Project Appraisal Document

BUTEL Municipality

Construction of elementary school “Zivko Brajkovski”

February 2014

1. PROJECT DESCRIPTION

1.1. GENERAL INFORMATION ON BUTEL MUNICIPALITY

1.1.1. Location map

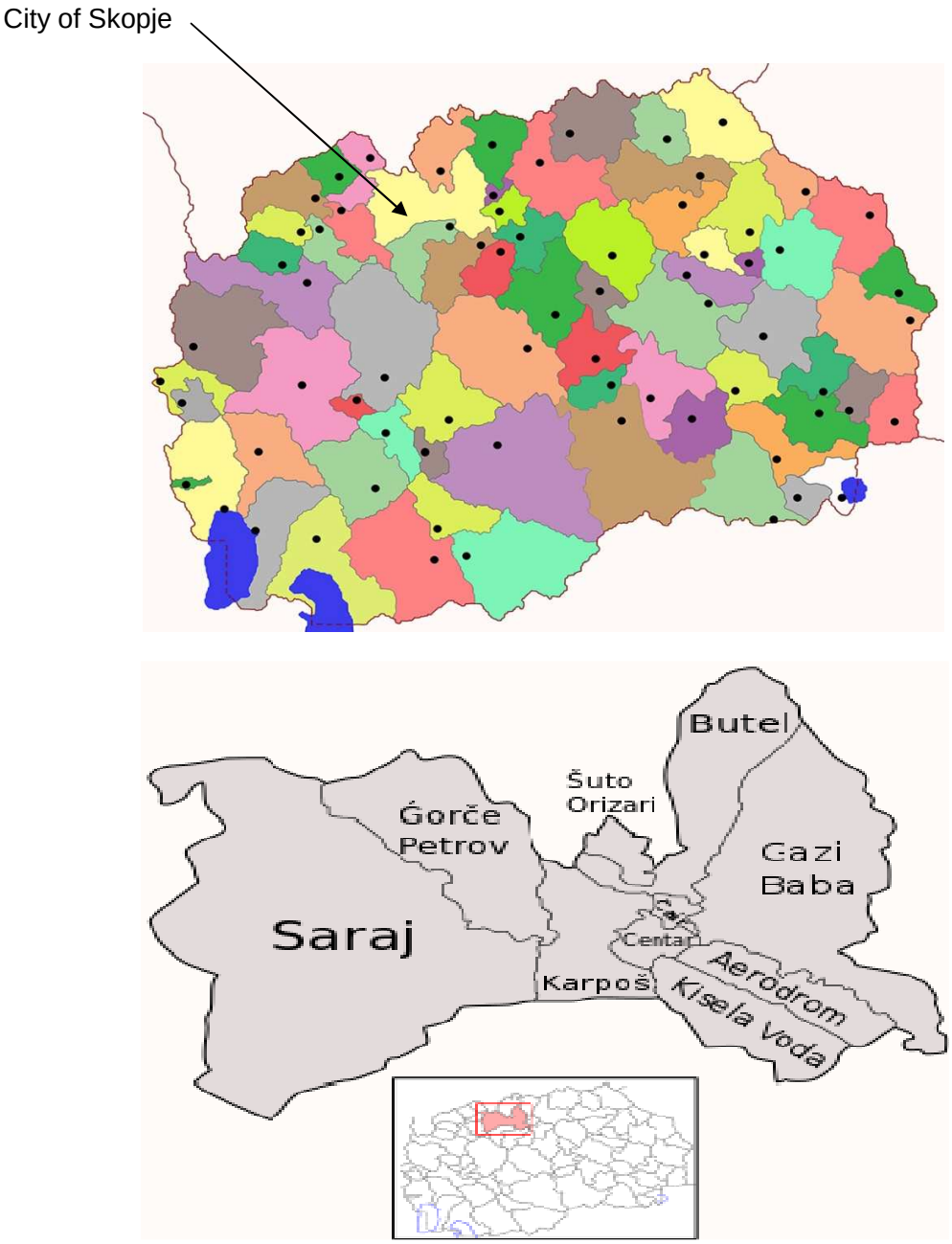


Figure 1: Map of Butel municipality, City of Skopje and Republic of Macedonia

1.1.2. General Information

With the adoption of the new Law on Territorial Division in April 2005, the new municipality Butel was established, which was previously part of Cair municipality. Butel is municipality within the city of Skopje. It lies in the northern part of Skopje's valley and the city of Skopje. It covers an area of 54.71km^2 and bounders with the Skopje's municipalities: on the east with Gazi Baba, on the west with Karpos, on the north with Suto Orizari and on the south with Cair.

Table 1: Populated areas in Butel municipality[1]

Populated areas	Population	Households
Butel 1	19,005	3,778
Butel 2	6,968	1,858
Vizbegovo	1,817	681
Ljubanci	928	282
Ljuboten	1,343	492
Radisani	6,123	2,607
Total	36,184	9,698

Source: SSC census 2002

According to the 2002 census, the Butel municipality has 36,184 inhabitants, 18,083 males and 18,071 females. Average density is 661 inhabitants per km^2. According to the internal data, Butel municipality in 2012 had 37,012 inhabitants, which shows an increasing trend considering the fluctuation and migration of the population toward the centralized city area.

The territory of Butel municipality includes 7 elementary schools, 2 public secondary schools, 1 private secondary school and public kindergarten. There are also other public institutions like Institute for rehabilitation of children and young people, and public Institute for children with social problems, center for primary health care, pharmacies, branches of banks and post offices.

Table 2: Elementary schools in Butel municipality

Elementary schools	Settlement	No. of teachers 2013/14	No. of pupils 2013/14	Shifts	Year of construction
Zivko Brajkovski	Butel 1	76	819	2	1965
Petar Zdravskovski - Penko	Skopje-Sever	93	1,580	2	1970
Aco Sopov	Radisani	41	811	2	1984
Panajot Ginovski	Butel 2	57	669	2	1967
Goce Delcev	v.Ljubanci	16	130	2	1945
St. Kliment Ohridski	Butel 1	29	484	2	1971
Liman Kaba	v.Ljuboten	27	426	2	1963
Total		**339**	**4,919**		

Source: Butel municipality

[1] Butel municipality was part of Cair municipality in 2002 when the census was performed

1.2. DEMOGRAPHIC AND ECONOMIC PROFILE

1.2.1. Demographic table

Table 3: Basic demographic and economic data about Butel municipality

Demography		**Quality of life**	
Number of settlements	6	Infant mortality Butel 2011	3
Area in km^2	54.71	Number of births Butel 2012	517
Migrated in the municipality in 2012	156	Age dependency Butel 2011	0.42
Population density Butel	661	Infant mortality Macedonia 2011	172
Population density Macedonia	82	Number of births Macedonia 2011	22,770
Number of dwellings	11,077	Age dependency Macedonia 2011	0.46
Number of households	10,056	**Economy**	
Average number per household	3.59	GDP per capita in US $ Butel 2002	7,145
Infrastructure		Unemployment Butel 2002	31.6
Total road length asphalted	40 km	GDP PPP growth Butel 2002/1998	5.7
non-asphalted	5 km	GDP per capita in US $ Macedonia 2002	6,850
Regional roads (asphalted)	10 km	Unemployment Macedonia 2002	38.1
		GDP PPP growth Macedonia 2002/1998	5.2

The infant mortality in Butel (0.42‰) is lower than the Macedonian average (0.46‰) for 2011 and that the population density is almost 8 times higher than the average population density for Macedonia for 2002 when the last census was conducted. The number of dwellings increased by 1,021 due to the weekend settlement “Ljubanci” where the owners are not permanent residents. Butel municipality has had higher GDP per capita compared to Macedonia in 2002 as well as lower unemployment rate in the same year.

