ADRIATIC METALS PLC

VARES PROJECT

WATER & WASTEWATER MANAGEMENT PLAN

OCTOBER 2024

Contents

WATER AND WASTEWATER MANAGEMENT PLAN

This document has been developed/revised as indicated below and described in the revision record on the following page. Please destroy all previous revisions.

Version	Date	Authors	Reviewed	Pages
1.0	1 October, 2021	Danira Zanović	Vildana Mahmutović Kate Harcourt	8
2.0	11 October, 2022	Danira Zanović Nermin Taletovic	Vildana Mahmutović	29
3.0	30 January 2023	Danira Zanović Nermin Taletovic	Vildana Mahmutović	29
4.0	October 2024	Angel G. Vega	Nermin Taletovic Danira Zanović Vildana Mahmutović	

Revision	Status	Date	Update/change details
3.0	Project description, table 2.1.: Layout of the Vareš Project	30/01/23	Review of the Vareš Project, Rupice mine, final road route, Processing plant
3.0	Table 5.3	30/01/23	Table groundwater monitoring points
4.0		30/01/24	AM entered into the operations stage and the WMP is focused on the existing facilities, processes and results.

ISSUED FOR: ☐ Design ☐ Construction ☒ Operations ☐ Others

1. INTRODUCTION

The current version of the Water and Wastewater Management Plan (WMP) is an update, which documents the processes and responsibilities of all aspects of the site water management system at the current operation stage. This WMP has been compiled to satisfy the relevant requirements of regulatory permits, as well as the recommendations set within Chapter 5.7 of the Environmental and Social Impact Assessment (ESIA) for Adriatic Metal's project Vareš, in Bosnia and Herzegovina (hereafter referred to as "the Project").

This WMP provides detail on the specific operational conditions as determined from water permits and authorisations; the local community requirements; the site social and environmental characteristics; and all operational programs and management plans required to manage water on site. This Plan works with the environment of surface water and groundwater. It should be used as an integral part of the Environmental and Social Management System. The Plan should be reviewed annually and/or in response to any changes in site specific conditions, permits, or incidents.

1.1 Purpose

The purpose of this WMP is to document the structured approach to managing water capture, supply, consumption, storage, disposal and hydrological interception for the Vareš Project. Specifically, the WMP:

a) Guides the management of surface and groundwater resources throughout the operational life of the mine;
b) Addresses the relevant conditions of the development consent such as:
    i. documenting the water balance for the development;
    ii. provides reference to detailed baseline surface water and groundwater flow and quality information contained in the Environmental and Social Impact Assessment (ESIA);
    iii. describing the water management system including design objectives and performance criteria;
    iv. outlining investigations and options in relation to the most appropriate method for the treatment and/or disposal of effluents;
    v. detailing the surface water, groundwater and treated effluent assessment criteria and trigger levels/performance indicators;
    vi. documenting management actions and mitigation measures to minimise the impact of the development;
    vii. outlining surface water and groundwater monitoring and reporting requirements;
    viii. documenting the process of water balance model and groundwater model validation and independent review;
    ix. outlining a contingency plan to respond to unpredicted impacts and exceedances of assessment criteria;
    x. outlining the reporting and reviewing requirements; and
    xi. detailing the accountabilities and responsibilities associated with implementation of the WWMP; as well as
c) Addresses regulatory requirements and guidelines relevant to the WMP.

1.2 Objectives

The objectives of the WMP are to:

a) minimise the contamination of clean water runoff from catchment areas upstream of the operations by directing clean water around the disturbance footprint where possible;
b) minimise the potential effects of erosion and its associated impacts as a result of mining operations changing flows or conditions downstream;
c) prevent the discharge of pollutants from the disturbed area or where the discharge will not cause environmental harm such as water suitable for release from rehabilitated areas;
d) manage the mine water drawn from underground workings and maximise the reuse of mine water to meet on site water consumption requirements;
e) manage the disposal of excess water in line with relevant water permit conditions.

2. VARES PROJECT DESCRIPTION

The Vareš Project broadly consists of underground polymetallic mining at Rupice, the haulage of ore via a purpose-built haul route 28.8 km to the Vareš Processing Plant, processing of ore and the partial movement of tailings back to Rupice for paste backfill. Waste rock will be stockpiled at Rupice, before being used as part of backfill. Tailings not used in backfill will be stored in a dry stack facility, designed to meet the capacity requirements across the life of mine, located in a valley north of the processing plant (T-TSF) and Veovača II (VV-II-TSF): . The final lead-silver and zinc concentrates will be transported to a rail loadout facility in Vareš and then onwards for further refinement and sale. The Project layout is shown in Figure 2.1.

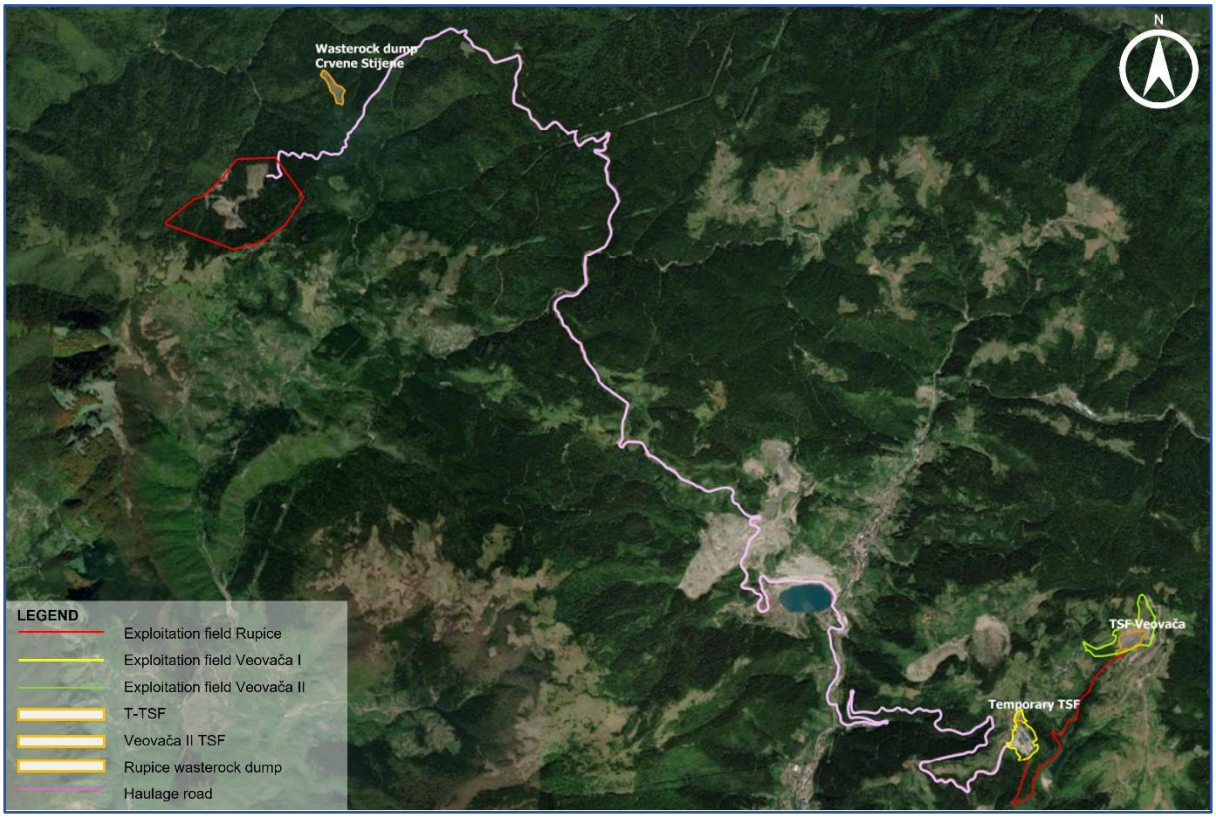


Figure 1. Map showing the location of the Vareš Project

3. LEGAL FRAMEWORK AND STANDARDS

ADT is highly committed to implement practices in accordance with international practices in addition to local legislation, with due respect of guiding principles and policies of the European Bank for Reconstruction and Development (EBRD) and International Finance Corporation (IFC).

