PRIMARY SCHOOL IN VLASTINA

PRAGUE 6
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FA CTU - FACULTY OF ARCHITECTURE CTU
ATELIER STEMPEL- BENES
SS 2025
DIPLOMA PROJECT

Diploma thesis

Faculty of architecture
Czech Technical University in Prague

Studio: Stempel - Benes
WS 2024/2025

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Ing. arch. TOMÁŠ KLANC

CONTENT

A. INTRODUCTION

ANNOTATION

The diploma project deals with the existing primary school area, and the buildings that make up the school. The proposal seeks to rationalize the current operation and address the future operation of the school , which does not correspond to today's teaching conditions.
Based on thorough analysis of the condition, volume and layout of each building, it proposes complete reconstruction of the non-conforming volumes of the canteen and gym, to improve them to todays conditions and regulations. Given the evolving needs of a vital demographic group within the society, it is imperative to provide a solution that caters to the well being of children and serves to the broader interests to the community.

B. ANALYTICAL PART


13
0
1 000
2 000 m

BASIC INFORMATION

The school, situated in Prague 6 within the Liboc district, has stood as a notable landmark since its construction in 1956. It is owned by the municipality of Prague 6 and up to recently, the building was leased to Prague's British International School, where it functioned as a facility for second-grade education as part of the school's network of campuses across the city.

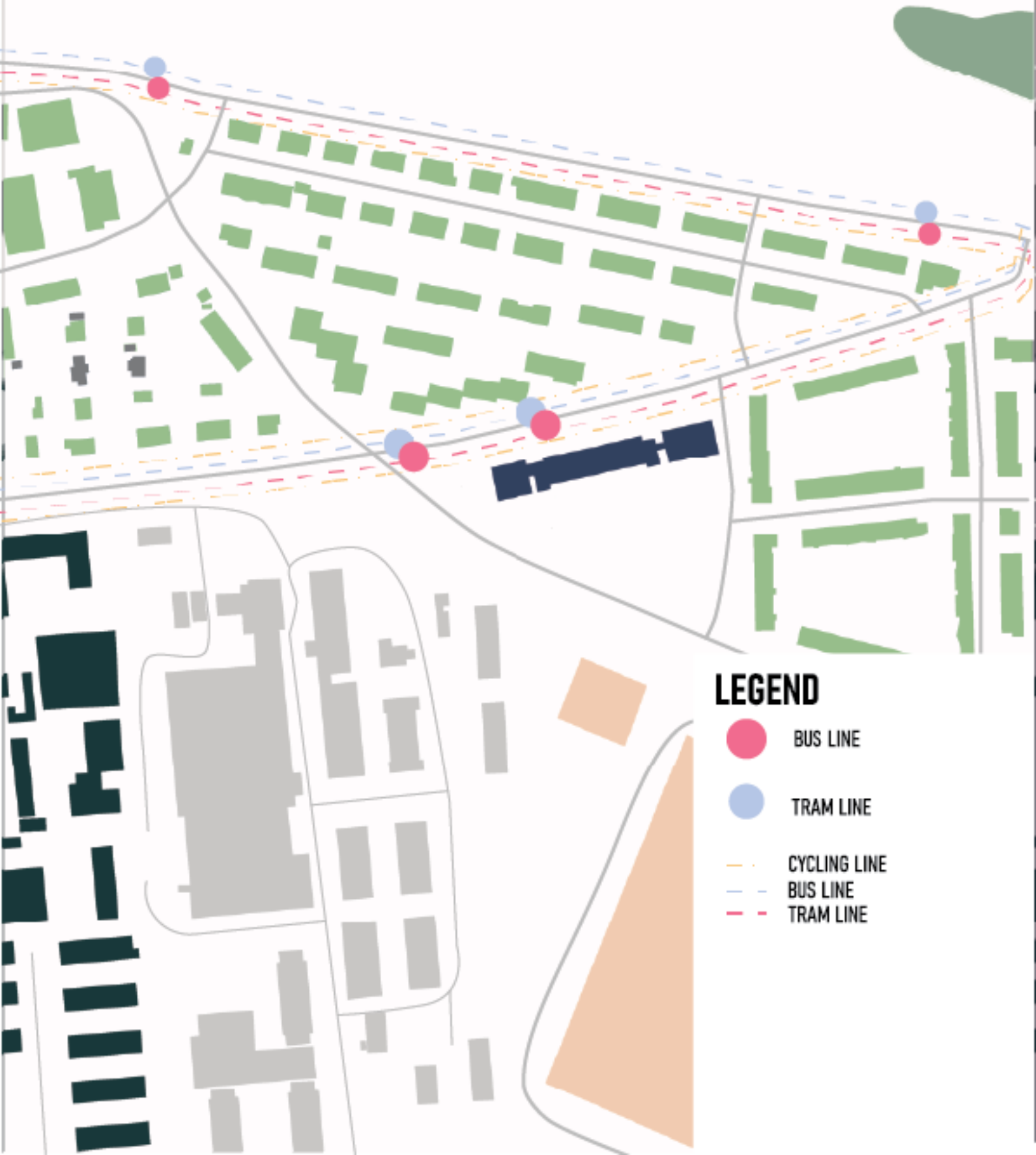
With the lease now concluded, the municipality intends to reintegrate the school into the public education system. The aim is to serve the neighborhood not only as a school but also as a hub for community gatherings and other local events. However, to fulfill this vision, the school building needs substantial reconstruction to accommodate 270 students and comply with current educational standards and regulations. This reconstruction effort and modernization are the central focus of this diploma project.

Aerial map

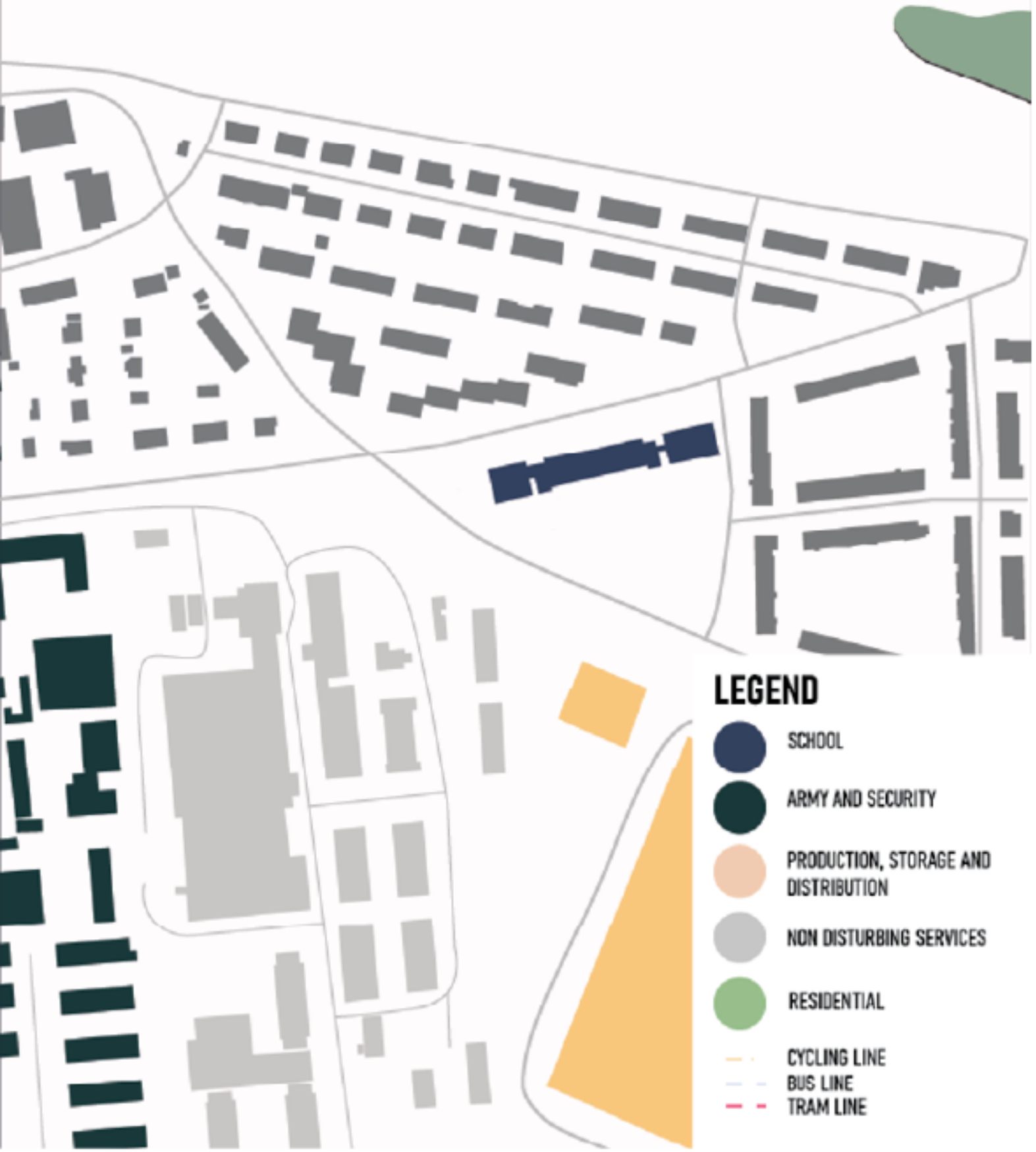
LOCATION

The school is located within the Libus district. Characteristic about thescool location is the triangular shape of the plot, resembling a center point in a wide residential area thst surrounds it. It is boarded by three streets, main street Vlastina, and secondary streets U Silnice and Houstounska. Spanning on an approximateky 1.2 hecaters, this location offers ample space for the school's diverse needs. The extensive ground in the bak of the school, offers area for outdoor activities, playgrounds and green spaces, that offer a hollistic educational environment.

