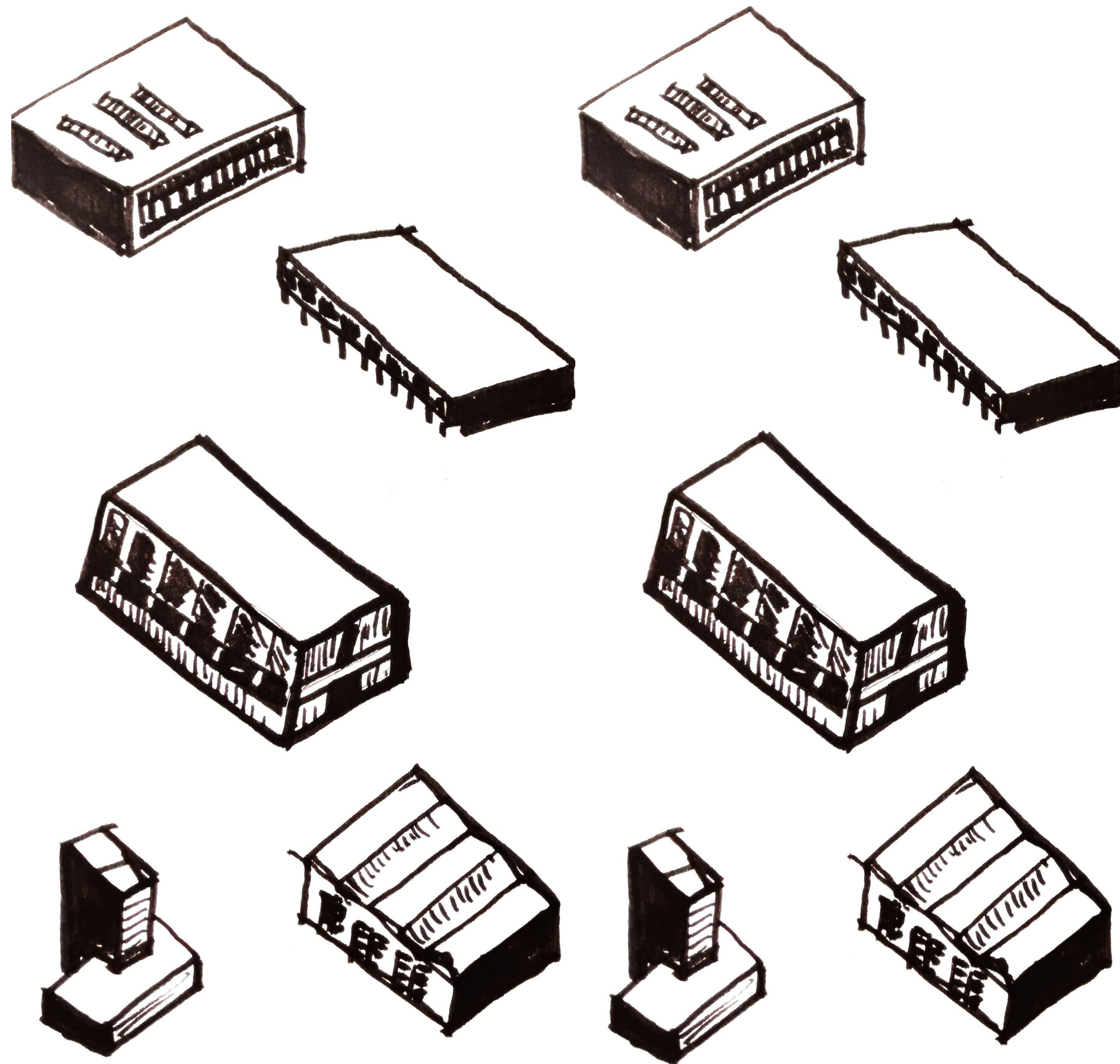


CAV HUB PEZI NOK

Bc. Michal Grác

Head of the Course
doc. Ing. arch. Alexander Schleicher, PhD.

Supervisors:
doc. Ing. arch. Alexander Schleicher, PhD.
Ing. arch. Simona Kolimárová, PhD.



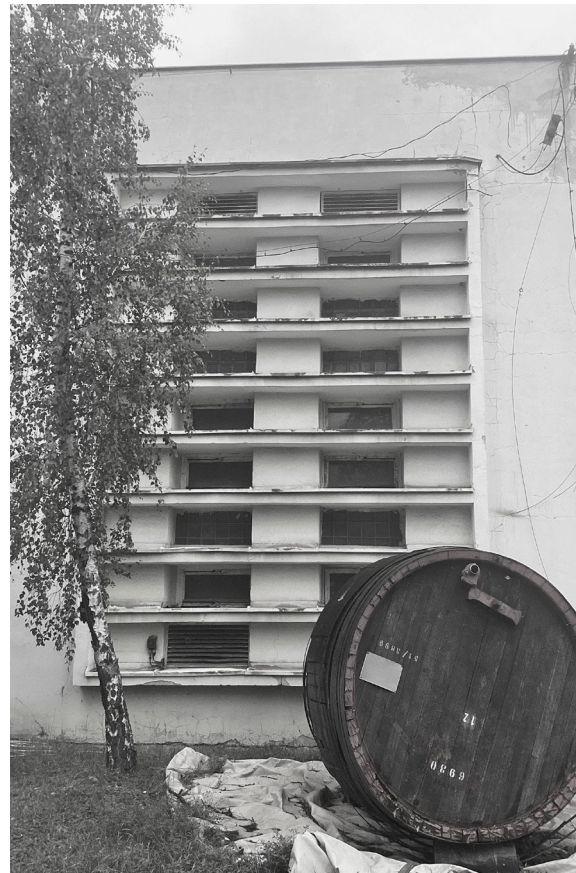
The project addresses the conversion of a former industrial winery complex in Pezinok. Following the cessation of wine production, the site was left with a collection of specific, architecturally and structurally challenging buildings – primarily large-scale halls, fermentation tanks, and technical infrastructure tied to the original production process. The design brief was to critically re-evaluate this existing built fabric and propose a meaningful future for the complex, both programmatically and conceptually.

A key question was how to balance industrial relics with new interventions. The analysis defines which structural elements are justified to preserve, adapt, or remove. At the same time, the approach of rigid functional programming was compared against the concept of creating a flexible framework that allows for space adaptability to diversified and evolving uses. The aim of the project is to formulate a design strategy that sensitively responds to the genius loci while ensuring long-term sustainability, operation, and organic integration into a new cultural and social context.



The project site is located on the southern edge of the district town of Pezinok, separated from the rest of the town and its center by a railway line. Access to the area is therefore directly dependent on the entry points into the industrial zone via the municipal roads *Drevárska* (by the former Pezinok winery complex) and *Tehelná* (by the Pezinok brickworks). These two pivotal entry hubs are connected by a new road, *Za dráhou*.

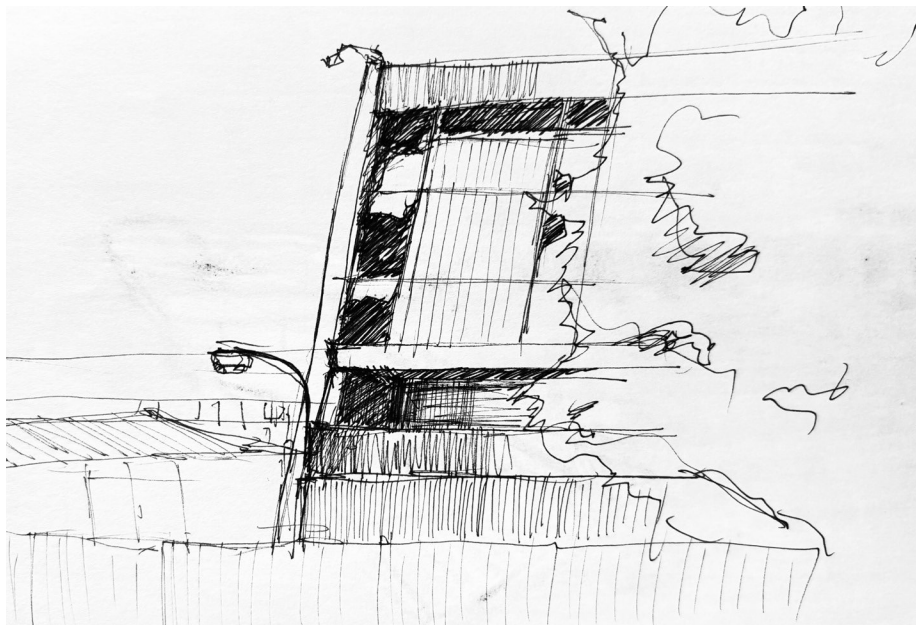
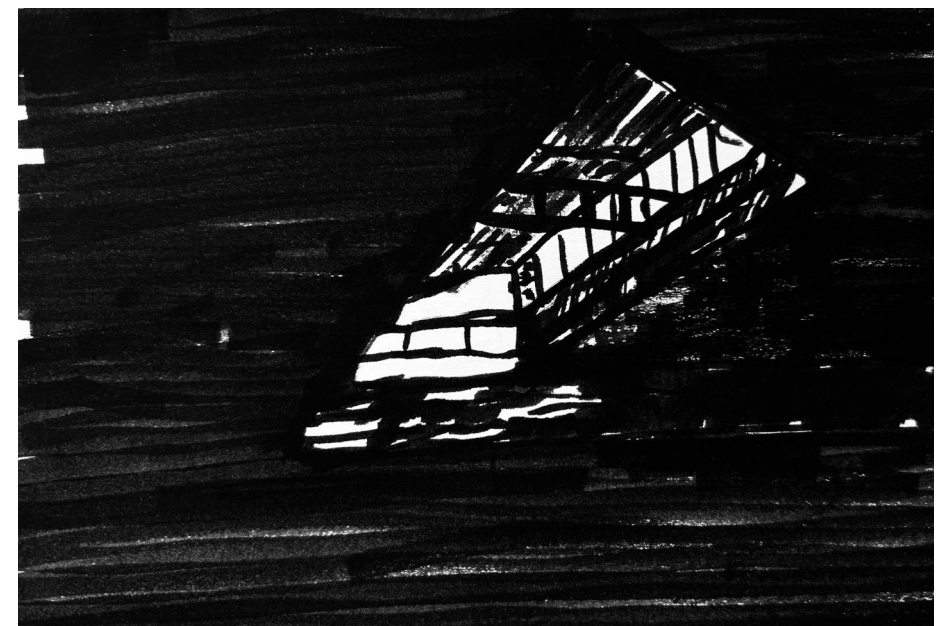
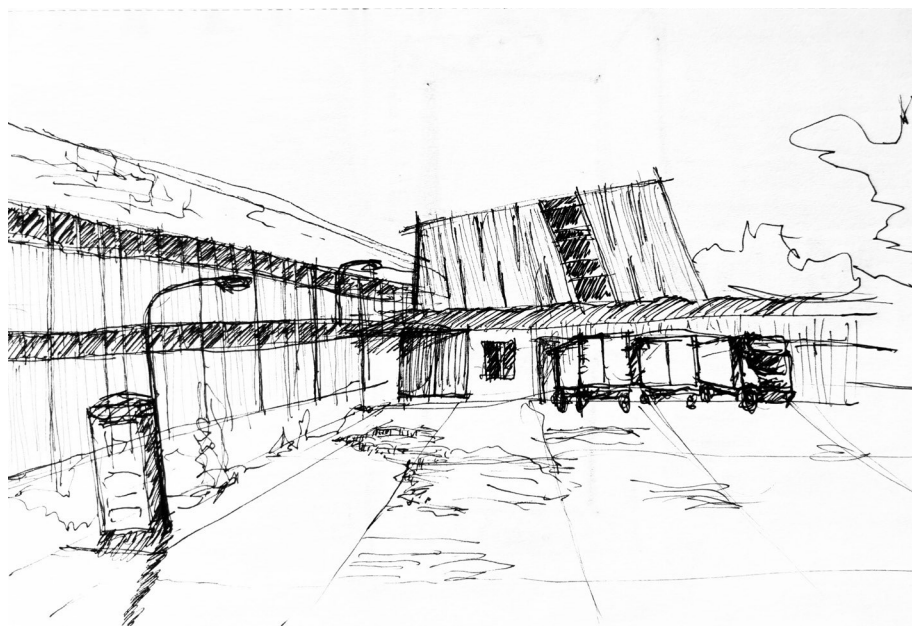
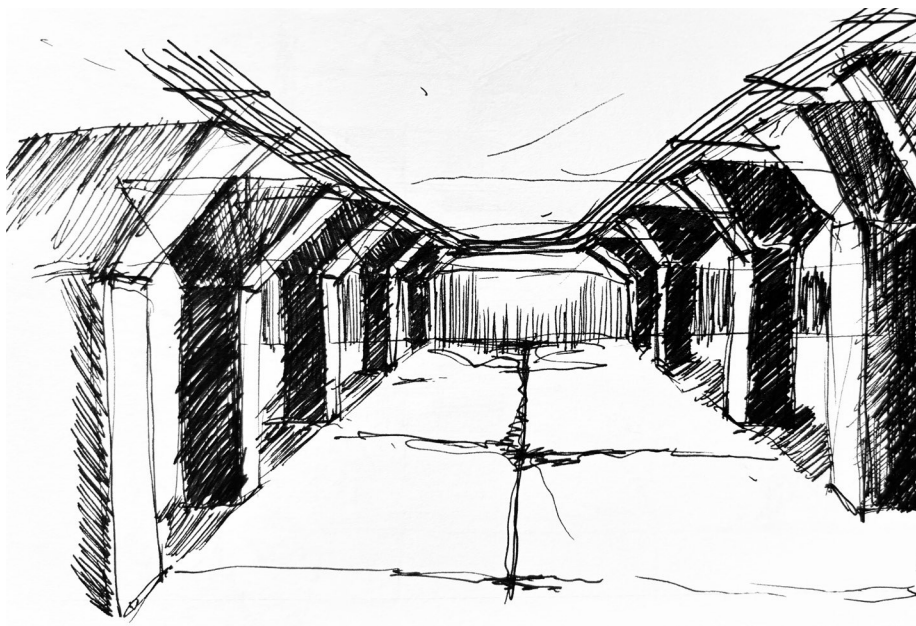
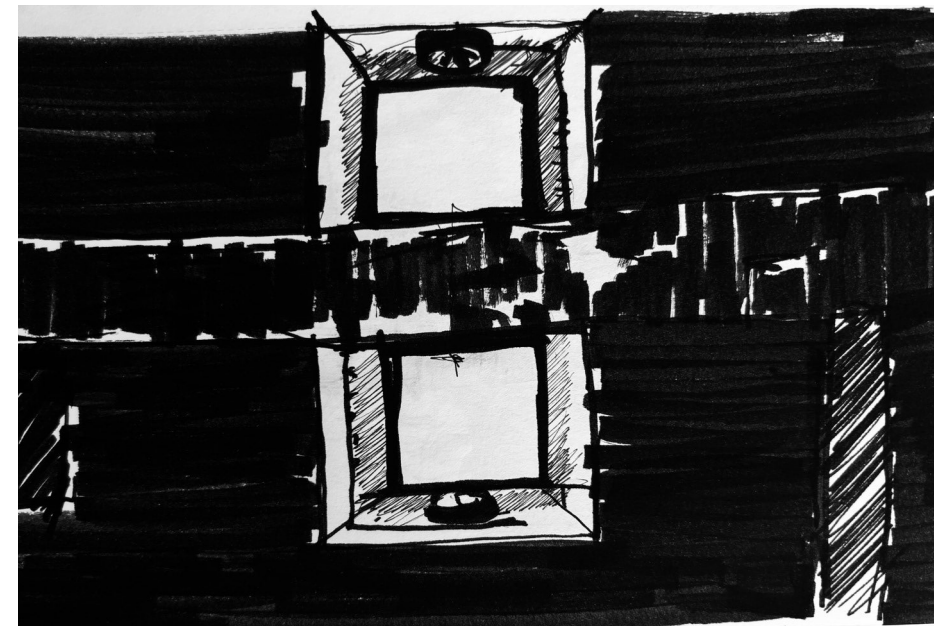
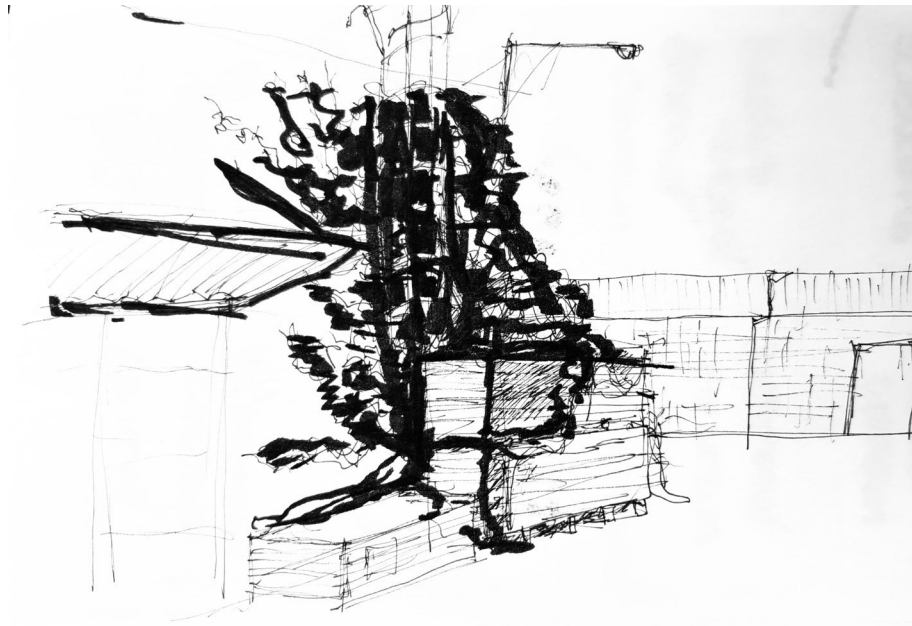
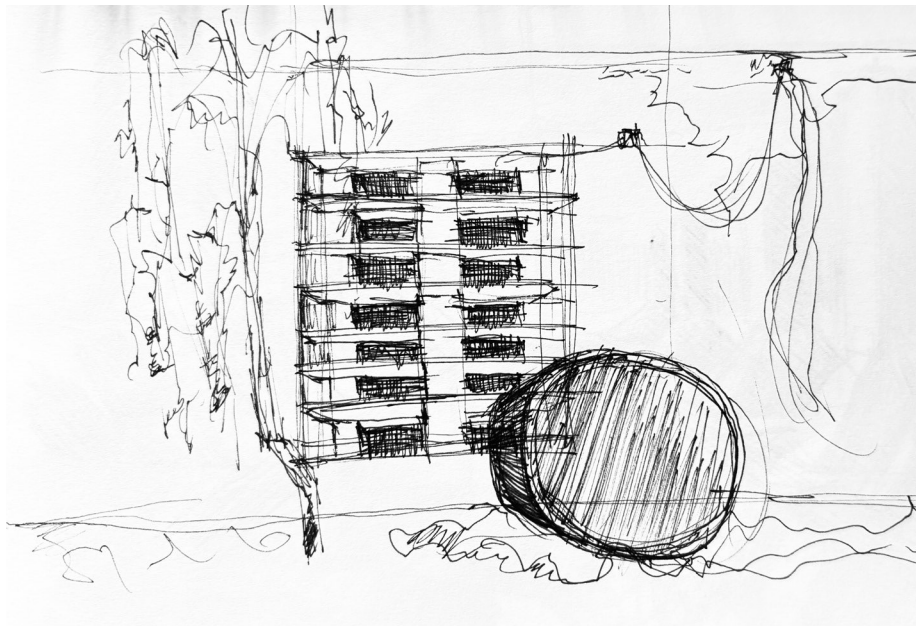
While the connection to the municipal transport network has sufficient capacity, it lacks legibility and comfort for non-motorized road users (pedestrians and cyclists). The railway plays a major transport role, but simultaneously acts as a strong physical barrier in the transverse directions. This creates a conflict of spatial constraints, defined by the separation from the center by the tracks and the proximity of the New Pezinok Landfill. Consequently, alongside its potentials, the location presents distinct limits and challenges that must be addressed not only within an architectural and functional scope, but also through a broader urban planning framework.

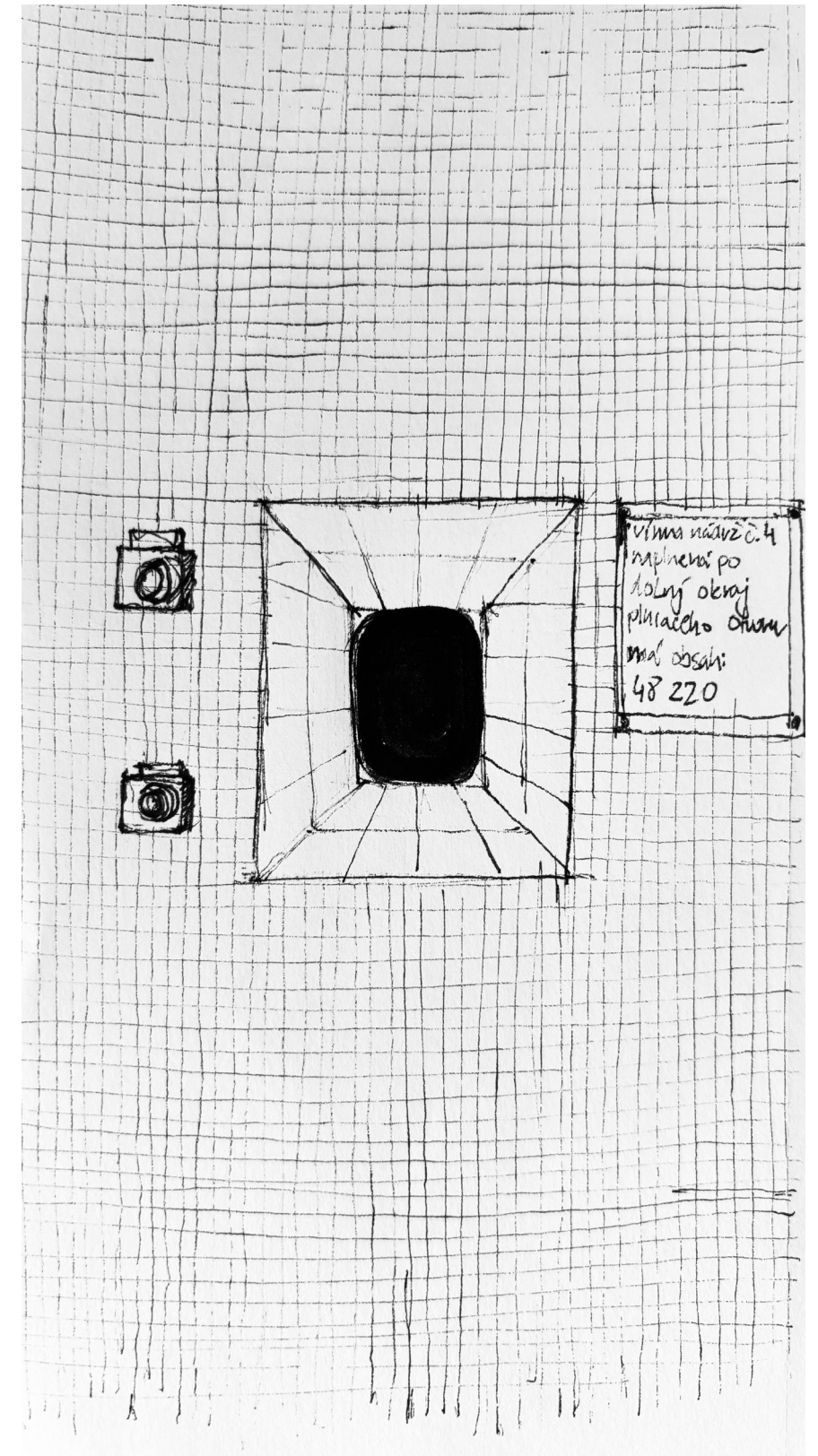
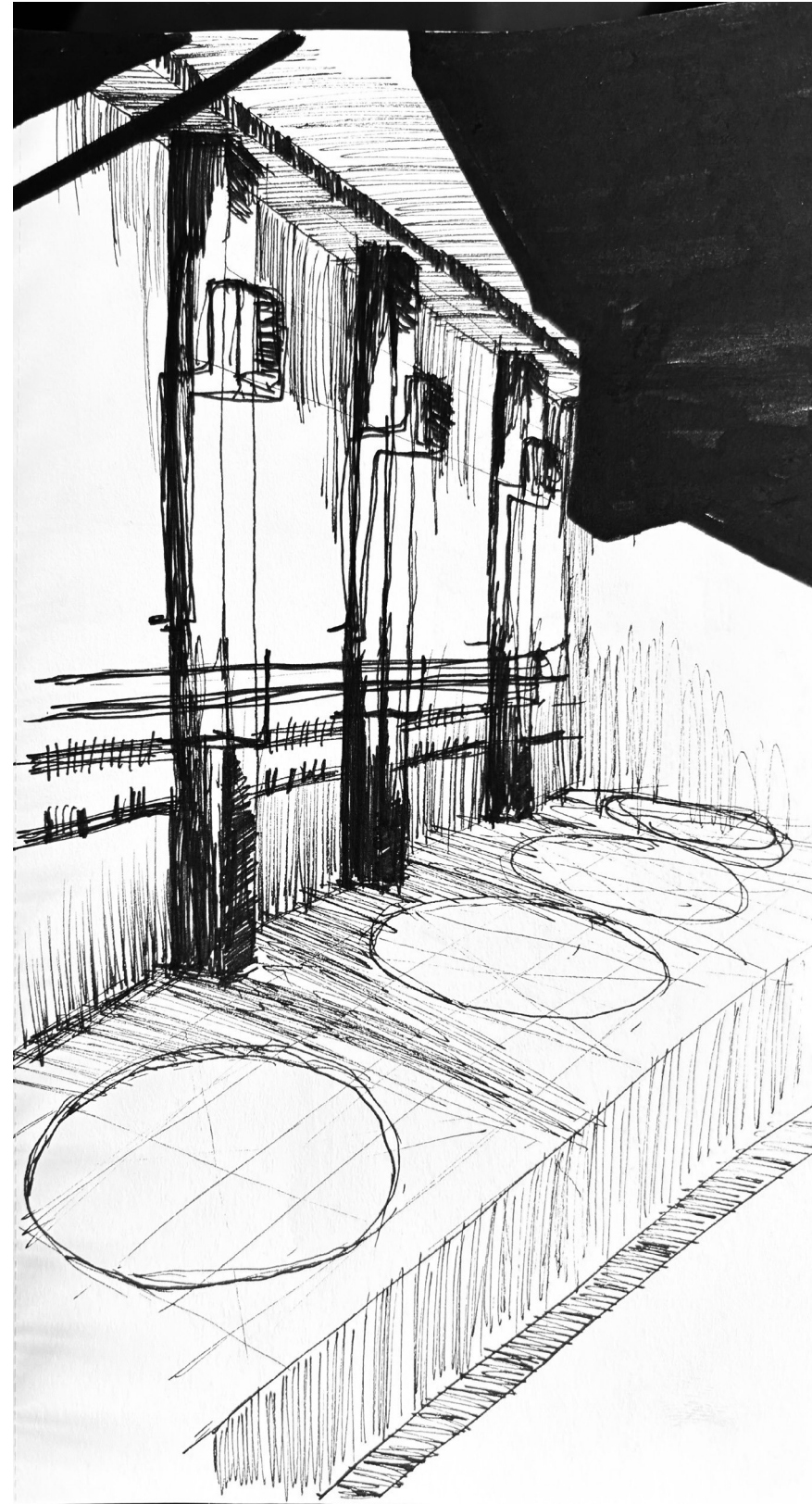


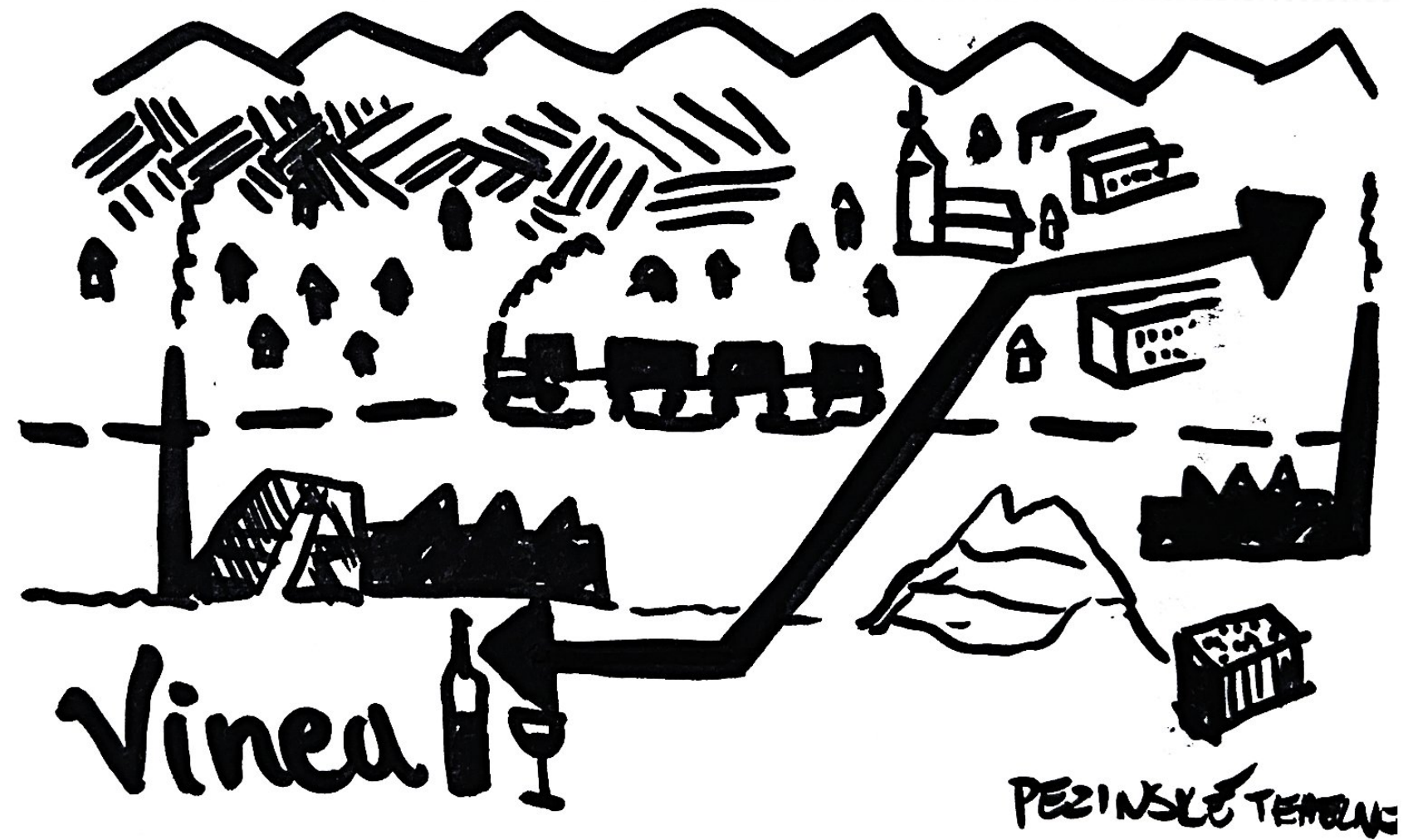
During the site visit and analysis of the complex, the material rawness and tectonics of the preserved spaces became remarkably evident. The entire site is dominated by large-scale industrial halls, complemented by a massive grid of concrete fermentation tanks and fragments of original winemaking technology. These structures are far from uniform modern warehouses; their proportions, the rhythm of their structural elements, and their robust construction clearly reflect their historical industrial footprint. It is precisely this authentic spatial complexity that lends the site a unique character, one that is virtually impossible to simulate in new constructions.