3.1 National Legislation

- Environmental Protection Law ("Official Gazette of the Federation of BiH", No. 15/21)
- Law on amendments to the Law on Environmental Protection ("Official Gazette of the Federation of BiH" No. 38/09)
- Decree on the arrangement of the construction site, mandatory documentation on the construction site and participants in the construction ("Official Gazette of FBiH", No. 48/09)
- Mining law ("Official Gazette of the Federation of BiH", No. 26/10)
- Law on Water ("Official Gazette of the FBiH," No. 70/06);
- Law on Waste Management ("Official Gazette of the Federation of BiH", No. 33/03, 72/09

3.2 International Requirements

- European Bank for Reconstruction and Development (EBRD)
  - Performance Requirement 1: Assessment and Management of Environmental and Social Risks and Impacts
  - Performance Requirement 3: Resource Efficiency and Pollution Prevention and Control
  - Performance Requirement 4: Health, Safety and Security
- World Bank - International Finance Corporation (WB-IFC)
  - Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
  - Performance Standard 3: Resource Efficiency and Pollution Prevention
  - Performance Standard 4: Community Health, Safety, and Security
  - Environmental, Health and Safety Guidelines for Mining
- Best Practices
  - ICMM Principle 4: Risk Management
  - ICMM Principle 6: Environmental Performance
  - ICMM Principle 8: Responsible Production
  - Global Industry Standard on Tailings Management (GISTM)

4. ROLES AND RESPONSIBILITIES

Principal roles and responsibilities for the implementation of this plan are outlined below.

Roles	Responsibilities
Operations GM	• Ensure adequate resources are provided for implementation of this plan (SCLECMP).
Heads of production units: Minin g, VPP, Geology and Exploration, Projects, Haulage and Fleet	• Ensure the use and care of the water as a strategic resource with proper respect and adherence to Adriatic policies and national legislation and obligations. • Report any changes in water requirements, discharges or incidents
Head of Sustainability	• Review and update the Plan through the different stages during the life of mine.

Environmental Manager	• Ensure adequate implementation of the plan is completed through:
	  • Training
	  • Third-party reviews/audits
	  • Monitoring programs
	  • Reporting
	  • Due diligence

5. KEY ACTIVITIES

The project ESIA set actions required for the water management during the Vares project stages. These activities are summarized in **Appendix I**.

As the project and construction stages have been completed, the activities for the current operation stage are defined and described below.

5.1 Water Classes and Treatment

The water management system is designed to manage a number of different classes of water. Each class of water differs in its composition which dictates how it can be managed to promote water efficiency and optimize water reuse. Water classes for the Project are presented in Table 5.1.1 below.

Table 5.1.1: Project water classes and treatment

Water class	Description	Main characteristics of water quality	Required Treatment
Raw water	Raw water (or fresh water) is natural water available for use that is obtained from clean/natural rainfall catchments and includes JKP water sources and existing water abstractions at Rupice.	Depending on the source, it is expected that the JKP (groundwater) sources are of good quality and that there will be no suspended sediment, ionic and microbial load.	Raw water abstracted from the sources will not undergo treatment.
Discharge water	Water that has been treated (at all levels) and can be discharged into the environment.	The water must meet conditions for discharge into the environment.	Depending on the specific water class and source.

Table 5.1.2: Project water classes and treatment (cont'd)

Water class	Description	Main characteristics of water quality	Required Treatment
Fire water	Water to be kept in storage for emergency use.	Raw water that requires periodic replenishment after drilling and evaporation losses.	Not required
Potable water	For drinking, cooking and cleaning	It must not be below the drinking water quality criteria according to the World Health Organization.	Disinfection
Service water	Water available for industrial use (eg maintenance, processing, dust suppression)	Low levels of contaminants (if any)	Not required
Non-Contact water	Runoff (or stormwater) collected after contact with low-risk catchments (roads, administrative areas, etc.) resulting in a change in only physical characteristics of the water (without major changes in chemistry).	High sediment load (high content of TSS-total suspended solids)	Attenuation only through sedimentation
Effluent treatment	Waste water from the treatment plant (ARD plant)	Treat to meet discharge criteria	If high concentrations of ions occur in the Vareš Processing Plant, then off-site disposal will be carried out in a suitable reception facility.
Water reuse (or recycled water)	Wastewater that is of suitable quality for recycling and reuse through the industrial water system.	Low levels of contaminants (if any)	Not required
Grey water	Water from different areas of use (domestic or industrial) that can be recycled and reused through an industrial water system with minimal treatment (storage, settling and		Not required
Sewage	Water from all forms of ablutions, kitchens, medical facilities, floor drains and domestic cleaning	High concentration of microbes, pathogens and greases	Wastewater treatment (SBR device with quality control)
Rain water	Precipitation and leachate collected after contact with high-risk catchments (eg stockpiles, waste dumps) leading to a significant change in water chemistry.	High sediment load, high metal content and significant change in raw water chemistry.	Treatment through ARD plant, oil separators.
Other process water	Water required for industrial processes on site which then becomes industrial waste and must be contained in a closed drainage system	High level of pollutants, oil	

5.1.1 Actions

1. Project water classes and their respective treatment requirements should be managed to ensure compliance with project standards through a water treatment facility, ARD (to discharge and maintain good water quality and aquatic environment status in the receiving waters).
2. Systems for wastewater treatment and acidic rock drainage are installed, monitored and operated accordingly all project wide including new construction expansion areas (e.g. TSF).
3. Monitoring the quality of water within surrounding hydrological system (Mala Rijeka, Vrući Potok, Borovički Potok and Bukovica) during project phases (construction, operations and closure) for Rupice, Vareš Processing Plant and ancillaries in order to assure compliance with permissible limits and identification of any potential pollutants entering the drainage system.

Appendix II plots the location of the monitoring points (surface and groundwater). Tables 5.2 and 5.3 detail the monitoring points at Rupice and VPP.

Table 5.1.1.1: Surface water monitoring points

Sliv	Tačke praćenja	Opis
VPP	PPV-4	Mala Rijeka upstream from the ore processing plant.
	PPV-3	Mala Rijeka below existing TSF and VPP.
	PPV-10	Mala Rijeka upstream of the new TSF
	PPV-5	Beneath the landfill Veovača II
Rupice	PP-I	Borovica - downstream from Sastavci tank
	PP-II	Borovica – downstream from village Donja Borovica
	PP-V	Vrući Potok.
	Water abstraction Bukovica	Water abstraction Bukovica
	Bukovica upstream	Bukovica upstream

	Borovički stream	The confluence of the Borovički stream and Bukovica
	Bukovica before the water intake Kakanj	Before the water intake Kakanj
	Bukovica River above the Luka Bridge	Below the junction of Bukovica and Borovički stream.
	Bukovica River downstream from the Luka bridge below Dragoviči	Below the village of Dragovici.
	Bukovica River upstream of the bridge of the transport route	Upstream of the transport route.

