



Environmental Management Plan

Second Municipal Services Improvement Project

Sub-project: Construction of the water supply network in the
village Rashtak, in Gazi Baba municipality

October 5, 2015

I. Introduction of the Second Municipal Services Improvement Project

A. PROJECT DEVELOPMENT OBJECTIVE

The proposed Development Objective of MSIP2 Project (PDO) is to improve transparency, financial sustainability and inclusive delivery of targeted municipal services in the participating municipalities.

B. PROJECT DESCRIPTION

The proposed Second Municipal Services Improvement Project (MSIP2) of EUR25 million presents the second phase of the on-going Municipal Services Improvement Project (MSIP, P096481) with an aim to respond to the strong demand by the municipalities for the local infrastructure financing. It will be built on the experience of MSIP and its lessons learned to enhance the impact of a well-performing project.

The original IBRD Loan for MSIP (approved on March 26, 2009) was in the amount of US\$25 million equivalent. It was followed by Additional Financing loan of US\$50 million equivalent approved by the Board on May 10, 2012. More recently, a new Component introducing the EU IPA-financed Rural Investment Window of EUR15.5 million, Recipient Executed Trust Fund (RETF), was added on December 22, 2014 to provide grants for priority rural infrastructure investments in eligible municipalities through the existing MSIP implementation mechanism.

MSIP aims at improving the transparency, financial sustainability, and delivery of targeted municipal services. Its implementation is progressing well, and the sub-project results so far demonstrate good progress towards achieving its Project development objectives. Some of the MSIP accomplishments to date include: more than 11,000 households with new water connections; about 240,000 people with access to regular solid waste collection; all participating municipalities/utilities publish their budget information on their websites, and all water service public utilities of the participating municipalities take active contribution in the IBNET benchmarking network.

To date, more than 40 percent of MSIP total loan amount (including both original loan and AF funds) has been disbursed. In addition, about EUR 47.2 million have already been committed for municipal investments under the existing sub-projects pipeline. This represents 98 percent of all available MSIP investment funds, excluding the IPA-financed window. Thus, the MSIP funds are now fully committed and the project cannot respond to new applications from the municipalities. At the same time, municipalities continue to express growing interest and demand in using MSIP financing.

Given a persisting needs for improving municipal infrastructure and based on the positive experience in implementation of MSIP, the Government of FYR Macedonia requested the Bank for a new project in the amount of EUR25 million, that would present the second phase of MSIP.

MSIP2 will continue to focus on improving the transparency, financial sustainability, and delivery of targeted services under the responsibility of participating municipalities and their CSEs, such as water supply, sanitation, and solid waste management, as well as energy efficiency, urban transport, and other services delivered by municipalities. In addition, MSIP2 aims to enhance inclusive service delivery by targeting poorer and marginalized communities for infrastructure improvements through the grant component. The positive aspects of MSIP experience, which the new project will adopt, include the access to loans affordable to municipalities (sub-loans), demand-driven process with participating municipalities selecting priority investments out of the wide variety of municipal investments, support for municipalities throughout sub-project cycle contributing to capacity building, and increased transparency and disclosure of information by participating municipalities as an eligibility condition. The lessons learned include the need to improve construction supervision and quality of technical documentation prepared by the municipalities.

II. Description of local/World Bank requirements for environmental protection

A. NATIONAL ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE FOR THE PROJECT DEVELOPMENT

The Environmental Impact Assessment procedure has been prescribed into the Law on Environment Off. Gazette No. 53/05, 81/05 24/07, 159/08 и 83/09; 124/10, 51/11, 123/12, 93/13, 163/13, 42/14, 129/15 (Chapter XI/Articles 76-94) where the requirements of the EU Directives on EIA (Directive 85/337/EEC as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC) have been transposed.

The procedure starts when the **Investor** (Project Proponent) who intends to implement a project submits a **Notification Letter**, in written and electronic form to the Ministry of Environment and Physical Planning (MoEPP - Administration for Environment), which is the responsible authority for the entire procedure. The Administration for Environment is obligated to publish the Notification in at least one daily newspaper available throughout the territory of the Republic of Macedonia, and on the website of the MoEPP.

The *Screening procedure* is a stage of the EIA procedure during which the MoEPP determines whether an EIA should be carried out or not for a certain project. For the development of projects that do not belong to the list of the projects for which the EIA procedure has to be carried out (**small scale projects**), there is a requirement for the preparation of an “Environmental Impact Report-Elaborate” (**relevant for the Category B projects under the WB OP 4.0.1 Environmental Assessment procedure**).

