



## PROGRAMME

For Public International Single-Stage Architectural-Urbanistic Open Competition  
FOR DESIGN OF THE COMPLEX, CONSTRUCTION OF NEW ACCOMMODATION FACILITIES AND  
RECONSTRUCTION OF EXISTING ACCOMMODATION FACILITIES IN THE STUDENT CITY COMPLEX IN NOVI  
BEOGRAD

July 2022

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for public international single-stage architectural-urbanistic open competition  
FOR DESIGN OF THE COMPLEX, CONSTRUCTION OF NEW HOUSING AND RECONSTRUCTION OF EXISTING  
HOUSING IN THE STUDENT CITY COMPLEX IN NOVI BEOGRAD

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Competition conducted by:

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## INTRODUCTION

The “Student Housing in Serbia” project, which includes, as the *Subproject 2, Home within the Student City in Belgrade for Accommodation of 1,000 Students*, is implemented by the Ministry of Education, Science and Technological Development of the Republic of Serbia (MESTD) in cooperation with the Council of Europe Development Bank (CEB), with the aim to increase the accommodation facilities capacity intended for students by implementing latest standards in sustainable construction and using student dormitories in university centers in Serbia. At the same time, implementation of the *Subproject 2* has been supported, as an innovative solution in the field of circular economy and green construction in the public sector in Serbia, through the “EU for Green Agenda in Serbia” project that is financially supported by the European Union and realized in partnership with the Ministry of Environmental Protection, and which is implemented by UNDP in cooperation with the Embassy of Sweden and the European Investment Bank (EIB).

Implementation of this architectural-urbanistic competition is one of the first steps in the segment of preparational activities for realization of the *Subproject 2 - Home within the Student City in Belgrade for Accommodation of 1,000 Students*.



Figure 1. Student City

### 1.1 Subject and scope of the competition

**The Subject** of the competition is the conceptual design of the architectural-urban solution for urban revitalization of the Student City complex. Considering the results that are expected to be achieved by the competition, the subject of the competition is demonstrated in two domains - the Primary Subject of the Competition and the Subject of the Competition at the Survey Level.

**Primary Subject of the Competition** is the conceptual design of the solution for construction of the dormitory intended for accommodation of students, for 1,000 students, as well as all-encompassing design solution for ground floor arrangement of the Student City complex.

**Subject of the Competition at the Survey Level** is the proposal of the solution for reconstruction and adaptation of existing accommodation facilities within the Student City complex with the aim to increase the capacity of their sustainability, achieve harmonization with the energy efficiency criteria, and implement higher standards of student accommodation by modernizing and improving the functional and technological characteristics of the existing spatial structures.

**The Scope** of the competition is the area of the "Student City" complex located at the address 143-157A Tošin Bunar St., Novi Beograd, i.e. the area that is defined by streets Tošin Bunar St. (to the west), Zorana Đinđića Blvd. (to the north), Studentska St. (to the east) and the traffic connection between the Highway (from the direction of the city of Nis) and the streets Tošin Bunar St. and Studentska St. (not realized). The total surface area that is included in the competition amounts to approximately 10.361 ha.



Figure 2. Orthographic photography showing the area that is covered by the competition

## 1.2 Motive and objective of carrying out the open competition

**The Motive** for organization of the open competition is a result of the need to increase the student accommodation facilities capacity of student dormitories within the university centers of the Republic of Serbia (Belgrade, Novi Sad, Nis) considering the estimated number of missing accommodation capacity in student dormitories on the basis of needs expressed in the course of competitions, organized by the Ministry of Education, Science and Technological Development, for placement of student of higher education institutions in the Republic of Serbia in institutions for provision of accommodation and meals for students, which have been organized in recent years. Taking into account the aforementioned indicators, the number of missing beds within student accommodation facilities in Belgrade amounts to 1,000. According to the Decision adopted by the Ministry of Education, Science and Technological Development (MESTD), and in accordance with the Feasibility Study, the student accommodation facilities capacity in Belgrade is planned to be increased within the Student City complex by constructing new student accommodation facilities facilities.

In accordance with the competition requirements, demands of the program, potentials and importance of the location, the **Objective** of the competition is to select the best architectural-urbanistic solution for construction of new student accommodation facilities and arrangement of the area of the whole Student City complex, including the proposal of the solution for reconstruction and adaptation of the existing accommodation facilities at the survey level of preparation. It is expected that the competition solution for urban revitalization of the Student City complex will integrate all existing ambient, functional and semantic values of this area into a modern, authentic and recognizable multifunctional student accommodation facilities complex that corresponds to the its surroundings and improves its value.

Another aim of the competition is to promote the principle of circular economy and sustainable green construction, with low energy consumption during exploitation, and their implementation in the process of construction of public sector facilities in Serbia.

The selected solutions will form the basis for preparation of urbanistic-technical and design documentation for construction of new capacities, reconstruction and adaptation of existing structures and landscaping of the student accommodation facilities complex "Student City".

## ABOUT THE STUDENT CITY

Despite the fact that the student accommodation facilities complex “Student City” is one of the oldest student dormitories in Belgrade, today it constitutes a modern student campus that provides accommodation and meals to students of higher education institutions (faculties, academies and colleges of vocational studies) founded by the state of Serbia and located at the territory of the city of Belgrade. In the organizational sense, the Student City is a specific unit within the system of the Institute Student Center Belgrade.

Student City is the largest student campus in the Balkans. It was built after the Second World War, between 1948 and 1955. Zagreb architect Drago Korbar is mentioned as the designer of the facilities of the Student City.

The Student City has four student dormitories with basic supporting facilities (each of them has two wings - G and F), including a student restaurant, grill restaurant, shops, a sport hall, outdoor sport fields, a boiler room, and some professional services: security, sports and recreation, technical services, telecommunication, transport, and information technologies. Each of the dormitories operates as a separate entity regarding its organization and management (every dormitory has its own director), just the same as student dormitories outside the Student City. At the entrance of each of the dormitories there is a porter’s office that works 24 hours a day. Every dormitory has reading rooms, drawing rooms, TV halls and laundromats. The dormitories also house student clubs and associations (student organizations, handball, football, karate and chess clubs, photo and literary clubs, society of gusle players and similar), Student City TV, and a photocopy service. A part of accommodation capacity in the Dormitory 1 operates as a hostel, while the F wing contains the local hospital that belongs to the Student Polyclinic. Premises of the Academic Cultural Artistic Association “Zikica Jovanovic Spanac” are located in the G wing of Dormitory 3, while the post office is available in the F wing. Special segments and various contents in the dormitories complement each other, making the Student City what it is - a specific environment that is completely dedicated to life and work of students that inhabit it.

The Student City also contains the Student’s City Cultural Center (with a large reading room, the main hall for musical, theatrical and film programs, a small hall intended for conferences, ateliers, summer stage, and a bar), but this facility does not belong to the Institute Student Center Belgrade.

### **History**

First plans for construction of a student complex with 4,500 beds were made in 1947. In a swampy area between Zemun and Belgrade, on 11 April 1948, youth work brigades began the post-war construction of Novi Beograd. The Student City was one of the first complexes that were built.

Since the conditions of student life in Belgrade at the time were extremely unfavorable, and since there was a dire need to create additional accommodation capacity, youth work actions were planned with the aim to build 4 dormitories of the Student City in 1948. However, seven years passed between the beginning of construction and its completion. Construction of the student city was in large part performed by students who participated in youth work actions (according to some data, 95% of 10,000 construction workers were the participants of youth work actions, both boys and girls). The dormitory buildings became occupied in stages - in winter of 1951, students moved in Dormitory III, which was the first completed building in the complex. Dormitory II was completed in the same year, while Dormitories III

and IV were fully completed in 1955. G wing had six floors (GF + 5), while F wing had seven floors (GF + 6). Without doubt, construction of the Student City was one of the largest construction projects of the Belgrade University.



Figure 3 A view of the Student City in construction from the direction of the west, from today's Studentska Street, 1952.



Figure 4 A view of the Student City in construction from the location of the SRC "11. April". ©Branibor Debeljkovic

In some of the buildings, numerous problems were solved only after the students have already moved in. In the autumn of 1952, the dormitory 4 had 8 showers, 2 bathtubs, 4 washbasins and boilers used to heat water - 72 water-consuming devices in total - while 1,000 students lived in it." (Mitrovic, 2002)

By the end of the fifties, the Student City had 5,340 regular residents and a certain number of so-called “illegals”. Very soon, foreign students appeared in the Student City. They mostly stayed in rooms with two beds together with a Yugoslavian student, which allowed them to better familiarize themselves with the country and its people. The criteria for students became stricter each year, but despite that, the number of students looking for accommodation was on the increase.

The Student City in Novi Beograd was officially founded on the basis of the decision adopted by the Government of the People’s Republic of Serbia on 25 September 1952. The main goal of the Student City was to provide the regular students of the Belgrade University, colleges and academies with accommodation and allow them to comfortable conditions for their work and studies. On 2 June 1958, it was registered with the People’s Board of the Municipality of Novi Beograd as an independently financed institution, “Student Dormitory - Student City, Novi Beograd”, with the University as its founder. The dormitory was managed by a managing board and the director.

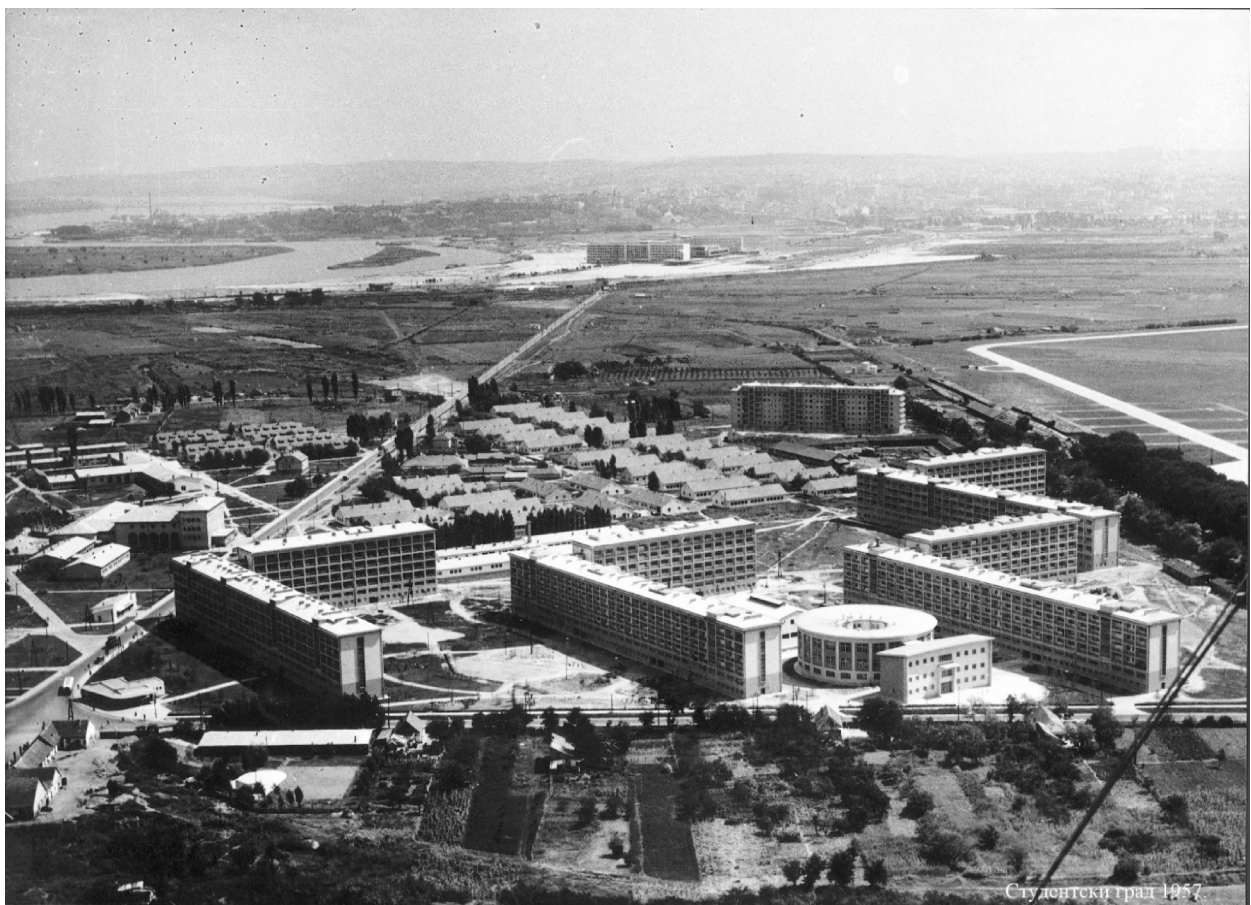


Figure 5 Student City, 1957. Source: Student City Archives

Since its very beginnings, the Student City had a specific social life of its own. During the first decade after its founding, it became a central hub for student solidarity and sharing of experiences and opinions, as well as the revolutionary spirit. Famous student protest of 1968 began on the night between June 2-3 in front of the Block I of the Student City.

The Student’s City Cultural Center was constructed almost two decades after the very first buildings of the complex. Its planning began at the moment when it became necessary to take the heat out of students’ protests and provide the students with better conditions.

The dormitories were always filled to capacity and their rooms were often overcrowded (fourth bed was added in rooms that were originally intended for three beds), apart from the well-known and traditional problem with “illegals”. Today, students’ needs in their studies and their work are given a lot of attention and each of the dormitories has reading rooms, some of which have been converted into drawing rooms used by students of technical and artistic faculties.

Associations and clubs that exist today in the Student City were mostly founded during the fifties. One of them is the ACAA “Zikica Jovanovic Spanac”, which today has its own premises with all necessary facilities in the G wing of Dormitory 3.

Initially, regarding organization of accommodation units, the dormitories had shared sanitary facilities (with washbasins and toilets) at each floor, while showers were available in the central bathroom located in the Boiler Room facility with around 100 showers. The Student City complex got its present-day appearance during the reconstruction that took place between 1985 and 1997. During the reconstruction, mansard roofs were added, which allowed an increase in the accommodation capacity of each section, as well as elevator cores in the form of annexes to the buildings, while all rooms were equipped with sanitary facilities and kitchenettes.

Since the eighties of the last century, the quality of accommodation and meals available to students - a part of the boiler room has been reconstructed, allowing central delivery of hot water, the central bathroom in the Boiler Room facility was transformed into a Sports Hall, and sport grounds were newly arranged with an open gym as well as running and walking tracks.

### ***Opinions about the Student City***

“Although all buildings are very similar, students are of the opinion that some blocks are better than the others, including some rooms. Rooms are adapted to the number of people that will live in them. They have bathrooms, as well as kitchenettes. Students are allowed to decorate their rooms in accordance with their tastes and create an environment that will suit them. Of course, their family and friends are allowed to visit them in their new little homes. Everything is tightly controlled to ensure students’ safety, and all visitors are required to pass through the reception desk. If someone has a visitor, such a visit must be reported and a personal ID is then left at the reception desk - an ID card or a student card.”

[www.011info.com](http://www.011info.com)

“Young people from all regions of former Yugoslavia, today Serbia, have been coming together at this place for more than 60 years. We will find out more about the evolution of the environment in which student life took place, the ways in which they spent their free time together, the changes in the students’ standard of living, and the transformation of the functionality of the architectural complex in which they have lived. Of course, each of these segments was determined by the prevailing cultural background of the period during which the photographs were made, which is evidenced by posters on the walls of rooms, students’ clothes, and their relationship towards photography and its role as one of the instruments of memory.

We will also find out many things that constitute the oral history of the Student City, including many interesting details of today’s life. This information will allow us to discover recognizable spots inside this settlement, whose meaning is unavailable to non-residents. For example, we were informed that there used to be the so-called Fifth Block in the nearby park, which used to be a place for meeting and spending time together at the time when the accommodation facilities blocks were divided into sections for male and female students. We also realize that nowadays there are places that are recognized among students by certain names, such as integration plateau, i.e. park in front of Block 1, where foreign students usually gather and hang out with local students; island of longest friendships, i.e. part of the green area near the highway exit, as well as many other secret spots and landmarks such as Circle - the intersection in the middle of the square, near the fountain, the place where students ponder daily where to go next: to the reading room, on benches, to the restaurant or somewhere outside the Students City.”

*Life in Students City between 1950s and Today*, [www.vice.com](http://www.vice.com)

Photographs and audio interviews related to life in the Student City between 1951 and today are archived within the online collection “Oni žive” (They: Live) at the international collaborative digital platform Topoteka - <https://they-live-belgrade.topoteka.net>.

## LOCATION - GENERAL CHARACTERISTICS OF THE IMMEDIATE SURROUNDINGS

### 3.1 General characteristics of the area

The Student City complex is located in Novi Beograd, between the following traffic arteries: Tošin Bunar St., Zorana Đinđića Blvd, Highway E75 i.e. the highway exit towards Tošin Bunar St., Tošin Bunar St. and Studentska Street in the western part of Block 34.

In terms of its location and setting, the spatial area of the Student City belongs to the border region of the zone that we perceive as Novi Beograd: *Bezanijska Kosa* is located on the other side of Tošin Bunar St., to the west from the Student City, while *Zemun* is to the northwest.

The immediate surroundings of the competition area consists of Blok 34 at the east side along the Studentska Street; Block 4 at the north side along the Zorana Đinđića Blvd; Block 35 at the west side, along the Tošin Bunar street, whose main feature is the SRC “11. April”; and Block 37 at the south side, along the Highway.

**THE EASTERN PART OF BLOCK 34**, whose size in the context of Novi Beograd makes Block 34 dimensionally specific (in comparison, along Zorana Đinđića Blvd, the same distance is covered by Block 3 and Block 4), predominantly consists of a residential complex that was built during the eighties of the last century. Structurally and visually, these 6-floor buildings (GF+6) belong to the period when they were built, which includes the reappearance of sloping roofs in the segment of multifamily housing. In the extreme northeastern part of the block, in the zone between the Zorana Đinđića St. and Narodnih Heroja St., there lies “the ensemble”, consisting of the Customs Management building that was constructed in the seventies and two residential buildings of approximately similar age and visual identity, which is typical for this construction period in Novi Beograd. In the southeastern part of Block 34, along the Highway and between Narodnih Heroja St. and the aforementioned residential complex from the eighties, there is an undeveloped open area that has been “decorated” for many years with a half-finished object whose purpose is unknown. Therefore, it is clear that the part of the Block 34 that is located to the east from the Studentska Street is characterized by extremely heterogenous structure, which is not typical of Novi Beograd.



Figure 6 Eastern part of Block 34

**BLOCK 4**, the northern neighbor of the Student City, lies between Zorana Đinđića Blvd, Tošin Bunar St., Pariske Komune St. and Studentska Street, is also characterized by a relatively heterogenous architectural structure, both visually and in relation to the period of its construction, which is not typical for Novi Beograd but is completely expected in this border zone that is located near Zemun and Bezanija. Along Zorana Đinđića Blvd, we find mostly free and relatively urbanized green areas, except for the zone in the corner between Zorana Đinđića Blvd and Studentska Street, which is where a structure with difficult-to-describe identity is located. This structure, initially constructed before the Second World War, has been reconstructed and extended several times and now houses the Technical College, College of Tourism and “Stanislav Binički” School of Music.

Most of the block consists of different groups of multifamily residential buildings that were built between mid-1960s and mid-1980s, except for the residential building in the central part of the block, which was completed around the end of the 20th century. Each of these groups is visually and structurally typical of the period when they were constructed. Four 8-floor sections are placed in such a way that one of them is located along the Studetska street, while three of them are parallel to the Pariske Komune St. They were built in the second half of 1960s. Three residential high-rise buildings (GF+12) along the Tošin Bunar street belong to the same period, while the series of 8-floor buildings along the Pariske komune street was built during the 80s of the 20th century, and subsequently Preschool institution “Petlić” is located within the block, while an old restaurant, “Tošin Bunar”, is placed at the corner of Zorana Đinđića Blvd and Tošin Bunar St. The restaurant was certainly built before the Second World War, but it is not known when exactly it was built.



Figure 7 Block 4 ©Ljiljana Sundac

**BLOCK 35**, the western neighbor of the competition scope, is positioned between the Tošin Bunar St., the Highway and the Studentska Street, and features the SRC “11. April” with swimming pools and sport grounds in the western part, and a football field belonging to the Radnički Football Club in its eastern part; commercial-purpose facilities are located in peripheral zones of the block, with regulation towards the Studentska Street and Tošin Bunar St.

The complex of the Sports Center was built during the seventies of the last century, designed by architect Igor Palavičini. The sport and recreation center was opened in 1979. The surface area of the complex amounts to 15,000 square meters, which includes 11,000 square meters of sport grounds. Facilities of the sport center are intended for recreational users and include swimming pools and sport halls. The sport center has three closed and three outdoor swimming pools, one of which is an Olympic-size swimming pool, as well as three halls for small sports and fitness, a table tennis hall, outdoors tennis courts, a spa center, a shooting range, and an ambulance. Visitors can also use two catering establishments. Parking, with an appropriate number of parking spaces, is provided within the complex.



Figure 8 SRC "11. April", 1980.

Ivo Eterovic

On the west side of the Highway, we can find **Block 37**, whose visual and structural characteristics correspond to a typical *Novi Beograd open block* - in the urbanistic and architectural sense it is fully formulated and formed space, with plenty of greenery. The complex of multifamily residential buildings with additional facilities (Djuro Strugar Primary School and Lastavica Kindergarten) is based on an urbanistic concept resulting from two solutions that were granted equal awards at an urbanistic and architectural competition held in 1961 and whose authors were architects Mihailo Mitrovic and Stojan Maksimovic. Block 37 was implemented during the period between 1966 and 1970. The western part of the block, along the Tošin Bunar St., is where we can find another a harmoniously formed micro area consisting of multiple-floor multifamily residential buildings that belong to a later construction period with a different visual identity.



Figure 9 Block 37

### 3.2 History and Development of the Area and its Architectural and Cultural Heritage

In the context of urban development of Novi Beograd, the area that is the subject of this competition also includes its immediate surroundings, with several specific characteristics. One of them is definitely a result of the circumstances related to the beginning of construction of the Student City complex (in 1948), during which heated discussions were held about the urbanistic future of Novi Beograd, with dramatically different approaches. The first post-war General Urbanistic Plan of the City of Belgrade, which decided the initial development of Novi Beograd, was adopted only in 1950. As a consequence of this situation, the Student City complex became - using the architectural jargon - “an inherited obligation” within the future matrix of Novi Beograd, which has inevitably affected decisions related to the development of this zone of Novi Beograd at the micro level. The second, and probably more significant, characteristic is the fact that the immediate surroundings and the subject of the competition belong to a group of few segments of today’s Novi Beograd whose urbanistic roots originate in the period before Second World War. Apart from the immediate vicinity of Zemun, whose urban history goes back to ancient past, and the village of Bezanija, which neighbored the zone in question, the main reason behind the activation of this area was the construction of the old Belgrade / Bezanija / Zemun airport.

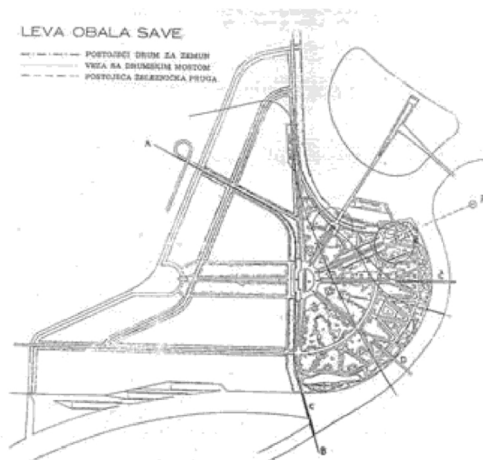


Figure 10a. Drawing of Belgrade urban planning on the left bank of Sava River, 1946



Figure 10b. General plan of Belgrade, 1950 architect Nikola Dobrovic

Source: <https://www.urbel.com/srl/zavod/istorijat/>

Construction of the airport was initiated in 1923 and began in 1926, while the first commercial flight was made in 1928. The airport covered the area of today's Blocks 37, 38, 40 and 65, as well as parts of Blocks 34, 32, 39, 41A, 64 and 66A.

The old airport was built in two stages, first in 1926-27, and later in 1929-32, when the airport building and the Milankovic Hangar were constructed; this hangar is the only facility that still exists today, as a protected cultural heritage site, within the Airport City Complex.



*Figure 11 Old Belgrade Airport, immediately before the Second World War*

The airport was of a mixed type, military-civilian, with a dual-use runway. Operational civilian part of the airport was located in the northwestern zone of the complex, towards today's Students City, with access from the direction of Tošin Bunar, while the military part was located in the southern zone. In the immediate vicinity of the airport, opposite to the entrance to the civilian part of the airport, a workers' colony was built - New Settlement - which housed the workers and aviators who worked at the airport. The settlement was located between the airport fence and the area where the Student City was later built; it was destroyed during the bombing by Allies in 1944. In the context of the history of the immediate surroundings, it is notable that the road, built in 1938 on the route of the future highway, served as the link between airport and the city. Before the war, Airport Belgrade was one of the major airports in Europe. Thanks to its convenient geographical position, it served as a regular stop for many record-setting flights.



Figure 12 Position of the Old Airport Belgrade in the context of today's urban matrix of immediate surroundings

After the Second World War, which had caused significant damage to the airport, it was restored to operational condition and passenger traffic was relaunched in 1947. The airport operated until 1962, when a new airport was opened in Surcin.

It is highly likely that the existence of infrastructure in this area was one of the most significant factors during selection of the Student City's location, just like the position of the airport certainly affected the disposition of its structure.

During the construction of the new airport, when it was already evident that the old airport would have to be removed, an open competition was organized in 1961 with the aim to find urbanistic solutions for three local communities of the third region, a regional center and the park in the area of the Old Airport, in relation with Block 37; these solutions also served as an urbanistic basis for Blocks 37, 38 and 33.

