



Open architectural competition of  
school in M. Marcinkevičiaus g. 72, Vilnius

Explanatory note

## Technical parameters



No	Title	Measurement unit	Quantity	Remark
1.	Morphotype	-	-	free planning
2.	Land unit area	square meter	21132	
3.	Density	%	20	
4.	Intensity	%	35	
5.	Total build land unit area	square meter	4135	* total build land unit area is without the transformer station
6.	Greenery percentage	square meter/%	60	* green area presented is without sports fields
7.	Hard surface percentage	square meter/%	40	* the area is indicated with the built-up area of the first floor
8.	Hard surface area	square meter	4750	
9.	Sports field area	square meter	1000	
10.	Total gross area	square meter	9344,71	
11.	Underground area	square meter	7270,8	
12.	Overground area	square meter	2073,91	
13.	Volume	square meter	19130	
14.	Stories		3	
15.	Height	meter	12	
16.	Absolute height	meter	166	
17.	Parking places		16	
18.	Bicycle parking spaces		39	
19.	Number of students		~500	
20.	Number of classes		35	

## Urban idea, landscape architecture

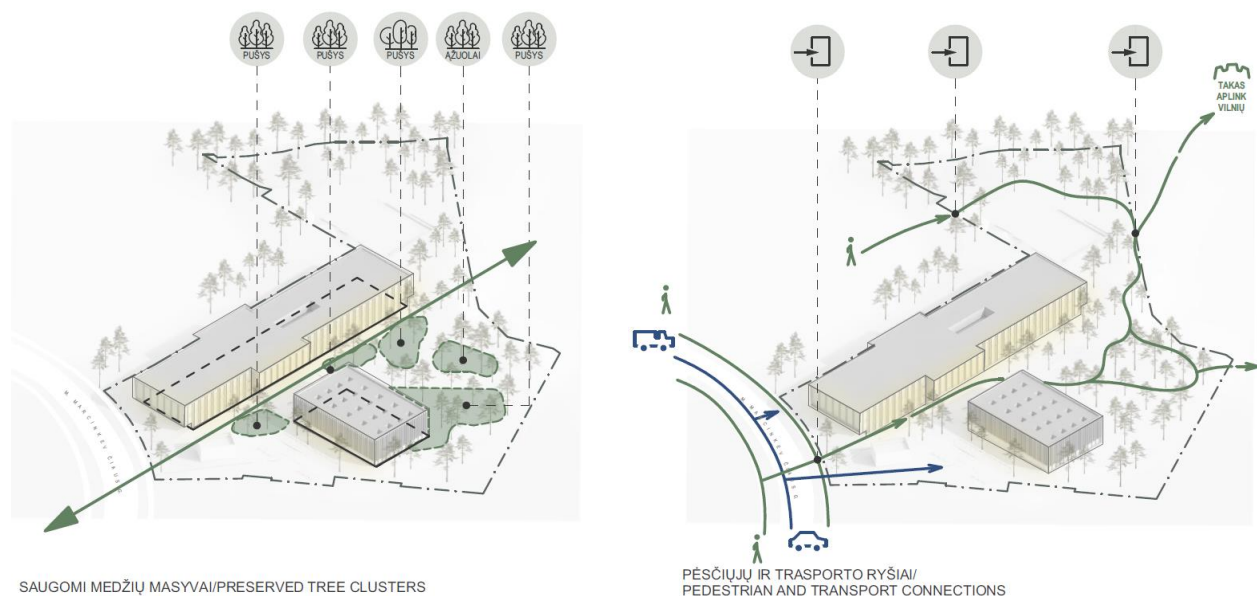
The plot is characterized by a hilly, sloping terrain, dominated by pine trees and individual mature deciduous trees. In search of an urban idea, the aim was to preserve the most important groups of pine and oak trees and to create a visual and physical connections with the forest and the picturesque surroundings of the Jeruzalės pond. For this reason, the volume of the school building is formed along the eastern edge of the plot, with the short edge facing M. Marcinkevičiaus street, preserving the existing connection to the forest massif. When designing an elongated pencil-shaped building, the logic of the linear construction principle of the nearby residential blocks is extended. This composition of the building on the plot allows to preserve the most important groups of trees, while respectfully inserting the new building between them. The trees needed to be cut at the site where the building is placed are planned to be transplanted or directly used for children's playground products and finishing materials.