B. NATIONAL PROCEDURE FOR ENVIRONMENTAL ASSESSMENT OF SMALL SCALE PROJECTS

During the EIA Procedure within the screening phase, if the decision has been that there is no need for EIA procedure to be carried out the investor should start with procedure for development of **Environmental Impact Assessment Report – Elaborate**. This procedure is obliged for small scale projects (e.g.reconstruction or construction of local streets, roads, construction of local drinking water supply systems, sewage systems and small scale WWTPs - less than 10 000 p.e., etc.), causing short-term, minor negative impacts to the environment.

There are two Rulebooks that refer to the projects for which the EIA Report-Elaborate should be prepared:

- A) Rulebook on the list of projects for which the EIA Report – Elaborate should be prepared by the investor and the EIA Report need to be adopted by the Ministry of Environment and Physical Planning (Official Gazette of RM" No. 36/12);
- B) Rulebook on the list of projects for which the EIA Report – Elaborate should be prepared by the investor and the EIA Report need to be adopted by the Mayor of the municipality (Official Gazette of RM" No. 32/12) or Mayor of City of Skopje.

The content of EIA Report – Elaborate should be prepared in line with the Rulebook on EIA Report form and content and procedure for EIA Report adoption (Official Gazette of RM No. 123/12).

The EIA Report – Elaborate contains the main characteristics of the project activities, the main positive and negative environmental impacts identified taking into account the site-specific baseline environmental data. Very simplified Environmental Protection Program comprises various measures that will prevent, mitigate and compensate the adverse impact on all environmental elements need to be developed based on the national environmental legislation and good international practice. No public hearing is proposed during the preparation and adoption of the EIA Report-Elaborate (according national legislation). On Figure 1 the simplified scheme of the EIA Report-Elaborate procedure is presented as well as the competent authority for adoption of EIA Report-Elaborate.

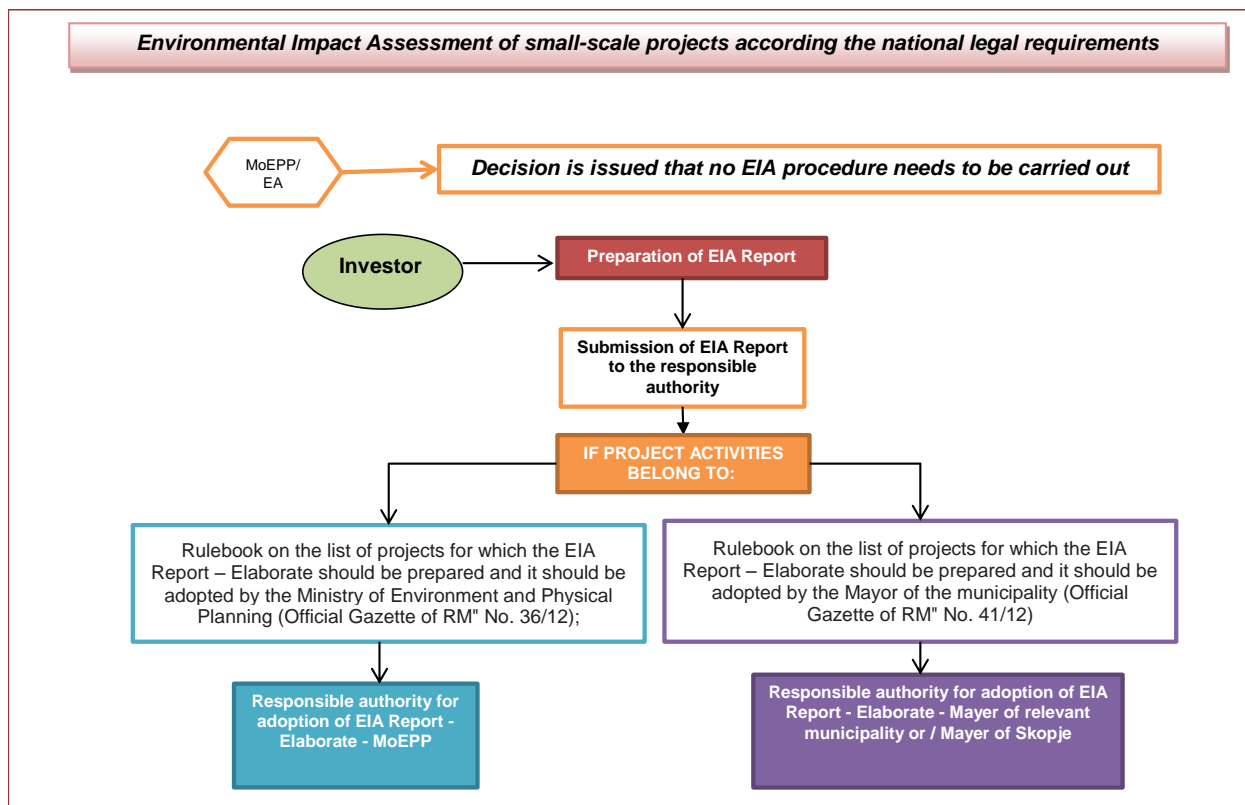


Figure 1 EIA small-scale projects national requirements

C. WORLD BANK SAFEGUARDS PROCEDURES

The World Bank has developed and implemented across the world the Safeguard Policies with main aim to ensure prevention, mitigation and compensation of adverse impacts of project development.