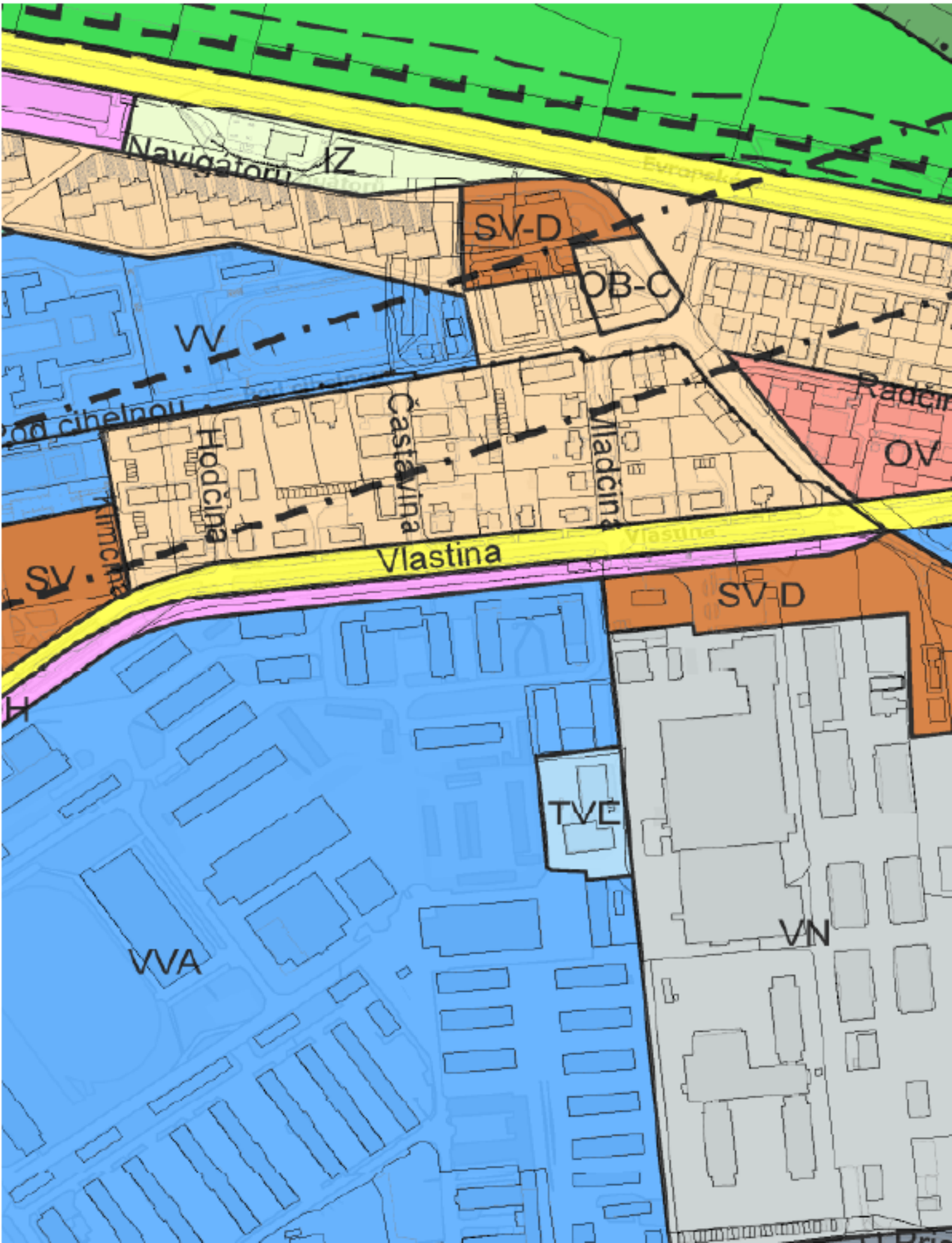
TRANSPORTATION



LAND USE


LEGEND
SCHOOL
ARMY AND SECURITY
PRODUCTION, STORAGE AND DISTRIBUTION
NON DISTURBING SERVICES
RESIDENTIAL
CYCLING LINE
BUS LINE
TRAM LINE

URBAN PLAN


Navigátorů
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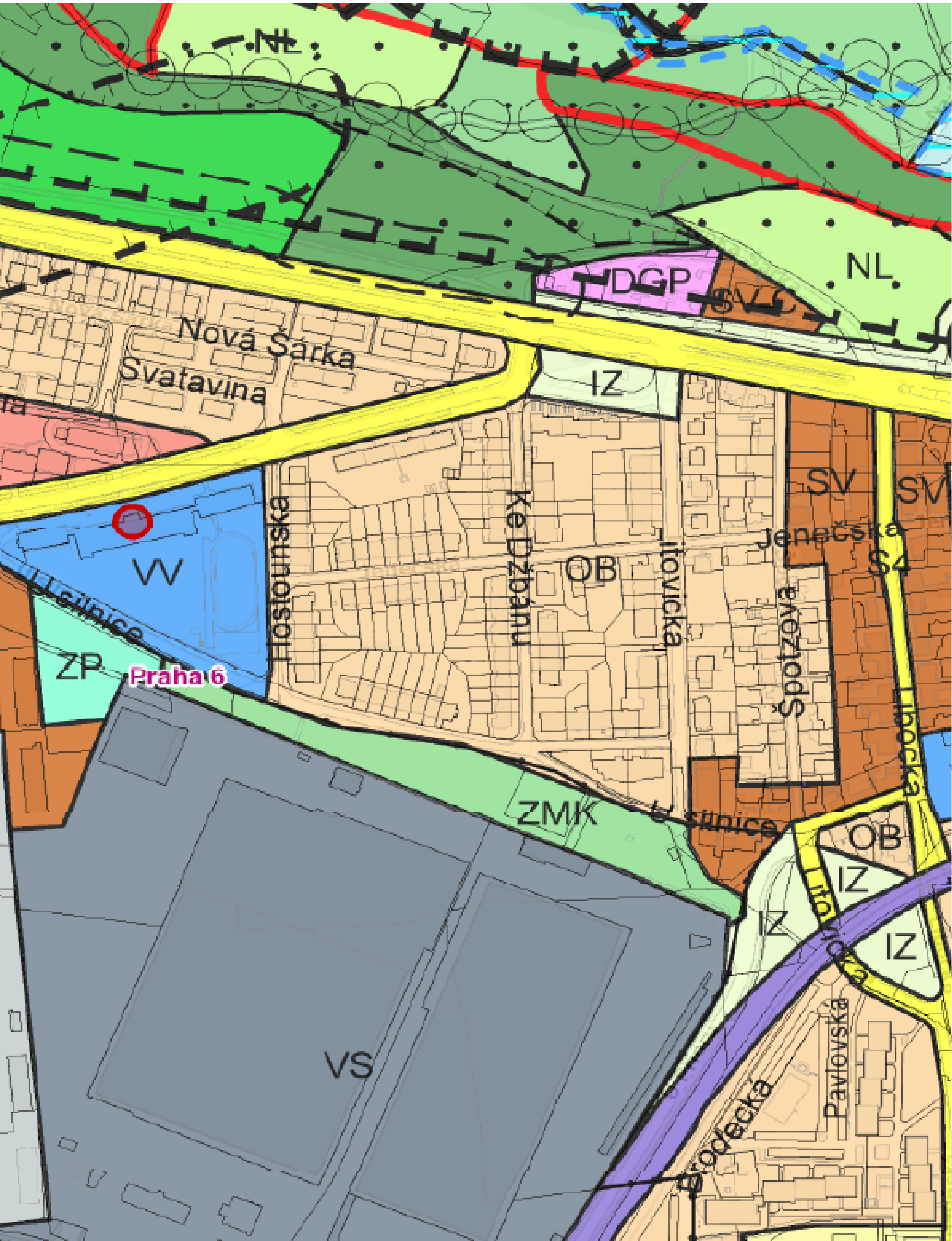
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Jenečská
S4
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Ke Džbánu
Litovická
Špotzova
U silnice
ZP
Praha 6
ZMK
U silnice
OB
IZ
IZ
IZ
VS
Pavlovská
Drnovská

ORTHOPHOTO MAP 1938

ORTHOPHOTO MAP 1956

HISTORY

The first written mention of Liboc is found in a forgery of the founding charter of the Břevnov Monastery from 993.
In terms of the urban development of the Liboc area, rom the 19th century onward, Liboc became increasingly influenced by Prague, turning into a popular excursion spot, which led to the construction of villas by the city's nobility. The continuation of building the residential area can be seen in the following periods between 1920's and 1950's, when a further expansion occured to what is now Evropska street. By the 1970s, many local farms and properties along Libocká Road were demolished, replaced by panel buildings, which widened the residential area within the district.

Withing the growing residential area, the school was built, in the year of 1956. The school building characterizes with the style of the social realism, which can be evident from the buildings facade, with detail elements around the window frames and the brown color of the facade, the propotion and rhythm of the windows, makes the perfect form of the school. The orientation of the school within the building also coresponds to this period. Long central hall marks the floor plans, oriented to the main street on north, whereas the classrooms can be found in the opposite side, overlooking the calmer garden of the school plot

ORTHOPHOTO MAP 1966

ORTHOPHOTO MAP 1988-90

EDUCATION SYSTEM IN THE CZECH REPUBLIC

The Czech education system has a long-standing tradition dating back to 1774, when compulsory schooling was introduced, and today boasts a literacy rate of over 99%. Education progresses through preschool,
elementary, secondary, university, and post-graduate levels, offering diverse pathways for students to pursue academic or vocational goals.

Preschool education is optional but widely attended, typically starting at age 4. It focuses on fostering early learning habits, social skills, and
logical thinking to prepare children for elementary school. Elementary education, which is compulsory and lasts nine years (ages 6–15), is
divided into a primary stage (grades 1–5) and a lower secondary stage (grades 6–9). After the 5th or 7th grade, students may transition to
six- or eight-year gymnasiums, conservatories specializing in the arts, or special schools designed for children with disabilities. Upon completing elementary education, students achieve a qualification known as "basic education."

Secondary education, which is not mandatory, typically lasts four years and offers both general and vocational tracks. Gymnasiums provide a strong academic foundation for university-bound students, while vocational schools equip students with practical skills for the workforce. Many students pursue multi-year gymnasiums, which combine elements of elementary and secondary education.

Tertiary education is open to students who complete secondary school and pass entrance exams. Universities offer bachelor's, master's, and doctoral programs. Bachelor's degrees usually take three years, providing a broad foundation in a specialized field, while master's degrees, which build on bachelor's studies, focus on advanced specialization. Doctoral programs emphasize research and expertise in specific areas.

At the same time, so-called alternative schools (mostly private) are represented in the Czech Republic, which use the programs of the national or general school. These include, for example, the Waldorf school, the Montessori school, the Dalton school, the Jena plan or integrated thematic teaching. Home education has been legislated as one of the forms of individual education for first-year elementary school students since January 1, 2005.

DEVELOPMENT TRENDS

Our society is experiencing profound transformations fueled by progress in science, technology, and economic development. These changes are reshaping every aspect of life, placing new demands on people of all ages. As a result, education has become a central focus, with increased attention on improving its quality and effectiveness.

Primary education plays a vital role as the foundation for lifelong learning and is the only stage of education that every child is required to complete. For children aged 6 to 11, this phase emphasizes building essential skills and habits in a stable environment, usually under the guidance of one teacher in a primary classroom. Beyond the classroom, many children participate in school clubs or groups that offer additional opportunities for learning and personal growth.

For students aged 11 to 15, education shifts toward subject-specific instruction, with specialized teachers providing deeper knowledge in various fields. This stage seeks to broaden their understanding and prepare them for more advanced academic or vocational paths. The goal is to create a more interactive learning environment, where students engage actively rather than passively absorbing information.

Modern classrooms are evolving to meet these needs by becoming adaptable and versatile. They are designed to support a wide range of activities, from whole-class instruction to small group work, paired collaboration, and individual tasks. This flexibility helps accommodate diverse learning styles, talents, and intelligences, ensuring that education is inclusive and responsive.

Teaching methods are also changing, moving away from traditional, lecture-based approaches to more dynamic, student-centered models. These methods encourage active participation, critical thinking, and problem-solving. The aim is to foster an engaging and supportive learning atmosphere that equips students not only with knowledge but also with the skills needed to navigate and contribute to a rapidly changing world.

Classroom layouts and teaching methods have evolved significantly, reflecting changes in educational philosophies, societal needs, and technological advancements.

Traditional classrooms are often rectangular with rows of desks arranged to face the teacher, who serves as the primary source of knowledge. This setup offers simplicity, clarity, and efficient use of space, making it easier for teachers to manage large groups. However, this model limits flexibility, creativity, and interaction between students, especially for those seated further from the teacher.