The main school yard and the entrance to the building are designed a little further from M. Marcinkevičiaus street. Between the school and the volume of the sports hall, a clearly perceived cozy space is created, defined by buildings and an array of trees, dedicated for gymnasium events, recreation or community gatherings.

By developing the image of an open, democratic school, every member of the public can enter the gymnasium plot during after-school hours. The designed volumes become a gate to the Jeruzalės pond. The paths designed on the plot are connected with connections leading to the Jeruzalės pond and the Path around Vilnius. Efforts have been made to preserve the existing so-called passageways on the site, renovating them and thus preserving the naturally formed and communities' well-known connections with the Jeruzalės pond. Preservation of the existing paths also avoids the cutting of additional trees, so the entire southwestern part of the site remains completely untouched.

The sports field, running track, fitness and playground area are designed in a deeper, i.e. in the southern part of the plot, separating these areas from the classroom windows. Spaces are created keeping in mind that they can be used not only by high school students, but also by the community.

The project aims to blend harmoniously into the forest massif by designing only the necessary hard surfaces, to leave the remaining undeveloped area of the plot natural, untouched, preserving the majority of the existing trees. The connections between nature and the city is preserved, and respect for the environment and living nature is cultivated. The proximity to nature provides an opportunity to strengthen such values as independence and responsibility of high school students and inspires the development of strong personalities ready for future challenges.



## Architectural idea

Silvestria (latin: silvestris – forested, wooded, overgrown with trees) – is a space surrounded by forest and nature. It is this uniqueness of the plot that is intended to be preserved and emphasized by the planned buildings.

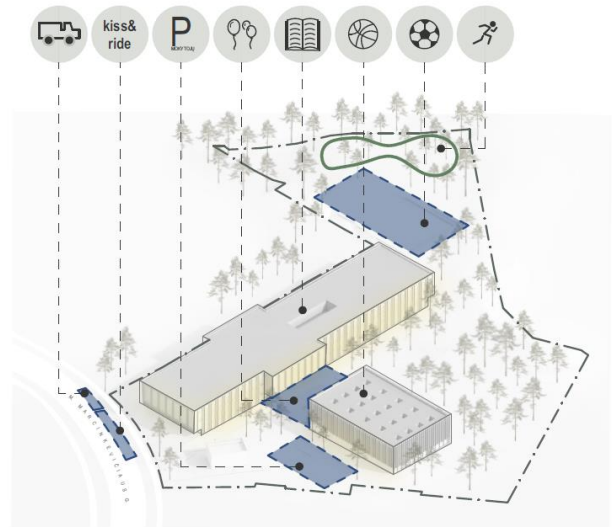
The gymnasium building consists of two volumes: the school and the sports building. The connection between the two buildings is planned underground, without blocking the visual connection to the forest from the M. Marcinkevičiaus street, thus preserving the dominance of the natural environment, rather than the construction, on the plot. Between these two buildings, a space is designed for events, gatherings or relaxation. Consoles are formed as accents of the long volume. The central console visually extends the volume of the rectangular gym and emphasizes the main entrance to the building, while breaking up the regular volume. The consoles are highlighted in green color - thus they become landmarks in the plot, their color harmoniously blending into the massif of the forest, rather than contrasting with the rich natural environment.

Facade decoration – natural wood color and green painted thermal wood (pine). Windows are wooden or aluminum profile. The facades are vibrated and given dynamism by vertical wooden lamellas, which create an allusion to the nearby rustling pine masses, which help the building subtly blend into the environment.

