DOCUMENT FOR PROJECT ASSESMENT

Reconstruction of the street "UzhichkaRepublika" in Kichevo

September2020

Municipality of Kichevo

I. PROJECT DESCRIPTION

A. GENERAL

The Municipality of Kichevo is located in the western part of the Republic of Macedonia and belongs to the southwestern planning region. Something characteristic for this municipality is that in 2013, with the new territorial organization, there was a merger of five municipalities: Kichevo, Drugovo, Vraneshtica, Zajas and Oslomej, which are now part of the Municipality of Kicevo, whose administrative center is located in the city of Kichevo. The municipality borders with several municipalities: MakedonskiBrod, Plasnica, Krushevo, DemirHisar, Debarca, Debar, Rostusha-Mavrovo, CentarZhupa and Gostivar.

When you add up the number of residents from the previous five separate municipalities, according to the data from the last census conducted in 2002, the total number of residents in the Municipality of Kichevo is 56,739 (Table 1).

Table 1: Number of residents according to the data from the 2002 Census

Kichevo	30138
Drugovo	3249
Vraneshtica	1322
Zajas	11605
Oslomej	10425
Total	56739

The Municipality of Kichevo covers an area of 837 km2 and there are 79 settlements on its territory. The city of Kichevo is 110 km away from the capital Skopje. Due to the specificity of the area where the municipality is located, and where there is a pronounced transition from high mountains to low valley part, two tectonic units can be distinguished in the relief structure, namely mountain part and hilly-valley part. The Kichevo valley is a clearly formed natural unit, surrounded on all sides by high mountains. It belongs to the upper catchment area of the river Treska. On the north side it reaches the Strazha pass and the mountains Bukovich and Dobra Voda, on the west side the mountain Bistra rises, on the south side the mountains Baba Sach and Musica extend, and on the east side the valley reaches the northern part of Poreche. With its 51,346 hectares of forest area, the Kichevo region is the richest in the Republic of Macedonia. About 3,000 hectares of them are privately owned, and the remaining 48,451 hectares are owned by PE "Macedonian Forests". The most representative species are oak and beech. The Kichevo valley has 12,251 hectares of arable land (arable lands and gardens, orchards, vineyards and meadows) and 15,151 hectares of pastures.

The municipality of Kichevo is rich in water. Several river watercourses are registered here. In the village of Izvor, which is located in the micro-region of Drugovo, we can find the springs of the river Treska, one of the largest river watercourses in the country, which is the largest right tributary of the river Vardar. In the region there are several rivers, watercourses and streams that flow into the river Treska and across the river Vardar in the Aegean Sea: Belichka river, Ehloechka, Cerska, Rabetinska, Tuinska, Tajmishka, Bachishka and Greshnickariver. The springs of the river Studencica can be found in the village of Dobrenoec. The river's spring is captured and provides drinking water for several settlements, through the regional water supply system. Apart from the population in the Municipality of Kichevo, the municipalities of MakedonskiBrod, Krushevo and Prilep are also supplied with drinking water from this water supply system.

The city of Kichevo is an urban and administrative center, towards which the surrounding settlements gravitate. It is located in an altitude of 620-650 meters. The city of Kichevo is the most densely populated place in the municipality where 52% of the total population in the municipality lives. The population density is 615 inhabitants per 1 km2. Regarding the age structure of the population in the city, the average age of the inhabitants is 33.9 years. 61% of the population is younger than 40 years, young people up to 20 years are represented by 30%, and the age category over 60 years is represented by 12% of the population in Kichevo. These data and indicators for the municipality are very similar to the average values in the Republic of Macedonia.

The road connection of the municipality with other regions of the country is good despite the mountainous environment of the region. With the capital Skopje, the region is connected with the regional road Kichevo - Gostivar - Tetovo - Skopje. On the south side of Kichevo there is a road junction that leads to three directions. One direction leads to the Ohrid-Struga tourist region, the other direction through Sopotnica and DemirHisar leads to Bitola, and the third through MakedonskiBrod and the Poreche region leads to Prilep. Apart from the regional roads, Kichevo has a developed railway infrastructure, i.e railway traffic that takes place through the railway line Kichevo - Gostivar - Tetovo - Skopje. According to the State Statistical Office, as of December 31, 2013, there are 292 km of local roads in the municipality, of which 192 km are asphalted, 21 km are macadam, 31 km are dirt roads and 50 km are non-average roads.