1.2.2. Gender and age structure

Table 4: Age structure of the Butel municipality population

Age	Male	Female	Total
0 – 4	1,155	1,084	2,239
5 - 9	1,310	1,247	2,557
10 -14	1,374	1,265	2,639
15 - 19	1,415	1,325	2,740
20 - 24	1,529	1,500	3,029
25 - 29	1,398	1,446	2,844
30 - 34	1,375	1,384	2,759
35 - 39	1,351	1,344	2,695
40 - 44	1,280	1,283	2,563
45 - 49	1,329	1,325	2,654
50 - 54	1,261	1,315	2,576
55 - 59	914	911	1,825
60 - 64	829	840	1,669
65 - 69	742	757	1,499
70 -74	427	534	961
75 - 79	241	324	565
80 - 84	99	128	227
+ 85	39	59	98
Total	18,071	18,083	36,154

Source: SSO Census

Above 9% of Butel population is older than 65, which is lower than the Macedonian average of 10.57% for that age group. The share of age group 20-64 is 62.5% of total population of Butel municipality, while in Macedonia it is 60%. Based on this information we can conclude that, in average, the population in Butel municipality is younger than the population in Macedonia.

1.2.3. Urban-rural repartition

Table 5: Population structure and area depending on the urban/rural character

	Urban	Rural
Population	73%	27%
Area	55%	45%

Source: Butel municipality

1.2.4. Ethnic structure

Table 6: Ethnic structure in Butel municipality (%)

Macedonians	Albanians	Turks	Serbs	Romans	Vlachs	Other
62.25	25.19	3.61	2.86	1.55	0.33	1.53

Source: SSO census

Minority nationalities (Albanians, Turks, Serbs and other) are distributed across all settlements. The composition of the pupils in the schools is ethnically mixed. The lessons in two schools are held in both Macedonian and Albanian language. In one school, beside the Macedonian and Albanian, Turkish is applied as teaching language as well.

1.2.5. Employment repartition

Table 7: Economic activity over age of 15 (census 2002)

	Male	Female	Total
Economically active	8,137	5,684	13,821
Employed	5,812	4,012	9,824
Unemployed	2,325	1,672	3,997
Total	**16,274**	**11,368**	**27,642**
Economically inactive	6,039	9,772	14,811

Source: SSO census

The above table shows the gender structure of economically active and inactive population as well as the employed and unemployed people in Butel municipality.

According to the 2002 census, the unemployment rate in Butel municipality was 31.6%, which is lower than the total unemployment in Macedonia 38.1% in 2002. Based on the data from the SSO the unemployment rate in Macedonia in 2012 is 31%, and in Butel municipality is 28.9%. Thus, the unemployment rate in Butel municipality is lower than the unemployment rate in Macedonia. Tendency is the unemployment rate in Butel municipality to be further reduced by opening of the new industrial zone “Rasadnik” as well as the favorable loan arrangements provided by the government for self-employment and opening small businesses.

Table 8: School preparation above age of 15

School preparation	%
No education	2.55
Uncompleted primary education	6.84
Primary education	27.98
Secondary education	50.85
Higher education	7.81
Bachelor education	3.45
Masters education	0.23
Doctors education	0.18
Within the process of primary education	0.10

Source: SSO census 2002

The above table shows that majority of the population in Butel municipality have secondary education (50.85%) and primary education (27.98%).

1.2.6. Economy

Butel municipality posses fertile land, good geographical location, clean and healthy environment, water potential, forest potential, mineral potential, cultural and historical monuments, archaeological sites and access to free labor.

Development directions of the municipality are oriented towards the opportunities for light industry and promoting investments in eco-products, viticulture and livestock in the rural part of the municipality.

Most important industries in the municipality are: wholesale and retail trade, transport and storage, construction industry and food industry. The industrial zone Vizbegovo is also located within the territory of Butel municipality, as well as the planned new economic zone “Rasadnik”.

According to the Central Registry data the number of registered companies in Butel municipality is 2,663. The biggest companies are: agriculture-baking-manufacturing

industry “Bakery Dime” (170 employees); Production and trade of furniture “Zona mebel” (110 employees); and “Euroaktiva” company for producing gypsum boards, buyout of scrap steel, trade with oil and catering (95 employees). Butel municipality has 1,531 active companies, which represents 2% of the total active companies in the country. Micro companies dominate with share of 71.4% in Macedonia and 71% in Butel municipality. Together, the micro and small companies represent 98.7% of the active companies in Macedonia or 98.1% of the active companies in Butel municipality.

Table 9: Active companies by size on 31.12.2012 in Butel and Macedonia

	Total	Micro	Small	Medium	Large
Butel	1,531	1,086	417	18	10
Macedonia	74,424	53,117	20,341	631	335

Source: SSO

The following table shows that most companies in Butel (40%) are in wholesale-retail business – at the country level this percentage is 36.7%. Following business is manufacturing industry with 14% of the total active companies in Butel, and 11% on the Macedonian level. The next is transport and storage with 12% in Butel and 8.7% in Macedonia.

Table 10: Structure of the active companies in Butel municipality and Republic of Macedonia by segments as of 31.12.2012

	RM	Butel
Total	74,424	1,531
Agriculture, Forestry and Fishing	3,072	16
Mining and quarrying	182	5
Manufacturing	8,251	213
Electricity, gas, steam and air conditioning	134	1
Water supply, waste water disposal, waste management, remediation	321	5
Construction	4,541	119
Wholesale and retail trade, repair of motor vehicles and motorcycles	27,307	611
Transport and storage	6,445	186
Accommodation and food service activities	4,611	56
Information and Communications	1,515	31
Financial and insurance activities	413	5
Activities related to real estate	493	11
Professional, scientific and technical activities	5,707	90
Administrative and support service activities	1,438	18
Public administration and defense, compulsory social security	268	2
Education	1,020	21
Activities of health and social care	3,298	36
Art, entertainment and recreation	1,176	18
Other services	4,232	87

Source: SSO

1.2.7. Relevant extracts from the municipal documents concerning the project

This project is identified in the Local Economic Development Strategy of Butel municipality for the period 2009-2012. The current strategy is updated for 2013 and the new LED strategy is planned for 2014-2017. The strategy prescribes mission: "*The Butel municipality to improve the living conditions of citizens in a way to use comparative advantages of existing environment and existing infrastructure in order to create happy, healthy and safe citizens by continuing to revitalize and create new economic facilities, improve existing and construct new infrastructure, a strategy for sustainable economic development and developing new opportunities and perspectives."*

The Strategic Plan is divided into key topics and their elaboration through "professional issues". Key issues for education are: building schools, quality staff, introducing practical instructions and opening of vocational classes for the needs of the economy.

Table 11: Strategic objectives and sub-targets in education

Strategic objective: Improving working conditions in the educational institutions and support modernization of the educational process				
Sub-targets	Building two elementary schools and reconstruction of one school	Continuous care for all school facilities through reconstruction and remediation	Providing information technology and internet access	Improving of the working conditions in the educational institutions and support modernization of the educational process
Operational goals	Preparation of technical-investment documentation Providing of financial assets	Review of all facilities and assessment of situation Providing funds for the reconstruction and remediation	Review of schools what they have Provide funds for the purchase of information technology	Acquisition of additional equipment for the modernization of the teaching process

Source: Strategy for Local Economy Development (LED), Butel municipality 2009-2012 updated for 2013

The LED Strategy 2009-2012 updated for 2013 envisages the construction of two elementary schools and reconstruction of one elementary school. The construction of new schools refers to the school "Zivko Brajkovski" and the new school in the settlement Vizbegovo. The reconstruction refers to the elementary school "Liman Kaba" in the Ljuboten village. The existing facility of the ES "Zivko Brajkovski" is in the worst condition and due to the number of student has the priority over the construction of a new elementary school in the village of Vizbegovo. The ES "Liman Kaba" in the Ljuboten

village is solid construction. It is repaired and reconstructed by the own municipal funds and the donation from USAID.

The project for construction of new primary school “Zivko Brajkovski” belongs to the education program and contains operational goal for improvement of the infrastructure of primary schools in the municipality. The strategic goal of the project, in accordance with the LED Strategy, is to create integrated local community.

On September 19, 2013, on the 8th session of the municipal Council, with 18 votes in favor, no abstentions and no votes against, the Council unanimously reached the Decision (no.07-1189/9) on long-term borrowing for finalizing (finishing works) of the already constructed building.