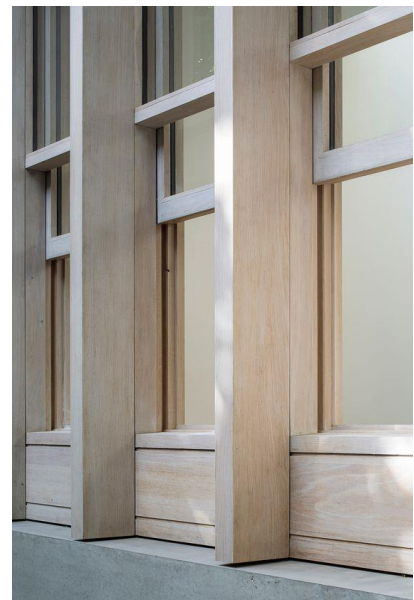
The vertical elements provide privacy - when you walk past the building it looks closed, but when you look from the front it looks transparent.

The volume of the sports hall becomes an accent in the plot with its architectural expression. Unlike the school volume, here the rhythmic arrangement of windows is abandoned, the first floor is designed transparent, and the entire upper part is left blind. Wooden lamellas are used to create the expression of the school's volume in the facades - by thickening their steps, the relationship between the blind part and the transparency characteristic of the school's volume is emphasized. The wooden lamellas echo the consoles of the school building in their color and verticality.

Although both volumes have different clearly perceived functional identities, they are united into a single duo using the architectural details, which repeat in both buildings, creating a unified architectural language.



TERITORIJOS FUNKCINĖS ZONOS/FUNCTIONAL ZONES OF THE TERRITORY



## Interior idea, fulfillment of the identity and needs of the building

The building is designed thinking not only about the students but also about the community. The functions are taught in such a way that the entire first floor, the volume of the gymnasium and the underground floor connecting them can also function as community rooms after school.

### Amphitheater

The amphitheater becomes a central axis of the building. It is placed in the main entrance to the building, in front of the main square, forming an immediate visual and physical connection with the field. This is a multifunctional space where students communicate, read, have a snack or rest. Other important spaces such as main hall, event hall, dining room, library, reading room and creative laboratories, that are more public and intended for communication and education are functionally and visually connected around the amphitheater. The canteen has direct access to the outside, where a space for outdoor tables is created. Next to the reading room, in the outside area, a long and wide bench is designed for quiet reading, concentration or relaxation. The event hall is also planned next to the multifunctional amphitheater space. It can accommodate 180 spectators, and if necessary, the premises can extend into the amphitheater space.