Construction of the Highway through Belgrade - which took place between 1968 and 1970 - was also one of the significant events that had affected the development and identity of this area.

Since the area that is the subject of this competition belongs to the Original Novi Beograd region, the immediate surroundings of this site include several entities that have been recognized as architectural and/or scenic values by protection agencies; these entities are now under protection or have been granted the status of cultural heritage sites.

Residential-Commercial Center Genex, also known as the Western Gate of Belgrade or the Genex Tower, is located in the southwestern vicinity (within the line of sight, as viewed from this area), in Block 33. The Genex Tower, designed by architect Mihajlo Mitrovic, was built between 1970 and 1980. The Genex Center consists of two towers which are functionally separated into the residential and business tower. The residential tower has the floor structure GF+M+30+L, while the floor structure of the business tower is GF+M+26+L. The towers are connected into a single architectural unit by a structural element located at floor 26. A sightseeing restaurant is placed above this "bridge" between the towers. With the height of 135 meters, the Genex Tower was the tallest building in Belgrade before the construction of the Business Center Usce (in 2005). The building was granted the status of a cultural property in 2021.



Figure 13 Genex Tower viewed from the roof of Dormitory 4 in the Student City

Block 1 is located next to Block 33, towards the northwest, on the other side of Zorana Đinđića Blvd. In urbanistic sense, together with neighboring Block 2, it represents the first implemented example of what is today known as *Novi Beograd open residential block* with supporting facilities. In the context of protection of cultural heritage, they have been granted the status of protected sites, while their potential status as cultural sites with spatial, cultural and historical value is now being considered. Urbanistic solution for these two blocks, implemented in 1958-1963, was designed by architect Branko Petricic.



*Figure 14 Block 2 in 1980s*

## LOCATION - SPECIAL CHARACTERISTICS OF IMMEDIATE SURROUNDINGS AND THE SCOPE OF THE COMPETITION

### 4.1 Traffic

#### Road and street network and vehicle traffic

##### CURRENT SITUATION

The vehicles access road to the Student City complex is achieved from the direction of all peripheral communication routes, except from the direction of the traffic route (exit) from the Highway towards the Tošin Bunar St., i.e. from the Tošin Bunar St., Zorana Đinđića Blvd and Studentska Street.

In the context of the city traffic network, all these communication lines are characterized by high ranking and traffic frequency, apart from the Studentska Street. All of them have been cadastrally fixed in relation to the competition area, which means that there are no plans to change their defined regulation, while the level of implementation of their traffic profile and route varies.

**Tošin Bunar Street**, which is located in the functionally ranked city traffic network in the zone that neighbors the area that is the subject of the competition, is classified as a communication line of the first rank; it has two traffic lanes in each direction, with an extension for one / one each near intersections, and sidewalks on both sides with a width of 3.0-5.0 meters.

**Zorana Đinđića Blvd**, which is located in the functionally ranked city traffic network in the zone that neighbors the area that is the subject of this competition, is also classified as a communication line of the first rank; in its current condition and compared to its design documentation, it has been implemented in its full profile. This profile consists of 3 vehicle lanes, with a total width of 9.0 meters - two of them in the eastern direction and one towards the west, with an extension near intersection and sidewalks on both sides with a width of 3.0 meters each. Bicycle lanes are located within the sidewalk profile, with a width of 1.10 meters on each side.

**Traffic link** (exit) from the city Highway towards the Tošin Bunar Street, which belongs to the highway system within the functionally ranked city traffic network, operates with a variable profile in the zone that is the subject of this competition. In the first segment (in relation to the Highway), this profile consists of two one-way traffic lanes with a total width of 7.0 m and a sidewalk near the Student City complex with a total width of 9.0 m, which also includes the stairway in the underground passage below the highway towards Block 37. Continuing towards the Tošin Bunar St., the profile now consists of two traffic lanes that are partially separated with a green island with a total width of all segments varying between 7.0 m and 18.0 m, as well as a sidewalk near the Student City complex with a width of 6.0 m. This first segment also includes the “hub” of the connection with the Studentska Street, which is not operational.

**Studentska Street**, located in the zone that neighbors the area that is the subject of this competition, functions as an access road that provides access to the Main Gate of the Student City and the eastern part of Block 34; it is not ranked within the functionally ranked city traffic network. In its constructed section, the Studentska Street has a full profile that consists of two-way sidewalk with a total width of 7.0 m a sidewalk with a width of 3.0 m on each side.

## PLANNED SITUATION

According to the official planning documentation for **Tošin Bunar Street** within the zone that is covered by this competition, widening of the regulation towards the west up to the total width of 35.85 m is in the plans, which will result in a new and better traffic profile. The new profile will consist of the following: two traffic lanes in each direction with a total width of 7.0 m each, with a separating green island (4.5 m), parking space (5.0 m), sidewalk (3.0 m) and a green area (1.35 m) towards the western regulation, and the sidewalk (3.0 m), bicycle lane (2.5 m) and green area (3.5 m) towards the eastern regulation, i.e. towards the Student City complex.

*Excerpt from the Plan of Detailed Regulation of the Part of Tošin Bunar Street between Ivićeva Street and the Highway, The Official Gazette of the City of Belgrade No. 99/16, attached with the competition documentation - III EXCERPTS FROM URBAN PLANNING DOCUMENTS*

**Traffic Link** (exit) from the city Highway towards the Tošin Bunar St. has the potential for creation of a bicycle lane within the current sidewalk profile with regulation towards the Student City complex (which is formally affirmed in the planning sense in the zone of connection with the Tošin Bunar St.), as well as the activation of connection of this traffic link with the Studentska Street, confirmed *by the General Regulation Plan for the Construction Area of the Local Self-Management Unit - City of Belgrade, sections I-XI, "Official Gazette of the City of Belgrade" no. 20/16, 97/16, 69/17, 97/17, 91/20, 72/21 and 27/22* (hereinafter referred to as Belgrade GRP).

GRP of Belgrade stipulates the regulation of the **Studentska Street** along its whole route; within the zone that neighbors the area that is the subject of the competition, this entails the construction of the southern part of this street in the length of around 200.0 m, thereby fulfilling the full potential of the connection between the Studentska Street and the traffic link of the city Highway in the direction of Tošin Bunar St. Regulation defined by GRP also allows the implementation of the Studentska Street with the same profile that already functions in its existing part.

## Public city transport

Competition area belongs to the Novi Beograd zone, with an operational subsystem of public city transport – the buss transport system. Bus stops are located at several locations in the imediate vicinity of the competition area – with traffic routes connected to Highway in the direction of Tošin Bunar St., bus stops Tošin Bunar St. and in Zorana Đinđića Blvd. - and they ensure a high-quality connection with all parts of the city, including the western suburban zones.

## Pedestrian traffic

### CURRENT SITUATION

Considering the movement of pedestrians in the surroundings of the competition area and within it, we can say that pedestrians enjoy good connections and appropriate and comfortable conditions for their movement, except in the zone of the unrealized segment of the Studentska Street route, which does not have pedestrian areas, forcing pedestrians to use an earthen path between the *Student City* bus station and the Main Gate of the Studentska City and Block 37 in all weather conditions.

### PLANNED SITUATION

As it was previously mentioned in the Road and Street Network and Vehicle Traffic section, the official planning documents stipulate the regulation of Studentska Street along its complete route, and it is expected that the planned result will achieve a quality of connection and conditions of pedestrian movement that will be improved and adapted to the needs of all categories of users.

## Bicycle traffic

### CURRENT SITUATION

In the surroundings of the scope of competition, bicycle lanes have been formed only within the sidewalk in Zorana Đinđića Blvd, while the competition area itself lacks any bicycle lanes; a moderate bicycle traffic is mostly taking place within pedestrian communications.

## PLANNED SITUATION

According to the current planning documentation, implementation of bicycle lanes is planned in the Tošin Bunar St., and potentially within the traffic link (exit) from the city Highway towards the Tošin Bunar St.

### 4.2 Green Areas

According to the *Plan of General Regulation of Green Areas of Belgrade (The Official Gazette of the City of Belgrade No. 110/2019)*, there are no specifically categorized protected green areas in the competition area or in its immediate vicinity. This area belongs to the inner ring within the system of green areas of the city of Belgrade. The present green areas whose significance - taking into account their role within the landscape system of the city of Belgrade, especially in the connecting context, as well as their high atmospheric value - requires their preservation and improvement, are classified as green areas in public service (within competition area) or green areas in open residential blocks, and as an environmentally and esthetically functional urban space (in the immediate vicinity).

### 4.3 Infrastructure

Competition area and its immediate surroundings are adequately served by the system of infrastructural public utilities - which includes water supply, sewage, electrical power supply, telecommunications, heating and gas distribution systems.

*Overview of routes of communal infrastructure is attached to the open competition documents - III EXCERPT FROM URBAN PLANNING DOCUMENTATION / EXCERPT FROM THE GENERAL REGULATION PLAN FOR THE CONSTRUCTION AREA OF THE LOCAL GOVERNMENT UNIT – THE CITY OF BELGRADE UNITS I-XIX, attachment NB 9.1-5 - Overview of Infrastructure*

### 4.4 Characteristics of the climate

The climate in Belgrade and its wider surroundings is moderately continental, with four seasons and around 2,096 sunny hours per year, with maximum average values in July and minimum average values in December.

Annual precipitation is mostly of the continental type, with a maximum in June. Average annual precipitation amounts to 670.0 mm and mostly consists of rain, and sometimes of hail, freezing rain and snow. April, June and December are the months with the largest number of days with precipitation.

Average monthly relative humidity ranges between 63% (in April and June) and 82% (in December).

In the context of Belgrade, the competition area belongs to the topographical and climatic zone of Novi Beograd, which is characterized by the average annual temperature of 11.9°C. Average monthly temperatures range between 0.0°C (in January) and 22.1°C (in July). During the summer months, there are days with daily temperatures above 35°C and tropical nights (with temperatures above 20°C) between June and August. The number of days with a temperature above 25°C is 95 per year.

Belgrade is a windy area that is exposed to southeastern, northeastern, northern and northwestern winds. The most frequent and strongest of them is the southeastern wind - koshava - which blows during the whole year, with a maximum in September and during winter and a minimum in June and July; it has an average speed of 25-45 km/h and storm gusts that can reach 130 km/h. The northwestern wind blows most frequently during summer months with a maximal average speed of 36 m/s. Northern and northeastern winds are the coldest winds in winter. Taking into account the position and morphology of the surroundings (natural and artificial), the competition area is equally and non-specifically exposed to all winds that are typical for Belgrade.

### 4.5 Current planning documents in the area of competition scope and its immediate surroundings

Current planning documentation in the competition area and its immediate surroundings consists of the following spatial and urbanistic plans:

- - General Regulation Plan for the Construction Area of the Local Government Unit – the City of Belgrade Units I-XIX, *“The Official Gazette of the City of Belgrade” No. 20/16, 97/16, 69/17, 97/17, 91/20, 72/21 and 27/22* (hereinafter referred to as Belgrade GRP);
- Detailed Urbanistic Plan of the Highway Through Belgrade, *“The Official Gazette of the City of Belgrade” No. 17/67*;
- Plan of Detailed Regulation of the Part of Tošin Bunar Street between Ivićeva Street and the Highway, Municipal Buildings Zemun and Novi Beograd, *“The Official Gazette of the City of Belgrade” No. 99/16*;
- Plan of Detailed Regulation of the Part of the Area to the West from Tošin Bunar St. (between Arsenija Čarnojevića Blvd and Prilaz St.) to Marije Bursać St., Municipal Buildings Zemun and Novi Beograd, *“The Official Gazette of the City of Belgrade” No. 69/21*;
- Amendments to the Detailed Urbanistic Plan of BLOCK 4 in Novi Beograd, *“The Official Gazette of the City of Belgrade” No. 14/91*;

Planning basis for the area that is the subject of this competition is contained in the General Regulation Plan for the Construction Area of the Local Self-Management Unit - City of Belgrade Sections I-XIX, *“The Official Gazette of the City of Belgrade” No. 20/16, 97/16, 69/17, 97/17, 91/20, 72/21 and 27/22* (hereinafter referred to as Belgrade GRP).

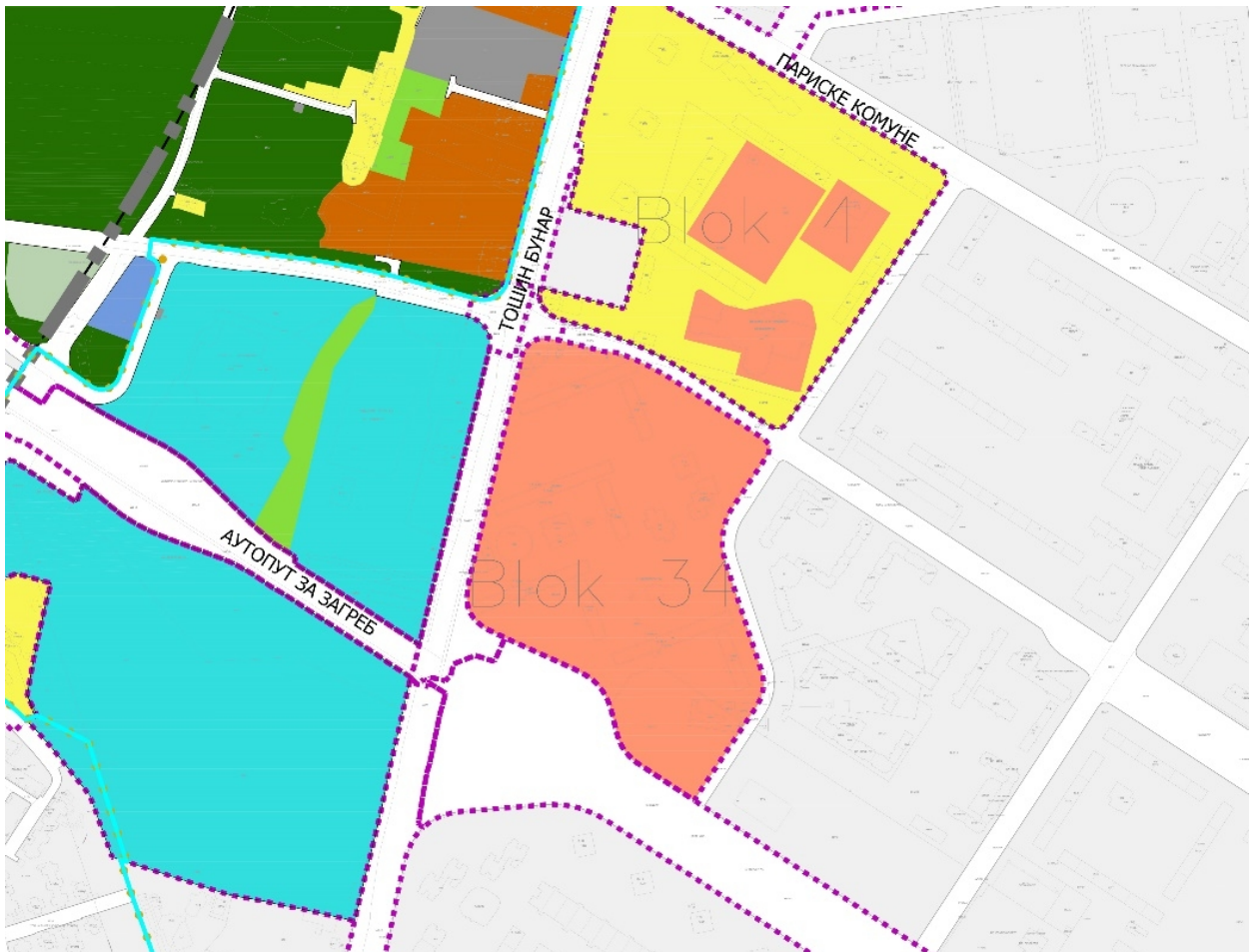
According to Belgrade GRP, competition area belongs to the Section IX - Novi Beograd Center, i.e. a segment of the Section IX, Original Novi Beograd, which mostly includes the initially constructed blocks, including the Student City and some of the blocks that were implemented later - Block 33 with the Western Gate of Belgrade and Retenzija.

The main characteristic of this area is the system of free construction of mostly residential and supporting facilities with the residential purpose, as well as individual and aggregated buildings intended for commercial and specialized central activities, in the area of spacious construction blocks. The Original Novi Beograd is characterized by a high degree of spatial and functional completeness. Newly constructed buildings, apart from the implementation of buildings that were previously planned but never built, are planned to be constructed in the zone of Tošin Bunar, after the completion of communication line in the new regulation and along the Highway. At the same time, these are the zones of new planned central activities. Transformation of a part of residential buildings into commercial facilities can be expected along the main traffic lines, but only in lower floors.

#### **4.5.1 Excerpt from the General Regulation Plan for the Construction Area of the Local Government Unit – the City of Belgrade Units I-XIX, (The Official Gazette of the City of Belgrade No. 20/16, 97/16, 69/17, 97/17, 72/21 i 27/22.)**

According to the Belgrade GRP, competition area belongs to Zone IX, Subzone “Original Novi Beograd”; in accordance with the latest revisions of GRP (*“The Official Gazette of the City of Belgrade” 27/22*) regarding its implementation, it is intended for direct application of the rule of construction in compliance with the GRP with the obligation to prepare the Urbanistic Project.

In accordance with the Belgrade GRP, competition area is planned to be a zone intended for public purpose - institution of higher education.



**Legend:**

- ..... Border of the General Regulation Plan
- ..... Border of the Amendment of the GRP of the construction area of the local self-government unit-City of Belgrade (units I - XIX) (ID\_GRP\_BGD)
- ..... Border of the urban planning unit
- ..... Border of the cadastral municipalities (C.M.)
- ..... Border of municipalities
- ..... Border of the central zone
- ..... Border of the middle and peripheral zone

**AREAS FOR OTHER PURPOSES**

- ..... Areas for housing
- ..... Mixed city centres
- ..... Areas for commercial content
- ..... Areas for economic zones
- ..... Areas for religious buildings and complexes
- ..... Other green areas

**AREAS FOR PUBLIC PURPOSE**

- ..... Water surfaces
- ..... Areas for facilities and complexes for public
- ..... Green areas
- ..... Forest
- ..... Communal areas
- ..... Traffic areas
- ..... Traffic network
- ..... Railway
- ..... Areas for infrastructure facilities and complexes

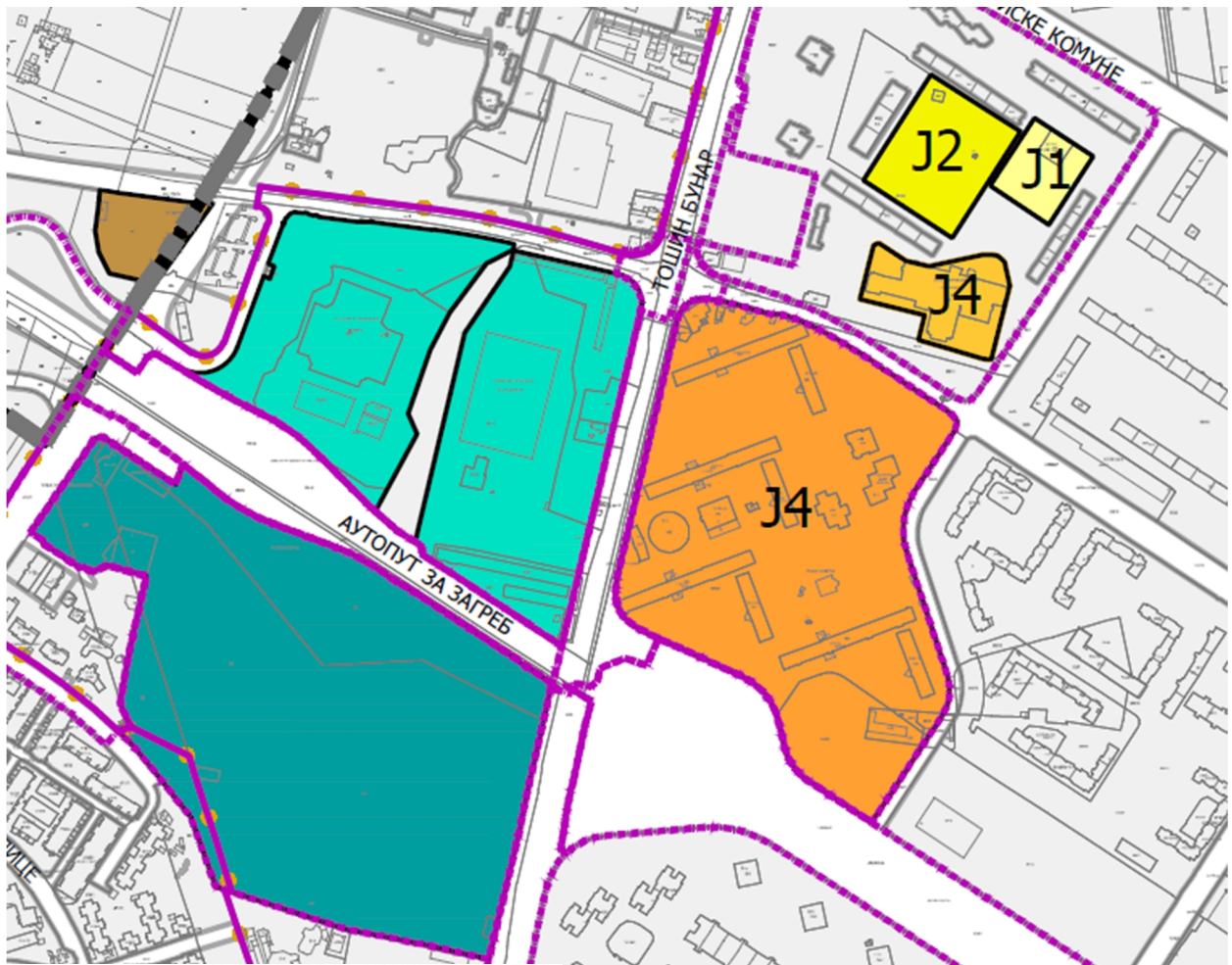
**AREAS FOR PUBLIC AND/OR OTHER PURPOSES**

- ..... Areas for sports facilities and complexes

**PROTECTION ZONE**

- ..... Narrow zone of sanitary protection (Zone II)

Figure 15 Excerpt from Belgrade GRP, attached figure 2-5.1 - Planned purpose of areas



**AREAS FOR FACILITIES AND COMPLEXES FOR PUBLIC SERVICES**

- J1 Preschool institutions
- J2 Elementary schools
- J3 High schools
- J4 Higher education institutions
- J5 Institutes and scientific research centres
- J6 Primary health care institutions
- J7 Specialized health care
- J8 Social services institutions
- J9 Cultural institutions
- J10 State administration, state administrative services
- J11 Complexes for special purposes
- J12 Reserved for public areas

**SPORTS COMPLEXES**

- Sports - recreational complexes
- Sports - competition complexes

**COMMUNAL AREAS**

- Cemetery
- Green market
- Recycling yard
- Other communal areas

Figure 16. Excerpt from Belgrade GRP, attached figure 6-5 - Areas intended for facilities and complexes of public services

URBANISTIC MEASURES FOR PROTECTION OF AREAS AND STRUCTURES (2.2)

PROTECTION OF CULTURAL PROPERTIES AND URBANISTIC PROTECTION

Section IX

Zones “Novi Beograd Center” and “Original Novi Beograd” are today one of the most representative and functionally most significant parts of Belgrade. Regarding the historical development of Belgrade, the

modern city structure with open blocks, which has been continually built since the thirties of the last century to this day, is in a large part a heritage property and a testimony to commercial, administrative, urbanistic and cultural development of the city. Having in mind the fact that this part of the city was built in accordance with all the rules and principles of modern urbanism of the twentieth century, preservation of the chosen concept of construction is the primary goal, while at the same time the achieved quality should be maintained and improved.

The value of the historical, existing urbanistic and architectural concept of Novi Beograd, is defined with the aim to ensure its protection, preservation and improvement, taking into account both the aspect of protection of cultural heritage and the opinions of other professional organizations.

Cultural properties and previously protected properties within this planning area have a significant presence and spatial scope, which is why they require a more complex planning approach that would guarantee protection of existing properties and construction of new ones.

Taking into account the fact that protection, preservation and advancement of cultural heritage constitutes one of the most important elements of people's identity, their culture and their perception of the space they live in, it is necessary to achieve intensive cooperation of all competent city institutions that will result in future planning solutions or activities aimed at direct implementation of this planning document.

There are 14 entities in total in the area of Section IX that have been granted the status of a cultural property or a property under previous protection; one of them is located in the immediate vicinity of the site - that is the RESIDENTIAL AND COMMERCIAL CENTER GENEX,41-43 Narodnih Heroja St. - Cultural Heritage Property, protection level 3.

#### Urbanistic protection of areas and structures

Urbanistic protection is a very significant segment of planning, whose purpose is to plan the total urbanistic and architectural heritage and include it in modern life of the city as one of the factors of its integrated development. Its mechanisms are intended to facilitate creation of an atmosphere whose anthropocentric quality should allow for creation of a living space that is esthetically and essentially acceptable. Mechanisms of urbanistic protection include horizontal and vertical regulation, preservation of silhouettes and visages, and application of materials, colors and architectural elements, allowing definition and recognition of the space and physical structure of a specific area.

Urbanistic protection of an area can be defined as planning in context. As such, it should value the created areas and structures from their urbanistic and contextual aspect and create planning preconditions for their protection.

In the context of urban renewal and urban regeneration and reconstruction, the field of creative and practical planning possibilities is much wider, since the subjects of urban renewal are most often the areas and locations characterized by larger capacities. In such areas, there is often a certain number of structures that constitute cultural properties and important urban landmarks whose existence can serve as a backbone of the identity of the area. In such circumstances, conditions and measures imposed by competent cultural heritage protection agencies can become a creative stimulant in the planning process.