I perceive this layer of the past as a key pillar of the entire study. The approach consciously moves away from radical demolition or insensitive remodeling that would erase the site's history. Instead, the concept is built upon a profound respect for the existing fabric. The new program is not introduced as an aggressive intervention, but rather as a sensitive dialogue with the existing industrial architecture, whose identity I aim to fully and openly acknowledge.







„creative fermentation”

Just as wine requires time, the right environment, and a fermentation process within concrete tanks to transform grapes into a refined beverage, a young artist (or design student) requires a stimulating environment to elevate an initial idea into a work of art or a high-quality product. The project transforms former winemaking tanks and halls – once defined by the fermentation of wine – into incubators for the fermentation of ideas, art, and design. The raw industrial mass is thus transfigured into a living culture.

C**Craft** (School of Design and Glassmaking, Ceramics and Woodworking)

The conversion project of the former Pezinok Winery transforms an abandoned industrial giant into an open, multifunctional urban ecosystem with a continuous 24/7 life cycle. Its monofunctional industrial past is transformed into three new pillars: Craft, Art, and Vin (Wine).

The project's philosophy is built on a parallel between the making of fine wine and the creation of a piece of art. Both processes require raw material, craftsmanship, time to mature, and an inspiring environment.

A**Art** (creative design studios, guest houses,

CRAFT (The School): The Secondary School of Applied Arts brings the tradition of honest craftsmanship back to the area in a modern guise (glass, ceramics, product design).

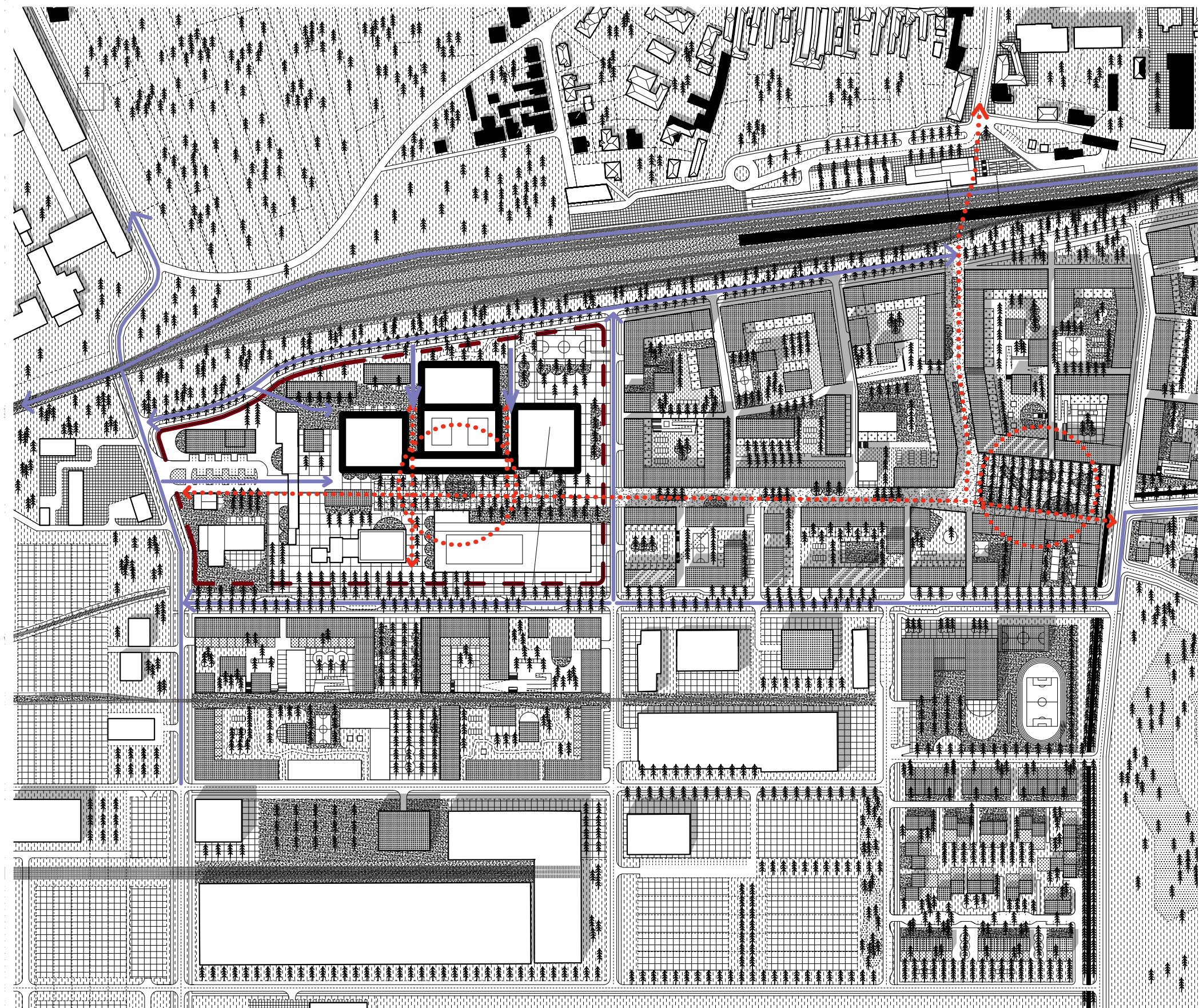
V**Vin** (Wine / winery, revival of tradition, gastronomy)

ART (Studios and Gallery): Concrete fermentation tanks are symbolically transformed into creative laboratories – incubators of ideas where artists create, live, and exhibit.

VIN (Winery and Events): Wine production returns to its roots, revitalizing the complex's ground floor and opening it to the public through gastronomy and events

CAV HUB is not just new architecture; it is a place where ideas ferment and art matures.

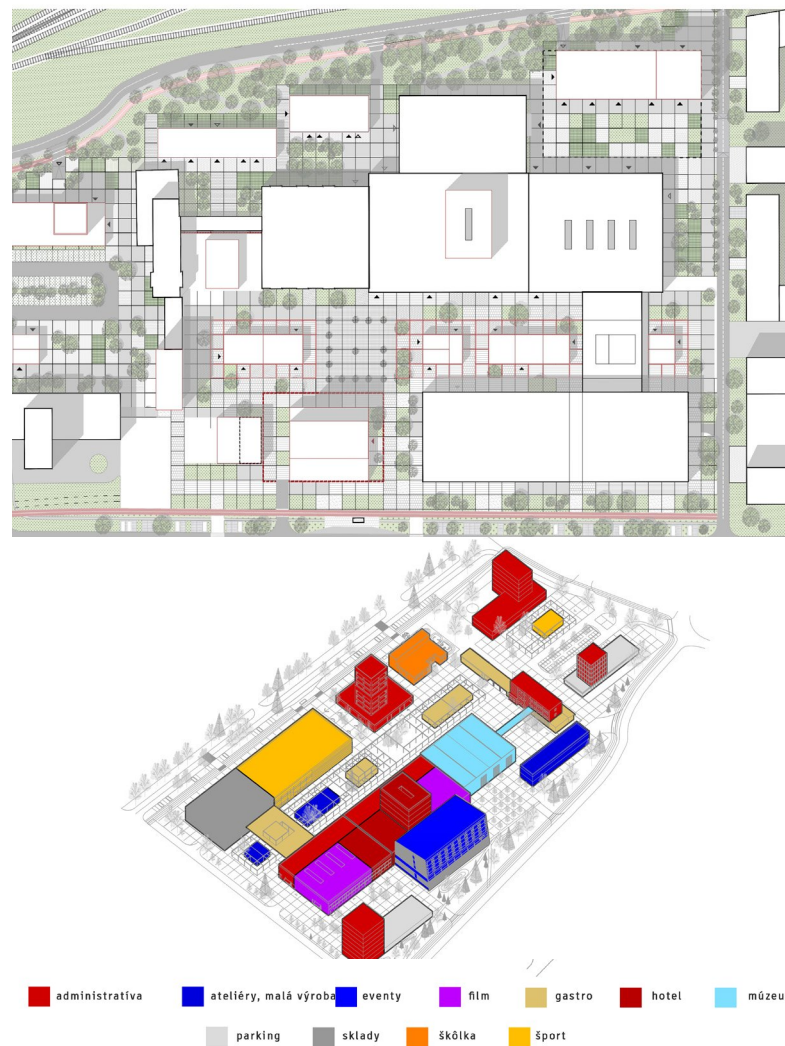
-  Vehicular Access
-  Pedestrian axes
-  The Site Area
-  The Square



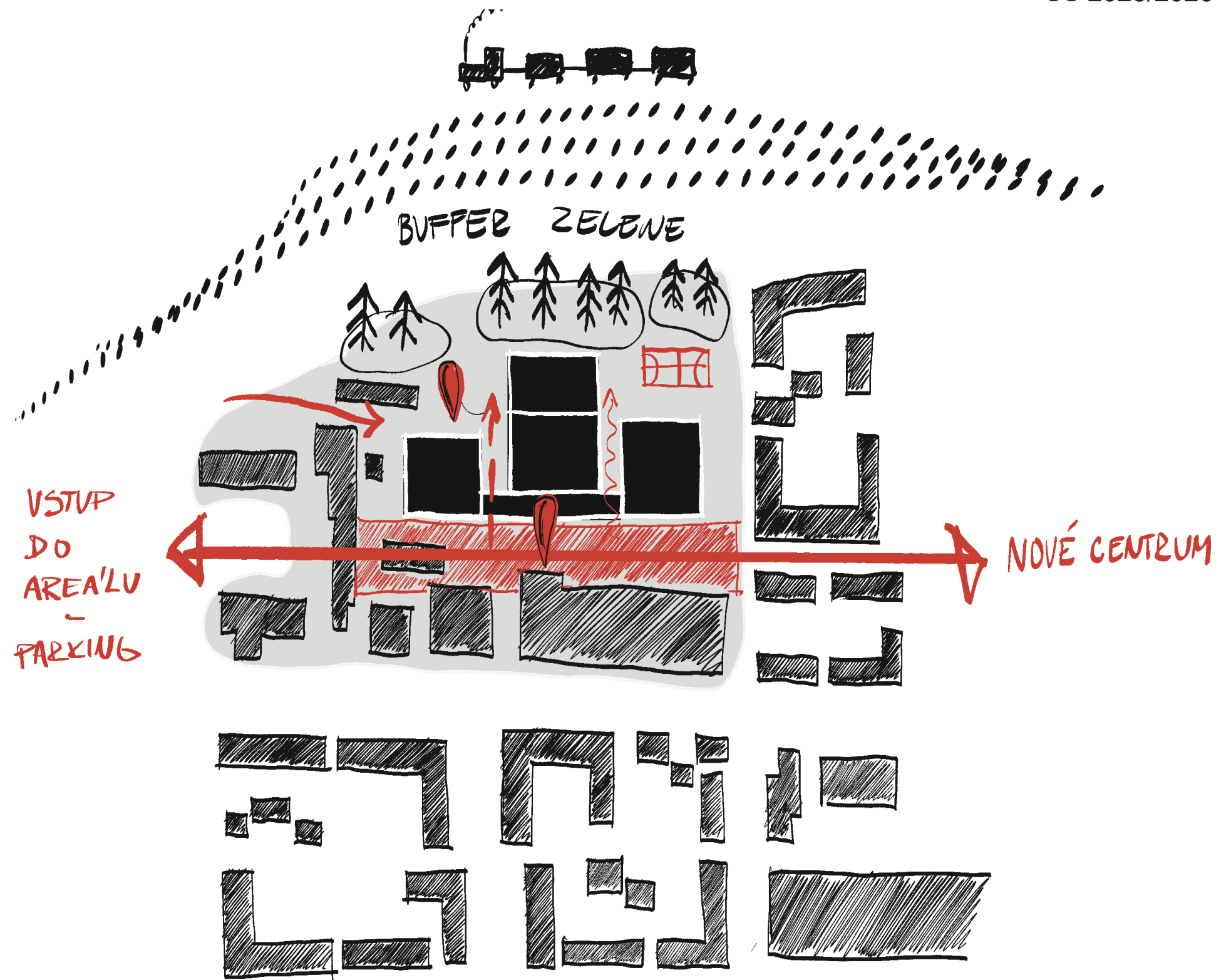
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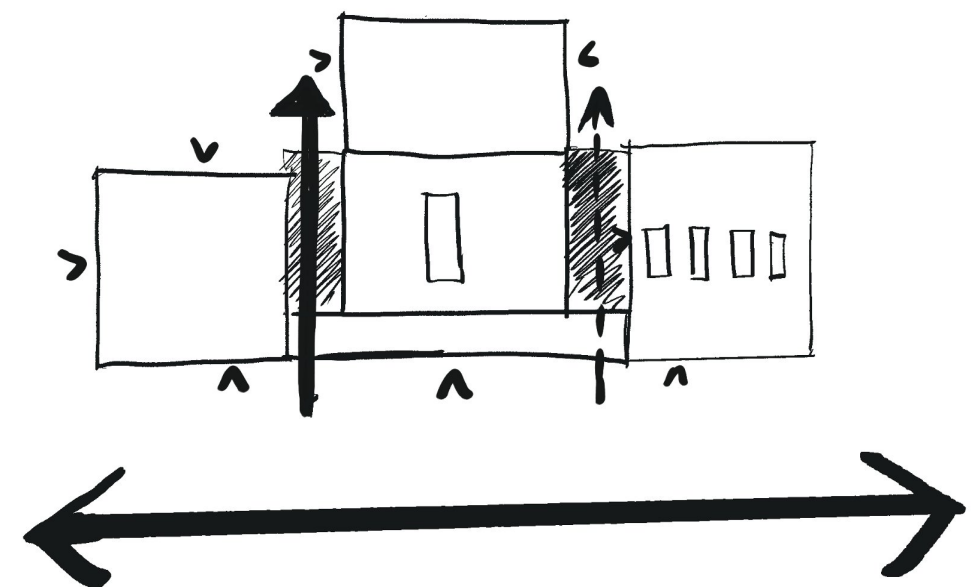
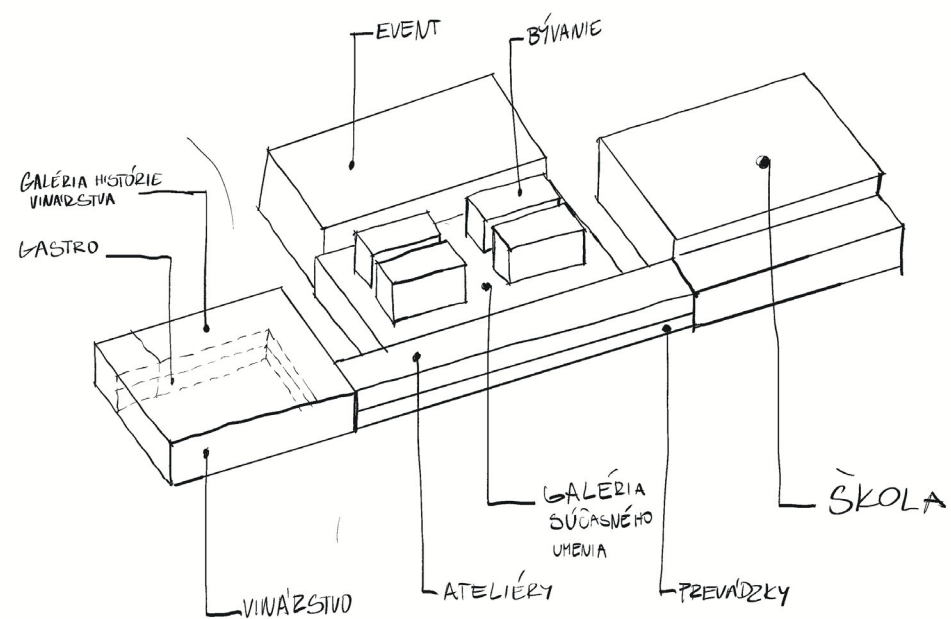
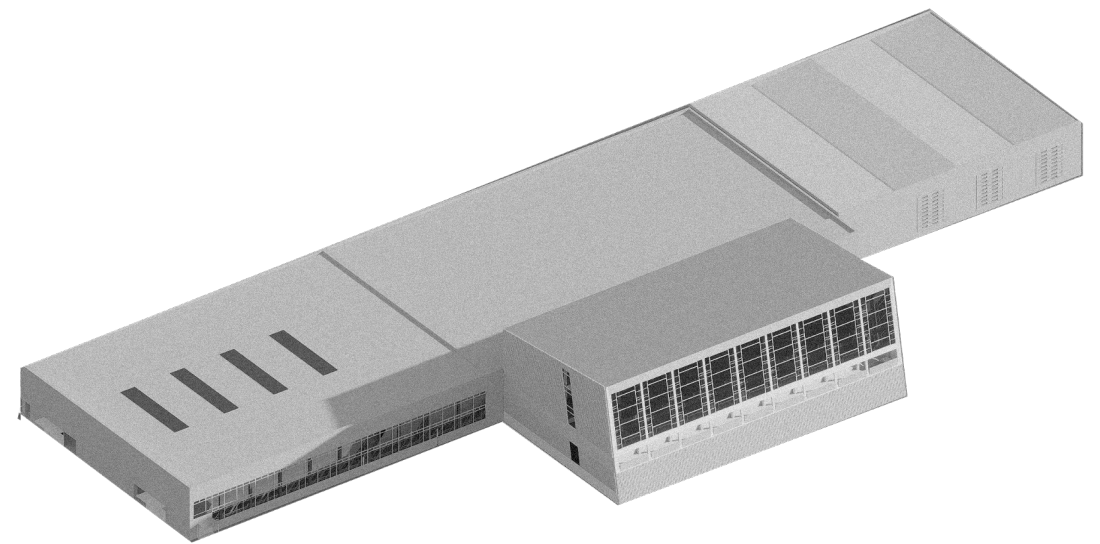
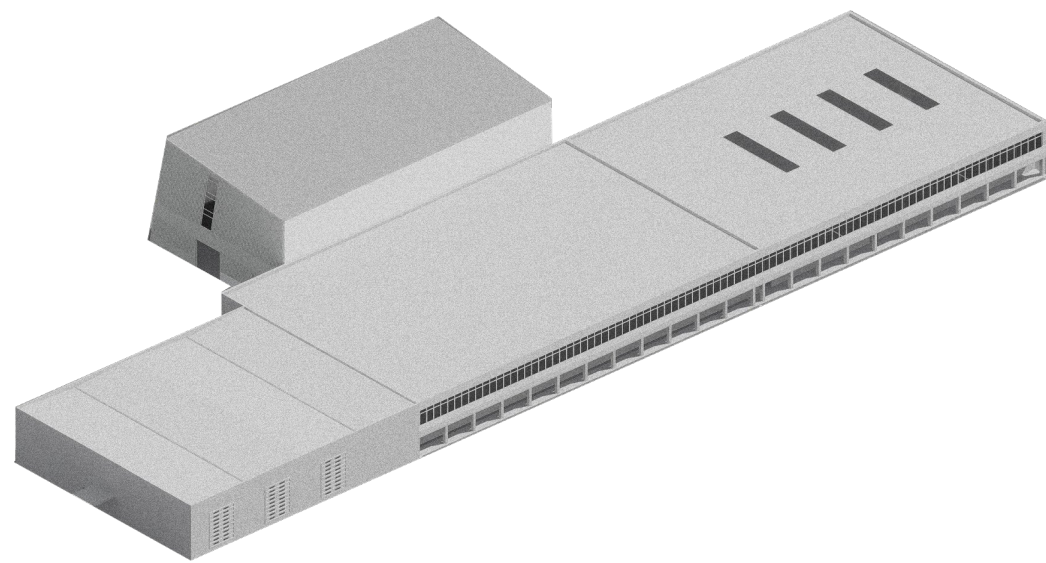
Bc. Michal Grác

Urban context

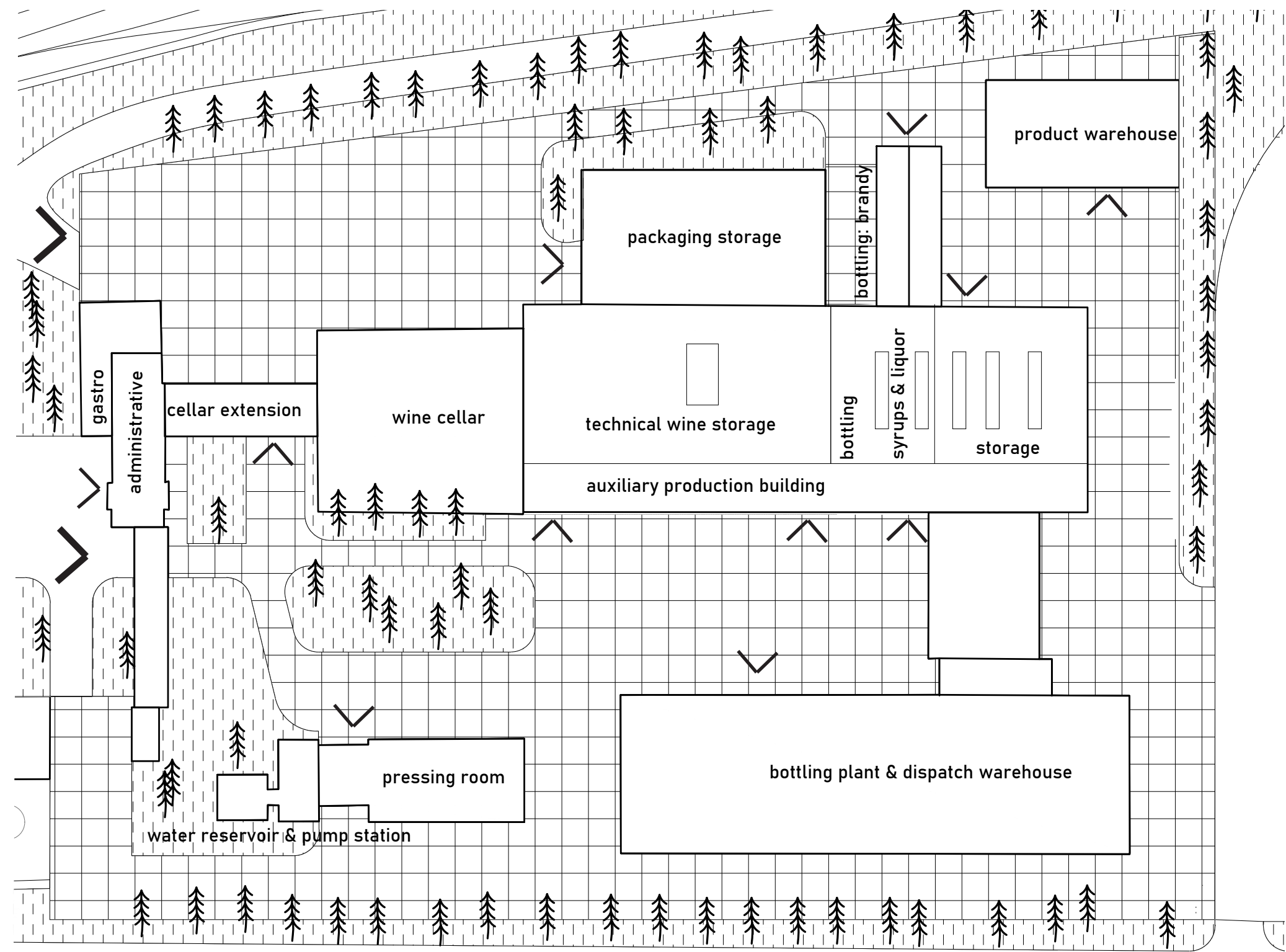


The strategy is based on a connection to the proposed pedestrian zone, which derives from the urban design developed during the winter semester of 2025/26 by Bc. Tamara Kocianová, Bc. Kristína Gálisová, and Bc. Michal Grác. The design of the public spaces builds upon the framework of a study compiled in the winter semester of 2025/2026 by Bc. Dominika Fiřmová, Bc. Viktória Bódiová, Bc. Viktória Nosáľová, Bc. Nikoleta Brezinová, and Bc. Tomáš Matišík. Steering towards a concept of connectivity and openness, new intervention links are established to secondary public spaces (event area, sports grounds), while the central square is relocated in front of the building's main entrance.





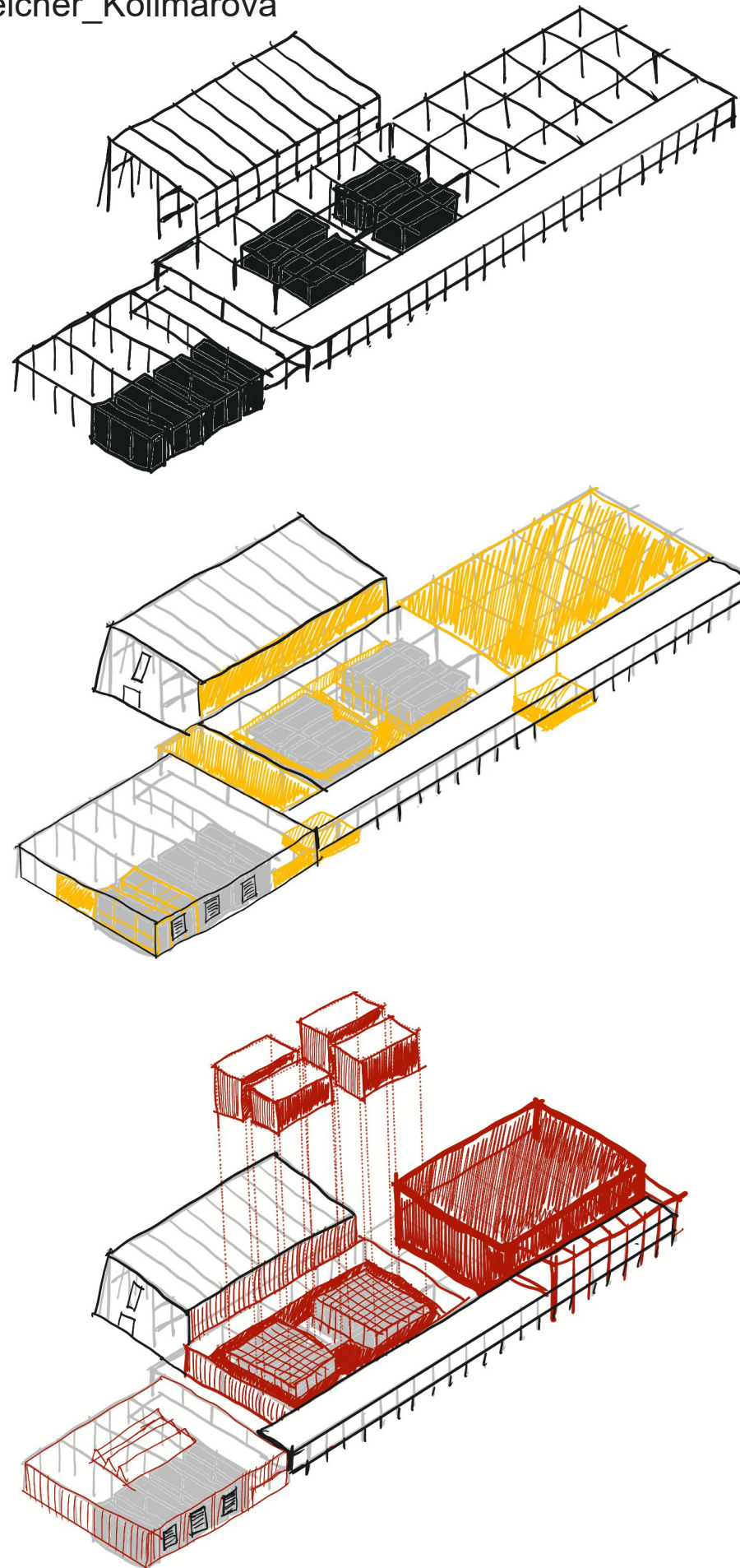
-  Main Access Points
-  Primary Entrances



M 1:800

Bc. Michal Grác

Site_existing condition



The transformation concept strictly distinguishes between the original structural substance and the newly inserted elements, establishing a clearly legible material hierarchy:

What is preserved?

Load-Bearing Structures: The design retains the robust, prefabricated reinforced concrete skeletons, massive beams, columns, and steel truss girders of the original halls. These elements are stripped back to exposed concrete and raw steel, finished with a fire-retardant coating.

Industrial Concrete Floors: The original trowelled concrete floors in the halls are locally remediated, ground, and sealed with a transparent epoxy layer, intentionally exposing scratches and historical technological traces.