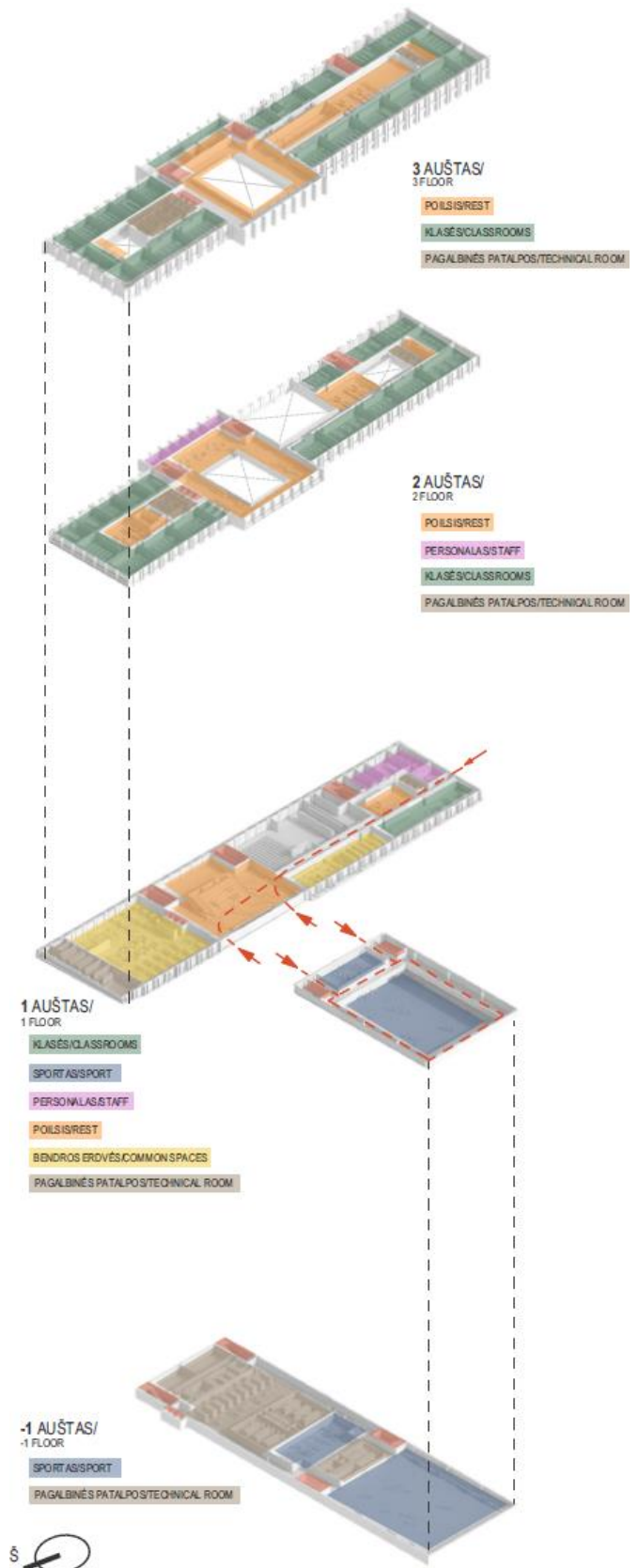
### Laboratories and administration

In the southern part of the school building, two laboratories are planned for either gymnasium students and community members. The southern part of the building is designed with a separate entrance from the outside, thus providing an opportunity to conveniently use the laboratories for extracurricular activities or informal education during school hours. A separate entrance can be used by the nearby gymnasium administration.

### Transit spaces

On the second and third floors, classrooms are arranged around the perimeter of the building, ensuring the lighting requirements of the classrooms and forming a circular circulation in transit spaces. In the central part, a visual connection with the first floor is formed - an amphitheater space extends over all floors, where spaces for rest or work and relaxation for students are provided.

The transit spaces of the building are expected to be dynamic and offer views not only to the amphitheater space, but also to the event hall, the inner green courtyard on the third floor (i.e. outdoor classrooms) and open common spaces between the floors. The traditional school corridor is abandoned – the classroom walls are cut into sections, by using curtain walls and glass doors to the classrooms, forming niches for sitting, which in certain areas turn into common rest spaces. Passages during breaks become alive, filled with students and activities. Such spaces promote communication, mutual cooperation and



education. Skylights are planned to let light into the common spaces.

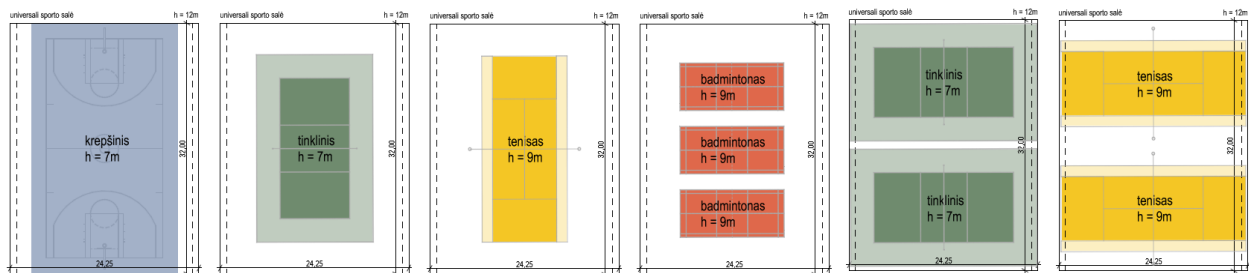
**Second and third floors**

On the second floor of the school, natural science classes with laboratories are planned: physics, chemistry, biology, as well as exact sciences - mathematics and informatics. The entire second floor of the school can function as laboratory space. On the third floor of the building, humanitarian, social and art sciences, outdoor classes are being designed.

The materiality of the interior corresponds to the concept of the materials chosen for the exterior - natural wood veneer is used for accents, the ceiling is planned to be made of acoustic wood fiber, and polished concrete is chosen for the floor. The interior is complemented by fragments of painted plywood in a greenish shade.