1.3. PROJECT DESCRIPTION

1.3.2. General project description

This project assumes replacement of the old elementary school “Zivko Brajkovski” with the new school building constructed at the same plot. Elementary school “Zivko Brajkovski” is educational institution under competency of Butel municipality. The school was built in 1964 as a temporary construction with a donation from the Norwegian government. In the school there are 23 classrooms, administrative offices, toilets and gymnasium. The school possesses its own heating system that runs on oil. The windows are in bad condition, old with wooden frame and single window glass (see figure below). The side walls are built with light material as the rest of the object. The roof is wooden covered with asbestos cement sheets.

The new elementary school is built on the same plot where the old school is. Building of the new school is according the Statement from the plan No.22 – 1397/3 from 07.07.2010, Decision from 01.07.1982, Detailed Urban Plan for Butel 1 (barracks) purpose of building: B1 – education.

According the norms and rulebooks the space planned for elementary school, plot No.1.1. has construction area of 17,550m^2 and the facility will comprise 3,817.2m^2. The capacity will be 900 pupils.

The building is designed so that there is opportunity in the future to be upgraded depending on the population growth in the settlement.

Within the location, besides the school facility, a school yard with parking, access routes to school, walls and stairs to access the school building and horticultural landscaping have also been planned.

The ES “Zivko Brajkovski” has 77 employees and 5 people who maintain the facility. The school works in two shifts.

Table 12: Number of pupils in Butel municipality for the period 2011-2014

Elementary schools	No.of pupils 2011/12	No.of pupils 2012/13	No.of pupils 2013/14
Zivko Brajkovski	804	825	819
Petar Zdravkovski - Penko	1,573	1,606	1,580
Aco Sopov	795	815	811
Panajot Ginovski	670	677	669
Goce Delcev	120	125	130
St. Kliment Ohridski	490	485	484
Liman Kaba	457	447	426
Total:	4,909	4,980	4,919

Source: Butel municipality

The number of pupils in the elementary schools, with the exception of the elementary school Goce Delcev which is rural school, in the last two years was declining. The

number of pupils in ES “Zivko Brajkovski” in the school year 2012/13 increased for 21, and in 2013/14 that number was reduced for 6 pupils. The downward trend in the number of pupils is also present on the level of Macedonia. Reduced number of pupils is a result of fewer children in the households. The influence of migrated pupils to other settlements is insignificant.

Table 13: Consumption of the electricity and heating energy in ES “Zivko Brajkovski”

Type of energy	2010	2011	2012
Electricity (kWh)	19,975	20,197	21,200
Heating energy (kWh/year)	556,645	579,691	581,866

Source: Electricity Distribution and Butel municipality

According to the Energy Efficiency Program of Butel municipality on 2012-2014 made by the company “Toplifikacija Inzenering” – Skopje, it is estimated that the new school facility could have savings in energy up to 30%. The calculation of savings in ES “Zivko Brajkovski” is done based on invoiced value of energy consumed and the database of the energy consumption in the building. Energy Efficiency Program lists reasons for high consumption of electricity and heat, and the reasons are: the old windows and doors, already ruined wooden barracks, and non-isolated external walls which causes 30% loses of heating energy. The Program identifies priority facilities that can save energy and reach high level of energy efficiency, where the ES “Zivko Brajkovski” is also included.

Energy saving up to 30% with construction of the new school building will be achieved through:

- Solid construction with all possible approvals and standards for the materials,
- Setting of thermal insulated (energy efficient) facade that allows, according to attestation, 20-30% energy saving,
- Multiple layer windows and doors which enable 10% energy saving,
- Insulation installed to the fundaments as well as to the ground floor slab (energy saving 5-10%),
- Roof construction performed by energetic regulative embedded with Styrofoam and bitumen paper (5-10% savings).

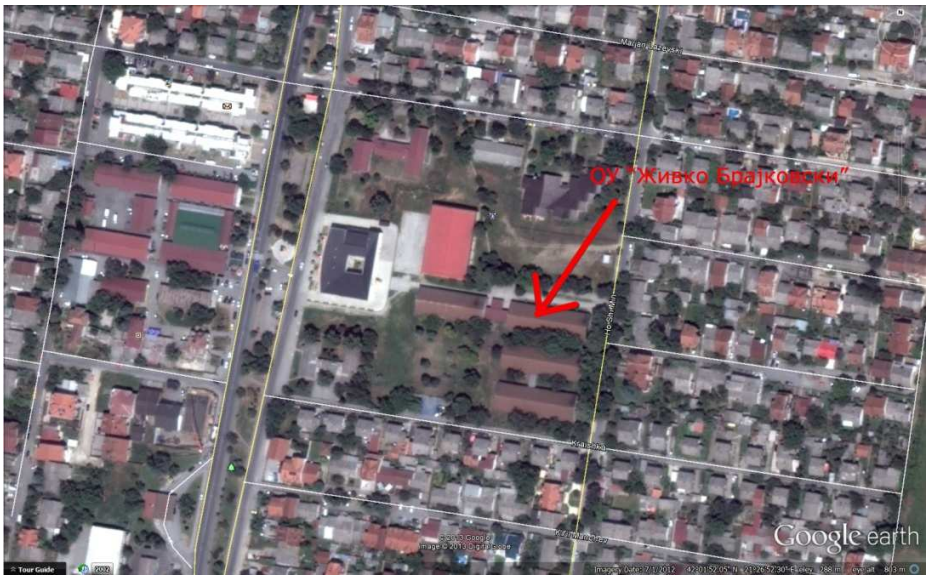
This project will address requirement on energy efficiency set up in the EU directive on energy efficiency and energy services. The aim is to stimulate and promote cost-effective investments. Under this Directive, the public sector should be encouraged to assume energy efficiency measures in its budgets and investment plans. Specifically, the insulation of schools as public buildings is mentioned in the list of suggested activities on energy efficiency. Therefore, one might say that this project will contribute to fulfillment of the objectives of EU directives.

1.3.3. Location of the project

The school is located in the Butel municipality. The main entrance is from the street “Kraiska”, and the borders of the location are between the street “Kraiska” in the south, street “Ho Shi Min” in the west, street Natanail Kuceviski, kindergarten “Bratstvo Edinstvo” and street Butelska to the north.

The borders of the construction plot are determined in the excerpt from Detailed Urban Plan Butel 1 (barracks) for construction plot 1.1 Elementary School “Zivko Brajkovski”.

The subject parcel is located in the southwestern part of the construction plot. The area of the construction plot is 1.75ha.



1.3.4. Current situation

In accordance with the basic design with technical number 04-02/2012 prepared by IDEA PLUS and according to the normative and rulebooks the space for elementary school, plot No.1.1, has the construction area of 17,550 m^2 as well as:

- Total NETT space level -2.85 (basement) 103.5 m^2
- Total NETT space level 0.00 (ground level) 1,934.9 m^2
- Total NETT space level 3.36 (1st floor level) 1,778.8 m^2
- or Total NETT space 3 817,2 m^2

The municipality has launched the construction and decided to finance concrete structure with its own funds. The construction of the complete reinforced concrete frame structure from the base to the roof is completed, and comprised the following works:

- Excavation (soil works),
- Improvement of the soil (geo-mechanical works),
- Concrete works,
- Reinforcement works,
- Masonry works,
- Locksmith works,
- Roof construction,
- Sheet metal works,
- Roof covering works.

The technical acceptance was conducted on January 24, 2013 and the Minutes were signed by Supervisor on the construction of the object.

The completion of the school building from reinforced concrete skeletal frame structure to finalized facility requires additional financial resources. As Butel municipality financial capacity is limited, the initial idea was to finance the concrete frame structure from the municipal funds and then to complete the building with MSIP loan. In order to complete the construction and launch the new school building the following activities assumed in project design are still needed:

- Installations

- External water and sewer installation (implementation of water and sewer installation to the facility and from the facility)
- Electrical installation (implementation of high and low voltage installation and electric equipment)
- Internal installation (water and sewer installation within the facility according the project)

- Insulation works
- Plastering works
- Carpenter works
- Ceiling
- Tile works
- Painting
- Floors
- Facade works
- Other works

The works included within this project appraisal are also:

- Demolishing of the old school
- Landscaping (including internal roads and pedestrian paths).

1.3.5. Goals of the project

The project has the following goals:

- To improve physical infrastructure in the elementary schools in Butel municipality,
- To integrate the local community,
- To follow the principles for environment protection,
- To improve the quality of life of citizens in Butel municipality.

