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SEURECA  VEOLIA

REPORT

**Non-Technical
Executive Summary of
the RWCM Pirot, Pirot**

Client: EBRD and AFD

Prepared by: ENVICO d.o.o. Belgrade, Serbia
Seureca, France

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Developed by: Environmental: dr Milica Karanac, Isak Marčetić, Miloš Tišović and Nikola Ogrenjac
Social: MSc Olivera Vuković, dr Slobodan Cvejić and Tijana Veljković

QA/QC: Dušan Nedeljković

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Abbreviations and acronyms

A&A	Description
AFD	French Development Agency
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
ESAP	Environmental and Social Action Plan
ESAR	Environmental and Social Appraisal Report
EU	European Union
H&S	Health and Safety
ISO	International Organization for Standardization
LSGU	Local Self-Government Unit
OHS	Occupational Health and Safety
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
PR	Performance Requirement
PUC	Public Utility Company
RS	Republic of Serbia
RWMC	Regional Waste Management Center
SEP	Stakeholder Engagement Plan
ToR	Terms of Reference
TSS	Total sediment substances

1 INTRODUCTION

The European Bank for Reconstruction and Development (“EBRD”) and the French Development Agency (AFD) (“the Banks” or “the Lenders”) are considering providing a sovereign loan of up to EUR 100 million to the Republic of Serbia to finance critical improvements in the solid waste management system across several secondary cities in the country, which includes construction of new facilities and procurement of new equipment at the RWMC Pirot (“the Project”).

This Project should upgrade a significant part of the waste management system in Serbia, in line with the EU standards and the National Waste Management Programme. The two sites (Sremska Mitrovica and Pirot) cover 9 municipalities and service over 900,000 people.

The Project aims to enhance the operation of the Regional Centers with the development of the collection and primary separation of waste, by procurement of new equipment and installation of the new facilities, installation of new landfill cells and closure of used cells an increase of waste disposal capacity, an extension of landfills life span, biodegradable waste treatment, landfill gas collection and treatment, wastewater treatment, etc., all in line with the EU standards and requirements. Besides, the project implementation will lead to reducing of ongoing adverse environmental impacts and environmental risks related to the current practices and planned investments. Besides, the Project will lead to the closure of numerous official non-sanitary landfills/dumpsites across the Regions.

The regional waste management center (RWMC) Pirot is located in the South-East part of Serbia. It comprises the city of Pirot and the municipalities of Babušnica, Dimitrovgrad and Bela Palanka (Figure 1).

The RWMC Pirot has been operating since 2013, including a sanitary landfill. Taking into consideration that the area has already been impacted by construction works and that RWMC has been in operation for almost 10 years, Project’s impact during construction is expected to be limited and temporary. Provision of new facilities should ensure lower impacts during operation and overall improvement in waste management of the whole Region. Therefore, it is expected that the implementation of the Project will ultimately have a positive effect upon the overall environmental conditions of the area and the Region.

