OF EMP MEASURES FOR CONTRACT 3D.2/1

5.1 IMPLEMENTATION STATUS OF MITIGATION MEASURES UNDER APPENDIX 1 TO THE EMP

In accordance with contents of Appendix 1 to the EMP for Contract 3D.2/1, the units responsible for implementation of mitigation measures determined under Appendix 1 to the EMP were as follows: **Contractor (123 measures:** items 1-2, 4-124 under Appendix 1 to the EMP), **Engineer (3 measures:** items 21, 22 and 119 under Appendix 1 to the EMP) and **Investor (3 measures:** items 3, 21 and 22 under Appendix 1 to the EMP). In total, the EMP for Contract 3D.2/1 provided for the implementation of 124 mitigation measures, of which - in the execution period of construction works - 103 mitigation measures were implemented. One measure was completed before the commencement of construction works (see below).

5.1.1 Contractor's Measures

In accordance with information presented by the Contractor and according to Engineer's information:

- a) Within the entire implementation period of construction works, the Contractor implemented 102 (82.2%) mitigation measures (items 1-2, 4-6, 8-11, 13-20, 23-36, 38, 41-45, 47-48, 51-54, 57-58, 60-62, 64-76, 79-96, 99, 101-109, 111-122, 124 under Appendix 1 to the EMP);
- b) Within the entire implementation period of construction works, the Contractor did not implement 21 (16.9%) mitigation measures (no need to undertake the measures arose)
 - for the implementation of 20 measures (16.1%), there was no need to implement them (items 7, 12, 22, 37, 39-40, 46, 49-50, 55-56, 59, 63, 77-78, 97-98, 100, 110, 123 under Appendix 1 to the EMP);
 - 1 (0.8%) measure was finally completed prior to the commencement of construction works (item 21 under Appendix 1 to the EMP);
 - cases of lack of implementation for measures required within the execution period of works were not identified.

Mitigation measures were implemented by the Contractor with the participation of the Contractor's environmental team. The team was composed of the following persons within the execution period of works: environmental supervision coordinator, expert botanist, dendrologist and expert zoologists for the following groups: invertebrates, herpetofauna, avifauna, teriofauna and chiropterofauna. The following persons were additionally presented within the Contractor's team: expert archaeologist, sapper supervision expert and H&S Specialist.

Mitigation measures were agreed with (if required by the conditions of Contract and/or the EMP) and supervised by the Engineer's team, with participation of the following persons from the Engineer's team: senior environmental protection supporting expert, Senior Supporting

Expert – H&S Inspector, Senior Supporting Expert for technical assistance, Senior Supporting Experts – Supervision Inspectors and Key Experts – Resident Engineer and Project Manager.

5.1.2 Engineer’s Measures

In accordance with the Engineer’s information:

- a) Within the entire implementation period of construction works, the Engineer implemented 1 (0.8%) mitigation measure (item 119 in Appendix 1 to the EMP).
- a) Within the entire implementation period of construction works, the Engineer did not implement 2 (1.6%) mitigation measures, including:
 - implementation of 1 (0.8%) measure was finally completed prior to the commencement of construction works (item 21 under Appendix 1 to the EMP);
 - for the implementation of 1 measure (0.8%) there was no need to implement it (item 22 under Appendix 1 to the EMP);
 - cases of lack of implementation for measures required within the execution period of works were not identified.

Mitigation measures were implemented by the Engineer with participation of the selected experts from the Engineer’s team (composition of the team was given in Chapter 3.1).

Conclusions drawn from the implementation monitoring for the mitigation measures implemented by the Engineer are presented in Chapter 5.1.4.

5.1.3 Investor’s Measures

In accordance with Investor’s and Engineer’s information:

- a) Within the entire implementation period of construction works, the Investor implemented 1 (0.8%) mitigation measure (item 3 under Appendix 1 to the EMP).
- b) Within the entire implementation period of construction works, the Investor did not implement 2 (1.6%) mitigation measures, including:
 - implementation of 1 (0.8%) measure was finally completed prior to the commencement of construction works (item 21 under Appendix 1 to the EMP);
 - implementation of 1 (0.8%) measure did not relate to the execution period of works (item 22 under Appendix 1 to the EMP);
 - cases of lack of implementation for measures required within the execution period of works were not identified.