Within the scope of this competition, there is one property that has been recognized as a value that deserves urbanistic protection in the category of *Late Modernism* - the Student Cultural Center (Student's City Cultural Center), 179 Zorana Đinđića Blvd (1974, M. Mitrović) - in accordance with the criterion K8 - "Contextual value - the structure materially defines a high-quality urban atmosphere or participates with its stylistic values in the characterization of local setting."

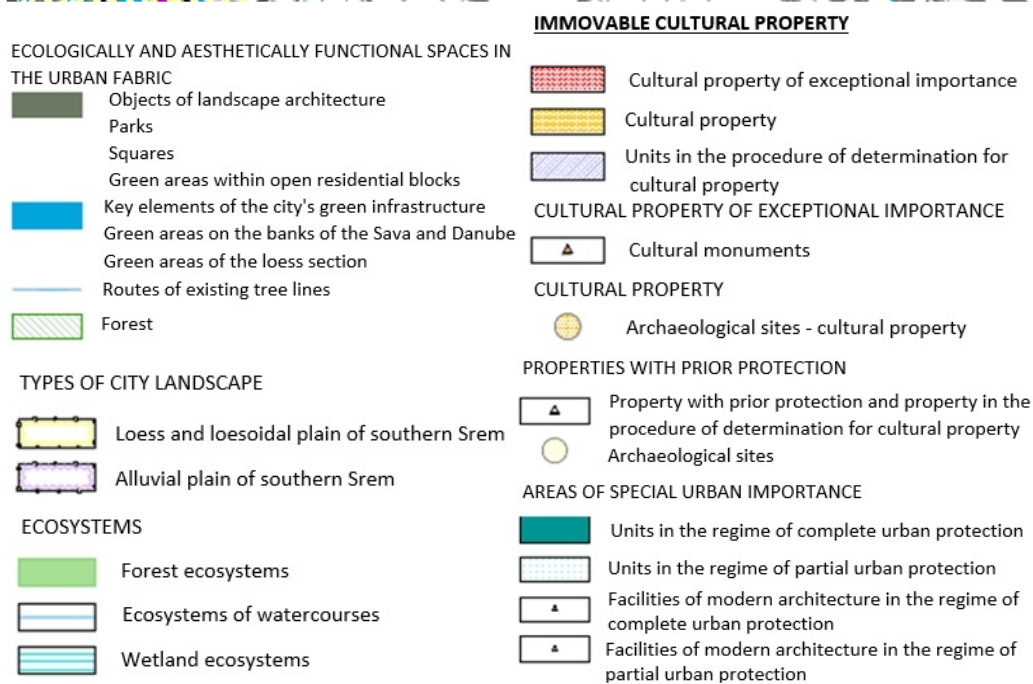
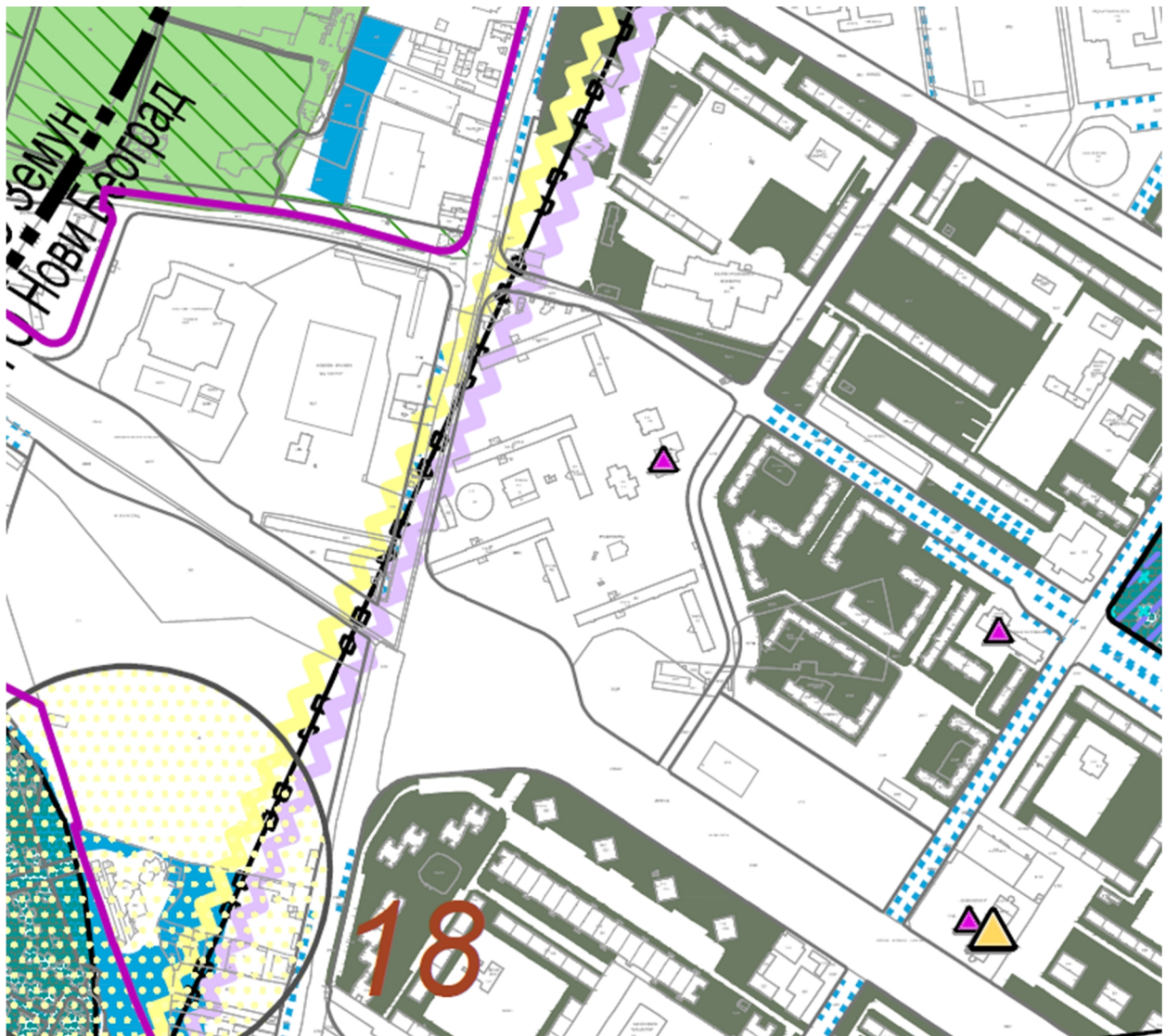
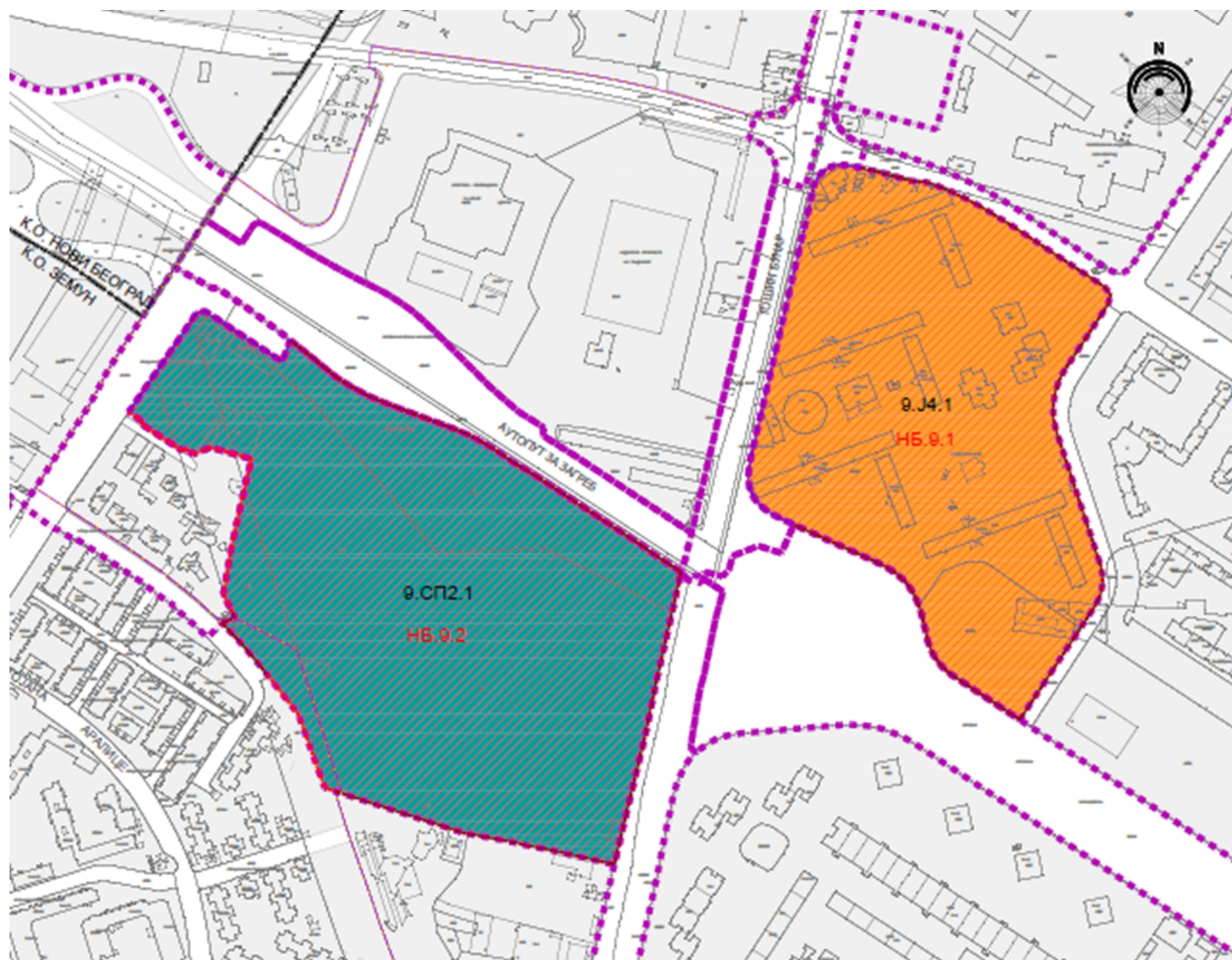














Figure 17 Excerpt from Belgrade GRP, attached figure 4-5.1 - Protection of natural and cultural values

# DIRECT IMPLEMENTATION OF CONSTRUCTION RULES FOR STRUCTURES AND COMPLEXES OF PUBLIC SERVICES

## HIGHER EDUCATION INSTITUTIONS - STUDENT CITY STUDENT STANDARD INSTITUTION - 9.J4.1








### Construction Rules:

-  Border of the Amendment of the GRP of the construction area of the local self-government unit - City of Belgrade (units I - XIX) (ID\_GRP\_BGD)
-  Border of the urban planning unit (I - XIX)
-  Border of the central zone
-  Border of the middle and peripheral zone
-  Border of the cadastral municipalities (C.M.)
-  Border of municipalities
-  Border of areas for direct application of construction rules
-  Border of areas for direct application of construction rules with elements of additional elaboration
-  Areas that are not implemented by direct application of GRP rules
-  Regulation line = Border of the cadastral plots
-  Planned regulation line
-  Regulation line from the existing plan
- 10.J11.1** Implementation marks

### AREAS FOR PUBLIC USE

-  Water surfaces
-  Green areas

### AREAS FOR FACILITIES AND COMPLEXES FOR PUBLIC SERVICES

-  J1 Preschool institutions
-  J2 Elementary schools
-  J4 Higher education institutions
-  J6 Primary health care institutions
-  J8 Social services institutions
-  J11 Complexes for special purposes
-  J12 Reserved for public areas

### AREAS FOR PUBLIC AND/OR OTHER PURPOSES

-  Sports - competition complexes

Figure 18. Excerpt from Belgrade GRP, attached figure 16-5.2 - Areas of direct implementation of construction rules

### ***Purpose of areas***

Main purpose: student standard institution - student dormitory. Spatial section "Student City" belongs to the institution "Student Center Belgrade".

Within the new purpose, it is possible to implement complementary cultural facilities, and additional sport, commercial, catering and entertainment facilities that support the primary purpose and do not create noise.

It is possible to use basements and cellars for supporting and technical facilities of structures.

### ***Number of structures on the land plot***

It is allowed to build several structures on the land plot for the purpose of primary and complementary facilities, as well as technical infrastructure structures, in such a way that they create an integrated architectural and functional environment.

### ***Requirements for formation of a building land plot***

The plan defines a building land plot 9.J4.1 with the approximate surface area of 103.615 m<sup>2</sup>.

Parcellation of the planned building land plot is not allowed.

Cadastral land plots: 865/14, 865/15, 865/17, 865/28, 865/29, 866, 867, 868, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886/1, 886/2, 887/4, 887/5, 912 and 914, all of them KO Novi Beograd.

Preparation of the Urbanistic Project is mandatory.

Phased implementation of the planned construction and reconstruction of the complex is allowed.

### ***Plot coverage index***

Maximal plot coverage index  $Z = 50\%$ .

Maximal index of coverage of structures' underground levels amounts to 70%.

### ***Height of the building***

Maximum height of the cornice of residential buildings is 32 m in relation to the zero level.

Maximal height of the cornice of additional facilities' structures amounts to 12 m in relation to the zero level.

Maximal height of the cornice of the building/buildings of the student cultural center is 12 m in relation to the zero level. Exceptionally, the maximal height of the cornice may amount to 16 m if the programme specifies the need for that, in accordance with the technological composition of the structures.

### ***Construction of new structures and position of structures on the land plot***

The structures should be placed within the construction zone, which is defined by construction lines in appropriate graphical attachments with direct application of construction rules with elements of detailed elaboration. It is not required to place buildings or parts of buildings on the construction line, but within the area that is defined by construction lines.

Considering their position on the land plot, the structures are free-standing.

The building line of underground parts of the structures (garages etc.) corresponds to the above-ground building line.

### ***Distance between structures on the land plot***

The minimal distance between neighboring structures on the land plot amounts to one height of the taller structure if there are openings for residential rooms, or 1/2 of the height of the taller structure if there are openings of supporting facilities or no openings.

### ***Ground floor level***

Ground floor level of the buildings may be taller than the zero level by no more than 1.6 m

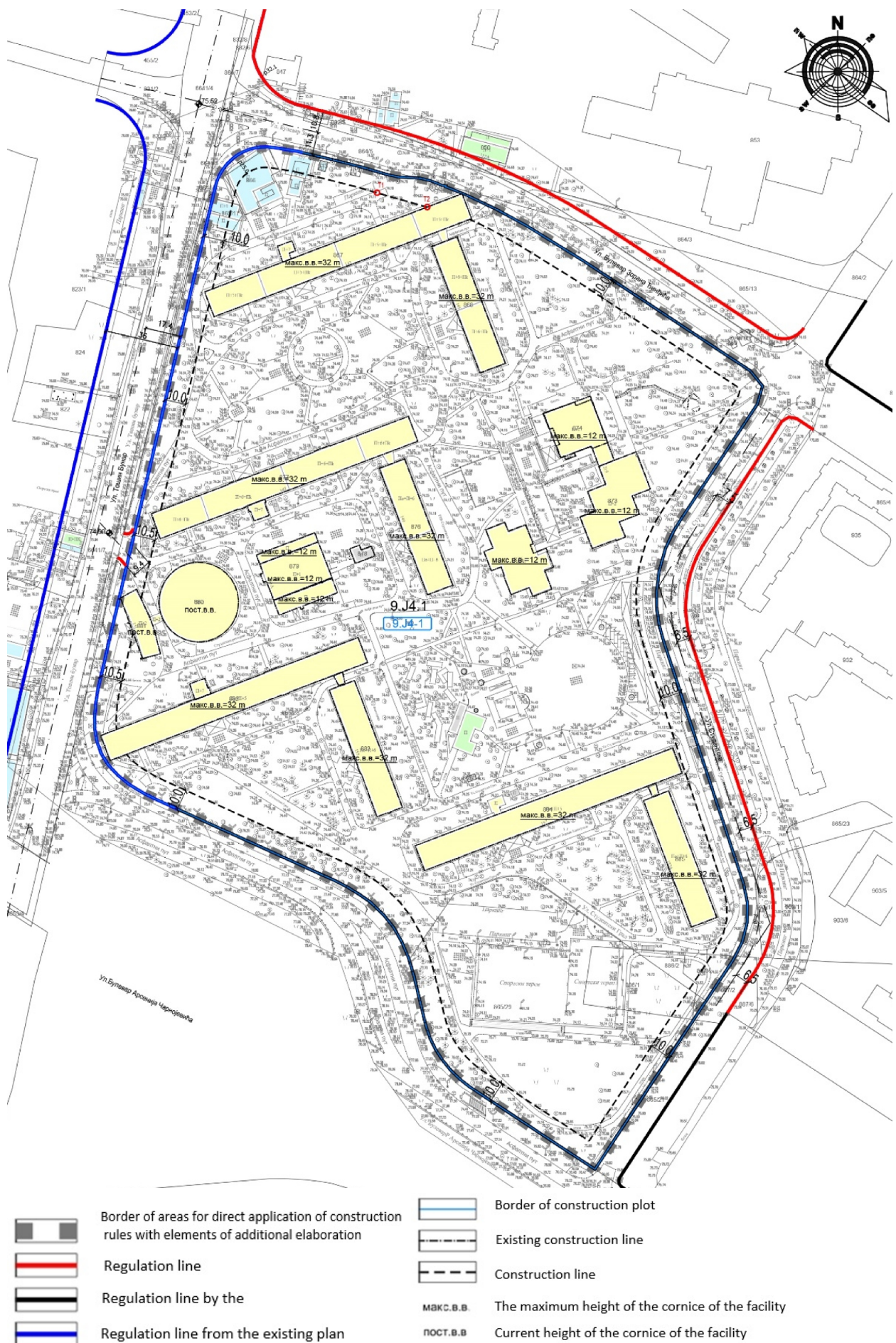


Figure 19. Excerpt from Belgrade GRP, attached figure NB 9.1-R - Regulation and levelling plan and parcellation plan

### Requirements for free areas and green areas

The minimal percentage of open areas and green areas on the land plot is **50%**.

The minimal percentage of green areas in direct contact with the ground on the land plot is **30%**.

Preparation of technical documentation and establishment of the position of new structures requires manual valuation (bioecological foundation) of the existing vegetation in order to preserve it as much as possible.

Potential cutting of fully grown valuable tree specimens requires approval by the organizational unit of the City Department of Public Utilities and previous professional opinion of the expert commission for tree cutting.

The trees that are approved to be cut down should be replanted, if that is technically possible, within the existing complex or green areas that are located in the immediate vicinity.

The existing vegetation should be renewed.

Reconstruction of green areas should be performed using appropriate style, in accordance with the position of the buildings and their main purpose.

During landscaping, it is necessary to use native species of vegetation that belong to the realm of natural potential vegetation, adaptable to local environmental conditions; exotic specimens can be used if they have a confirmed and good ability to adapt to environmental conditions; seedlings from a plant nursery should be used; invasive and allergenic species should be avoided.

It is necessary to ensure a 1-2% gradient of communication surfaces to allow for drainage of surface waters towards porous soil or rainwater drains.

Porous or semi-porous sheeting should be used for communication surfaces.

It is possible to create green surfaces on roofs of the buildings as well as vertical vegetation on their facades; green areas on flat roofs of above-ground structures should be formed on a soil substrate that is at least 30 cm thick, while on roofs of underground garages this parameter should amount to at least 120 cm of soil substrate (this is not included in the total percentage of green surfaces that are in direct contact with the ground).

Preparation of the Landscaping and Architectural Design in accordance with conditions set by the Public Utility Company Zelenilo Beograd is mandatory.

### Access to the land plot and parking

Vehicle and pedestrian access is provided by perimeter communication lines and the internal traffic network within the area as a whole.

A required number of parking places should be provided, within the land plot, in accordance with this norm: 1 parking spot / 3 employees.

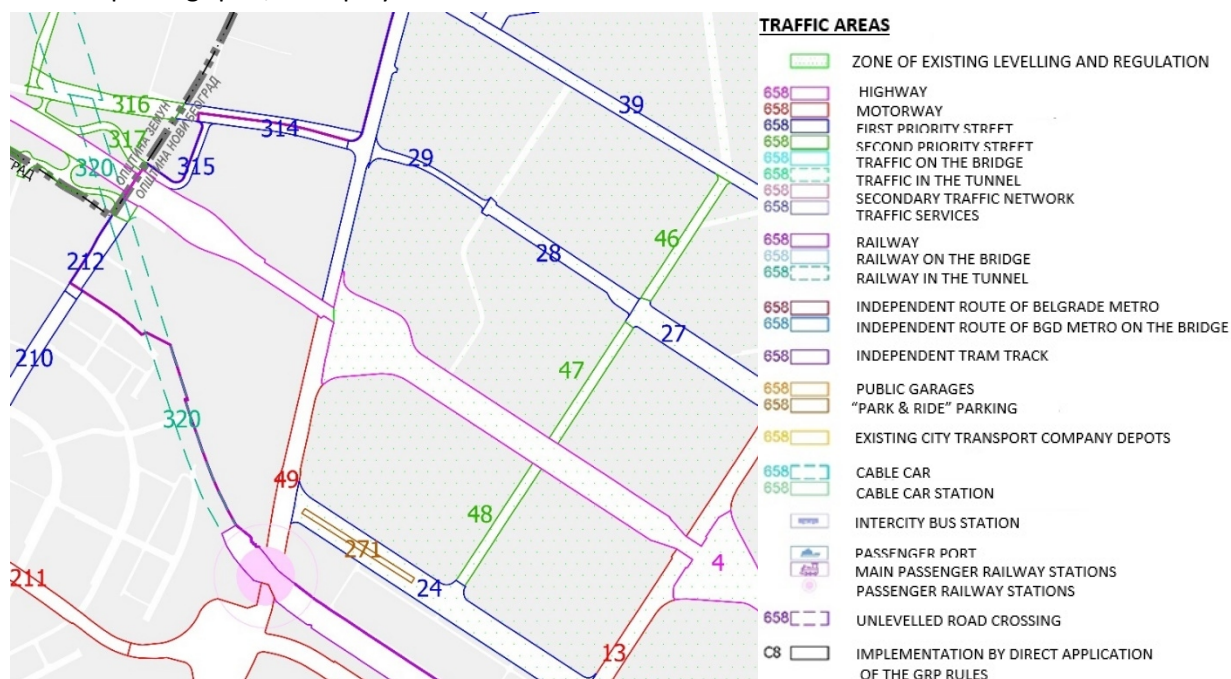


Figure 20. Excerpt from Belgrade GRP, attached figure 3-5.1 - Traffic surfaces and the primary traffic network

### ***Planned interventions***

Construction of new buildings intended for accommodation of around 1,000 students is planned on the building land plot.

It is possible to extend or build on top of existing structures, in accordance with defined construction rules.

If there is a desire to build an additional floor on the existing building sections, it should be implemented within the dimensions of existing buildings on the basis of a mandatory structural analysis of existing structures.

On existing buildings, it is possible to perform adaptation, remedial works, energy efficiency upgrade, i.e. reconstruction of the thermal insulation of the building (facade walls, roof surface and transparent surfaces) with the aim to improve the category of the building from the aspect of energy efficiency.

### ***Architectural shaping***

During the implementation of the structure, it is necessary to achieve maximal usage of latest technical and technological solutions in the field of energy efficient construction.

The architectural expression must be modern, and it should match the atmosphere of an open block and the purpose of the area as a whole.

Energy efficient solutions should be used, i.e. significant percentage of the energy should be generated from renewable sources: heat pumps, solar panels and “green roofs” should be planned - extensive and/or intensive roofs.

It is possible to perform adaptation, remedial works, energy efficiency upgrade, i.e. reconstruction of the thermal insulation of the building (facade walls, roof surface and transparent surfaces) with the aim to improve the category of the building from the aspect of energy efficiency.

The top floor may be implemented in the form of a full floor or a loft.

### ***Conditions for fencing of the land plot***

The land plot is allowed to be fenced in accordance with technical, technological and security considerations.

### ***Infrastructural networks***

New buildings must be connected to the water supply and sewage networks, electrical power supply, telecommunication network, heating or gas networks or another alternative source of energy.

Buildings must be connected to the existing infrastructural network in accordance with conditions set by appropriate companies.

Water supply network - Buildings must be connected to the existing water supply installations within the Student City area with verification of the capacity of the existing network, or to the planned water supply network V1 min. Ø150 in the Tošin Bunar St. that is defined by the Detailed Regulation Plan of the Part for the Tošin Bunar St. between Ivićeva St., the Highway and Municipal Buildings Zemun and Novi Beograd (“The Official Gazette of the City of Belgrade”, No. 99/16)

Sewage network - Buildings must be connected to the existing installations of fecal and ambient sewage within the Student City area with verification of the capacity of the existing network, or to the planned fecal sewage FK min. Ø300 in the Tošin Bunar St. that is defined by the Detailed Regulation Plan for the Part of the Tošin Bunar St. between Ivićeva St., the Highway and Municipal Buildings Zemun and Novi Beograd (“The Official Gazette of the City of Belgrade”, No. 99/16) and the existing main ambient sewers.