Despite these limitations, traditional classrooms remain widely used, particularly in resource-limited settings, as they require minimal infrastructure and provide a structured learning environment. They focus on standardized curriculums and direct instruction, which can help students develop discipline and excel in foundational subjects. However, critics argue this approach does not adequately address diverse learning styles or promote critical thinking and collaboration.

Modern classrooms prioritize flexibility, collaboration, and technology integration. Furniture is often modular and movable, allowing for diverse seating arrangements such as clusters, circles, or individual zones. This adaptability supports group work, individualized tasks, and student-led learning.

Technology plays a central role in modern classrooms, with tools like tablets, smartboards, and learning management systems enabling personalized, interactive, and engaging learning experiences. Flexible seating, such as bean bags and standing desks, enhances comfort and focus, while project-based learning (PBL) encourages problem-solving and creativity through real-world challenges.

The inclusion of social and emotional learning (SEL) programs and collaborative activities fosters teamwork and communication, essential skills for future careers. Furthermore, by exposing students to technology-rich environments, modern classrooms prepare them for a digital future.

Classroom shapes and sizes are becoming more diverse, moving beyond the traditional rectangular design. Square or open-plan classrooms allow for better acoustics and flexible layouts. Efforts are being made to integrate natural light and ventilation through skylights or dual-sided windows, creating healthier and more inviting spaces. Schools are also repurposing large corridors and outdoor areas for teaching, relaxation, and self-study, maximizing every available space.

Attention to colors and materials in classrooms has also increased, as these elements influence student well-being and focus. Acoustic-friendly materials reduce noise, while warm or calming colors create an environment conducive to learning.

PHOTO ARCHIVE


JAL SCHOOL

C. DRAFT PART

AUTHOR'S REPORT

CONSTRUCTION DATA

BUILDING	Primary School in vlastina
TYPE	School
LOCALITIES	plot numbers 972/10 , 972/11, 972/12
LAND AREA	12946 m2

CONCEPT

The primary objective of this project is to reconstruct the school building to accommodate a larger number of students and provide adequate space for their learning. Beyond fulfilling this core assignment, the project aims to transform the school into an active community center. This space will not only support educational activities but also serve the community by offering areas that can be utilized for after-school programs and various community events, fostering engagement and enrichment for children and residents alike. Additionally, the project seeks to connect the building more seamlessly with its surrounding environment, creating an enhanced space for learning, playing, and overall enjoyment.

PROPOSAL

The project is defined by three interconnected volumes, each serving distinct functions: the main building, housing classrooms and administrative areas; the gymnasium, dedicated to recreational activities; and the canteen, providing dining facilities. Originally, these volumes delineated the school's layout based on their specific uses.

In my scope of the project and to meet the assignment's requirements, I chose to reconstruct the canteen and gymnasium volumes entirely. These areas needed significant expansion to accommodate the increased number of students. Additionally, a multifunctional hall was introduced above the canteen to offer a versatile space for various activities.

The main building largely retained its original classroom partitions, preserving the integrity of its structure. However, to further enhance its functionality, an additional floor was added, comprising specialized classrooms designed to cater to the evolving educational needs of the students.

ARCHITECTURAL SOLUTION

The school follows a linear flow of movement through the central corridor, connecting the three main volumes: the main building, the gymnasium, and the canteen. The design separates different functional areas by floors, ensuring efficient use of space.

Upon entering the school through the main entrance, students immediately access the cloakrooms, located on the ground floor, along with the administration area, which provides easy access for visitors and parents. Opposite the main entrance, in the building's center, there is a spacious atrium that extends through the first and second floors.

On the other side of the ground floor, after-school care classrooms are situated, offering a separate area from the standard classrooms. The central corridor also links the main building to the canteen and gymnasium volumes on this floor.

The upper floors house the classrooms: the first floor contains standard classrooms for early education, along with the main teacher's office and language rooms. A corridor on this floor also leads to the multifunctional hall. The second floor includes classrooms for higher grades, language rooms, and PC labs, while the third floor is dedicated entirely to specialized classrooms and a well-equipped library.

CONSTRUCTION SOLUTION

The entire school of the main building is made from loadbearing walls, with exeption of the newly added floors, where concrete columns where added, that follow the scheme of the loadbering walls. The reconstructed masses of the vvolumes of the canteen and gimnasium are constructed with concrete reinforced columns and a truss ceeling.

TECHNICAL SOLUTION

In terms of heating, ventilation and cooling the school, the main building has a water based heat pump, located in the boiler room on the undergound level, which distributes the heat through radiators located in the classrooms and the centrakl corridor. Allthough cross ventilation is possible throughout the main building, an additional ventilation system is added, located in the undrground floor, which also supports the newly designed fire-escape route. The voulmes of the canteen and gym have separate air-conditioning units, located on the roofs. Solar panels are located on the roof of the main building.

CONSTRUCTION PROGRAM

ENTRANCE AREAS

_one main entrance area, with security guard;
_2 separate entrance points from the canteen for delivery of food, and entrance that could be used in a case of fire;
_back entrance point for school staff;
_entrance from the school garden to the main building;
_entrance from the gymnasium to the garden;

LOCKER ROOMS

_located next to the main entrance, divided into two separate locker areas.

SCHOOL ADMINISTRATION

_located in good accessability on the ground floor, near the main entrance|
_administration office, finance office, secretary of director's office, deputy director's office, director's office, pedagogical care office.

1ST GRADE CLASSROOMS

_ 5 main classrooms, intended for ecudation from 1st-5th grade, located on the first above ground floor;
_ capably designed for 24-30 students

2ND GRADE CLASSROOMS

_ 4 main classroms, intended for ecucation for 6th-9th grade, located on the second sbove ground floor;
_capably designed for 24-30 students.

LANGUAGE CLASSROOMS

_ 6 classrooms intended for language education, located on the first and second above ground floor
_capably designed for half the number of standard classrooms.

AFTER-SCHOOL CARE CLASSROOMS

_4 classrooms, located on the ground floor, designed for free use.

SPECIALIZED CLASSROOMS

_ classrooms intended for education in specialized subjects, located on the the newly added third above gorund floor.
_physics classroom, chemistry classroom, visual arts classroom, ceramics classroom, musical education classroom, geography and biology classroom, kitchen classroom.

WORKSHOPS

_workshop for working with metal and wood, located on the undergound floor.

OUTDOOR CLASSROOM

CABINETS

_ separate offices, designed according to specialization, located in near proximity of the classroom or within the floor.

KITCHEN

_designed on the basis of preparation of small parts of the food, the main dishes would be delieverd from neighbouring school of Dedine.
_facilities for kicthen staff - dressing room, day room, office
_storage room.

DINING

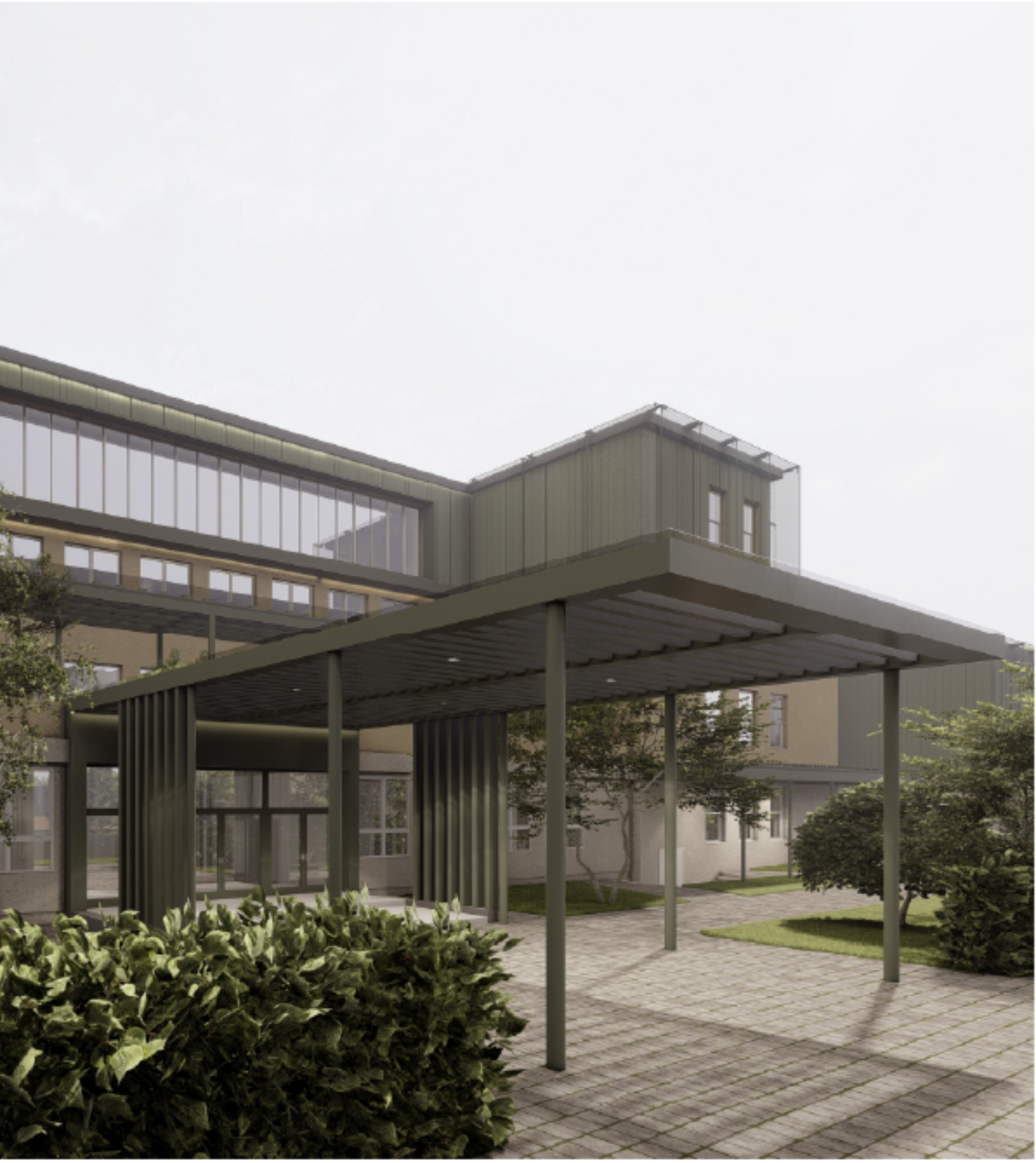
_number of seats for a third of the school capacity, or three classrooms of students (90)