OP/BP 4.01 Environmental Assessment

The Bank requires ***Environmental Assessment (EA)*** of projects proposed for Bank support to ensure that they do not have, or mitigate potential negative environmental impacts. The EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. The EA evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, sitting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. The EA takes into account the natural environment (air, water and land); human health and safety; social aspects; and trans boundary and global environmental aspects.

The Bank classifies the proposed projects into three major categories, depending on the type, location, sensitivity, scale of the project and the nature and magnitude of its potential environmental impacts.

- ***Category A:*** The proposed project is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.

- ***Category B:*** The proposed project's potential adverse environmental impacts on human population or environmentally important areas-including wetlands, forests, grasslands, or other natural habitats- are less adverse than those of Category A projects. These impacts are site specific; few if any of them are irreversible; and in most cases migratory measures can be designed more readily than Category A project (***All projects within the MSIP 2 belong to this category of projects.***)

- **Category C:** The proposed project is likely to have minimal or no adverse environmental impacts.

Other Bank Safeguards policies that should be taken into account during the project assessment are: a) ***natural habitat conservation and improved land use*** (OP/BP 4.04), b) ***protection and efficient usage of international waters*** (water abstraction, release of water or materials into water and hydrological impacts - OP/BP 7.50, c) ***protection of physical cultural resources*** from development project (OP/BP 4.11), d) ***protection of forests*** through consideration of forest-related impact of all investment operations (OP/BP 4.36), e) ***necessity of resettlements of people, loss of assets and impact on the livelihood*** of local residents due to the development activities (OP/BP 4/12), as well as IFC guidance on ***environment protection, occupational and community health and safety***.

III. Environmental impact of the sub-project

This project includes activities for construction of 5 primary water supply lines in total length of 2,347.2m within the drinking water supply network in village Rashtak (at the upper part of village), located in Municipality Gazi Baba, which is one of the municipalities in the City of Skopje. The village Rashtak is situated at the north east part of City of Skopje with 13.3km distance from the City of Skopje downtown. The village has been located at the hillsides of Skopska Crna Gora Mountain at the level of 650-700m.a.s.l.

Currently, around 300 inhabitants live in the village Rashtak and the water supply network exists in the lower part of the village only and the existing water reservoir with 100m³ capacity cannot cover the water needs and serve the upper part of the village. Drinking water comes from the Water Treatment Plant which is under pressure (2 bar) and through the pipes with Ø75mm goes to the existing water reservoir located at approximately 662m above sea level, so in the upper parts of the village there is lack of pressure.

Construction of new water supply network will be carried out on the streets in the village Rashtak which are surrounded with family houses (mostly located in the lower part of the village), summer houses/apartments (located in the upper part of the village) and agricultural area. In total 9,847.69m of the water supply network and new reservoir with 120m³ volume capacity are planned to be constructed by the municipality Gazi Baba, but this project will comprise only construction of primary water supply pipe lines (on only 5 branches) in the higher zone of the village. The total length of 5 branches is 2.347,22 m (polyethylene pipes PE 100 with pressure of 10 bars). The details about the length and pipes diameters of these 5 branches of water supply network are provided below.