Mitigation measures were implemented by the Investor with participation of the following persons from the PIO’s team: Environmental Specialist, Resettlement Specialists, and PIO Manager.

Conclusions drawn from the implementation monitoring for the mitigation measures implemented by the Investor are presented in Chapter 5.1.4.

5.1.4 Conclusions on Implementation Monitoring for Mitigation Measures

Due to the monitoring measures determined in Chapters 5.1.1-5.1.3, the following issues or inconsistencies associated with implementation of 19 mitigation measures listed under Appendix 1 to the EMP were identified within the entire implementation period of works:

- a) Delays occurred in the submission to the Engineer of the contractual documentation required at the stage before the commencement of works and resulting from the requirements of the EMP: The Quality assurance plan in scope of activities of the team of expert archaeologists, the Quality assurance plan in scope of activities of the team of sapper supervision and the Construction site organisation plan [refers to items nos. 2, 89-90, 99, 104 and 105 of Appendix 1 to the EMP]:

In the period prior to the commencement of works, the Contractor prepared a Quality assurance plan for the activities of the team of expert archaeologists and sapper supervision, but these documents did not receive the Engineer's approval within the required timeframe (prior to the commencement of the works). The Contractor supplemented the above-mentioned documents with the Engineer's comments, so the Plan did not receive approval until the 2nd decade of November 2020. The site organisation plan was created by the Contractor in November 2020; however, it was not submitted for the Engineer's review and approval until the 1st decade of December 2020. This plan was approved by the Engineer.

Failure to fully implement the measure did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

- b) Lack of subgrade sealing using concrete slabs at the area of the site facilities [refers to measures from item 15 in Appendix 1 of the EMP]:

The need for additional sealing of the subgrade zone of the construction site facilities (with concrete slabs and membrane) in the area of the stationary construction equipment - which was undergoing minor repairs, according to the Contractor - was determined in the execution period of works.

Failure to fully implement the measure did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

- c) Lack of exercising the care during traffic of construction vehicles in the area of stored heaps of topsoil, cases of contamination of earth masses

[refers to measures from item 28 and 31 in Appendix 1 of the EMP]:

Isolated instances of zone disturbance (by driving over) of prisms of topsoil by a construction vehicle were found in the execution period of works. In addition, isolated incidents of waste contamination of the stored topsoil and mineral soil masses (municipal waste, construction waste) were identified.

Failure to fully implement the measures did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

d) Damages to fences and covers of trees and shrubs

e) [refers to measures from item 35 in Appendix 1 of the EMP]:

Cases of damages to covers of trees and shrubs in the form of mesh were found within the execution period of construction works. These damages were significantly intensified by adverse weather conditions in the autumn and winter period.

Failure to fully implement the measure did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

f) Storage of building materials under the crowns of trees and shrubs, inappropriate parking of construction equipment in close proximity to trees and shrubs, individual cases of damages to trees

[refers to measures from item 36 and 65 in Appendix 1 of the EMP]:

Within the execution period of construction works, cases of storing building materials (including soil masses) and parking construction vehicles at a distance of less than 1 m from the border of the crown projection of trees and shrubs not intended to be cut down were found due to spatial limitations of the works area. The team of environmental experts has not found that the described cases would pose a threat to the health condition of the above-mentioned trees and shrubs; however, it has instructed the Contractor to remove the building materials from vicinity of trees and shrubs in the soonest possible time as well as to adjust the parking areas of construction equipment to the surrounding zones of the trees and shrubs left outside the felling. In addition, as one of the trees was not sufficiently fenced off (and covered) during the traffic of construction equipment, it was damaged (the trunk was abraded). Moreover, a single case of damage to several trees was found in the area of the earthworks in the storm sewer outlet zone. The Contractor took immediate measures to tidy up the zone of damaged trees, provided appropriate care measures to the damaged trees and applied additional fencing to the zones of vegetation not intended to be removed