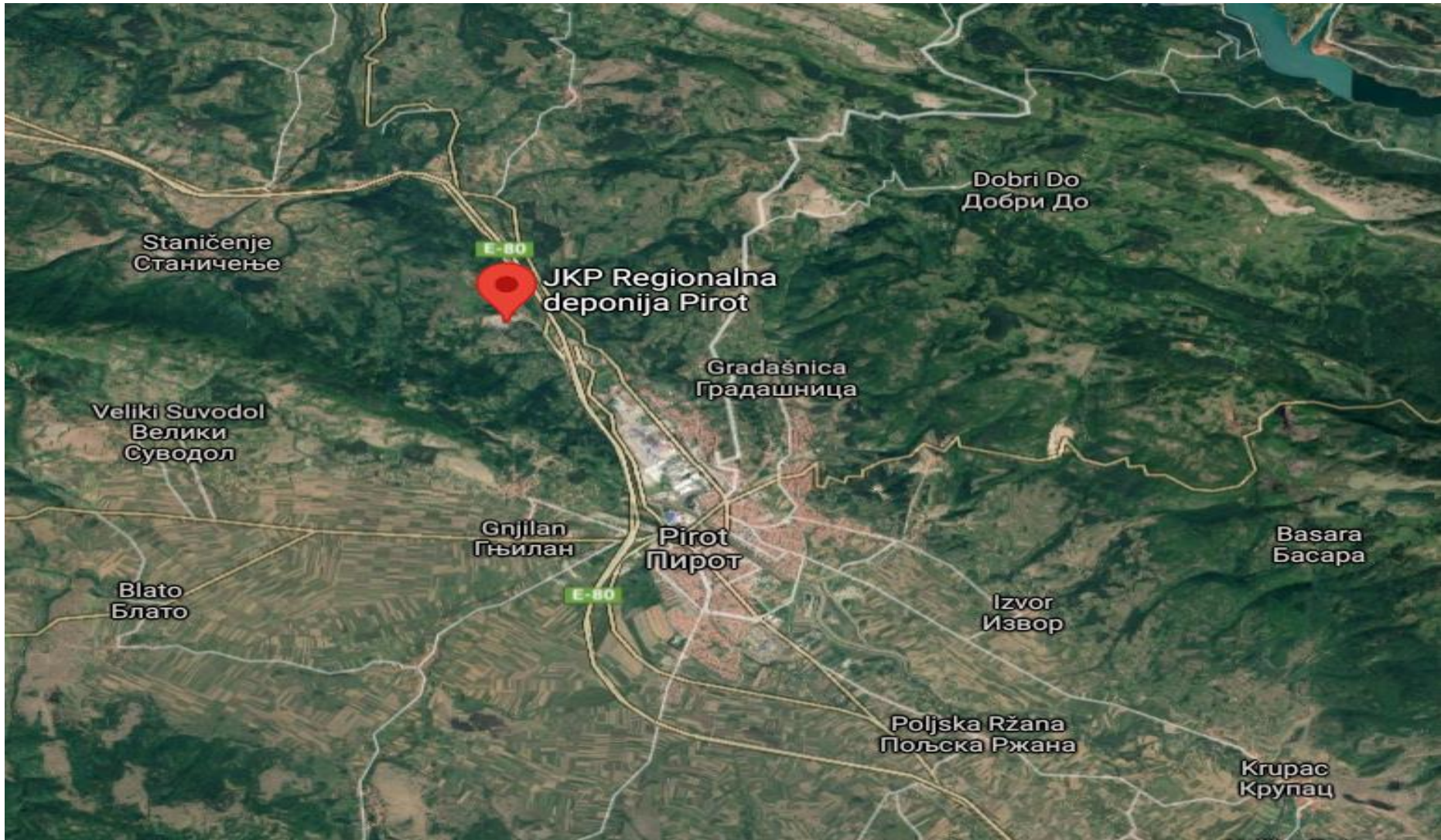


Figure 1 Macro location of the Project
(Source: Google Earth)

2 PROJECT DESCRIPTION

The Pirot regional waste management center (RWMC) consists of 4 municipalities (Pirot, Babušnica, Dimitrovgrad and Bela Palanka). This regional waste management area already has its RWMC Pirot within the landfill (operational) and a secondary sorting plant (in a trial period).

In addition to the existing landfill for municipal solid waste within the Regional Center, construction of the following infrastructure for additional waste management and treatment is planned:

- closure of cell 1,
- construction of cell 2,
- biogas collection and treatment system,
- and a composting facility.

The Project aims to enhance the operation of the Regional Centre through development of collection and primary separation of waste by procuring new vehicles and containers, construction of a new cell for the landfill and construction of a composting plant and landfill gas collection and treatment facility.

The regional waste management scheme operates in a way that all solid waste from four municipalities is transferred directly to the regional waste management center, where unsorted waste is deposited on the landfill.

3 BACKGROUND

3.1 History of the Project development and planning

Construction of the landfill in Pirot started in December 2008. The full operation commenced in January 2013. According to the original design, the total volume of the landfill is 1,242,710 m³, divided into three phases. The planned lifespan of the landfill is 25 years.

Construction of a secondary sorting facility commenced in 2019 and it has been finished in 2022.

The Pirot landfill serves four administrative units, with respective PUCs, i.e. the city of Pirot, and the municipalities of Babušnica, Dimitrovgrad and Bela Palanka. The city of Pirot and the municipalities of Babušnica, Dimitrovgrad and Bela Palanka signed an inter-municipal agreement on regional cooperation in solid communal waste management on 8 September 2011. Based on the agreement, the PUC Regional Landfill Pirot was founded on 18 November 2011.

The RWMC Pirot developed a preliminary project design for the closure of non-sanitary landfill in Pirot and the project is approved by the MoEP (No. 353-01-02878/2019-06, date 27.1.2020).

Prior to the closure of the existing non-sanitary landfills in the Region, the project design for the closure of the official non-sanitary landfills (Babušnica, Dimitrovgrad and Bela Palanka) should be developed in accordance with local law, EU standards and good practice.

3.2 Current environmental and social situation and considerations

Air Quality

The site performs regular air quality monitoring 4 times a year and recent results from 2021 can be used as a baseline for the planned project.

The last publicly available report on air quality from 2022 at a measuring point of the building of Public Health Institute Pirot, which lies at the distance of approximately 4.8 km from the landfill, classifies air quality as satisfactory for SO₂, NO_x, soot and total sediment substances (TSS) with heavy metals (lead, cadmium and zinc). Since the landfill is located outside the populated area, odours from the landfill may affect employees at the landfill or people moving in the immediate vicinity. There is no air emissions treatment system.

The negative effect has been limited by placing a green buffer around the landfill. The role of this green buffer (coniferous trees, deciduous trees or shrubs) is to reduce noise and retention of exhaust gases and dust, as well as to reduce the effect of unpleasant odours on the environment.

Environmental Noise

According to the Noise measurement reports in Pirot for 2021, conducted by the Public Health Institute Pirot, the noise level was measured in the period March –October 2021. The measuring point closest to the landfill is factory AD "Tigar" – located approximately 3.2 km

southeast of landfill. The relevant noise level at the measuring point did not exceed the permissible noise level for the industrial zone in 2021.

During regular operation of RWMC Pirot, main sources of noise are transport, handling and compressing of communal waste. During future operation of the waste sorting facility, currently in construction, the main noise sources will be presses and conveyors.