Table 5.3: Groundwater monitoring points

Sliv	**Monitoring**	**Opis**
VPP	Pit 1	Veovača.
	Piezo3	Veovača.
	MW20-TSF	Upstream Old TSF
Rupice	BRW-1	At entrance in worksite
	BRW-2	At entrance in worksite
	BRW-3	Next to the access road to the Rupice site
	REW3	Outside from exploitation field

* Damaged/out of service

In addition of the above, and as part of the routine walkthroughs, inspections and internal control conducted by the environmental staff, some monitoring points include:

- Water leaving the sewage chamber (SBR device) before entering the entering to Vrući potok
  - Quarterly
- Upper portal, exit from oil separator
  - Monthly
- Exit from the waste rock dump
  - On as-needed-basis (continuous pH readings are tested)
- Water leaving the SBR device and before flowing downstream at VPP area

  - Six-monthly
- Exit from oil separator at VPP
  - Monthly
- Water leaving the sewage chamber (SBR device) at Veovaca camp
  - On as-needed-basis (under care and maintenance by JKP)
- Water leaving the Vares warehouse area
  - Monthly

4. Monitoring is conducted through planned regular controls. Annual Environmental Monitoring Report are produced over the basis of quarterly reports, while monitoring sampling and analysis are conducted on a monthly basis. Monitoring parameters include organic, inorganic and microbial suite with physicochemical parameters as currently established. Monitoring modifications should be reviewed on an as-needed basis, including frequency and parameters. Having moved into the operations stage, a minimum period of three years will be maintained to revise the monitoring frequency to detect and track any changes as indicators of disturbance or contamination.
5. Solid waste generated from the wastewater treatment system will be disposed of in purpose-built facilities.
6. Mala Rijeka is known to support White Clawed Crayfish. It is possible that the river Bukovica contains Stone Crayfish. In order to ensure that there is no net loss of these PBF species, it will be necessary to prevent impacts on water quality and quantity in Mala Rijeka and Bukovica as a result of the project. More details are given in the Biodiversity Action Plan (BAP).
7. The downstream catchment ponds (lagunas) for the TSF facilities (temporary and VVII-TSF) shall ensure that construction runoff is captured and treated appropriately before it reaches Mala Rijeka. These ponds recycle water to processing at VPP and the contents will be monitored as required.

5.2 Water Storage

The water demand is variable and seasonal and therefore sufficient storage is assured to be able to supply and to meet short-term and long-term high demand requirements.

5.2.1 Actions

1. Revision of records to confirm the potable water tank needs to maintain sufficient capacity to provide enough water to cover short-term supply peaks in the order of days taking into account maximum shelf life for drinking water;
2. Water contained in the catchment ponds (lagunas) is stored for process recycling requirements. When used for dust suppression, recycled flows must be able to meet dust suppression requirements.
3. Dedicated fire water storage tanks, both at VPP and Rupice, to be inspected monthly.
4. Catchment ponds to be maintained at a safe level below a freeboard as a preventive measure against extreme rainfall events or operational conditions. Any sediments ned to be removed in a safe and continuous manner.

5.3 Discharge Water Management

According to the classification of water (Section 5.1 above), treated water of suitable quality for release into the environment is called discharge water. It is important to note that the Project has undertaken not to use natural dilution in receiving watercourses as a means of reducing potentially harmful pollutants. The range of discharges from project activities is varied and may include the following classes:

- Non-contact water – runoff that is not seriously affected and comes into contact only with low-risk catchments;
- Effluent for treatment – treated water that can be discharged;
- Excess Water for Reuse – Retention of water for recycling is an integral part of water balance, extreme storm events are predicted to lead to overflows and managed releases of recycled water kept in storage;
- Grey water - the term grey water is useful to take into account, because it represents a separate class of water from black water or sewage with an undoubtedly greater possibility of reuse, because it requires less treatment and sanitary control. However, this possibility can only be realized if the grey and black water systems work separately;
- Wastewater- from toilet blocks, personnel ablutions water and other sanitary waste flows which may include laundry facilities and food preparation facilities.
- Water impacted by acid rock drainage – mine water and seepage water with potentially low pH will be generated from stockpile and form “contact water”. Control schemes are designed for this form of drainage to meet extreme weather conditions in terms of sufficient storage capacity to reduce peak flows and an active lime treatment system (low density) to neutralize water and sludge deposits, majority of metals; and
- Process water - requires separate treatment from other flows of discharged water due to its chemical origin, which may be incompatible with functioning of other systems (toxic shock).

Further controlled discharge flows include dewatering from the mine. Dewatering options are identified as:

- Reuse and recirculation of water in the mine;
- Infiltration back into the mine system; and

Average dewatering (SEP-2022 to SEP-2024) from mine declines is 401m^3/day (4.65 l/s) with fluctuations from hydrology min/max periods from min 43.2m^3/day (0.5 l/s) to 864m^3/day max (10 l/s) at Rupice mine.

Operation phase sewage flows require treatment to meet discharge criteria as outlined below. It is necessary to test the quality of this water at least twice a year after treatment.

Table 5.3.5: IFC guidelines for treated sanitary wastewaters

Pollutant	Unit	Guideline value
pH (acidity)	SU	6 – 9
Biological Oxygen Demand (BOD)	mg/l	30
Chemical Oxygen Demand (COD)	mg/l	125
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Oils and grease	mg/l	10
Total suspended solids	mg/l	50
Total coliform bacteria	per 100 ml	400

5.3.1 Actions

Any discharges will be monitored and records maintained as part of the legal register process.

Plots of Rupice and VPP (**Appendix IV**) water supply and sewage to be revised and updated on an annual basis.

5.4 Water Balance

Details of water use during the current operations phase is presented in Adriatic's Water Balance Report (October 2024)[1]. This document determines water input-output-storage balance and areas for improved water efficiency or additional capacity and operational flexibility.

Both Rupice and VPP detailed water balances are part of **Appendix III** and summarized balances are described below.

Table 5.6: Water Source and Requirements

Project Component	Water Requirement	Water Source
Rupice	6.85 l/s (24.69.4 m^3/d) raw water consumption with the following breakdown: • 0.5 l/s (1.81 m^3/d) decline development and shotcrete plant • 0.1 l/s (0.47 m^3/d) offices • 1.0 l/s (3.60 m^3/d) exploration drilling • 0.5 l/s (1.80 m^3/d) crusher • 4.7 l/s (17.01 m^3/d) paste plant	• **Borovički Potok Catchment**: 4 l/s (for industrial water). • **Mrestilište**: 4 l/s (for potable, hydrant, and industrial water). • **Vrući Potok**: 8 l/s (composed of 4 l/s from the Vrući Potok catchment and 4 l/s from WTP reticulation) For additional requirements, **BRW-4** 4 l/s is planned, which can be utilized as a replacement for the WTP reticulation.

[1] Taletović N. MA-ing. geol (October, 2024) Water Balance for Vareš

Vareš Processing Plant	5.6 l/s (20 m^3/d) raw water consumption with the following breakdown: • 2.5 l/s (9 m^3/d) make-up water • 3.05 l/s (11 m^3/d) potable water system (safety showers, domestic)	• **JKP doo Vareš (JKP)**, network water supply from the source of Lalića Mlin to the receiving tank and pipeline. The supply has a capacity of up to 9 l/s.

5.4.1 Rupice Water balance

The Rupice mining concession is fed by three water streams:

a) Mrestilište Bukovica (potable quality water)
b) Borovički Potok catchment (process water supply – non-potable)
c) JKP Vrući Potak (K Series) (process water supply – non-potable)

Water lines from the Borovicki Stream and Vruci Potak (K Series) are for use as process/low grade waters, i.e. backfill water requirements, dust suppression, drilling waters, wash down etc. Water supply from the JKP Bukovica source is potable water. Water supply from JKP Mrestiliste (Borovicki potok) will be used for domestic and potable uses as well as supplementary water for the process water circuit.

The areas where raw water is supplied at Rupice include:

- Administrative/Mine Facilities and Plant;
- Personnel Water Supply;
- Paste plant; and
- Underground Mine.

All non-contact waters are diverted via drainage channels and ditches around site and discharged down-gradient, into the Vruci Potak as per the requirements set in the water permit.

ARD-Contact waters are identified as follows:

- Run-off from stockpiles;
- Underground mine water inflows; and
- Paste plant contact waters.

ARD contact waters are directed from the underground mine, paste plant and stockpiles to a catchment pond (laguna) located to the south of the ore stockpiles. The laguna has a capacity of 2,600m^3. Outflow from the laguna is then fed through the Water Treatment Plant (WTP) at a maximum rate of 588m^3/d and discharged off-site or reused as low-grade waters.