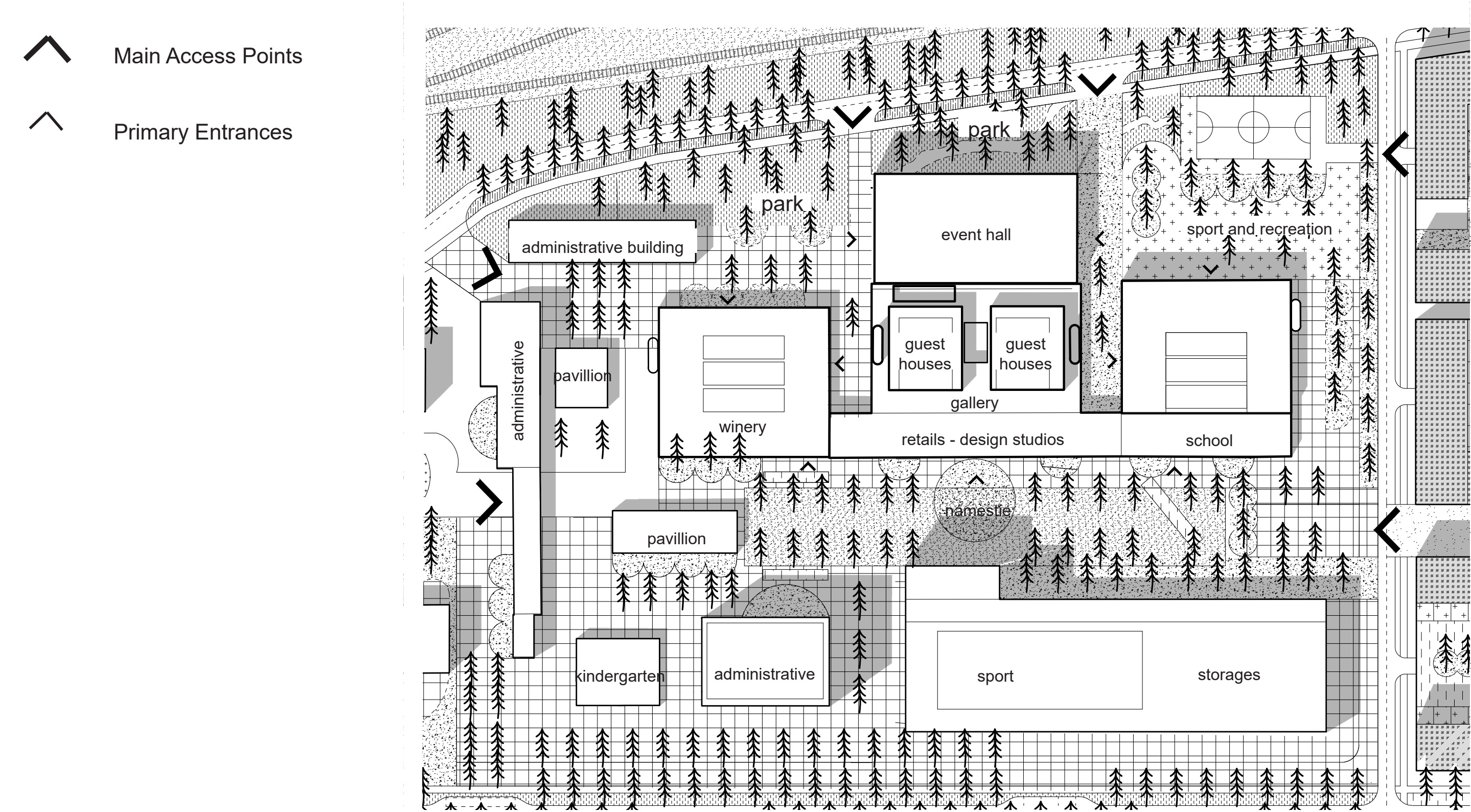
Industrial Ceilings and Building Services: The design exposes the raw ceilings of the halls, pipe bridges, services, and fragments of the former ventilation systems that run beneath the roof trusses, contributing to the technical tectonics of the interior.

What is inserted?

Timber Volumes & CLT: Within the generous, airy volume of the halls, the design introduces new interior cells, partitions, cabinets, and separate floors made of cross-laminated timber (CLT panels). Timber introduces acoustic comfort and warm textures into the raw concrete environment, serving as the ecological footprint of the conversion.

Transparent Boxes: Offices, meeting rooms, and research workstations are designed as inserted, frameless all-glass boxes suspended within the original skeleton, supporting the concept of maximum visual openness.

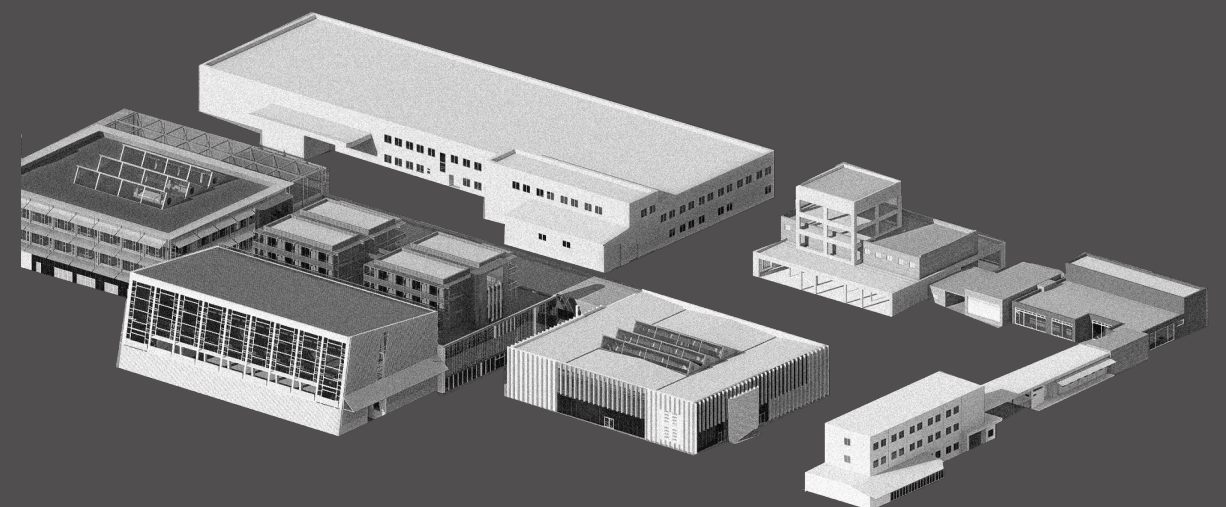
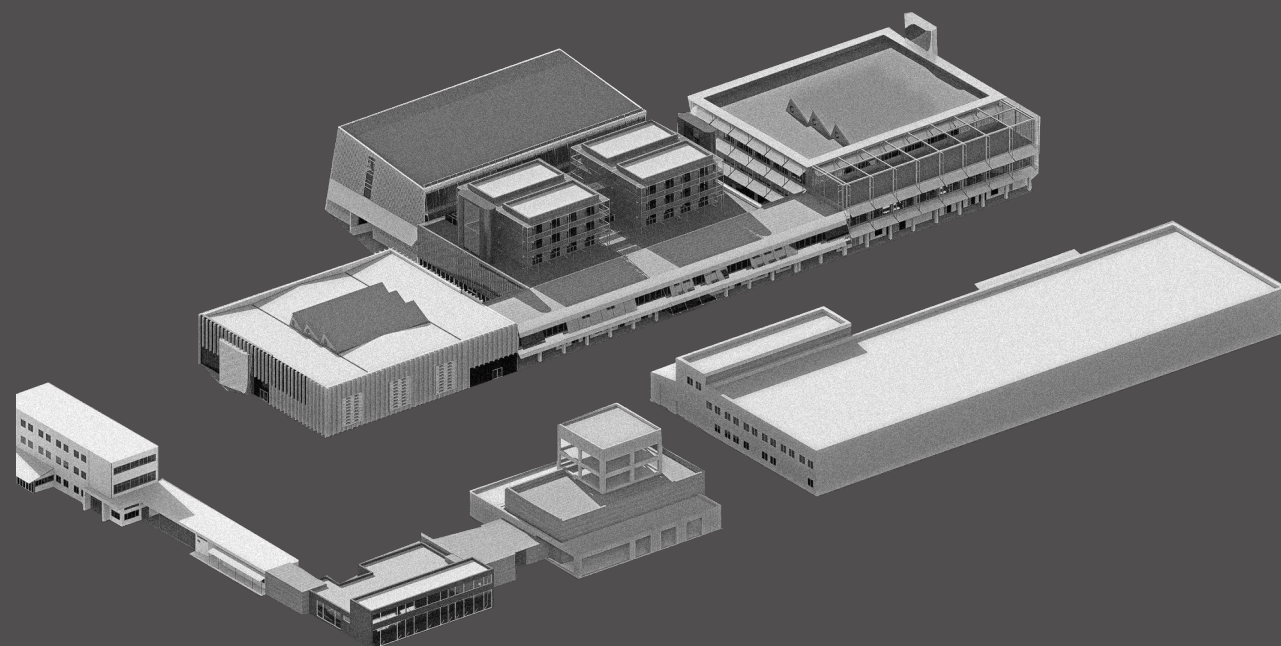
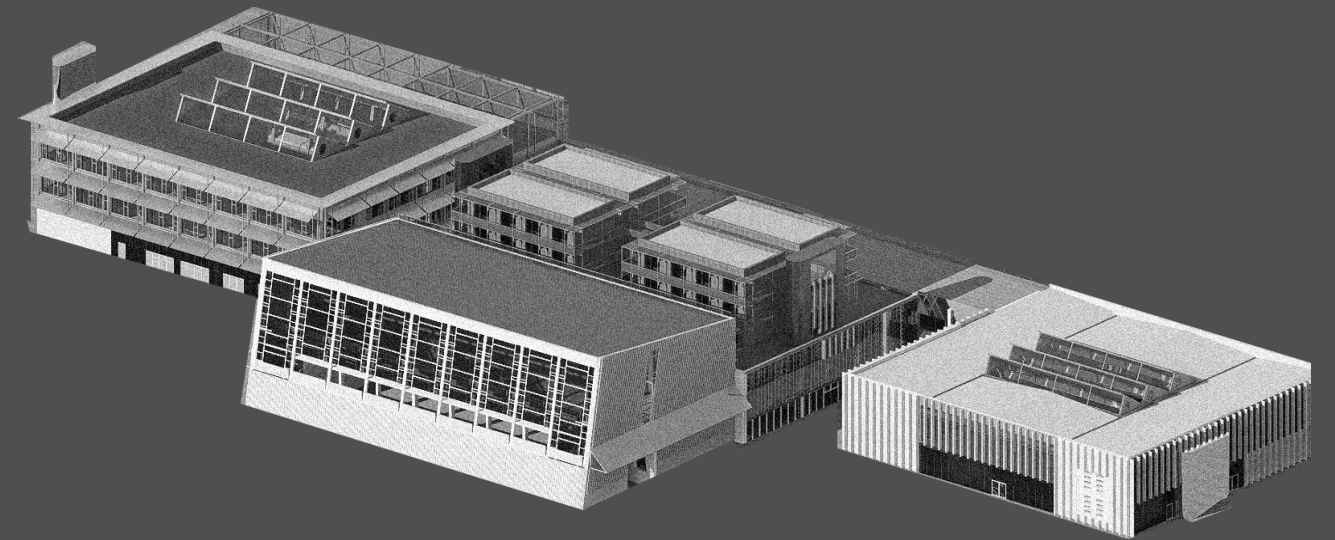
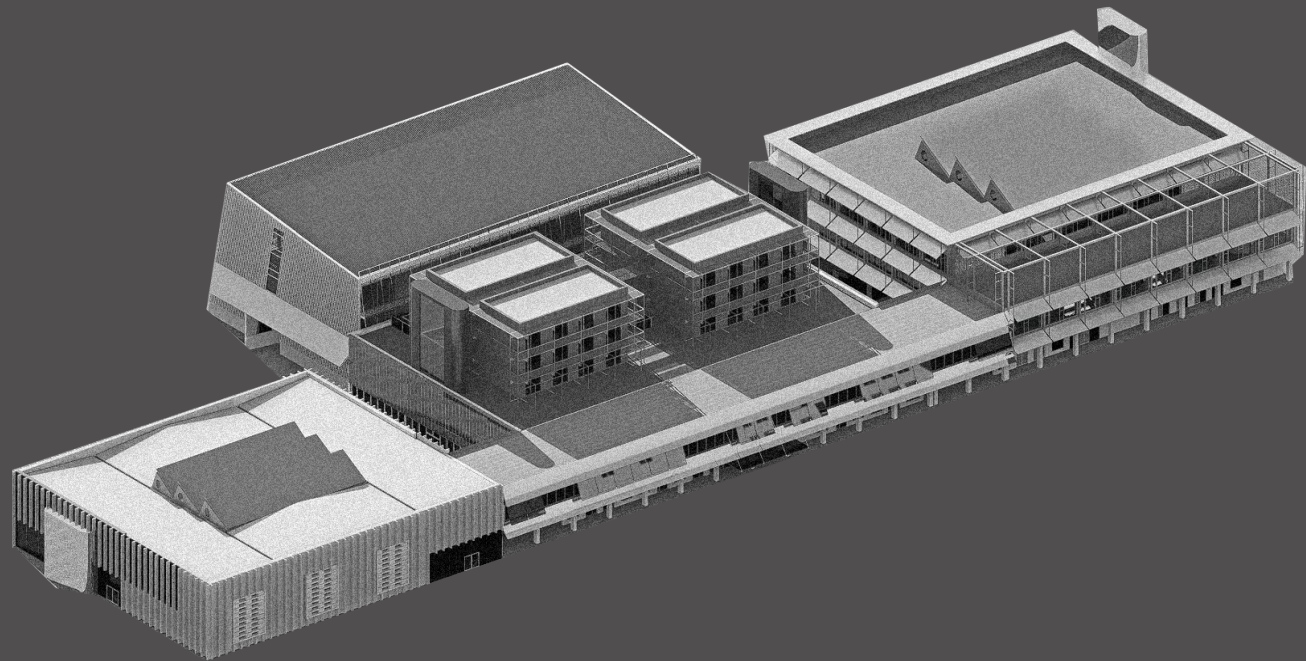
Translucent Facades in the Gallery: The building envelopes of the gallery and the connections to the event hall are locally replaced with translucent polycarbonate or U-profile glass facade systems (e.g., Reglit). During the day, these walls flood the gallery with soft, perfectly diffused glare-free light, while at night, the building transforms into a glowing urban lantern that illuminates the main square.

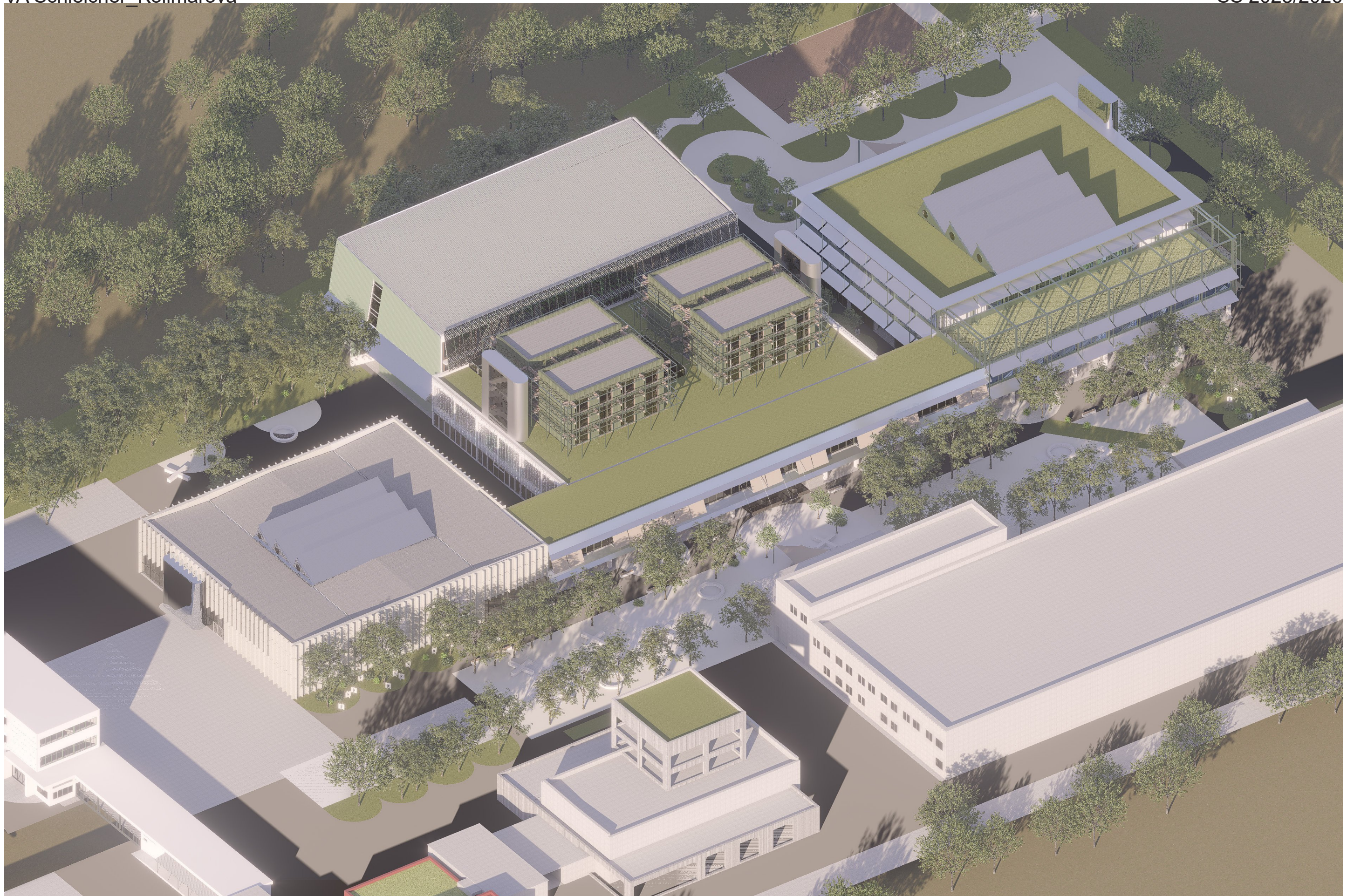


M 1:800

Bc. Michal Grác

Site_proposed condition



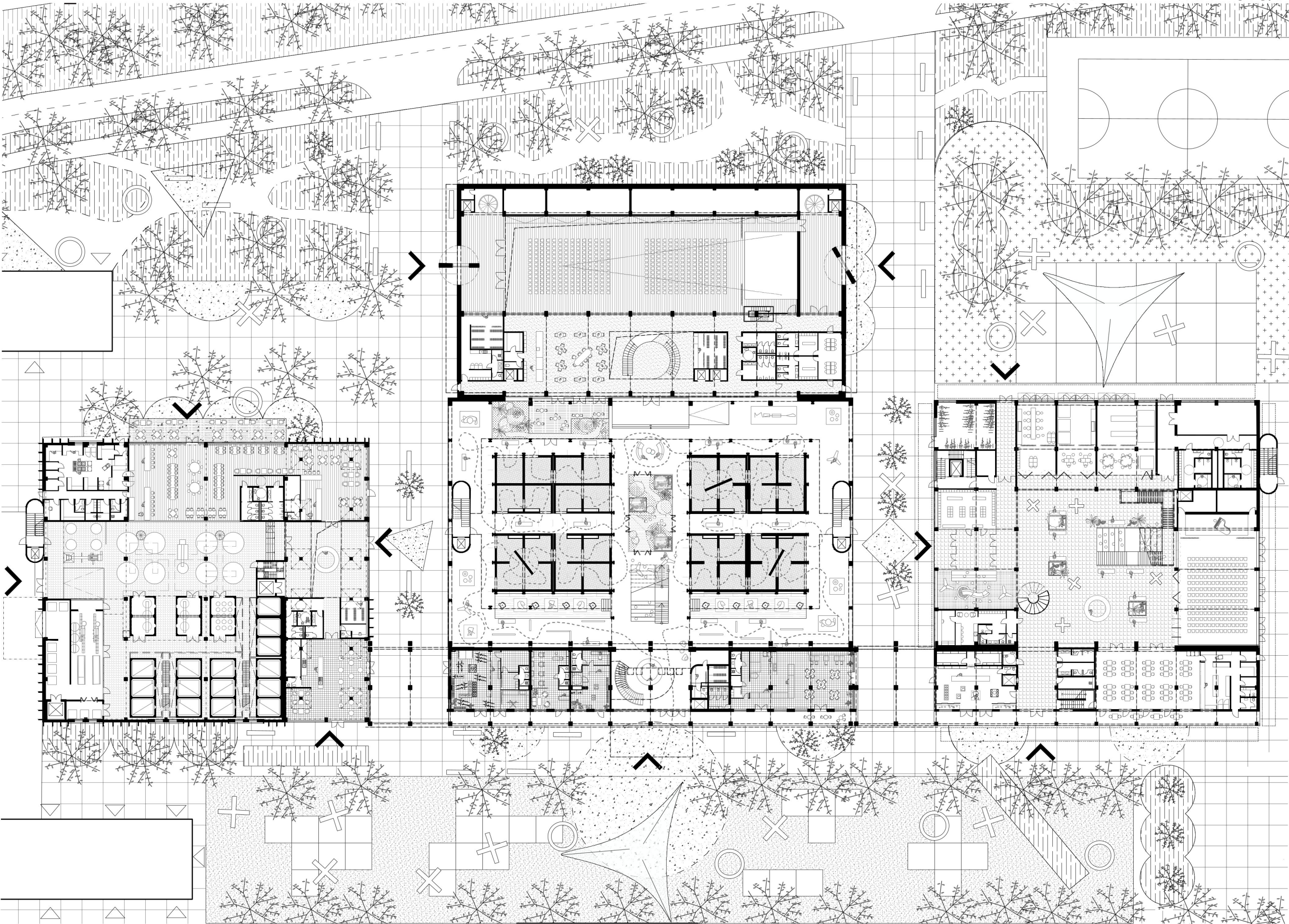


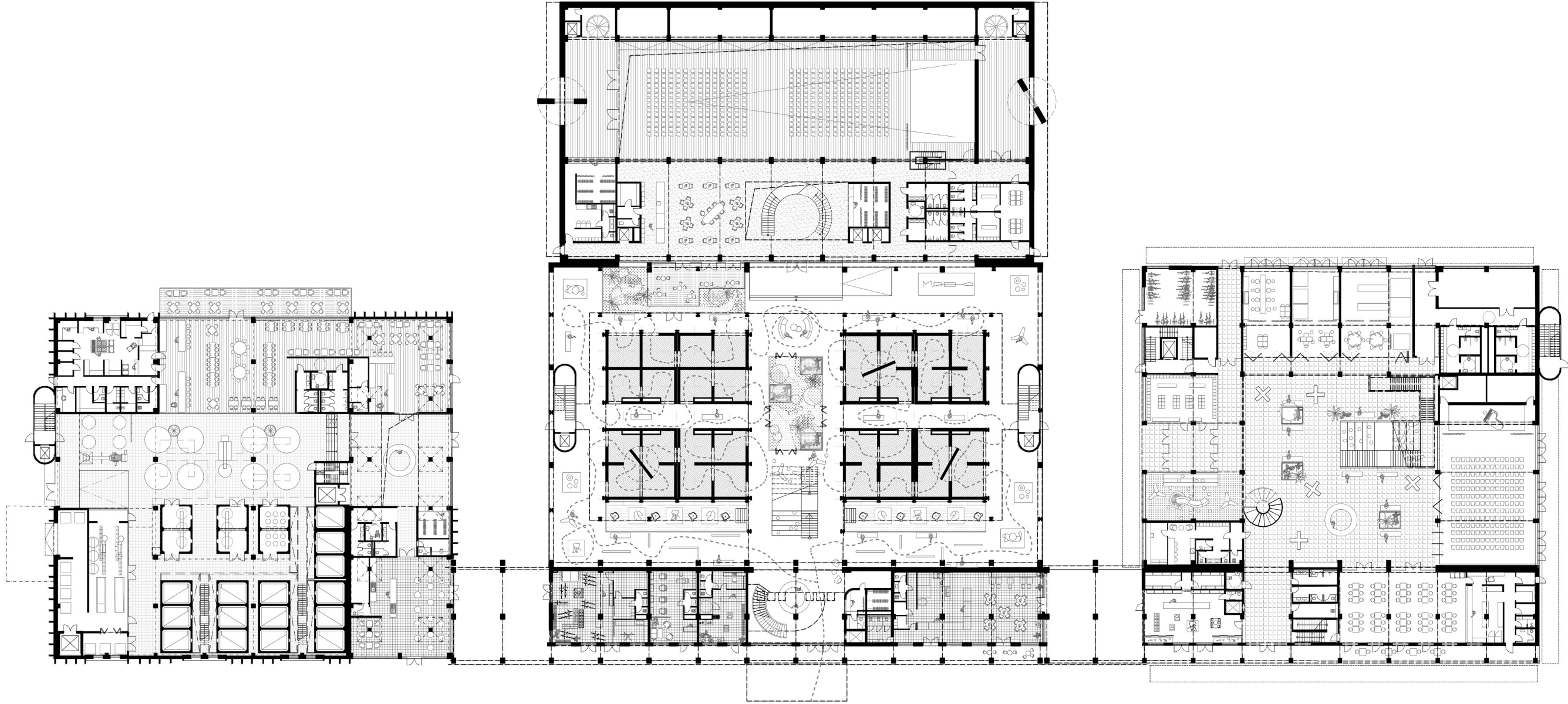


M 1:500

Bc. Michal Grác

CAV HUB_site plan





winery

retails - gallery - studios - event hall

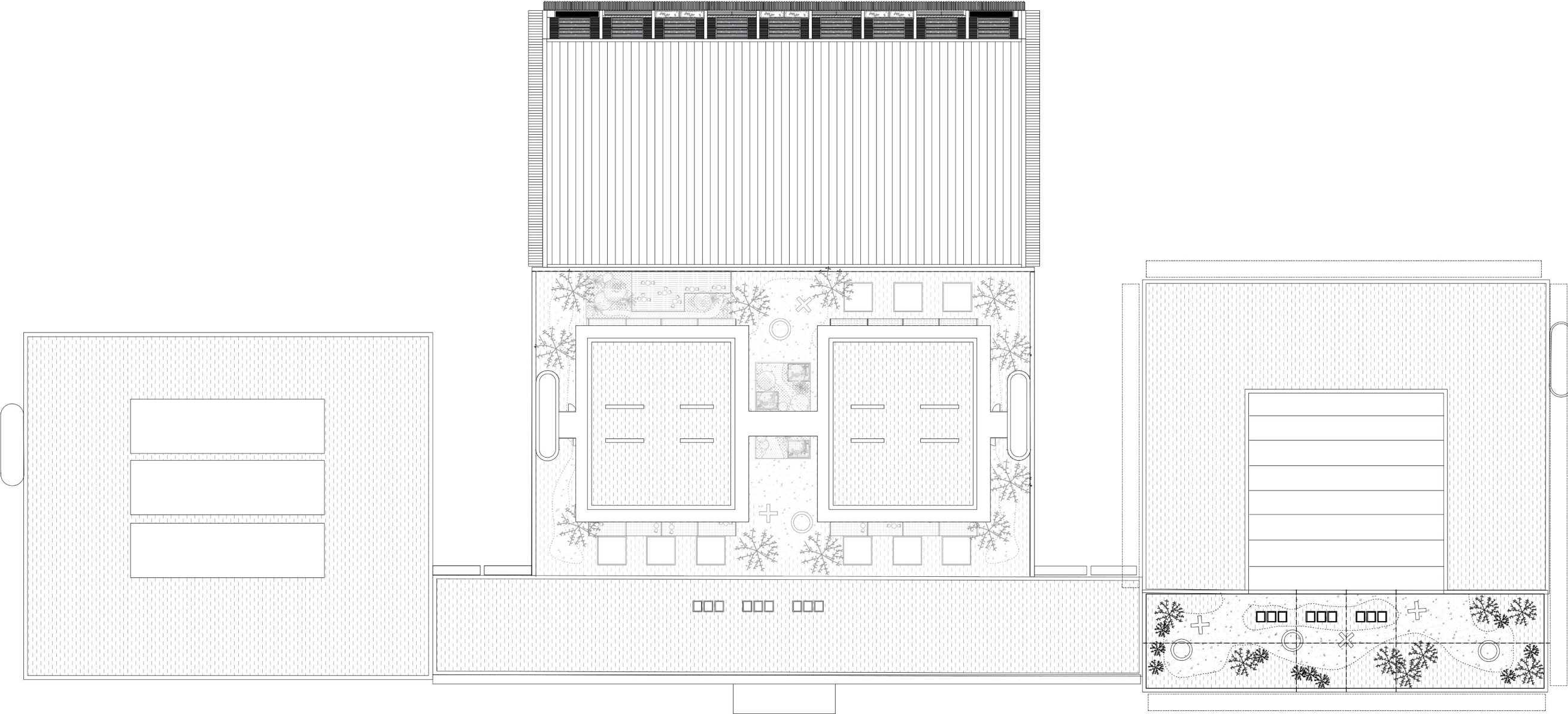
school



M 1:500

Bc. Michal Grác

CAV HUB_floor plan



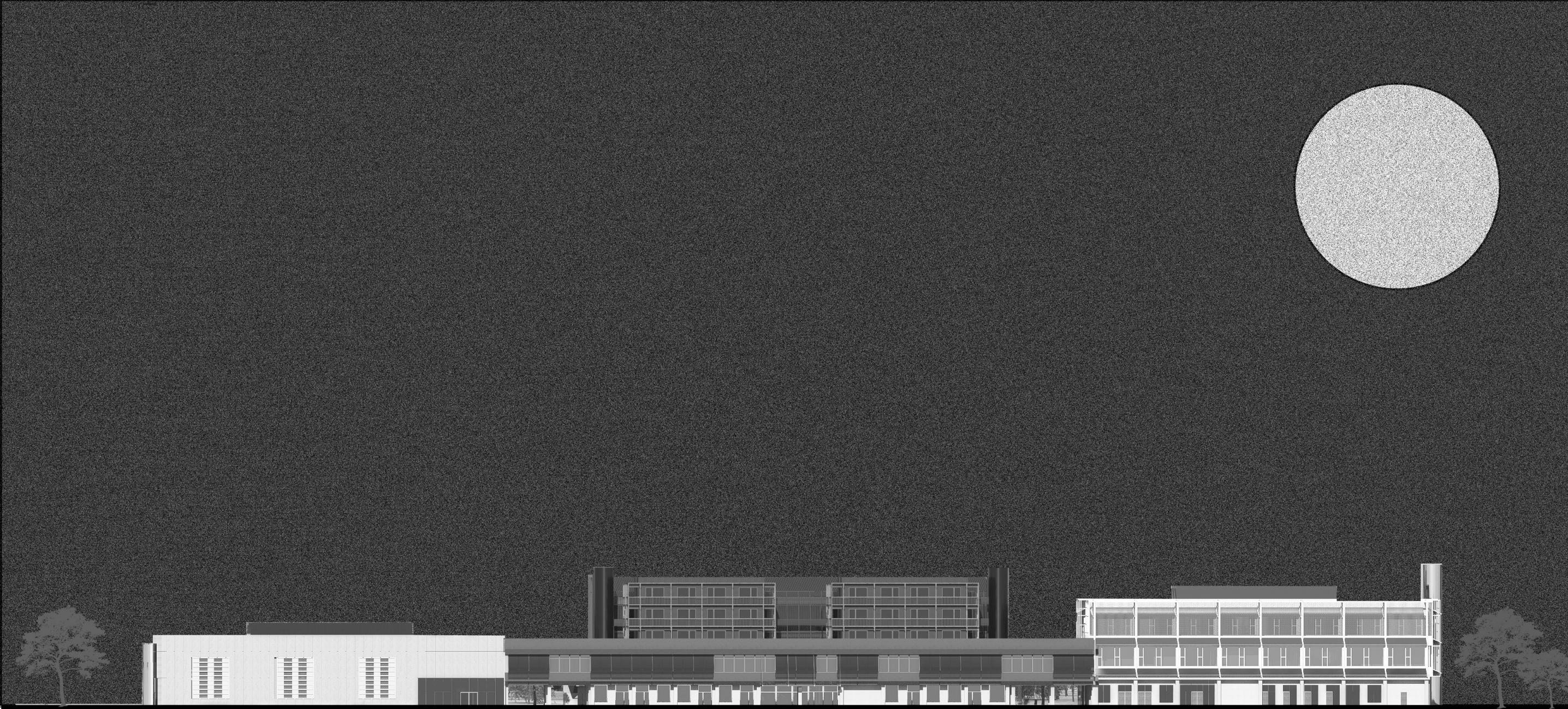
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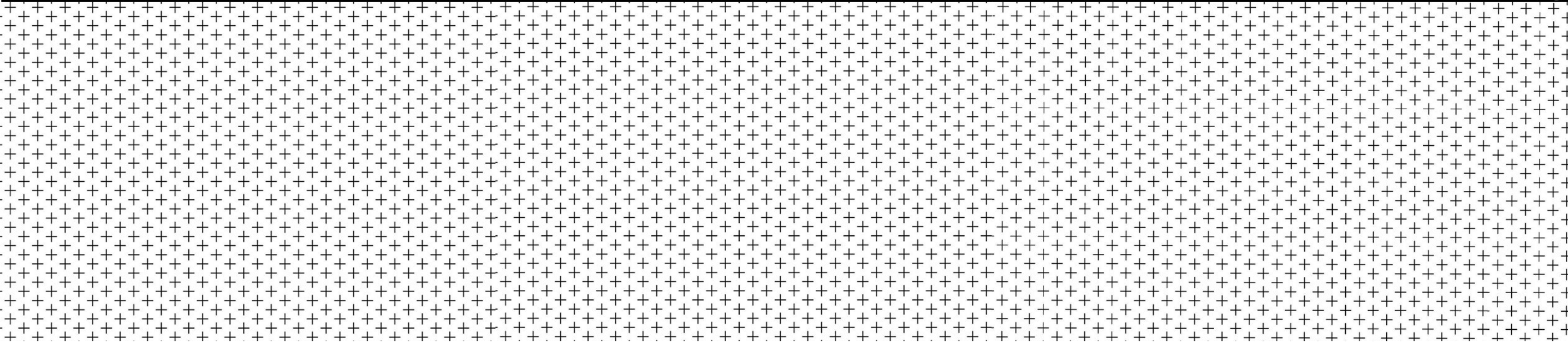
Bc. Michal Grác