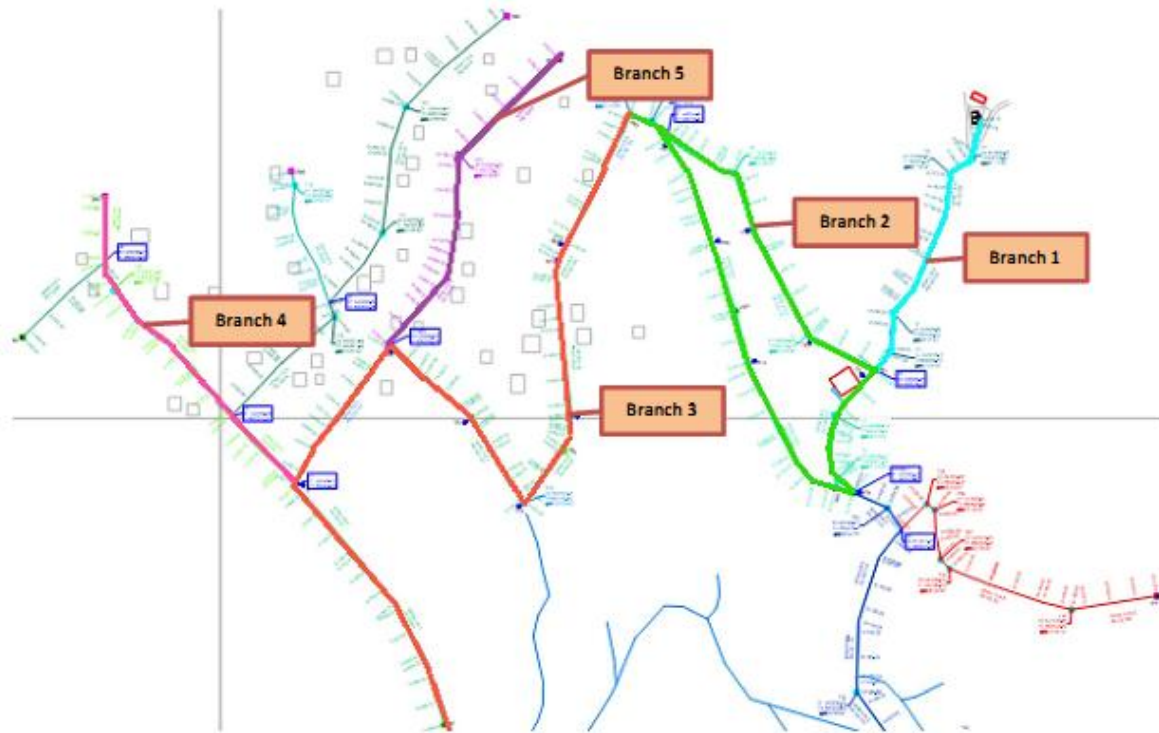


Table 1: Diameter and length of the 5 primary water supply lines to be constructed within the project

Water supply pipe lines	Branch 1	Branch 2	Branch 3	Branch 4	Branch 5
Length (m)	217.95	714.25	898.66	277.61	238.75
Diameter Ø (mm)	125	110	125, 110 and 63	63	75 and 50

In the Figure 3 the location of the 5 branches of the primary water supply network in village Rashtak is presented.

Figure 3: Five branches of the water supply network in the high zone of the village Rashtak



The implementation of this project will improve the life condition due to providing drinking water for local inhabitants, but also for the owners of summer houses in the upper part of the village and the new residents and investors who are building family houses and houses for rent in the village. The risk to water borne diseases will be minimized and the continuous supply of high quality water will increase the economic value of the properties. Some photos from the village Rashtak are presented on following figures.





A. MAIN PROJECT ACTIVITIES WITH ENVIRONMENTAL IMPACT

The main adverse environmental impacts that may occur during the project activities for construction of primary water supply network at 5 branches in high zone in village Rashtak are presented through: incompliance of OH&S requirements, improper waste management of different waste streams, possible air (dust) emission and increased level of noise and vibrations. All of these impacts are expected in the construction phase of the project.

Table 2 presents planned project construction activities in the village Rashtak.

Table 2: Main project activities for construction of water supply network

Project type and location	Planned project activities
<p><i>Construction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba</i></p>	<ul style="list-style-type: none"> - Clearing and marking out the route of construction sites where the project activities will be performing; - Excavation of soil and asphalt layer; - Excavation of ditches for placement of the polyethylene pipes (PE 100); - Testing the water supply system for possible water leakages; - Encumbering the ditches after the placement of the water supply pipes (if the testing fulfill the requirements given in the Technical Design); - Clearing the construction sites after the completion of the project activities.

B. MAIN ENVIRONMENTAL IMPACTS AND SENSITIVE RECEPTORS

The construction activities of this project will be implemented in the rural area of the municipality Gazi Baba, in the village Rashtak. The main obligations that need to be fulfill from the Constructor before the start of the project activities is preparation and implementation of the **OH&S Plan** in order to prevent possible injuries of the workers. Also the construction site should be properly organized, marked and secured by the Contractor (the Supervisor should monitor it on daily basis) to ensure better safety of the local population. For smooth running of the transportation of people and goods within the project location and across the municipality it is necessary to prepare and implement the good **Traffic Management** along the streets in the village (limitation of the speed of vehicles, vertical and horizontal signalization, etc.). The access to the family houses should be ensured as well as to the markets, office buildings, play yard for kids in the village. Also prior the start of the project activities

the launching of **Information note/Press release need to be done** in order to inform the public, drivers and inhabitants of the village about the project activities. The Information note could be launched at the municipal web site: <http://www.gazibaba.gov.mk> and on the notice board in the local community in the village.