The nearest residential houses are located at the distance of more than 1.5 km from the Project area, so no significant noise impact is expected.

Biodiversity

A forest community of Turkey (Austrian) oak and Italian (Hungarian) oak predominates in the wider area of the Project location at altitudes up to 500 m, but it is mainly degraded.

At the site, the overall fauna is numerous. According to the Rulebook on the proclamation and protection of strictly protected and protected wild species of plants, animals and fungi ("Official Gazette of RS", No. 5/10, 47/11, 32/16 and 98/16), it is possible to meet some of the protected species at landfill complex.

At the subject location, neither natural assets of special importance nor rare and endangered plant and animal species have been identified, upon inspection of the documentation by the Serbian Institute for Nature Protection and the "Register of Protected Natural Resources".

Cultural Heritage

The updated EIA does not include conditions/opinion of the competent Institute for Protection of Cultural Monuments, as per the Location Conditions issued by the competent Ministry of Construction, Traffic and Infrastructure and attached to the updated EIA; at the project location there are no registered cultural heritage objects nor there indications of their previous existence.

Soil Quality

The disclosed EIA provides the comment on the results of the analyses of the soil samples from four monitoring points, as per the sampling plan, sampled on August 22, 2017. At all 4-monitoring points the content of copper, beryllium and vanadium exceeded the limit values prescribed by the Ordinance on the Program of Systematic Monitoring of Soil Quality, Indicators for Assessing the Risk of Land Degradation and Methodology for Remediation Programs ("Official Gazette of RS", no. 88/10). None of the parameters exceeded the remediation values.

Surface Water and Groundwater

The rivers of the Pirot region are mostly mountain rivers, except for the river Nišava, which is a lowland river with certain fluctuations and with the catchment area of 3,950 km². It originates from the rivers: Jerme, which flows in the length of 45 km through Serbia, and the river Ginska, whose length on the territory of Serbia is 6 km. Its tributaries are the rivers Gradašnička reka, the Bistrica and the Temštica with a length of 70.6 km (its tributaries are the Visočica, the Dojkinačka reka, as well as other tributaries and streams). The average water flow of the river Nišava through the area of the municipality of Pirot is about 70 m³/sec and ranges from 1.97 to 700 m³.

The available EIA provides physical & chemical and microbiological composition of surface water upstream and downstream from the landfill location measured in 2017. The analyzed parameter of surface water, on the basis of which surface water belongs to class V according to the Ordinance on limit values of pollutants in surface and groundwater and sediment and deadlines for their achievement („Official Gazette of RS“, No. 50/12), is the dissolved oxygen. The analyzed microbiological parameter of surface water based on which surface water belongs to class III is the total number of aerobic heterotrophs.

There is no information on groundwater quality. As per the available information from the EIA, the plan was to install monitoring wells.

Worker and public health and safety

The entire complex of the Regional Waste Management Center is fenced with a controlled entrance and exit and security service. The same will continue during future operations. RWMC Pirot operates under the Serbian regulation pertaining to workers and public health and safety, following the rule of law in sectors of public and occupational health and safety, traffic standards and safety. These standards shall be implemented in procuring design, construction and operation stage of the Project.

Based on the information available, workers of the PUCs currently operating in relevant municipalities are mostly equipped with the PPE and other working equipment. However, there was no evidence that workers were provided with the PPE masks to minimize the impact of air emissions and dust on their health.

Social Issues

The only vulnerable group that could be affected by the project, indirectly through the closure of local waste dump sites, are the informal waste pickers. The available information so far does not allow for an assessment of the number of informal waste pickers.

In order to identify the number of informal waste pickers it is necessary to conduct a social baseline assessment. This assessment will be conducted prior to the closure of the official local non-sanitary landfills/dumpsites. In the case of Pirot there are 4 (Pirot, Babušnica, Dimitrovgrad and Bela Palanka) official dumpsites that will be closed, therefore should be included in this assessment. If collected data shows that the closure of the existing local dumpsites will affect the livelihood of informal waste pickers, in the next phase LARP for the improvement of livelihood of informal waste pickers will be conducted.

All activities within this project will comply to the EBRD Environmental and Social Policy (2019), as defined through the applicable Performance Requirements (PRs).

4 EIA PROCESS

4.1 Conducted EIA Process and public consultations

The updated EIA of the RWMC Pirot was developed in January 2018 according to the impact assessment procedure prescribed by the Serbian Law on Environmental Impact Assessment, including the planned construction of the secondary sorting facility and disposal of other non-hazardous waste. The Study is a comprehensive document, and provides significant information on baseline conditions, expected risks and impacts. Furthermore, it identified a number of measures to be implemented in order to prevent, minimize and mitigate possible impacts during construction and operation. The previous EIA was prepared in 2006.

Furthermore, no environmental assessment study (neither EIA nor Environmental Study) has been developed for the landfill gas collection and treatment system plant planned to be constructed as a part of the Project. Since the site is obliged to apply for the IPPC permit, updated EIA to cover all the planned facilities will most likely be required.

4.2 Spatial Planning

All the land for the landfill has already been acquired and belongs to the RWMC Pirot. All land is located within a spacious zone of protective forests and grass fields of limited economic value, is spatially separated from the zones of settlements and other zones with non-complementary functions, is not exposed to view except from the access road, and there are no residential buildings or other buildings nearby.