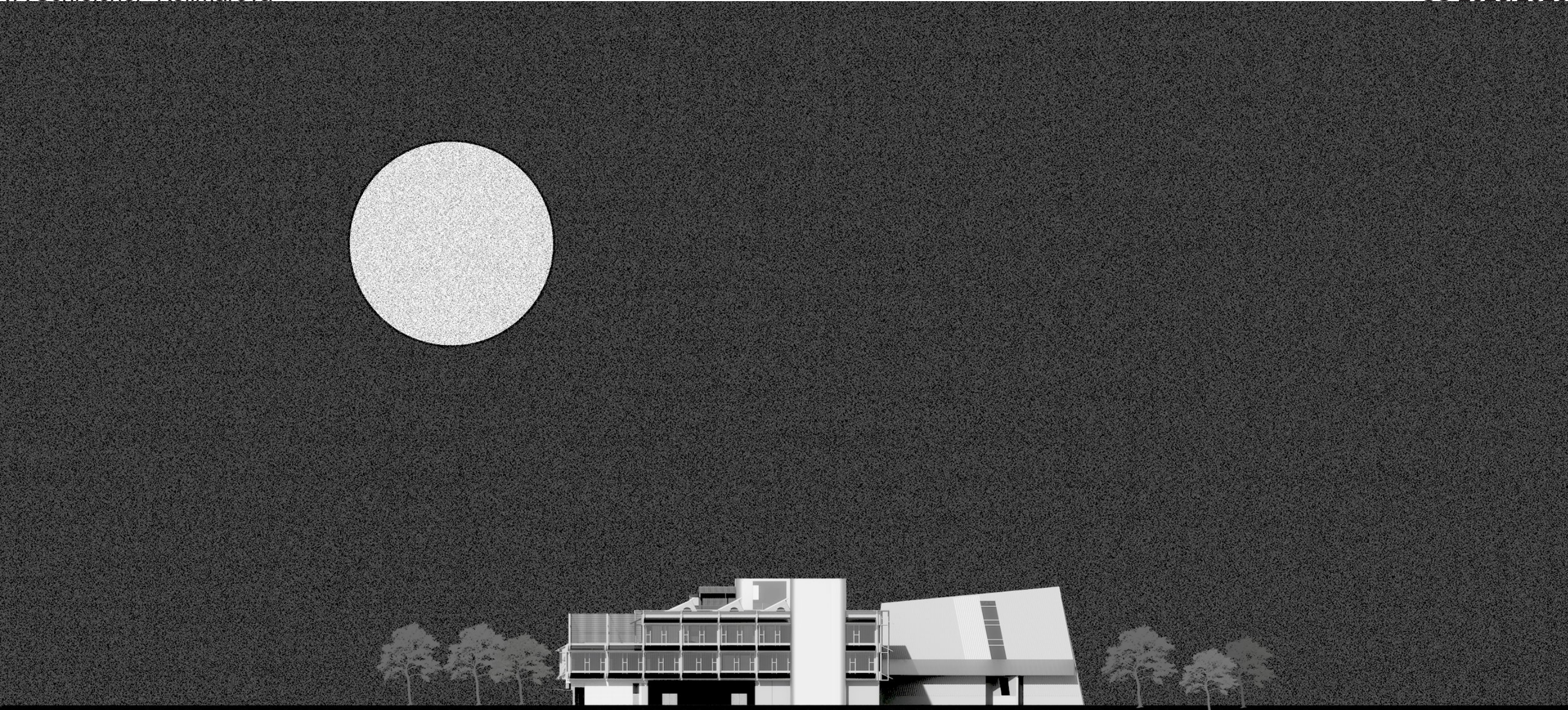
CAV HUB_roofs

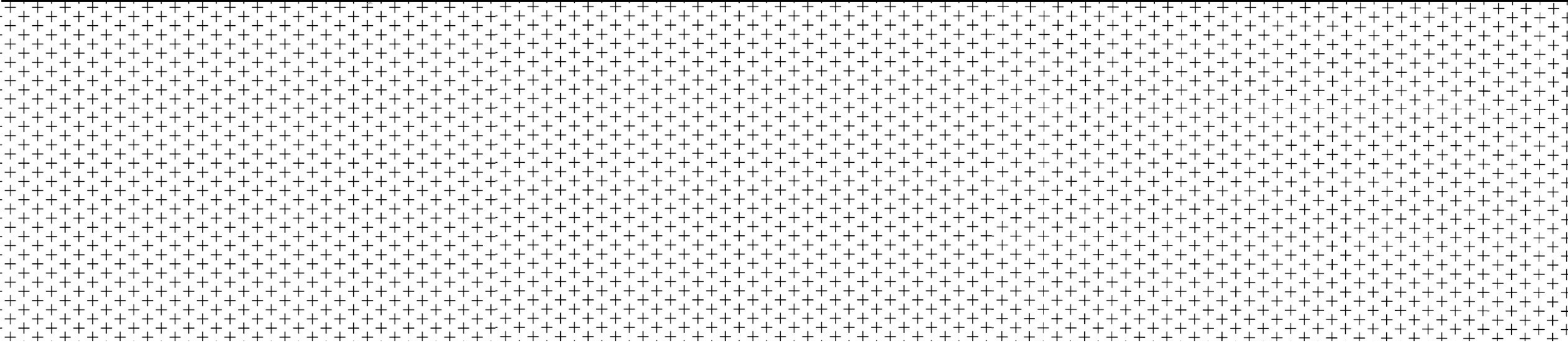
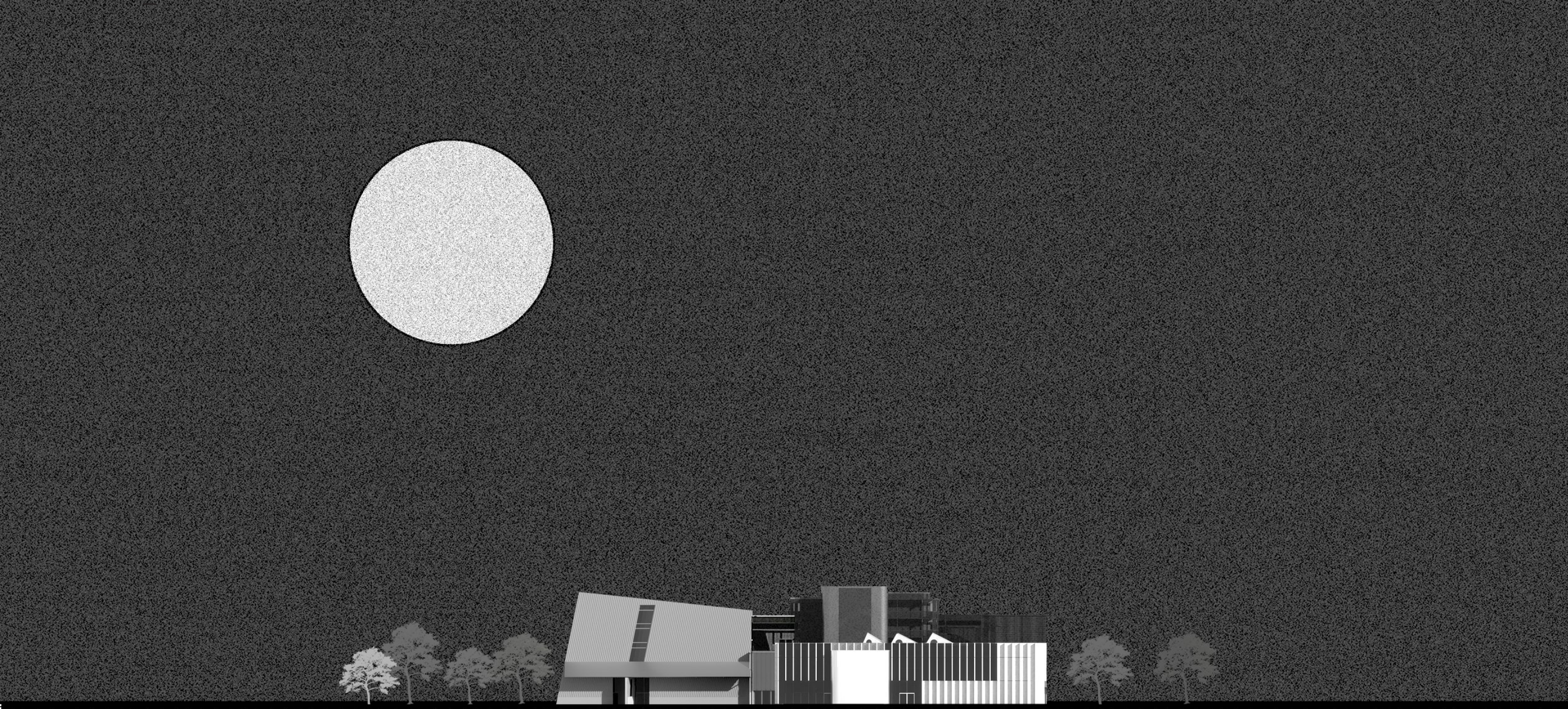






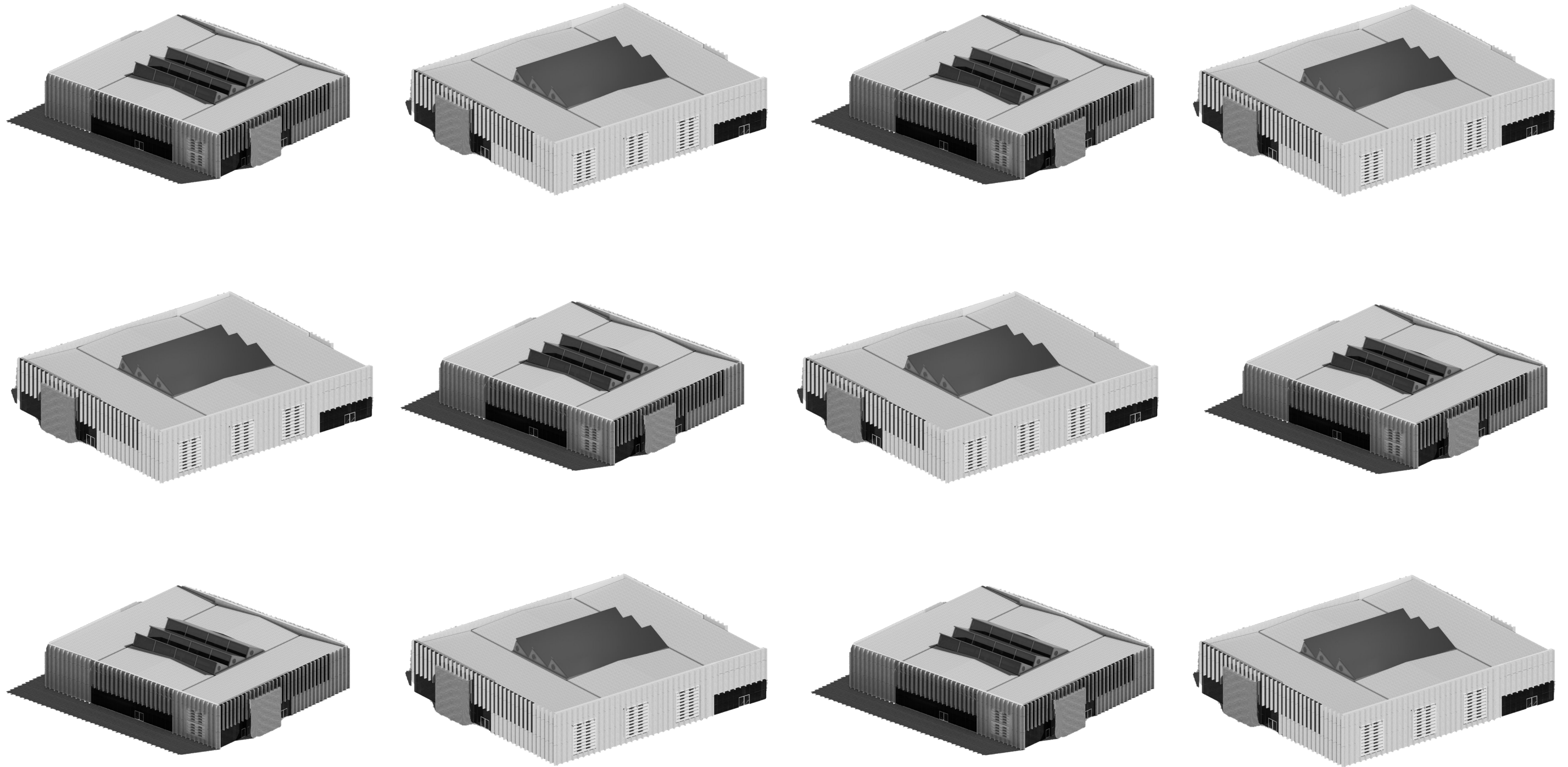


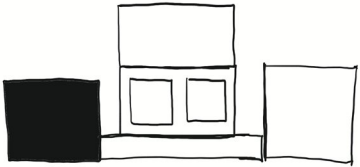
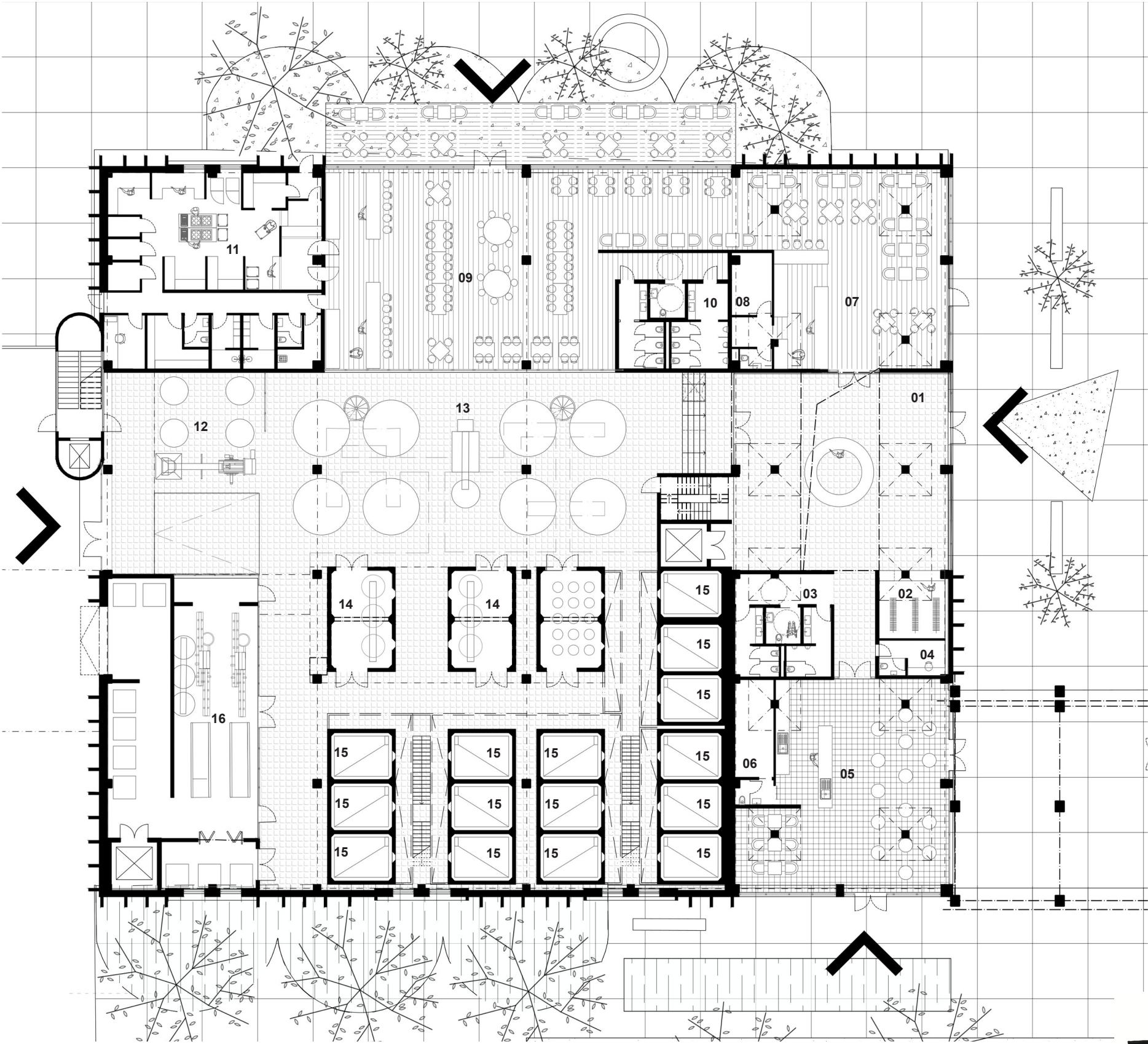










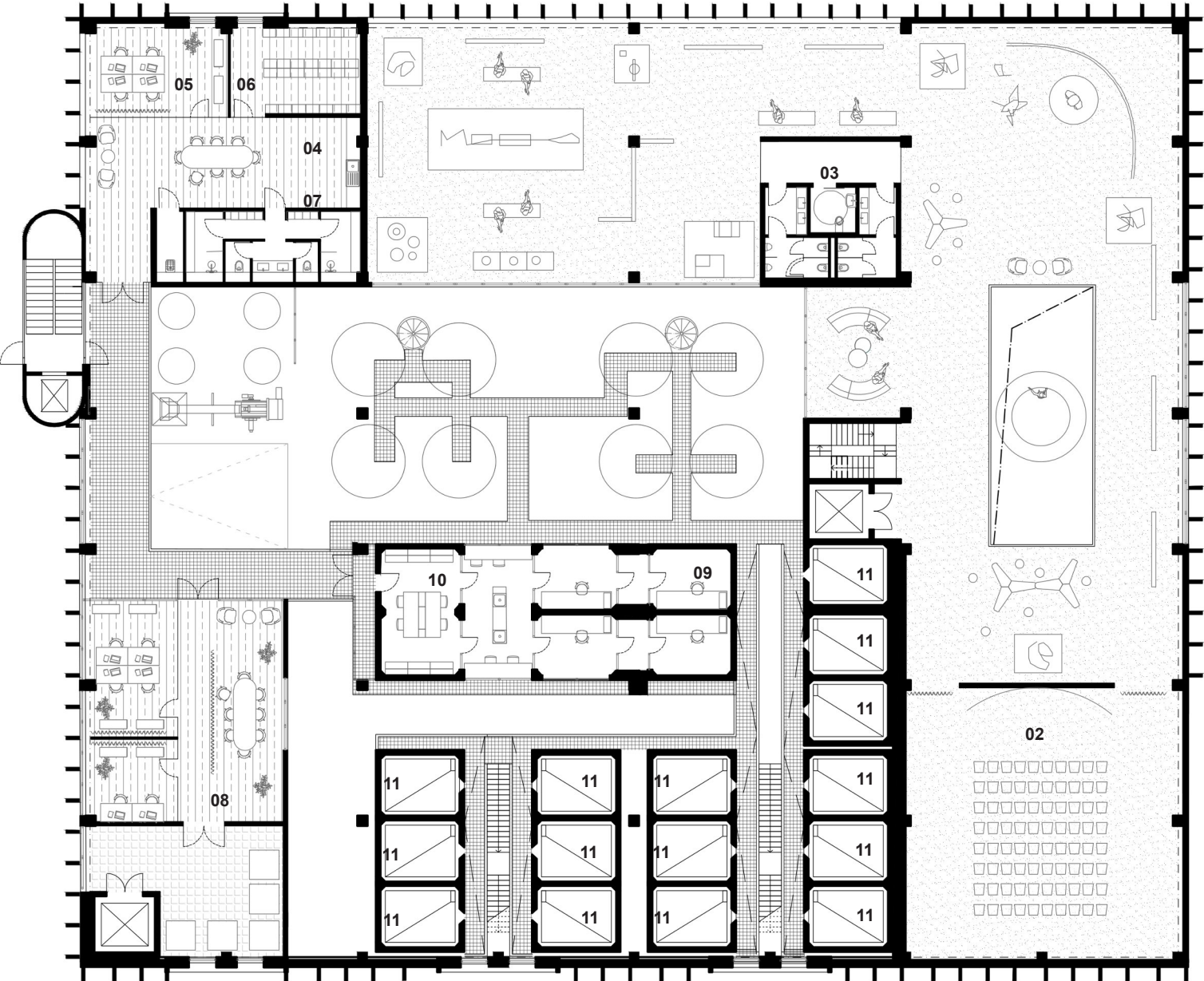


M 1:300

Bc. Michal Grác

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|----------------|---------------------|----------------|--|--|
| 01. Foyer | 05. Tasting Room | 09. Restaurant | 13. Fermentation, filtration & racking | 15. Wine cellars |
| 02. Cloakrooms | 06. Zázemie, sklad | 10. Restrooms | 14. Cryomaceration & cold storage | 16. Bottling, post-production & dispatch |
| 03. Restrooms | 07. Lounge bar | 11. Kitchen | | |
| 04. Staff | 08. Staff & Storage | 12. Pressing | | |

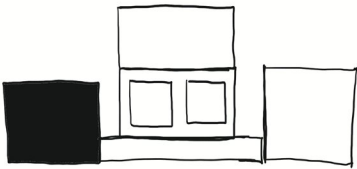
Winery_ground floor



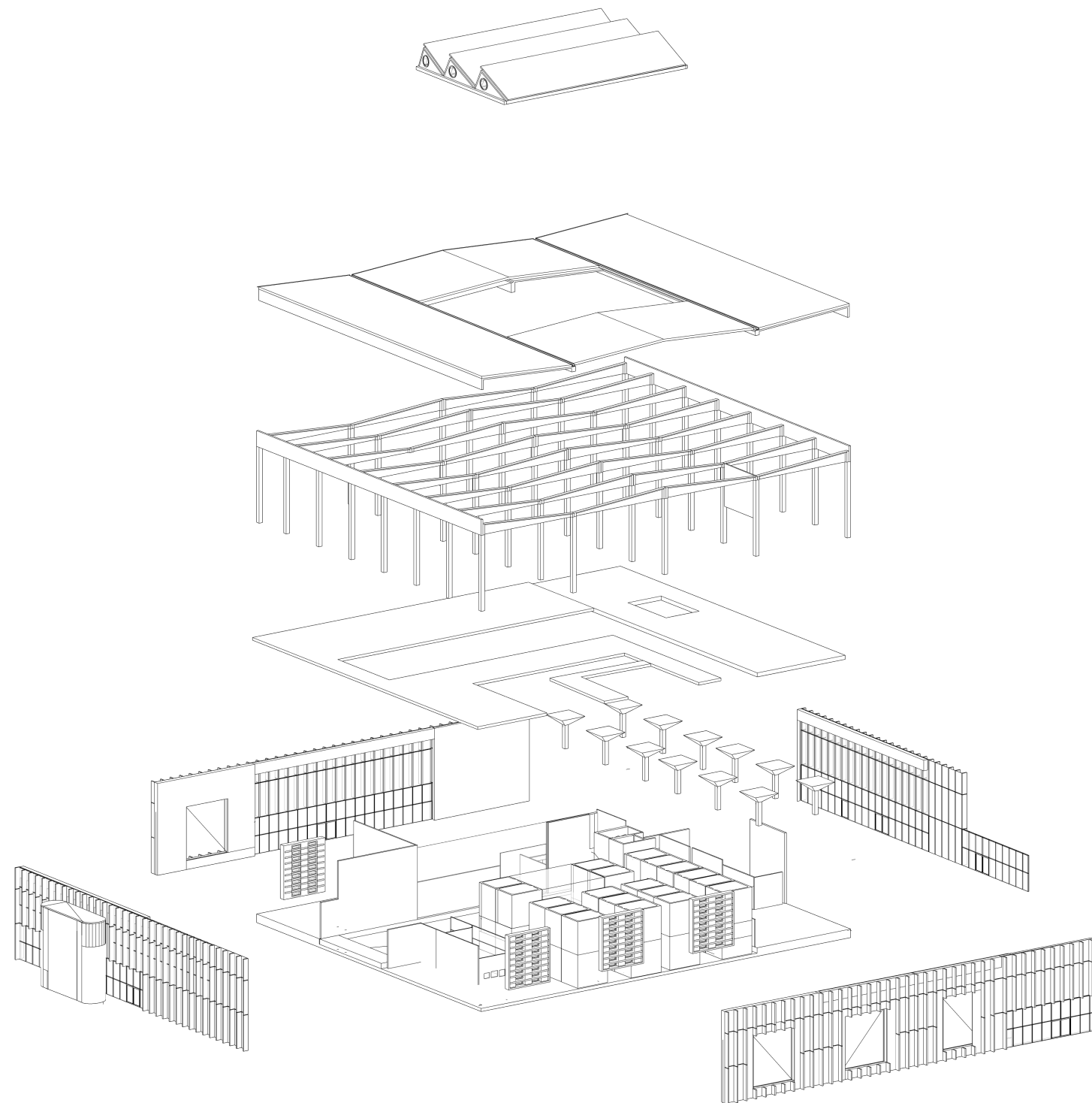
M 1:300

Bc. Michal Grác

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|--------------------------------|----------------------------|--|
| 01. Winemaking history gallery | 05. Office | 09. Cryopreservation of genetic material |
| 02. Auditorium | 06. Archive | 10. Climate change simulation |
| 03. Restrooms | 07. Hygiene & Locker rooms | 11. Wine cellars |
| 04. Winery staff facilities | 08. Enology Lab | |