1.4. EDUCATION IN BUTEL MUNICIPALITY AND NEEDS

The Project Appraisal Document on completion of educational facility comprises some additional analysis on the following issues:

- Assessment of the existing infrastructure,
- Assessment of local and regional needs for primary education,
- Population and demographic growth by area and growth projections,
- Assessment of alternatives,
- Assessment of other funding sources,
- Assessment of expenses.

1.4.1. Assessment of the existing school infrastructure and system in place

The Elementary School “Zivko Brajkovski” is in the worst condition compared to the other elementary schools in the Butel Municipality. It is between the oldest schools (see table 2), fully depreciated, and the only school with wooden construction built for temporary use. The other schools were built using solid construction material and their value is not

yet depreciated. The schools “Goce Delcev”, “Panajot Ginovski” and “Liman Kaba” were reconstructed, while the schools “Aco Sopov” and “Petar Zdravkovski Penko” are in good condition and were built more recently. All schools work in two shifts.

In accordance with the Law on local self government in Macedonia (Official Gazette 05/02) elementary and secondary education is a competency of the local government. Additionally, with the Law on the City of Skopje (Official Gazette 55/04) elementary education is competency of the municipalities within the territory of the City of Skopje and the secondary education is competency of the City of Skopje. Financing the competencies is regulated with the Law on financing the local government (Official Gazette 61/04).

In Butel municipality there are 7 elementary schools. On the territory of the City of Skopje there are 21 secondary schools (two of which are located in Butel municipality).

Table 14: Number of elementary and secondary schools based of competence

	Elementary schools	Secondary schools
Butel municipality	7	/
City of Skopje	/	21
Macedonia	990	114

Source: SSO, Butel municipality and City of Skopje

Elementary school “Zivko Brajkovski” is located in the settlement Butel 1 that has 19,005 inhabitants according to the municipal data. The number of population in the class from 5 to 15 years (proper for elementary education) is 931 or 4.9% of the total population in the settlement Butel 1. According to municipal assessment around 110 pupils from this municipality go to other neighboring elementary schools.

With the demolishing of the old building and building of the new one, it is highly expected that all children in the proper age from settlement Butel 1 will be provided education services on the territory of this settlement.

1.4.2. Assessment of local and regional needs for primary education

This section presents the structure of population by school years in Butel municipality compared to the city of Skopje and Macedonia.

Table 15: School and pre-school age structure in Butel municipality, City of Skopje and Macedonia for 2002

Category	Percent of total population-Butel municipality	Percent of total population –City of Skopje	Percent of total population - Macedonia
Kinder gardens (0-4)	6.1	5.9	6.1
Elementary (5-14)	14.4	13.6	15.0
Secondary (15-19)	7.58	7.5	8.2
Total (0-19)	28.08	27.0	29.3

Source: SSO-census

The share of pre-school population in the municipality is the same as the country average and slightly higher than in the City of Skopje. Therefore, we expect that school and pre-school demand in Butel municipality would be higher than in the city of Skopje and similar to the country level.

1.4.3. Demographic growth

Current situation

The number of pupils in the elementary schools in Macedonia and Butel municipality was declining for the last decade. This trend is a result of the reduced number of children per household. The government undertakes measures to stimulate the birth rate and population growth.

Table 16: Number of pupils and teachers in the elementary schools in Butel municipality and Macedonia for the period 2006-2014

School year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Pupils								
Macedonia	231,497	222,359	216,180	210,381	204,439	198,856	195,311	194,863
Butel	5,114	4,965	5,201	5,143	5,008	4,928	4,910	4,879
Teachers								
Macedonia	15,098	15,330	15,930	16,144	16,703	17,129	17,193	17,268
Butel	283	292	315	320	322	330	333	339
No of pupils per teacher								
Macedonia	15	15	14	13	12	12	11	11
Butel	18	17	17	16	16	15	15	14

Source: SSO

On the other hand the number of teachers in the elementary schools in Macedonia and Butel municipality was growing. This trend is expected in the transition period of transfer of new responsibilities to the local governments, especially with implementation of new subjects, increasing of lesson fund, full time education and daily stay for the pupils. The change in the legislation is the reason for increased number of teachers when the number of pupils is declining.

New subjects have been introduced in recent years: ethics, religion, classical culture etc. The number of lessons in information technology was increased in all elementary schools. Gym lessons were increased from 2 to 3 per week. The English lessons are implemented from 1-5 grades with 3 lessons a week. Full time education and daily stay for the pupils were also implemented. These are all the reasons for increased number of teachers in the elementary schools, havening in mind the fact that all primary schools in Butel municipality are bi-lingual (Macedonian and Albanian).

Due to opposite trends the number of pupils per teacher is falling on the country and municipality level. In 2013/14 school year this ratio is “Zivko Brajkovski” school was below the municipal average (11 vs. 14) illustrating some scale and efficiency effects.

Projections

Regarding the population growth in absolute numbers for the period 2002-2012 in Butel municipality we can note that there are not significant changes and the growth rate is 2.3%. The same population growth percentage is applicable for Macedonia, while in the City of Skopje it is around 2%. On the other hand the population growth is mostly concentrated in the settlements that gravitate in the urban center’s borders.

Table 17: Population estimation by age groups for Butel municipality and Macedonia

2010	0	1-2	3-4	5-6	7-9	10-14	15-19	Total population
Macedonia	23,778	45,583	44,505	45,659	71,497	130,214	152,879	2,055,004
Butel	498	812	812	1,105	1,407	2,611	2,340	35,576
2011	0	1-2	3-4	5-6	7-9	10-14	15-19	Total population
Macedonia	23,369	46,766	44,859	44,704	69,703	126,947	149,167	2,058,539
Butel	479	821	821	1,121	1,395	2,639	2,236	36,974
2012	0	1-2	3-4	5-6	7-9	10-14	15-19	Total population
Macedonia	22,969	47,049	45,560	44,474	68,669	123,721	144,319	2,061,044
Butel	458	845	841	1,246	1,398	2,874	2,219	37,012

Source: SSO

The population in Macedonia and in Butel municipality is growing. Also, the participation of group in the age of 1-4 increases. It means that demographic trends confirm the growing future demand primary education in the Butel municipality.

1.4.4. Assessment of alternatives

Taking into account that the school was built in 1964 as temporary building, it is already ruined despite several reconstructions. The heating bodies are out of order and windows are in bad condition. It is obvious that the existing school building will probably cost more in long run to operate and maintain than to build new school. Possible alternatives are:

Zero alternative – when no activities are going to be undertaken. This alternative is unsustainable as the operating costs will increase year by year.

School reconstruction – this is a short-term solution keeping in mind that the school was built 1964 as temporary object (cabin). The reconstruction would include new isolation, change of the roof, external heating isolation, replacement of windows and doors, repair of the floor.

Demolition of the old and building new school – this alternative provides long-term solution to the problem. Building new school in accordance with the new standards will also satisfy the demand for elementary education in Butel municipality.

Transport of pupils to other schools in the municipality – this alternative assumes closing of the existing school and requires additional space in other schools. It should be stressed that all primary schools in the municipality work in two shifts, therefore may not accept new children. Besides the “Zivko Brajkovski” school, there is one more primary school in Butel 1 settlement, which has smaller capacity and also works in two shifts. As a result, it may not accept new children. Application of this alternative would require complex logistic planning and operational expenses for daily transport, opportunity costs for the time the pupils will travel to and back from school. However, due to lack of available capacity in other municipal schools may not be considered.

Having such a choice the municipality opted for construction of new building and presented this idea to the municipal Council. The project was supported in a public debate No.08-613, organized on 30.04.2012 by the municipality at the elementary school

"Zivko Brajkovski". The participants of this debate unanimously supported the idea of construction of the new facility and its partial financing with borrowing.

1.4.5. Assessment of other funding sources

The options of potential funding sources are:

1. Financing from the budget of the Butel municipality
2. Financing from the central budget
3. Financing from donors
4. Commercial borrowing
5. Concessional borrowing

In the Strategy on Local Economy Development (LED) 2009-2012 updated for 2013, the Butel municipality set goals in the field of education:

1. Construction of new elementary school, replacing the old school "Zivko Brajkovski", with participation from the municipal budget and concessional loan from MSIP project.
2. Construction of new elementary school in settlement Vizbegovo, which is planned to be financed by donors.
3. Reconstruction of elementary school Liman Kaba in settlement Ljuboten, which is finished and was financed by the municipality and USAID donation.