Failure to fully implement the measures did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

g) Leaving excavations without adequate protection

[refers to measures from item 47 in Appendix 1 of the EMP]:

Within the execution period of construction works, excavations were made in particular as part of the works related to the construction of the storm sewer system, which were not adequately protected against formation of animal traps, including, notably, the Contractor did not fence them off or covered them with rigid material during the excavations. The team of environmental experts has not found that the described cases would pose a threat to small fauna (including amphibians), whose activity on the site was not discovered for the entire duration of construction works. The excavated trenches were not deep and also had a flat profile on at least one of the walls, which would have potentially allowed for the self-evacuation of small fauna.

Failure to fully implement the measures did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

h) Problems in implementing effective measures to remove stagnant water

[refers to measures from item 48 in Appendix 1 of the EMP]:

Within the execution period of construction works (mainly spring, late summer, early autumn), no places of stagnant water were recorded in the area intended for the execution of the Contract. Places of stagnant water occurred as a result of heavy rainfall. The elimination of stagnant water by the Contractor was thus hampered. There was no threat of herpetofauna colonising the water deposit areas according to the opinions of the Contractor's team of environmental experts – no activity of amphibians was discovered in the execution period of construction works.

Failure to fully implement the measure did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

i) Leakage of operating fluids from construction machinery, lack of ground insulation under the machinery generating the leakage

[refers to measures from item 61, 65, 68, 71, 73 in Appendix 1 of the EMP]:

Within the execution period of construction works, a few cases of minor leaks of operating substances (fluids) from construction machinery were found at the designated parking place at the construction site facilities. Underneath some of the parked vehicles, the Contractor has prepared, with delay, isolation layers to protect the ground from the ingress of possible solid or liquid contaminants. The Contractor, once the spills were identified, took immediate measures to clean up the contaminated ground with its transfer as waste to a qualified contractor. Within the execution period of construction works, a few cases of inadequate protection of the mobile refuelling point for construction vehicles were found (in particular the lack of separation of the mobile refuelling area and its marking, lack of availability of sorbent on the mobile refuelling vehicle).

Failure to fully implement the measures did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

j) Problems with counteracting the excessive dusting in the Contract implementation area

[refers to the measure from item 81 in Appendix 1 of the EMP]:

Within the execution period of construction works (summer months), cases of increased dusting were identified during the traffic of construction vehicles. The Contractor had insufficient dust control due to the prevailing weather conditions (high temperatures, low humidity). The Contractor was informed of the need to reduce dusting in accordance with the conditions indicated in item 81 in Appendix 1 of the EMP.

Failure to fully implement the measures did not have a significant negative impact on the condition of the natural environment of the works area and its surroundings.

5.2 IMPLEMENTATION STATUS FOR MONITORING MEASURES UNDER APPENDIX 2 TO THE EMP

In accordance with contents of Appendix 2 to the EMP for Contract 3D.2/1, the units responsible for implementation of monitoring measures determined under Appendix 2 to the EMP were as follows: **Contractor (122 measures:** items 1-2, 4-101, 103-124 under Appendix 2 to the EMP), **Engineer (123 measures:** items 1-2, 4-124 under Appendix 2 to the EMP) and **Investor (3 measures:** items 3, 21 and 22 under Appendix 2 to the EMP). Altogether, the EMP for contract 3D.2/1 assumed to implement 124 monitoring measures, including implementation of all measures within the execution period of construction works.

5.2.1 Contractor's Measures

Within the entire implementation period of construction works, the Contractor was conducting monitoring measures for implementation of mitigation measures, as described in Appendix 2 to the EMP. The monitoring was carried out by: (i) verification of requirements determined under the EMP for the current stage of works; (ii) verification of Contractor's documents related to implementation of conditions under the EMP; (iii) ongoing inspections on site; (iv) actions listed under Appendix 2 to the EMP; and (v) ongoing establishments with representatives of the Engineer and of the Investor.