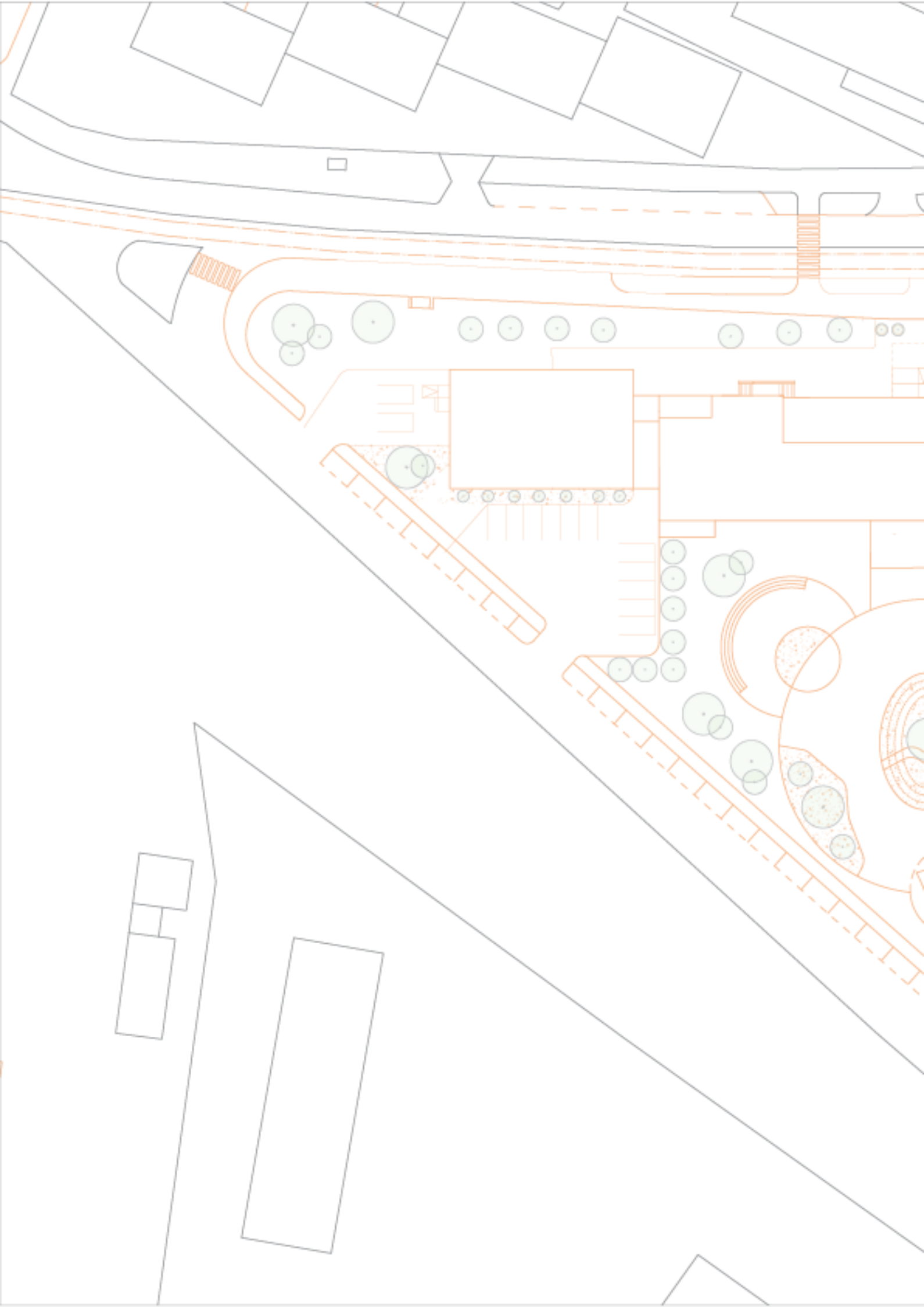
BUFFET

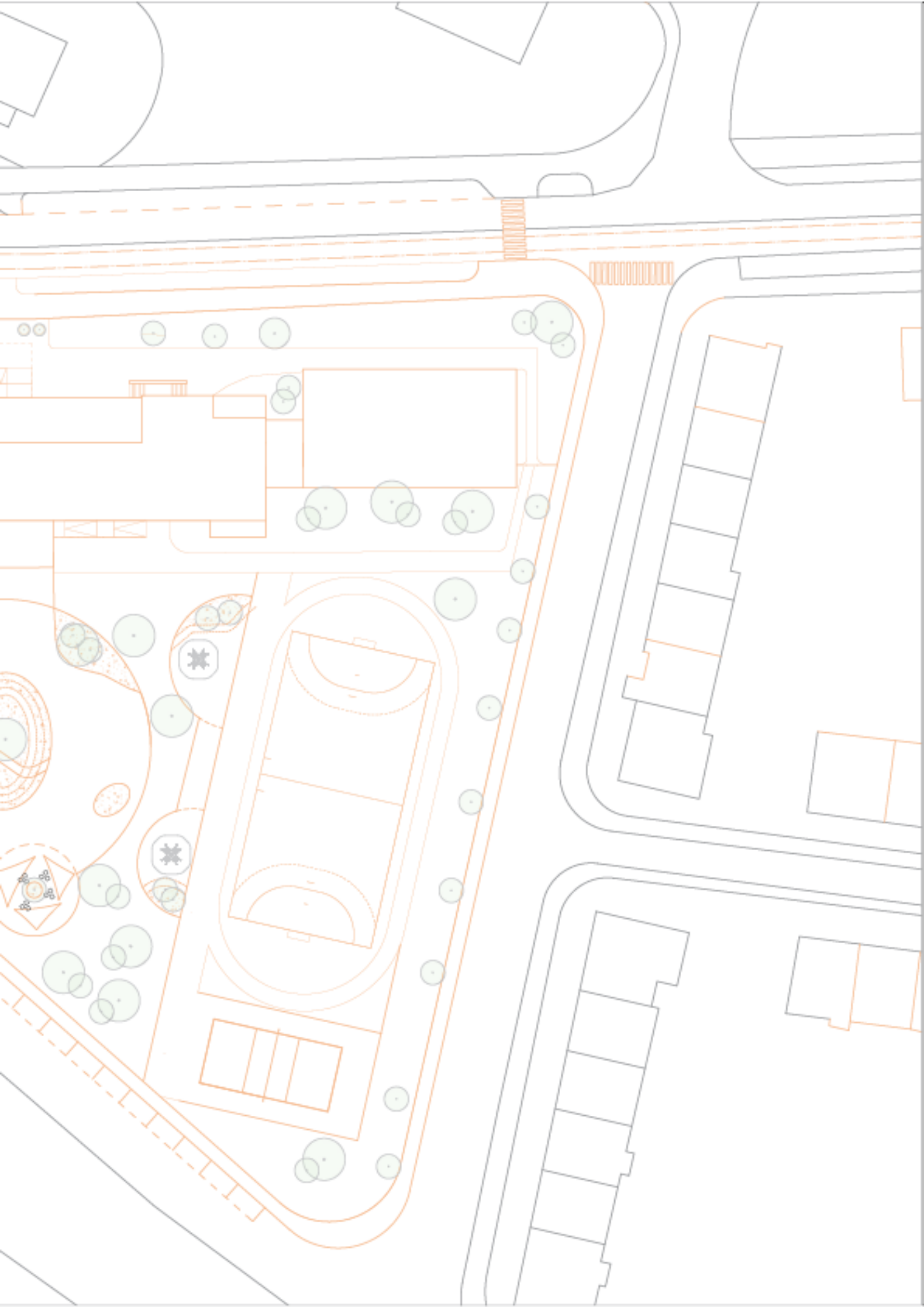
_sale of refreshments, located on the ground floor.

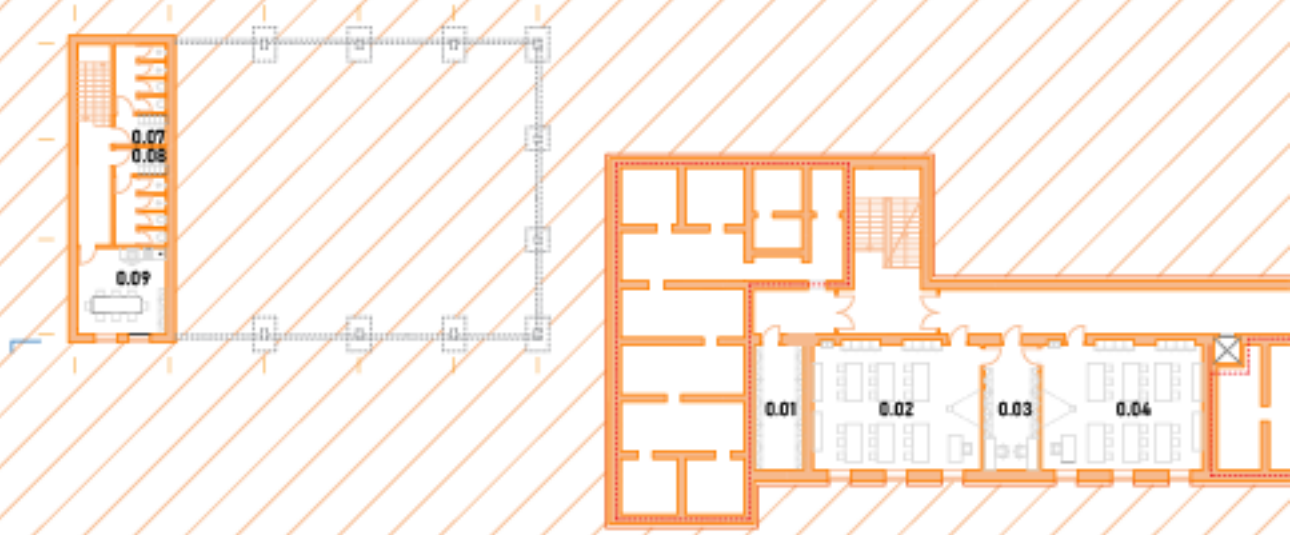
GYMNASIUM

_the playing area is based on the size of a basketball court
_separate changing rooms and shower rooms for girls and boys
_storage for equipment