Construction of new school "Zivko Brajkovski" is a strategic municipal priority and its financing structure was defined in the strategic documents.

As concerns the first option, the municipality of Butel provided financial resources from its budget for construction of shell, but cannot afford financing the complete project; therefore this option is not feasible.

Financing from the central budget is another option, but presently unavailable. The central budget with limited resources finances construction of new objects mostly in the rural areas, where the municipal financial capacity is much lower than in Butel.

As concerns the third option, it must be said that the municipality has made a decision to use other donors' funds for reconstruction of school in Ljuboten (completed) and construction of school in Vizbegovo (planned). As for the school assumed in this project it was decided to use concessionary funding from the MSIP project.

Access of the municipality to commercial funding is limited because it has not the credit rating to borrow money in the financial market. Hence, as in the case of other municipalities, which approach commercial banks in Macedonia, the issue is lack of proper collateral. Finally, commercial financing is expensive. The interest rates for new loans for years 2009-2013[2] were: 9.6%, 9.2%, 8.6%, 8.2% and 7.8% (end Q3 2013) respectively. Furthermore, the long-term borrowing is legally possible for the municipalities in Macedonia (according the Law on financing the Units of Local Government) but it is not practically applied. Hence, it is even harder to be implemented in Butel municipality, considering the urgent condition priorities.

As concerns the last option – concessionary borrowing, the MSIP funding is the only available option. The project is eligible for financing under the MSIP, as it will provide substantial energy savings contributing to reduction of operational expenditures, will

[2] See: http://www.nbrm.mk/?ItemID=8942BE0290A72F40AE290F9C0ADCDBE0. These are interest rates on denar long term loans for non-financial corporations (pubic and other) without a currency clause.

increase the quality of educational services provided at the municipal level and will strengthen the municipal functions defined in the Law on local self government.

Based on the analysis of all possible financial alternatives we consider MSIP financing adequate for this project.

1.4.6. Cost calculations

The costs for this project will be illustrated in the section project costs in the financial analysis.

1.4.7. Conclusions

The main findings concerning the education system in the municipality are as follows:

- Bad technical conditions in elementary schools;
- The share of pre-school population in the municipality is higher than the average in the Republic of Macedonia, which means that the demand for elementary education in the municipality will be higher than the national average;
- Demographic assessments show that the population in the municipality will increase;
- The number of pupils in the municipality decreases (although the population increases). It is also trend in Macedonia due to reduced number of children per household;
- The number of teachers in municipality of Butel increases due to new subjects and changes in legislative;
- The number of pupils per teachers declines. This is the result of reduced number of pupils and increased number of teachers;
- The trend on the national level is to optimize the number of schools. The number of schools has reduced from 1,045 in 1996 to 990 in 2010, mostly due to reduced rural population;
- The project is based on the strategic documents of the Butel municipality and the investment plans. LED strategy from 2009-2012 (updated 2013) identifies investment needs in education;
- This project satisfies MSIP requirement for reducing of expenses.

2. SOCIAL IMPACT OF THE PROJECT

2.1. SOCIOLOGICAL STUDY

2.1.1. Methodology

The sociological study follows the methodology concept of the World Bank that focuses on the five components:

1. Social diversity and gender
2. Institutions, rules and behavior
3. Stakeholders
4. Participation
5. Social risk

2.1.2. Social diversity and gender

Demographic analysis conducted in section 1 allows formulating the following conclusions:

- Population density in Butel municipality is higher than in Macedonia;
- Butel municipality is complex municipality with more rural area but more urban population and the value added generation is higher in the urban part;
- Infant mortality is lower in Butel municipality than the Macedonian average;
- The male and female share are almost equal in Butel municipality;
- The age share of population over 65 is 9.3% in the total population of Butel municipality and is lower than the proper share in Macedonia (10.6%);
- From ethnic structure point of view Macedonians are dominating with 62% of total population;
- The age dependency rate (population over 65 over population of 15-64) in Butel municipality is 14% and in Macedonia it is 16%.

Direct beneficiaries of this project are the citizens at school age. It is estimated that the project capacity is 900 pupils in two shifts. 16.6% of the pupils in Butel municipality study in elementary school Zivsko Brajkovski. That means that this project will have direct impact on 16.6% of the children in that proper age in Butel municipality.

2.1.3. Institutions, rules and behavior

The Major's, administration's and citizen's assessment concerning this project is reflected in the LED Strategy 2009-2012, updated for 2013, where this project is clearly prioritized with a clear goal. The citizens are fully informed about the project. On 30.04.2012 the municipality held a public debate No.08-613 where lot of citizens living around the school "Zivko Brajkovski", living in the settlement Butel 1, parents and teachers, members of the School Board and the Council of Parent, were present. In that public debate majority of the present welcomed the initiative for demolition of the old building, construction of the new elementary school and the need for credit borrowing to finalize the already built base shell.

This project is also supported by the municipal Council by reaching a Decision No.07-1189/9 dated 20.09.2013 on long-term loan borrowing. The Decision is reached with 18 votes in favor, no abstention and no votes against.

2.1.4. Stakeholders

Stakeholders comprise citizens of Butel municipality, Mayor, municipal Council and political parties within the Council. Detractors are not expected, because this project does not create new educational facility, but replaces old building with a new one. In this sense it is also not expected to increase any existing inequalities among Butel municipality's population. ES "Zivko Brajkovski" is bilingual school where the lessons are held on Macedonian and Albanian language, thus, the users of this project are Macedonian and Albanian nationality.

2.1.5. Participation

The project will be financed from combined sources: municipal budget and the MSIP project. Butel municipality provided financial assets for construction of the shell for this project. The financial assets required from the MSIP project refer to handcraft works, water and sanitation, mechanical and electrical installations, in order to finalize the school building, urban landscaping and demolition of the roof made of asbestos. Obtained funds from MSIP loan will be repaid from the municipal budget in the coming years. The project does not require any additional financial contribution from citizens.

2.1.6. Social risk

High socials risks for carrying out of this project cannot be perceived and are highly unlike. This project assumes replacing old building with a new one that will improve the education environment for the pupils and the working conditions for the teachers and all together will improve the quality of life of Butel municipality citizens. The project refers to bilingual school, so any ethnic group is preferred.

2.2. RESETTLEMENT ISSUES

This project is not subject to resettlement issues and/or population migration in Butel municipality. Namely, with the demolition of the old one and building the new school building there will be no migration of existing pupils: during the construction the education will take place in the old barracks.

2.2.1. Conclusions on the projects potential success and recommendations

- This project is beneficial because it replaces the obsolete and depreciated assets of the old school with a new building;
- This project introduces energy efficiency facility;
- This project will improve the performance of the educational competency of Butel municipality for the children with the proper age;
- This project is not subject to resettlement issues and/or pupils migration in other schools or temporary objects;
- This project provides better working conditions for the teachers;
- This project provides better quality of life for the Butel municipality's citizens;
- This project marginally protects the environment;
- There is stakeholder's consensus within Butel municipality about this project;
- With this project the cohesion among citizens, administration, Mayor and Council of Butel municipality is strong.

3. ENVIRONMENTAL IMPACT OF THE PROJECT

One of the main strategic goals of the Butel Municipality defined within the Local Economic Development Strategy (2009-2012) is to improve living conditions including the improving physical infrastructure of elementary schools located within the municipality borders.

In 2013 the Butel Municipality has started the construction of the new elementary school "Zivko Brajkovski" with own funds, so in January 2014 the first phase of the project has been completed (the basic construction of the building – including reinforced concrete frame structure from the base to the roof). The number of pupils assumed is 900 distributed in 1-9 class in two shifts.

The school is located in the Butel Municipality (presented on **Error! Reference source not found.**) in very urban residential area. The main entrance is from the street "Kraiska", and the borders of the location are between the street "Kraiska" in the south, street "Ho Shi Min" in the west, street "Natanail Kuceviski", kindergarten "Bratstvo - Edinstvo" and street "Butelska" to the north.