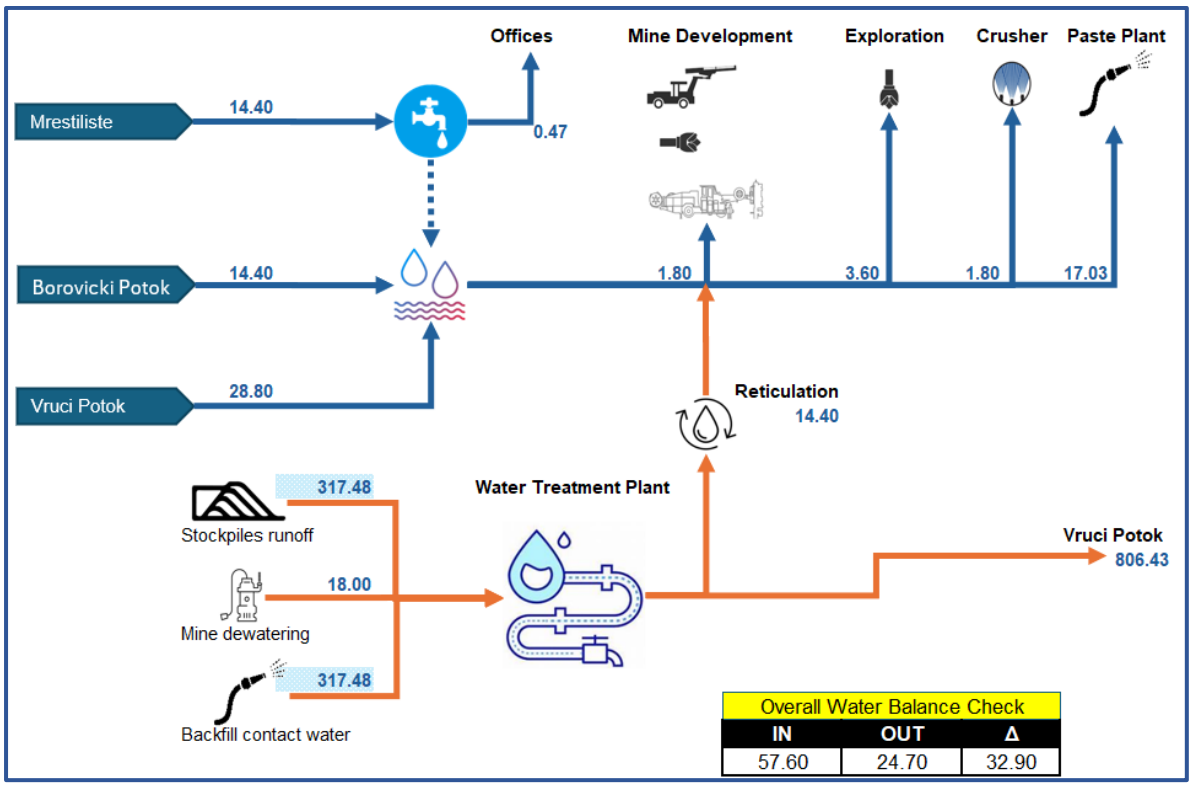


Figure 2. Rupice water balance diagram

With over one year of operations of the WTP, treated water discharge ranges escalated from 1,200m^3/month (40m^3/day, 0.5 l/s) to 24,000 m^3/month (800m^3/day, 9.3 l/s). Figure 5.1 below plots the WTP discharge performance during the operations stage (May, 2023 to October, 2024).

Water treatment plant capacity was initially set to 518m^3/day (21m^3/h, 6 l/s) for the commissioning phase from May 2023. In March 2024, pump sizes were increased to double WTP capacity to 950m^3/day (40m^3/h, 11 l/s).

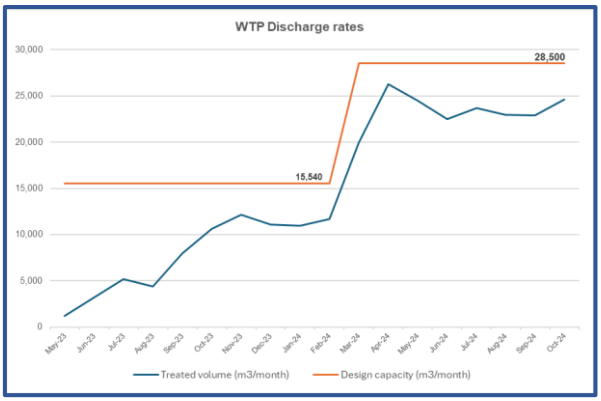


Figure 3. WTP Discharge Estimates as of Q3/2024

In addition, the water balance at Rupice considers up to 345m^3/day (14m^3/h, 4 l/s) of treated water discharge reticulation for use as process/low grade waters, i.e. backfill water requirements, dust suppression, drilling waters, wash down, shotcrete production, etc.

At the current operating conditions, water demand is 24.71m^3/h (6.86 l/s) with a supply capacity of 57.6m^3/h (16 l/s).

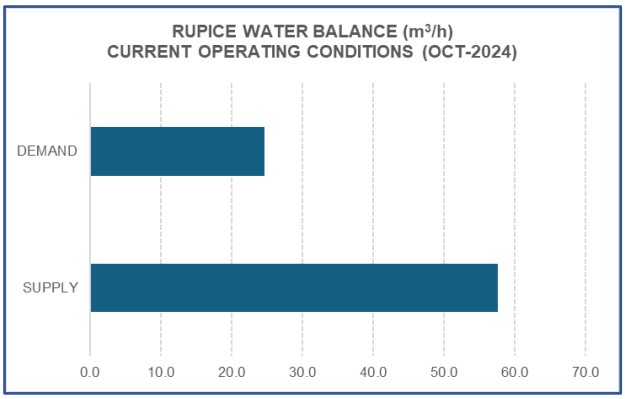


Figure 4. Rupice water balance as of Q3-2024

As AM moves on to the full production in mine development, the demand is anticipated to grow. Continuous reviews and discussions are relevant subjects for evaluation at the Water Committee.

5.4.2 VPP Water balance

The VPP facility is fed by two water streams

- JKP Municipal Water Supply (potable water quality); and
- Contact water (potentially contaminated) falling on working phases of the Temporary TSF (TTSF).

Contact water sources are rainfall and TTSF infiltration. Contact water draining out of the downstream end of the TTSF is collected in a catchment pond (laguna) at the toe of the TTSF embankment, which is sized for sufficient storage of design rainfall events.

On an as-needed basis, operated by a control float switch, contact water in the laguna will be bled-back incrementally into the process water circuit.

All non-contact waters are diverted via drainage channels and ditches around site/TTSF and discharged down-gradient, into the Mala River catchment. The contact water from the TTSF will be initially pumped to the Process Water Tank (PWT) and then, as needed, the contact water will be diluted prior to inclusion within the process water inventory to avoid risk of scaling and process incompatibility.