5 SUMMARY OF POTENTIAL ADVERSE ENVIRONMENTAL AND SOCIAL IMPACTS

Overall long-term Project impacts are expected to be positive. Construction impacts of the individual facilities included in the Projects will be temporary and location-specific and are not expected to have significant environmental and community impacts if adequate mitigation measures are timely defined and implemented. Although operation impacts will have a continuous impact during the RWMC operation, it is not expected that they will have a significant impact if environmental and social prevention and mitigation measures are implemented in accordance with the local law and project documentation.

A summary of main impacts and their characterisation is presented below. A complete list of impacts is presented in Environmental and Social Appraisal Report (ESAR).

5.1 Impacts during the construction phase

Magnitude of most construction impacts is low, due to the fact that activities will be performed in a limited area. Only activities that will be conducted outside the Project area, or where impacts may extend off-site, are characterized with medium magnitude.

The significance of the impact is established as the portion of the environment and community that will be affected and the potential level of impact. Most of the impacts' significance is assessed as low and medium. The majority of impacts during the construction phase are limited to the construction location where there is no housing. The following impacts are assessed as having potentially high impact significance:

- Impact on surface water and groundwater as a result of the potential spillage or inadequate use of chemicals during the construction or operation phase, although low in magnitude, could potentially have high significance due to the potential of the hazardous substances to significantly pollute surface water and groundwater even in case of small spillages.
- Traffic safety management, due to the fact that the activities during construction and the activities of regular disposal waste on the landfill will be carried out in parallel.
- Health and safety aspects of operations entail higher risks, where outcomes may be light and heavy injuries or fatalities (both occupational and community health and safety).
- Impact on overall safety at the landfill and the RWMC, due to the potential instability of the terrain during the execution of works. Potential impact of instability could also be irreversible.

Most of the impacts are characterised as **reversible**, due to the nature of the impact, except the following:

- Waste generation is irreversible, however, re-use of waste will be an option assessed once waste composting is performed.
- Spillage of pollutants and hazardous materials and chemicals into groundwater and surface water. However, these are all small quantities and significant impacts on surface water or groundwater are not expected.
- Construction works in the area of RWMC Pirot could have an irreversible impact on biodiversity, especially if not managed properly.

- Health and safety aspects of operations entail higher risks, where outcomes may be light and heavy injuries or fatalities.
- Traffic safety impacts (in the same way as other safety impacts) could be irreversible if serious injury or fatal accident occurs. Volume of traffic will be especially increased during the construction phase of each subproject, which will be undertaken in parallel with the existing operation of the RWMC and maybe in parallel with each other. The Contractor should develop and implement a Construction Traffic Management Plan (CTMP) to minimize risks to road users as well as local communities. All drivers should be trained, and strict speed limits should be enforced. An Emergency Preparedness and Response Plan (EPRP) should be in place for the Project, before the start of construction. It should include measures and procedures to manage any traffic and waste transport-related emergencies.

The extent of impacts is mostly localized on the construction site.

Generally, the **duration** of these impacts is limited to the construction phase and the immediate Project area.

5.2 Impacts during operation and maintenance

Magnitude of most operation and maintenance impacts will be low and medium and performed on the limited area, mostly within the RWMC. The exception is traffic safety management during operation, which is recognized as having a medium magnitude, as it goes out of the immediate area of the RWMC. Collection and transport of waste generated in the region will affect traffic safety on local and regional roads.

Significance of the impact is established as the portion of the environment and community that will be affected or the scale of the possible effect.

Due to the limited scale of the Project, most of the impacts will have low to medium significance. The majority of negative impacts during operation are limited to the operation site, given the Project area is located away from the nearby communities, i.e. 4.5 km from the centre of Pirot, and more than 1.5 km away from the nearest residential housing. So, in the area of the RWMC there are no sensitive receptors in the immediate vicinity (schools, kindergartens, hospitals, culture and entertainment centres, etc.).

The following impacts are assessed to have **medium significance**:

- Surface water and groundwater pollution due to accidental spillage of hazardous materials/fuels/chemicals. Although these types of accidents could possibly have a significant impact, these are all small quantities and significant impacts on surface water or groundwater are not expected.
- Management of waste during RWMC operation, specifically mixed municipal waste (identification of hazardous), hazardous waste, sludge from the wastewater treatment process, and waste from grease and oil separator;

High significance is assigned to the following impacts:

- Improved access of the affected communities to safe disposal of municipal waste.
- Overall positive impacts on the environment as a result of Project implementation.

- Potential impact of occupational health and safety incidents during operation and maintenance could be assessed as high, depending on the severity of the injury. However, implementation of national legislation OHS requirements, as well as international and good industry OHS standards, should limit the possible impact on occupational health and safety.
- Possible impact on traffic safety management on local roads during operation of the RWMC is assessed as high, due to the level of expected waste transport traffic and sensitivity of the recipients (all community members regarded as sensitive). These impacts are expected to be controlled through adequate traffic management, education of waste truck drivers and affected communities.
- Impact on overall safety at the landfill and the RWMC due to potential instability of the terrain and waste. These impacts are irreversible and have high significance and it is of utmost importance that adequate design safety provisions are embedded in the Project design, based on the confirmed stability parameters.