Figure 1 Location of the Elementary School "Zivko Brajkovski" and photo of completed I phase of the construction project (reinforced concrete frame structure finished)

The Butel Municipality would like to complete the interior and exterior works (including the decommissioning the old school near the new builds) with WB loan under MSIP project.

The project goal is to complete the already constructed new elementary school "Zivko Brajkovski" and also to decommission the existing old one build 40 years ago in the settlement "Butel 1".

In order to complete the construction and launch the new school building the following activities assumed in project design are still needed: a) Installations, b) External water and sewer installation, c) Electrical installation, d) Internal installation (water and sewer installation within the facility according the project), e) Insulation works, f) Plastering, carpenter, ceiling, tile and painting works, g) Floors, h) Facade and other works. The demolishing of the old school and landscaping (including internal roads and pedestrian paths) are also a part of this project appraisal.

The most relevant information for the environmental safeguard point is the location of the new school, location and type of construction of the old school and type of activities envisaged during the completion of the new school and decommissioning the old one.

The new school building is located at the south east part of the plot location next to the three existing barracks of the old school and it has been fenced according the OH&S standards.

The old school was built in 1964 and it is still under operation. It has 23 classrooms, administrative offices, toilets and gym hall. The school possesses its own heating system (one underground fuel reservoirs - with the capacity of 4t near Day Care Facility and 3 fuel reservoirs - with the capacity of 5t, each of them located before each of the three pavilions and near renovated school gym hall). The heating system runs on heating oil. The windows are in bad condition, old with wooden frame and single window glass. The side walls are built with light material as the rest of the object. The roof is wooden covered with asbestos cement sheets. The school facilities deployed across the school plot are the three pavilions connected with cross halls, the renovated gym and sports and recreation courts, the water supply and sewage pipeline.

The environmental impacts expected in the following phases of the Project:

a) Final interior and exterior works in new school building,
b) Decommissioning of the old school building (three pavilions) and operation of the new school building.

The generation of noise and vibration, generation of different waste streams, emissions into air and soil are the most important and possible environmental impacts.

The removal of the asbestos-cement roof sheets will be one of the most significant environmental adverse impacts during the demolishing activities of the old school. The storage and transport of demolition materials should be removed, packed, labeled and processed according to the legislation on hazardous waste (Directive 91/689/EEC on hazardous waste and national legislation on hazardous waste and WB guidance on work with ACM). The mitigation measures for proper handing and management of asbestos containing materials (ACM) have been provided in the attached EMPs.

During all project phases different waste streams will be generated, especially during the decommissioning phase when all demolished parts of all three pavilions will be removed. Waste from decommissioning of old building will include as a minimum: inert waste (old windows, doors, wooden panels, bricks, glass, sanitary fittings, ceramic tiles, light bulbs), concrete, reinforced concrete, iron, stone, asbestos containing material, waste contacting fuel/oil left in the boilers and underground reservoirs. During final interior and exterior works on the new school the following waste streams are expected: packaging waste - waste paints and coatings and their packaging, packaging of new windows, doors and furniture that will be installed in the school building.

The Waste Management Plan should be prepared in order to identify the type of generated waste and quantity expected. Classification of the waste streams should be done according the List of waste (to identify if it is hazardous or non-hazardous) and knowledge how to deal and manage each waste stream on safety manner.

According the Law on noise protection (Official Gazette No. 79/07, 124/10, 47/11) the living area where the schools are located belongs to the area with second degree of noise protection and the maximum allowed noise level should be 45dB for night and 55dB for day and evening. The project activities are not envisaged during the evenings and nights.

Currently we do not have information what is the purpose of the land where the old school is placed in order to take into consideration the necessity of dig and removal of the underground reservoirs.

The safety measures for pupils and general public are crucial due to the fact that when the decommissioning of old school will take place the new school will work and the pupils will go around the old school yard passing near the decommissioning area. The minimization of health risks and injuries need to be applied with the good decommissioning practice implementing several mitigation measures proposed within the EMP.

It is very important to mention that all trees on the plot of the old school location need to be protected during the demolition of three pavilions and if necessary to reduce the cutting of tree to the minimum. The work on decommissioning the old school could impact the old high trees in the old school yard poplar trees (*Populusdeltoides*), lime trees (*Thilliasp*), pine (*Pinus sp.*) and walnut trees (*Juglansregia*) caused by mechanized equipment: bark removal, branch breakage and surface grading. Measures for trees protection have been provided in EMPs.

Figure 2 Trees near the old school pavilions

The main responsibility lays on the Sub-contractor who needs to take into account and apply on everyday basis all proposed preventive and mitigation measures. The Supervisor needs to perform the supervision on the practical implementation of the mitigation measures by the Sub-contractor and to report to the Butel Municipality.

The municipal staff (Project Manager) needs to coordinate the working plan and proposed measures with the school officials (Director, Housekeeper) and Sub-Contractor for smoothly project implementation and minimization of environmental, health and safety risks.

For this type of projects (construction of primary schools) the Investor (Butel Municipality) is not obliged to prepare the EIA Report according the national legislation.

According the WB Environmental Assessment Operational Policy 4.0.1 the Summary EIA Study was prepared identifying in more details the baseline data, potential impacts and sensitive receptors, mitigation measures and parameters that need to be monitored, responsible institutions and relevant national environmental legislation and WB, EU standards need to be followed by sub-Contractor, supervisor and municipal staff.

3.1. ENVIRONMENTAL MITIGATION PLAN

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Decommissioning of the old school				
Demolition of the old school (Pavilions I, II and III) including the ground reservoirs and boilers for heating oil	***a) OH&S issues*** Possible adverse health impacts to the workers, facility users and general population in the community due to: - Location of old school in the urban area – near street Kraiska; - Possible injury to people and school users due to ongoing works; - Non - compliance with national health and safety at work procedures; - Non - compliance with local community safety regulations.	Local/ short term/certain can happen /high significance	➢ Adequate warning tapes and information signs around the old school during the demolition activities; ➢ For the workers - the legally prescribed health and safety measures should be applied, like: a) use of proper protective clothing and equipment by employees, especially masks against dust and small wooden parts and fibers, and safety harnesses for work at heights; b) Maintain a good level of personal hygiene; c) Health protection-first aid kits and medical service on sites need to be provided during the works; ➢ The surrounding area (school yard) should be kept clean, without waste disposed there. The waste need to be collected and immediately removed from the yard as it could be a cause of injury; ➢ The old windows and doors should be temporary put on safe place which is designed to prevent access of unauthorized persons; ➢ The demolition related activities should be conducted outside of normal school hours (of new school) to the extent most feasible; ➢ Separation of the work areas from demolition and occupied areas of the buildings as much as possible using physical barriers; ➢ Limit the foot traffic between work areas and occupied areas of the buildings; ➢ The project site should be lighted during the nights; ➢ Following safety guidelines for the storage, transport, and ➢ distribution of hazardous materials to minimize the potential for misuse, spills, and accidental human exposure; ➢ The eventually broken windows glass (in the class, corridors or outside) should be clean immediately; ➢ Regular maintenance of vehicles to minimize potentially serious accidents	• Contractor – Bidder • Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
			caused by equipment malfunction or premature failure; ➢ Using labeling (external signs on transport vehicles).	
			➢ The cleaning schedule of the buildings should be increased to address the extra dust and dirt created by the demolition work; ➢ Information that the demolition is ongoing should be posted on the entrance doors of the other prefabricated sheds; ➢ The work during the breaks between classes should be prohibited; ➢ The Dynamic Plan for re-schedule of the occupied school rooms should be done in accordance of demolition/construction work progress; ➢ If possible begin and end demolition activities during the summer months or while staff and kids are not in school.	• Municipal staff (Communal Inspector/Environmental Inspector) • School officials
	b**) Waste management** Possible adverse environmental impact and health effects could occur due to inappropriate waste management (especially with asbestos containing materials) during the demolishing activities	Local/ short term/certain to happen with high significance	➢ Preparation of the Waste Management Plan for the expected waste streams during the decommissioning phases of the project (The Plan should include the asbestos containing materials and other waste streams); ➢ The assessment of the quantity of asbestos containing materials in the old school; ➢ Identify the hazardous and non-hazardous waste and separate them at the demolition site; ➢ The majority of waste would be classified under the Waste Chapter 17 "Construction and demolition wastes" with the waste code 17 01 – Waste from concrete, bricks, 17 09 04 – Mixed waste from construction site including glass from old windows and manage in accordance with national waste legislation for inert waste (separation at the spot, collection and temporary storage, re-use if it is possible, transport to the final destination – Landfill Drisla); ➢ The contract with the company for waste collection and transportation should be signed for collection and transport of waste including old windows and doors;	• Contractor – Bidder • Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
			➢ The materials should be covered during the transportation to avoid waste dispersion; ➢ Burning of construction waste is prohibited.	
			➢ The old windows and doors should be stored temporary in separate room in the school or if it is not possible outside in the yard covered and labeled "not to open/uncover" until final disposal; ➢ The school officials need to record the waste management of removed old doors, windows if they intend to give for further usage.	• School officials
	c) Water quality Possible pollution of the underground water could occur due to ground contamination from the spillage of materials such as vehicle fuel or from the improper dismantling of the equipment (boilers and fuel reservoirs	Local/Short term/probable/Medium	➢ Possible hazardous waste (motor oils, vehicle fuels, lubricants) should be collected separately and authorized company should be sub-contracted to transport and finally dispose the hazardous waste; ➢ Dismantling of the heating oil equipment (ground reservoirs and boilers) should be done by trained persons in order to avoid the potential effects of oil spills on soil, which would contaminate the underground water.	Contractor – Bidder Supervisor
	d) Noise The decommissioning activities will cause noise and vibration due to the machinery and vehicles used for transport of waste materials, transport of workers; The potentially affected will be students from the elementary school and	Local/Short term/Medium significance/ Certain to happen	➢ The equipment should be fitted with appropriate noise devices that will reduce sound level; ➢ The level of noise should not exceed more than 55 dB during the day and evening and 45 dB during the night; ➢ The demolition work should be not permitted during the nights, the operations on site shall be restricted to the hours 7.00 -19.00; ➢ The vehicles that are excessively noisy shall not be operated until corrective measures have been taken (the area is residential and students might attend classes during the construction phase in other pavilions (I and II).	Contractor – Bidder Supervisor Communal Inspector/Environmental Inspector