During construction activities possible **air emissions** may appear as exhaust gases and dust from the operation of the construction equipment and the machinery. They will be used for excavation of the soil, removal of the existing asphalt, transportation of the workers, transportation of the excess excavated soil to the appropriate landfill and supply of the construction material (polyethylene pipes, fittings, etc.). The mitigation measures for decreasing the air emissions are given in the Mitigation Plan below.

The operation of the construction machinery and equipment will also contribute to the **increased level of noise and vibration**. According to the national Law on noise sensitive protection (Official Gazette No. 79/07, 124/10, 47/11, 163/13 and 146/15) the project location belongs to area with II degree of noise protection (noise limit values should not exceed 50dBA for night and 55dBA for day and evening).

The different **waste streams** that will be generated during construction activities are: communal waste, excavation of soil, construction and demolition waste (removing of asphalt layer) and contaminated soil from occasionally oil leakage (from construction machinery). During the site visit (September 2015) of the village, it was identified that the CSE “Communal hygiene – Komunalna higiena Skopje provides the communal service to the village Rashtak once per week and it guarantees that the communal waste will be collected properly. The Contractor should sign the Contract with the authorized collectors and transporters of various waste streams. Prior the start up of activities, the Contractor should submit official request to the municipality Gazi Baba where to dispose the inert waste and to follow the received instructions. The type of generated waste streams, their characterization (hazardous, non-hazardous, inert waste, biodegradable, etc.), the quantity of waste stream generated, temporary disposed or collected and finally disposed by the authorized company should be recorded by the Contractor. The preparation and implementation of **Waste Management Plan** is crucial including the tables with keeping records on type and quantity of waste. The responsibility of transportation and final disposal of waste at landfill “Drisla” (located by the basin of the Markova River, on the opposite downhill side of the village Batinci, about 18 km south from the project location) lays on the CSE “Communal hygiene – Komunalna higiena” from Skopje.

The estimated quantities of the waste form the excavation of soil and removal of the existing asphalt (generated from the project activities) are presented below.

Table 3: Estimated values of waste streams coming from the preparatory works

Type of waste	Name of project: Construction of primary water supply network at 5 branches in high zone in village Rashtak in municipality Gazi Baba				
	High zone				
	Branch 1	Branch 2	Branch 3	Branch 4	Branch 5
Excavation of soil (presented in m ³)	131.57m ³	397.04m ³	592.08m ³	146.40m ³	249.71m ³
Removal of existing asphalt layer (presented in m)	/	/	453.10m	/	577.50m

In or near the project location there are no registered endemic, protected and endangered animal or plant species or protected areas and habitats that will be negatively affected by the construction activities in the village.

About 9km south from the project area the **Forest park “Gazi Baba”** is located with total area of

102.44ha. This landscape is significant for the City of Skopje (abounds with many dendro species and shrubs) because it protect the city from the emissions from Iron Industry and their prevention to disperse to the wards the other parts of the City of Skopje. Therefore in order to protect this landscape it was declared as forest park "Gazi Baba" (Official Gazette of RM No. 44/15). Because the project location is in wider surrounding of the forest park "Gazi Baba" it can be concluded that the project activities will not have adverse effect on this protected area.

Prior the commissioning of the primary water supply network, the drinking water analysis should be performed in order to ensure that the water is with high quality, disinfected (by chlorine, ozone or UV rays) and the quality is in line with the legal requirements for drinking water quality (Official Gazette of RM no. 48/2008). The Public Health Institute Skopje, the National Public Health Institute and the accredited laboratory within the CSE "Vodovod i kanalizacija" Skopje are responsible for testing the drinking water quality on regular basis (they have accredited laboratories for water quality testing methods), so the municipality needs to agree the sampling and testing of water quality (physic- chemical and microbiological parameters in the basic analysis and some chemicals in the detailed analysis) prior commissioning of the new water network, after each maintenance works on the network and on regular basis during the operational phase.

During the **operational phase** the project will have very positive impact on the living conditions of the local residents, tourists, human health and elimination of waterborne diseases. The regular and preventive maintenance of the water supply network should be established by the CSE "Vodovod I kanalizacija" in coordination with the municipality staff.

In September 2015, EIA Report was prepared for the construction of the water supply network in village Rashtak by the company "CeProSARD" from Skopje. The EIA Report will be reviewed and adopted by the Mayor of the City of Skopje, Mr. KoceTrajanovski very soon. The Report contains the main project goals, main project activities, photos of the location where the construction activities will be performed and environmental mitigation measures.

The Contractor should follow the measures provided within the EIA Report as well as the mitigation measures presented in the Tables enclosed (Environmental Mitigation and Monitoring Plan). The Supervisor has the main obligation to monitor the implementation of the proposed measures.