- a) Within the entire implementation period of construction works, the Contractor implemented 122 (98.4%) monitoring measures, including:
 - 122 (98.4%) measures were implemented in the scope required within the implementation period of construction works (items 1-2, 4-101, 103-124 in Appendix 2 to the EMP).
 - none of the measures (0%) was implemented partially.
- b) Cases of lack of implementation for any of the monitoring measures attributable to the Contractor were not identified within the whole execution period of construction works, including:
 - implementation of none of the measures was not finally completed within the execution period of construction works;
 - implementation of none of the measures was not unnecessary within the execution period of construction works;
 - cases of lack of implementation of the measure required within the execution period of construction works were not identified.

Monitoring measures were implemented by the Contractor with participation of the Contractor's personnel listed in Chapter 3.1.

Conclusions drawn from the implemented monitoring measures are presented in Chapter 4.4.

5.2.2 Engineer's Measures

Within the entire implementation period of construction works, the Engineer was conducting monitoring measures for implementation of mitigation measures, as described in Appendix 2 to the EMP. The monitoring was carried out by: (i) verification of requirements determined under the EMP for the current stage of works; (ii) verification of the Contractor's and Investor's documents related to implementation of conditions under the EMP; (iii) ongoing inspections on the work site; (iv) actions listed under Appendix 2 to the EMP; and (v) ongoing establishments with representatives of the Contractor and of the Investor.

- a) Within the entire implementation period of construction works, the Engineer implemented 123 (99.2%) monitoring measures, including:
 - 123 (99.2%) measures were implemented in the scope required within the implementation period of construction works (items 1-2, 4-124 in Appendix 2 to the EMP).
 - none of the measures (0%) was implemented partially.
- b) Cases of lack of implementation for any of the monitoring measures attributable to the Engineer were not identified within the whole execution period of construction works, including:
 - implementation of none of the measures was not finally completed within the execution period of construction works;
 - implementation of none of the measures was not unnecessary within the execution period of construction works;
 - cases of lack of implementation for measures required within the execution period of construction works were not identified.

Furthermore, within the implementation period of construction works, the Engineer was supervising the implementation of 122 monitoring measures attributable to the Contractor, in accordance with Appendix 2 to the EMP.

Monitoring measures and supervision measures for implementation of the EMP were implemented by the Engineer with participation of the selected experts from the Engineer's team (composition of the team was given in Chapter 3.1).

Conclusions drawn from the implemented monitoring measures are presented in Chapter 4.4.

5.2.3 Investor's Measures

Within the entire implementation period of construction works, the Investor was conducting monitoring measures for implementation of mitigation measures, as described in Appendix 2 to the EMP. The monitoring was carried out by: (i) verification of requirements determined under the EMP for the current stage of works; (ii) verification of Contractor's and Engineer's documents related to implementation of conditions under the EMP; (iii) ongoing inspections on site; (iv) actions listed under Appendix 2 to the EMP; and (v) ongoing establishments with representatives of the Contractor and of the Engineer.

- a) Within the entire implementation period of construction works, the Investor implemented 3 (2.4%) monitoring measures, including:
- the measures were implemented in the scope required within the implementation period of construction works (items 3, 21 and 22 under Appendix 2 to the EMP).
- b) Cases of lack of implementation of the monitoring measures attributable to the Investor were not identified within the execution period of construction works:

Furthermore, within the implementation period of construction works, the Investor was supervising the implementation of 122 monitoring measures attributable to the Contractor, in accordance with Appendix 2 to the EMP and 123 monitoring measures attributable to the Engineer, in accordance with Appendix 2 to the EMP.

Monitoring measures and supervision measures for implementation of the EMP were implemented by the Investor with participation of the PIO's team members listed in Chapter 3.3.

Conclusions drawn from implemented monitoring measures are presented in Chapter 5.2.4.

5.2.4 Conclusions on Implementation Monitoring for Mitigation Measures

In line with the information provided by the Contractor and information from the Engineer and the Employer, there were no problems with the implementation of the monitoring measures specified in Appendix 2 of the EMP within the implementation period of construction works.