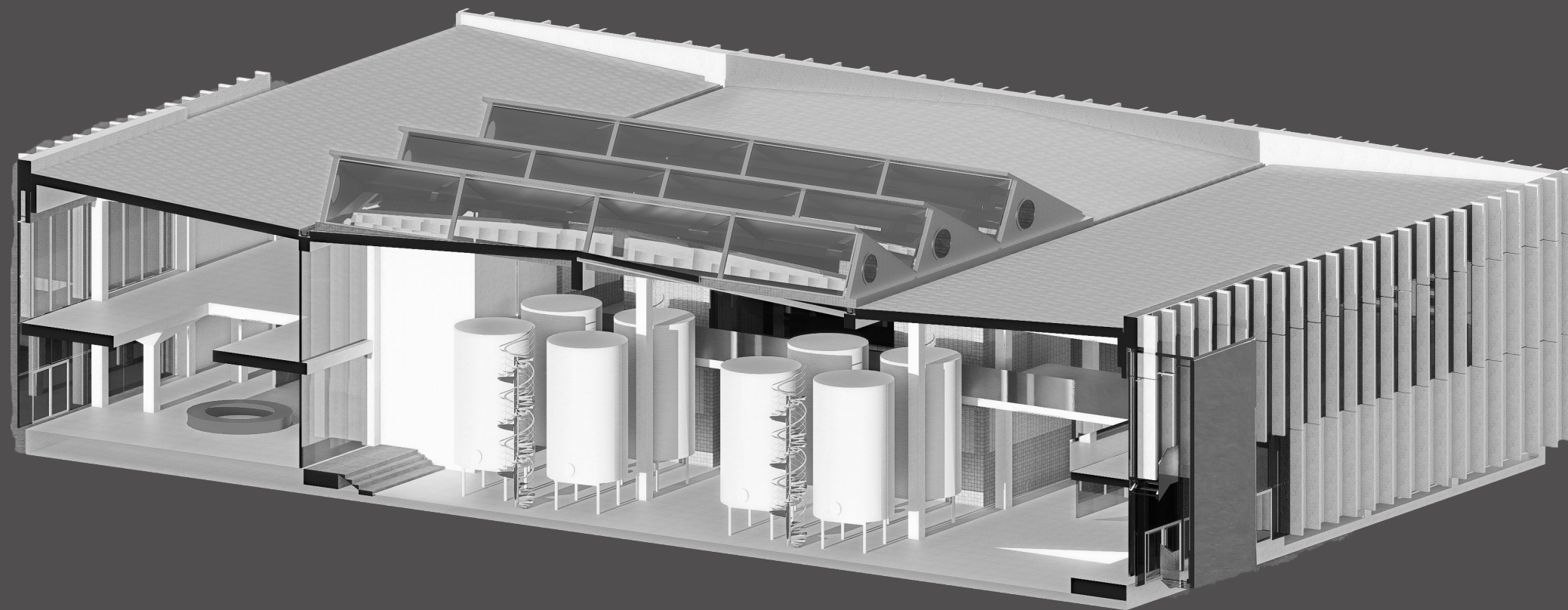
Winery_1st floor

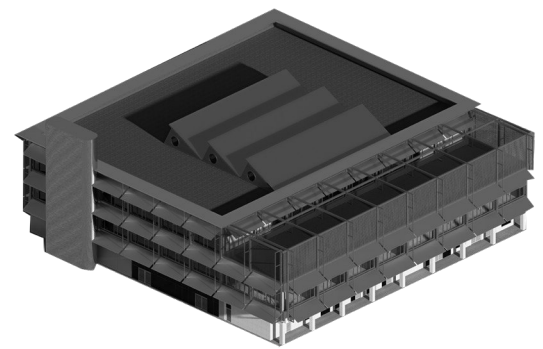
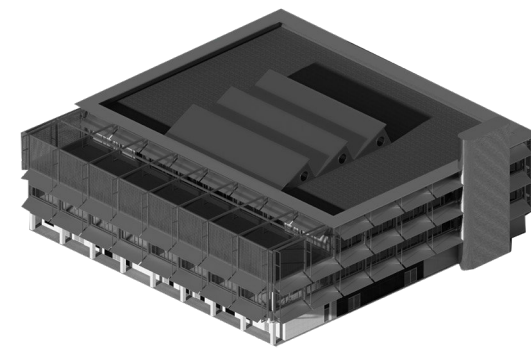
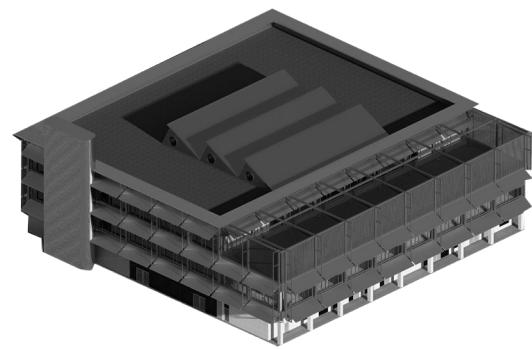
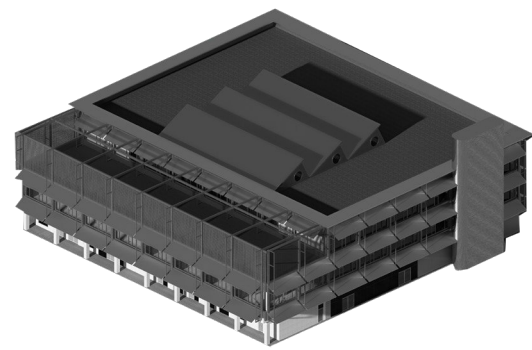
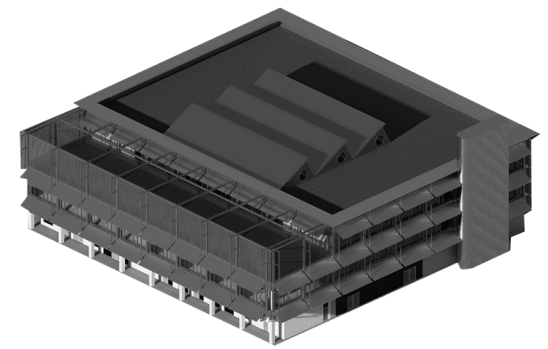
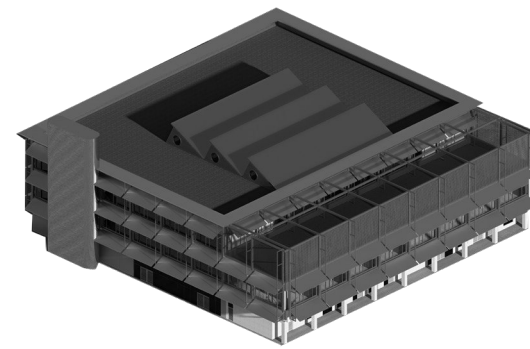
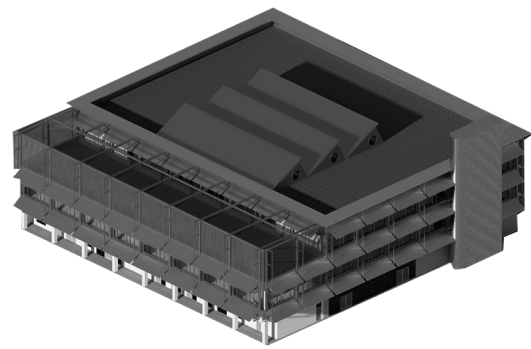
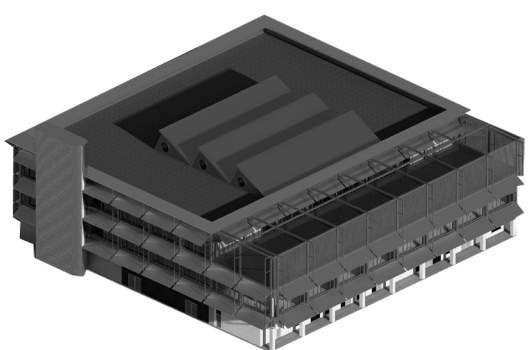
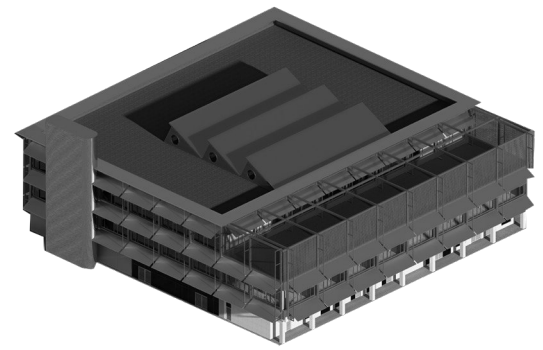
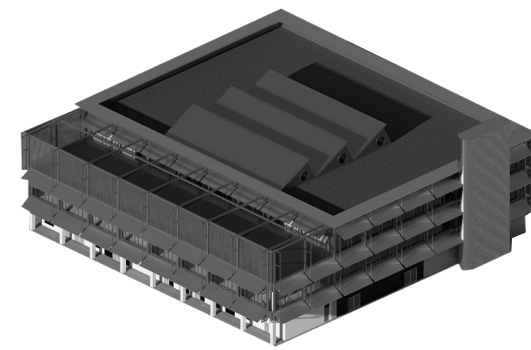
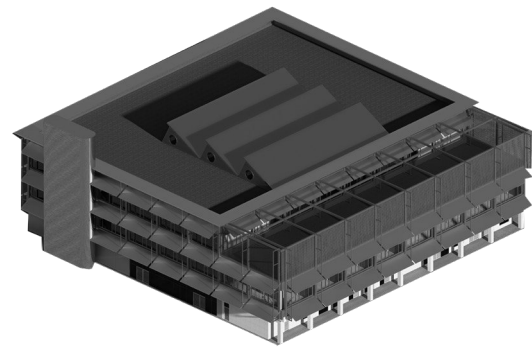
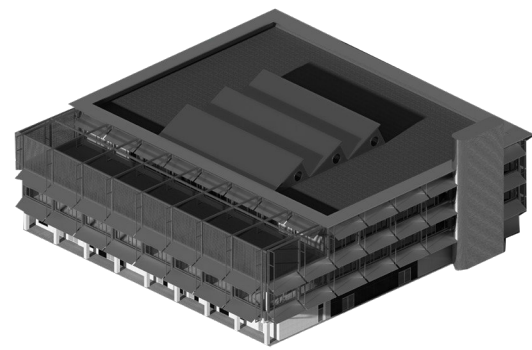


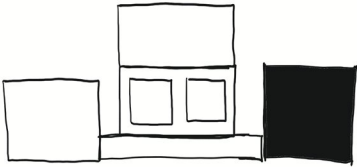
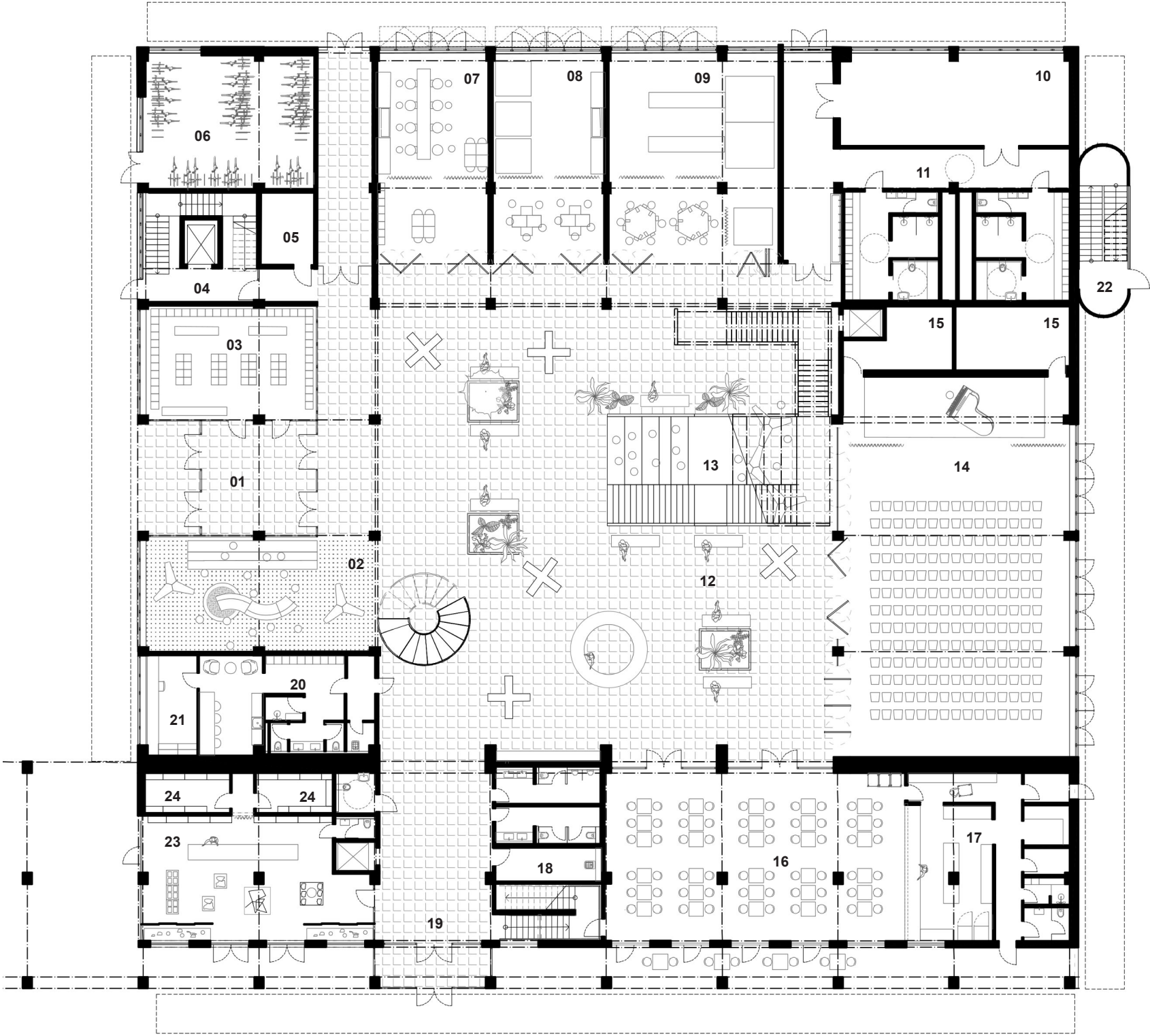










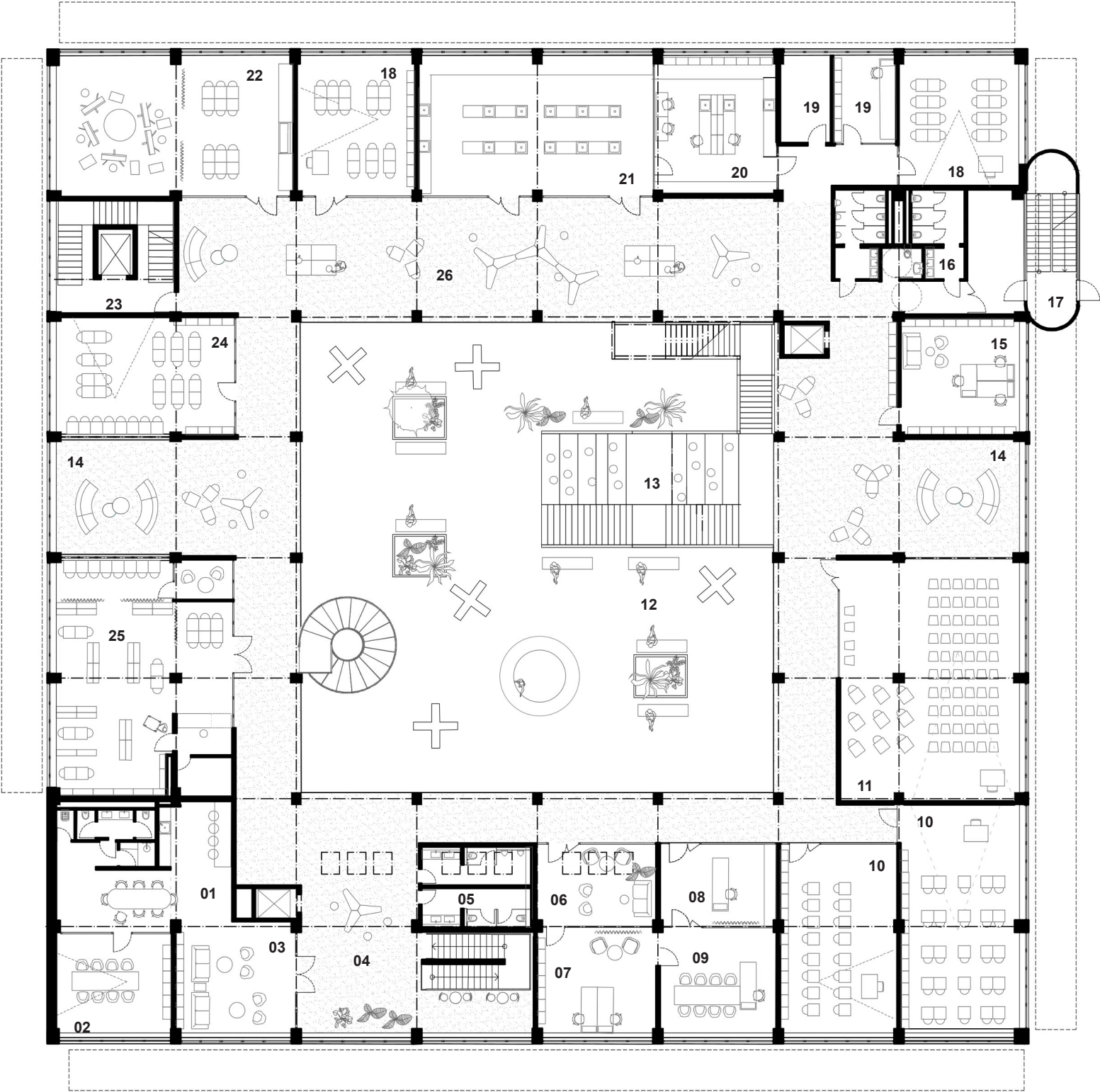


M 1:300

Bc. Michal Grác

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|------------------------------|--------------------------|--------------------------|--------------------------------|-------------------------------|---------------------------|
| 01. Main Entrance - students | 05. Storage | 09. Woodworking workshop | 13. Seating staircase | 17. Food preparation | 21. Reception |
| 02. Chill-out area | 06. Bike room | 10. Workshop storage | 14. Multi-purpose hall | 18. Restrooms & janitor | 22. Emergency staircase |
| 03. Cloakrooms | 07. Ceramics workshop | 11. Workshop locker room | 15. Multi-purpose hall storage | 19. Entrance - staff & public | 23. Design shop |
| 04. Emergency staircase | 08. Glassmaking workshop | 12. Central hall | 16. Canteen | 20. Maintenance Staff | 24. Design shop - storage |

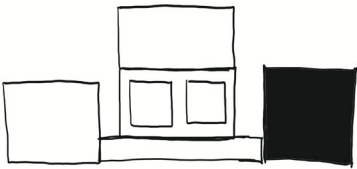
SAA_ground floor



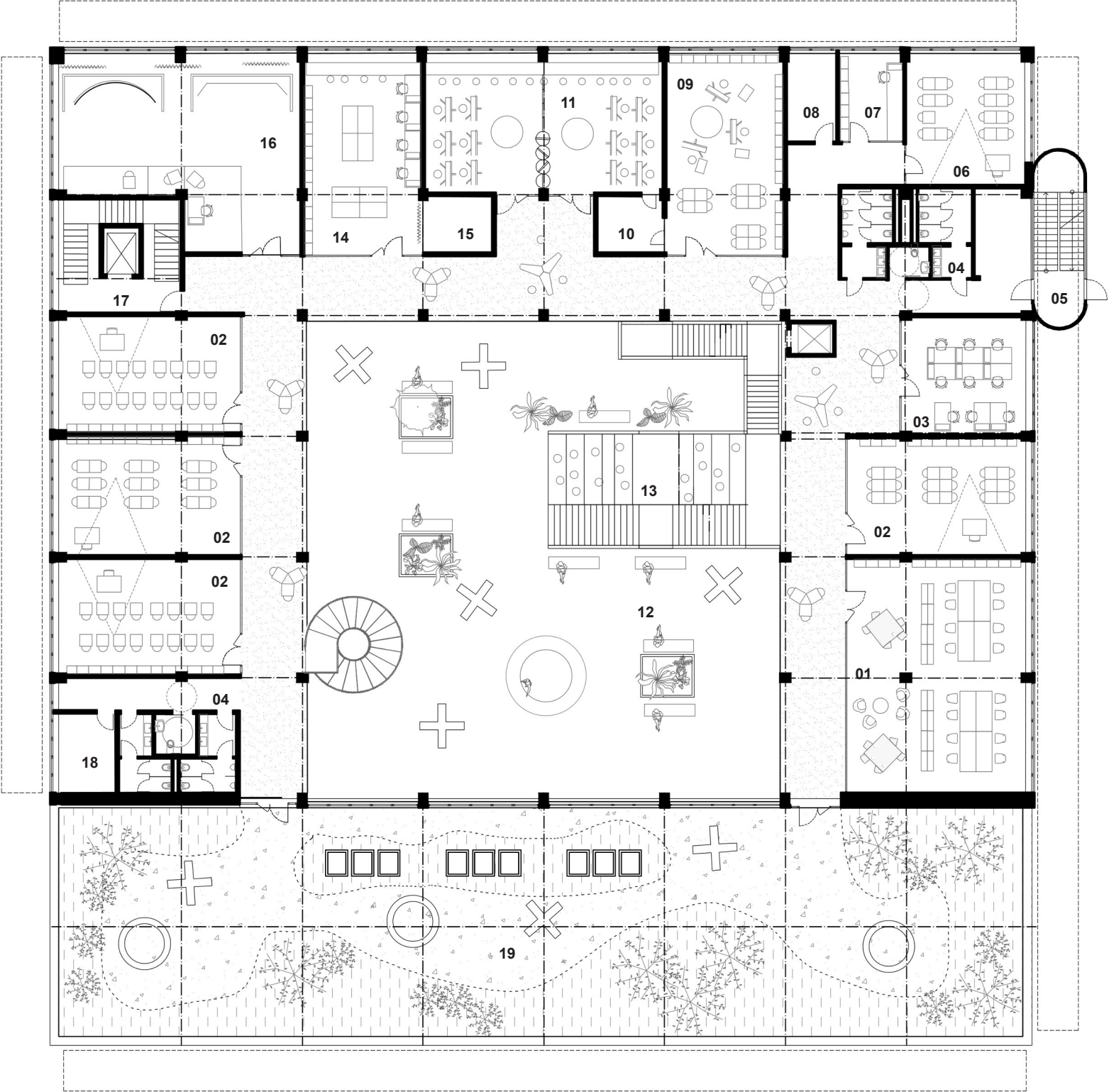
M 1:300

Bc. Michal Grác

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|---------------------------|-----------------------------------|---------------------------|-----------------------|-------------------------|--|-------------------------|
| 01. Academic staff lounge | 05. Restrooms | 08. Administration Office | 12. Central hall | 16. Restrooms | 20. Lab | 23. Emergency staircase |
| 02. Meeting room | 06. Deputy principal Waiting room | 09. Principal office | 13. Seating staircase | 17. Emergency staircase | 21. Experimental Lab physics - chemistry - materials | 24. Study room |
| 03. Chill-out Area | 07. Deputy principal Offices | 10. Classroom | 14. Chill-out Area | 18. Language classroom | 22. Painting studio | 25. Library |
| 04. Ante-room | | 11. Seminar room | 15. Cabinet | 19. Cabinet | | 26. Social corridor |



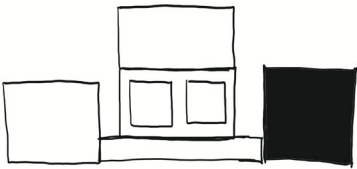
SAA_1st floor



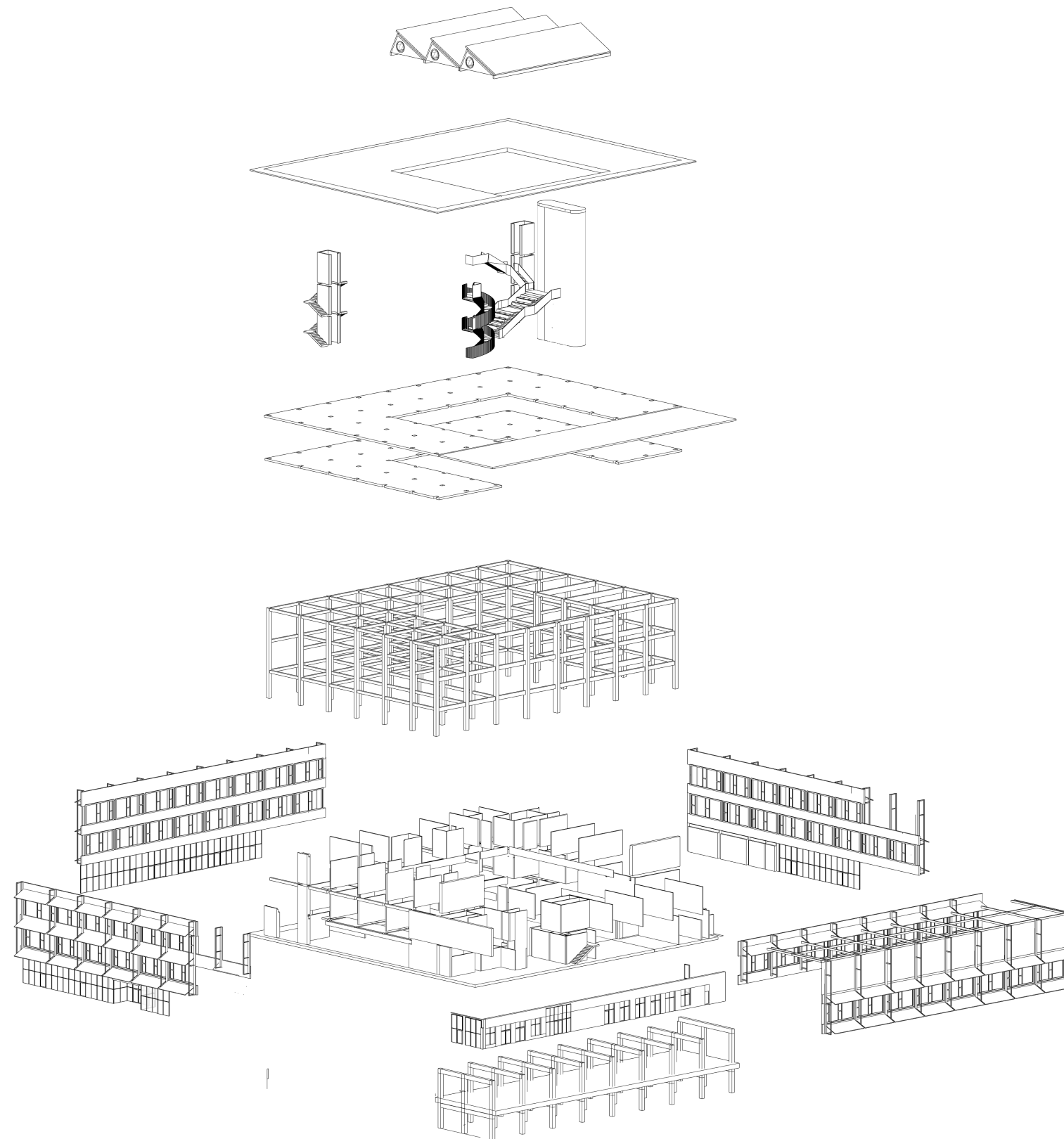
M 1:300

Bc. Michal Grác

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|---------------------------|------------------------|-----------------------------|------------------------------|---------------------------|
| 01. Graphic design studio | 05. | 09. Applied painting studio | 13. Seating staircase | 17. Emergency staircase |
| 02. Classroom | 06. Language classroom | 10. Storage | 14. Screen printing workshop | 18. Janitor |
| 03. Computer lab | 07. Cabinet | 11. Drawing studio | 15. Storage | 19. Accessible green roof |
| 04. Restrooms | 08. Storage | 12. Central hall | 16. Photo & video studio | |