When it comes to the **reversibility** of the impacts, a number of possible impacts are regarded as irreversible:

- *Waste generation is irreversible; however, it can be limited if waste is re-used;*
- *Pollution maybe be caused by spilling of pollutants and hazardous materials/chemicals into ground and surface water. Although of accidental nature and low magnitude, accidental spillage of fuels or chemicals stored in workshops (if there will be on-site vehicle maintenance) or on the WWTP or from malfunctioning, can have an irreversible impact on the environment. As already mentioned, these are all small quantities, and significant impacts on surface water or groundwater are not expected;*
- *Inadequate management of sanitary sewage, leachate wash-off from the RWMC plants maintenance and oily atmospheric water could lead to irreversible impacts;*
- *Similarly to the above, possible impacts of the absence of landfill gas control, or inadequate management of the landfill gas collection and treatment facility, as well as control and treatment of leachate from the sanitary cassettes, are assessed as irreversible;*
- *Although occupational health and safety aspects are of lower risks compared to those identified during construction, OHS incidents have the potential to be irreversible (fatality or disability) if OHS risks are not adequately managed.*

The extent of the impacts is mostly localized on the operation site, except when it comes to traffic safety management on local roads, with regard to the collection and transport of waste to the RWMC. The Operator should develop and implement an Operation Traffic Management Plan (OTMP) as a part of the Operation E&S Management Plan, to minimize the risk to road users, as well as to local communities. All drivers should be trained, and strict speed limits will be enforced. An Emergency Preparedness and Response Plan (EPRP) should be in place for the Project, before the start of operation of the new facility. It will include measures and procedures to manage any traffic and waste transport-related emergencies. The existing Emergency and Response Plan (ERP), if available for the RWMC Piro, should be developed and updated in accordance with the local law.

Also, positive impacts to the affected communities range from local to regional, improving access to services related to safe management of communal waste.

Generally, the **duration** of these impacts is mostly associated with the life of the Project. At this point, there is no information on how long this phase will last. Duration of some impacts is assessed as limited/accidental due to their accidental nature, while the impact regarding change of land use, landscape and biodiversity is assessed as permanent.

5.3 Impacts during closure and decommissioning

The type and levels of impacts at closure and decommissioning of the Project will largely depend on the future land use of the site. There is no information available on future plans in this area and the change of the spatial planning document for the Project site.

The positive impacts the Project will have in the operation stage will be variable and these will be impacted by the strategic planning decision of the administration for future developments, depending on changes in legislation, changes in the number of inhabitants in the region, following and implementation of modern achievements in waste management, etc.

It is expected that a significant quantity of hazardous and non-hazardous waste will be generated at closure and decommissioning, and there will be a need for adequate collection, treatment, sorting and disposal of waste. Grounds for discussing the waste management practice after several decades of the Project life are currently unavailable.

Significant impacts are related to occupational health and safety practices, where demolition activities have innate higher risks of injuries or fatalities. Impact on employment will be low, since there is a shortage of labour force in PUCs and all employees of the RWMC could be transferred to the new location.

Furthermore, potentially significant impacts during closure and decommissioning depend on successful management of leachate and landfill gas during the Project life, as well as the amount of residual gas generated. Before the start of decommissioning and closure, an E&S assessment should be undertaken to inform the closure and decommissioning Project about E&S impacts relevant for this stage of the Project.

Apart from the impacts described above, other impacts relevant for closure and decommissioning are considered to be low in magnitude and significance, while also limited in time and space, with negligible exposure of communities.

5.4 Residual impacts

For almost all construction works, demolition and transport activities, the aim is to prevent significant effects on receptors through the use of effective mitigation measures. Experience in other similar projects shows that this is normally possible. Hence, the residual effect will normally be "not significant".

Residual impacts such as generation of solid wastes and wastewater from the construction activities are deemed insignificant (i.e. temporary and short-term). There may be a temporary increase in the number of people in the project site which may require additional spaces for transportation, food and security. The similar residual impact may happen during decommissioning. During the operation phase, residual impacts will be: leachate, landfill gas

and odour. A positive residual effect of the project will be higher awareness of stakeholders about improved waste management and sustainable development thereof.

5.5 Project benefits

The improvement of waste management in the RWMC is expected to result in:

- Decrease the disposed of waste quantity by improvement of the primary waste selection, on-site selection and processing, and biodegradable waste treatment;
- Extension of the waste disposal capacity and landfill life span;
- Air emission control, GHG emission reduction and safety risk reduction by the installation of landfill gas collection and treatment systems;
- Adverse environmental impact reduction and control, by closing and remediation of the non-sanitary in both region.

Positive social effects of the project include:

- more sustainable development of local community due to higher awareness of stakeholders about improved waste management;
- increased trust in institutions due to better organizational performance, including human resources policy, non-discrimination and H&S standards at the workplace;
- improved regional cooperation based on the lesson learned through this project and the transfer of collected knowledge.

Overall, the Project should significantly enhance communal waste management in the Region, reduce adverse environmental impacts, increase occupational and public safety and social effects.