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	nearby residents.			
	e) Air quality The decommissioning activities will initiate emissions from the mobile sources; The airborne dust will be caused by dismantling of the school building parts, equipment and especially the asbestos containing materials.	Local/Short term/Low significance/ Certain to happen	➢ Usage of protective masks for the workers; ➢ Vehicles and construction machinery will be required to be properly maintained and to comply with relevant emission standards; ➢ Vehicle loads have to be covered to prevent emission of dust; ➢ Construction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days, especially due to students and residential areas neighborhood; ➢ Construction materials should be stored in appropriate covered places to minimize dust; ➢ Open burning of debris will not be permitted; ➢ Restriction of the vehicle speed within the construction location.	Contractor – Bidder Supervisor Communal Inspector/Environmental Inspector
	f) Biodiversity The work on decommissioning the old school could impact the old high trees in the old school yard poplar trees (*Populus deltoides*), lime trees (*Thilliasp*), pine (*Pinus sp.*) and walnut trees (*Juglansregia*) caused by mechanized equipment: bark removal, branch breakage and surface grading		➢ Prior to beginning a demolition activities, the Sub-Contractor, school officials, municipality staff representative and representative from the Public Enterprise "Parkovi i zelenilo" should property evaluate every tree in the proposed old school yard near the three pavilions; ➢ The determination if cutting is really necessary during the demolition works need to be performed; ➢ Minimize injury to existing trees with properly placed and properly sized barricades; ➢ Post highly-visible barricades and signs around the trees to be protected; ➢ The determination if the trees preservation is worthwhile need to be done.	

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Removal of the asbestos containing wall panels - ACM (removal of the existing asbestos sheets, temporary disposal until final transportation and disposal of the asbestos sheets at landfill "Drisla")	**a) OH&S issues** Possible adverse health impacts to the workers, facility users, children and general public as a result of emissions of asbestos fibers and dust during the removal of asbestos sheets , their transport and final disposal	Local/ short term/certain to happen/ major at the location of old elementary school "Zivko Brajkovski"	➢ Post signs indicating "ASBESTOS REMOVAL – NO ADMITTANCE" on the workplace in the school yard; ➢ Restrict access to the removal area to those people directly involved in the asbestos removal and site supervisor and municipal inspectors; ➢ The roof should be demolish during non-working days to decrease the health risks to pupils; ➢ Install barriers tape and warning signs in proximity to the school; ➢ For the workers - the personal protective equipment must be provided to all workers (full body covering including the head, water proof foot and hand protection and eye protection, dust mask with special HEPA filter); ➢ Maintain a good level of personal hygiene (facility for washing hands and face should be made available and need to be used by each employee when leaving the work area, all protective clothing and equipment shall work in the work area, footwear is to retain in the work area until work is completed; ➢ Health protection-first aid kits and medical service on sites need to be provided during the works; ➢ No smoking, drinking, eating or chewing is allowed inside the working area; ➢ The surrounding area (school yard, halls and corridors) should be kept clean, without ACM waste disposed there. The ACM waste (roof sheets) need to be collected, packaged and immediately removed from the school yard.	Contractor – Bidder Supervisor
			➢ If possible begin and end demolition activities during the summer months or while staff and students are not in school	School and kindergarten officials
	b) ACM Waste management Possible adverse environmental impact and health effects could occur	Local/ short term/major	➢ The personal in charge for removal of ACM roof sheets should be trained on proper safety dismantling of the roof sheets minimizing the health risks; ➢ The identification of the asbestos containing material – waste as a hazardous waste should be done; ➢ The ACM waste need to be classified as a hazardous waste under the Waste	Contractor – Bidder Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	due to inappropriate handling with waste containing asbestos		Chapter 17 "Construction and demolition wastes" with the waste code 17 06 05* – Construction material containing asbestos in accordance with List of waste (Official Gazette of RM NO. 89/06); ➢ The demolition and remove of the ACM roof sheets should be done very quickly by trained personal; ➢ The ACM waste should be placed in polyethylene bags or other containers of at least 0.15 mm thickness; ➢ Printed asbestos warning labels must appear on the outer surface of the container/bag; ➢ The break of the ACM roof sheets into smaller pieces to fit into container/bag is forbidden; ➢ The roof sheets should be handled very carefully and to be remove sheet by sheet in one piece, not to be broken because during the break the asbestos fibers and dust appear and pose a health risks; ➢ It is better to avoid the temporary storage of roof sheets within the school yard, but it is necessary to be done for one/two days, the precautionary measures should applied – the ACM waste should be stored in a designated area with posted signage and/or caution tape to eliminate any damage; ➢ The temporary stored bags/containers containing asbestos waste need to be labeled "Asbestos waste"; ➢ The contract with the company for Asbestos containing waste collection and transportation should be signed for collection and transport of asbestos waste/roof sheets; ➢ After the removal of the asbestos waste all surfaces in the school yard need to be dusted with a damp cloth or vacuumed with a HEPA filter; ➢ The workers who perform clean up should wear protective clothes as those who perform dismantling of the roof sheets; ➢ The contract with the Public Communal Enterprise Utility "Landfill Drisla"	•Municipal staff (Communal Inspector/Environmental