The length of the main sewerage network in the city of Kichevo is 4,150 m. The central network is connected to 2,560m of household networks, 800m of commercial buildings and 300m of industrial sewerage networks. Regarding the rural areas in the Municipality of Kichevo, the primary sewerage network is installed only in three settlements, while in the other villages, the residents build septic tanks near their homes.

The supply of the municipality with the necessary drinking water is mainly done through the water supply system "Studenchica". 360l / sec are provided by this system. The Public Enterprise "Komunalec" - Kichevo is the responsible entity for collection, purification and distribution of drinking water and food water, as well as for the installation of water supply and sewerage networks. In the context of water supply, the data shows that the city is completely covered by a water supply network, as well as most of the rural settlements that have a water supply network which is more than 90% developed. The length of the main water supply system in the city of Kichevo is 3,800 meters, while the distribution (secondary) network is branched out to a length of 13,250 meters. The city has 10000 connections, 50 street hydrants and 6 public fountains. The length of the main pipelines in the system of the surrounding rural settlements in the municipality of Kichevo is 71,075 meters, and the distribution network for rural settlements is 144,297 meters.

PROJECT DESCRIPTION

This project includes the reconstruction of the street UzhichkaRepublika in the municipality of Kichevo, the installation of new asphalt and construction of a drainage system.

The street in question is composed of one axis and has a total length of 1345,46 m. The existing street, which is the street subjected for work, initially fits with an asphalt street. The entire length of the street is asphalted with a width of 7 m, on the left side there are existing sidewalks. On the right side there are a few sidewalks, however in some places it is overgrown with bushes and it is inaccessible and impassable terrain for pedestrians. In

the end, the street fits with an asphalt road on which there is a bridge from chainage 1 + 339.18 to 1 + 345.46.

Current situation

According to the information available to the municipality, the last reconstruction of the asphalt was done more than __ years ago. Due to the large number of repairs due to the weather conditions that destroy the asphalt, today it is in a very bad condition, while the sidewalk, which is partial on its upper side opposite the canal that turns into a swamp, is in an extremely poor condition and in some parts that is a problem for smooth movement. (shown in the photos below).

Local streetUzhichkaRepublika in Kichevo - current situation

Future condition

The main goal of the proposed technical solution is to ensure the longevity of the street by maximizing the technical life of the surface to meet the existing standards of local streets and thus meet the needs of the local community, mostly the settlements whose residents frequent this street - Pod Krushino, Ivanindol and the village of Rashatani. With the implementation of the project, the problem with the atmospheric waters will be solved, which at the moment, through the transverse streets, overflow into the street UzhichkaRepublika and through the outlet canals in the so-called Petti Kolosek which is a street parallel to the railway. Due to the irregular cleaning of the canal, which is partially ruined, it turns into a swamp that can be a dangerous source of infectious diseases.
The goals of the technical solution of the project are the following:

- To provide safety and comfort in traffic, proper placement and safety for pedestrians through reconstruction of the damaged sidewalk as well as the accompanying features;
- To influence the facilitation of traffic on the street and improve the safety and security of both drivers and pedestrians;
- To solve the problem of the atmospheric waters.

The expected benefits from the implementation of the project are related to raising traffic safety and comfort, increasing capacity and traffic signals, providing a sense of safety for pedestrians, encouraging commercial activities, solving the problem of atmospheric waters, protecting the environment as well as modernization of the space and its urban arrangement. This will improve the quality of life in the community. It will also lead to reduction of municipal costs for permanent repairs of local roads, caused by weather conditions, as well as reduction of funds in the budget provided for winter maintenance and rehabilitation.
The street UzhichkaRepublika is one of the four busiest streets in the city and connects several local communities - Pod Krushino, Ivanindol, v. Rashtani and v. Osoj, and 22ri Dekemvri.