**Sports section**

The school's sports complex can operate autonomously, it has separate entrances from the courtyard level to the spectator balcony area, so it can function as a sports center for the community during weekends or evenings. In this building, a universal sports hall is being designed, which accommodates the following sports: basketball, volleyball, badminton, tennis. The sports center also has additional training, gymnastics and choreography halls. Several physical education classes can be held at the sports center at the same time.



**Other parameters**

**The number of students and the calculations of the building's total area**

Based on the project's technical task, the school is designed for ~500 high school students, ~25 teachers and ~25 administration workers and staff.

The number of students and the ratio of the total area of the building: 18.6 sq.m. / student.

The number of students and the ratio of the main area of the building: 15.35 sq.m. / student.

Two types of classrooms are designed: larger classes can accommodate 30 students, smaller classes can accommodate 15 students, 30 students can work in the laboratories at the time.

The total area of the building is 9344.71 m<sup>2</sup>. Since the classrooms are designed according to the principle of moving in a circle, by abandoning the traditional corridor, the common spaces are expanded, the passageways are improved, quiet rest niches and common meeting spaces are created in them, intended for a larger or smaller number of people. Also, the program was supplemented with technical rooms for the engineering service of the building.

No	Title	Measurement unit	Quantity
1.	Library	square meter	185,09
2.	Classes, laboratories	square meter	2823,75
4.	Sports halls	square meter	1130,14
5.	Canteen	square meter	431,65
6.	Event space	square meter	192,65
7.	Hall	square meter	2605,24
8.	Administration rooms, teachers' offices, meeting rooms	square meter	310,66
	<b>Main area</b>	square meter	<b>7679,18</b>
	<b>Ancillary area ***</b>	square meter	<b>1665,53</b>
	<b>Total gross area *</b>	square meter	<b>9344,71</b>

### Universal design solutions

Access to the building is designed by architectural means in such a way that it is clearly identifiable. Curbs, thresholds or other surfaces restricting the movement of castors are avoided both outside and in the building itself. There are two elevators in the central lobby area that can be used to access all floors of the building. Passages to rooms are designed not less than 850 mm. On each floor of the building bathrooms for the disabled are provided. Access to the plot is also adapted for people with disabilities – paths with a slope of no more than 5% are designed., paths are designed to be well lit to be seen in the dark. Movement in the building is provided without any obstacles, so it meets all the principles of universal design.

### Description of the internal spaces and/or facilities of the building that ensure the formal and informal education of students

When designing the building, great attention is given not only to formal, but also to informal education, promoting self-expression in after-school time. It is aimed that the building would serve not only the needs of high school students, but also the needs of society. The extracurricular activities, lectures, trainings, concerts, book presentations, etc. could take place in the premises of the first floor, which is entirely open to the community, such as community gatherings, competitions, sports competitions would be held in the sports center.

Laboratories intended for non-formal education are planned on the first floor of the building, encouraging the use of outdoor spaces for various tests or works. Outside, an area of greenhouses and a garden is planned, aiming for an even closer connection with nature.

Classes can connect with each other during formal or informal education, connect with laboratories or transfer the learning process to outdoor classrooms, common spaces or group work rooms as well as niches, diversifying the learning process.

### Purposes, indicators and calculations of other structures (sports fields, parking, number of bicycle spaces, etc.)

A sports field of no less than 1000 sq.m. is being designed on the plot, near the landing by the pond, which is a mini football field. A running track, no shorter than 100 m, is being designed next to the sports field.

There are 3 "kiss and ride" stopping places next to the site and 1 place is dedicated for service transport.

According to STR 2.06.04:2014, XIII chapter, table 30, 16 parking spaces are required for building purposes and are planned in the plot, one of which is intended for people with disabilities. Additional parking spaces are also planned outside the plot, along M. Marcinkevičiaus st.

According to STR 2.06.04:2014, XIII chapter, table 43, 25 bicycle parking spaces are required for building purposes. In order to promote sustainable mobility, a total of 39 bicycle parking spaces are planned. A bicycle shed with 20 bicycle parking spaces is also designed in the plot. It is suggested to make use of the bicycle path connections from Mokslininkai St. and install a bicycle path on M. Marcinkevičiaus Street.