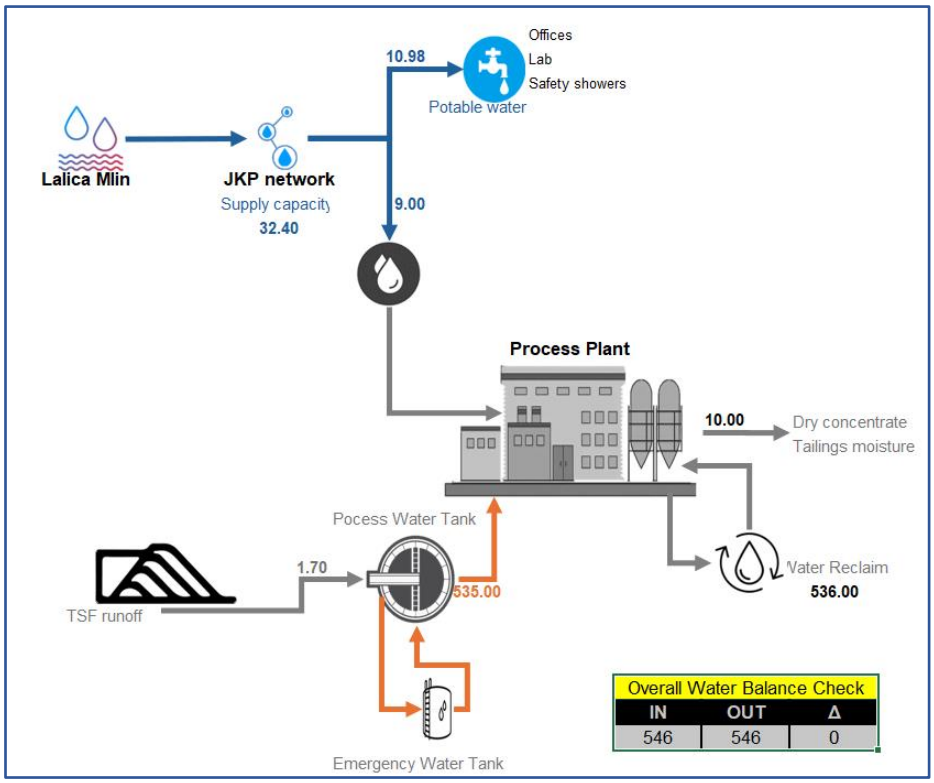


Figure 5. VPP water balance diagram

As VPP commissioning and operations start-up were completed early in 2024, water demand was significantly high during January to April to complete the first fill and subsequent operation of the circuits. VPP water requirements are 20m^3/h (5.55l/s).

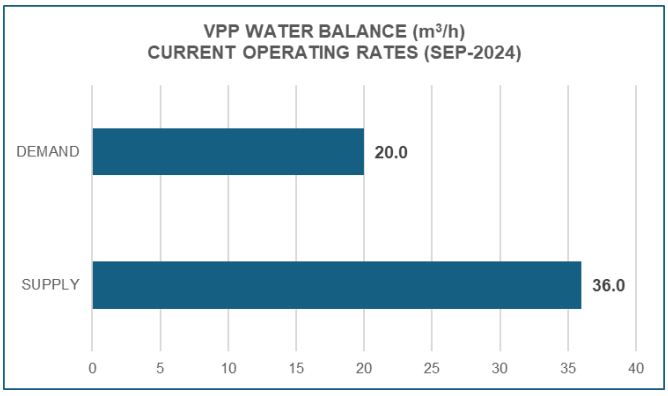


Figure 5. VPP water balance as of Q3-2024

Historical readings of water consumption are plot in Figure 6.

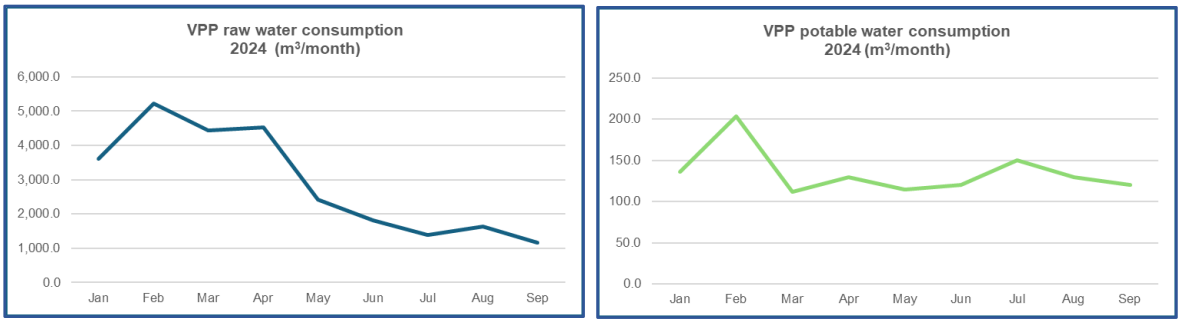


Figure 6. VPP Water consumption as of Q3-2024

In order to eliminate any potential impacts on water supply for local residents, as well as to ensure a consistent water supply for VPP, an additional DN 160 mm pipeline was installed from Borak water tank to VPP. With this dedicated pipeline, the connection to the municipal water supply will no longer be linked to surrounding communities, allowing the VPP to draw water directly from the source.

5.5 Water Accounting

The variety of water classes and potential water limitations during seasonal and peak activity periods require consideration of recycling and/or alternative sources and promote the use of a project water accounting system. The system consists of:

- Monitoring and measuring the water balance
- Assessment of actual water use compared to design and projections through LOM
- Development of a recirculation system that promotes higher efficiency,
- Annual assessment and analysis of water use demand and improving water efficiency by promoting higher efficiency and ensuring adequate water retention or capacity to meet demand estimates.

5.5.1 Actions

Management of water use in accordance with the Project's EMP system, including:

- Water abstraction rate;
- Water recycling rate;
- Water storage rate;
- Net consumption rate (calculated for water losses: evaporation, dust suppression, etc.);
- Water collection rate; and
- Water quality indicators.

Measurements and variations to be continuously reported by the Hydrogeological crew. At this instance, the Water Committee is a mechanism for resolving any arising matters. In addition, data provided by the hydrogeological department will be compiled for Sustainability Reporting.

5.6 Specific operational requirements for water efficiency and water management

Detailed operational water requirements are currently managed in coordination with the operations teams. A Water Committee is established to discuss and manage the evolving water requirements at Rupice and VPP.

5.6.1 Actions

1. Runoff and discharge control and regulation of water from the drainage system.
2. Monthly water consumption goals are set by the AM mining and plant managers. Consumption data are subject of revision considering the LOM production guidelines.
3. Procedures to monitor usage and status of potable and sanitary water are available on a daily basis and action will be taken as unusually high or low consumption rates are identified or projected. This includes system walk downs to check for leaks, researching and identifying high water users and other water conservation initiatives as appropriate.
4. Should the case be, grey water and black water recycling measures be installed and properly maintained to ensure maximum benefit and reduce water demand.
5. Where possible, clean non-contact water will be reused for low-quality practises, such as dust suppression, provided it meets appropriate water quality criteria.

5.7 Operational monitoring (not environmental)

Water demand will be continuously measured and monitored. Operations management will estimate monthly usage needs, review their usage on a monthly basis and compare it to the estimate.

For all distribution pipelines and equipment, an inspection regime has been established to visually check for possible leaks.

5.7.1 Actions

1. Regular quality testing will be performed on the water distribution network and procedures have been established for periodic water quality sampling of all drainages within their facilities in order to determine the hydrocarbon/contaminant content. Water must meet the requirements of relevant legislation, standards and guidelines. Sampling will monitor levels of BTEX, phenol, gasoline, diesel, fuel oil, kerosene, heat transfer fluid, transformer oil, lube oil and hydraulic oil.
2. Whenever possible, wastewater will be reused or recycled. Should it be required, procedures to monitor any greywater and blackwater flows at the site. Water quality testing of recycled greywater and blackwater is compulsory to ensure compliance with legal requirements, standards and guidelines.
3. Due diligence on controls to avoid spillage of treated raw and recycled water.
4. Maintenance activities that require drainage of water from pipelines or equipment are undertaken so that the drainage is collected and disposed of in appropriate facilities.
5. Water quality is regularly monitored for compliance with relevant storm water quality standards prior to release of collected surface water. Extreme rain events that exceed tank capacity are expected to be sufficiently diluted and not affect natural watercourses if overflow occurs. The tanks will be shaped to facilitate the settling of suspended solids.

6. Groundwater levels in relation to possible inflow into the underground mine require monitoring. Piezometers have shown rapid responses to precipitation and seasonal events (snow melt), indicating that some rapid infiltration and recharge mechanisms may exist. Water level and groundwater quality monitoring should be maintained during mining to assess hydraulics, indications of potential inflow, and development of water quality changes as a result of mining in groundwater system. Any damaged or malfunctioning probe to be replaced.