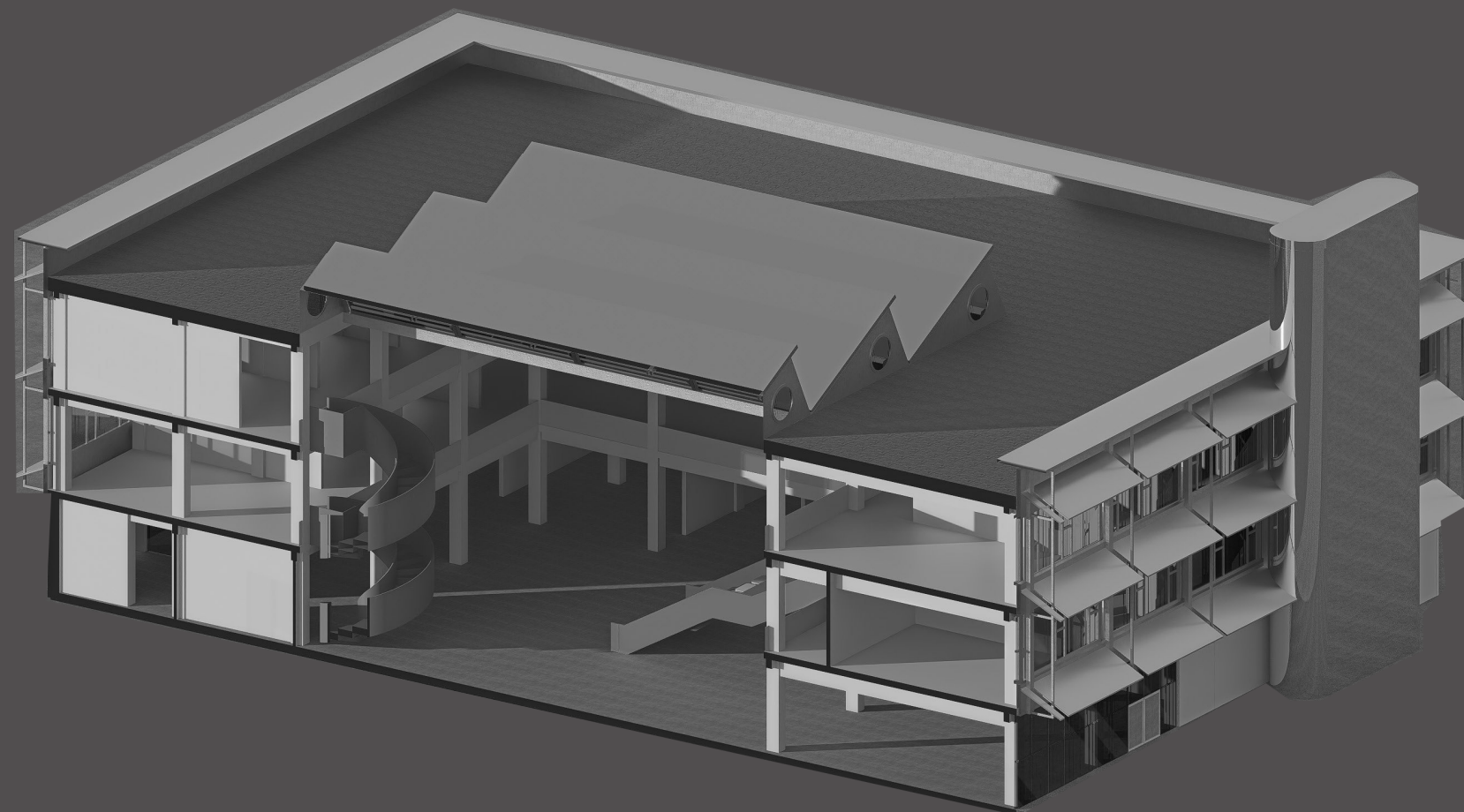
SAA_2nd floor

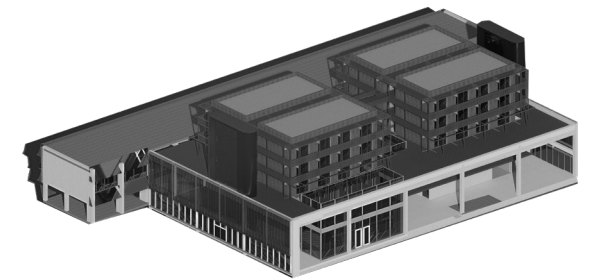
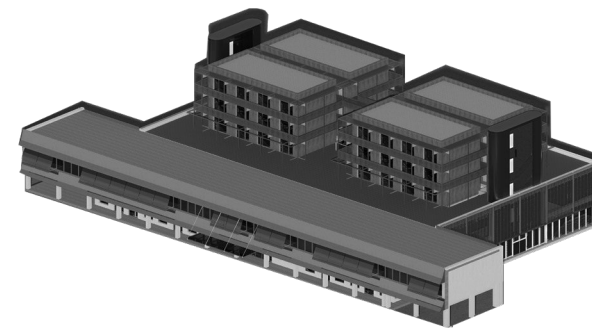
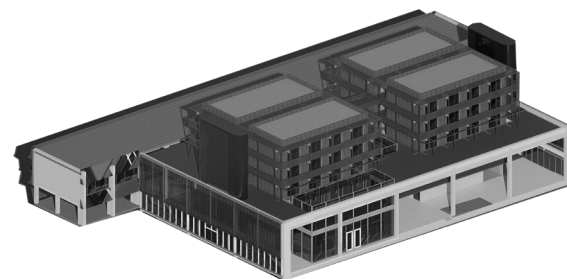
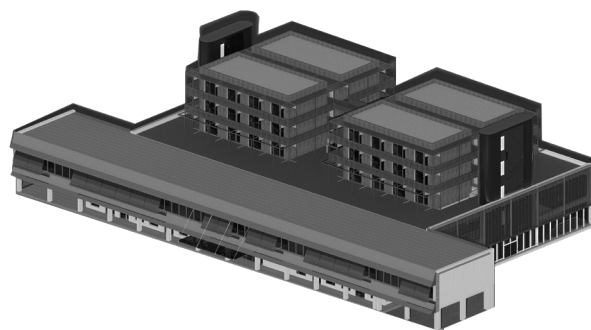
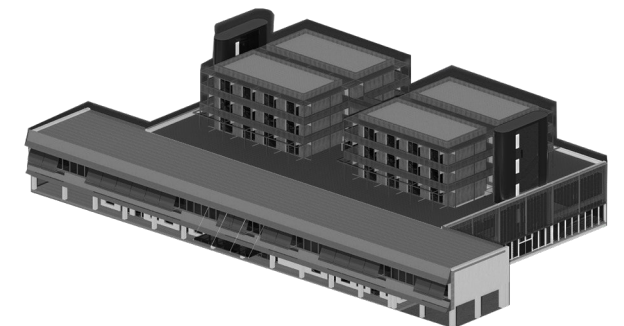
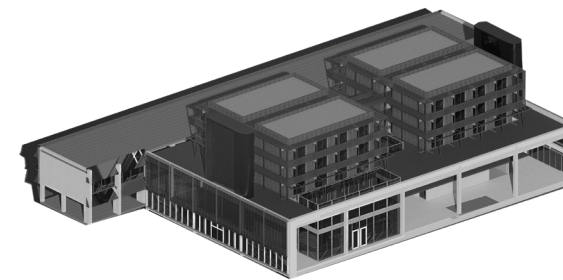
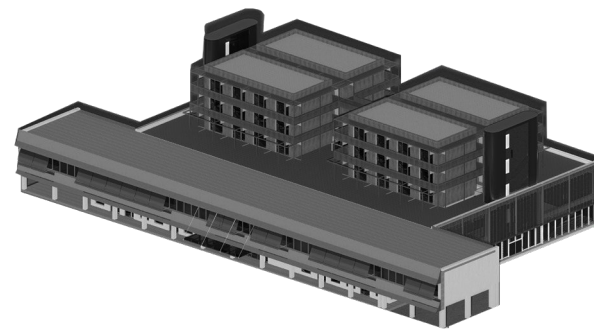
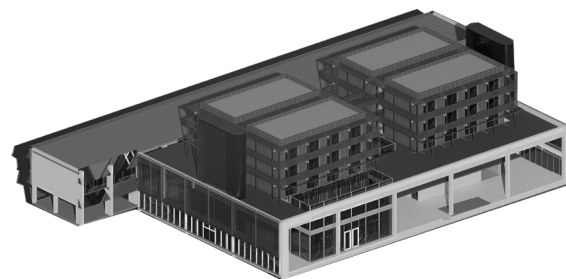
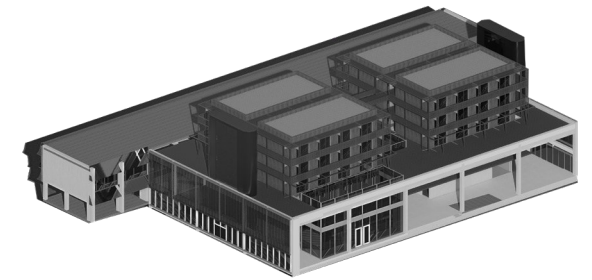
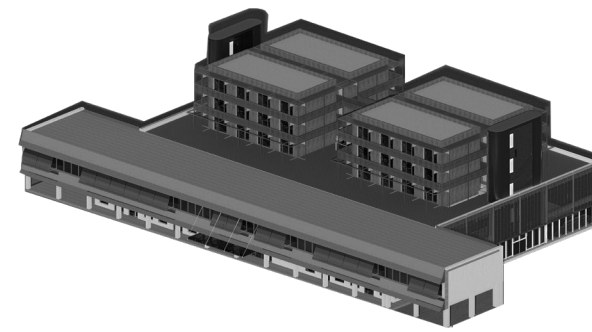
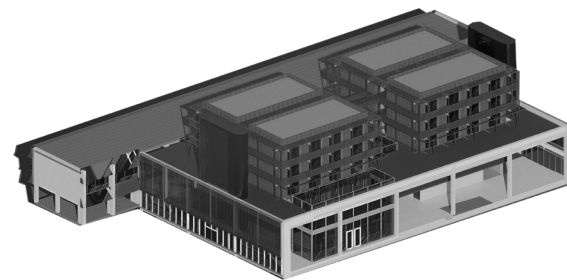
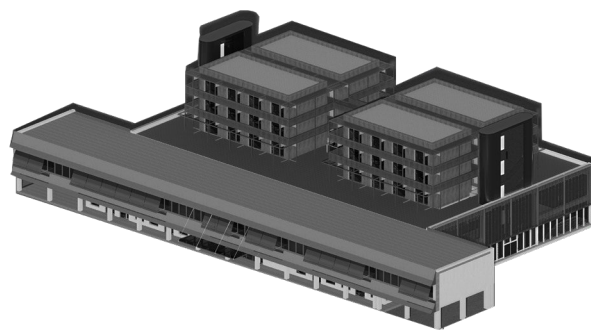


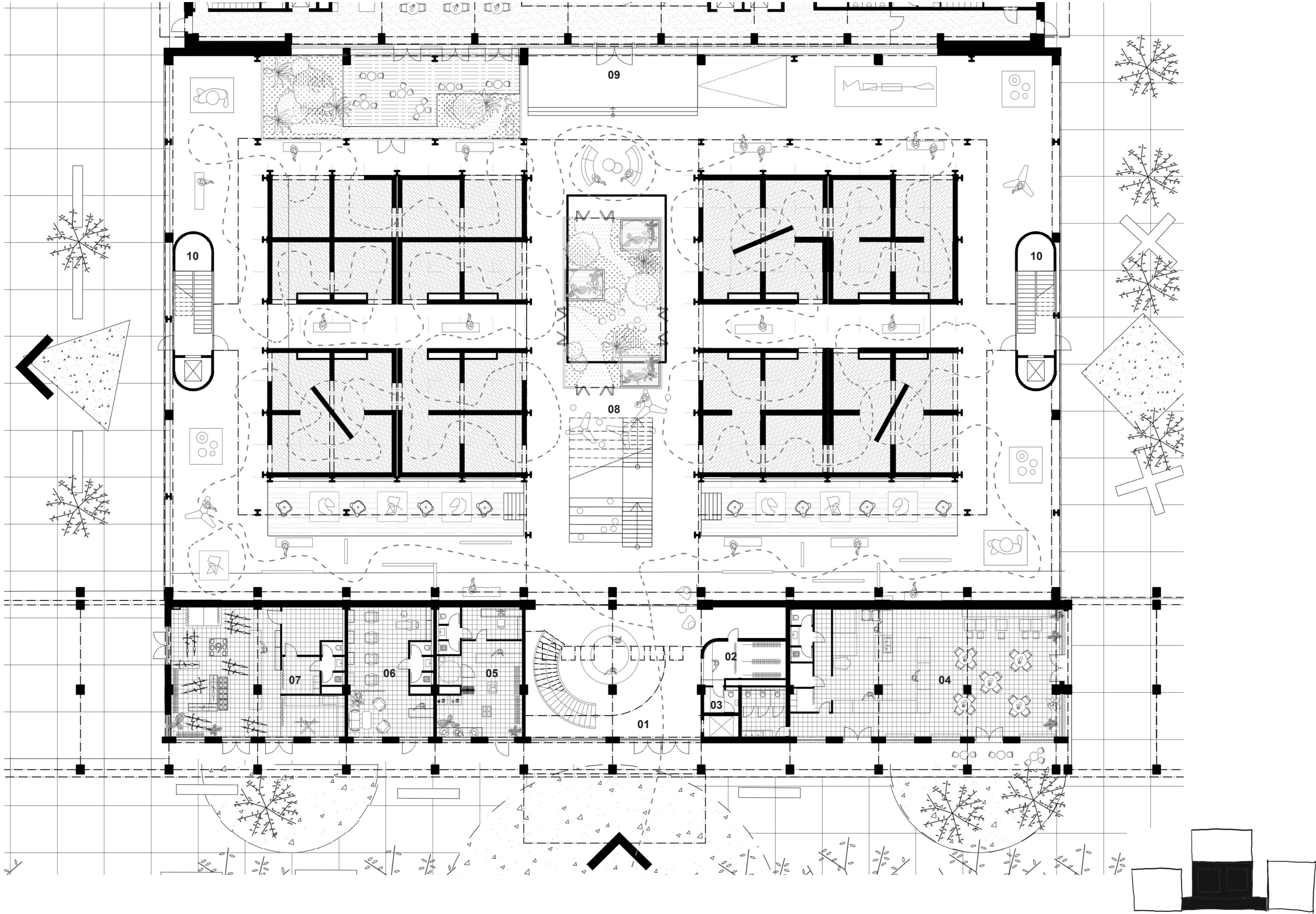












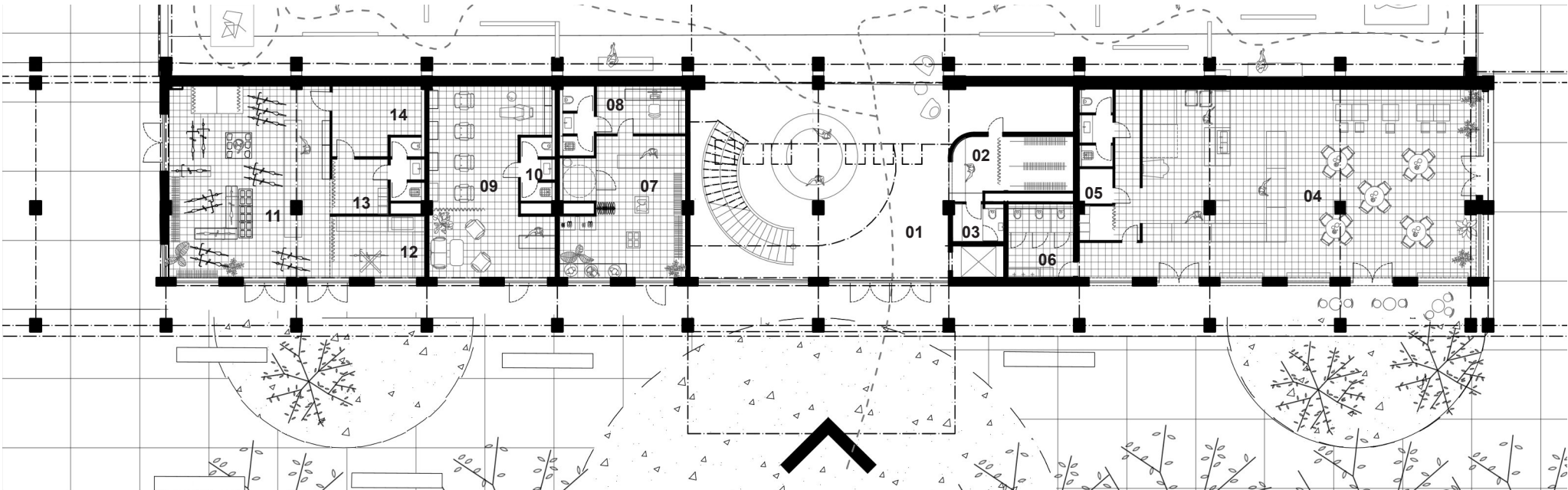
M 1:300

Bc. Michal Grác

- 01. Foyer
- 02. Cloakroom
- 03. Staff
- 04. Bakery
- 05. Boutique
- 06. Salon
- 07. Bike point
- 08. Main exhibition space
- 09. Event hall entrance
- 10. Circulation core

Gallery_retails_ground floor

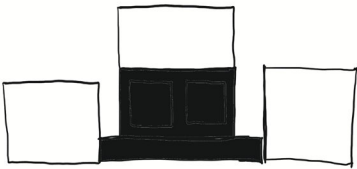




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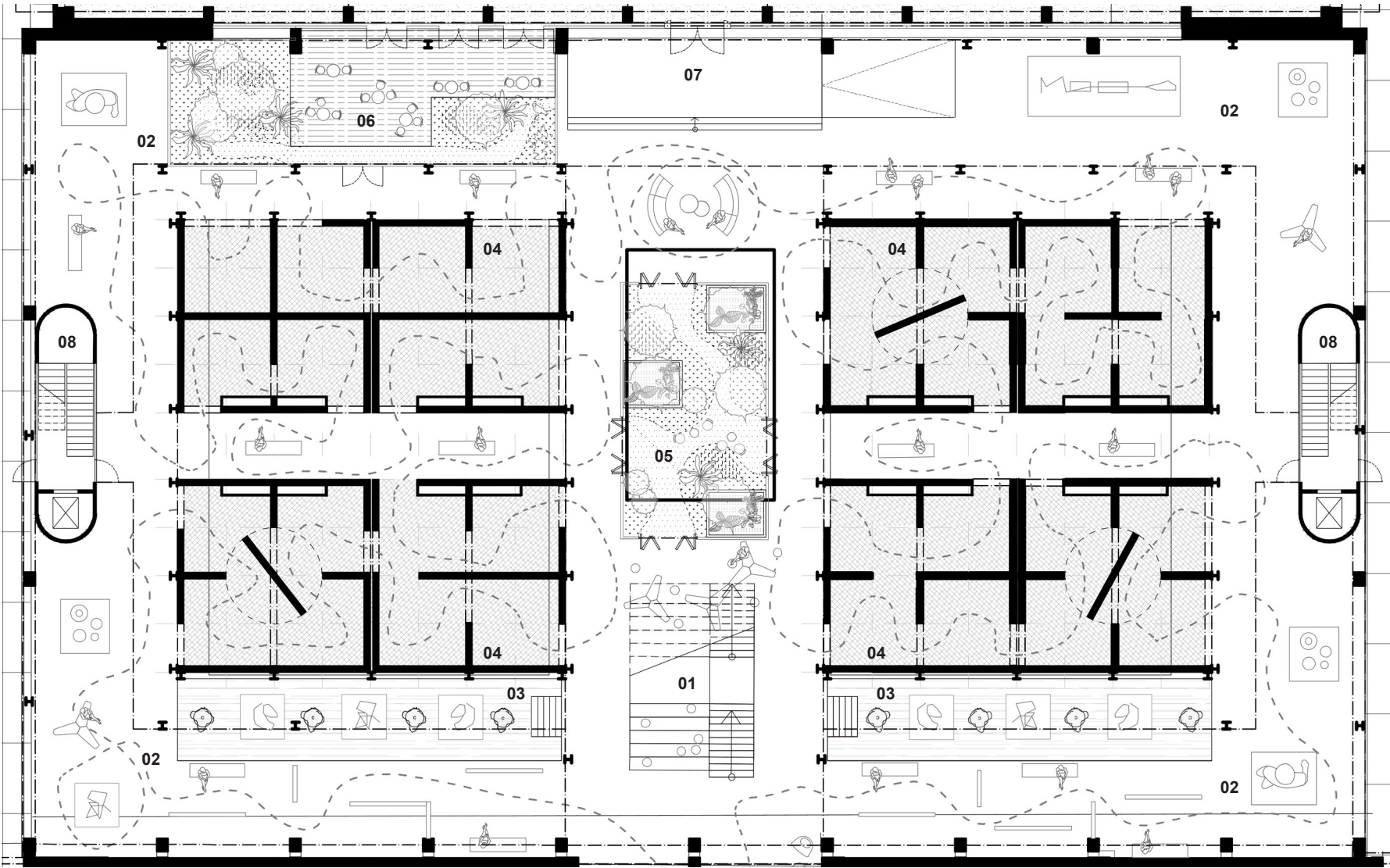
Bc. Michal Grác

- | | | | |
|---------------|------------------------|------------------------------|--------------------------|
| 01. Foyer | 05. Bakery- staff | 09. Salon | 13. Bike point - staff |
| 02. Cloakroom | 06. Bakery - restrooms | 10. Salon -.restrooms | 14. Bike point - storage |
| 03. Staff | 07. Boutique | 11. Bike point | |
| 04. Bakery | 08. Boutique - staff | 12. Bike Point - repair shop | |



Retails_ground floor

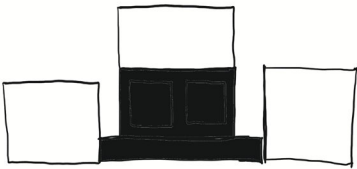




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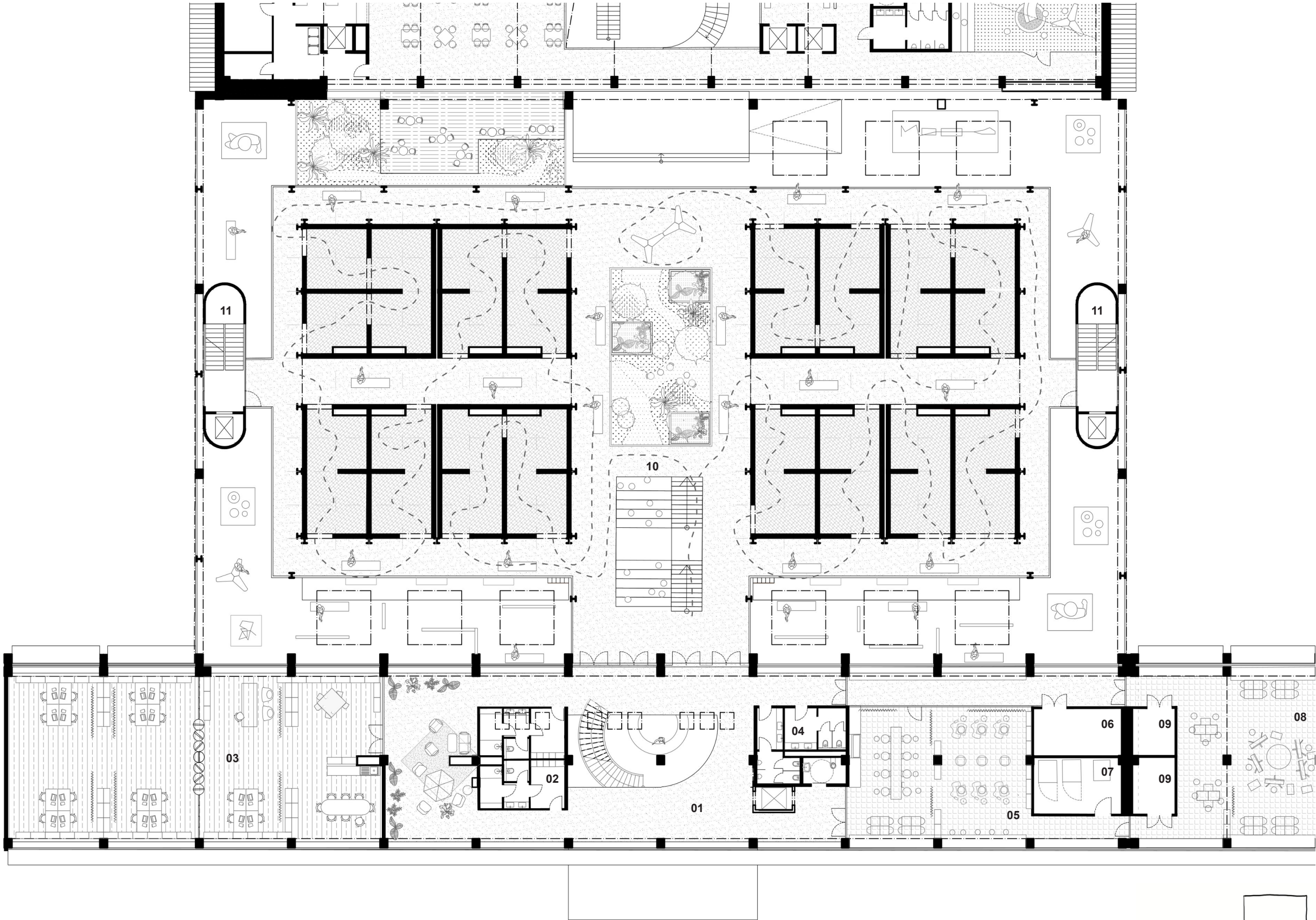
Bc. Michal Grác

- 01. Seating staircase
- 02. Large-scale exhibitions
- 03. Water features
- 04. In-Tanks galleries
- 05. Atrium
- 06. Atrium with Terrace
- 07. Event hall entrance
- 08. Circulation core



Gallery_ground floor





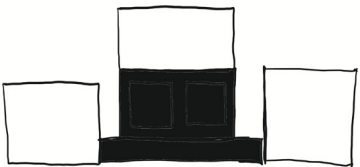
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Bc. Michal Grác

- 01. Hall
- 02. Restrooms - artists
- 03. Design Studios
- 04. Restrooms - workshops

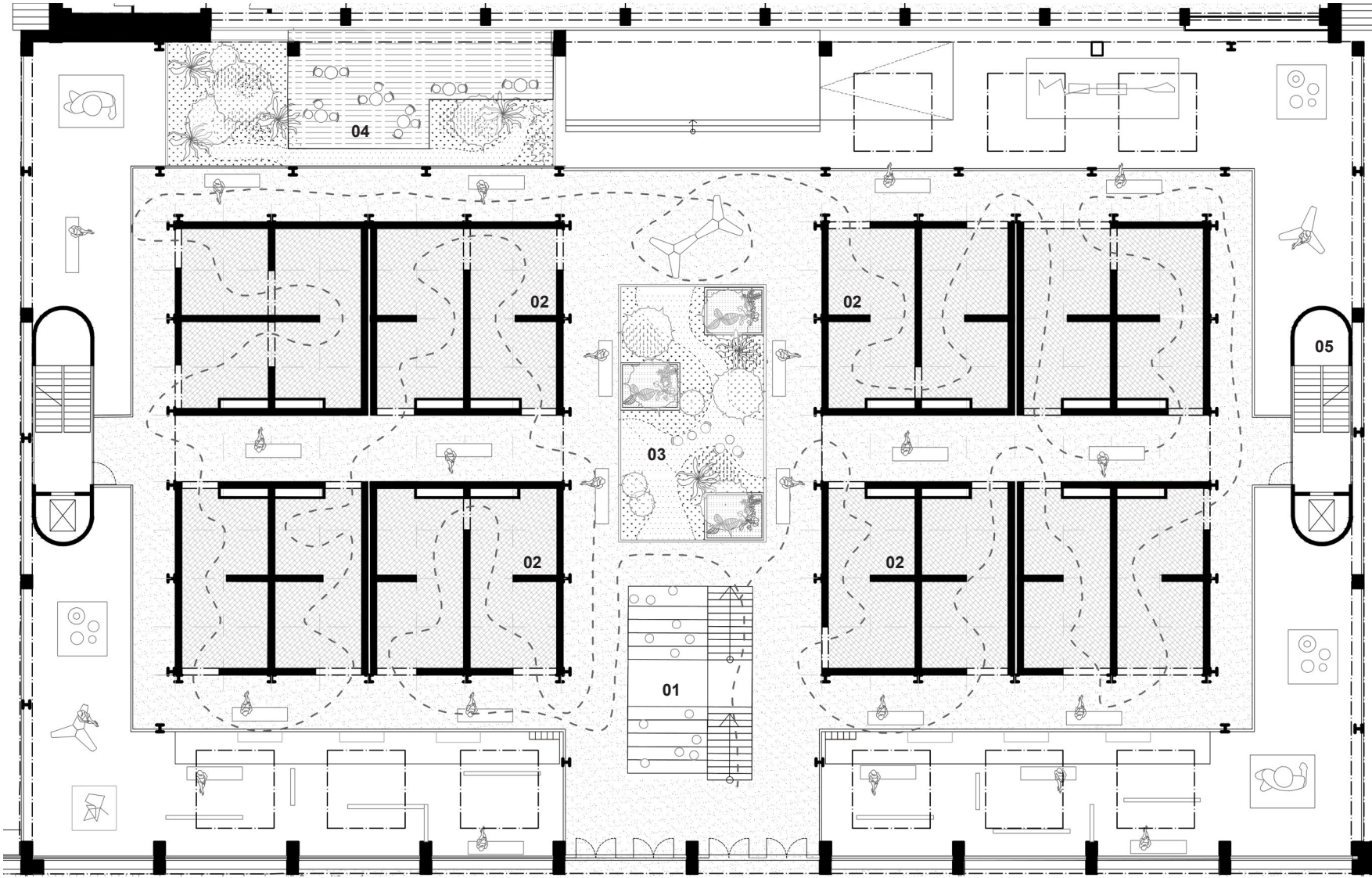
- 05. Pottery studio
- 06. Storage
- 07. Kiln room
- 08. Painting studio

- 09. Storage
- 10. Main gallery
- 11. Circulation core



Gallery_studios_1st floor

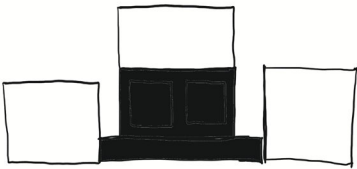




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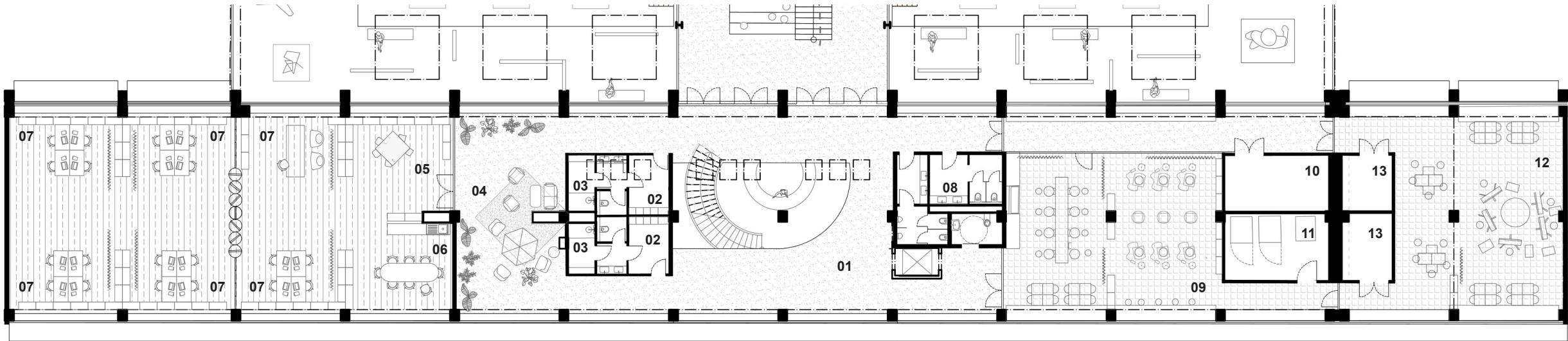
Bc. Michal Grác

- 01. Seating staircase
- 02. In-Tanks galleries
- 03. Atrium
- 04. Atrium with terrace
- 05. Circulation core