**Description of fire safety solutions**

Approaches to the place intended for the construction of car ladders or car lifts (streets and roads, various types of traffic zones and squares) are planned around the entire perimeter of the territory and inside it. The roads are no narrower than 3.5 m. wide, height at least 4.5 m.

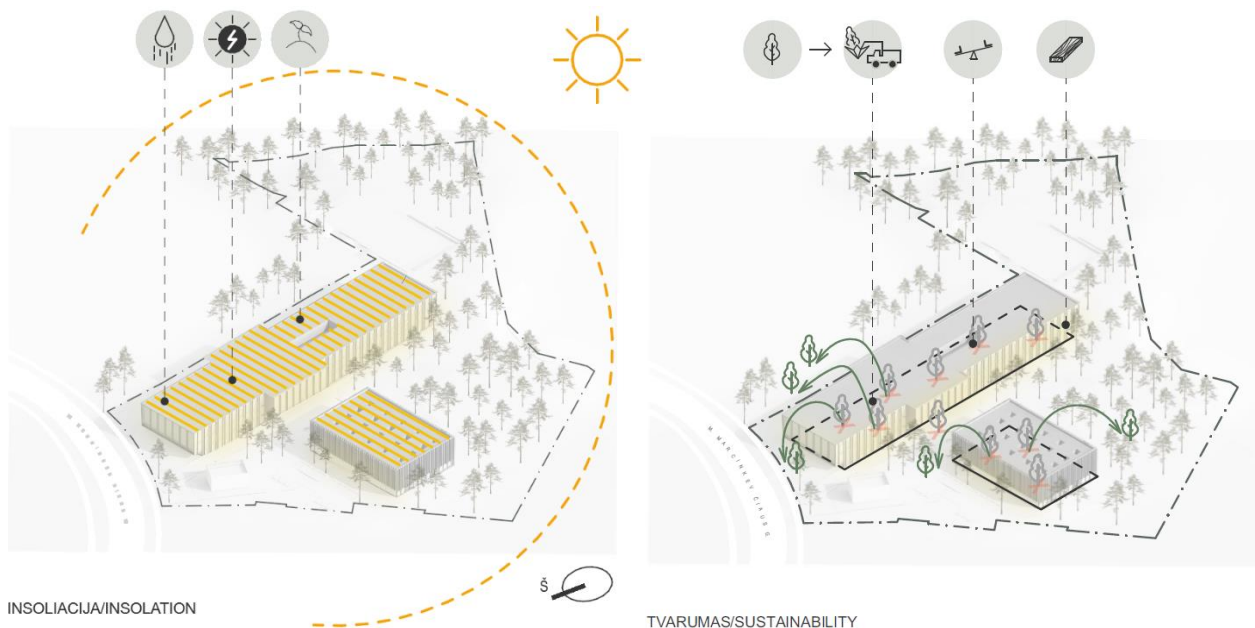
A smooth evacuation is ensured by staircases located at appropriate distances from the farthest points of the building. Most rooms on the first floor have direct access to the outside. In the interior of the building, materials complying with flammability requirements are used.

**Building construction solutions, measures to reduce energy resource needs and losses**

The architectural expression and functional layout of the building is rational. The building is designed with a mixed structural scheme (supporting vertical elements – glued wood columns and cores of monolithic reinforced concrete walls). The floor of the building is made of a combined floor of glued wooden beams with an upper layer of reinforced concrete. The vertical supporting elements coincide with the internal partitions of the classrooms. On the flat roofs of the building skylights and a solar power plant are installed facing South.

**Building engineering solutions, tools to reduce energy resource needs and losses**

The buildings are designed in A++ energy efficiency class, applying modern, environmentally and cost-saving engineering systems. The building includes engineering systems for ventilation, air conditioning, water supply, electricity, communication supply, heating, and fire extinguishing. The main technical premises are designed in the basement of the building. The trees necessary to be cut at the site of the building are planned to be transplanted or used directly for finishing materials and small architectural products. A solar power plant on the roof of ~ 1800 sq.m. is also being designed. The spaces between the solar panels are greened by installing a green roof. The project envisages the secondary use of rainwater, the installation of smart systems that control lighting, security and other systems. Solutions are refined during the technical project.