The expected results of the project are:
• Improving traffic safety and comfort
• Improving pedestrian safety
• Modernization and urbanization of the city
• Reduction of depreciation costs for passenger vehicles,
• Improve vehicle flow rate, save fuel, reduce noise and pollution.
- Solving the problem of atmospheric waters
- Lowering the risk of spreading infectious diseases

Target groups:
The population in the city of Kichevo with direct access to the street:
- The residents of local communities - Pod Krushino, Ivanindol, v. Rashtani and v. Osoj, and 22ri Dekemvri.
- All residents of the municipality of Kichevo

Project beneficiaries:
Direct beneficiaries after the implementation of this project are the residents of the local communities - Pod Krushino 1 and 2, Ivanindol, v. Rashtani and v. Osoj, and 22ri Dekemvri, taking into account that due to the nature of the street, it is used by a large number of residents who live there, as well as others who for various reasons move along it.
It can be said that 35 percent of the residents of the municipality use it daily, while the rest, or about 20,000 residents, use it as needed.

II. TECHNICAL DESCRIPTION

At the request of the Investor (as client) MINISTRY OF FINANCE of the Republic of Northern Macedonia ul. Dame Gruev no. 12, 1000 Skopje, Project for improving of municipal services MSIP, PRIMA ENGINEERING DOO-SKOPJE made a basic traffic project (construction part) for reconstruction of the street UzhichkaRepublika CM Kichevo 5, Municipality of Kichevo.
The street in question is composed of one axis and has a total length of 1345.46 m.

I .SUBJECT AND AIM OF THE TASK

The subject of the task is the preparation of project documentation in the phase of the basic construction project (civil engineering construction) for reconstruction of a local street UzhichkaRepublika, namely the installation of new asphalt and construction of a drainage system.

The purpose of the task is to obtain sufficient input data as well as to define the program conditions and parameters for the preparation of the basic design and to improve the safety of the participants in traffic.

II. GEODESY

A geodetic base was used for the creation of the Basic Project – an updated picture of the existing condition made on the basis of recording, recorded cross-cut profiles with detailed positional and height points. The terrain data have been recorded with a distomat with automatic software registration and the data have been processed with the software package PLATEA. The projected elements, whose data are in the project, are going to be used as a basis for marking out the center line of the access road.

III. BASES FOR PROJECTING AND PROJECT CONDITIONS

All of the available bases, from which the necessary data and information about the current area have been collected, have been used as bases for projecting:

Project task of the Investor

Geodetic base – updated picture

Reconnoiter of the terrain

Valid legal and technical regulation

Bylaws (rulebooks, standards and normatives) which regulate the material included in this project task.

IV. HORIZONTAL SOLUTION

The recorded geodetic situation was used as a basis for making the horizontal solution - an updated basis from the existing terrain. The axis is designed along the existing street in order to observe the spatial constraints and accordingly 8 horizontal curves are designed for projected speed Vp = 30 km / h and level of service (D). The horizontal axis for the street UzhichkaRepublika is made of 17 elements, 9 directions and 8 circular curves. The horizontal radius is Rmin = 70.0m, and Rmax = 1200.0m. The width of the road on the street UzhichkaRepublika is designed with a width of 7 m in order to preserve the existing width of the street, and for the safety of pedestrians sidewalks are designed on the left and right side of the road with variable width depending on the terrain conditions.

V. VERTICAL SOLUTION

The finished level of the street UzhichkaRepublika is designed to be approximate as the existing one, in order to observe the spatial constraints. At the beginning and at the end of the road, the finished level is integrated with the current condition of the intersection with the asphalt street.

In order to have efficient drainage of the road, the minimum slope of the levels is designed to be i = 0.1670% and the maximum i = 14.1692%.The minimum slope of the levels is i = 0.1670% due to the existing streets that intersect on the left side with the street UzhichkaRepublika.On the street UzickaRepublika, 13 (thirteen) refractions and vertical curves are projected withinin the limits: Rmin = 50.0m, Rmax = 20000.0m, The cross-cut slope of the street UzhichkaRepublika is one-sided and is i = 2.50% except in the part on the inclusion at the beginning and end of the street where it ranges from i = 2.50% to 3.00% and from i = 1.70% to i = 2.50% in order to fit the existing asphalt.