6 SUMMARY OF ENVIRONMENTAL AND SOCIAL MITIGATION AND MANAGEMENT MEASURES

This chapter outlines feasible, cost-effective measures in order to avoid, minimize, mitigate or compensate for environmental and social impacts to acceptable levels and to address other environmental and social issues.

Impacts assessed at this stage of the Project development/completion imply generally low risks. Re-assessment of impacts and mitigation measures should be conducted after the development the missing designs and EIA Studies in accordance with the local law.

6.1 Construction phase

This phase of the Project development anticipates construction of new facilities (Contractor). This phase is expected to be implemented by PUC RWMC Pirot with the Project Implementation Unit (PIU) and support from the Ministry.

Obligations of PUC RWMC Pirot/PIU:

- Establish an ethical wall in permitting processes, to avoid conflicts of interest;
- Procure services from licensed companies for construction works, installation of the plant and equipment pursuant to standards of the public procurement regulations that have performance requirements of the Lenders embedded;
- Public procurement of vehicles and equipment should be in line with EU (Green Public Procurement) GPP criteria for transport and should meet legally required and international standards on air emissions, noise, safety, etc;¹
- In the Call for Proposal (CfP) for Engineer and Contractor, it is necessary to include all E&S requirements (as will be defined in the future EIA Study, the ESAP, etc.);
- Establish monitoring and supervision for the implementation of Occupational Health and Safety measures, in line with the applicable OHS regulation during construction and operation;
- Ensure transparency when engaging a construction company. The Client should run tender for construction in an open manner and in compliance with relevant laws.
- Ensure parallel procurement of the vehicles and containers, construction of the cell 2, closure of the cell 1, installation of the composting facility and the system for landfill gas;
- Ensure continuity and safe disposal of generated waste in the existing sanitary cassettes in line with the applicable environmental regulation;
- Ensure development of project documentation for construction of composting facility, including the EIA Study, in the shortest possible time;
- Supervise the implementation of community safety and security measures during construction;
- Inform the public of environmental and OHS measures and monitoring results during construction work and preparatory works;

¹ Rodríguez Quintero R. et al., Revision of the EU Green Public Procurement Criteria for Transport, EUR 29635 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92- 79-99080-9, doi:10.2760/700836, JRC115414.

- Biodiversity survey of the area should be undertaken/updated to form the biodiversity baseline and define Biodiversity Management Plan, if needed, before the start of construction activities;
- Provide an update to the existing environmental "zero stage baseline" (surface water and groundwater quality) with more recent data and establish "zero stage baseline" for soil, air quality and noise (not provided in the available documentation), surface water and ground water, prior to the start of the construction works at the RWMC, during the mobilization stage;
- Allocate budget for the above services.

PUC RWMC Pirot/PIU shall also be responsible for the following:

- Implementation of the requests for environmental protection provided by the Lenders and other institutions. Also, Law on Environmental Protection ("Official Gazette of the RS", No. 135/04, 36/09, 72/09, 43/11, 14/16, 76/18, 95/18 – other law and 95/18 – other law), Law on Environmental Impact Assessment ("Official Gazette of the RS", No. 135/04 and 36/09) and other local laws should be implemented during construction and operation;
- Implementation of the ESHS requirements into procurement documentation, ToR for construction and construction contract specifications;
- Provision of environmental monitoring supervision via consulting services;
- Preparation of relevant (quarterly reports) reports on the progress of implementation of environmental and health and safety (and social) requirements (national, international, Lenders', good international practice).

The Contractor is obliged to:

- The Contractor will be responsible for implementing environmental and health and safety mitigation measures during preparation and construction works;
- The Contractor should appoint environmental and health and safety specialist(s) who will be responsible for day-to-day implementation and management of the Contractor's environmental and health and safety responsibilities;
- Prepare the Contractor's Site-Specific Environmental and Social Management Plan (CESMP). The CESMP shall define detailed mitigation measures in line with requirements of future EIA Studies (prepared and approved in line with the national legislation procedure and requirements), ESAP, construction contract, EU Directives, Lenders' requirements and good international practice;
- As a minimum, the CESMP shall include the following sub-plans and procedures: Organisational structure, roles and responsibilities for ESHS management; Labour Management Plan; Waste Management Plan; Pollution Prevention Plan; Traffic Management Plan; OHS Management Plan; Community H&S Management Plan; Design change procedure/plan; Supply chain Management Plan/procedure; Monitoring Plan; type of reports and reporting frequency;
- Prepare the Health and Safety Management Plan as a part of the CESMP or as a stand-alone document;
- The Contractor will be responsible to develop Emergency Preparedness and Response Plans in line with requirements and risks identified in the EIA Studies (prepared and approved in line with the national legislation procedure and requirements), ESAP and other relevant legislation before the commencement of works. The Emergency

Preparedness and Response Plan should be submitted to the Project Supervision Consultant for approval;