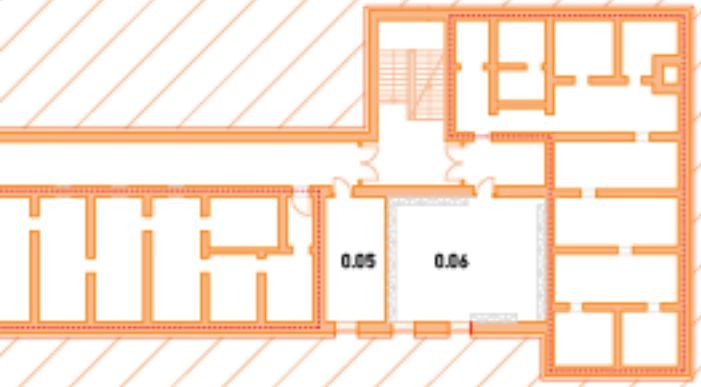


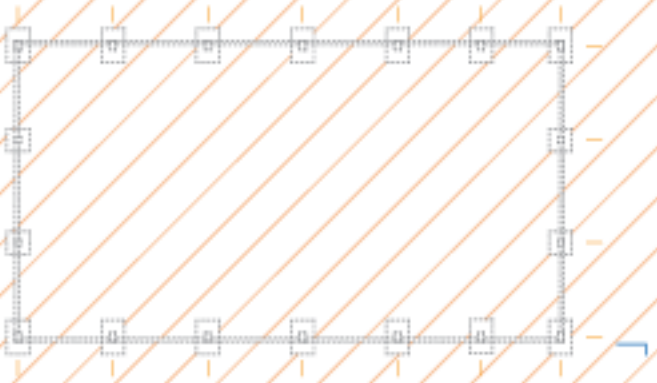




UNDERGROUND FLOOR -3.90

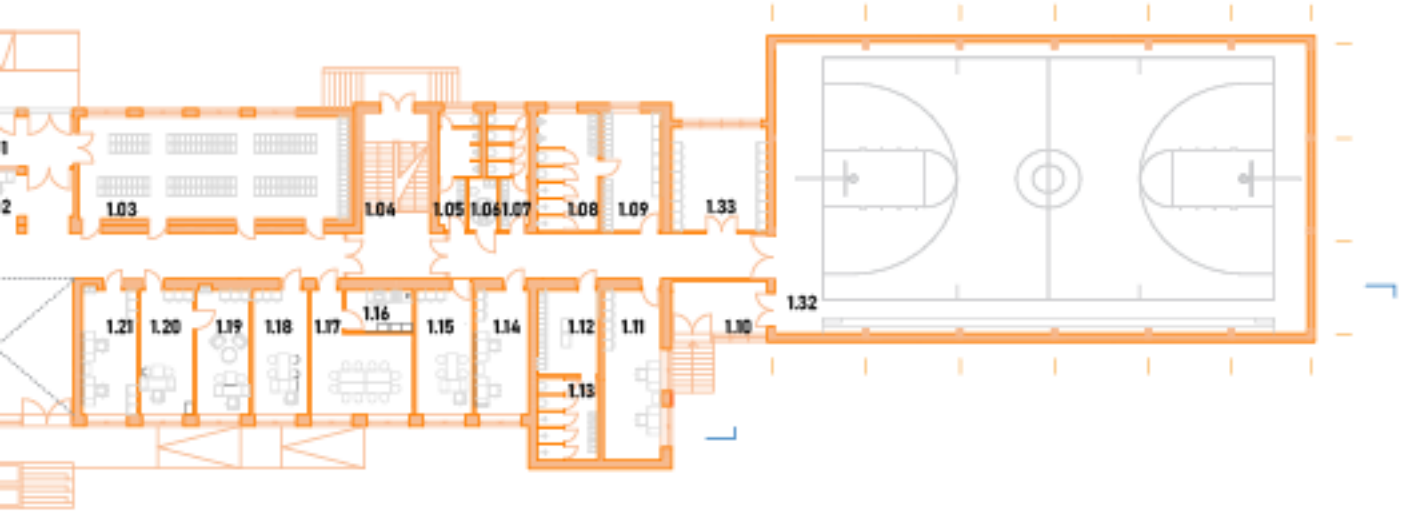
0.01	Storage
0.02	Workshop for working with metal
0.03	Teacher's cabinet
0.04	Workshop for working with wood
0.05	Boiler room
0.06	Storage of school furniture
0.07	Changing room & showers - men
0.08	Changing room & showers - women
0.09	Day room


0.05
0.06



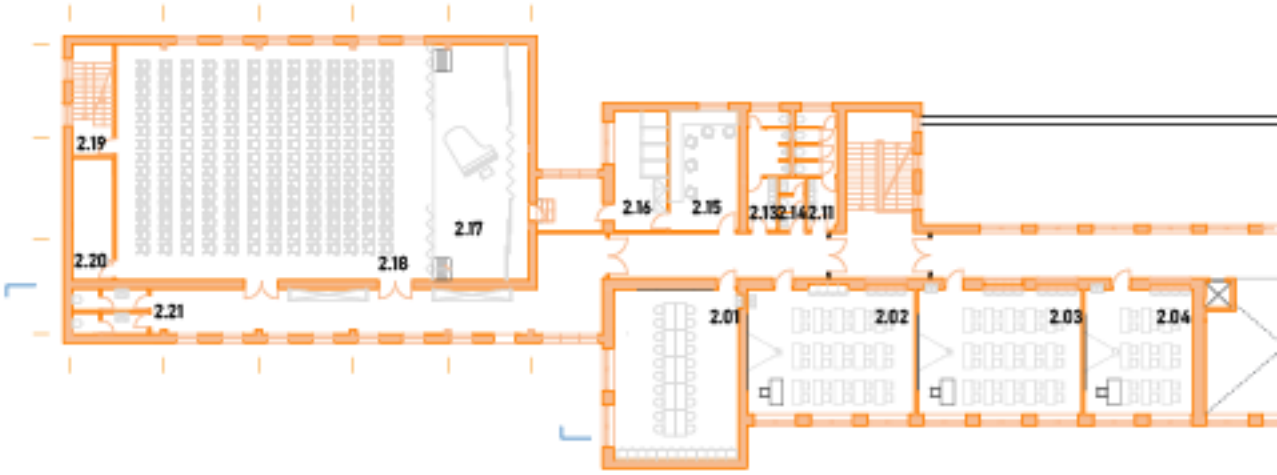
GROUND FLOOR 0.00

1.01	Entrance	1.11	Sport's teacher cabinet	1.21	F
1.02	Security guard	1.12	Changing room for girls	1.22	A
1.03	Cloakroom	1.13	Shower room	1.23	T
1.04	Communication core	1.14	IT office	1.24	B
1.05	Toilet for boys	1.15	Pedagogical office	1.25	D
1.06	Barrier free toilet	1.16	Kitchen	1.26	K
1.07	Toilet for girls	1.17	Meeting room	1.27	D
1.08	Shower room for boys	1.18	Deputy Director Office	1.28	C
1.09	Changing room for boys	1.19	Directors office	1.29	W
1.10	Vestebule	1.20	Secretary of director's office	1.30	S



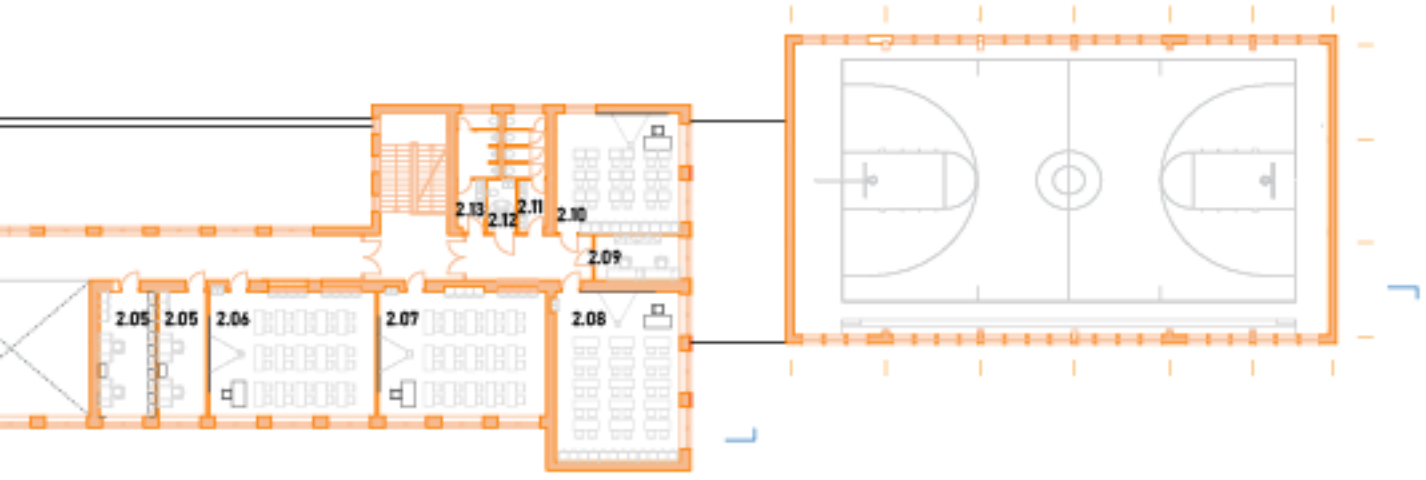
Finance & Administration
After-school care classroom
Toilet for teachers
Buffet
Dinning room
Kitchen
Dishwashing room
Office
Waste area
Sanitary facilities

1.31 Storage
1.32 Gym
1.33 Storage for gym equipment



1ST FLOOR +3.90

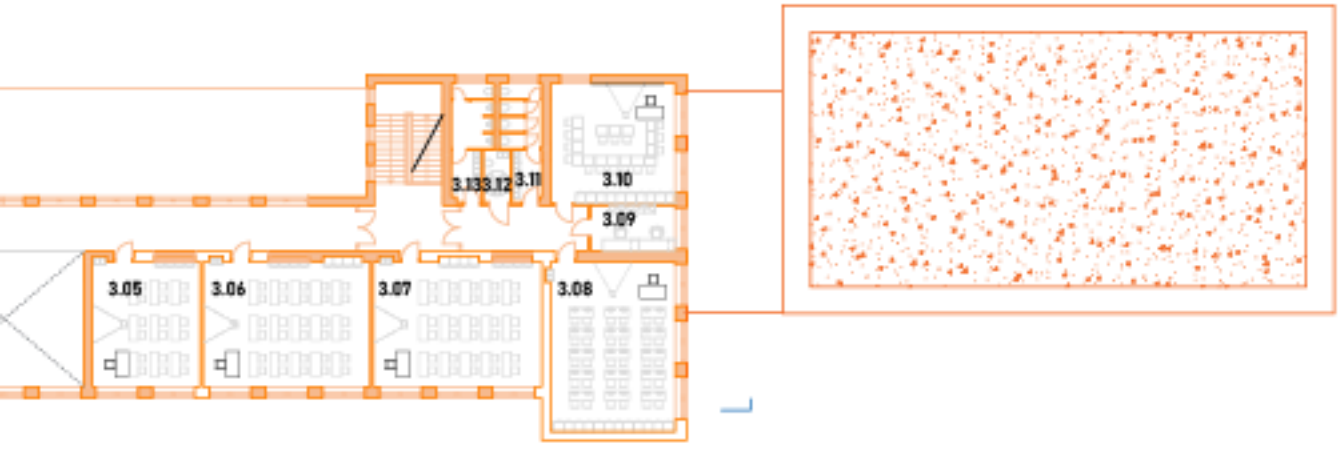
2.01	Main teacher's cabinet	2.11	Toilet for girls	2.21	Toilet for w
2.02	1st grade classroom	2.12	Barrier free toilet		
2.03	2nd grade classroom	2.13	Toilet for boys		
2.04	Language classroom 1/6	2.14	Toilet for teachers		
2.05	Teacher's cabinet	2.15	Make-up room		
2.06	3rd grade classroom	2.16	Changing room		
2.07	4th grade classroom	2.17	Podium		
2.08	5th grade classroom	2.18	Multifunctional hall		
2.09	Teacher's Cabinet	2.19	Communications		
2.10	Language classroom 2/6	2.20	Storage		