5.8 Permits and authorizations

The key authorizations relating to water management are listed below. Adriatic Metals entitles accountability for obtaining permits, and responsibility of subcontracting companies will be to maintain operations proficiently to maintain the authorisation:

- Permit for water abstraction (temporary) required for drainage and water supply and discharge.
- Pumping Permit along with Memorandum of Understanding to confirm permanent distribution of supply.
- Wastewater discharge permit
- Annual data required to calculate the payment of fees for water usage and wastewater discharge.

Table 5.6. Obtained water permits

Title of consent	Number	Date of issue	Authorized institution
Decision on water consent: For the main project of collection, treatment and discharge of polluted rainwater - Rupice	05-21-05535-1/22	21.06.2022.	ZD canton
Decision on water consent: For the main project of collection, treatment and discharge of polluted rainwater - Rupice	UP-1/21-2-40-543-7/21	28.12.2021.	Sava River Watershed Agency
Decision on water consent: For processing plant and refining	UP-1/21-2-40-604-3/21	20.01.2022.	Sava River Watershed Agency
Decision on water consent: For Main project of water supply and sewerage installation Veovača I-Tisovci I Veovača II	05-21-05901-1/22	20.06.2022.	ZD canton
Decision on water consent: For construction of the Rupice water supply system	02/3-19-2-207/22	15.06.2022.	Municipality of Vareš

Decision on water consent: For Rupice water supply system	02/03-19-5-692-1/22	01.06.2022.	Municipality of Vareš
Decision on Environmental Permit Rupice	UPI 05/2-02-19-5-60/20 SC **(See Note)**	05.02.2021	Ministry of Environment and Tourism
Supplementing the Environmental Permit Rupice	UPI 05/2-02-19-5-60-2/20	28.03.2023	Ministry of Environment and Tourism
Decision on Environmental Permit Veovača-Tisovci	UPI 05/2-23-11-195/19 **(See Note)**	20.05.2020.	Ministry of Environment and Tourism
Supplementing the Environmental Permit Veovača-Tisovci	UPI 05/2-23-11-195-1/19	28.10.2021	Ministry of Environment and Tourism
Decision on water consent: For activities on the VPP that may have specific impacts on water.	UP-1/21-3-40-033-8/24	30.09.2024	Sava River Watershed Agency
Decision on water consent: For the discharge of technological wastewater - Rupice	UP-1/21-3-40-629-4/23 **(See Note)**	13.02.2024.	Sava River Watershed Agency
Water permit for the discharge of sanitary waste water - Rupice	05-21-05535-1-2/22 **(See Note)**	21.08.2023.	Ministry of Agriculture, Forestry and Water Management
Decision on water consent: For activities that may have specific impacts on water Veovača I-Tisovci I Vares	UP-1/21-3-40-033-8/24 **(See Note)**	30.09.2024.	Sava River Watershed Agency
Previous water consent of TSF Veovača II	UP-1/21-1-40-460-5/24 **(See Note)**	27.09.2024.	Sava River Watershed Agency

Note: This license is currently in-force for the Vares project. Other previous permits have been expired and are listed for reference only.

5.8.1 Actions

1. Enforce corporate value **to respect and enhance the environment** by taking measures to prevent water contamination and protect water resources;
2. Any discharge into environment must comply with requirements specified in permits and licenses granted by regulators;

3. All water consumption/abstraction/pumping must be measured and monitored;
4. All data related to the water resources management must be submitted to legal authority;
5. Duly and timely compliance (before January 31st each year) of payment fees and charges for:
    i. Water abstraction (based on consumption)
    ii. Discharged water
6. Leakages and spills incidents to be properly managed as per definitions and actions set in Emergency Preparedness and Response Plans.
7. Records of water usage and discharge must be digitalized and maintained during LOM stages.

5.9 Data Management

It is Adriatic Metals commitment to ensure that data quality is acceptable, reliable and meets the Project's standards for repeatability and certification.

Recorded data on water quality sampling, water use, water discharges, compliance requirements, water estimates and water recycling, together with other hydrometric data, including control levels of major storage facilities, discharge regimes and water accounting systems, must be recorded and updated in the appropriate database data that allows quick access and verification.

Monitoring records are kept under the Sustainability Department-Environmental Unit database and available through share point.

Data integration into a GIS system is intended for operational management, planning further stages and sustainability disclosure.

5.10 Risk, Contingency and Emergency Response

Adriatic Metals implemented a risk and assurance system, which aims to effectively manage water related threats and opportunities in the short and longer term. Identification and management of risks is capital for achieving strategic objectives.

Water-related risk management will be fully integrated into the business process through the Water Committee considering:

- Supply security - confirmation of supply source under a variety of hydrological and demand scenarios;
- Drought estimation and determination of contingency measures;
- Vulnerability assessment for surface water, groundwater and downstream intakes, including spill modelling, source contamination risk assessment and acid rock drainage/tailings disposal dam breach assessment;
- Upgrade and update of water balance and modelling to determine the risk of exceeding deadlines and compliance with requirements;
- Efficiency management - although low to moderate reliance is given to re-use of water to supply various operational requirements with moderate to low quality requirements. A reliable water efficiency assessment should be undertaken to confirm the recycling and re-use assumptions; and
- Flood risk control and operational control of surface water.

5.10.1 Actions

1. Minimizing interruptions/outages is of utmost importance for continuous uninterrupted operation. After the risk analysis, it is necessary to develop a contingency plan in order to specify necessary aspects of water infrastructure that require additional savings, additional capacity or conceptual alternatives, i.e. additional treatment or storage.
2. Emergency response plan, response to flood risk (largely mitigated in design by sizing drainage infrastructure for high-intensity/low-frequency events), leaks detection and/or spills of contaminated liquids, or contingencies to maintain water supplies during dry periods.
3. Flood risk and simulation of extreme events - it is recommended to carry out modelling, including a time-based 2d analysis of climate change effects together with emergency response process including flood timing, analysis of egress and access roads, analysis of critical infrastructure and assets.
4. Contamination and loss of protection - mainly related to the risk of acid rock drainage spillage from collection tank and fuel storage facilities, mine discharge or TSF overflow.
5. Sufficient funds should be allocated to ensure training, including outreach to communities using the same water supply source.
6. Community-led programs should be considered in the Environmental and Social Management Plan, which should set goals and monitor progress in achieving community water supply systems, noting the generally poor level of sanitation, infrastructure and water supply assurance during dry season.
7. Appropriate methods should be applied to monitor performance of the assistance programme that may also include indirect support to local government, utilities and development agencies through the training program and campaign to raise awareness in planning and provision of water supply and sewerage in the community.
8. Ensure that there is training and communication to inform employees about the Project, and commit to water conservation practices that this species will gain from forest restoration work, and as such monitoring is unlikely to be necessary.