The good coordination and communication between all involved (Contractor, Supervisor, municipal staff - PM, Local community in Rashtak, Environmental Inspector, Communal Inspector and other relevant persons from the municipality Gazi Baba, CSE "Vodovod I kanalizacija" Skopje) is very important as well as the regular discussion about the project progress and any problems occurred.

C. MITIGATION PLAN

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Project activity: Marking out the routs for construction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba			
<p>Possible adverse social and health impacts to the population, drivers and workers in construction phase of water supply network due to:</p> <ul style="list-style-type: none"> - Lack of ensured safety measures at the start of construction works Injury passing near by the construction sites; - Not compliance with strict OH&S standards and work procedure Inappropriate public access within the village Rashtak 	<p>Local/ within the village Rashtak</p> <p>Long term during the construction period (total length of the 5 branches 2347.22m)</p> <p>Significance - major</p>	<ul style="list-style-type: none"> ➤ Preparation, approval and implementation of the OH&S Plan, ➤ Preparation, approval and implementation Traffic Management Plan together with the municipal staff prior start up activities; ➤ Provision of the information via municipal newspaper “Gazi Baba” and municipality web site (www.gazibaba.gov.mk) about the construction activities – start and finish of work for each day and location of activities and duration of work; ➤ Application of good construction practice for marking out the construction sites including: <ul style="list-style-type: none"> • Ensure the appropriate marking out the construction sites /section by section along the streets on which water network will be constructed; • Placement of attention signs especially for limitation of speed driving near the construction sites; • Warning tapes and signage need to be provided; • Installation of Notice board with general information about the project, Contractor and Supervisor at the construction sites; • During construction activities access to the family houses, markets, play yards for kids, village church should be provided; • Forbidden entrance of unemployed persons within the warning tapes; • Community and Worker’s OH&S measures should be applied (first aid, protective clothes for the workers, appropriate machines and tools); • The construction sites should be kept clean; • The mobile toilet should be placed on the construction sites; • Machines should be handled only by experienced and trained personnel, thus reducing the risk of accidents; • Constant presence of fire fighting devices should be ensured in case of fire or other damage; • All workers must be familiar with the fire hazards and fire protection measures and must be trained to handle fire extinguishers, hydrants and other devices used for extinguishing fires; • Larger quantities of flammable liquids should not be kept on the sites along the construction sites. 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor • Municipality staff (Communal Inspector and Environmental Inspector)
Project activity: Construction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba			
<p>Possible impacts on landscape and visual aspects</p>	<p>Local/within the village Rashtak</p>	<ul style="list-style-type: none"> • Good construction practices have to be implemented – including fencing and protection of construction sites according to national legislation; • Minimization of the construction areas as much as possible (careful planning and designing 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	medium term /minor	<p>of the project activities for a certain period of time);</p> <ul style="list-style-type: none"> Fully clean-up of the construction sites immediately after accomplishment of construction activities (section by section); Collection of the generated waste on daily basis, selection of waste, transportation and final disposal on appropriate places. 	
<p>Possible emissions by transportation vehicles and impact on air quality in the village Rashtak due to:</p> <p>Gases emissions of dust-suspended particulates Traffic congestion will be caused as well causing changes in existing traffic flow</p>	<p>Local/ within the village Rashtak</p> <p>short term/ major</p>	<ul style="list-style-type: none"> Construction sites, transportation routes and materials handling sites should be water-sprayed on dry and windy days; Construction materials should be stored in appropriate places covered to minimize dust; Vehicle loads likely to emit dust need to be covered; Usage of protective masks for the workers if the dust appears; Restriction of the vehicle speed within the construction sites; Perform regular maintenance of the vehicles and construction machinery in order to reduce the leakages of motor oils, emissions and dispersion of pollution; Burning of debris from ground clearance not permitted. 	<ul style="list-style-type: none"> Contractor – Bidder Supervisor
<p>Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the sites</p>	<p>Local/within / within the village Rashtak</p> <p>short term /minor</p>	<ul style="list-style-type: none"> Village Rashtak belongs to second level of noise protection (residential area and agricultural land) and the maximum allowed noise level should be 50dBA for night and 55dBA for evening and day; The control of noise level should be performed during work peaks; The temporary noise protection barriers should be installed around the kindergarten The construction work should be not permitted during the nights; the operations on sites shall be restricted to the hours 7.00 -19.00. 	<ul style="list-style-type: none"> Contractor -Bidder Supervisor