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
			should be signed for final disposal of asbestos containing roof sheets; ➢ On the landfill the asbestos containing waste should be disposed on the special area for disposal of that type of waste.	Inspector/ Mayor)
Final interior works				
Construction of the new primary school "Zivko Brajkovski" (II phase – interior and exterior works)	***b) OH&S issues*** Possible adverse health impacts to the workers and general public due to non-compliance with national health and safety at work procedures	Local/ short term/certain to happen /high significance	➢ For the workers - the health and safety measures should be applied, like: a) use of proper protective clothing and equipment by employees during (facade works, painting, mechanical installations, electrical installations, carpenter works, tile works, plastering works) and safety harnesses for work at heights; b) Maintain a good level of personal hygiene; c) Health protection-first aid kits and medical service on sites need to be provided during the works; ➢ Following safety guidelines for the storage and distribution (collection of hazardous materials, label as hazardous waste and give to the authorized company) of hazardous materials to minimize the potential for misuse, spills, and accidental human exposure. ➢ Protection of pedestrians, general population and school children - fence the area and prevent access of non-authorized personnel to construction site; ➢ Organize 24-hour guard watch of the site; ➢ Organize transport of construction material (in/out) outside school working hours, or maintain separate transport routes for the contractor and existing school users".	• Contractor – Bidder • Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	c) **Waste management** Possible adverse environmental impact and health effects could occur due to inappropriate waste management with various waste streams that could lead to the underground water and soil pollution.	Local/ short term/certain to happen with high significance	➢ Very small quantities of glue, paint, packaging waste from paints and glue, and other construction material could be found after the finalization of the project and manage in accordance with national HW legislation (collection of hazardous materials, label as hazardous waste and give to the authorized company); ➢ The contract with the authorized company for waste collection and transportation should be signed for collection and transport of hazardous waste. ➢ Preparation of the Waste Management Plan and its approval, within 15 days of starting the activities on site. The Plan must be reviewed and approved by the site supervisor.	• Contractor – Bidder • Supervisor
	d) Noise The construction activities – final interior works will cause noise and vibration due to the machinery and vehicles used for transport of construction materials, transport of workers, and transport of waste produce in constructive phase. The potentially affected will be students from the elementary school and nearby residents.	Local/Short term/Medium significance/ Certain to happen	➢ The equipment should be fitted with appropriate noise devices that will reduce sound level; ➢ The level of noise should not exceed more than 55 dB during the day and evening and 45 dB during the night; ➢ The final interior work should be not permitted during the nights; the operations on site shall be restricted to the hours 7.00 -19.00. ➢ The vehicles that are excessively noisy shall not be operated until corrective measures have been taken (the area is residential and students might attend classes during the construction phase in other pavilions (I and II).	• Contractor – Bidder • Supervisor • Communal Inspector/Environmental Inspector
	e) Air quality The final interior works will initiate dusts that contain	Local/Short term/Low significance/	➢ Usage of protective clothing (masks, gloves) for the workers; ➢ Materials for final interior works should be stored in appropriate places.	• Contractor – Bidder • Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	hazardous substances such as lead and carbon fibers that could be inhaled by workers from painting (dust generated by painting or varnishing may create health effects, especially respiratory problems)	Certain to happen		• Communal Inspector/Environmental Inspector
Operational phase of the new school	No environmental risks are expected. Positive impact (more space for students, energy efficiency and energy savings, reduction of GHGs emissions) is expected with the construction of the new school replacing the old one. The Fire prevention Plan should be prepared addressing the identification of fire risks and ignition sources, as well as measures needed to limit fast fire and smoke development. The Plan for regular and preventive maintenance should be prepared to ensure proper operation of all infrastructure components of the school (sewer system, storm-water system, water supply system, heating devices, etc.). The keep records procedure should be established in order to ensure proper files storage on all technical documentation for the new school. A short training to the Housekeeper /Secretary of the School for records and files keeping should be organized by the Butel Municipality.			

3.2. 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	
					Cons.	Oper.	Demolition of old school and construction the new one	Operations of the new school
Project stage: Startup of the demolition of old school								
The public and students safety regulation and protection measures applied	Around the project sites- primary school "Zivko Brajkovski"	Visual checks	At the beginning of the decommissioning work (first day) and interior works in the new school Every working day during the project activities	To ensure minimization of health and safety risks – mechanical injuries to the members of the local community – especially from broken glass, wooden windows and doors and spikes. Special attention should be put during the removal of the asbestos containing roof sheets			Contractor - Bidder /Supervisor/ Municipal staff (Communal and Environmental Inspector)/ School officials	
The OH&S protection measures applied for the workers at the sites Organization of 24-hour guard watch of the site is put in effect	On the project sites	Visual checks	Every working day during the projects activities	To minimize the risks on occupational injuries of the workers who will remove asbestos containing wall panels To ensure OH&S for the workers who will finishing interior works			Contractor - Bidder /Supervisor/ Municipal staff (Communal and Environmental Inspector)/ School officials	
Waste Management Plan for management with all generated waste streams	On the project site	Review the Waste Man. Plan	Before the demolition and interior and exterior works start; approval of	To ensure proper waste management of all generated waste streams in order to minimize the risk of soil and underwater pollution. To separate hazardous (asbestos containing materials,				

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(for works on the new school and demolition of the old one) with instructions to follow the waste hierarchy (primary selection, re-use, final disposal)			Supervisor is needed	packaging waste from glue, paints, insulation material) from the non-hazardous waste as well as inert from biodegradable waste.				
Collection and transport and final disposal of hazardous waste	On safety temporary storage	Review the transportation list and conditions at the storage facility	Before the transportation of the hazardous waste (if there is any)	To improve the waste management practice on municipality and national level.			Authorized Contractor for collection and transportation of hazardous waste subcontracted by the Contractor-Bidder	
Identification of the asbestos containing waste, proper packaging, labeling as a hazardous waste	On the project sites	Review the documentation – identification of the asbestos containing waste according the List of waste	At the beginning of work	The asbestos containing (ACM) material/ waste is a hazardous waste with adverse environmental and health impacts			Contractor – Bidder Supervisor/ Municipal staff (Communal and Environmental Inspector)	
The contract with the authorized	Before the removal/	Review the	During the collection and	To be sure that the asbestos containing waste will be treated according the			Contractor – Bidder who needs to sign the	

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transporter of the asbestos containing waste should be signed The contract with the Landfill Drisla should be signed as well for acceptance and final disposal of the waste	dismantle works start	contracts	transportation of the removed roof sheets Before the final disposal of removed sheets	national legislation, international conventions, good practice			contract with licensed company for acceptance and final disposal of the asbestos containing waste. The Landfill Drisla has a License for acceptance and final disposal of asbestos waste issued by the Ministry of Environment and Physical Planning	
Collection transportation and final disposal of the wooden windows and doors, waste construction materials, old school furniture, light bulbs, electrical cables, etc	On the sites and around the sites	Visual monitoring and reviewing the transportation	After the collection and transportation of the waste from old wooden windows and doors by the CSE "Komunalna Higiena"	Not to leave the waste on the spot to avoid the environmental and health impacts to the children			Contractor – Bidder who need to sign the contract with licensed company for collection, transportation and disposal of the waste from replacement	
Fulfilled Annual Report on transportation	Municipality	Review of documentation –	After the accomplishment the task of	To improve the waste management and hazardous waste management on local			Mayor	

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and disposal of waste		Identification waste List	collection, transportation, temporary disposal and final disposal of different type of waste including asbestos containing waste	and national level				
Noise level	On the site	Monitoring of the noise levels dB (A) with appropriate monitoring devices	On regularly basis during the work, 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 exposure area for noise protection as residential district (55 dB (A) during the day time)			Contractor – Bidder Authorized Company for performing noise levels measurements sub-contracted by the Contractor – Bidder	
Trees protection in the old school yard	In the old school yard	Assessment of necessity to cut the trees and to protect them	Before start of decommissioning works	To assess the positioning of trees refer to the three pavilions and to minimize the need for cutting the trees and to protect them during demolition of old school			Contractor – Bidder Municipal staff Representative from PE ”Parkovi I zelenilo”	
Project stage: Operational phase of the School								
Drinking water quality	Before the distribution through the new water supply system, the	Laboratory equipment for physical-chemical and microbiological water quality	Before the start with school operation	To ensure the distribution of high quality drinking water to the students minimizing the health risks of waterborne diseases				Municipal staff School officials PE

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	water sample should be analyzed by the Authorized laboratories – Public Health institute Skopje/ Accredited laboratories	analysis						"Vodovodi kanalizacija" - Skopje
Fire Protection Plan	Before the start of school operation	Review of the Plan	At the beginning of school work	To ensure that all fire protection measures are implemented				Municipal staff School staff
Plan for regular and preventive maintenance of the school and training on technical records keeping	Before the start of school operation	Review of the Plan	At the beginning of school work					Municipal staff (Communal and Environmental Inspector) School staff