Electrical power supply network and facilities - an underground cable of 110 kV, no. 1233/1 has been built in the vicinity of the area that is the subject of the competition. Protective strip for 110 kV underground cables amounts to 2 m from the edge of the trench. It is allowed to build infrastructural facilities of public interest within the protective strip. Relocation of 110 kV underground cables is not allowed. Several 35 kV underground cables have been built in the area and their relocation is allowed if they would be jeopardized by the planned construction. A small number of TS 10/0.4 kV has been built to supply the existing consumers with electrical power, together with a corresponding network of underground and above-ground 10 kV and 1 kV cables. Relocation of the existing TS 10/0.4 kV to a safe

place or a structure that is to be built or extended, is allowed if they would be put at risk by the planned construction. It is necessary to build a required number of TS 10/0.4 kV of appropriate power to ensure delivery of electrical power to planned consumers; they can be built within building structures or as a free-standing structure, in accordance with construction rules. Delivery of power supply to the planned TS 10/0.4 kV will be orientated towards the existing: TS 35/10 kV "Ikarus", TS 35/10 kV "Novi Beograd 1" or TS 110/10 kV "Belgrade 27".

Telecommunication network and facilities - The access telecommunication network has been implemented via above-ground cables, free underground cables or inside a telecommunication duct network; subscribers are connected to the distribution network via external and internal connections. For the planned structures, the access telecommunication network may be implemented using the GPON technology and FTTH (Fiber to the Home) or FTTB (Fiber to the Building) topology by laying optical fiber cable to these structures and installing appropriate active telecommunication equipment in them.

Heating and gas supply network - Regarding consumers that are not already connected to the heating system, connection can be made indirectly, via heating substations, to the existing heating pipe in the block, or the planned heating pipe within the corridor of Tošin Bunar St. Natural gas supply to consumers should be implemented through a gas connection to the planned gas supply network in the Tošin Bunar St.



Figure 21. Excerpt from Belgrade GRP, attached figure NB 9.1-S - Overview of infrastructure

### ***Requirements related to protection of cultural properties***

If archeological remains or other movable artifacts are found during the execution of earth works within the area covered by the Plan, investors and contractors are obliged to stop the works immediately and inform the Institute for the Protection of Cultural Monuments of the City of Belgrade and take all necessary steps to prevent destruction or damage of the find and to preserve it in the place and position in which it was discovered (Article 109 of the Law on Cultural Properties). According to the Article 110 of the Law on Cultural Properties, the investor is obliged to provide financial resources for research, protection, preservation, publication and exhibition of the property until its transfer for keeping to an authorized protective institution.

### ***Engineering and geological conditions***

The area in question is located in the engineering and geological region IIC3 which is characterized as conditionally favorable for urbanization.

The engineering-geological properties of these terrains impose certain restrictions on the urbanization of the area. They include parts of the loess plain from elevation 72.0 to elevation 77.5 above sea level. The use of these terrains during urbanization requires larger investments for their preparation.

It is necessary to take certain meliorative steps during the execution of excavation in this terrain, including potential protection from the effects of underground water and appropriate design of foundation engineering of building structures.

Trenches for laying of pipes can be covered using the processed excavation material. High level of underground water creates unfavorable conditions of excavations for infrastructural building structures and requires complete protection of building structures during their exploitation.

Each newly planned building structure requires detailed geological research, in accordance with the Law on Mining and Geological Research ("Official Gazette of the Republic of Serbia" no. 101/15, 95/18 and 40/21).

## SCOPE OF THE COMPETITION - CURRENT SITUATION

### 5.1 Existing situation - location, structure and facilities

The Student City complex is positioned in the northwestern part of Novi Beograd and encompasses an area of approximately 10.361 ha, which is defined by streets Tošin Bunar St. (to the west) and Zorana Đinđića Blvd. (to the north), then by regulation of Studentska St. (to the east) and the regulation of the traffic connection between the Highway (from the direction of the city of Nis) and the streets Tošin Bunar St. and Studentska St. (not realized).

The Student City spatial area consists of the following cadastral land plots: 865/14, 865/15, 865/17, 865/28, 865/29, 866, 867, 868, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886/1, 886/2, 887/4, 887/5, 912 and 914, all of them KO Novi Beograd; of which, cadastral land plots 865/15, 865/17, 866, 912, 914, KO Novi Beograd, in their current condition are land plots of existing building structures at the corner of Tošin Bunar St. and Zorana Đinđića St., whose removal is planned.

The Student City complex was built in 1948-55, and it received its present-day appearance during a wide-ranging reconstruction that took place between 1985 and 1997. During that reconstruction, an additional floor was added on the buildings in the form of mansard roof, which increased the accommodation capacity of each building section; elevator cores were added in the form of building annexes.

Regarding constructed structures, today the student housing complex Student City consists of the following: four student dormitories DOM 1, DOM 2, DOM 3 AND DOM 4, student restaurant with kitchen, the Boiler Room facility which houses both the technical rooms and the multifunctional students' sport hall, the Fontana cafe, and various technical facilities of smaller dimensions (trafos, reservoir of the reception desk at the entrance etc.); there are also special premises in the complex with three structures of the Student's City Cultural Center with its ground level, which also operates as an independent entity within the Student City complex. Open areas and green areas are designed in the form of a park, and sport facilities are located within them: mini golf court, two basketball courts, one small football court and a sport track.



Figure 22. Situational overview of existing building structures in the Student City complex

Access to the Student City complex consists of three vehicle-pedestrian and several pedestrian entrances.

- The main (blue) gate is located in the Studentska Street. It is intended for users, employees and visitors, and it allows access to the parking lot that is located in the immediate vicinity of the central plateau.
- Vehicle access from the Tošin Bunar St. is intended for employees and is placed immediately near the restaurant. It is used to access the parking lot near the boiler room as well as the parking lot in the northern part of the complex, behind Dormitory 1.
- Vehicle access from Zorana Đinđića Blvd is intended for access to the Cultural Center.

Pedestrian access routes are located in Tošin Bunar St., Studentska Street, and Zorana Đinđića Blvd. One pedestrian entrance is also located in the immediate vicinity of the highway interchange and provides access to the Complex from the south side, in the zone between dormitories 3 and 4.

Each of the 4 dormitories consists of two wings G (GF+5+M) and F (GF+6+M), always positioned in such a way that G is the "north" wing and F is the "east" wing. Each dormitory with its two wings is programmatically and functionally independent: each of them has an identical organizational structure that consists, apart from accommodation units, of the dormitory management premises and all other facilities necessary for students' accommodation and living (reading rooms / drawing rooms, TV hall, laundromat, and all other necessary additional, technical and supporting facilities). At the same time, apart from the aforementioned facilities intended for users of the specific dormitory, every dormitory also houses certain facilities that are intended for all users of the complex. Building wings G and F are connected by footbridges located at their upper floors in all dormitories. Annexes with elevators, added during the last reconstruction, are located beside G wings.

**DORMITORY 1** is located in the northern part of the complex near the intersection of Tošin Bunar St. and Zorana Đinđića Blvd.

The main entrance for the residents of G wing of Dormitory 1, through which is the access to the central hall with the reception, is located on the south side of the building, facing the park. The other two entrances of the G wing which are in operation are intended for access to business premises (leased) in the end segment of the western part of the ground floor, that is, to private apartments at the end segment of the eastern part of the wing. Another entrance, accessing the central zone of the tract from the north is not in operation for safety reasons- for access control. In the horizontal plan, G wing, like all other wings of all 4 dormitories in the Student City Complex, represents a tract with central communication and contents positioned on both sides. Vertical communications, four stairway verticals, are arranged in such a way as to serve the initially designed connection of four entrances on the ground floor with the accommodation units on the higher floors. The annex with elevators is located at the northern side of the building, opposite the main entrance.

Residents of F wing access the facility through the main entrance with a central hall, positioned in the central part of the western facade, from the park. The vertical communications of wing F are organized in the form of a single stairway that leads from the central hall to the upper floors. Access to the ambulance area is provided on the northern side of the facility, while on the southern side there is an external evacuation stairway. In the northern part of the ground floor of F wing, a hostel is located, which managed by the Management, while the southern part consists of reading rooms and laundromates.

In total, Dormitory 1 has 448 accommodation units of various structures within its wings G and F, and these units (and their communications) are the only facilities that are located on every floor of the building except the ground floor. In addition to the basic supplementary facilities of student housing, the ground floor of Dormitory 1 also contains the outpatient unit of the Student Polyclinic, and the Hostel, which operates in the standard system of the contents of this purpose.

**DORMITORY 2** is located in the western part of the Complex, south of the Dormitory 1. The main entrance hall of G wing is positioned on the north side of the facility, accessed from the park, and is located opposite

the entrance to G wing of Dormitory 1. The annex with elevators is accessible from the main hall, opposite the main entrance. There is another entrance from the northern side of the building, which is not used, for the purpose of access control. Entrances at the building's southern facade are intended for other users of the building. Entrance in the eastern part of the southern facade is intended for students who need to access the IT service which issues student cards. The substation and transport warehouse have their own direct accesses.

G wing of Dormitory 2 has four stairway verticals. Due to the specific organization of the ground floor area, which implies the separation of certain contents, some of the stairways are accessible to all users from the first floor.

F wing of Dormitory 2 is connected by footbridges with G wing in the section from the first to the fifth floor. The main entrance and access to the central hall of F wing is located on the west facade of the facility. The side entrance, on the north side of F wing, serves for access to the photocopying room and the offices of sports clubs and organizations. The photocopy room is available to third persons, not only residents and employees. The external fire exit stairs are located on the lateral southern facade of F wing. Premises of RTV Studentski grad can be accessed from the main hall.

Dormitory 2 is equipped with 527 accommodation units. In addition to accommodation units and reading rooms, the dormitory also houses offices of the Information Technology Department, the photocopy room, the hairdresser, premises of RTV Studentski grad, the Photography Club, the Branko Miljković Literary Club, the association of gusle players, and the Student City sporting association.

**DORMITORY 3** is also located in the western part of the Complex, to the south from the Dormitory 2, in the vicinity of the intersection of Tošin Bunar St. and the access road to the Highway. To the north of G wing of Dormitory 3, the restaurant facilities with an annex and boiler room are located. G wing has four entrances, which were initially designed as access points along the vertical communications. The main entrance for residents, which provides access to the main entrance hall, followed by an elevator annex with a fire exit, is located on the south side of the building. The entrance in the western part of the wing, also located on the southern side, is intended for access to the premises of ACAA "Španac". The entrance on the northern side of the wing is used as a fire exit, and the eastern wing entrance on the south side has the same purpose. The substations for heating and electricity can be directly accessed from the external area, in the zone under the footbridge that connects G and F wings.

The main entrance to the F wing of Dormitory 3 is located in the central part of the facility, on the west side, through which is the access to the hall with the reception and vertical communications. Side entrance in the zone under the footbridge allows access to reading rooms. The other side entrance on the south side of the facility is used to access the premises of the Post Office, which is also open to general population. External fire exit stairway is located at the southern facade of the F wing building.

Dormitory 3 is equipped with 512 accommodation units. Apart from the accommodation units, the post office and premises of the the ACAA "Španac", the ground floor in both sections also houses reading rooms for students.

**DORMITORY 4** is located in the southeastern part of the complex, east of the Dormitory 3. On the north side, G wing of Dormitory 4 is oriented toward the central plateau with the fountain, and to the south of Dormitory 4 sports fields are located. G wing of the Dormitory 4 has four initially designed entrances near the vertical communications in the building. The central entrance from the south side of G wing has the function of the main entrance for students, with access to the main hall with the reception desk, and it has central entrance from the south side of the G wing. The entrances at the side ends of the facility, also on the south side, are intended for residents of private apartments and apartments for employees, and access to the other floors is not possible through them. The main central hall extends into the annex with elevators. In the end eastern part of the facility, on the north side, there is a direct access to the warehouse from the outside, and on the south side is the entrance to the telephone switch room of the Student City. As the main vertical communication for access to other floors and accommodation units, a

stairway with access from the central hall is used, which also enables access control. Other vertical communications, as in all G wings of dormitories, can be freely used from the first floor, while access to these communications on the ground floor is disabled in most cases.

F wing of Dormitory 4 has a central entrance with a hall and reception, on the west side of the facility, which is oriented towards the sports fields. Warehouse premises and reading rooms are located on the ground floor, while accommodation units are placed on higher floors.

Dormitory 4 is equipped with 503 accommodation units in both sections. Side chapel of St. John Chrisostom is located in the G wing, in which services, in addition to the residents of the Student City, are also visited by citizens who live in the vicinity of the Complex.

**RESTAURANT WITH ANNEX** consists of two facilities - a central circular restaurant facility and the annex, which allows access to dining halls. These facilities are located in the western zone of the Complex, between the facilities of dormitories 2 and 3. The restaurant and the annex have a GF+2 floor structure. The main designed entrance from the direction of the Tošin bunar street is not in operation. The entrance at the northern side of the annex is used as the main access to the student restaurant. The annex itself houses the restaurant's cashier's desk, offices of the chef and the staff, sanitary facilities and security desks. The kitchen, with all its supporting facilities, is located on the ground floor of the circular restaurant facility, with separated clean and dirty zones, including the garbage collection area with waste disposal. A large dining hall is located on the first floor of the restaurant, with a centrally organized distribution of meals. A small dining hall for students is located on the second floor, as well as the restaurant that is open to all citizens. The restaurant and the annex are connected by a two-level footbridge.

The **BOILER-ROOM** facility is located on the east of the restaurant facility, in the zone between dormitories 2 and 3. The structure has a Bs+GF+1 floor structure, with a rectangular floor plan with dimensions 30 x 31 m. From the programme point of view, it is a complex unit that, apart from the supporting facilities of the boiler room itself, sanitary premises and the cloakroom for workers, also contains workshop premises and warehouses on the ground floor, as well as students' recreation facility that is located on the first floor and a part of the ground floor. Every facility has its own access and entrance. Recreation program, billiards halls, saunas and gyms are accessed from the northern side of the structure. The basement floor contains the boiler room with a substation which is accessed from the ground floor zone that houses the new substation, in the southern part of the structure.

Next to the boiler room facility, to the east of it, an oil tank facility is located, which is semi-buried and with a surface area of 65 m<sup>2</sup>. The access to the tank is located on the western side, with orientation towards the boiler room.

**STUDENT'S CITY CULTURAL CENTER** is located in the eastern part of the complex, on the northern side of the central plateau. With its three facilities and the associated ground floor in function of the contents of the Cultural Centre and a separate vehicular access, it represents a unit within the complex and exists as an entity in a functional and organizational sense. The building structures have a floor structure that ranges from Gf+1 to Gf+2. The Cultural Center consists of the management building, the main hall and the library, together with their supporting facilities. The library building and the Great Hall building with the gallery are connected by an open footbridge. An amphitheater in the open with a fountain, intended for smaller gatherings, is located in the central zone, between the structures. The summer stage is located to the north from the library and to the west from the management building. The Cultural Center as a whole was designed in 1969 by professor Milan Mitrovic. The Student's City Cultural Center is the only property within the Student City complex that has been officially recognized as a value that deserves *urbanistic protection* in accordance with the criterion K8 - "Contextual value - the structure materially defines a high-quality urban atmosphere or participates with its stylistic values in the characterization of local setting."

**OPEN SPACES** of the Student City complex have a character of a park with rich and tall vegetation, landscaped green areas and sport facilities with a moderate capacity and level of equipment. The open spaces of the complex are freely available to the public. The plateau with a fountain, located in the central spot, is the main place for gathering and constitutes the primary entry zone of the complex. The plateau is circular in shape, with a diameter of 50 meters. A large fountain is located near the plateau; a cafe of the same name near it is open to all visitors of the park. The plateau and the fountain together occupy a surface of about 50\*80 meters. All paths on the property are classified as pedestrian paths, and they are located in all parts of the complex. The total area of pedestrian surfaces in the complex, together with the plateau, amounts to around 2500,500 m<sup>2</sup>. Every day, the park area of the Student City is visited by citizens who live nearby.

The zone with sport courts has two basketball courts with spectator stands, one small football court, and a sport track that runs between the sport courts and the fence of the complex, along the southern side of the land plot. Area with outdoor exercise equipment is located near the basketball courts. Two basketball courts with spectator stands have dimensions of around 45 x 40 meters. Small football court measures 24 x 42 meters.

## 5.2 Existing situation - table overview of facilities in building structures

STUDENT DORMITORY 1	designation on the map	1G, 1F
	total net surface area	11 670.24 m <sup>2</sup>
	number of employees	34
	number of users	1 028
FACILITY / PROGRAM	INFORMATION ABOUT THE FACILITY	
<b>Student Dormitory 1 - WING G</b>	net surface area	7671.78 m <sup>2</sup>
		<b>ground floor</b>
porter's office		
entrance hall of the main entrance with reception and TV room		
shop within the hall		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms	net surface area - around 230* m <sup>2</sup> * together with reading rooms / drawing rooms in the Wing F	
dormitory management - director's office, clerk's office, meeting room and the cashier's desk	cashier's desk can be accessed by students from the hall	
inventory with warehouse keeper's office		
storage of clean and dirty laundry (bed sheets) with receipt / dispatch		
laundromats		
technician's workshop		
official apartments (2 apartments)		
TISAB business premises	leased space - not managed by the institution	
		<b>Floors I - VI</b>
accommodation units	<b>total number of rooms - 270</b> rooms with two beds - 177 rooms with three beds - 86 rooms with four beds - 4 rooms with five beds - 3 <b>total number of users - 643</b>	

<b>Student Dormitory 1 - WING F</b>	total net surface area	3998.46 m <sup>2</sup>
<b>ground floor</b>		
porter's office		
entrance hall of the main entrance with reception and TV room		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms		
ambulance of the Student Health Protection Institute		
hostel / reception desk, rooms		
students' association		
laundromats		
warehouses and storage		
<b>Floors I - VII</b>		
accommodation units	<b>total number of rooms - 178</b> double-bed rooms - 140 rooms with three beds - 38 <b>total number of users - 394</b>	
<b>STUDENT DORMITORY 2</b>	<b>designation on the map</b>	<b>2G, 2F</b>
	<b>total net surface area</b>	<b>11 123.83 m<sup>2</sup></b>
	<b>number of employees</b>	<b>25</b>
	<b>number of users</b>	<b>1 199</b>
FACILITY / PROGRAM	INFORMATION ABOUT THE FACILITY	
<b>Student Dormitory 2 - WING G</b>	net surface area	7 364.62 m <sup>2</sup>
<b>ground floor</b>		
porter's office		
entrance hall of the main entrance with reception and TV room		
shop within the hall, with storage room		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms	net surface area - around 230* m <sup>2</sup> * together with reading rooms / drawing rooms in the Wing F	
dormitory management - director's office, clerk's office, meeting room and the cashier's desk	cashier's desk can be accessed by students from the hall	
IT department - issuance of student cards		
inventory room with warehouse keeper's office		
laundromats		
storage of clean and dirty laundry (bed sheets) with receipt / issuance		
transport department's warehouse		
workshop		
substation		
hairstylist	leased space - not managed by the institution	
<b>Floors I - VI</b>		
accommodation units	<b>total number of rooms - 332</b> single-bed rooms - 6	

	two-bed rooms - 231 rooms with three beds - 94 rooms with four beds - 1 <b>total number of users - 754</b>	
<b>Student Dormitory 2 - WING F</b>	net surface area	3 759.21 m2
<b>ground floor</b>		
security guard's reception desk with cloakroom		
entrance hall of the main entrance with reception and TV room		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms		
Laundromats		
radio club and photography club		
students' association and student union		
RTV Studentski grad		
photocopy room	photocopy service is available to third persons	
electricity substation		
offices of sport clubs and the sport association of the Student City (handball club, football club, karate club, chess club, volleyball club and basketball club)		
society of gusle players		
Branko Miljković literary club		
<b>Floors I - VII</b>		
accommodation units	<b>total number of rooms - 195</b> rooms with two beds - 140 rooms with three beds - 55 <b>total number of users - 445</b>	
<b>STUDENT DORMITORY 3</b>	<b>designation on the map</b>	<b>3G, 3F</b>
	<b>total net surface area</b>	<b>11 538.7 m2</b>
	<b>number of employees</b>	<b>15</b>
	<b>number of users</b>	<b>1 190</b>
FACILITY / PROGRAM	INFORMATION ABOUT THE FACILITY	
<b>Student Dormitory 3 - WING G</b>	net surface area	<b>7 574.24 m2</b>
<b>ground floor</b>		
security guard's reception desk with cloakroom		
entrance hall of the main entrance with reception and TV room		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms		
dormitory management - director's office, clerk's office, meeting room and the cashier's desk	cashier's desk can be accessed by students from the hall	
storage of clean and dirty laundry (bed sheets) with receipt / issuance		
laundromats		

room inventory with warehouse keeper's office		
technical department		
transformer station and substation		
security department		
offices of the student standard department		
IT department - administrator's office		
server hall		
ACAA "Žikica Jovanović Španac"		
<b>Floors I - VI</b>		
accommodation units	<b>total number of rooms: 316</b> rooms with two beds: 218 rooms with three beds: 89 rooms with four beds: 5 rooms with five beds: 4 <b>total number of users: 743</b>	
<b>Student Dormitory 3 - WING F</b>	net surface area	<b>3 964.46 m2</b>
<b>ground floor</b>		
security guard's reception desk with cloakroom		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms		
laundromats		
Post Office	rented business premises that are not run by the management; postal services are available to third person	
transport department		
technicians' workshops / electrician, carpenter, plumber		
auxiliary storage		
cleaners' room		
electrical room		
<b>Floors I - VII</b>		
accommodation units	<b>total number of rooms: 196</b> rooms with two beds: 141 number of users: 282 rooms with three beds: 55 number of users: 165 <b>total number of users: 447</b>	
<b>STUDENT DORMITORY 4</b>	<b>designation on the map</b>	<b>4G, 4F</b>
	<b>total net surface area</b>	<b>11 704.19 m2</b>
	<b>number of employees</b>	<b>21</b>
	<b>number of users</b>	<b>1 191</b>
FACILITY / PROGRAM	INFORMATION ABOUT THE FACILITY	
<b>Student Dormitory 4 - WING G</b>	net surface area	<b>7 739.73 m2</b>
<b>ground floor</b>		
security guard's reception desk with cloakroom		
entrance hall of the main entrance with reception and TV room		

reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms		
dormitory management - director's office, clerk's office, meeting room and the cashier's desk	cashier's desk can be accessed by students from the hall	
laundromats		
student's association of dormitory 4		
warehouse for items that are removed from inventory		
side chapel of Sveti Jovan Zlatousti (St. John Chrysostom) with library	the side chapel can be accessed by third persons from the main hall	
telecommunication department with the switchboard		
official apartment		
private apartment		
<b>Floors I - VI</b>		
accommodation units	<b>total number of rooms: 307</b> rooms with two beds: 209 rooms with three beds: 82 rooms with four beds: 1 rooms with five beds: 15 <b>total number of users: 743</b>	
<b>Student Dormitory 4 - WING F</b>	net surface area	<b>3 964.46 m2</b>
<b>ground floor</b>		
security guard's reception desk with cloakroom		
laundromats		
storage of clean and dirty laundry (bed sheets) with receipt / issuance		
reading rooms / drawing rooms* * some of the reading rooms are used as drawing rooms		
room inventory with warehouse keeper's office		
warehouses		
<b>Floors I - VII</b>		
accommodation units	<b>total number of rooms: 196</b> rooms with two beds: 140 rooms with three beds: 56 <b>total number of users: 448</b>	
<b>RESTAURANT WITH ANNEX</b>	<b>designation on the map</b>	<b>5, 6</b>
	<b>total net surface area</b>	<b>1 049.00 m2</b>
	<b>number of employees</b>	<b>64</b>
FACILITY / PROGRAM	INFORMATION ABOUT THE FACILITY	
<b>RESTAURANT</b>	net surface area	<b>731 m<sup>2</sup></b>
<b>ground floor</b>		
kitchen		
Elevators		
Pantries		

waste disposal room		
sanitary facilities		
technician's department		
		<b>I floor</b>
dining hall		
		<b>II floor</b>
dining hall		
grill restaurant	restaurant with free access - not intended for regular meals for students	
<b>ANNEX AND FOOTBRIDGE</b>	net surface area	318 m <sup>2</sup>
<b>BOILER ROOM WITH TANK</b>	designation on the map	7,8
	total net surface area	1 252.00 m <sup>2</sup>
	number of employees	6
<b>FACILITY / PROGRAM</b>	<b>INFORMATION ABOUT THE FACILITY</b>	
<b>BOILER ROOM</b>	net surface area	1 187 m <sup>2</sup>
		<b>basement</b>
boiler room with auxiliary and supporting rooms		
		<b>ground floor</b>
technicians' department, with paint warehouse and workshops (locksmith's and carpenter's workshop)		
new boiler room with substation		
sanitary facilities		
cloakrooms for personnel and workers		
		<b>I floor</b>
sport and recreation hall, with gym and saunas		
locker rooms with showers		
billiards room and table tennis room		
<b>OIL TANK</b>	net surface area	65 m <sup>2</sup>
<b>CAFE CLUB "FONTANA"</b>	designation on the map	12
	total net surface area	263.95 m <sup>2</sup>
	number of employees	4
<b>TRANSFORMER STATION</b>	designation on the map	13
	total net surface area	11 m <sup>2</sup>
	number of employees	/
<b>SELF-SUPPORTING TRANSFORMER*</b>	net surface area	11 m <sup>2</sup>
* there are three transformer station within the complex (two of them within dormitories 2 and 3 and one self-supporting) that provide power supply to all facilities of the complex, including the Cultural Center		
<b>STUDENT'S CITY CULTURAL CENTER</b>	designation on the map	9, 10, 11.
	total net surface area	2 739 m <sup>2</sup>
	number of employees	59
<b>FACILITY / PROGRAM</b>	<b>INFORMATION ABOUT THE FACILITY</b>	

<b>MANAGEMENT BUILDING</b>	<b>net surface area</b>	<b>978 m<sup>2</sup></b>
small hall	capacity: 77 seats	
bistro		
meeting room		
3 studios with make-up rooms		
theatre club		
offices		
<b>MAIN HALL</b>	<b>net surface area</b>	<b>1 012 m<sup>2</sup></b>
main hall	space intended for musical and theatrical performances and film programs, 396 seats	
foyer	cultural center's gallery is located in the foyer	
<b>LIBRARY</b>	<b>net surface area</b>	<b>749 m<sup>2</sup></b>
warehouse for books		
reading room	capacity of the reading room is 504 seats	
Gallery		
employees' office		
<p>Summer stage and amphitheater are located within the Cultural Center segment; they are intended for art programs with a smaller format</p> <p>summer stage / capacity: 800 seats</p> <p>amphitheater / capacity: 200 seats</p>		

### 5.3 Existing situation - table overview of total capacities and urbanistic parameters

<b>Surface area of the Student City complex</b> <i>(complex according to GRP)</i>	<b>103 615.0 m<sup>2</sup></b>
Total surface area under the structures - existing situation	16 093.0 m <sup>2</sup>
<b>Total surface area under the structures</b> <i>(without the building structures at the intersection of Zorana Đinđića Blvd and Tošin Bunar St., which are planned to be removed)</i>	<b>15 249.0 m<sup>2</sup></b>
<b>Total GFA of existing structures</b> <i>(according to information from GRP)</i>	<b>86 599.0 m<sup>2</sup></b>
<b>Total surface area of all facilities (without the Cultural Center)</b>	<b>70 842.0 m<sup>2</sup></b>
<b>Total surface area of all facilities</b>	<b>51 351.0 m<sup>2</sup></b>
<b>Total number of designated parking spots</b>	<b>80</b>
<b>Total number of employees</b> <i>(Student City Institution + Student's City Cultural Center)</i>	<b>302</b>
<b>Total number of users (students)</b>	<b>4617</b>
<b>Existing plot coverage index (Z)</b>	<b>16.31%</b>
<b>Existing floor space index (I)</b>	<b>0.84</b>

## TERMS OF REFERENCE

### 6.1 Subject of the competition - general guidelines and recommendations

As it was stated in the Introduction, the Subject of this competition - conceptual design of the architectural-urbanistic solution for urban revitalization of the Student City complex - includes the Primary Subject of the Competition and the Subject of the Competition at the Survey Level. The difference between these two domains of the competition is manifested mostly in the character of the terms of reference, as well as the required level of elaboration of competition solutions for each of them.