visitors

2ND FLOOR +7.80

3.01	PC classroom
3.02	6th grade classroom
3.03	7th grade classroom
3.04	Language classroom 3/6
3.05	Language classroom 4/6
3.06	8th grade classroom
3.07	9th grade classroom'
3.08	PC classroom
3.09	Teacher's cabinet
3.10	Language classroom 5/6
3.11	Toilet for girls
3.12	Barrier free toilet
3.13	Toilet for boys
3.14	Toilet for teachers
3.15	Language classroom 6/6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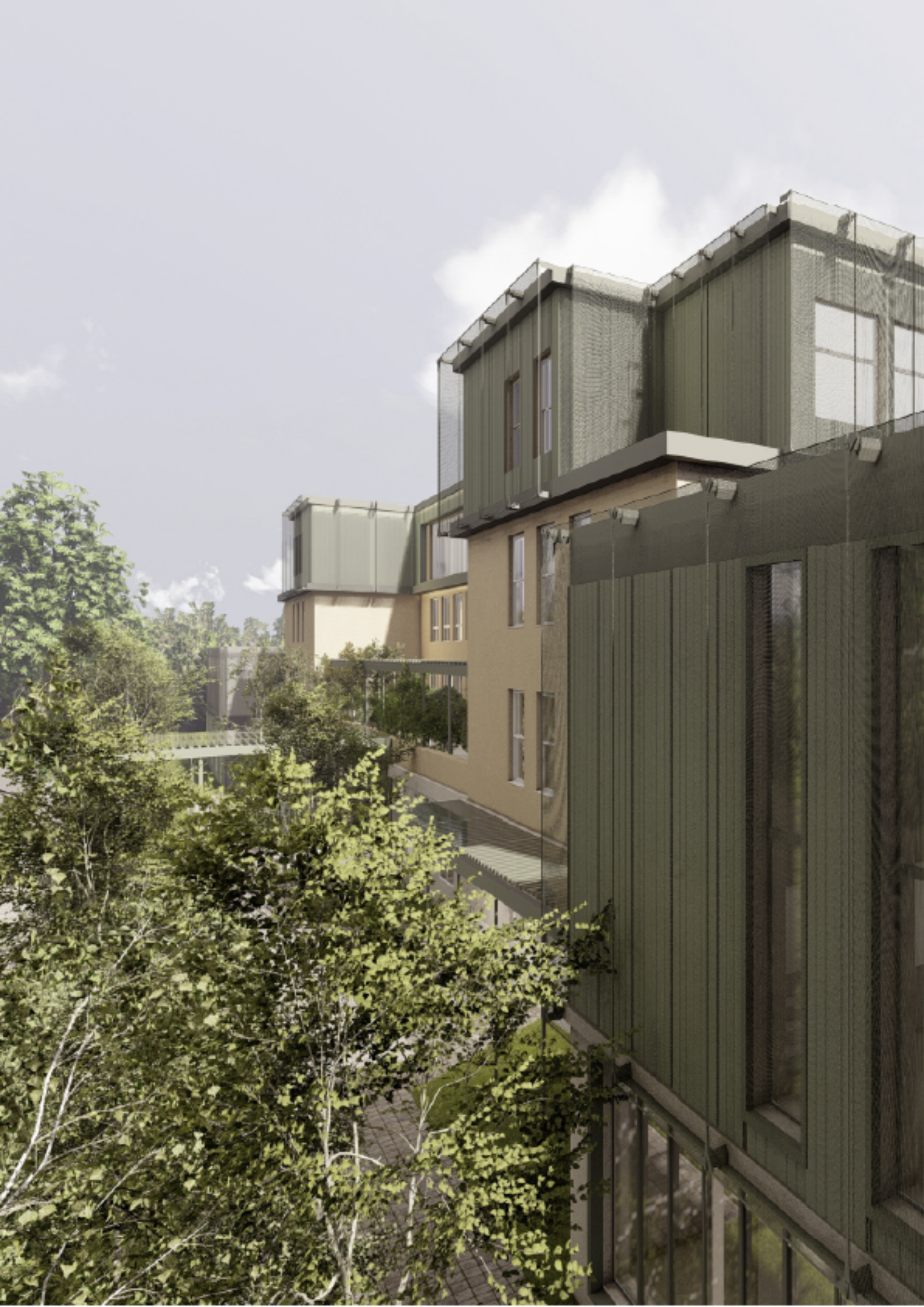
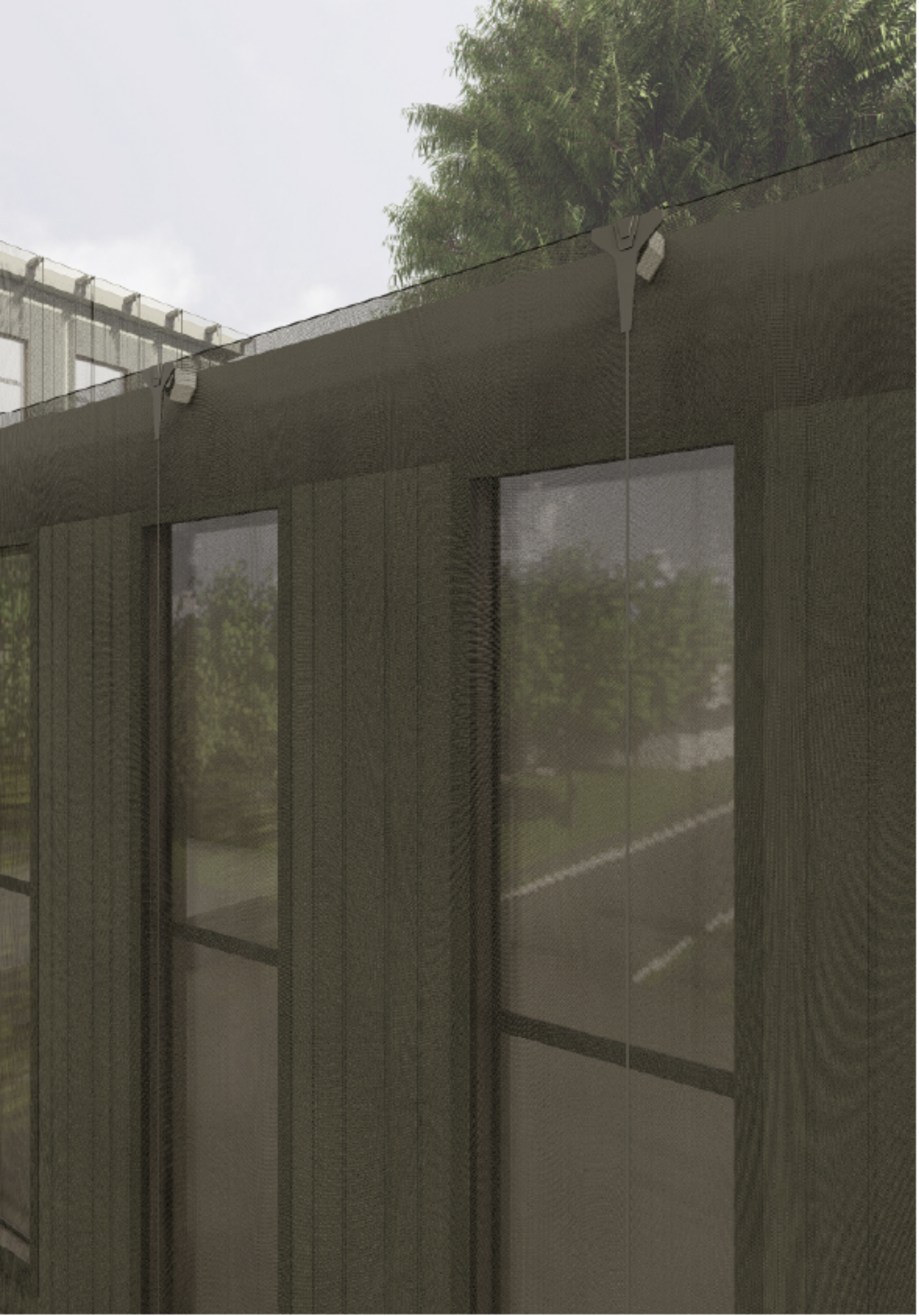
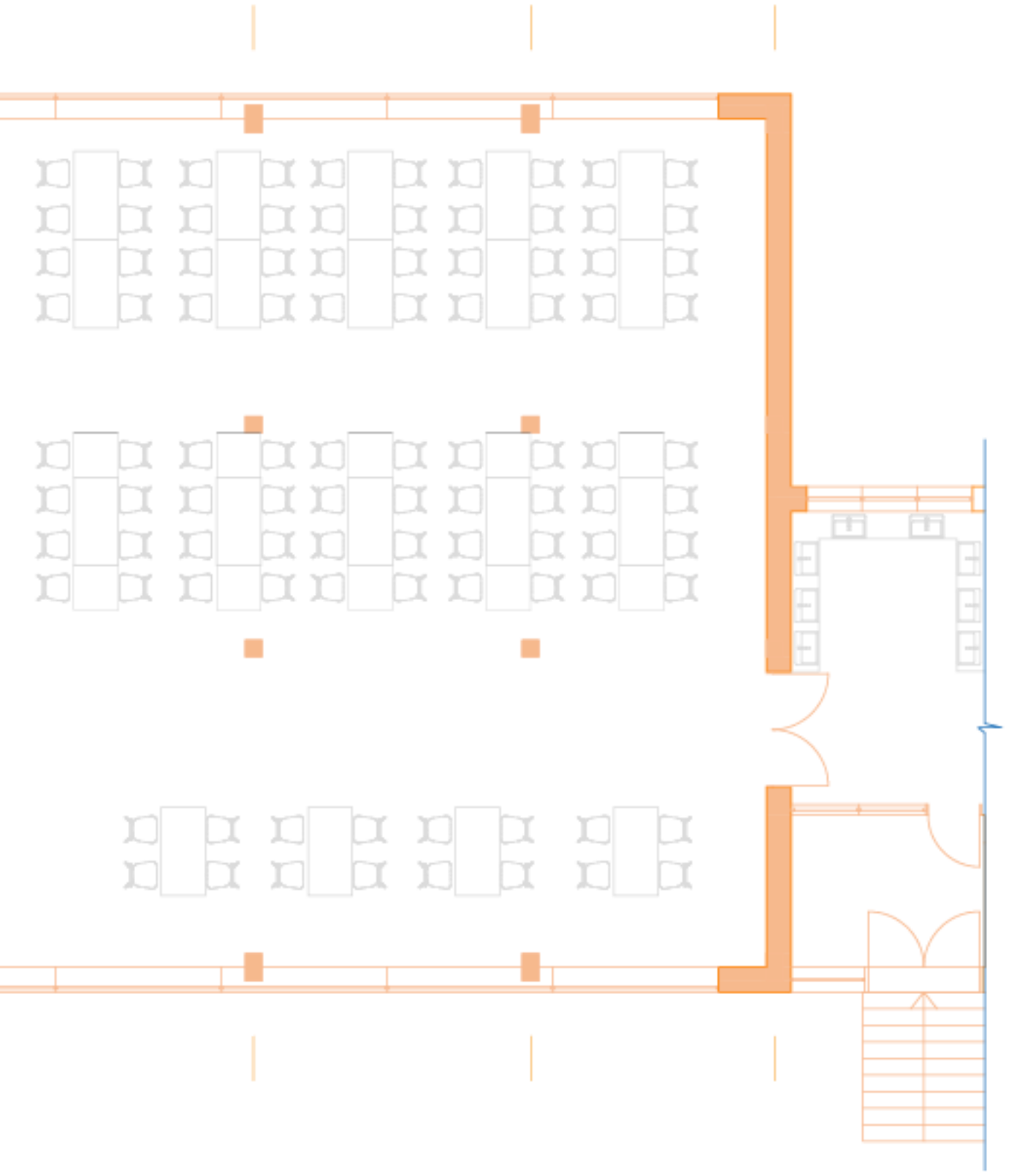