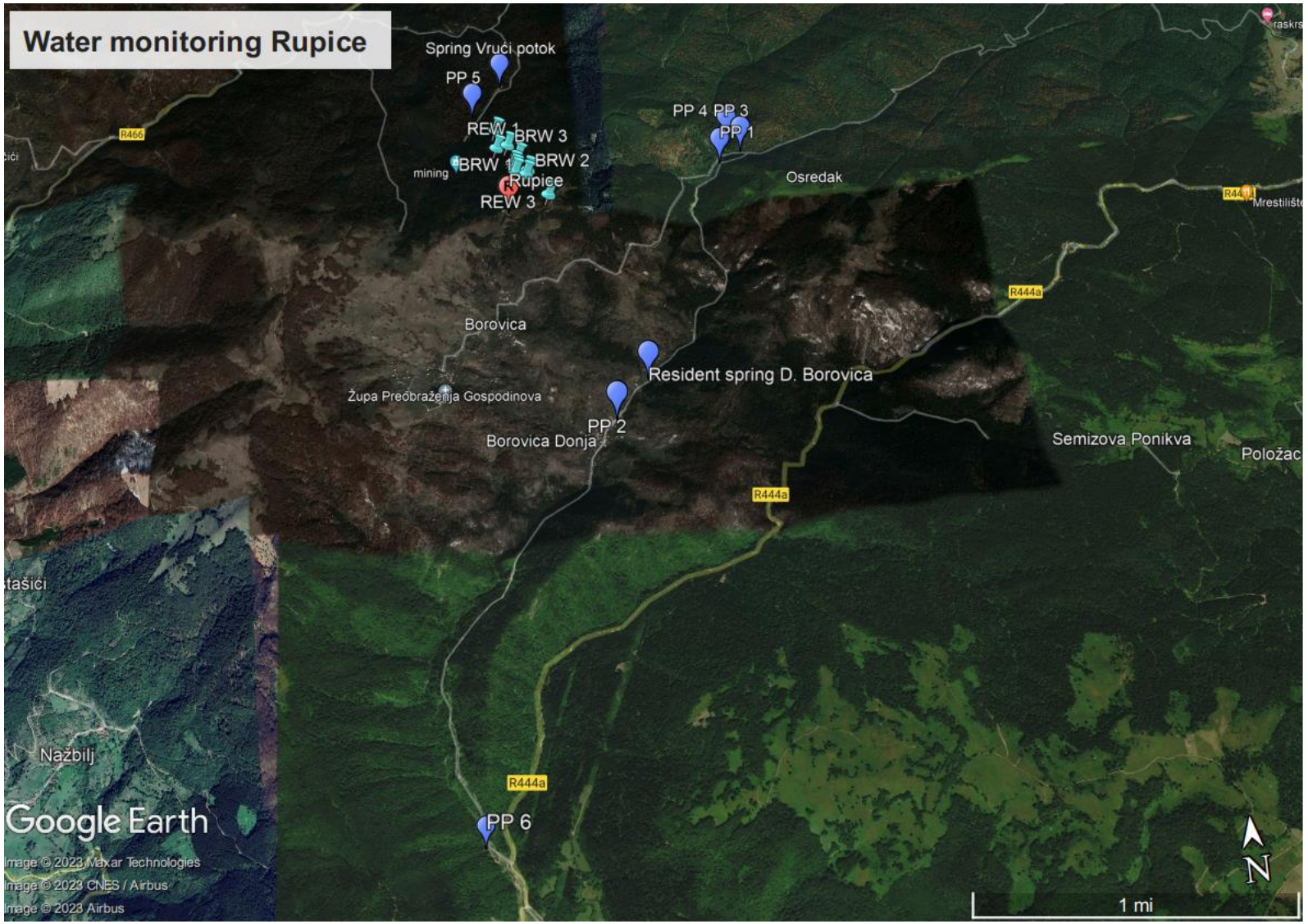
ESIA - Water and wastewater management plan - key activities				
ID number	**Activity items**	**Activity content**	**Explanation of the activity**	**Period**
WWP.01	Provide water supply for the Vareš Processing Plant	Agreement on water supply with JKP Vareš for the needs of the processing plant, and the possibility of increasing the capacity of existing water source.	Third party water supply, requirements for system rehabilitation, infrastructure limitations in network, little to no recourse for project water recycling.	Main design phase before commissioning.
WWP.02	Provide water supply for Rupice	Maintenance of the existing water supply systems Sastavci and Vrući potok and water supply contract with JKP from water source Mrestilište Studenac. Control rules related to minimum ecological flows in Vrući potok and in Borovički potok for continuous use of smaller water supply systems.	Third party water supply, requirements for system development, infrastructure limitations in network, basins already experiencing water “stress”.	Main design phase before commissioning.
WWP.03	Water classes and treatment	Detailed design and installation for sewage systems, and design of the Acid Rock Drainage (ARD) system have been completed. A contract for construction of the ARD plant was signed. Continuous compliance monitoring.	Monitoring of the hydrological system.	Construction phase and operations phase.
WWP.04	Water storage	The potential imbalance between water demand and supply and obligations under ESIA require the use of water tanks/storage. Capacities are needed for assurance and supply reliability. Water tanks are installed for each individual activity on the site. The main rainwater collection tank will be designed together with the water treatment plant, the ARD plant.	Each location has its own tank for independent reliable water supply, as well as retention of excess atmospheric water. Continuity of water services should be ensured through rational management.	Construction phase and operations phase.
WWP.05	Water discharge management	Water that has been treated and is of suitable quality to be discharged to the environment is termed managed release water. The existing treatment system is defined by temporary solutions through construction of the project (sedimentation basins, oil separators), while	Maintaining compliance with design guidelines, laws, regulations and water discharge standards.	Main design phase before commissioning.

ESIA - Water and wastewater management plan - key activities				
ID number	**Activity items**	**Activity content**	**Explanation of the activity**	**Period**
		through the final design, water will be treated in the ARD plant, which will meet EU standards for discharge of waste water into the environment.		
WWP.06	Water balance	A demand analysis and detailed water balance has been developed and is currently being updated during the detailed design phase, construction and operations phases.	Ensure that there is sufficient water to meet demand and that systems operate within their optimal capabilities, as well as that sufficient storage and treatment capacity is retained	The main design phase before commissioning and the operations phase
WWP.07	Water accounting	Evaluation of actual water use against design, development of closed loop systems promoting higher efficiency. Continuous improvement and measurement from year to year.	Annual assessment and analysis of water demand and improvement of water efficiency by promoting higher efficiency and ensuring adequate water retention or capacity to meet demanded estimates.	Construction phase and operations phase
WWP.08	Specific operational requirements	Development of control scheme and training planning necessary for the operation of site's drainage system. A standard operating procedure for monitoring and managing the water supply system (SOP) was developed.	Develop drainage system control rules. Water consumption goals will be set. A rational system is needed to check for leaks, high points, potential reuse and minimize risk of flooding or inadequate maintenance.	Construction phase and operations phase