The Primary Subject of the Competition consists of two segments:

1. The conceptual architectural design for construction of new accommodation capacities for student housing for 1000 students, with a planned GFA of 24,500 m<sup>2</sup>;
2. Complete programmatic-design solution for ground floor arrangement design of the Student City complex.

Subject of the Competition at the Survey Level is the conceptual design of the reconstruction of existing accommodation facilities within the Student City complex and of a new identity of the whole complex, which includes assessment of revitalization of the envelope and other existing building structures in the complex, except the Student's City Cultural Center, which has been placed under urbanistic protection and will be preserved in its current condition.

The scope of the competition is the whole Student City complex. All existing structures within the scope of the competition whose purpose is to provide accommodation facilities, residency and meals to students are planned to be preserved and revitalized / reconstructed, while a group of smaller commercial structures at the corner of Tošin Bunar St. and Zorana Đinđića Blvd (cadastral land plot no. 865/17, 866, 912 and 913, all of them KO Novi Beograd) is planned to be removed.

*Graphical presentation of the scope of the competition is available in the competition documents - I INFORMATIVE GRAPHICAL ATTACHMENTS, OVERVIEW OF THE SCOPE OF THE COMPETITION.*

Participants are expected to thoroughly take into account the immediate context of the location and the position of the area in question within the urban matrix of Novi Beograd, and carefully consider all interventions within this spatial area - whose contextual specificities have been affirmed long ago - with the aim to create a high-quality solution whose characteristics would ensure efficient use of the space and affirmation of the existing values of the whole area by advancing its functional and ambient features, thereby providing the Student City with a new identity.

Special attention should be paid to the characteristics of the shapes, visuals and meanings of the new construction, having in mind the fact that its planned position ensures a high degree of influence of the appearance of new structures on perception of the setting of the whole Student City within the visual

experience from the direction of the Highway, which represents a “picture” of the first impression left by this space on most users and Belgrade citizens.

The proposal of the architectural-urbanistic solution for revitalization of the Student City complex - new construction, reconstruction and design of the area - must be conceived in a way that would create an integrated area with a recognizable visual identity, both functionally and in its design. The proposal of the solution should be characterized by a high architectural quality in the visual sense and regarding the structure of its space, including the implemented materials.

**Conceptual and architectural design of new buildings** entails creation of a student housing structure, with supporting facilities, in the form of a modern, flexible and communicative space which, taking into account the specific variety of users and their needs, as well as the kind of accommodation that is periodical and temporary, needs to provide conditions for implementation of all these planned purposes. In accordance with requirements of the program and its purpose, as well as the trends in development of student accommodation facilities structures, the participants are expected to adequately organize the area that is intended for different types of activities - from the point of view of its function, contents, technology and setting - in order to optimally use the capacities and potential of the location and create a rational and attractive architectural solution.?

The new structure should be planned as an integrated spatial, functional and visual whole - in the form of a single volume or a composition consisting of several spatial volumes that are joined together to create an unified entity.

One of the crucial goals of the revitalization of the Student City Complex is to improve its sustainability through several different aspects, including the affirmation of the possible landscaping of the roof surfaces of newly constructed and reconstructed building structures, their activation in the form of outside common green areas, energy potential or other useful facilities, in accordance with the purpose of the building and users' needs.

Revitalization of the “Student City” complex in the segment that is related to the **integrated programmatic and design solution for the ground floor planning** includes the design solution, organization and design of open areas - traffic zones, pedestrian zones, recreational and green zones - in accordance with the terms of reference and the intended purpose, with the aim to create an open space with a high functional and contextual value.? Open areas, in the programme sense, should be designed in harmony with the needs of modern student's lifestyle, taking into account the variety of the ways in which students use such areas and assuming the maximum preservation of greenery found at the location. As part of this segment of competition task it is necessary to define the layout of complex access zones (access routes, porter's office)

It is also crucial to pay attention to the planning of pedestrian, recreational and green areas within the complex. Participants are expected to improve the existing programmatic and functional structure of open areas and provide conditions for various ways to spend time outside - from quiet zones for study, reading and meditation, to common areas for socializing, sports and other group activities.

Staged implementation of revitalization of the Student City complex is intended to also include **revitalization of existing accommodation facilities** with the aim to improve the standard of applied materials and usage conditions of this area. The domain of the competition at the survey level - the conceptual design of reconstruction and adaptation of existing accommodation facilities within the Student City complex should be conceived in such a way that would increase the capacity of their sustainability via improvement and modernization of functional and technological characteristics of the existing accommodation facilities with the aim to achieve harmonization with the energy efficiency criteria and implement higher standards of student accommodation. Interventions on existing dormitory structures also includes the reconstruction of the top (mansard) floor, as well as possible extension, within the maximal allowed height of the structures, which is 32.0 m.

The design that is selected at the competition should promote modern tendencies in architecture, shaping and planning of public spaces, including a clear affirmative relationship towards all aspects of sustainability of the planned construction and design with regard to implementation and exploitation of all facilities of the Complex. In this context, it is expected that the proposal of the architectural and urbanistic solution for revitalization of the spatial area of the Student City and its reconstruction, adaptation and construction - apart from achievement of highest standards in the context of specified requirements - will also entail the lowest possible carbon footprint during the construction, exploitation and maintenance of the facilities and the whole area.

#### **6.1.1 Requirements related to spatial layout**

- A recognizable architectural and urbanistic design in accordance with the purpose, characteristics and significance of the location; this design should correspond to the surroundings;
- Urbanistic and architectural design of revitalization of the complex should be conceived in accordance with the recognized contextual values of the whole area and in an affirmative manner, in the sense of physical structure and visual characteristics as well as programmatically, in the sense of disposition of individual facilities;
- The character of the complex should be harmonized with the spirit and characteristics of modern architecture;
- Primary requirements related to organization of the area are compliance with various requirements related to its purpose and maximal level of flexible use, good spatial structure and easy orientation, simplicity and efficiency of communication concept, both within the buildings and outside;
- Movement of users should be logical and in harmony with the dynamics and manner of use of various facilities, as well as the number of their users.
- Regarding traffic, incoming and outgoing roads should be organized in a clear and simple manner;
- Good traffic access should be ensured without any placement of stationary motor vehicles outside the zones specified by the program;
- Good functional connectivity within individual segments and between them in horizontal and vertical planes;
- Affirmation of existing natural and created values of settings, as well as recognizable autochthonous landmarks;
- Maximal preservation of the existing vegetation;
- Application of materials with appropriate physical, functional and environmental characteristics, in accordance with the intended purpose and safety regulations;
- The design solution should provide for infrastructural equipping in compliance with the program's requirements and in a manner that will ensure comfort of the users in this area;
- All accesses and surfaces that are intended for movement of pedestrians and maneuver zones should ensure unimpeded movement of people with difficulties in moving and disabled persons.
- Traffic matrix of public traffic surfaces from current planning documents, which is available in the competition documents, is a fixed element of the design.

## 6.2 Program elements and guidelines for the competition design

### 6.2.1 Program elements and guidelines for new construction - student accommodation facilities for 1,000 students

The zone of the competition area and intended for construction of student housing capacities - student dormitory with accommodation units, supporting facilities, appropriate communications, all technical and auxiliary premises is located in the southern part of the Student City complex and includes the area between the regulations of public traffic zones of Studentska Street and the Highway traffic link towards the Tošin Bunar St. and DORMITORY 4. Sport courts for users of the Student City complex are located within this zone, in its current condition. If the proposal of the solution for new construction entails removal of these sport courts from their current location, it is necessary to design them at another location within the complex in accordance with the concept of ground level design of this spatial zone.

Horizontal and vertical regulation of new construction is defined by the zone of new construction and the maximal allowed height of structures, which is 32.0 m. The maximum number of floors of the building structure is a function of its maximum allowed height. The maximum gross developed floor area (GFA) of the planned construction (which includes a possible basement floor) amounts to 24 500 m<sup>2</sup>.

*Graphical overview of the zone that is intended for construction of new housing capacities is available in the competition documents - I INFORMATIVE GRAPHICAL ATTACHMENTS, OVERVIEW OF THE SCOPE OF THE COMPETITION ON THE CADASTRAL AND TOPOGRAPHICAL BASIS*

Planned facilities and the structure of the zone of the new student dormitory within the Student City complex should satisfy the needs for accommodation, appropriate activities and necessary services for 1,000 students in accordance with the standard functioning of student dormitories within the *Student Center Belgrade Institution*, as well as the criteria of the category IA in accordance with the *Rulebook on Categorization Standards for Facilities for Accommodation of Pupils and Students*, "The Official Gazette of the Republic of Serbia" no. 1/2012

The structure of the planned building entails the following: active ground floor, accommodation capacities between the first floor and the top floor, and floor surfaces that are landscaped or activated in some other way for the purpose of functional and/or technological needs of the building. In the case of all roof surfaces that are potentially used as a useful space that requires presence of users, it is necessary to provide appropriate functional and evacuation connectivity by the way of vertical and horizontal communications.

When designing the solution, take into account the needs of all installation systems and technological needs of the facility, including the distribution of central air conditioning in all areas of the facility, and their impact on the final dimensions of the formed spaces, especially the height. The minimal clean height for the accommodation facilities unit zone is 2.80 m.

All common areas must be designed in accordance with the provisions of the *Rulebook on Technical Standards for Planning, Design and Construction of Building Structures that Ensure Unhindered Movement and Access of Disabled Persons, Children and the Elderly* ("The Official Gazette of the Republic of Serbia", no. 22/15).

The designed solution must satisfy all regulations related to fire protection.

*The Rulebook on Categorization Standards for Facilities for Accommodation of Pupils and Students*, "The Official Gazette of the Republic of Serbia" no. 1/2012, *The Rulebook on Technical Standards for Planning, Design and Construction of Building Structures that Ensure Unhindered Movement and Access of Disabled Persons, Children and the Elderly* ("The Official Gazette of the Republic of Serbia", no. 22/15) and current regulations on fire protection are attached in the competition documents - V OTHER COMPETITION DOCUMENTS.



Figure 23 Orthographic photography showing the area that is covered by the competition and the zone of new construction



Figure 24 The zone of new construction

**Program facilities** of the new student dormitory include the following programmatic-functional sections:

- A. STUDENT ACCOMMODATION AREA
- B. COMMON AREAS INTENDED FOR STUDENT ACTIVITIES
- C. MANAGEMENT AND ADMINISTRATION AREAS
- D. SERVICING AREAS
- E. COMMUNICATIONS AND AUXILIARY AND TECHNICAL AREAS

Regarding the disposition of the facilities, the following is necessary:

- Accommodation units should be planned between the first floor and the top floor; the possibility of placing accommodation units on the ground floor as well is not excluded, but in that case it is crucial to ensure privacy and security of the accommodation unit's internal space in relation to the outside area;
- Common areas intended for student activities should be positioned in accordance with the concept of the proposal of the solution, in the form of a functional segment that is separated from the zones with accommodation units, but properly connected to them;
- Management and administration areas must be positioned on the ground floor;
- Servicing areas should be placed on the ground floor or in the basement of the building;
- Technical areas should be designed in accordance with the specific technological needs of such areas.

It would be desirable to plan the roof surfaces as an active and landscaped area so that they can be used as green common areas, or to activate energy potential or for other purposes, in accordance with the needs of the building's users.?

#### A. STUDENT ACCOMMODATION AREA

Zones of the building that contain accommodation units should be designed as the primary content of all floors of the building, except the ground floor. It is possible to place accommodation units within the ground floor, but in that case it is crucial to their ensure privacy and security in relation to the outside zone; at the same time, there is no intention to make to make them the primary content of the total capacity of the ground floor.

The design should include accommodation facilities capacity for 1,000 students (1,000 beds) that complies with the standards of today's student accommodation. Structures of the accommodation units should be designed for 1-4 students per unit, taking into account modern standards of student accommodation within the wider education space that we belong to, as well as the aspects of rationality, economics and energy efficiency of the proposal of the design solutions. Within the total number of

accommodation facilities capacities, it is necessary to provide 40 single-bed accommodation units that will be used by users with limited mobility.

**ACCOMMODATION UNIT** in the spatial and programmatic sense must include the following:

- anteroom;
- bathroom;
- kitchenette (kitchen niche) and
- the room.

It is necessary to design an external area - loggia / balcony for each accommodation unit.

**The recommended floor area of the accommodation unit is 12.0 - 16.0 m<sup>2</sup> per user**, depending on the structure of the unit and the number of users.

The recommended floor area of the accommodation unit does not include **the accommodation units intended for users with limited mobility**, where the primary concern for organization of these spaces is the compliance with conditions prescribed by relevant regulations for this category of users, and for which the recommended floor area is **20.0 - 24 m<sup>2</sup> per user**.

Recommended floor areas of accommodation units per user include all spatial and programmatic contents, including the corresponding outside area.

- **The room** within the accommodation unit consists of the residential zone without the anteroom, bathroom and kitchenette / kitchen niche.

The room should be dimensioned and organized in such a way that provides conditions for accommodation facilities and use of the following equipment (in accordance with the number of user):

- a bed with minimal dimensions of 200 x 90 cm, for each user;
- separate office desk for each user with minimal dimensions of 90 x 60 cm and an office chair, or a joint work surface with an appropriate number of seats with a minimal width of 90 cm per user;
- a shelf near/above the bed and/or above the office desk for each user;
- wardrobe / closet with shelves for clothes and laundry, together with sections for hanging of clothes, storage of suitcases and storage of bed sheets, for each user;
- it would be desirable to place a night commode or a commode with a compartment for each user within the room.

Beds within a room can only be single-level beds (without bunk beds). The organization of the space in rooms should be planned in such a way as to ensure the possibility of using the space under the bed for storage purposes (e.g. drawers for bed linen, etc.). Closets/storage of some of the listed contents can also be provided in the ante room, depending on the concept of organization of the space of the accommodation unit.

**Recommended floor area of the room is 7.0 - 9.0 m<sup>2</sup> per user**, depending on the structure of the room and the concept of the proposal of the design of accommodation units; variations are possible.

The recommended floor area of the room does not include the rooms intended for users with limited mobility, where the primary concern for organization of these areas is the compliance with conditions prescribed by relevant regulations for this category of users.

- **The anteroom** (access space) is the access zone of the accommodation unit, and it is desirable to make the anteroom in such a way that it connects all parts of the accommodation unit.? Within the anteroom, there must be a shared space to store shoes and a coat hanger. Within the antechamber, it is also possible to provide a storage space for suitcases, in which case it is not necessary to provide that space within the closet in the room. Kitchenette can also be located within the anteroom.
- **Regarding the bathroom** in the accommodation unit, and its integral and installed equipment, it must contain the following:
  - washbasin with dimensions 40 x 50 cm;
  - toilet with low-mounted or built-in flush cistern;
  - shower bath with minimal dimensions of 80 x 80 cm with protection from splashing (shower stall or shower curtain);
  - mirror with a shelf for toiletries or a toilet cabinet whose dimensions match the number of users;
  - wall hanger for clothes.

The recommended floor area of the bathroom within the accommodation unit should be designed in the range 3.00 - 4.00 m<sup>2</sup> (possible variation of up to 0.50 m<sup>2</sup> if the design provides appropriate functionality and adequate space for all the required equipment). The recommended floor area of the bathroom does not include the bathrooms within single-bed accommodation units intended for users with limited mobility, where the primary concern for organization of these areas is the compliance with conditions prescribed by relevant regulations for this category of users.

Within the bathroom, it is crucial to include a space for installation of vertical channels for powered ventilation, regardless of whether the design already allows natural ventilation of the bathroom as well. Preparation of sanitary warm water within the Student City complex is centralized.

- **Kitchenette / kitchen niche** with recommended working length of 120 cm must contain the following equipment:
  - kitchen sink with a tap with hot and cold water;
  - standing kitchen cabinet with an electrical hot plate;
  - space for refrigerator;
  - hanging kitchen cabinet.

Instead of the kitchen niche within every individual room, it is possible to design a common kitchen for 4-8 users, provided that there is a clear spatial relationship / connection between the kitchen and the accommodation units that it serves. Within the kitchenette / kitchen niche, it is necessary to include a space for installation of vertical channels for powered ventilation, except in the case that direct natural ventilation is provided for this area.

It is desirable to design varying structures of accommodation units (from one bed units to four bed units); it should be pointed out that it would be most optimal if the largest number of units were units with two beds, independent and/or two grouped units with two beds. Grouping of two units with two beds entails a structure within which there are two rooms with two beds each, connected via an anteroom with a shared bathroom and a kitchenette, which nominally creates an accommodation unit with four beds.? It is also possible to group in the same way two single-bed accommodation units, including those that are intended for users with limited mobility.

Concepts that allow flexible organization of accommodation units in order to satisfy the needs of different categories of users (married student couples, disabled users whose stay in the dormitory requires the presence of an assistant, etc.), or to provide necessary conditions for accommodation in specific situations (e.g. COVID 19 epidemic), are a desirable characteristic of the design.

When designing solutions of the accommodation zone and organization of accommodation units themselves, it is necessary to take into account the following:

- The size of the glazing in rooms must amount to at least 1/7 of the floor area with a tolerance of  $\pm 10\%$  of the surface, and at least 1/2 of the glazing surface must allow opening (windows with wings that open around the vertical and horizontal axis and a balcony door if the room has a balcony or a loggia).
- It is required to provide the possibility of dimming and preventing view from outside (roller shutters, curtains), together with the ability to regulate the amount of light in the room.
- Rationality of the designed organization and arrangement of the space of the accommodation unit, taking into account the use of the multi-functional capacities of furniture and equipment elements.

## B. COMMON AREAS INTENDED FOR STUDENT ACTIVITIES

Common areas within the building that are intended for students' activities include work areas and areas for socializing, entertainment and recreation.

- **Work areas (B1)** include reading rooms, drawing rooms and media / internet room;
- **Areas intended for socializing, entertainment and recreation (B2)** include the common room areas, and sport / recreation areas (gym etc.).

It would be desirable to place the common areas for students' activities within the ground floor of the building, with the possibility of placing these common areas on other floors as well, for example: in a purpose-built segment of the building that complies with the concept of the proposal of the design and which is separated from the accommodation capacities, but appropriately connected to them, or within

“extended” communications that are intended for multifunctional and flexible usage, or in some other way.

Apart from the common areas within the ground floor that are specified by the program, it is also possible to design additional common facilities that are intended for all users of the entire Student City complex.

## **B1. WORK AREA**

- **Reading rooms / drawing rooms**.....**450 - 600 m<sup>2</sup>**

**Reading rooms** are work spaces that are intended for study, research, writing of school assignments, etc. Equipment of reading rooms consists of office desks and chairs; one working place in the reading room consists of an office desk with dimensions of 80 x 60 cm with an office chair.

**Reading rooms** are work spaces that are used for preparation of graphical, artistic and other works that also may include team work.? Equipment of drawing rooms also consists of office desks and chairs; one working place in the reading room consists of an office desk with dimensions of 120 x 60 cm with an office chair.

Areas that are intended for reading rooms / drawing rooms should be designed as flexible areas which can easily be joined or split in two using simple procedures.

The reading rooms/drawing rooms should be positioned and organized in such a way that they are provided conditions for uninterrupted work and high-quality daylight, as well as artificial lighting.

It would be desirable for the design to provide a total capacity of reading rooms / drawing rooms for a around 20% of users at the same time, which amounts to around 200 workplaces.

Within the total capacity of this area, it would also desirable to design a specific space that is intended for the media library / internet access - a work area with office desks 80 x 60 cm with chairs and computers for around 15-20 users.

## **B2. AREAS INTENDED FOR SOCIALIZING, ENTERTAINMENT AND RECREATION**

- **Common room areas**.....**400 – 500 m<sup>2</sup>**

Living room is a multipurpose multifunctional area that is intended for socializing, entertainment and hobby activities of the students who are using the dormitory.? The living room can be conceived as a separate functional segment, but also as “individual” spaces that are located within the building in accordance with the proposal of the design’s concept. This space is equipped with casual seating elements that are easy to manipulate with, as well as tables for several persons and chairs. Organization and equipment of this space should allow multifunctional and flexible use of those spaces and its simple operational division / merging.

- **Recreation space**.....**up to100 m<sup>2</sup>**

It is necessary to design a space that is intended for recreational activities of dormitory users, with a form of a fitness center with auxiliary facilities - locker rooms and showers (men’s and women’s) that can be used by 10-15 users at the same time.

Accompanying contents within common areas that are intended for students’ activities include sanitary facilities - toilets, whose capacity should be designed in accordance with the number of users of all areas.

## **C. MANAGEMENT AND ADMINISTRATION AREAS**

- **Management and administration areas**.....**up to60m<sup>2</sup>**

Management and administration area entail work spaces that include the following: director’s office with one workplace with the possibility of receiving clients, a meeting room with a capacity of eight seats, clerk’s office with one workplace and with the possibility of receiving clients, and a cashier’s desk with one workplace that is placed in such a way that it can be accessed both from the management area and by students from the hall.

Management and administration areas have to be positioned on the ground floor of the building and designed in the form of flexible office units that are connected via a communication zone. Apart from the aforementioned, it is also necessary to provide auxiliary areas - sanitary facilities and a kitchenette.

## D. SERVICING AREAS

**Servicing areas** include servicing areas that involve both students' and employees' activities / access, as well as servicing areas that are used only by employees. All categories of servicing areas should be designed on the ground floor or in the basement of the building.

- **Servicing areas that involve both students' and employees' activities / access (D1)** include the following: laundry room (laundromat), bedclothes storage and bicycle storage.
- **Servicing areas that involve only employees' activities (D2)** include the following: area for the porter and the security service, building maintenance rooms, warehouse with consumables (hygiene products etc.), warehouse for consumables, warehouseman's office, workshop for smaller repairs with a warehouse, general warehouse, premises for employees that work in the servicing areas and storage room for garden tools and equipment (optional).

It would be desirable to design the servicing areas as a block of servicing areas that are connected via a communication route that is connected with the commercial entrance. Servicing areas are to be positioned within the ground floor or the basement of the building in a way that would ensure an adequate level of natural lighting (taking into account their purpose) and natural ventilation. All servicing areas need to be provided with conditions for installation of elements and equipment for powered ventilation.

### D1. **SERVICING AREAS THAT ARE USED BY BOTH STUDENTS AND EMPLOYEES**

- **Laundry room (laundromat).....70-100 m<sup>2</sup>**  
Laundry room, where clothes are washed and dried, is an area that houses washing machines and clothes dryers which are independently used by students, under the supervision of the equipment manager. It is necessary to provide conditions for placement and usage of 45 washing machines + 45 clothes dryers that are placed in vertical pairs (one clothes dryer above one washing machine), as well as one work position for the equipment manager. It would be desirable to provide within this area a segment for drying of clothes (hanged on drying elements) with an appropriate spatial, organizational and technological capacity. The washing room / drying room area should be designed within the ground floor or the basement of the building in the zone with servicing areas, and should be positioned in such a way that student can access it without passing through the areas that are intended for employees only.
- **Bedclothes warehouse..... approximate floor area 60 m<sup>2</sup>**  
The bed linen warehouse consists of a block of several interconnected rooms - for receiving dirty bed linen and for storing and issuing clean bed linen. Since the reception of dirty bed sheets and issuance of clean ones requires student access, the block with bed sheets storage should be designed in the ground floor or basement of the building in such a way that it has a good connection with communications used by students. The structure of the bed linen warehouse includes: a room for clean bed linen with shelves for bed linen storage and areas for issuing clean bed linen, i.e., collecting dirty bed linen, with communication desks. Within the area for collecting dirty bed linen, boxes for temporary storage of delivered bed linen should be provided. Dimension the space of the bed linen warehouse in accordance with the accommodation capacity of 1,000 students - a set of bed linen for one user includes two sheets, a pillowcase, a pillow and a blanket, and for 1,000 students, 2,000 sheets and 1,000 pillowcases, pillows and blankets are needed. The warehouse should provide conditions for storing 50% of the specified quantity for replacement purposes. It is necessary to organize the warehouse area in such a way that during the work process the "paths" of clean and dirty bed linen do not cross.
- **Bicycle / scooter storage.....up to 100 m<sup>2</sup>**  
Bicycle storage should be provided on the ground floor or in the basement of the building. It is necessary to provide conditions for storage of elements used for parking/storing of bicycles with a sufficient capacity for 50-60 bicycles.