6 SUMMARY

This report presents an account of the implementation of the measures specified in the Environmental Management Plan (EMP) for the project: “Contract 3D.2/1 – Construction of the right embankment of the Biala River in the City of Tarnów” under the Odra-Vistula Flood Management Project (OVFMP).

The report pertains to the measures conducted between November 2020 (commencement of construction works) to March 2022 (completion of construction works). Within the implementation period of construction works, the Contractor conducted works within the scope covered by the contract (see description in Chapter 1), including the implementation of 102 mitigation measures specified in the EMP (see description in Chapter 5.1.1), was monitoring the implementation status of 122 mitigation measures specified in the EMP (see description in Chapter 5.2.1) and was attending other events related to the environment, local community, health and safety (listed in Chapter 2.1).

Within the implementation period of construction works, the Engineer/Consultant supervised the construction works under Contract 3D.2/1, and, inter alia, implemented the particular measures specified in the Environmental Management Plan in the scope attributable to the Engineer/Consultant (see description in Chapter 5.1.2), was monitoring the implementation status of 123 mitigation measures specified in the EMP (see description in Chapter 5.2.2) and was attending other events related to the environment, local community, health and safety (listed in Chapter 2.2).

Within the implementation period of construction works, the Investor performed its actions associated with implementation of Contract 3D.2/1, and, inter alia, implemented the particular measures specified in the Environmental Management Plan in the scope attributable to the Investor (see description in Chapter 5.1.3), was monitoring the implementation status of 3 mitigation measures specified in the EMP (see description in Chapter 5.2.3) and was attending other events related to the environment, local community, health and safety (listed in Chapter 2.3).

As a result of the monitoring measures conducted by the Contractor, the Engineer and the Investor, the following was concluded within the execution period of construction works:

- a) 103 of the 124 mitigation measures specified in Appendix 1 of the EMP were implemented, including:
 - in case of 84 measures, no problems were identified in their implementation,
 - in case of 19 measures, problems were identified in their implementation;
- b) 21 of the 124 mitigation measures specified in Appendix 1 of the EMP were not implemented (in the case of 20 measures there was no need to implement the above-mentioned measures in the Contract implementation period, in the case of 1 measure – it was completed before the Contract implementation date);
- c) 124 of the 124 monitoring measures from Appendix 2 of the EMP were implemented, including:
 - all the measures were implemented in the scope required within the implementation period of construction works;

- implementation of none of the measures was not completed before the execution date of construction works.

7 REFERENCE DOCUMENTS

- 1) Environmental impact report for the project entitled:
“Construction of the right embankment of the Biała River at local chainage km 0+000 – 0+695 in the City of Tarnów”.
Agencja Technik Ekologicznych i Realizacji Inwestycji mkm PERFECT Sp. z o.o., Cracow, May 2015.
- 2) Decision of the Regional Director for Environmental Protection in Cracow of November 30, 2016 on environmental conditions of consent for the implementation of the project entitled: *“Construction of the right embankment of the Biała River at local chainage km 0+000 – 0+695 in the City of Tarnów”* (Ref. No.: *ST-I.4210.1.2015.MB*).
- 3) *Environmental Management Plan for Contract 3D.2/1*. OVFM Project Implementation Office at RZGW in Cracow, the Consultant of RZGW in Cracow. Cracow, September 2019.
- 4) *Progress Reports* submitted by the Contractor of Contract 3D.2/1 in the following months of the reporting period.
- 5) *Contract Engineer's Monthly Reports and Quarterly Reports* for the next months and quarters during the term of providing the service: *“Design and Construction Supervision. Management, Technical Assistance and Training Technical Support for the Project and Strengthening of PIO's Institutional Capacity in the implementation of the Odra-Vistula Flood Management”* - Contract no. 5.2

8 LIST OF APPENDICES

Appendix no. 1. *Checklist for implementation of measures listed under Appendix 1 and Appendix 2 to the EMP for Contract 3D.2/1.*

Reporting period: 11/01/2020 – 03/31/2022