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
<p>Possible adverse environmental impact and health effects could occur as a result of generation of the different waste streams</p> <p>The inappropriate waste management and not in time collection and transportation of waste streams</p>	<p>Local within the village Rashtak</p> <p>short term/ major</p>	<ul style="list-style-type: none"> • Identification of the different waste types at the construction sites (soil, sand, asphalt, bottles, food, etc.); • Classification of waste according to the national List of Waste (Official Gazette no.100/05); • The main waste would be classified under the Waste Chapter 17 “Construction and demolition wastes (including excavated soil from contaminated sites)” with the waste code 17 05, 17 05 06 - Excavated soil, 17 09 04 – Mixed waste from construction sites; • Small amount of solid municipal waste could be found (food, beverages), as well as packaging waste (paper, bottles, glass, etc.); • Collection, transportation and final disposal of the inert and communal waste by CSE “Communal hygiene” from Skopje to the landfill “Drisla” (approx. 18km south of the project location); • Possible hazardous waste (motor oils, vehicle fuels etc.) should be collected separately and authorized collector and transporter should be sub-contracted to transport and finally dispose; • The materials should be covered during the transportation to avoid waste dispersion; • Burning of construction waste should be prohibited. 	<ul style="list-style-type: none"> • Contractor - Bidder • Supervisor • City of Skopje staff (Environmental Inspector and Communal Inspector) • Mayor of the municipality Gazi Baba • CSE “Communal hygiene – Kominalna higiena” from Skopje
<p>Operational phase</p>	<ul style="list-style-type: none"> • No adverse environmental risks are expected in the operation phase of water supply system; • In operational phase only positive impact is expected through supplying the population of village Rashtak with clean and safety drinking water; • For providing the proper work of the water supply network and proper drinking water quality, following conditions should be performed: <ul style="list-style-type: none"> ○ Disinfection of the water supply network should be done prior putting into operation the new water supply system. The main obligation belongs to CSE “Vodovod i kanalizacija” Skopje according the Rulebook for water safety (Official gazetteof RM no. 46/08); ○ The CSE “Vodovod I kanalizacija” Skopje should prepare the Plan for preventive and regular maintenance of the newly constructed drinking water supply network; ○ The possible incidental breakdowns of the water pipe line could cause very limited micro adverse impacts and the municipality Gazi Baba should ask the sub-Contractor to take care about the proper marking of micro location, proper waste management and the most important to organize the water supply for the local residents in the breakdown period; ○ In order to provide drinking water with proper sanitary conditions constant regular monitoring of the drinking water quality should be carried out by accredited laboratories (Centre for Sanitation Control as an organizational entity within the CSE “Vodovod I kanalizacija” Skopje, Public Health Institute and National Public Health Institute). 		

D. MONITORING PLAN

What Parameter is to be monitored?	Where Is the parameter to be monitored?	How Is the parameter to be monitored?	When Is the parameter to be monitored (frequency of measurement)?	Why Is the parameter to be monitored?	Cost		Responsibility	
					Constr.	Oper.	Contraction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba	Operations of the water supply network
Project stage: Start-up of the Construction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba (marking out the construction sites)								
Traffic Management measures applied (vertical and horizontal signalization on site, fencing the construction sites, etc)	On the construction sites	Visual check and reporting to the municipal staff	At the beginning of the project activities (before the works start)	To ensure safety and easy driving along the construction sites			Contractor - Bidder /Supervisor Municipality staff	
Safety traffic flow within the project location and community safety measures applied	At the spot	Visual monitoring	At the beginning of the construction work (first day) Every working day during the project activities	To ensure the coordinated traffic flow within project location To prevent community health and safety risks – mechanical injuries			Municipality staff/ Communal inspector at the Municipality Gazi Baba/ Environmental Inspector	
The occupational health and safety measures applied for the workers	On the construction sites	Visual check	Before start of the project activities and each of working day	To avoid occupational and safety risks (injuries)			Contractor - Bidder /Supervisor Communal /Environmental Inspector at the Municipality of Gazi Baba	

What Parameter is to be monitored?	Where Is the parameter to be monitored?	How Is the parameter to be monitored?	When Is the parameter to be monitored (frequency of measurement)?	Why Is the parameter to be monitored?	Cost		Responsibility	
					Constr.	Oper.	Contraction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba	Operations of the water supply network
Project stage: Construction of water supply network in village Rashtak in the municipality Gazi Baba								
Separated hazardous and non-hazardous waste	On the construction sites	Visual monitoring and reporting	During the project activities	To avoid disposal of hazardous waste on municipal landfill Drisla			Contractor - Bidder /Supervisor Municipal staff (Communal inspector and Environmental Inspector)	
Fulfilled Annual Report for transportation and disposal of waste	Local self-government administration	Review of documentation – Identification waste List	After the accomplishment the task of collection, transportation of waste on daily/monthly basis	To improve the waste management on local and national level To be in compliance with national legal requirements			Mayor /Director of CSE “Komunalna Higiena”	
Noise level	On the sites	Monitoring of the noise levels dB (A) with appropriate monitoring equipment	On regularly basis during the work, through sites visits, in accordance with the national legislation	To monitor if the noise level is above/or below the acceptance noise level for that type of area – II degree of noise protection (noise limit values should not exceed 50dBA for night and 55dBA for day and evening)			Contractor – Bidder Company authorized to performed noise levels measurements sub-contracted by the Contractor – Bidder	
Project stage: Operation of the primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba								
Drinking water quality	Before the distribution through the	Calibrated laboratory equipment for	Regular monitoring of the quality of drinking water	To ensure the distribution of high quality drinking water				Mayor /Director of Public