Gallery_1st floor





M 1:300

Bc. Michal Grác

01. Hall

02. Cloakrooms - artists

03. Restrooms- umelci

04. Chill-out area
05. Client's meeting room

06. Kitchen

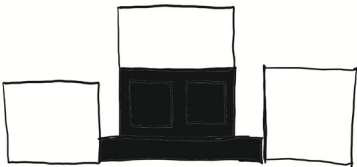
07. Design studios

08. Restrooms - workshops
09. Pottery studio

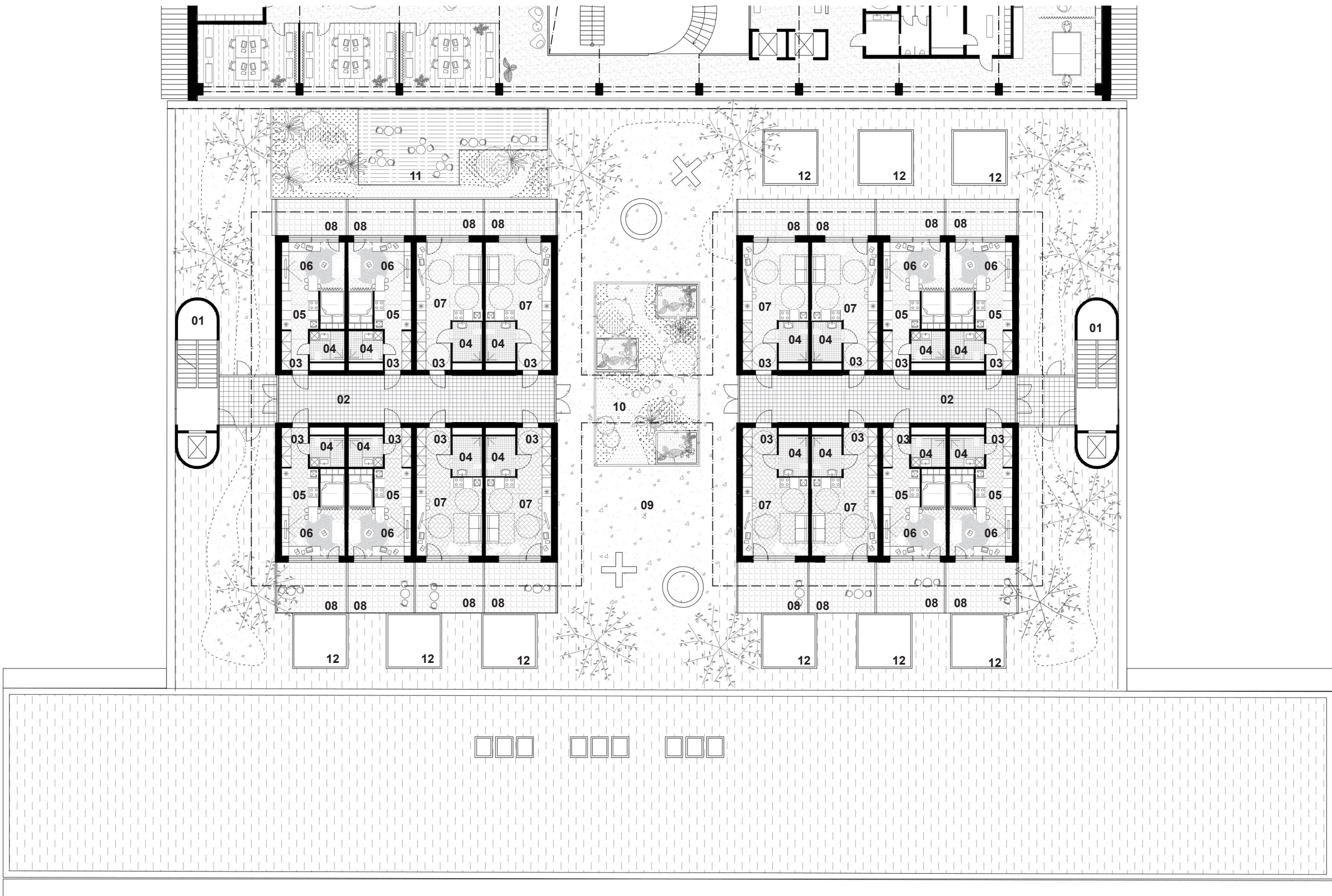
10. Storage

11. Kiln room

12. Painting studio
13. Storage



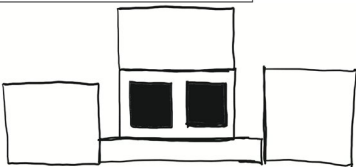
Retails_1st floor



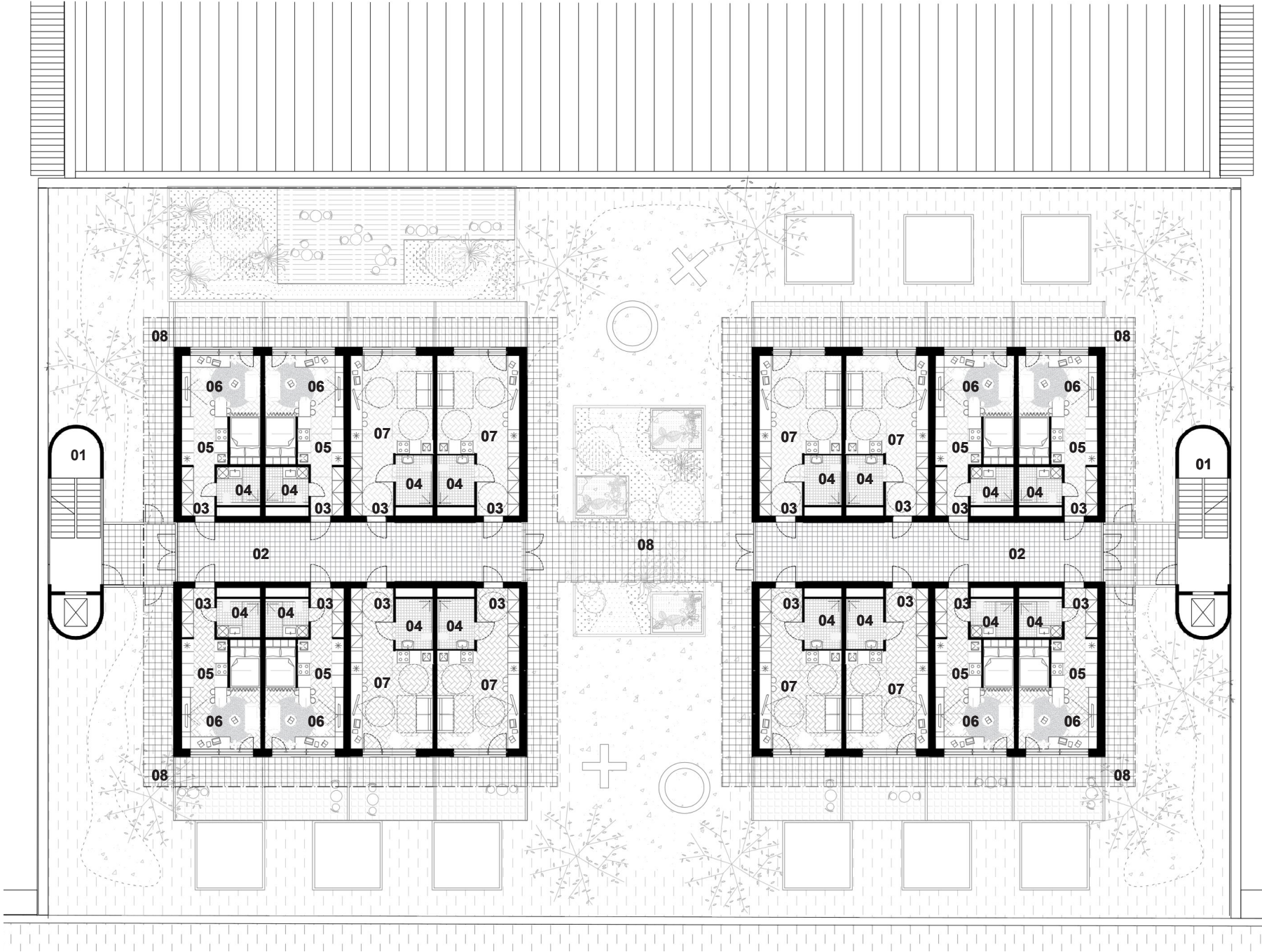
M 1:300

Bc. Michal Grác

- 01. Circualtion Core
- 02. Corridor
- 03. Entrance
- 04. Bathroom
- 05. Kitchen
- 06. Livingroom
- 07. Open plan living & kitchen
- 08. Terrace
- 09. Accessible green roof
- 10. Atrium
- 11. Atrium with terrace
- 12. Skylights



Guest houses_2nd floor

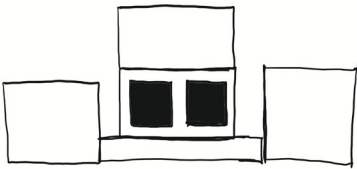


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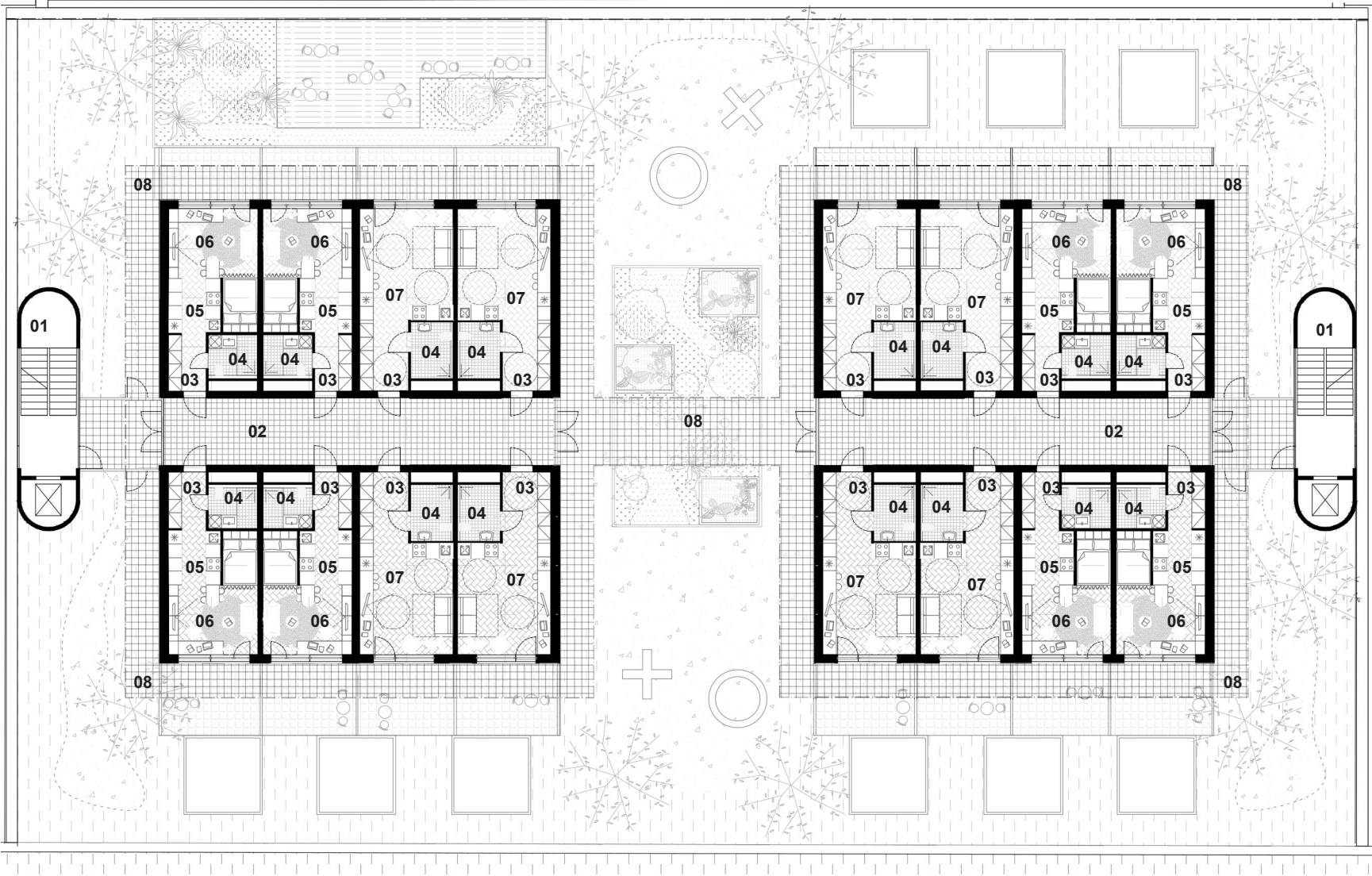
Bc. Michal Grác

- 01. Circulation core
- 02. Corridor
- 03. Entrance
- 04. Bathroom

- 05. Kitchen
- 06. Living room
- 07. Open plan living & kitchen
- 08. Exterior Corridor



Guest houses_3rd floor

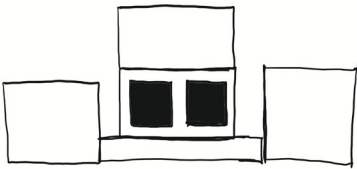


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Bc. Michal Grác

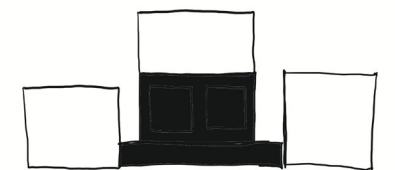
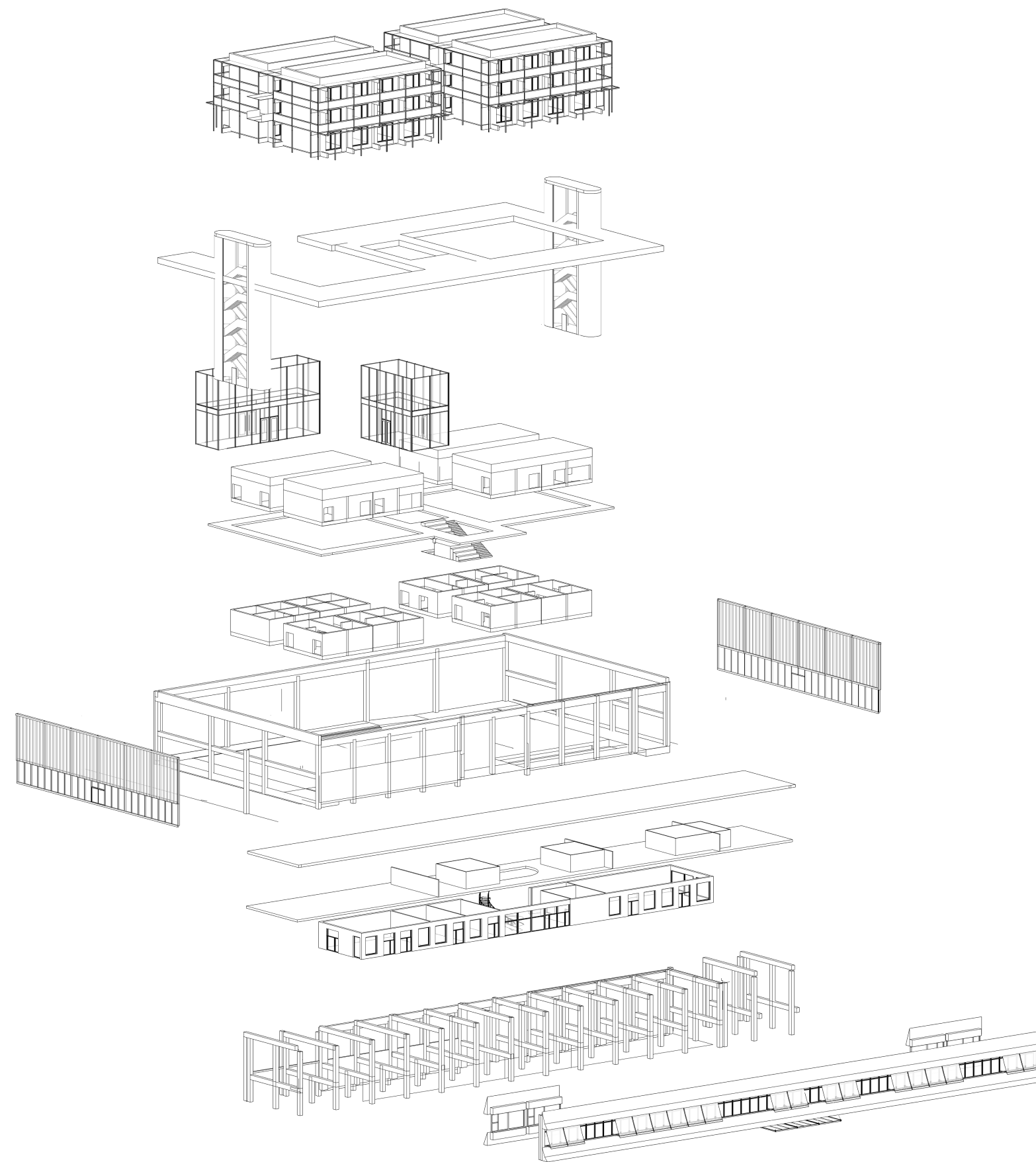
- 01. Circulation core
- 02. Corridor
- 03. Entrance
- 04. Bathroom

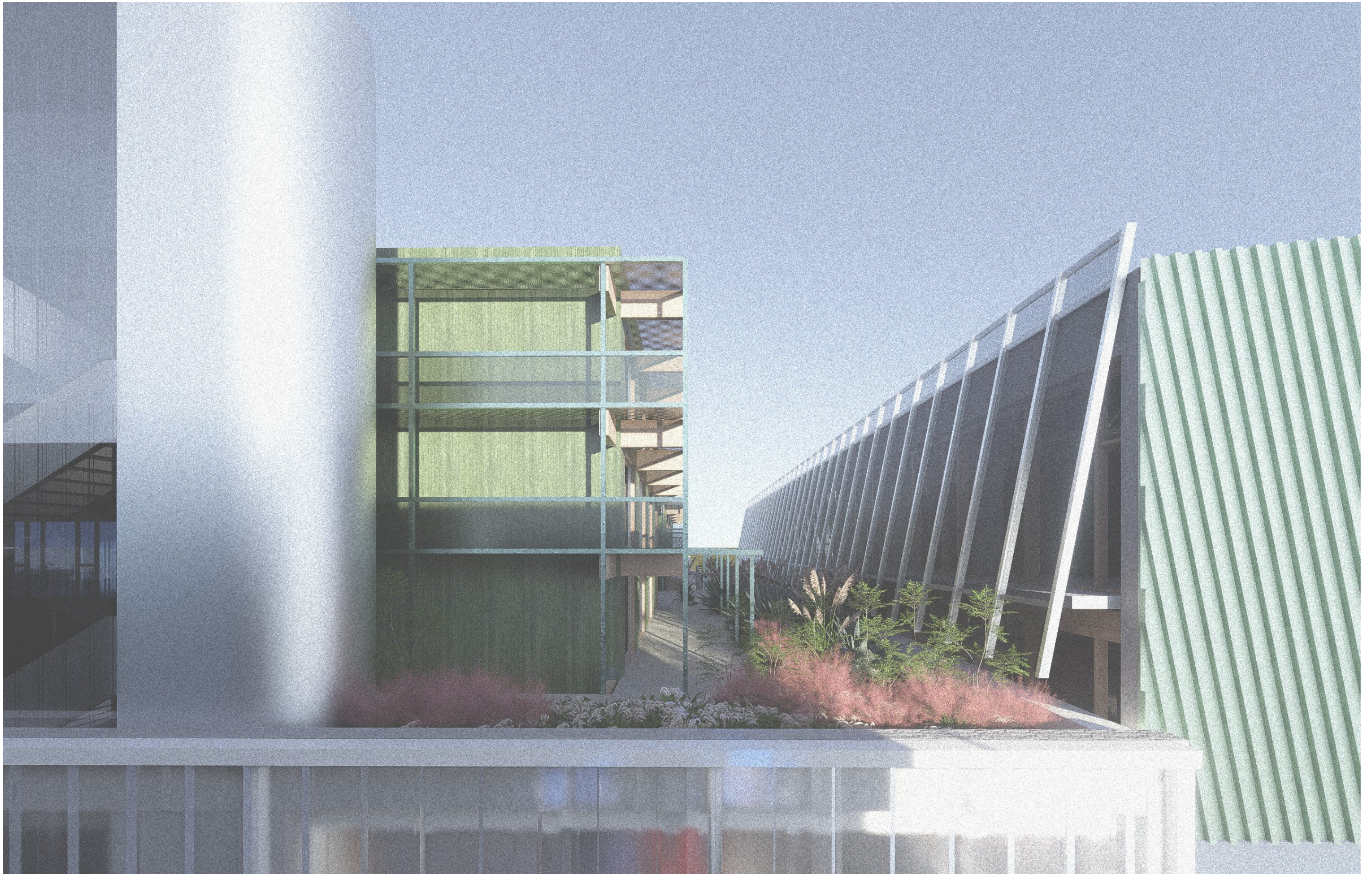
- 05. Kitchen
- 06. Living room
- 07. Open plan living & kitchen
- 08. Exterior Corridor



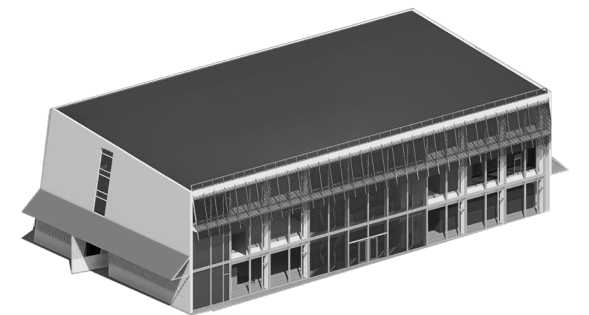
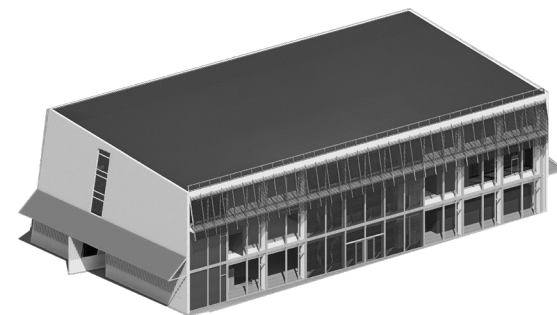
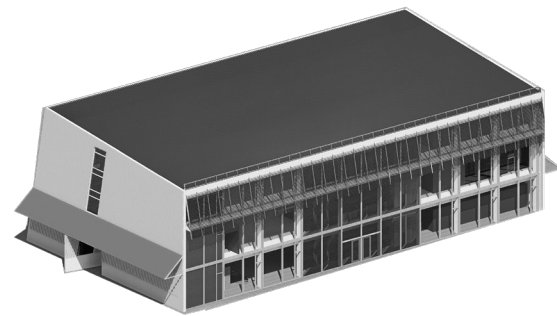
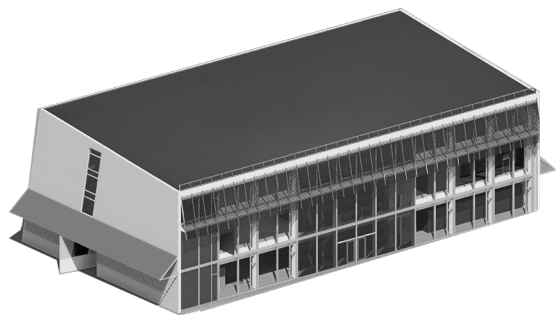
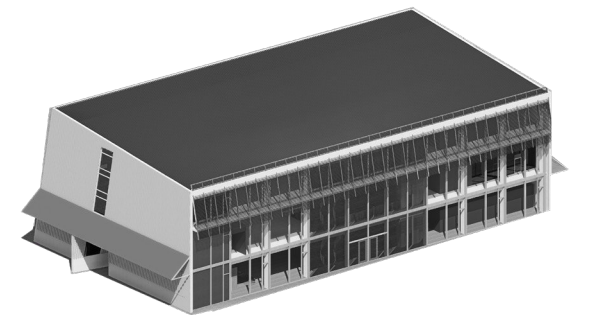
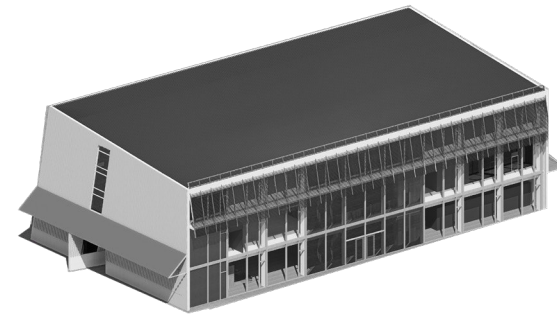
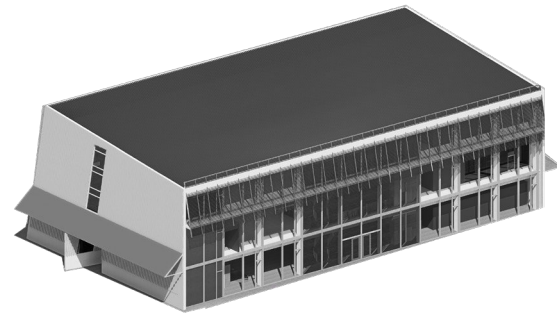
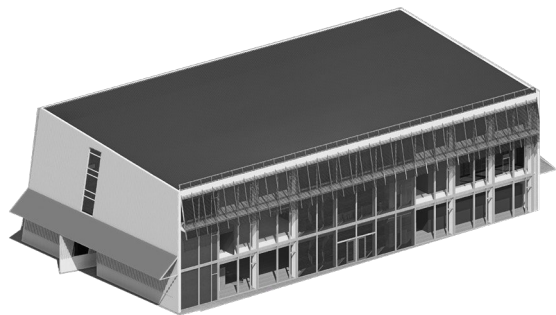
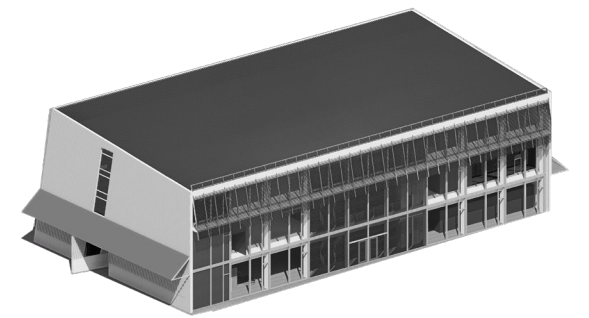
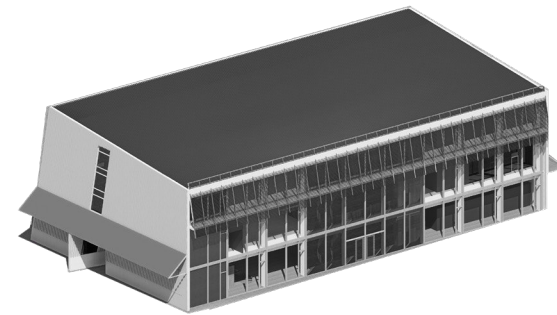
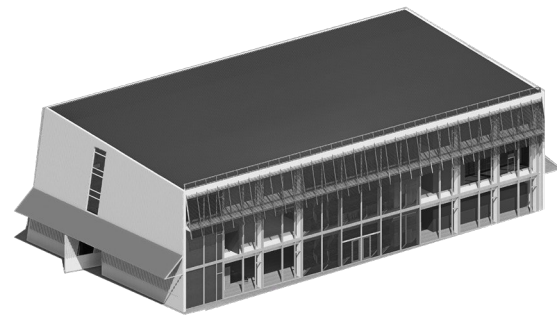
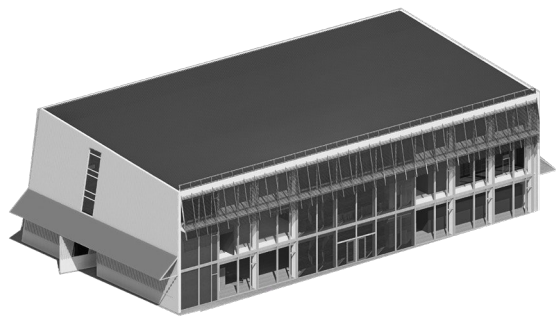
Guest houses_4th floor