### D2. **SERVICING AREAS THAT ARE USED BY EMPLOYEES ONLY**

- **Premises for doorman and security service.....up to 15 m<sup>2</sup>**  
The area for the receptionist and the security service is an office space with two work positions that is located on the ground floor of the building and connected with the reception desk.

- **Building maintenance rooms**.....approximate floor area per room is **2.0 m<sup>2</sup>**  
Building maintenance rooms are sanitary facilities with a slop sink and a storage (closet) for maintenance materials. This room should be designed on each floor of the building, i.e. each floor of each building section / block, desirably near vertical communications.
- **Warehouse for materials**.....approx.**15 m<sup>2</sup>**  
The warehouse for materials (hygiene products, etc.) is a space intended for the storage of different types of materials, primarily products for the hygienic maintenance of the facility (disinfectants, soaps, pastes, toilet paper, towels, mechanical products for maintaining hygiene (cloths, water-absorbing cloths, buckets, mops...). A warehouse for materials must include shelves for storage. This area is to be positioned on the ground floor or the basement of the building, with a good connection with the commercial entrance.
- **Warehouse for consumables** .....approx. **15 m<sup>2</sup>**  
The warehouse for consumables is intended for the storage of consumables (toilet tanks, sinks, toilets, toilet seats, faucets, shower heads and hoses, various types of lamps, fuses, switches, spare parts, etc.) for the needs of the repair of the aforementioned elements in the facility and includes storage shelves from the equipment. This area is to be positioned on the ground floor or the basement of the building, with a good connection with the commercial entrance.
- **Warehouse-man's office** .....**up to 15m<sup>2</sup>**  
The warehouse-man's office is a workspace with one workplace. This premise should be positioned on the ground floor or basement of the facility, connected by a warehouse for bed linen and consumables.
- **Workshop with warehouse**.....approx.**60 m<sup>2</sup>**  
Workshop with a warehouse is an area intended for small repairs within the building; it requires a working zone for repairs with a work desk and machines with one work position, as well as a warehouse for consumables, with a total floor area of 50-100 m<sup>2</sup>. The workshop should be positioned on the ground floor or the basement of the building, within the block with servicing areas.
- **Premise for employees in services**.....**50 - 60m<sup>2</sup>**  
The space for employees in the service facilities includes a space for rest and food consumption with a kitchenette, employee wardrobes (male and female) with lockers for clothes (two compartments for each employee - separate compartment for the clothes in which they come to work and separate one for the clothes they use at work) and a sanitary area with toilets and showers. This area should be dimensioned for 20 users and positioned on the ground floor of the building, within the block with servicing areas.
- **Storage room for storing garden tools and equipment**.....**up to 30m<sup>2</sup>**  
A storage room for the storage of garden tools and equipment intended for the maintenance and servicing of free and green areas of the complex (shovels, rakes, shovels, brooms, mowers, trimmers, garden hoses, salt for sprinkling pedestrian and vehicle surfaces in winter conditions, etc.) should be a room positioned in the ground floor or basement of the facility with direct access from the outside. Access should be organized in such a way as to ensure easy and efficient use of equipment for complex maintenance and delivery of necessary materials (e.g. salt for sprinkling pedestrian and vehicular surfaces in winter conditions). This content, in terms of its positioning within the new student accommodation facility, is optional, i.e., it is possible to plan it within the new facility or the reconstructed space of the existing accommodation facilities or in another way.

#### E. COMMUNICATIONS AND AUXILIARY AND TECHNICAL AREAS

**Communications** within the building structure include entrances / accesses, halls and the area with vertical and horizontal communications. The position and connections of the system of communications should be designed to provide appropriate interconnections between facilities in accordance with their purpose, comfort in use, and easy spatial orientation. Positioning and dimensioning of communication paths must be performed in accordance with evacuation criteria and regulations related to fire protection. All areas that are used for communication have to be designed to be available to all categories of users in accordance with appropriate regulations in this field. It is desirable to design the areas that are used for communication in such a way that they have natural lighting as much as possible.

Pedestrian accesses to the structure should be designed in accordance with the concept of the proposal of the solution - from the direction of internal zone of the complex and from the direction of the Studentska Street. Vehicle approaches to the building, for delivery and emergency vehicles, should be designed from the direction of the Studentska Street.

Entrances to the structure include main entrances used by students, employees and visitors, commercial / technical entrance that is used for delivery and other technical needs, as well as an appropriate number of exits within evacuation routes, which also include the previously mentioned main and commercial entrances.

A windbreak space should be designed at the approach to each entrance. This windbreak space has to be appropriately dimensioned, depending on the the type of entrance and the number of users. If the approach to an entrance of a building requires delevelling in relation to the level of the approaching terrain, it is mandatory to design a ramp that would overcome the difference in level in accordance with regulations that define the criteria for unimpeded movement of persons with reduced mobility.

A hall area has to be designed within the zone of each entrance that serves as a main entrance to accommodation units.

Apart from its function of "extended communication", the hall, which has to be appropriately dimensioned in relation to the number of users, includes the following facilities:

- Reception desk with a counter, a work surface, and elements that are used to keep keys / cards, which is connected to the office of the receptionist and the security;
- An area where students can spend some time waiting, within which it is necessary to provide seating elements.
- Area intended for a small grocery store for the needs of student residents of the dormitory

Depending on the concept of the design, it can also include additional content.

Blocks of vertical communications include stairways and an appropriate number of elevators, depending on the capacity of the zone with accommodation units. Within the individual blocks of vertical communications, it is necessary to provide a freight elevator, in such a way that each segment of the facility, from the access to the last floor, is served by a freight elevator. It is not necessary to design elevators within the blocks of vertical communications that are primarily designed to ensure compliance with evacuation regulations. Blocks of vertical communications should be provided in such a way that they create a connection between all floors, from the ground floor (basement if provided) to the highest floor, in accordance with the needs of individual contents and evacuation regulations.

Horizontal communications need to be designed in accordance with the purpose and designed to take into account the number of users, in the form of comfortable and cozy areas which may include - depending on the role that they serve - auxiliary "brake-out" facilities like places to sit, work and socialize in small groups, etc.

**Auxiliary areas**, apart from all the previously mentioned auxiliary areas within various facilities, it is necessary to provide an appropriate capacity of sanitary blocks in all zones of the structure that include common areas, servicing areas etc.

**Technical areas** include all areas that are necessary for maintenance of installed systems required by this type of building structure - heating substation, electrical room, generator room, REK room. Technical areas need to be designed in accordance with technological requirements and positioned in the basement or the ground floor of the building; in the case of special technological requirements, they can be placed on accommodation floors as well.

Apart from compliance with strict standards related to specified requirements, and a carbon footprint that needs to be as small as possible during the construction, exploitation and maintenance of the structure and the whole area, the proposal of the architectural design of the new student dormitory needs to also achieve the following:

- Integration of the architectural and energetic concept of the structure, as well as the justification of the proposal of the constructional solution, and the rationality of construction and costs of exploitation of the structure;
- Affirmative (communicative) relationship in the context of the existing structure within the Complex with the proposal of the reconstruction of this structure and the total function and setting of the Student City as a whole;
- High quality of conditions for accommodation, work and social life of students and employees, in accordance with specified needs;
- Connection with the immediate surroundings.

TABLE OVERVIEW OF PLANNED FLOOR AREAS PER FUNCTIONAL SEGMENTS

<b>FUNCTIONAL SEGMENT / FACILITY</b>	<b>recommended floor area NET</b>
<b>A. STUDENT ACCOMMODATION AREA</b>	
STANDARD ACCOMMODATION UNITS FOR 960 STUDENTS different structures of accommodation units (one-bed to four-bed) Recommended floor area of the unit 12.0 - 16.0 m <sup>2</sup> per user	11 520 - 15 360 m <sup>2</sup>
ACCOMMODATION UNITS FOR USERS WITH REDUCED MOBILITY 40 single bed accommodation units (separate units or two grouped single bed units) Recommended floor area of the unit 20.0 - 24.0 m <sup>2</sup> per user	800 - 960 m <sup>2</sup>
<b>ACCOMMODATION AREAS IN TOTAL</b>	<b>12 320 - 16 320 m<sup>2</sup></b>
<b>B. COMMON AREAS INTENDED FOR STUDENT ACTIVITIES</b>	
<b>B1. WORK AREA</b>	
Reading rooms, drawing rooms, media library	450 - 600 m <sup>2</sup> in total
<b>B2. AREAS INTENDED FOR SOCIALIZING, ENTERTAINMENT AND RECREATION</b>	
Common room areas	400 - 500 m <sup>2</sup> in total
Recreation area	up to 100 m <sup>2</sup>
<b>COMMON AREAS INTENDED FOR STUDENT ACTIVITIES IN TOTAL</b>	<b>950 - 1200 m<sup>2</sup></b>
<b>C. MANAGEMENT AND ADMINISTRATION AREAS</b>	
	<b>up to 60 m<sup>2</sup></b>
<b>D. SERVICING AREAS</b>	
<b>D1. SERVICING AREAS THAT ARE USED BY BOTH STUDENTS AND EMPLOYEES</b>	
Laundry room (laundromat)	70 - 100 m <sup>2</sup>
Bedclothes warehouse	around 60 m <sup>2</sup>
Bicycle / scooter storage	up to 100 m <sup>2</sup>
<b>D2. SERVICING AREAS THAT ARE USED BY EMPLOYEES ONLY</b>	
Area for the receptionist and the security service	up to 15 m <sup>2</sup>
Building maintenance rooms	40 - 50 m <sup>2</sup> in total
Warehouse with consumables	around 15 m <sup>2</sup>
Warehouse for material	around 15 m <sup>2</sup>
Warehouse-man's office	up to 15 m <sup>2</sup>
Workshop with storage	around 60 m <sup>2</sup>
Premises for employees that work in the servicing areas	50 - 60 m <sup>2</sup>

*Pantry for storing garden tools and equipment	around 30 m <sup>2</sup>
<b>SERVICING AREAS IN TOTAL</b>	<b>440 - 520 m<sup>2</sup></b>
<b>E. COMMUNICATIONS AND AUXILIARY AND TECHNICAL AREAS</b>	<b>3 000 - 4 000 m<sup>2</sup></b>

\* optional content

<b>TOTAL MAXIMAL GFA OF THE STRUCTURE</b>	<b>24 500 m<sup>2</sup></b>
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Recommended net areas per user, functional segments and facilities, which are specified in the Chapter 6.2.1 and the *Table Overview of Planned Floor Areas per Functional Segments*, are approximate.

Variations are allowed in the context of possible redistribution of facilities within the accommodation and common areas intended for students, which depending on the design concept may include flexible and multifunctional use of the area of “extended” communications, provided that specified requirements and standards for recommended floor areas are met and that the proposal of the spatial usage is satisfactorily explained.

Regarding floor area and capacity, the planned total maximal GFA of 24, 500 m<sup>2</sup> and the requirement to provide accommodation for 1,000 users constitute strict limits for the design of the new construction.

## 6.2.2 Program Elements and Guidelines for the Ground Floor Arrangement of the Complex

The conceptual programmatic design solution for the ground floor arrangement of the entire Student City Complex includes a proposal for the organization and design of traffic, pedestrian, recreational and green areas of the Complex with the aim of improving the existing spatial-program and visual characteristics of the ground floor and forming a functionally and ambience valuable open space that meets needs of purpose.

The ground floor design solution should primarily, along with all others, satisfy all communication needs of the Complex.

When designing the program solution, the existing manner of using the space and the importance of certain positions in the “mental map” of the users should be kept in mind, such as, for example, a large plateau or “square” in the eastern part of the Complex.

When formulating the solution for the ground floor, the existing seedlings of tall greenery that need to be preserved should be considered. It is necessary to tend towards maintaining the existing capacity of green areas in the Complex. In case of green areas, provide a horticultural arrangement in accordance with the concept of the planned solution.

The organization and structure of the ground floor, belonging to the Student’s City Cultural Center, is retained in its current state and needs to be implemented in the planned solution.

### Road Traffic – Approaches and Mobility

The key preference for the use of the Student City Complex, in the sense of sustainability, foreseen through multiple aspects of the competition task, also refers to the affirmation of minimizing the movement of motor vehicles within the Complex.

In the current situation, access to the Student City Complex is realized through three car entrances/exits. Road entrances provide access from:

- Studentska Street - The main (blue) gate, intended for users, employees and visitors, provides direct access to the parking lot (positioned parallel to Studentska Street) and to the central plateau, formally and factually, the most frequent meeting point in the Complex;
- Tošin Bunar Street - Technical (economic) entrance, intended for users and employees, provides direct access to the supporting and service facilities of the Complex - kitchen/restaurant and boiler room. This entrance provides access to the informal parking space next to the boiler room, as well

as to the informal parking space in the northern part of the Complex, behind the Dormitory 1 building.

- Zoran Đinđić Boulevard, which provides road access to the Student's City Cultural Center, primarily for the technical needs of this content.

The positions of the existing points of road access to the Complex proved to be adequate in that context, and it would be expedient to keep them in their existing positions, with the possibility of "calibration", except for the road entrance from Tošin Bunar Street, which must be kept in the existing position. It is also possible to consider the introduction of another road access from Studentska Street, intended primarily for new accommodation facilities.

It is vital to provide all the necessary conditions for the access of emergency vehicles (fire brigade, ambulance, emergency interventions) to all contents of the Complex in accordance with the relevant regulations, as well as for supply and maintenance vehicles, in a controlled mode.

### **Stationary Road Traffic**

In the context of minimizing the movement of motor vehicles through the Student City Complex, stationary traffic positions should be kept on the edges of the Complex perimeter.

The current number of marked parking spaces is 80, they are positioned along Studentska Street and next to the sports fields in the southern part of the Complex. In addition to the use of marked parking lots, three informal positions for vehicle parking are also continuously in use - along the southern wall of the boiler room building, in the northern corner of the Complex, north of Dormitory 1 and along the road access/southern wall of the Student's City Cultural Center.

According to the competition solution, the number of parking spaces in open parking lots should be envisaged according to the criterion of 1 PS per three employees, for a capacity of 350 employees. Open parking lots should be planned along the edges of the Complex perimeter, excluding the option of creating a single open parking space.

To meet the needs of stationary traffic, it is possible to envisage an underground garage within the Student City Complex. It is necessary to position the underground garage in accordance with the needs of the functioning of the entire Complex and in such a way that the existing tall greenery is preserved to the maximum possible extent. If an underground garage is planned in the competition solution, it is necessary to bear in mind that the construction of the garage is not the subject of this phase of the revitalization of the Student City Complex and that, in the context of the phased realization, in the first phase it is necessary to foresee the satisfaction of all parking needs according to the prescribed criteria on external parking lots, as well as planning an adequate conversion of the external parking lots for the situation when the underground garage is realized.

### **Pedestrian, Recreational and Green Areas**

Pedestrian accesses to the complex are in the current state from the directions of all roads in the area - Tošin bunar, Studentska, and Bulevar Zorana Đinđića, via vehicular-pedestrian and pedestrian entrances, as well as one pedestrian access positioned in the immediate vicinity of the highway interchange that provides access to the complex from the south side, in the zone between dormitories 3 and 4. The Student City Complex is surrounded by a solid green hedge, and the only possible access to it is thru predetermined positions - entrances. In the aforementioned context, it is necessary to carefully consider the positions of pedestrian accesses, both the existing ones, in terms of their eventual repositioning, and the planned ones, in accordance with all the needs of the existing and planned contents. It is necessary that the system of pedestrian communications within the Student City Complex ensures a good connection of all contents (in accordance with their position and purpose) with the access zones of the Complex and with each other, as well as comfortable movement for all categories of users.

Free spaces – pedestrian, green and recreational, in the programmatic sense, should be provided following the needs of the modern life of students, taking into account the variety of ways in which they

use that space and implying the maximum preservation of the green fund existing on the location. Special attention should be paid to the planning of the use of those areas.

The participants are expected to improve the existing program-functional scheme of open spaces and provide conditions for various forms of outdoor living, from quiet areas for rest, relaxation, study, reading, meditation, and outdoor work, to common spaces for socializing, sports, and other group activities.

As part of the formulation of the new ground floor layout of the pedestrian areas, the reconstruction of the existing “Fontana” cafe should also be envisaged in terms of its positional and form alignment with the proposal of the solution.

The sports and recreational facilities in the Complex, apart from those that students have the opportunity to use within the SRC “11. April”, are currently located within the location intended for new construction and consist of two basketball courts with bleachers and one futsal field with bleachers surrounded by a common fence and jogging trail about 220 meters long.

As part of the ground floor arrangement, it is necessary to foresee a jogging trail of greater length (not necessarily in the form of separated, dislocated content) in accordance with the concept of the solution. Also, if the planned solution of the new construction involves the removal of the existing sports fields, it should be tended to replace them within the planned solution of the Complex. It is also necessary to bear in mind that all sports fields intended for ball sports located in urban areas require fencing with a solid transparent fence 4.0 to 6.0 meters high.

The possibility of creating a bicycle trail within the Complex and connecting it to the network of bicycle lanes in the surrounding area should be considered.

### **Outdoor Furniture and Equipment**

The subject of the competition task is the design of outdoor furniture as part of the ground-floor arrangement of the Complex, which necessarily contains elements for rest (sitting, lying down, communication), elements for working outdoors, elements for parking bicycles/segways/scooters (in the access areas to the facilities), lighting elements, wastebaskets, as well as other elements depending on the specific needs of individual units. Regarding the lighting that is needed, first of all, for the sake of public safety, movement control and the lighting of possible signs and instructions, it should be borne in mind that lighting is an important factor in creating a social atmosphere, and it can also be a valuable resource in affirming the ambience.

Elements of outdoor furniture, cladding and furnishing of the ground floor should be made of durable, resistant, permanent, sustainable and chromatically and aesthetically adequate materials, in accordance with the purpose and concept of the proposal of the solution.

Within this segment of the competition task, it is also necessary to visually define the zones of entry into the Complex in terms of form and visually (ways of access, reception desks, etc.).

Within the complex, as part of a new facility or a proposal for the reconstruction of existing accommodation facilities or in another way, it is necessary to provide space for the storage of equipment and tools for the maintenance and servicing of free and green areas of the complex (shovels, rakes, shovels, brooms, lawnmowers, trimmers, garden hoses, salt storage for sprinkling pedestrian and vehicle surfaces in winter conditions, etc.) positioned in harmony with the overall organization of the complex space.

### **6.2.3 Program elements and guidelines for the reconstruction/adaptation/revitalization of existing accommodation capacities (survey level of the competition)**

The revitalization and reconstruction of the existing accommodation facilities - DORMITORY 1, DORMITORY 2, DORMITORY 3, and DORMITORY 4 is envisaged with the aim of improving their sustainability, which, in addition to compliance with energy efficiency criteria, also includes improving the

standards of use of the relevant accommodation spaces, common, service and other contents of these facilities, by users and employees.

It is expected from the competitors that the conceptual solution proposal for the reconstruction and adaptation of the existing accommodation facilities within the Student City Complex will be designed in such a way as to ensure an increase in their sustainability capacity through the improvement and modernization of the functional and technological characteristics of the existing spatial structures with the aim of harmonizing with energy efficiency criteria and reaching a higher standard of student accommodation facilities.

The structure of each of the 4 dormitories is identical in terms of organization and content, although there are less specific differences in the positions of individual elements (entrance zones, etc.) - it includes two, mutually connected, vertical wings G (GF+5+M) and F (GF+6+M), each with its own main entrance, common and service facilities on the ground floor and accommodation units on all other floors.

The facilities were built in the 50s, with accommodation units that did not include their own but shared, floor-level sanitary facilities that contained sinks and WC cabins, while the showers were outside the dormitories, in the boiler room facility as part of the central bathroom with about 100 shower cabins.

The present state, which implies the same disposition of the contents on the floors, with the fact that the accommodation units now each have their bathroom, is the product of a series of earlier adaptations and significant reconstruction of all 4 dormitories in the period 1985-1997 when a mansard roof was added instead of a flat roof, within which new accommodation units were formed, elevator annexes with 3 passenger and one freight elevator were added on the G wings of all 4 dormitories, and a bathroom was incorporated into the existing structure of each accommodation unit.

According to the period of construction, the buildings were built in a massive system of load-bearing walls, which represents a significant and fixed limitation in the planning of the expected interventions. The floor structure is made of reinforced concrete, fine-ribbed, and the staircases are also made from reinforced concrete.

The proposal for a conceptual solution for the reconstruction of existing buildings aims, first of all, to consider the possibilities for:

- raising the standard of student accommodation through the improvement of the organization of accommodation units
- improvement of the sustainability and energy efficiency of the buildings through interventions, primarily on the “envelope” of the building, which includes the reconstruction of the existing final floor (mansard) and possible extension within the framework of the maximum permitted height.

When formulating a proposal for the reconstruction and reorganization of the space of accommodation units, it should be aimed that the dimensions and structure of the reconstructed rooms to be in accordance with the basic requirements defined for new accommodation units to the maximum possible extent, bearing in mind the limitations implied by the existing structural system. The accommodation units consist of an entrance hall, a room, a bathroom, a kitchenette and a kitchenette niche, and preferably a terrace/balcony. Double-bed (independent or integrated by a common room) or triple-bed rooms should be planned. All program requirements related to accommodation units are presented in chapter 6.2.1. A - Area for accommodation of students, also refers to this segment of the competition task. Improving sustainability in the economic, sociological and social sense is also one of the objectives of this type of intervention.

The objective, related to the improvement of the energy and technological sustainability and efficiency of buildings, which should also be achieved by the conceptual architectural solution of the reconstruction of existing accommodation facilities, refers to the reconstruction of the envelope and external elements of the building. Achieving this objective through the conceptual solution, in addition to improving thermal characteristics with thermal insulation and new facade cladding, reconstruction of the last floor in terms of form and applied materials may involve different approaches that include closing (whole or part) of the terraces of accommodation units and attaching them to accommodation units. In addition to the above, the possibility of building on top of the existing facilities within the maximum permitted height of

32m, implies the need for constructive reinforcement of the existing physical structure, in which context it is expedient to consider the position of the new facade canvases in relation to the existing facade plane, bearing in mind all conditions and limitations.

If construction on top of the facility is planned, the newly formed space should be planned for contents in accordance with the character of the proposed reconstruction and the concept of the solution, either for various new common contents of the users of the specific dormitory or of all users of the complex (including flexible spaces that can provide conditions for the simultaneous presence of 60 to 100 listeners/participants, e.g., for employee training, forums, etc.) i.e., increasing capacity/assumption of some of the existing common content in the complex and/or additional accommodation capacities, respecting all criteria defined for new construction given in chapter 6.2.1.

Planting greenery on the roof surfaces of reconstructed buildings and their activation for the purpose of public use as roof gardens, energy potentials, or for other purposes, in accordance with the purpose of the building and the needs of users of purposeful contents, is a desirable feature of the proposed solutions.

Pay special attention to the structural, visual, and meaningful characteristics that the appearance of the reconstructed buildings will manifest, bearing in mind the formative character of the current visual characteristics of the accommodation facilities within the identity of the Student City.

As part of this survey segment of the competition, and in the context of the planned revitalization of the Student City Complex as a whole, it is necessary to consider the reconstruction of other buildings in the Complex in order to affirm their capacities in the context of sustainability and energy efficiency – restaurant facilities with kitchen, boiler room with tank and cafe - club, primarily in terms of the visual and technological characteristics of the facade and roof covering materials and the overall visual character of those buildings as a structural whole. The Student’s City Cultural Center, since it is subject to urban protection as an ambient of value, remains in its current state and is not subject to intervention within the framework of this competition, both in terms of buildings and the associated ground floor.