VI. LANE CONSTRUCTION

The lane construction on the local road has been adopted from previous experiences and the following lane construction has been proposed:

For the street:

- AB 11C d = 5 cm

- BNS 22SA d = 7 cm

- Road base made out of crushed stone as a settlement layer d=30 cm

VIII. DRAINAGE

Surface water drainage on the street UzhichkaRepublika is enabled with longitudinal and cross-cut slopes of the street that drain the surface water to existing gutters on the right side of the street. For the gutters, a constructive detail is given as a lowered pavement. The discharges that are in the current condition of the street are in the form of open canals that discharge the water to the recipient (canal) which was pointed out in accordance with the hydro-technical conditions by the Municipality.

IX. BILL OF QUANTITIES

Based on the cross-cut profiles and situations, all of the necessary individual bills of quantities have been made, and based on them, a bill of quantities with a calculation for the works and execution of the street has also been made where the projected prices are given.

III. TECHNICAL SOLUTION

The technical conditions that are subject to the works covered by this basic design are based on the applicable regulations and laws of the Republic of Macedonia. The performance of the construction works envisioned by the bill of quantities, i.e the technology for performance of the construction works envisioned by this project to be according to the technical conditions for the performance of construction works for the roads in Macedonia, in all aspects. In accordance with the above-written, it can be concluded that all standard positions need to be performed in full compliance with the applicable standards (ICC), both in terms of technology of performance of works and in terms of meeting all prescribed norms that the individual materials used (for the construction of the lower line of the parking lot, the upper line - the road construction, the quality of the concrete for the concrete works, etc.) should satisfy those standards. From here it can be said that for a successful realization of this project during its construction in full compliance with the prescribed conditions, the relations Contractor, internal control (Contractor's laboratory) and Supervisory body (representative of the Investor) should be established. In the further presentation in the most general outlines the description will be given, as well as the manner of the technical conditions under which certain construction works envisioned by this project should be performed, and given in the same order as given in the bill of quantities.

The technical solution for reconstruction of the street envisions performance of the following activities:

- Marking and insurance of the route
- Excavation of soil in a bulk excavation of the route
-Making a subsoil
- Making a bed
- Making a buffer layer of crushed stone
- Making embankments
-Cleaning and drainage of the main road
- Production of bituminous load-bearing layer BNS
- Production of AB layer
- Making prefabricated concrete curbs
-Production of prefabricated concrete behaton plates.

III. INFLUENCE ON THE ENVIRONMENT

During the reconstruction of the street, all of the projected activities that will be executed on the street will have a very limited influence on the environment.
The expected possibly negative influences on the environment during the construction works are the following: increased level of noise (as a result of the work with construction machines and equipment), in accordance with the national lawful demands for health and security during work (OH & S), possible water pollution, air pollution and production of different types of waste. All of these influences are expected to be generated in the

construction phase in accordance with the projected activities, and in accordance with the plan for alleviation under the surveillance of the municipality and the project supervisors.

IV. FINANCIAL DATA

The estimated value of the project is **28,869,741 MKD without VAT**

	Item	Price without VAT in MKD	Total sum without VAT in MKD
	Reconstruction of the street Uzhichka Republika in Kicevo according to the bill of quantities	**28,869,741**	**28,869,741**

V. FINAL PROVISIONS

The basic project with technical number 0308-47-491 / 3/2019 prepared by Prima Engineering DOO Skopje, in accordance with the positive regulations, that is all applicable laws, secondary legislation and standards of construction and urban planning in the area of streets. The Municipality of Kichevo proposes this street for reconstruction as a high priority defined based on public opinion, especially after the reconstruction of the streets "Marshal Tito", "BulevarOsloboduvanje", "11ti Septemvri", as one of the four biggest and most important streets in the city.

Municipality of Kicevo

Mayor,

Fatmir Dehari

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