What Parameter is to be monitored?	Where Is the parameter to be monitored?	How Is the parameter to be monitored?	When Is the parameter to be monitored (frequency of measurement)?	Why Is the parameter to be monitored?	Cost		Responsibility	
					Constr.	Oper.	Contraction of primary water supply network at 5 branches in high zone in village Rashtak in the municipality Gazi Baba	Operations of the water supply network
	pipelines network The water sample should be analysed by the authorized laboratory	physical-chemical and microbiological parameters for water quality analysis	according to national water quality related requirements (Rulebook for water safety - Official gazette of RM no. 46/08)	to the population minimizing the health risks of waterborne diseases				Enterprise "Vodovod i kanalizacija" Skopje
Preparation and implementation of the Preventive Maintenance Plan	At the start of operational phase	Review the records on preventive and regular maintenance	On regular basis	To ensure continuously supply the local residents with high quality water				Mayor/CSE "Vodovod i kanalizacija" Skopje

**Municipal Services Improvement Project 2
(MSIP2)**

PUBLIC CONSULTATION

**For the environmental impact of the sub-
project: Construction of the water supply
network in the village Rashtak in Gazi Baba
municipality**

Minutes of meeting

IV. PREPARED BY: MSIP PMU
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The Public consultation was opened by the Director of the MSIP project who explained the reason for the organization of this public consultation and provided some information regarding the sub-project for Construction of the water supply network in the village Rashtak in Gazi Baba municipality. She also added that part of the complete technical design is the construction of a new water tank, which will be financed with IPA grant funds, also administered by the MSIP PMU.

Afterwards, the Civil engineer in the MSIP PMU provided more details regarding the technical part of the project. The whole project covers a total length of 9.7km of network, while this sub-project assumes construction of 5 primary water lines in the upper part of the village with polyethylene pipes PE 100 with different diameters, with pressure PN 10 bars and a total length of 2347.22m.

The Environmental Consultant presented the aspects of environmental protection for the sub-project construction of the water supply network at five branches in the village Rashtak. Her presentation consisted of:

- Project aims and goals;
- Project description;
- Project technical characteristics;
- Position of the 5 primary water supply branches in v. Rashtak;
- Main project activities which affect the environment;
- Main influences on the environment and sensitive receptors;
- Environmental mitigation plan;
- Monitoring plan.

DISCUSSION

The local inhabitants of the village Rashtak as well as the representatives of the local community discussed with the MSIP team and the representatives of the Municipality of Gazi Baba the exact branches that will be included in this sub-project, i.e. one representative of the local community in village Rashtak pointed out that perhaps the diameters designed for Branch 4 are too small since there are a large number of houses there. The MSIP civil engineer explained that the pipe diameters that are in the design are according to valid calculations based on the number of inhabitants, with estimated potential growth, and it is projected to meet the water supply needs of local inhabitants as of 2042.

Another participant asked whether the entire high zone will be included within this project. The representative of the Municipality of Gazi Baba pointed out that there are a total of 14 branches of the primary network in the high zone in v. Rashtak. Out of these, 5 will be constructed within this sub-project, but the municipality plans to finish the entire network in several phases. That is why the water tank will be constructed with the IPA grant funds and the remaining primary network in the village Rashtak will be completed as well. The Director of the MSIP project pointed out that it would be convenient to include both projects in one bidding procedure in order to obtain one Contractor that

would complete them simultaneously, which would provide better functionality of the project as a whole. This idea was greeted by the participants.

Another inhabitant requested deadlines for project implementation, based on their previous experiences where they have had large delays in the implementation of projects in their area. The MSIP Civil engineer pointed out that there are beginning and ending dates for project implementation, they are part of the contract agreement between the Municipality and the Contractor and the Contractor is obliged to finish all construction activities within those deadlines. MSIP financed projects have been successfully completed, with constant supervision of the construction activities by the MSIP civil engineers who monitor whether the activities are in line with the local legislative and the World Bank provisions and rules in all phases in order to provide timely and quality completion of the projects.

All participants were satisfied with the explanations provided and pointed out that they look forward to the beginning of this sub-project.