### 6.3 Special Program Conditions, Guidelines and Recommendations

#### 6.3.1 Urban Planning – Parametric Conditions

HIGHER EDUCATION INSTITUTION - STUDENT STANDARD INSTITUTION - 9.J4.1	
<b>Purpose of Areas</b>	<ul style="list-style-type: none"> <li>· Student standard institution - student dormitory. Spatial whole - Student City belongs to the parent institution Student Center Belgrade,</li> <li>· within this purpose, it contains complementary cultural content, along with sports, commercial, catering, and entertainment content, serving the main purpose of the Complex without endangering the environment and creating noise.</li> <li>· It is possible to use basements and cellars for the auxiliary and technical facilities of buildings.</li> </ul>
<b>Number of Structures on the Land Plot</b>	<ul style="list-style-type: none"> <li>· It is allowed to build several structures on the land plot for the purpose of fulfilling the primary and complementary contents, as well as technical infrastructure buildings, in such a way that they create an integrated architectural and functional whole.</li> </ul>
<b>Requirements for the Formation of a Building Land Plot</b>	<ul style="list-style-type: none"> <li>· Construction plot 9.J4-1 is planned, with an approximate surface area of 103 615m<sup>2</sup></li> <li>· Parcellation of the planned building land plot is not allowed.</li> </ul>
<b>Plot Occupancy Index</b>	<ul style="list-style-type: none"> <li>· The maximum plot occupancy index is Z = 50%.</li> <li>· The maximum occupancy index of the underground floors of the buildings is 70%.</li> </ul>
<b>Height of the Buildings</b>	<ul style="list-style-type: none"> <li>· The maximum height of the cornice of accommodation facilities is 32 m in relation to the zero elevation level</li> </ul>

	<ul style="list-style-type: none"> <li>· The maximum height of the cornice of buildings with accompanying contents is 12 m in relation to the zero elevation level</li> <li>· The maximum height of the cornice of the facility/facilities of the student cultural center is 12 m in relation to zero elevation level. Exceptionally, the maximum height of the cornice can be 16m if the program requires so, in accordance with the technological scheme of the facilities</li> </ul>
<b>Construction of New Facilities and Their Position on the Land Plot</b>	<ul style="list-style-type: none"> <li>· The facilities should be located within the construction zone, which is defined by construction lines in the appropriate graphic attachments containing the direct application of construction rules with elements of detailed elaboration. It is not mandatory to place facilities or parts of facilities on the construction line, but in the space defined by the construction lines.</li> <li>· Considering their position on the land plot, the facilities are free-standing.</li> <li>· The construction line of the underground parts of the facility (garages, etc.) coincides with the above-ground construction line</li> </ul>
<b>Distance Between the Facilities on the Land Plot</b>	<ul style="list-style-type: none"> <li>· The minimum distance of the facility from the neighboring facility on the land plot is one height of the higher facility if the openings of the accommodation rooms are installed, i.e. 1/2 the height of the higher facility if the openings of the auxiliary rooms are installed or if there are no openings.</li> </ul>
<b>Ground Floor Level</b>	<ul style="list-style-type: none"> <li>· The height of the ground floor of facilities can be a maximum of 1.6m higher than the zero elevation level.</li> </ul>
<b>Requirements for Free and Green Areas</b>	<ul style="list-style-type: none"> <li>· The minimal percentage of free and green areas on the land plot is 50%;</li> <li>· The minimal percentage of green areas in direct contact with the ground on the land plot is 30%.</li> <li>· For the purposes of creating technical documentation and determining the position of new facilities, it is necessary to prepare a valorization manual (bio-ecological basis) of the existing vegetation, in order to preserve it to the greatest extent possible.</li> <li>· The potential cutting of fully grown, valuable tree specimens requires the approval of the organizational unit of the City Administration competent for communal affairs, according to the previously obtained opinion of the expert commission for logging.</li> <li>· It is necessary to replant the trees for which felling approval has been obtained, in accordance with technical possibilities, within the framework of the existing Complex or green areas in the immediate vicinity.</li> <li>· The existing vegetation should be renewed.</li> <li>· The reconstruction of the green area should be performed in an appropriate style, in accordance with the position of the facilities and their main purpose.</li> <li>· For greenery, autochthonous types of vegetation should be used, that belong to natural potential vegetation, adaptable to local environmental conditions; it is possible to use exotic specimens that have been confirmed to adapt well to environmental conditions; use nursery-produced seedlings; avoid invasive and allergenic species.</li> <li>· Provide a 1-2% drop of communication surfaces, which enables the drainage of surface water to the surrounding porous soil or rain sewers.</li> <li>· porous or semi-porous sheeting should be used for communication surfaces.</li> <li>· it is possible to form green areas on the roofs of facilities and vertically plant the facades of facilities; green areas on the flat roofs of above-</li> </ul>

	ground facilities should be formed on a minimum of 30 cm of soil substrate, and on the roofs of underground garages on a minimum of 120 cm of soil substrate (which is not included in the total percentage of green areas in direct contact with the ground).
<b>Access to the Complex</b>	<ul style="list-style-type: none"> <li>· Vehicular and pedestrian access is provided from peripheral roads and the internal traffic network within the Complex;</li> <li>· The required number of parking spaces should be provided, within the land plot, according to the norms: 1PS/3 employees.</li> </ul>
<b>Planned Interventions</b>	<ul style="list-style-type: none"> <li>· on the construction plot, the construction of new facilities for the accommodation of about 1000 students is planned.</li> <li>· it is possible to extend/build on top of the existing facilities, in accordance with the defined construction rules.</li> <li>· if building on top of the existing structural units is planned, it should be realized within the dimensions of the existing facilities and based on the mandatory static calculation of the existing facilities.</li> <li>· existing buildings can be adapted, renovated, and energetically rehabilitated, i.e. reconstruction of the thermal envelope of the building (facade walls, roof surface, and transparent surfaces) in order to raise the category of the facility from the point of view of energy efficiency.</li> </ul>
<b>Architectural Shaping</b>	<ul style="list-style-type: none"> <li>· for the construction of the facility, new technical and technological solutions should be used to the maximum with the aim of more energy-efficient construction.</li> <li>· the architectural expression must be contemporary, suitable for the environment of the open block and the purpose of the whole unit;</li> <li>· energy-efficient solutions should be applied, i.e. a significant percentage of energy should be obtained from renewable sources: heat pumps, solar panels, “green roofs” - extensive and/or intensive roofs should be planned.</li> <li>· the facility can be adapted, renovated, energetically rehabilitated, i.e. reconstruction of the thermal envelope of the building (facade walls, roof surface and transparent surfaces) in terms of raising the category of the facility from the point of view of energy efficiency.</li> <li>· the last floor can be constructed as a full or detached floor.</li> </ul>
<b>Conditions for Fencing the Complex</b>	<ul style="list-style-type: none"> <li>· It is allowed to fence the construction plot in accordance with the technical, technological and safety needs.</li> </ul>

### 6.3.2 Guidelines and Recommendations for Traffic Areas, Stationary and Pedestrian Traffic

Approaches to the facility, as well as all other surfaces inside and outside the facility, intended for pedestrian communication, should be planned so that they are accessible to all categories of users, in accordance with *accessibility standards* for unimpeded movement and access for people with disabilities, children and the elderly. Access to persons with special needs on the ground floor level by external or internal ramps should be provided.

Harmonize the leveling of new vehicular and pedestrian surfaces with the surrounding space and contents, as well as with the need to meet the efficient drainage of rain water.

#### Traffic Network

Locations of vehicle access points should be planned so that their position does not represent an obstacle for the safe movement of vehicles and pedestrians with security.

Vehicle access points should be provided at a minimum distance of 10 m from intersections (the distance measured between the nearest road edges).

For the movement of passenger vehicles, traffic lanes with a minimum width of 2.75 meters should be planned, while for the movement of cargo/firefighting vehicles, it is necessary to design traffic lanes with a minimum width of 3.5 meters.

### **Parking**

The required number of parking spaces is determined based on the norm of 1 PS per 3 employees.

Administrative parking/garage spaces should be designed with dimensions not less than 2.5m x 5.0m, and the space for maneuvering with a minimum width of 6.0m; Longitudinal parking spaces should be designed with dimensions of no less than 2.0m x 5.5m, and a space for maneuvering with a minimum width of 3.5m.

In public parking lots, at least 5% of parking spaces should be provided for passenger vehicles of persons with disabilities/reduced mobility, and at least one space of the prescribed dimensions (for dimensions not less than 3.7m x 4.8m for administrative PS, i.e. 5.9m x 5.0m for double administrative PS) .

#### ***Open Parking Lots***

It is necessary to envisage the greenery of open parking areas using semi-porous sheeting with a grass cover instead of impermeable sheeting, by planting tree-lined seedlings and/or forming grass gardens.

Trees should be planted in the last third of the parking area, namely:

- in the event of perpendicular and parking at an angle, plant one row of trees in every two to three spaces (depending on the type); and
- in the event of longitudinal parking, plant one row of trees in every two spaces.

Grass gardens, in addition to standard greenery, can represent a sustainable urban drainage system, i.e. a means of managing rainwater, designed to mimic natural drainage systems.

#### ***Underground Garages***

When designing underground garages, observe the following elements: the width of the straight ramp along the vehicle lane is min. 2.75 m; the free floor height in the underground garage is min. 2.3 m; longitudinal slope of straight ramps is max. 12% for open and 15% for covered. Provide parking spaces perpendicular to the axis of movement with dimensions of min. 2.5 x 5.0 m with passage width min. 6.0 m, and for longitudinal with dimensions of min. 5.5 m x 2.0 m.

### **Pedestrian areas**

Surfaces for the movement of pedestrians, in the part where they are planned in the form of paths, should be planned with a minimum width of 1.5 m (recommended 2.0 m).

Approaches to the facility, as well as all other surfaces inside and outside the facility, intended for pedestrian communication, should be planned so that they are accessible to all categories of users, in accordance with accessibility standards for unimpeded movement and access for people with disabilities, children and the elderly. Access to persons with special needs on the ground floor level by external or internal ramps should be provided.

### **Bicycle tracks**

Bicycle tracks should be planned in such a way as to ensure the continuity of the routes in relation to the contact area, bearing in mind that the area covered by the competition represents public areas, and has the potential to be included in the system of bicycle tracks, at the level of interconnection of existing and planned routes in the immediate environment. Bicycle paths should be planned with a minimum width of 1.1m for one-way traffic, or 2.2m for two-way traffic, with a minimum distance from the outer edge of the road of 0.75m, and a free profile at a height of 2.5m.

### **6.3.3 Guidelines and Recommendations in Relation to the Geological-Engineering Conditions**

The location in question is located in the geological-engineering region IIC3, which is characterized as conditionally favorable for urbanization.

The engineering-geological properties of these terrains impose certain restrictions on the urbanization of the area. They include parts of the loess plain from elevation 72.0 to elevation 77.5 above sea level. The use of these terrains during urbanization requires larger investments for their preparation.

It is necessary to apply appropriate land improvement measures during construction works of earth excavations on the terrain, that is, to foresee measures to protect the foundations from the influence of underground water, as well as to design an appropriate method of the foundation of the facility.

#### **6.3.4 Guidelines and Recommendations for Installations**

Within the facility, it is necessary to provide all the standard spaces intended for installation plants and to provide spatial conditions for the distribution of all installations that this type of facility entails - water supply, sewage, heating, air conditioning (through the central system), ventilation, power installations, network optical installations and video surveillance, all in accordance with regulations on technical safety, fire protection and protection of the human environment.

The planned facility should be connected to the existing or planned public utility infrastructure network. As for infrastructural equipping, for new facilities, it is possible to provide connection to the communal infrastructure (electric, telecommunication, water supply, sewage, hot water, and gas network) through existing connections in the required capacity.

#### **6.3.5 Technical Requirements and Guidelines**

##### ***Materialization***

New construction, reconstruction, and arrangement solutions should incorporate into their design key construction materials that are available at local construction services and the materials market. In any case, preference should be given to materials from renewable sources, with low costs and environmental impact due to their production and degradation. All materials used for external and directly exposed positions must be durable and have a lifespan of 50 years without the need for constant maintenance. Maintaining basic mechanical resistance on partially protected exterior surfaces, which are not directly exposed to weather conditions, the range of materials used can be expanded with materials that can be replaced or maintained as needed - but must be in easily accessible positions. Other materials used, especially those intended for surfaces that are exposed daily (floors, walls, and wall coverings), should be chosen so that they are easy to maintain and clean (basic cleaning techniques), annual or multi-year renewal of materials (pressure washing, sanding, sandblasting, restoration of colors and shades) and partial replacement due to damage or wear and tear.

##### ***Structure***

When choosing a structural system and structural materials, the expectation that the structure is designed for the long term rationally and flexibly should be taken into account. In general, the rational structural design provides an optimal relationship between the required spans of the structure, the used construction material, and the complexity of the design. It is also necessary to design adequate seismic protection at the conceptual level, i.e. ensure the basic horizontal stability of the building. Any deviation from the usual (more or less rational) design solutions must be justified and it must be stated in what way the different (unusual) solution contributes to the improvement of the design and operation of the building.

In addition to long-term flexibility, it is necessary to ensure that the building has a clear separation between the primary structure, which guarantees its global stability, and secondary structural and partition elements, which can be removed or replaced without affecting the primary construction system. In this way, it is possible in the long term to adapt the building to other programs not recognized at the time of construction.

##### ***Informational design***

The design and use of the Student Dormitory should include effective IT support.

General information, orientation and information related to the operation of the building should be easily accessible and explicit so that the movement of students and external visitors is unhindered.

Information regarding the spatial organization of employees can also be adapted to people with special needs by positioning them at the appropriate height and applying Braille signs and sound signaling.

### 6.3.6 Recommendations for Energy Efficiency

Improving energy efficiency in the construction and exploitation of facilities implies a continuous and wide range of activities, the ultimate objective of which is to reduce the consumption of all types of energy with the same or better conditions in the facility. As a result of reducing the consumption of non-renewable energy sources (fossil fuels) and the use of renewable energy sources, we have a reduction in the emission of harmful gases, which contributes to the protection of the natural environment, the reduction of global warming and the sustainable development of the country. The Law on Planning and Construction recognizes the importance of the energy efficiency of facilities. The obligation to improve the energy efficiency of facilities is defined in the phase of design, execution, use, and maintenance (Article 4). Energy efficiency is achieved by using efficient systems of heating, ventilation, air conditioning, hot water preparation, and lighting, including the use of heat from waste and renewable energy sources as much as possible.

An important energy parameter is the shape and orientation of the facility, which determine its degree of exposure to external influences of the climate (temperature, wind, humidity, sunlight, etc.). By choosing the appropriate shape, orientation and location of the facility, as well as by choosing the right construction and protective materials, the energy efficiency of the facility can be achieved.

When designing and constructing planned facilities, the following energy efficiency measures should be applied:

- in designing, avoid the spreading-out of the facility, because a spread-out facility has an unfavorable ratio of the facade surface to the useful surface of the base, so the energy losses are high;
- the size of the windows should be optimized to reduce energy losses and provide the rooms with enough light;
- protect the parts of the facility that are exposed to strong solar radiation in the summer with greenery and other measures;
- rooms with similar functions and similar internal temperatures should be grouped, e.g. auxiliary rooms should be oriented to the north;
- design the thermal insulation of the facility using thermal insulation materials, windows and external doors, in order to avoid losses of thermal energy;
- natural materials and materials harmless to human health and the environment should be used;
- renewable energy sources should be used - use solar energy from a greenhouse, photovoltaic solar cells, solar collectors, etc.
- energy-efficient infrastructure should be planned – heating and cooling systems, ventilation, hot water preparation and lighting.

### 6.3.7 Recommendations for the purpose of achieving a sustainable, resilient and efficient design solution based on reducing the carbon footprint through the use of circular economy principles

#### (1) General Recommendations

The concept of sustainability of the design is a very broad category with a large number of opportunities to achieve a good result. In the process of preparing the design documentation for the Student City Project, it is suggested to include a number of design components that ensure the desired end result - a high level of design sustainability.

The recommendations are based on a state-of-the-art design approach in two categories, project management and comprehensive design sustainability.

The following is suggested in the project management plan: all professional teams, who participate in the design in any way, should have as much information available as possible in this phase of the design, regardless of whether this information directly affects this phase of the design or the nature of the team's participation in the design. This approach is the first essential pillar of integrated design.

Most of the requirements related to energy properties will be solved at the level of the Main Design and the Execution Design, except for the part that affects the functional and design solution already in this conceptual phase of the design, which needs to be presented in the competition document.

All of the above imposes the need for an integral approach to design, i.e. the cooperation of all professions as early as in this initial phase of the design.

**Table 1:** Proposed set of Information to form part of competition document

It is recommended that competitors, at earliest stage, are fully informed of project strategies and all future analytical requirements.	
1.2	Project strategy
1.3	Proposal of elements for the holistic analysis of the design – specification of elements for the optimization of the design related to the exterior and interior.
1.4	Specification of conditions which the project has to fulfill with regards to certification and circular economy
1.5	Recommendations for the conditions that the new buildings need to fulfil
1.6	Recommendations for the Design Brief format with the list of required projects
1.7	Existing buildings reconstruction methodology

**(2) Recommendations for a design strategy based on sustainability principles with concepts applicable to new and existing facilities**

*\*Instructions for competition participants*

Competition participants should integrate the strategy suggested below into their design proposals. Participants' proposals should contain detailed items 2.1 and 2.3.

Items 2.2 and 2.3 will be elaborated in the stage of developing the Detailed Design, which is organized through a special public procurement, independent of this competition.

**Table 2:** Recommended design strategy

2.1	Create comprehensive project functions picture: Project proposals should include all elements of interactions between project components treated in detail at this stage, and ones to be treated within detailed design during the next one.
2.2	Establish overall energy consumption level for the complex (kWh/m2y). This should be achieved by creating building mathematical model and energy simulation based on LCC of different alternative envelope solutions. Final decision will be left for the investor to decide on a basis of comparative LCC report.
2.3	Create comprehensive project infrastructure picture: The Infrastructure requirements for the complex components that will be treated in the next reconstruction stage should be defined at this stage and integrated into comprehensive, fully reconstructed complex solution.
2.4	Embrace full co-design participation, throughout the planning and design process, of all complex stakeholders (as opposed to standard “public review” practice). Competitors to propose the extent of this approach within this competition phase.

**(3) Proposal of the elements for the holistic analysis of the design – specification of elements for the optimization of design solutions for the external environment of facilities (from the aspect of functionality, comfort, aesthetics and surface water control), and solutions for the buildings themselves.**

*\*Instructions for competition participants*

All items specified in Table No. 3 will be fully elaborated in the stage of drafting the Building Permit Design and the Execution Design (not the subject of this competition). This table serves as a

reminder to the competition participants, and it is up to the competition participants to decide whether they will use some of the specified items in the explanation of their conceptual solution at this stage.

**Table 3:** Proposal for the elements of the design holistic analysis

<b>Holistic approach (analysis) of design solutions (Important Criteria: Public Health and Well-being)</b>	
<b>3.1</b>	<b>Outdoors</b>
3.1.1	Access to each building attractive (inviting)
3.1.2	Location borders are visually and functionally compatible with immediate neighborhood.
3.1.3	Diversity of outdoor facilities for relaxation, recreation, sports and socialization
3.1.4	Users exposure to nature
3.1.5	Vegetation designed to regulate microclimate and air quality
3.1.6	Vegetation designed not to obstruct winter passive heating of buildings
3.1.7	Vegetation reduces air pollution, primarily from traffic
3.1.8	Design will consider vegetation with direct impact on public health
3.1.9	Vegetation is designed to make connection with neighborhood (for biodiversity and visual effect)
3.1.10	Reduction of heat island effect with materialization of outdoor surfaces
3.1.11	Reduction of heat island effect with materialization of building envelope
3.1.12	Reduction of heat island effect with solar radiation control (primarily with nature-based solutions)
3.1.13	Surface water control – does not have negative impact on neighborhood
3.1.14	Surface water control – does not load city infrastructure
3.1.15	Buildings massing optimal for high quality daylighting for all building areas
3.1.16	Buildings massing optimal for winter passive heating
3.1.17	Thermal and visual impact of complex buildings on neighborhood optimal
3.1.18	Buildings and outdoors upkeep and cleaning defined with architectural design
3.1.19	Studentski grad complex blending in with the neighborhood, matrix to be developed
3.1.20	Analysis of available renewable energies potential at the location
<b>3.2</b>	<b>Buildings</b>
3.2.1	Interior visual quality optimal
3.2.2	Maximal view towards nature secured
3.2.3	Sufficient comfort in internal communications
3.2.4	Noise privacy
3.2.5	Visual privacy
3.2.6	Furniture functional and visual comfort
3.2.7	Colors and textures comfortable for users
3.2.8	Thermal comfort secured primarily by architectural solutions – uniform temperature
3.2.9	Thermal comfort secured primarily by architectural solutions – no negative winter and summer radiation
3.2.10	Thermal comfort secured primarily by architectural solutions – building thermal inertia
3.2.11	Thermal comfort secured primarily by architectural solutions – passive cooling and / or free cooling

3.2.12	Thermal comfort additionally secured by HVAC systems
3.2.13	Indoor noise comfort secured by architectural solutions – maximal allowed reverberation 0.5 sec
3.2.14	Indoor noise comfort secured by architectural solutions – protection from outdoor noise
3.2.15	Indoor air quality – quality vertical and horizontal natural ventilation
3.2.16	Indoor air quality – fresh air intake properly placed
3.2.17	Indoor air quality – permanent monitoring provided
3.2.18	Visual comfort – optimal daylighting secured
3.2.19	Visual comfort – no glare
3.2.20	Visual comfort – optimal lighting systems
3.2.21	Visual comfort – dynamic lighting color
3.2.23	Building shape energy efficient
3.2.24	Envelope insulation quality – walls properly insulated and thermal bridges eliminated <i>(proposed max. <math>U=0.15</math> W/m<sup>2</sup>K – to be validated by building simulation model based on LCC and final insulation level to be approved by the investor)</i>
3.2.25	Glazing insulation quality (max. $U=0.8$ W/m <sup>2</sup> K)
3.2.26	Glazing insulation quality – glazing selection optimized for each orientation (8 parameters)
3.2.27	Buildings orientation optimal for comfort and energy consumption
3.2.28	Building summer shading - natural is optimal (adequate vegetation at functional location – optimized by modeling)
3.2.29	Building summer shading artificial (with adequate daylighting)
3.2.30	Winter shading for glare elimination, but with adequate daylighting
3.2.31	Vertical and horizontal indoor services infrastructure accessibility provided
3.2.32	Utilization of renewable energies of all types
3.2.33	Spaces for PV installations secured at roofs, facades, outdoors...
3.2.34	HVAC installation protocol for comfort conditions maintenance, optimized for minimal energy consumption
3.2.35	Multifunctional usage of water for vegetation maintenance and interactive positive energy effects
3.2.36	All maintenance points have access through doors and stairs (no climbers)

**(4) Specification of conditions and criteria that the design should fulfill in order to meet the requirements of the circular economy**

*\*Instructions for competition participants*

In Table No. 4, the basic principles of circular economy, an important criterion in this design, are specified. Competition participants should submit a brief technical description of the methods and solutions used to incorporate these principles into their design.

**Table 4:** Circular economy criteria

CIRCULAR ECONOMY (CE) DESIGN CRITERIA	
4.1	<b>CE Strategy</b>
4.1.1	Design building for longevity, adaptability, flexibility and recoverability
4.1.2	Eliminate waste and pollution
4.1.3	Circulate materials and products

4.1.4	Regenerate Eco System Services
4.2	<b>Materials</b>
4.2.1	The use of BIM simulation to analyze the embodied energy in materials and the potential of material re-use
4.2.2	Use sustainable new materials or recycled materials
4.2.3	Raw material minimal extraction
4.2.4	Minimal conversion of raw materials into construction materials (energy consumption)
4.2.5	Reduce material waste on site during construction process and consider waste recycling
4.2.6	During the building life span introduce preventive maintenance plan with focus on reducing additional material usage
4.2.7	Use modular construction and prefabricated elements where possible
4.2.8	Avoid secondary material treatment (particularly surface treatments) as much as feasible
4.2.9	Use mechanical fastening methods instead of chemical ones
4.2.10	Construction waste management - create and get approved, detailed construction waste reuse and disposal plan
4.2.11	Make detailed plan for minimized environmental pollution during the construction process including sourcing and transport of materials
4.2.12	Introduce construction systems circular economy approach: design systems that will be easily maintained, repaired and replaced, to extend building LC
4.3	<b>Water</b>
4.3.1	Facilitate Indoor and outdoor water use reduction, with design solutions
4.3.2	Introduce Wastewater Management: - Grey water recycling - Black and grey water energy recovery
4.3.3	Introduce rainwater management and reuse
4.3.4	Introduce surface water management and reuse
4.3.5	Design surface water management to suit 50- or 100-year extremes (to be agreed with the investor in collaboration with relevant city authorities)
4.4	<b>Local production</b>
4.4.1	At the co-planning workshops investigate potential interest of users and neighborhood participation in production of flower, small nursery plants and food
4.4.2	At the co-planning workshops investigate potential interest of users and neighborhood participation in maintenance of biodiversity enhancing spots
4.5	<b>Clearly demonstrate the implementation of above CE criteria within the design documentation</b>

**(5) Recommendations of the conditions that new facilities should fulfill, taking into account the existing state, and fulfilling the criteria for achieving improved public health and user satisfaction**

*\*Instructions for competition participants*

All recommendations from Table 5 should be clearly treated and presented in the proposal of the conceptual solution

**Table 5:** Impacts between existing and future buildings

5.1	New buildings should not have negative effect on thermal comfort of existing buildings
5.2	New buildings should not have negative effect on visual comfort in existing buildings (daylighting and views)
5.3	New buildings should not have negative effect on noise privacy in existing buildings

5.4	New buildings should not have negative effect on visual privacy in existing buildings
5.5	New buildings should not have negative effect on natural ventilation and air quality of existing buildings
5.6	New buildings should not have negative effect on users of existing buildings exposure to nature
5.7	New buildings should not have negative effect on heat island effects

**(6) Recommended terms of reference format with a list of design categories specific to this design**

*\*Instructions for competition participants:*

Competition participants can use information from Table No. 6 as an indication of the format of the terms of reference as well as the type of designs that must be completed in the later stages of the design, by the design teams that will be selected through an independent, separate public procurement procedure.

Competition participants can comment on, process, or use any item from this form in their design proposal.

**Table 6** - The recommended format of the terms of reference is attached in the accompanying competition documentation - V OTHER COMPETITION DOCUMENTATION,

**(7) Methodology of the Reconstruction of Existing Buildings**

*\*Instructions for competition participants:*

The methodology and criteria listed below for the participants of the competition represent material that is informative in the later development of the project, with the fact that the criteria that affect the functional solution and form solution should preferably be affirmed at the level of the survey conceptual solution, which is the subject of the contest.

The process of reconstruction of existing facilities, as the first phase, includes the preparation of the Energy Consumption and Comfort Conditions Optimization Design. This design deals with the facility envelope, construction, all interior elements and all installations. The technology of the optimization design implies dynamic simulations of the behavior of the facility for each of the 8760 hours of a typical meteorological year.

The result of this design is the input data for the terms of reference of the comprehensive revitalization of the facility.