- Perform all project activities pursuant to the Health and Safety Management Plan, national legislation and Lenders' requirements regarding health and safety;
- Ensure safe disposal of generated waste in line with the applicable environmental regulations and include hazardous waste;
- Pursuant to Article 109 of the Law on Cultural Property ("Official Gazette of the RS", No. 71/94, 52/11 - other law, 99/11 - other law, 6/20 – other law, 35/21 – other law and 129/21 – other law), the obligation of the Contractor and the Project, if he encounters an archaeological site or archaeological objects, is to immediately stop the works and inform the competent Institute for Protection of National Monuments and take measures so that the find is not damaged, destroyed and preserved at the place and position in which it was discovered.
- In accordance with the provisions of the Law on Waters ("Official Gazette of the RS", No. 30/10, 93/12, 101/16, 95/18 and 95/18 - other law), it is prohibited to discharge untreated wastewater generated at the construction site into the environment and the final recipient;
- The Contractor will ensure that the budget for implementation of the required mitigation measures and monitoring activities defined in the CESMP is included in Project costs as a separate item.

6.2 Operation and maintenance phase

This phase of the Project development anticipates the operation of the RWMC and the associated maintenance. This phase will be implemented by the PUC RWMC Pirot as the Operator.

PUC RWMC Pirot/Operator shall:

- Establish Operations Management System in line with the internationally recognized standards (ISO standards 14001 and 45001 and its required documents, plans and procedures). Certification is not mandatory;
- Develop Operations Environmental and Social Management Plan (OESMP), which will include all necessary environmental and health and safety sub-plans/procedures before the start of operation of additionally constructed facilities;
- As a minimum, the OESMP to include the following sub-plans and procedures: Waste Management Plan; Soil and groundwater contamination monitoring and management; Leachate treatment and monitoring; Pollution Prevention Plan; Biodiversity Management Plan; OHS Management Plan; Traffic Management Plan; Community H&S Management Plan; Security personnel requirements; Grievance mechanism; Information disclosure and stakeholder engagement; E&S Monitoring Plan. Existing plans shall be updated;
- Assure that the operators of the new equipment and vehicles are trained for safe work;
- Ensure that public procurement of vehicles and equipment should be in line with EU GPP criteria for transport;

- Ensure that all heavy-duty vehicles (HDVs)² used in carrying out the service must meet at least Euro V.
- As part of the Operations Management System, the Operator should establish a Safety Management System which will ensure preparation and implementation of the Emergency Preparedness and Response Plan in line with requirements in EIA Studies (prepared and approved in line with the national legislation procedure and requirements), ESAP and under respective national and EU legislation; Update the existing EPRP, if available, to reflect the operation of new facilities to be constructed as part of this Project.
- The Operations Safety Management System and Emergency Response Plans will ensure coordination and communication between the RWMC and relevant regional and national authorities in case of accidental situations;
- Update its organizational structure to ensure adequate capacity for operation of the new facilities constructed as part of the Project;
- Review and update the Monitoring Program of the RWMC once new facilities become operational, in line with the applicable national legislation, EU directives, Lenders' requirements and ESAP;
- The Operator is obliged to manage waste in accordance with the provisions of the national and EU legislation, including all requirements and measures defined in the EIA Studies (prepared and approved in line with the national legislation procedure and requirements) and ESAP;
- Allocate budget for the above services;
- Assure transparency in employment procedure. Employment process is to be run in an open way and in compliance with relevant laws.

6.3 Closure and decommissioning phase

This phase of the project anticipates potential demolition of objects and decommissioning of equipment.

PUC RWMC Pirot / Operator / LSGU shall:

- Procure design development for closure and decommissioning of the existing non-sanitary landfill;
- Procure design development for closure of all official non-sanitary landfills which will not be used after the start of RWMC operation. Design development should include E&S findings and Technical assessment which should be undertaken to inform the design development;
- Procure design development for closure and decommissioning of the existing facility. E&S and Technical assessment should be undertaken to inform the design development;

² HDV with a maximum mass over 3500 kg such as waste disposal trucks have standards for their engines usually referred to as EURO I – VI, originally introduced in Directive 88/77/EEC43, being revised by Directive 2005/55/EC44. Regulation 595/200945 sets the emission standard for EURO VI. EURO V is the current legal standard, with EURO VI in force as of 2013. In between EURO V and VI is the voluntary EEV (enhanced environmentally friendly vehicle) emission standard. The compliance of HDVs with Euro VI is measured as mg per kWh delivered by the engine, and therefore, those results are only valid to evaluate compliance and not to compare different vehicles. For this reason, the criterion must set the technologies able to outperform Euro VI, i.e. natural gas, plug-in hybrid, electric and hydrogen vehicles.

- In the case of transfer to a new location, prepare an employment plan that will inform current employees about the new employment opportunity in a timely manner;
- Procure licensed operators for demolition;
- Ensure and monitor environmental, OHS, and community safety performance during closure and decommissioning;
- Establish a mechanism for control of implementation of health and safety regulation;
- In case of permanent cessation of work, the Operator is obliged to safely and efficiently remove the installed equipment and devices from the site, as well as all the remaining deposited material. Any waste should be removed in line with national and EU legislation requirements;
- Allocate budget for the above services.

Demolition contractor / other contractors:

- All provisions relevant for the Contractor in construction stage are relevant for future demolition contractor or any other contractors appointed to perform construction works relevant for the operation of RWMC or closure of non-sanitary landfills.