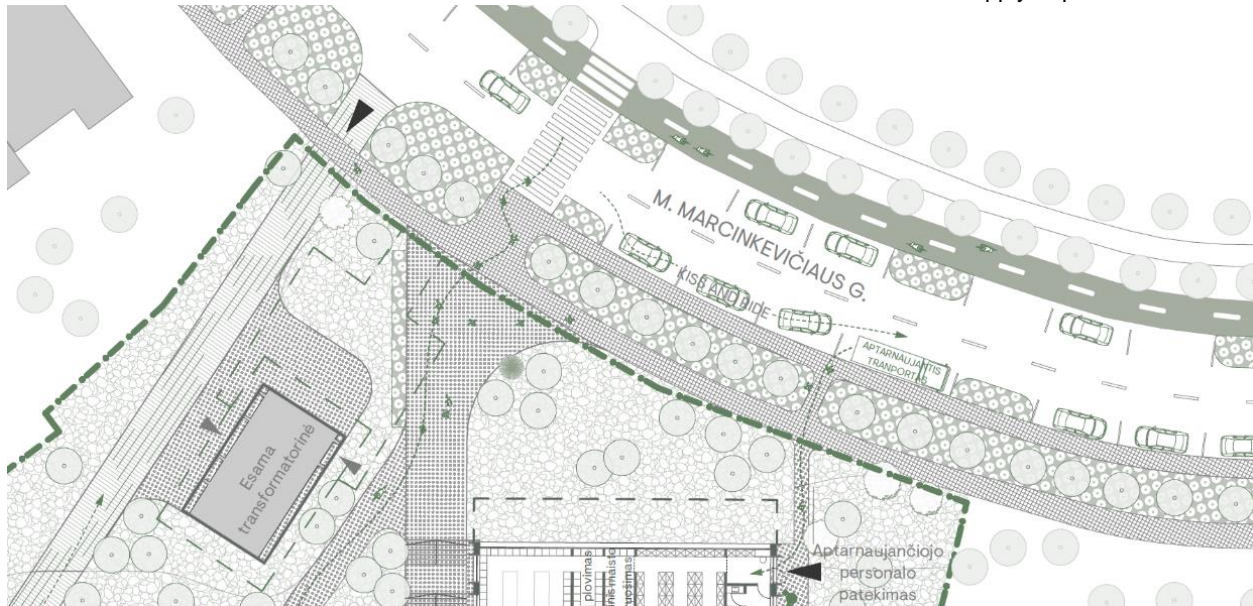


## Solutions for development or reconstruction of communication and engineering networks. Project-related public infrastructure development and integration solutions

It is intended to exploit the existing traffic entrance from M. Marcinkevičiaus street by reconstructing it. The entrance is intended to serve the electrical transformer station located in the western part of the plot and to reach the newly designed parking lot.

The electrical transformer station located on the plot is planned to be preserved and greened, see-through mesh will be installed for the growth of plants, but without causing obstacles to the service of the electrical transformer station.

Together with the project solutions, it is proposed to implement the Vilnius street standard on M. Marcinkevičiaus street, which is planned as a quiet traffic street. The street profile includes a belt of greenery, a bicycle path, parallel parking spaces with greenery islands and pedestrian paths are planned on both sides of the roadway. In the parallel parking zone "kiss and ride" stopping places and a stopping place for service vehicles are integrated, which has a convenient connection with the canteen warehouse and will be used for continuous supply of products.



### Public transport stops

It is possible to reach the "Žaliųjų ežerų" public transport station by a shorter route, using the projected paths on the plot as well as the passages which will be implemented according to the Jeruzalės pond path project.

### Duration and costs

Estimated construction price - 18,000,000.00 (eighteen million euros 00 ct). This amount includes all environmental management and other costs related to the construction of the facility, but does not include the costs of purchasing furniture and equipment for the building.

Estimated duration of construction with installation is ~18 months.