The optimization methodology consists of the following items:

0. A detailed assessment of the general condition of the facility
  1. Measurements and calibration of the facility model
  2. Ranking of energy consumers
  3. Reduction of external loads
  4. Reduction of internal loads
  5. Optimization of energy delivery
  6. Optimization of energy consumption
  7. Increasing system efficiency
  8. Use of renewable energy
  9. Introduction of "intelligent" technologies
  10. Improvement of comfort conditions

0. A detailed assessment of the general condition of the facility

- 0.1 Quality of the envelope
- 0.2 Functionality and quality of installations
- 0.3 Determined functional problems of the building in all categories - experience of users and operators

- 0.4 Measurements (calculations) of energy and water consumption parameters in the last three years
- 0.5 Continuous research measurements of electricity and water parameters in real time, during the use of the building, in a period of 15 calendar days
- 0.6 Provide a design or make a recording of all installations on the building

#### *1. Measurements and calibration of the facility model*

- 1.1 "Snapshot" of the facility's functioning
- 1.2 Continuous measurements on the facility usually last between 7 and 14 days

Parameters relevant to building efficiency and the quality of all comfort components in the building are measured.

#### *2. Ranking of energy consumers*

In order to rank energy consumers, it is necessary to perform continuous measurements of all energy consumers for a period of 7 or 15 calendar days. Based on the measurement results, a ranking should be made that will define the priorities of the interventions.

#### *3. Reduction of external loads*

With passive architectural measures and urban planning solutions, optimization of the building envelope and natural heating and cooling ensure the minimal load on the building's energy system from local climate variations.

#### *4. Reduction of internal loads*

Control of the individual efficiency of energy consumers represents the basic principle of reducing the internal load of the facility's energy systems. A very important component of the reduction of internal energy loads is the control of energy losses in the facility.

#### *5. Optimization of energy delivery*

The choice of the type of energy with which we supply the facility represents a serious potential for reducing facility costs related to energy consumption. This analysis should be performed and the decision should be made at the earliest stage of the facility design because the adopted types of energy sources influence the choice of systems that consume that energy.

(NOTE: This item and the decision on the type of energy is an integral part of the competition solution that is sought through this first phase competition (new facilities). The decision on the type of energy must be coordinated with the future development / reconstruction of existing facilities)

#### *6. Optimization of energy consumption*

Using energy exclusively based on the current demands of consumers (supplying energy exclusively according to the demand of consumer units) is the basic principle of reducing the internal load of the facility's energy systems. Rationalization of the functions of control systems also represents a large, often unused, potential for savings in energy consumption.

#### *7. Increasing system efficiency*

Any system that consumes energy is most efficient if it closely corresponds to the characteristics of the environment in which it operates. The second component of efficiency is the internal efficiency of the energy consumer itself, which largely depends, first of all, on the correct choice, and then on optimal maintenance.

#### *8. Use of renewable energy*

Every urban location has access to certain amount of renewable energy. It is always necessary to complete an analysis of the possibility of exploiting this energy and then an analysis of the costs of the service life of the facility, which defines the profitability of using the existing capacities of that energy.

#### *9. Introduction of "intelligent" technologies*

The introduction of "intelligent" technologies into the functions of the facility implies the following operational conditions:

- The facility dynamically adapts to internal and external loads
- Providing energy only when, where and as much as needed
- Dynamic optimization of capital equipment performance

Modern systems of automatic system control in facilities as well as built-in equipment are equipped for all these functions; it is only necessary to introduce these operational algorithms.

#### *10. Improvement of comfort conditions*

It is important that architectural solutions, first of all, achieve high quality in the following categories of space use:

- User's exposure to nature
- Visual quality and views
- Thermal comfort
- Air quality
- The amount of space
- Ease of communication
- Acoustic privacy
- Visual privacy
- Influence of external noise
- Noise inside the space
- The comfort of the furniture
- Colors and textures
- Access to the building
- Cleanliness of the building

High-quality artificial electromechanical systems only complement the quality of interior comfort, when it could not be achieved with architectural solutions.

*In the competition documentation – V OTHER COMPETITION DOCUMENTATION, as part of the recommendations to the competition participants, the following are attached: **Annex 1** - Matrix of Functional and Visual Adaptation of the Design to the Local Urban Environment and **Annex 2** - Criteria for the Selection of Vegetation (segments from the comprehensive list)*

### **6.3.8 Economy Requirements and Guidelines**

#### ***Investment amount***

The amount of investment for the construction of a new student accommodation facility within the Student City was defined based on the approximations of the investment project and amounts to EUR 24,500,000 without VAT, and for equipping this facility after construction, funds in the amount of EUR 1,250,000 without VAT are planned.

#### ***Efficient building management***

When conceptualizing the design solution, keep in mind that the management of the Complex includes three basic levels of costs and inflows: operational costs (costs for ventilation, heating and cooling, lighting and cleaning), maintenance costs and inflows from marketing activities (rentals, etc.). Operating costs include estimated costs.

#### ***Long-term economic impact of construction***

The design should include materials, technologies and systems that follow the principles of life cycle cost analysis, which means that the costs of their installation, maintenance and dismantling are equally taken into account during their selection.

## CRITERIA FOR THE EVALUATION OF SOLUTIONS

In addition to respecting and meeting the conditions of the program and the competition task, and the compliance of the competition solution with the given urban conditions and recommendations, the jury will evaluate the competition solutions based on the following criteria:

### **Spatial concept and architectural expression**

Characteristics of the proposed solution in terms of affirming the uniqueness of modern student accommodation facilities and urban revitalization of the Student City Complex.

The relationship of the proposed solution to the context and urban identity.

- *a quality of a solution in relation to the characteristics and significance of the purpose*
- *a clear spatial concept, recognizable in the basic idea*
- *relation to the public urban space*
- *character and quality of improvement of urban identity*
- *urban planning-architectural design and ambient characteristics of the solution*
- *relation to context, architectural and cultural heritage*
- *the proposed solution characteristics related to environmental and social sustainability and compliance with the goals of sustainable development, everything according to the recommendations from chapter 6 (6.3.6, 6.3.7 and 6.3.8.)*
- *the proposed solution characteristics related to energy efficiency criteria and the effectiveness of their operationalization during exploitation.*

### **Functionality of the solution, fulfillment of spatial and program requirements**

Strategy and approach to spatial and ambient requirements of the designed solution in terms of space programming and compliance with the needs of modern student housing. Program and functional aspects of the solution in the context of facility exploitation – use and maintenance, including access, movement, residence and participation of users (students and employees) in all activities provided by the program, as well as efficiency and comfort of use.

- *distribution of purpose and content in space*
- *functionality of the proposed solution*

### **Sustainability, energy efficiency**

Characteristics of the proposed solution in the context of environmental and social sustainability and compliance with the objectives of sustainable development. Characteristics of planned construction solutions in the context of energy efficiency criteria and the effectiveness of their operationalization during exploitation.

- *application of ecologically and energetically sustainable solutions to preserve and improve the quality of the environment (application of ecological design)*

### **Potential for further implementation of the design**

- *programmatic and economic justification of the proposed solution*
- *cost-effectiveness of the solution in execution and exploitation*
- *technical and financial feasibility of the proposed solution*

## TERMS OF COMPETITION

### 8.1 Conditions for participation in the competition

The right to participate in the competition, in accordance with Art. 28. of the *Rulebook on the Method and Procedure for Announcing and Conducting Urban Planning-Architectural Competitions* (“Official Gazette of the RS”, number 31/2015), belongs to natural persons with a university degree in the field of architecture, regardless of their territorial affiliation and their personal characteristics or legal entities which appoint a person with a university degree in the field of architecture.

The participants in the competition are free to include in their teams experts from other professions who could, with their professional opinions and knowledge, contribute to the improvement of competition solutions, as well as students. The participant in the competition may not be a person who is directly engaged in the preparation and conducting of the competition, i.e. a relative or a direct associate of such person, nor a person who is a member of the management or an employee of the institution announcing this competition.

The mandatory conditions for participation in the competition:

- The competition design must be submitted in a timely manner and in the way stipulated by the Competition Announcement.
- The competition design must follow all the requirements of technical and layout formatting and must contain all parts permitted by the Competition Announcement.

### 8.2 Conditions for conducting the competition

The competition is announced in accordance with the *Rulebook on the manner and procedure for the announcement and implementation of urban and architectural competitions* (“Official Gazette of the RS” No. 31/2015).

Every competition participant who has taken over the competition documentation acquires the right to participate in the competition.

By submitting the design, each participant accepts the propositions of this competition.

### 8.3 Content of the competition elaborate

The participants are under the obligation to submit the design in electronic form, while the detailed instructions for the naming of documents and the labelling of competition attachments are given in Chapter 8.4. All the files must be submitted in *pdf* format.

The content of the competition design shall include the following:

1. A textbook with a textual explanation and reduced graphic attachments
2. 2D and 3D attachments

3. 3D animation
4. Material for electronic exhibition

**The competition design and all the attachments accompanying the design must be prepared in Serbian or English language.**

**All the participants are under the obligation to submit the following documents as part of the competition elaborate:**

### **1. Volume with a textual explanation and scaled graphic attachments**

The volume is delivered in PDF format. The volume dimensions are 42x29.7cm (A3 format) with horizontally oriented pages. Scaled graphic attachments in 150 PPI resolution.

Contents of the volume

- The description and explanation of the solution.  
The explanation should be clearly structured, in accordance with the objectives of the competition and the obligations, guidelines and recommendations given in the Competition Task and must necessarily contain:
  - *Description and explanation of the conceptual solution - urban planning and architectural relationship and the relationship to the environment*
  - *Description of the spatial-programmatic-functional solution of the arrangement of the Complex and the traffic solution - vehicular, bicycle and pedestrian traffic (approaches, movement, etc.)*
  - *Description of the spatial-programmatic-functional solution of the new construction - functional entities, content disposition, connections*
  - *Description of the (preliminary) constructive solution of the new construction*
  - *Proposal (preliminary) of applied technical systems, including the concept of energy efficiency*
  - *Applied materials keeping in mind the CO2 footprint*
  - *Ecological concept*
  - *Description and explanation of the concept of reconstruction/adaptation/revitalization of existing accommodation capacities*

*The textual description can be supplemented with content as desired by the candidate - diagrams, schemes and other attachments that explain individual elements of the competition solution.*
- All graphic attachments should be reduced to A3 format.
- Tabular presentation - Balance of realized capacities (*according to Table 1 in the competition documentation*).
- Tabular presentation - Realized urban planning parameters (*according to Table 2 in the competition documentation*).
- Tabular presentation - Assessment of investment value (*according to Table 3 in the tender documentation*).
- Tabular presentation - Proposal for the elements of the design holistic analysis (*according to Table 4 (3) in the tender documentation*).

### **2. Graphic attachments (2D and 3D)**

**Studentski grad Complex – Spatial and programmatic solution for the revitalization of the Complex and arrangement of the ground floor**

- Technical plan - a situational representation of the disposition of the contents in the space, their positional and dimensional characteristics, the number of floors of the built structures, functional relationships, traffic and leveling solutions, vehicular, pedestrian and other types of movement  
R=1:750
- Situational - compositional plan - situational view of the planned construction and arrangement (mass plan with shadows)  
R=1:750

- Situation plan of the ground floor with a presentation of planned contents, leveling, traffic areas and communications, ground floor and landscape design R=1:750

- 3D views of the Student City Complex from the given directions and as chosen by the competitors

*The aforementioned attachments also include the survey segment of the competition and imply a presentation in the context of the immediate environment.*

*(The approximate position of the existing directions is given in the competition documentation - I INFORMATIONAL GRAPHIC ATTACHMENTS, attachment PRESENTATION OF COMPETITION SCOPE WITH POSITIONS OF DEFINED DIRECTIONS)*

- 3D Presentation of the solution of characteristic segments / ambient units
- Elements of outdoor furniture and equipment for ground floor decoration - bases, sections, layouts (in an adequate scale), 3D view

### **New construction - Dormitory for the accommodation of 1000 students**

- layout plan of the roof with regulation and leveling elements R=1:250
- layout plan of the ground floor with ground floor and landscaping R=1:250
- Bases (all) R=1:250
- sections (characteristic) R=1:250
- layouts (all) R=1:250
- Typical accommodation unit (all proposed types) - basis, section-layouts R=1:50
- Vertical section through the facade (all applied materialization options) R=1:50
- 3D views of the facility from the given directions and at the choice of the competitors

### **Reconstruction and adaptation of existing accommodation facilities (presentation of one Dormitory per choice)**

- layout plan of the roof with regulation and leveling elements R=1:500
- layout plan of the ground floor with ground floor and landscaping R=1:500
- basis (all different) R=1:200
- sections (characteristic) R=1:500
- layouts (all) R=1:500
- Typical accommodation unit (all proposed types) - basis, section-layouts R=1:50
- Vertical section through the facade (typical) R=1:50
- 3D presentation of the facility chosen by competitors

\* Additional attachments at the participant's choice that clarify and affirm the proposed solutions, photos of scale models, spatial diagrams, etc.

**Graphic attachments are submitted as files in .pdf format, dimensions 100x70cm (B1 format), horizontally oriented (landscape), with a resolution of 150 PPI.**

### **3. 3D animation**

3D animation - presentation of the conceptual design of the complex and the new construction - duration up to 60 seconds, mp4 extension, resolution: 1080p / 720p

#### 4. Material for electronic exhibition

Posters in .jpg format, a total of 5 attachments, 2000px wide and 1200px high - horizontally oriented in the RGB system, with a resolution of 150 PPI. These attachments must also be anonymous with a unique code defined in chapter 8.4, which must be written on each attachment.

**All the above mentioned elements and attachments accompanying the competition elaborate, the textual and graphic attachments with the described content, shall represent the mandatory parts of the competition design. The design that do not contain the above mentioned and requested elements and attachments shall not be taken into consideration.**

In addition to the above, it is possible to attach additional graphic attachments, at the participant's choice.

#### 8.4 Method of technical and design processing of the competition design

All graphic attachments, every sheet in the volume and all posters must be marked with a unique code in the upper right corner of each sheet (Arial font, Bold, 50 pt for graphic attachments, i.e., 24 pt for the textbook). The unique code must consist of two Latin letters and five Arabic numerals selected by the author. The sheets must be marked with ordinal numbers in the lower right corner. The font used for the texts in the volume should be Arial, 11pt.

**The language of the competition is Serbian or English.**

#### SUBMISSION OF THE COMPETITION SOLUTION

All materials (except 3D animations) should be delivered **in one packed (zipped) folder**, no larger than 150 MB, named with a chosen unique code of two Latin letters and five Arabic numbers (e.g.: AB12345.zip).

3D animations should be delivered **in one packed (zipped) folder**, no larger than 150 MB, named with the selected unique code with the addition of the word *animation* at the end of the name (e.g.: AB12345\_animation.zip).

A packed (zipped) folder, no larger than 150 MB, in which all material (except 3D animation) is packed should contain:

- Volume with textual explanation and reduced graphic attachments in .pdf format, dimensions 42x29.7cm (A3), defined in chapter 8.3 under 1.
- Graphic attachments in .pdf format, defined in chapter 8.3. under 2.
- Material for electronic exhibition in .jpg format, defined in chapter 8.3. under 4.

A packed (*zipped*) folder, not larger than 150 MB, in which only 3D animation is packed, should contain:

- 3D animation lasting up to 60 seconds, extension mp4, resolution: 1080p / 720p

The competition participant submits the competition solution electronically via the link: <https://studentski-grad.konkurs.rs/>

The final deadline for the submission of competition designs is **25.10.2022** by 3:00 P.M. (GMT +1).

The competition design not received by the Investor within the deadline set for the submission of designs, i.e. the design received after the expiry of the day and hour by which the competition designs may be submitted, shall be deemed untimely and shall not be taken into consideration. Each participant is permitted to submit only one competition design, without alternative solutions. Upon the expiry of the deadline for the submission of competition designs, the participant in the competition shall not be entitled to the right to withdraw or amend his/her competition design.

The technically shaped treatment of the competition study according to the specified description, requirements and dimensions is a mandatory part of the competition solution. The design that do not contain the above mentioned and requested elements and attachments shall not be taken into consideration.

## 8.5 The author's envelope - Content of the competitors' statement

Along with the electronic submission of the competition work, the participant is obliged to send, by mail, a sealed opaque envelope marked "AUTHOR", and marked on the back with the selected code of the solution which contains two Latin letters and five Arabic numbers, font Arial, Bold, 24pt. The envelope should be sent to the following address: **Udruženje arhitekata Srbije, Kneza Miloša 7a/III, 11 000 Beograd, Republika Srbija**. The envelope must include the following:

- Textual document in A4 format containing the following:
  - Used selected code consisting of two Latin letters and five Arabic numbers;
  - name(s) of the author(s) with signatures;
  - Declaration on acceptance of the terms of competition;
  - Name and surname of the person authorized for representation (may be one of the authors, but not necessarily);
  - E-mail address and contact phone;
  - Statement in which the author or team of authors declare whether they want their project to be publicly exhibited under the code (anonymously) or under the author's name.
  - A statement in which the author or the author's team declares the method of award distribution in percentages, with information and payment instructions for the specified persons;
- One printed poster for the electronic exhibition, reduced to dimensions 29.7x21cm (A4), horizontally oriented (any of the 5 posters submitted in electronic form for the electronic exhibition, reduced to A4)

The final deadline to send the envelope is **25.10.2022**.

Ensuring anonymity when sending the "AUTHOR" envelope by post can be achieved:

- by sending via regular mail without a return receipt with the appropriate number of postage stamps (depending on the country of the sender);
- by sending via express courier service (DHL, Fed Ex, ...) with a note for anonymous sending ("AUTHOR" envelope inside the sending envelope, on which there is no indication of the AUTHOR code).

## 8.6 Competition deadlines

- Beginning of the competition period / date of announcement **25.07.2022**  
The Competition documentation can be downloaded for free from the website of the Union of Architects of Serbia: [www.u-a-s.rs](http://www.u-a-s.rs) or via the following link: <https://studentski-grad.konkurs.rs/>
- The participants may send inquiries about the competition by **25.09.2022**  
The questions and requests for additional information or explanations may be submitted solely through the official website: <https://studentski-grad.konkurs.rs/>  
Replies of the Jury to the received questions, solely in relation to the announcement and the programme of the competition, shall be published at the official website of the Competition **within ten days**.
- The final deadline for the submission of competition designs is **25.10.2022** by 3:00 P.M. (GMT +1).
- The results of the competition shall be published **14.11.2022** until 11:59 p.m. (GMT +1).  
The results shall be published at the website of the Union of Architects of Serbia at [www.u-a-s.rs](http://www.u-a-s.rs) and at <https://studentski-grad.konkurs.rs/>
- The rewarded and unrewarded designs, in electronic format, shall be posted on the website of the Union of Architects of Serbia at [www.u-a-s.rs](http://www.u-a-s.rs) and at <https://studentski-grad.konkurs.rs/> within 30 days from the day of publishing of the Competition results. The basic information (code of the design, award, name(s) of the author(s)) shall be published together with all the designs, unless specified otherwise in the application for the competition.

## 8.7 Type and amount of awards

If at least **10** solutions are submitted by the set deadline and if they meet the competition's propositions, the following prizes will be awarded in the total amount of the net prize fund of USD **56,000.00** according to the following distribution:

- First prize.....28,000.00
- Second prize.....14,000.00
- Third prize.....7,000.00
- Five redemptions in the amount of.....1,400.00

*\* Note: Rewards and redemptions in the net amount are paid at the USD UN Operational Rates of Exchange or UNORE exchange rate for short.*

The jury will distribute the prizes in all aspects in accordance with the provisions of the Rulebook, with the possibility of a different distribution of prizes within the envisaged prize fund.

## 8.8 Composition of the Jury

Chairperson of the Jury:

- Grozdana Šišović, PhD, Architect

Jury members:

- Lazar Kuzmanov, Architect
- Đorđe Alfirević, PhD, Architect
- Matija Bevk, Architect
- Milutin Đurović, Ministry of Education, Science and Technological Development of RS

Deputy member of the jury:

- Goran Minić, Institution Student Center Belgrade

Energy efficiency consultant:

- Ranko Božović, Grad. Mech. Engineer

Rapporteurs

- Marija Pjevač, Architect
- Milena Grbić, PhD, Architect

Competition Secretariat:

Union of Architects of Serbia

## 8.9 Final provisions

- The author of the competition solution is the participant who created the competition solution and thereby published the copyright under their own name by submitting it to the competition. The team of authors consists of the signatories of the competition designs, co-authors and, therefore, the holders of all common copyrights. The copyright of the Participants shall be defined in accordance with the law regulating the copyright and other related rights.
- By submitting the competition solution, the authors (author's team) cede to the Procuring Entity the transfer of the author's property rights if the solution in question has been awarded or purchased. By participating in the competition, the author/s agree to act in accordance with the conclusions and recommendations of the Competition Jury, which will be stated in the Report of the Competition Jury regarding the further implementation of the awarded solution. The author

accepts that in the further development they will act in accordance with the suggestions of the jury and any programmatic and technical modifications of the terms of reference and adjust the solution for the needs of the further stages of development.

- During further elaboration, the Procuring Entity will consult the authors of the awarded solution that has been selected for further elaboration. The author is obliged to respect the conditions for the preparation of planning and technical documentation and the implementation of modifications that are necessary in order to adapt to the spatial and technical possibilities and limitations that result from this. Any further cooperation between the Procuring Entity and the author's team will be regulated by a separate agreement.
- Further development of the project will be performed in accordance with the Law on Planning and Construction (“Official Gazette of the Republic of Serbia”, No. 72/09, 81/09, 64/10 – Decision of the CC, 24/11, 121/12, 42/13 – Decision of the CC, 50/13 – Decision of the CC, 98/13 – Decision of the CC, 132/14, 145/14, 83/18, 31/19, 37/19-other law, 9/20 and 52/2021), and the Rulebook on the Content, Method and Procedure of Preparation and the Method of Control of Technical Documentation According to the Class and Purpose of the Facilities (“Off. Gazette of the RS” No. 73/2019)
- The authors reserve the right to publish their designs.
- The Investor is entitled to use all the received designs, to publish them and to promote the results of the competition.

## **ATTACHMENTS TO THE PROGRAMME - BASIS AND ACCOMPANYING DOCUMENTATION**

### **I INFORMATIVE GRAPHIC ATTACHMENTS**

- 01 - PRESENTATION OF COMPETITION SCOPE WITH POSITIONS OF DEFINED DIRECTIONS
- 02 - PRESENTATION OF THE COMPETITION SCOPE ON THE CADASTRAL TOPOGRAPHY PLAN
- 03 - DOCUMENTATION OF THE EXISTING STATE OF THE FACILITIES

### **II GRAPHIC DIGITAL BACKGROUNDS AND TABLES**

- 01 - CADASTRAL - TOPOGRAPHIC PLAN
- 02 - ORTHOPHOTO IMAGE
- 03 - BASEMAP FOR PLANS FOR ALL ANTICIPATED SCALES
- 04 - TABLES
  - TABLE 1 TABULAR REPRESENTATION OF ACHIEVED CAPACITIES WITH A RECAPITULATION OF SURFACES
  - TABLE 2 TABULAR REPRESENTATION OF ACHIEVED URBAN PLANING PARAMETERS
  - TABLE 3 ASSESSMENT OF INVESTMENT VALUE
  - TABLE - TABLE 3 PROPOSED ELEMENTS OF THE HOLISTIC ANALYSIS OF THE DESIGN
  - TABLE - TABLE 4 (3) PROPOSAL FOR THE ELEMENTS OF THE DESIGN HOLISTIC ANALYSIS

### **III EXCERPT FROM THE URBAN PLANNING DOCUMENTATION**

- 01 - EXCERPT FROM THE GENERAL REGULATION PLAN FOR THE CONSTRUCTION AREA OF THE LOCAL GOVERNMENT UNIT – THE CITY OF BELGRADE UNITS I-XIX, *Official Gazette of the City of Belgrade No. 20/16, 97/16, 69/17, 97/17, 91/20, 72/21 and 27/22*
- 02 - EXTRACT FROM THE DETAILED REGULATION PLAN OF THE PART OF TOŠIN BUNAR STREET FROM IVIĆEVA STREET TO THE HIGHWAY, *Official Gazette of the City of Belgrade No. 99/16*

#### **IV PHOTO AND VIDEO DOCUMENTATION**

- 01 - PHOTOGRAPHS OF THE LOCATION – EXISTING CONDITION
- 02 - VIDEOS – EXISTING CONDITION
- 03 - ARCHIVAL AND HISTORICAL PHOTOGRAPHS

#### **V OTHER COMPETITION DOCUMENTATION**

- 01 - REGULATION ON THE STANDARDS FOR THE CATEGORIZATION OF FACILITIES FOR PUPIL AND STUDENT STANDARD, *Official Gazette of the RS, No. 1/2012.*
- 02 - REGULATION ON THE TECHNICAL STANDARDS FOR PLANNING, DESIGN AND CONSTRUCTION OF FACILITIES, WHICH ENSURE THE UNINTERRUPTED MOVEMENT AND ACCESS FOR PEOPLE WITH DISABILITIES, CHILDREN AND THE ELDERLY, *Official Gazette of the RS, number 22/15*
- 03 - FIRE PROTECTION REGULATIONS IN FORCE
- 04 - TABLE 6 - RECOMMENDED FORMAT OF THE TERMS OF REFERENCE
- 05 - ANNEX 1 - MATRIX OF FUNCTIONAL AND VISUAL INCORPORATION OF THE DESIGN INTO THE LOCAL URBAN ENVIRONMENT
- 06 - ANNEX 2 - CRITERIA FOR SELECTING VEGETATION (SEGMENTS FROM THE COMPREHENSIVE LISTS)

Belgrade, 25.07.2022.

The Jury:

Chairperson of the Jury:

- Grozdana Šišović, PhD, Architect

Jury members:

- Lazar Kuzmanov, Architect

- Đorđe Alfirević, PhD, Architect

- Matija Bevk, Architect

- Milutin Đurović

Deputy member of the jury:

- Goran Minić