6.4 Residual environmental and social impacts

Environmental and social impacts are expected during construction, operation, and closure of the site. The residual impacts mentioned in chapter 5.4. will be visible to PUC RWMC Pirot/PIU/Ministry through environmental monitoring, received grievances, and monitoring of the performance by contractors/operators. Listed measures are of generic character, and will be implemented ad hoc, most probably.

PUC RWMC Pirot/PIU/Ministry/Municipality shall:

- Ensure environmental, OHS and communal inspection, if and when needed;
- Monitor implementation of corrective actions, if and when ordered;
- Regularly implement SEP and thus raise awareness of the local population about improved environment protection;
- Inform the public on the implementation of corrective measures, in case of grievances;

A positive residual effect of the project will be higher awareness of stakeholders about improved waste management and sustainable development thereof.

7 MONITORING AND SUPERVISION

This Chapter provides a description of how environmental and social impacts and issues should be monitored and managed in practice, including an indication of how the Project will be supervised by the Lenders and governmental agencies.

No information has been provided about the provision of the Project Implementation Unit (PIU). Due to the (limited) available capacity in of the Public Utility Company RWMC Pirot and the Ministry, it is highly advisable that a PIU is established by the Ministry in order to manage and monitor the implementation of the Project. The PIU include experienced waste, environmental, health and safety and social specialists, civil engineers, economists and legal experts to ensure implementation of the Project in line with design documentation, national and EU legislation, as well as good international practice and other relevant industry standards.

Based on the information provided, it is expected that the Supervision Consultant will be contracted to supervise the construction activities.

7.1 Construction

PUC RWMC Pirot/PIU/Ministry shall:

- Ensure that records of environmental and OHS monitoring and supervision of operators are kept on file;
- Agree with the Contractor and Supervising Engineer (through service contracts) the frequency and content of E&S reporting;
- Report to the Lenders in line with Lenders' requirements, as a minimum at least once a year, if not otherwise agreed;
- Ensure that experienced experts in waste, environmental and health and safety are included in the monitoring and supervision of construction and activities;
- Allocate resources in manpower for the above services.

The Lenders shall:

- Develop a comprehensive evaluation checklist, in line with benchmarks that will be proposed by the Project and approved by the Lenders;
- Develop a Reporting Plan for PUC RWMC Pirot/PIU/Ministry based on the proposed benchmarks;
- Ensure that experienced experts in waste, environmental and health and safety specialists are included in the monitoring and supervision of operational activities;
- Engage with a Project monitoring specialist in order to ensure that the Project meets all requirements.

7.2 Implementation and maintenance

Throughout the loan period, PUC RWMC Pirot/PIU/Ministry shall report in line with the requirements of the Annual Environmental Report. PUC RWMC Pirot/PIU/Ministry shall allocate adequate resources for reporting.

The Lenders may require reporting in shorter time frames (half-year or quarterly), depending on the time schedule of the approved benchmarks.

The Lenders may require independent monitoring of the implementation of E&S requirements during the operation phase.

7.3 Closure and decommissioning

Although closure and decommissioning of the RWMC is expected after the completion of the loan agreement, the Operator should ensure implementation of all relevant E&S provisions in line with national and EU legislation, good international practice and other relevant industry standards during the closure and decommissioning phase of the Project.

8 COMMUNICATIONS

During construction and operation, anyone may raise a grievance with PUC Pirot. All grievances should be based on written forms (Annex I in the ESAR), which can be filled in by any affected person or organization and submitted to the PUC Pirot. The PUC Pirot will look into all grievances officially received and within 15 days inform the author about actions taken. The acknowledgement will specify a contact person, their reference indicator and an anticipated target date for resolution.

In case when the grievance is not connected to the PUC's activity, the grievant will receive an explanation in written form and the grievance will not be further processed.

In all other cases, the PUC will investigate whether they have failed to work to the intended standard and, if so, identify measures which may be taken to prevent further occurrences. Upon resolution, if the grievant considers the grievance to be satisfactorily resolved, the PUC would appreciate sharing this with him/her, by signing a Statement of Satisfaction.

The grievance mechanism will be made public throughout the public consultation process, and will be maintained during preparation, construction and operation activities. Grievances will be monitored by the Director of PUC Pirot, Mr. Nebojša Ivanov.

The PUC Pirot may contact the grievant at a later stage to ensure that its activities continue to pose no further problems.

Grievances can be submitted in several ways:

- Send a completed Grievance Form (see appendix) to the address on the back of the form;
- Contact the PUC Director, Mr. Nebojša Ivanov;
- Send an email to the indicated address: deponijapirot@gmail.com;
- Call the PUC Pirot directly, on a confidential phone line at +381 63 459 596;
- It is also possible to leave a completed Grievance Form in the PUC Mailbox.

As described above, the grievance process has several steps:

1. Receiving a complaint;
2. Grievance acknowledgement;
3. Investigation of the cause of grievance;
4. Resolution of the grievance;
5. Follow-up, if needed.

Upon approval of the SEP, its location will be publicly announced.



Consultant:

ENVICO d.o.o. Beograd
Vardarska 19/IV
11000 Belgrade, Serbia
Tel: +381 11 64 17 257

Client:

EBRD and AFD