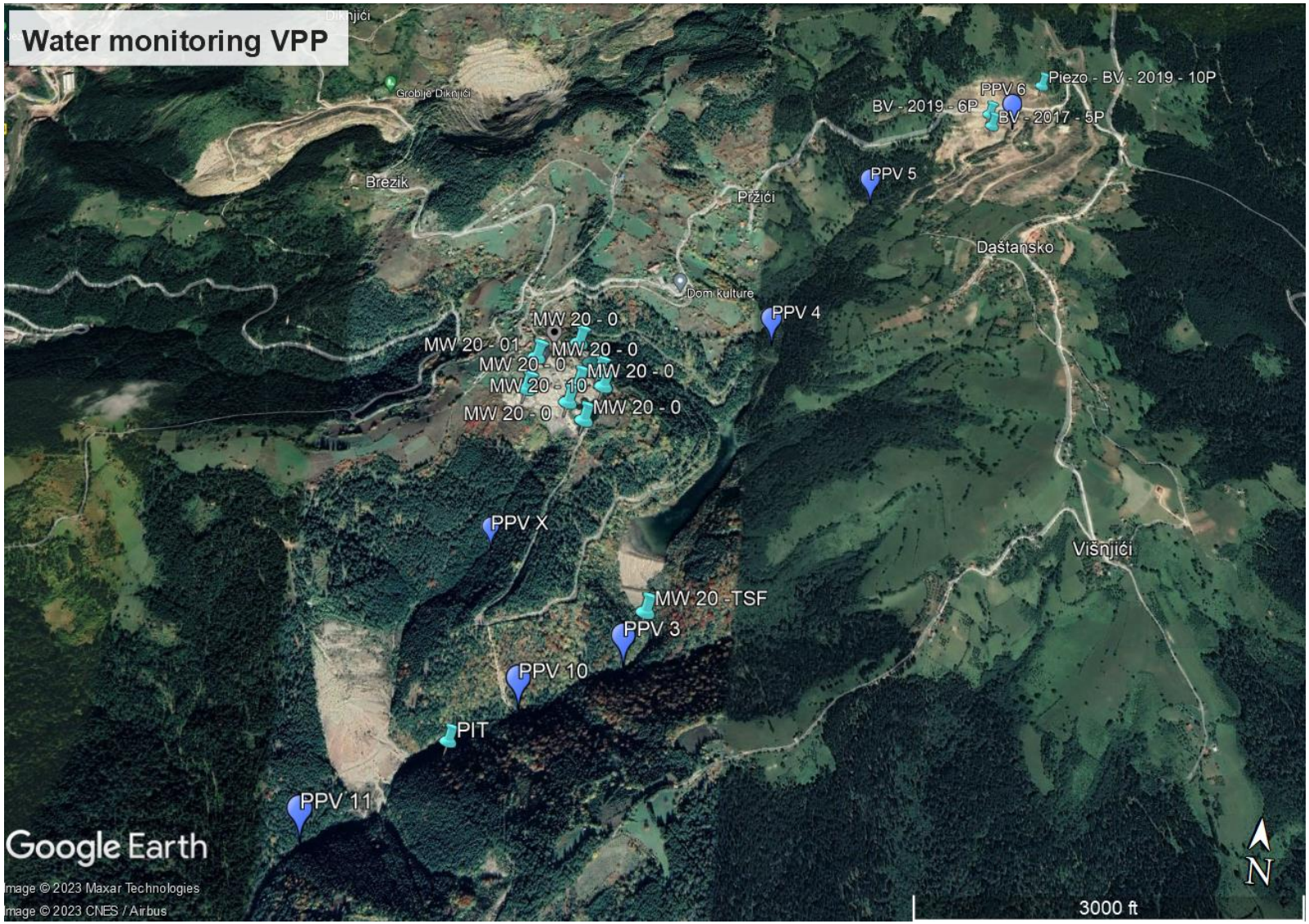
ESIA - Water and wastewater management plan - key activities				
ID number	**Activity items**	**Activity content**	**Explanation of the activity**	**Period**
WWP.09	Operational monitoring	Water demand will be continuously measured and monitored. A system of continuous measurement and monitoring of water resources usage has been established. The contract company will estimate the monthly usage requirements, review their usage on a monthly basis and compare it to what was estimated. Regular monitoring of the total water flow was established on a monthly basis. An inspection regime and appropriate procedures for maintenance of pumps, filters or other equipment have been established for all distribution water pipelines and equipment.	Detection of contamination, non-conformance. Adequate design, construction and operational control are defined to avoid release of treated, raw and recycled water.	Construction phase and operations phase
WWP.10	Permits and authorizations	Permits for drainage (temporary), water supply and discharge are provided. Upon completion of construction, a water permit will be obtained for possible discharge of wastewater, which was previously treated, and annual data reporting.	Necessary for the professional execution and maintenance of aforementioned activities.	Construction phase and operations phase
WWP.11	Data management	Record data on water quality sampling, water usage, water discharge, compliance requirements, water consumption estimating and water recycling along with other hydrometric data including control levels of major storage facilities, discharge regimes and water accounting system.	Required to ensure that data quality is acceptable, reliable and meets Project standards for repeatability and certification.	Construction phase and operations phase

ESIA - Water and wastewater management plan - key activities				
ID number	**Activity items**	**Activity content**	**Explanation of the activity**	**Period**
WWP.12	Risk, Contingency and Emergency Response	Formal water risk and mitigation approaches to supply security, drought estimation and determination of contingency measures, vulnerability assessment for surface water, groundwater and downstream waters, including spill modelling, source contamination risk assessment and risk assessment for water from acidic drainage rocks/dam for tailings storage facility (TSF). Further systematic water balance and modelling is carried out in order to determine risk of deviation from schedule and compliance with the highest requirements. Management of drainage efficiency and risk during floods, and operational control of surface waters.	Minimizing interruptions is of the utmost importance for continued uninterrupted operation of operations. An Emergency Response Plan was developed to specify necessary water infrastructure aspects that require stand-by or additional capacity (such as backup pumps), or alternatives such as backup treatment or storage. Emergency response planning is necessary for flood risk and extreme event simulation.	Main design phase ahead of commissioning.

APPENDIX II- WATER MONITORING POINTS RUPICE



APPENDIX II- WATER MONITORING POINTS VPP



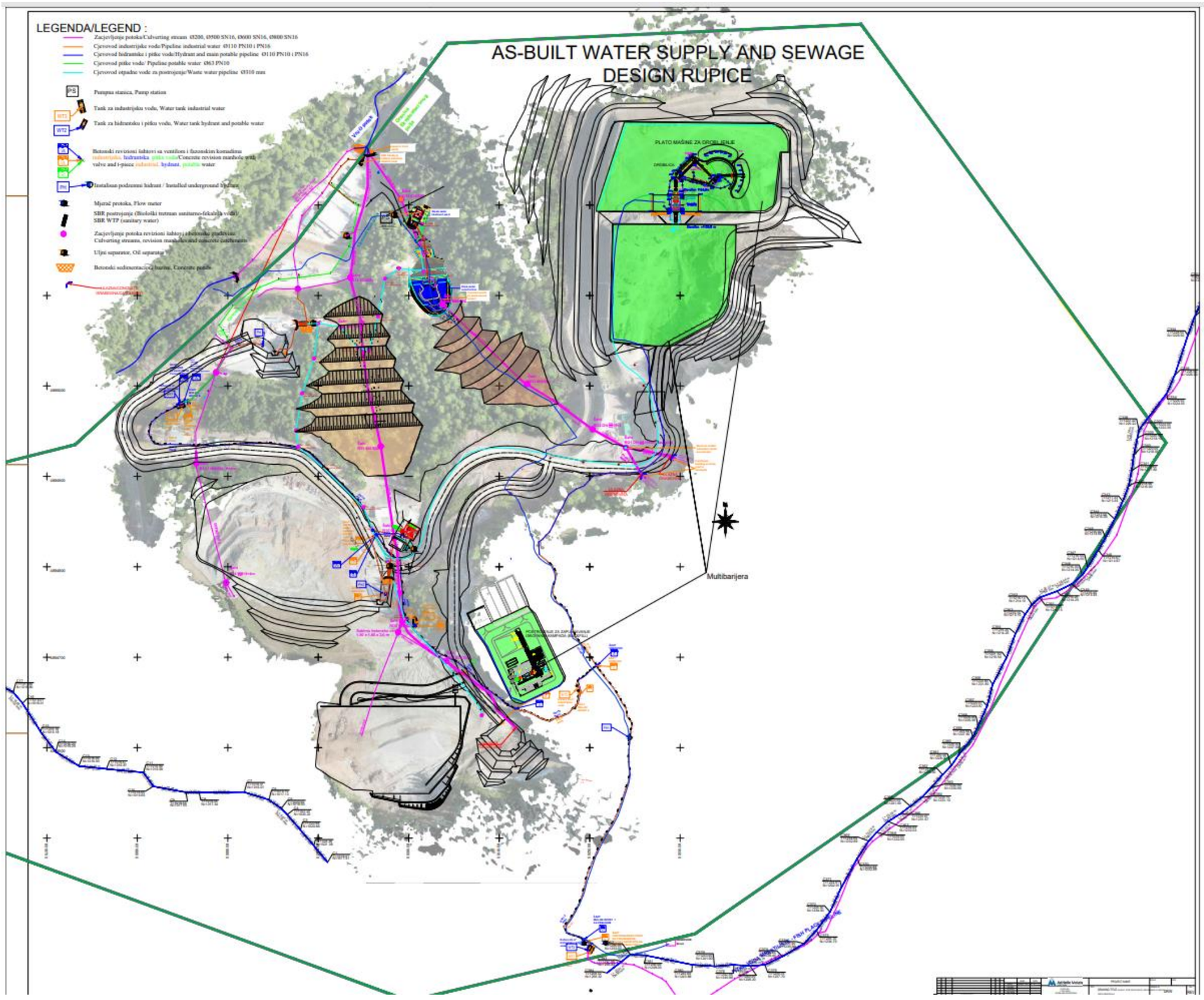
Adriatic Metals
Bosnia & Herzegovina

WATER BALANCE FOR VAREŠ PROJECT

- Municipality of Vareš -

Vareš,
Oktobar/October 2024

RUPICE WATER SUPPLY AND SEWAGE



VPP WATER SUPPLY AND SEWAGE