DAETAIL OF KITCHEN



SCALE 1:100

NORTH FACADE

SOUTH FACADE

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SCALE 1:400

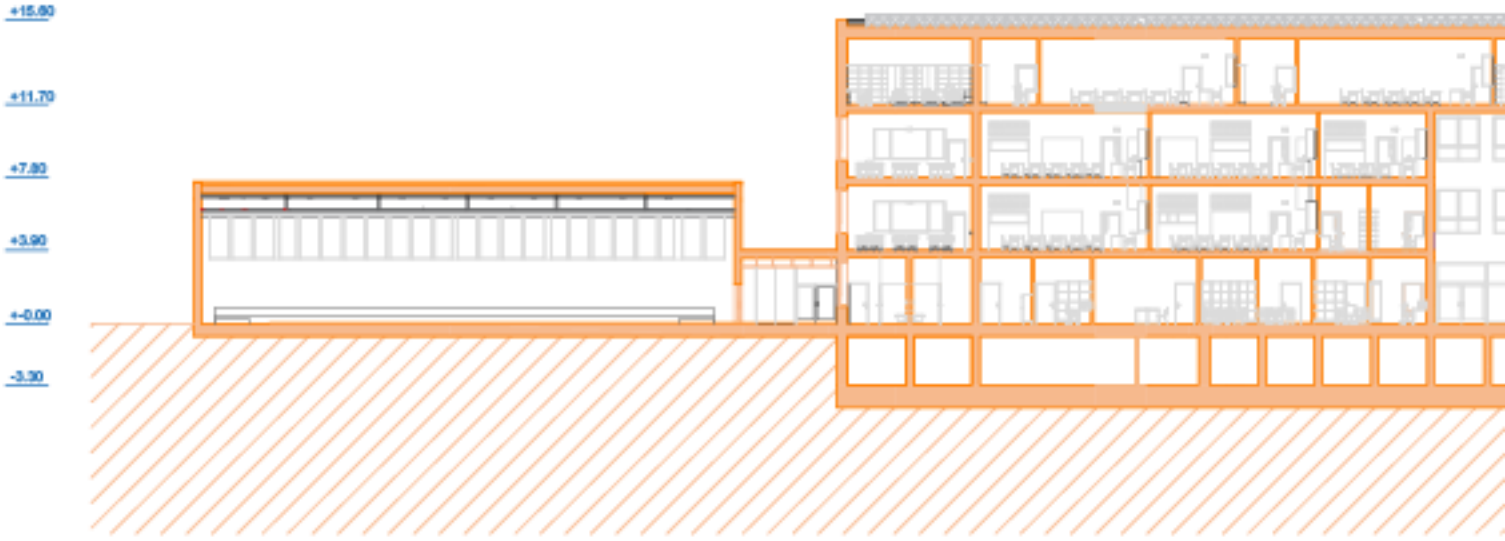
WEST FACADE

SOUTH FACADE

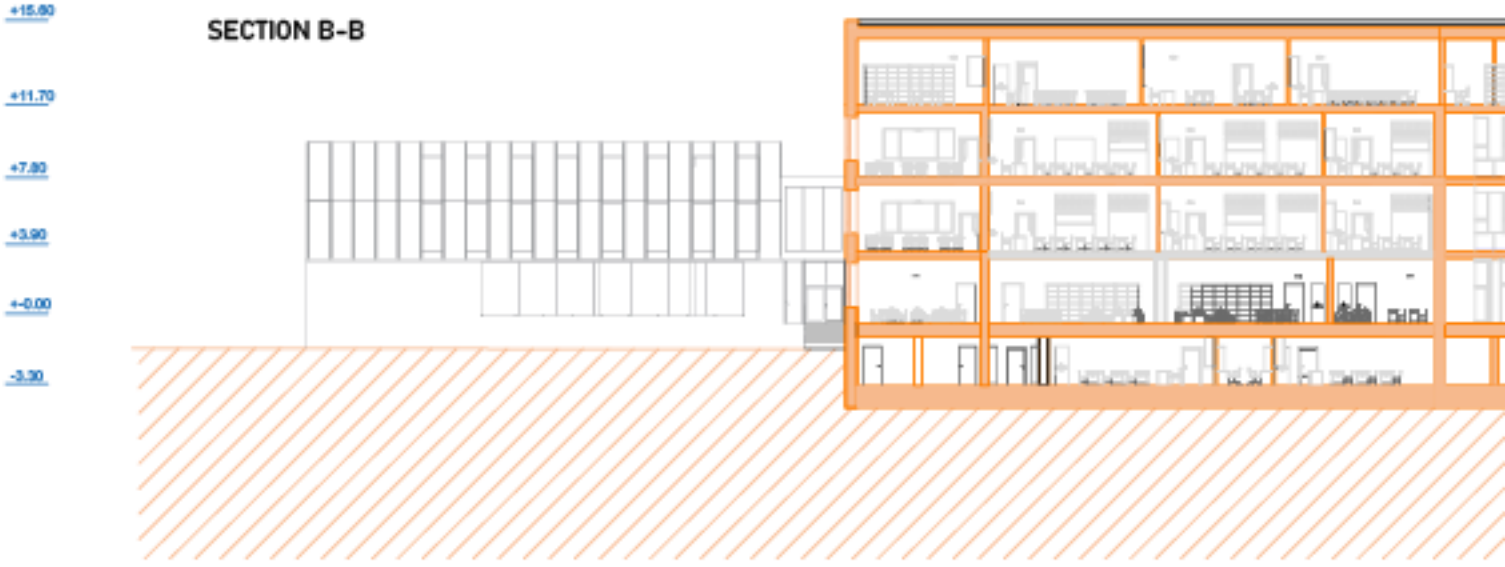
N

SCALE 1:400

SECTION A-A



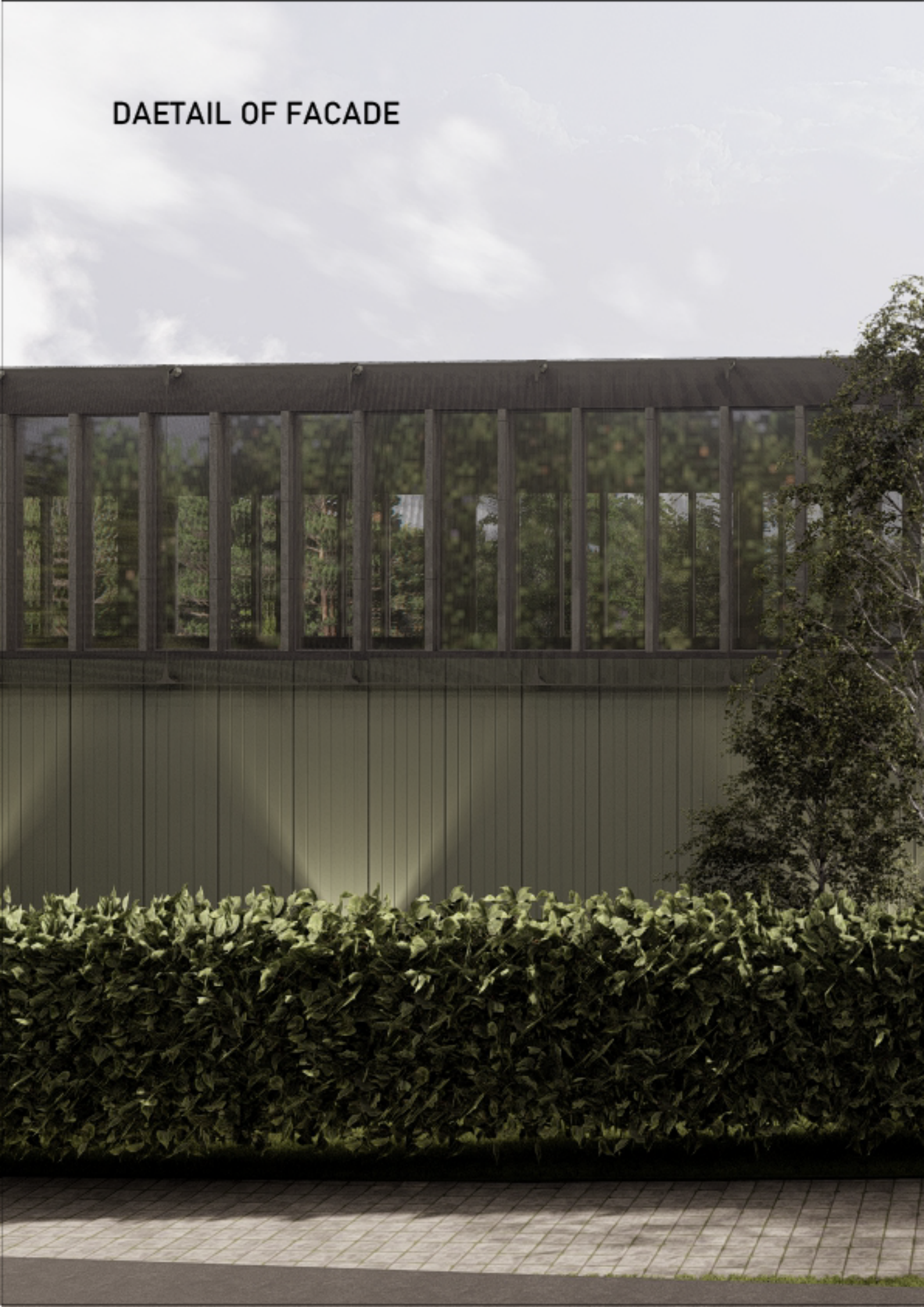
SECTION B-B

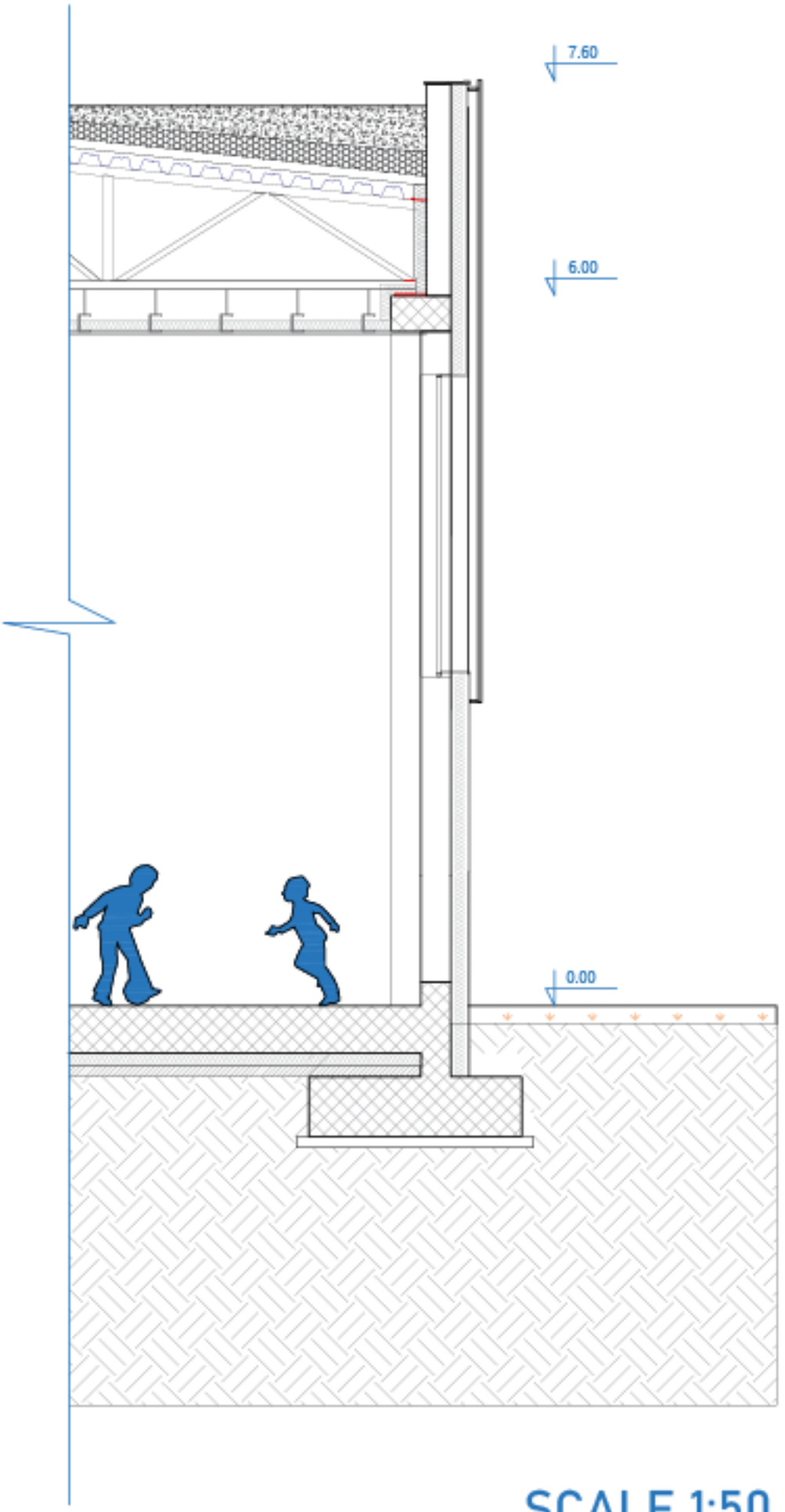


N

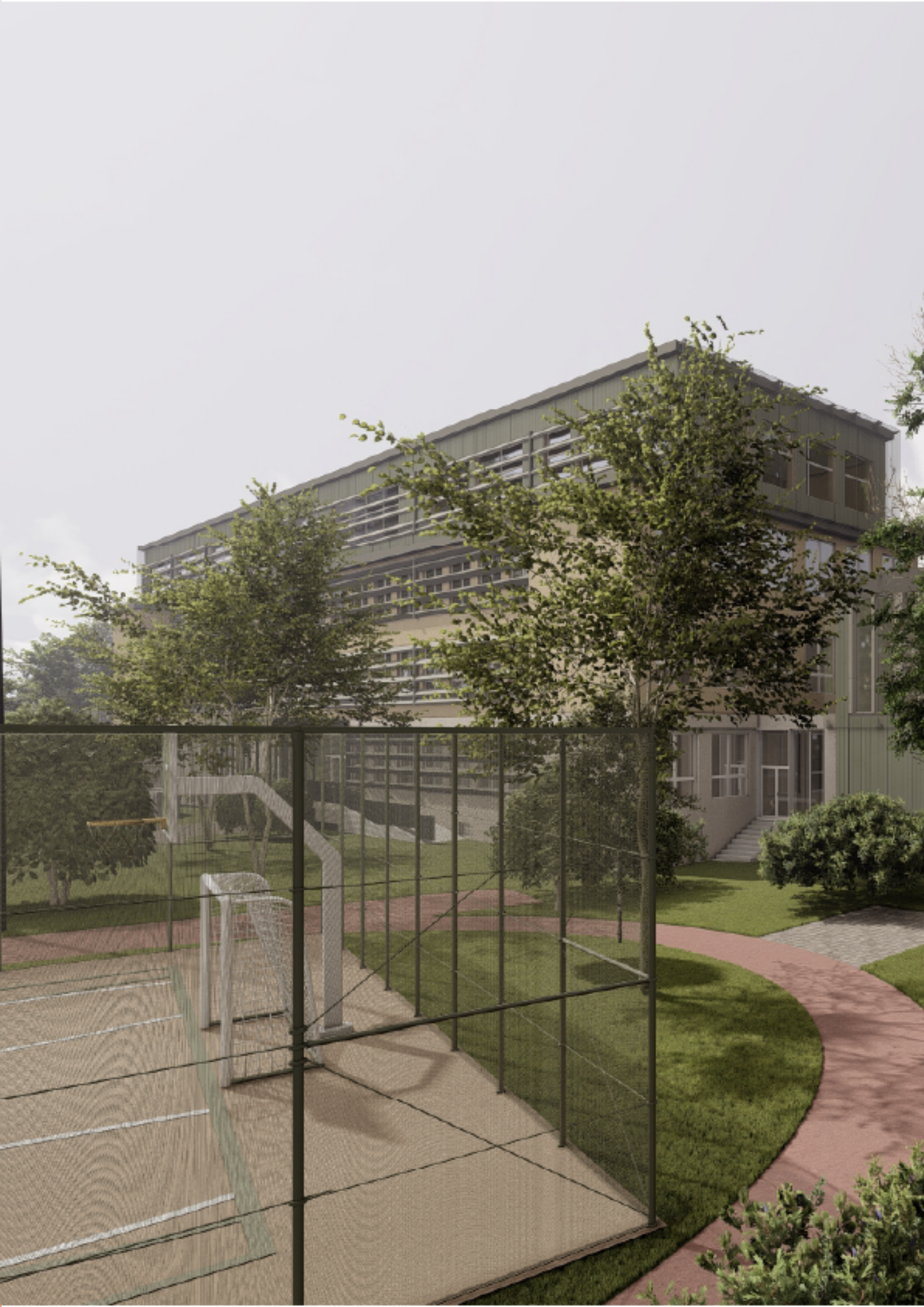
SCALE 1:400

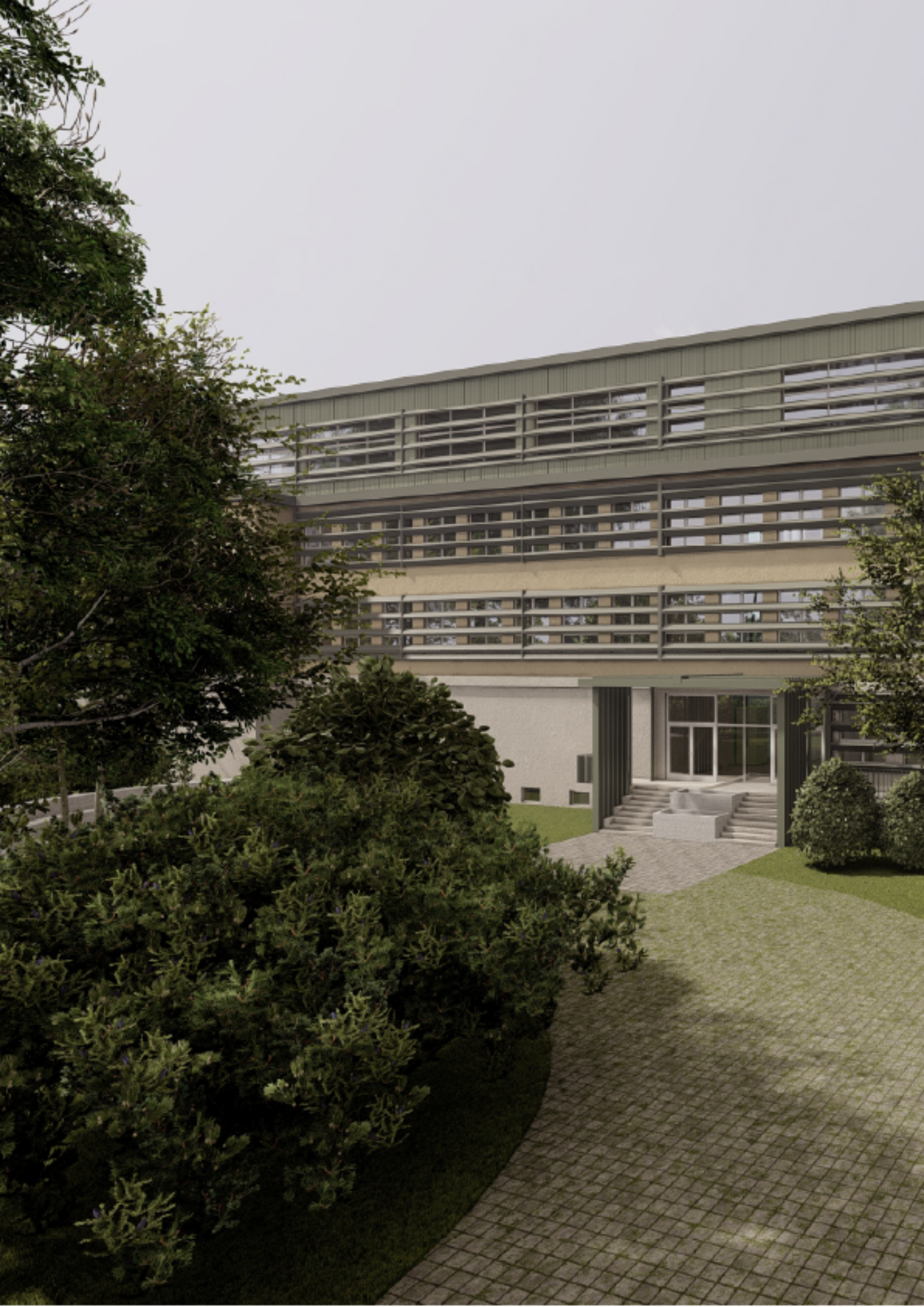
DAETAIL OF FACADE





SCALE 1:50





C. DRAFT PART

CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of Architecture

International Office
Thákurova 9, 166 34 Prague 6, Czech Republic

Czech Technical University in Prague, Faculty of Architecture

DIPLOMA PROJECT APPLICATION FORM

Name and Surname: Jovana Dodovska

Date of Birth: 16.09.2000

Academic Year / Semester: 2nd year of Master's studies / 10th semester

Department Number / Name: Studio Stempel - Beneš

Diploma Work / Diploma Project Supervisor: J. Stempel, O. Beneš, T. Klanz

Diploma Work / Diploma Project Theme – title in English language:

Primary School in Vlastina

Signature of the Diploma Work / Diploma Project Supervisor:

The Student's Declaration:
I declare that I have fulfilled all the diploma work / diploma project initiation requirements stipulated by the "Study Plan" and "Study Rules" at the Faculty of Architecture, CTU in Prague.

In Prague on 19.02.2024 Signature of the Student:

CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of Architecture

International Office
Thákurova 9, 166 34 Prague 6, Czech Republic

Czech Technical University in Prague, Faculty of Architecture

ASSIGNMENT of the Diploma project

Master degree

Date of Birth: 16.09.2000

Academic Year / Semester: 2nd year of Master studies/10th semester

Department Number / Name: studio Stempel-Beneš

Diploma Project Leader: J. Stempel, O. Beneš, T. Klanz

Diploma Project Theme:

See the Application Form for DP

Assignment of the Diploma Project:

1/description of the project assignment and the expected solution objective

2/description of the final result, outputs and elaboration scales

3/list of further agreed-upon parts of the project (model)

To this list further attachments can be added according if necessary.

1. reconstruction and redesign of an existing Primary school in Vlastina, Prague 6.

2. floor plans, elevations, details, situation, visualisation

3. model, posters, portfolios.

Date and Signature of the Student: 27

Date and Signature of the Diploma Project Leader:

Date and Signature of the Dean of FA CTU:

PRAGUE 2025