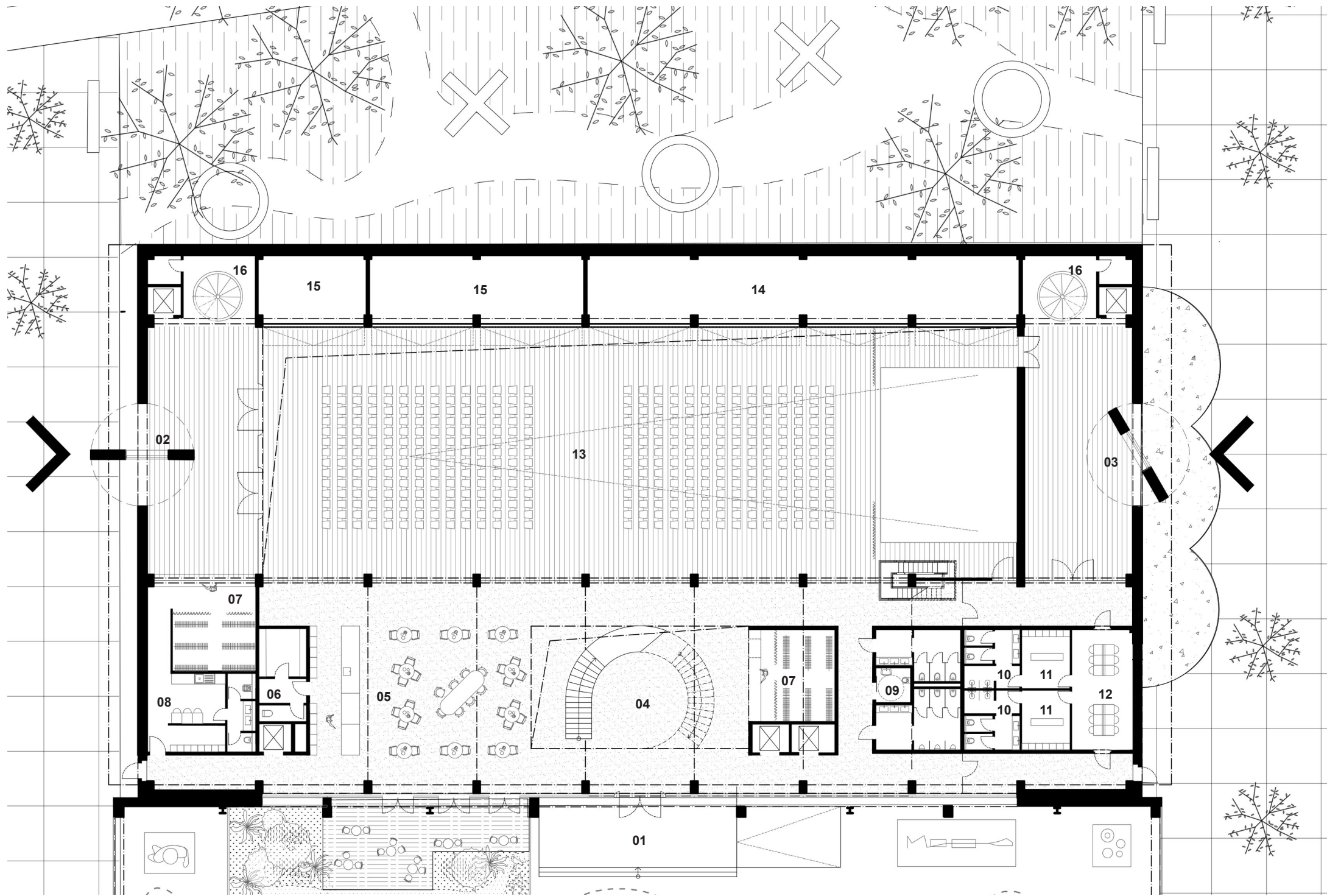












M 1:300

Bc. Michal Grác

01. Entrance

02. Exterior entrance

03. Entrance - performers

04. Foyer
05. Cafetéria

06. Cafeteria support

07. Cloakrooms

08. Staff
09. Restrooms - visitors

10. Restrooms - performers

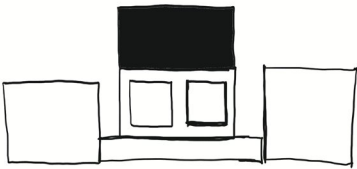
11. Lock rooms - performers

12. Dressing & makeup room
13. Event hall

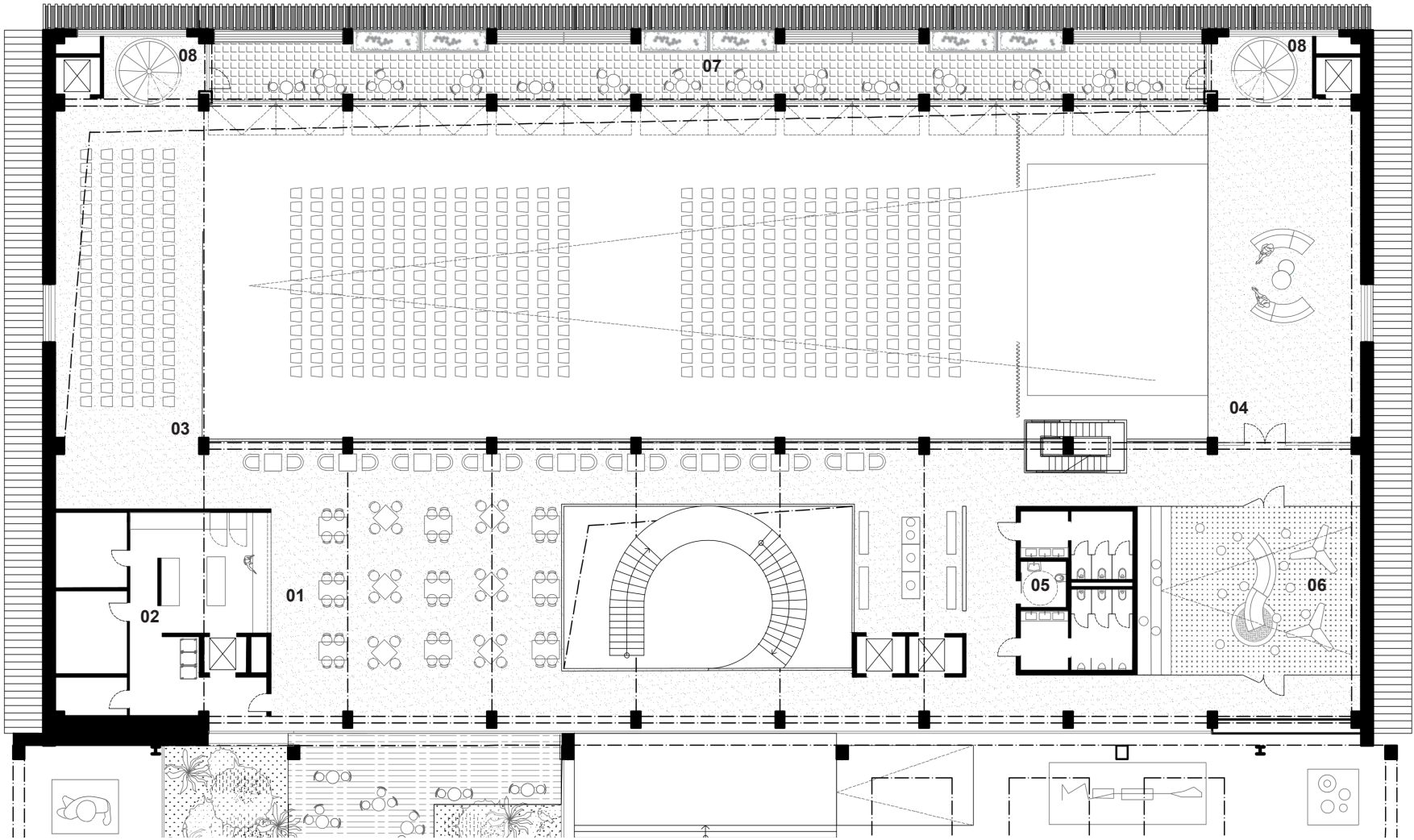
14. Backstage

15. Storage

16. Circulation core



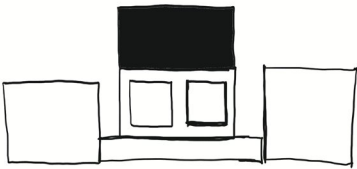
Event hall_ground floor



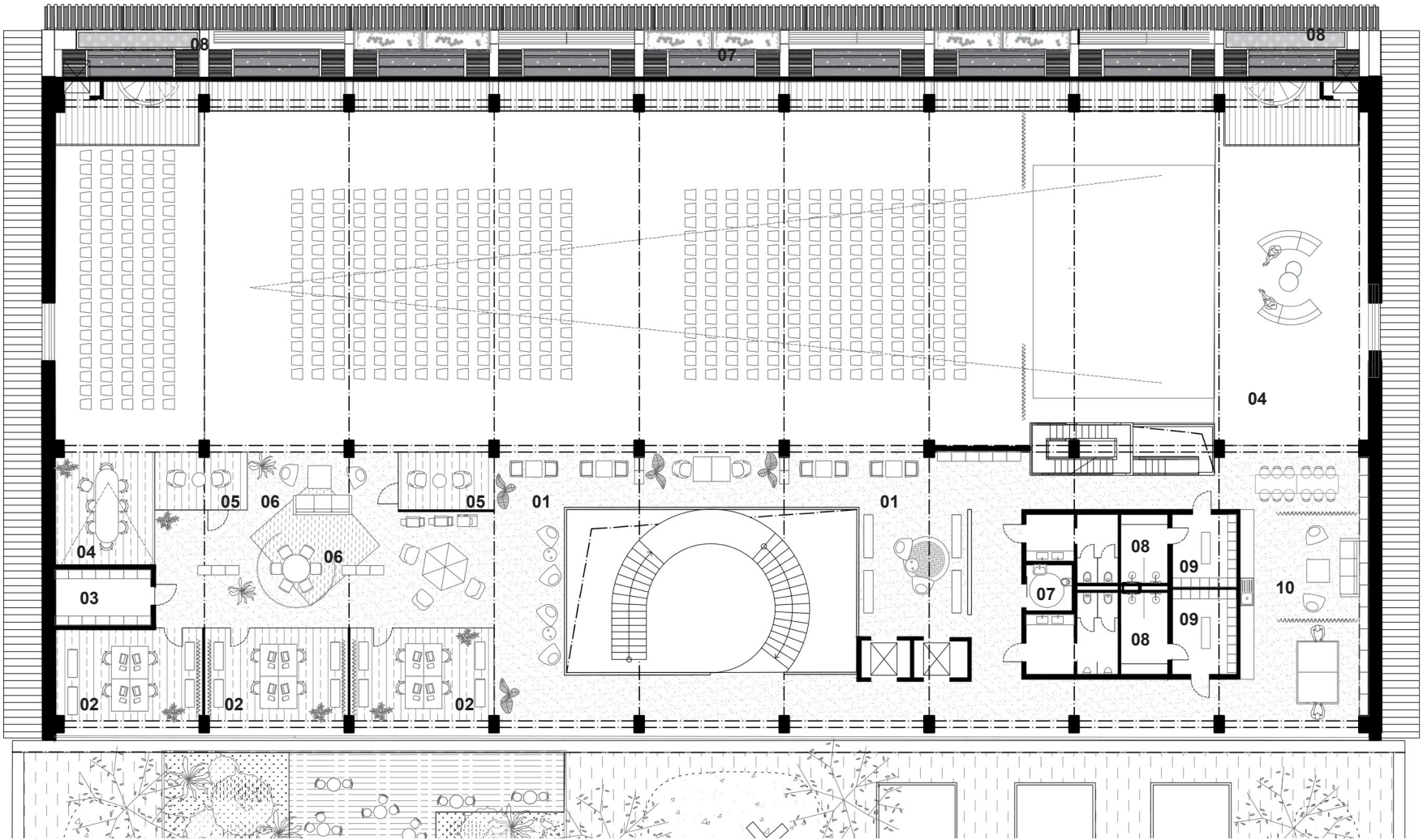
M 1:300

Bc. Michal Grác

- 01. Catering
- 02. Catering - preparation & food heating
- 03. Balcony 1
- 04. Balcony 2
- 05. Restrooms - visitors
- 06. Chill-out room
- 07. Exterior Loggia
- 08. Circulation core



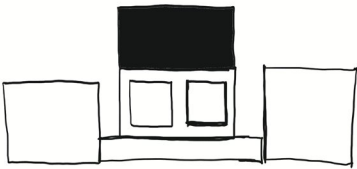
Event hall_1st floor



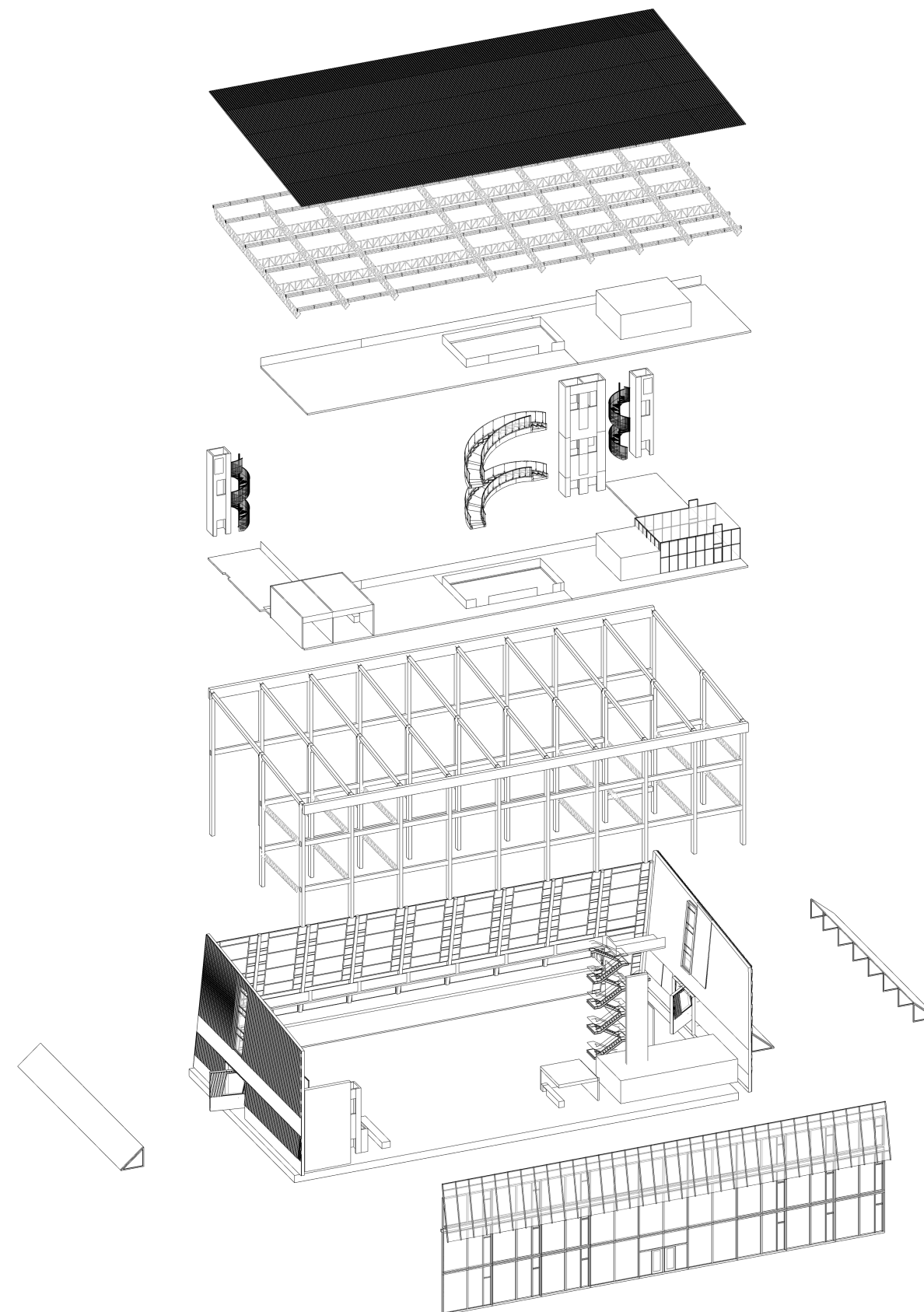
M 1:300

Bc. Michal Grác

- 01. Common areas
- 02. Administrative Office
- 03. Archive
- 04. Meeting room
- 05. Silent room
- 06. Chill-out areas
- 07. Restrooms
- 08. Staff Showers
- 09. Staff locker rooms
- 10. Staff facilities

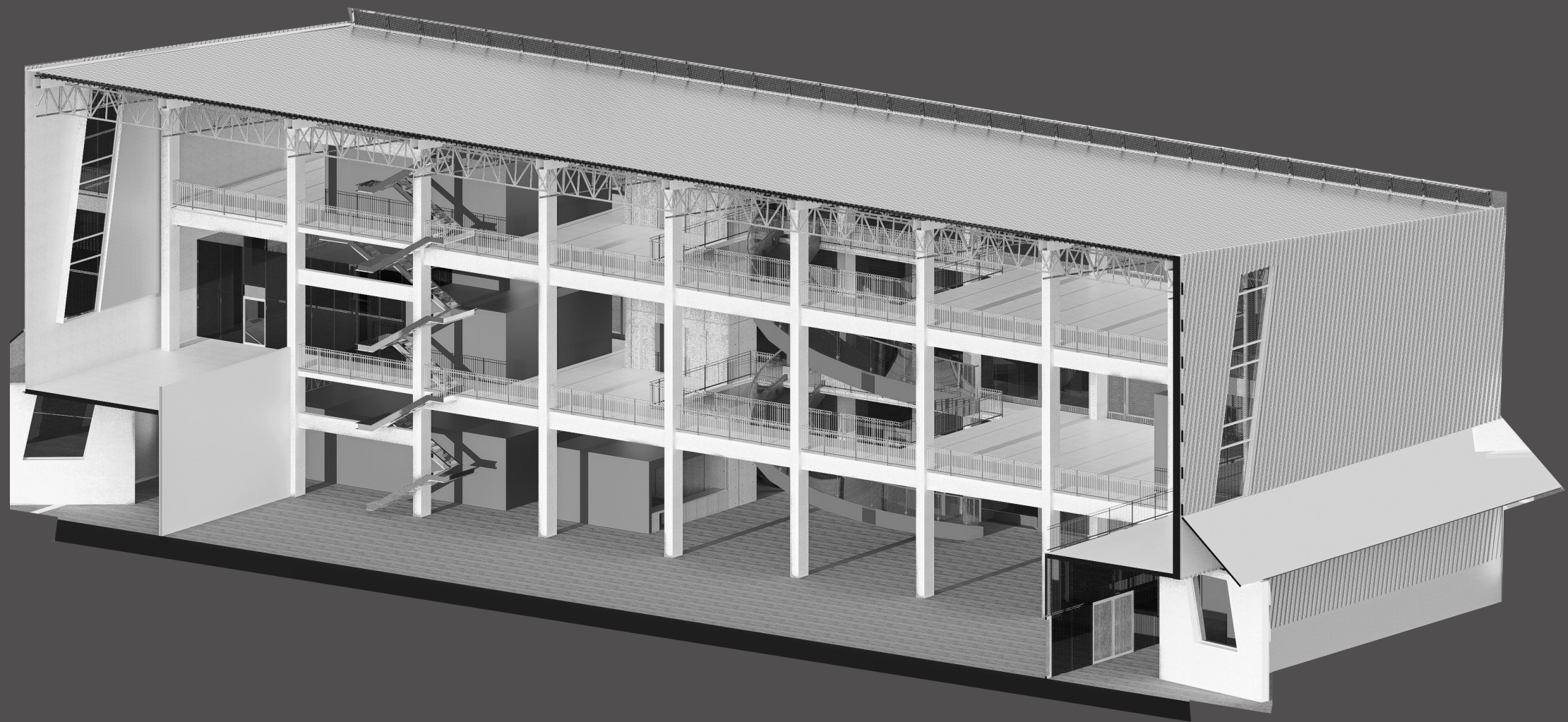


Event hall_2nd floor









Main aim of design

The presented project addresses the conversion of a former industrial complex of wineries in Pezinok. Following the decline of wine production, a collection of specific, architecturally, and structurally challenging buildings remained within the premises – primarily large-capacity halls, fermentation tanks, and technical infrastructure tied to the original production process. The objective of the assignment was to critically reassess this existing building substance and propose a new, meaningful future for the site on both a programmatic level and within the architectural concept. A key question was how to balance industrial relics with new interventions. Mathematically/Analytically, the study defines which structural elements are justified to be preserved, which should be adapted, and which ought to be removed. Concurrently, it compares the rigid approach of fixed functional programming with the concept of creating a flexible framework, which would allow the adaptability of spaces for diversified and time-changing forms of utilization. The aim of the thesis is to formulate a design strategy that sensitively responds to the specific character of the place (genius loci) while ensuring its long-term sustainability, operation, and organic integration into a new cultural and social context.

Site Character

The site under consideration is located on the southern side of the district town of Pezinok. It is separated from the rest of the municipality and its center by a railway. Access to the area is therefore directly dependent on the entrances to the industrial zone via the local urban roads Drevárska (by the former wineries of the town of Pezinok) and Tehelná (by the Pezinok brickworks). These two focal entry points are connected by a new road, Za dráhou.

The connection to the municipal transport network is sufficient in terms of capacity, yet it is poorly legible and uncomfortable for non-motorized road users. The railway fulfills an important transport function, but at the same time, it creates a strong barrier in transverse directions. We thus face a clash of spatial constraints regarding the separation from the center by the railway and the New Pezinok Landfill. In addition to its potential, the locality therefore brings limitations and challenges on how to deal with the situational issues not only from an architectural and functional perspective but also from an urban planning framework. The project is developed as an architectural conversion study, building upon an urban planning study, whose goal is to verify the development potential of the area and propose its long-term integration into the urban fabric of the city.

During the site inspection and analysis of the complex, the material rawness and tectonics of the preserved spaces were noted. The entire area is dominated by large-scale hall structures, complemented by a massive matrix of concrete fermentation tanks and fragments of original winemaking technology. These structures are far from uniform modern halls; their proportions, the rhythm of load-bearing elements, and their robust execution clearly reflect their historic industrial footprint. It is this authentic spatial complexity that gives the place an unrepeatable character that practically cannot be simulated in new constructions. The design perceives this layer of the past as a key pillar. It rejects radical demolition or insensitive alterations that would erase the identity of the place. The concept is built on respect for the original matter – the new program is not inserted into the objects as an aggressive intervention, but as a sensitive dialogue with the existing industrial architecture, whose historical footprint we want to fully acknowledge and present as a document of the architecture of its time.

Design objectives

The project seeks to respond to current trends in brownfield regeneration and sustainable urban development by creating a flexible spatial framework. A key objective at the architectural level is to balance industrial relics with new interventions. Based on analyses, the study defines which structural elements are justified to be preserved, which should be adapted, and which ought to be supplemented with a new layer. The raw spatial framework of the production halls is transformed into an open, multifunctional urban ecosystem with a continuous life cycle (24/7), thereby providing the locality with a missing vibrant sub-center with both daytime and nighttime operations.

Urban planning solution

The urban planning concept of the design is based on the principle of a multi-level urban mix, which responds to contemporary challenges in the transformation of industrial areas. The design works with the concurrent application of a socio-economic mix, a functional mix, and a stratigraphic mix, which together create a complex framework for the emergence of a viable urban district. The concept stems from the conviction that the revitalization of an industrial zone should not lead to one-sided gentrification or monofunctional development, but rather to a gradually layered transformation that respects the existing values of the area while allowing its natural evolution.

Within the design, the socio-economic mix is understood as one of the fundamental pillars of social sustainability. The urban and architectural structure is designed to enable the coexistence of various user groups with different social and economic backgrounds. This principle manifests through the integration of job opportunities, creative industries, education, services, and civic amenities within walking distance. The design purposefully creates space for various groups of residents and users – from high school students, employees, and artisans, who define life in the area during the morning hours, to workers in studios, creative industries, culture, and administration, up to the general public and visitors to the city, who come here mainly in the afternoon and evening hours for culture, gastronomy, or wine.

The functional mix represents the core organizational principle of the urban and architectural design. The monofunctional industrial past is transformed into three new functional pillars: CRAFT, ART, and WIN (Wine). The distribution of individual functions is designed with an emphasis on supporting all-day and week-long activity in the area, reducing transportation demands, and creating an active ground floor (parter) oriented toward public spaces.

The stratigraphic mix is interpreted in the design as the spatial and temporal layering of urban structures, functions, and meanings. In the architectural solution, the stratigraphic mix is primarily manifested by the vertical layering of functions. The ground floor (1st floor / 1. NP) and lower floors are strictly reserved for public and productive activities – the active ground floor (parter), commercial units for rent, winemaking, school workshops, an event hall, and a gallery. The higher levels (vertical extensions) are designated for quieter functions, such as creative studios and short-term residential housing for artists. Concurrently, the design works with the adaptation and reinterpretation of existing industrial buildings, which are integrated into the new structure as bearers of the city's identity.

Spatial structure

The spatial structure of the design respects the existing industrial context and the scale of the original large-capacity halls, but transforms them into a finer urban scale that is legible to humans. The higher and more massive volumes of the original halls are sensitively completed with new interventions (e.g., point-like residential extensions above the block of fermentation tanks), which vertically articulates the silhouette of the area. Toward the railway infrastructure, the built form serves as a noise and visual barrier in combination with the proposed green buffer. The focal public space in front of the main entrance to the building is defined as a central urban square, which connects the new modern structure with the proposed pedestrian zone. The volumetric and spatial solution respects the orthogonal grid of the original halls but opens it to the public through transparent ground floors (parters), connections, and sightlines. The internal spaces of the halls work with the morphology of the original technological elements (such as concrete tanks), which are stripped down to their raw structural essence and transformed into the spatial cells of galleries and studios.

Transport and logistics solution

The transport concept radically changes the current character of the area, where automobile traffic previously dominated, and clearly prioritizes pedestrians, cyclists, and public mobility. At the same time, the locality benefits from excellent macro-accessibility due to its immediate proximity to the railway station, which ensures a direct connection to Bratislava (with a travel time of under 15 minutes by train). Pedestrian routes and secondary pedestrian zones connect the central square in front of the CAV HUB building with the surrounding urban fabric, the school grounds, and the adjacent courtyards. Transport accessibility and logistics for the event hall or the school are secured from the northern side via the main service road, while logistics for the winery are handled from the western side of the former entrance to the complex, where the central parking lot and parking house are also situated to prevent mixing with clean pedestrian zones. With regard to the transformation of the area, the design integrally includes a new concept for public transport routing directly through the site to increase accessibility without the need for individual automobile transport. Passenger cars are pushed out of the center of the complex; parking is relocated to the edge of the site into dedicated capacities and parking structures with the aim of freeing up the ground floor (parter) for a vibrant public space.

Public spaces and greenery

The design creates a continuous network of open, semi-public, and public spaces that provide a functional program to support a high-quality urban life (24/7 concept). The focal point is a vibrant square in front of the main entrance to the CAV HUB, which serves as an urban outdoor lounge – a place for markets, wine festivals, outdoor art exhibitions, and social events. Greenery is integrated into the area systematically with the aim of supporting biodiversity and improving the microclimate of the post-industrial environment. Toward the railway line to the north, an intensive insulating green filter (“GREEN BUFFER”) is designed, which visually and acoustically separates the complex from the infrastructure. The roofs of lower buildings are designed as semi-public communal terraces and extensive/intensive green roofs, which provide relaxation zones for school students, residents, and studio workers.

Architectural and structural concept

The general conceptual approach of the design is a clear material and structural separation of the original industrial substance from the new architectural interventions (the principle of “new within old”). The original reinforced concrete and steel load-bearing systems of the halls are cleaned, remediated, and left in their raw visual state as a document of their time. New functional cores, floors, and vertical extensions are implemented primarily using modern dry construction technologies – lightweight steel skeletons, CLT panels (cross-laminated timber), and transparent glazed facade systems with the aim of minimizing the direct static load on the historical structures.

Winery (VIN HUB)

Architectural Solution: The winery hub object combines industrial aesthetics with a representative function. The architectural expression of the building relies on the contrast between exposed concrete, stainless steel technological elements, and warm wood tones in the tasting spaces. The ground floor (parter) is open to the exterior as needed through a glazed facade and is visually connected to the central square, attracting visitors. Grape processing and tank management facilities are positioned to create a visual backdrop for catering and sales operations (the concept of “transparent production”). Higher floors with a visitor gallery, wine research laboratories, and offices feature a flexible open-plan layout with views of the premises.

Structural and Material Solution: The original reinforced concrete frame of the hall with a large span has been preserved. Due to the high live loads in the wine production technology zone, the floors are executed as highly durable industrial resin screeds based on polyurethane with integrated stainless steel drainage channels. New partition structures for the administrative section are designed as acoustic plasterboard partitions with aluminum glazed profiles. The facade consists of a subtle structural aluminum glazing system with triple insulating glass, complemented by translucent glazing in certain areas. Solid areas are finished with stone cladding and integrated exterior louvers for solar heat gain regulation. In some places, the facade is broken by original window openings with the aim of preserving the expression and achieving a modern facade look.

Secondary School of Applied Arts (CRAFT School)

Architectural Solution: The school is conceived as an open educational space that supports creativity and interaction among students of various disciplines. The central motif is a sunlit atrium, which serves for informal gatherings and the presentation of work. The architecture of the workshops (glass, ceramics, design) emphasizes functionality, high luminosity, and spatial flexibility. Transparent partitions allow direct sightlines from the corridors into the process of creation and craft production, whereby the school demonstrates its productive character.

Structural and Material Solution: The load-bearing system consists of a combination of the preserved structure of the industrial hall and a new independent internal inserted structure made of CLT panels, which introduce a natural material into the interior and improve the indoor microclimate as well as acoustics. The demanding operations of the workshops with kilns (ceramics, glass) require specific structural adaptations: floors with high fire resistance and chemical stability, fire-resistant cladding of load-bearing elements, and oversized HVAC ductwork with localized exhaust for fumes. The perimeter envelope combines original brick masonry with an aluminum facade featuring active solar shading.

Gallery and Tanks (ART / Creative Center)

Architectural Solution: This section represents the most radical conversion within the complex. The massive matrix of original concrete fermentation tanks is conceived as a unique spatial labyrinth. By removing selected walls of the fragments, a dramatic sequential space for a gallery with unconventional proportions is created. The raw exposed concrete of the tanks, featuring traces of tartaric acid, is preserved and supplemented with minimalist steel walkways, ramps, and subtle accent spotlights, creating a unique contrast for exhibiting modern art and experimental creation.

Structural and Material Solution: Structurally, it is a massive monolithic reinforced concrete system with thick walls. Cutting openings into the tanks to connect the gallery and studios is executed using a progressive diamond cutting technology. The structural stability of the weakened walls is secured by additional bonding of carbon fiber laminates (CFRP strips) and the insertion of additional rolled steel sections (HEB/HEA). The concrete surfaces are treated with a transparent hydrophobic coating that prevents dusting while preserving the original patina. The gallery facade is designed as an aluminum system with triple insulating glass, which is transparent on the ground floor level (1st floor / 1. NP) and translucent polycarbonate on the 2nd floor level (2. NP). A prominent feature consists of two circulation cores, which form a distinct architectural element on the volume with the aim of ensuring accessibility to the artists' residences and highlighting the Art Center from afar.

Retails with studios on the 2nd Floor (by the gallery)

Architectural Solution: This section directly adjoins the gallery space and serves as a flexible background for creative industries and local businesses. On the 2nd floor, enclosed and semi-open shared studios and offices for artists, designers, and start-ups are situated. The architectural concept relies on maximum transparency – studios are separated from circulation corridors by frameless all-glass partitions, allowing visual contact, illumination of the deep layout of the hall, and presentation of the ongoing creation directly to gallery visitors.

Structural and Material Solution: Partition structures of individual studios and units are designed as plasterboard walls with above-standard sound insulation (mineral insulation) combined with frameless all-glass partitions in aluminum profiles. The floors are finished as exposed smoothed concrete or high-load linoleum (marmoleum) with an emphasis on easy maintenance during artistic activities.

Guest houses (Accommodation above the tanks)

Architectural Solution: Residential single-room apartments for visiting artists and lecturers are designed as a lightweight, rhythmized vertical extension directly above the massive block of concrete tanks. The architectural expression of the extension utilizes the principle of gradation – while the lower part (tanks) is heavy and enclosed, the residential extension is lightweight, generously glazed, and rhythmically divided vertically. Each accommodation unit (studio apartment) opens onto a semi-public roof garden, which serves as a communal space for artists.

Structural and Material Solution: To minimize the dead load on the original structure of the tanks, the extension is designed as an ultra-lightweight timber frame construction made of CLT panels or as a modular system made of thin-walled steel sections (Light Gauge Steel). This system allows rapid assembly without wet processes. The facade of the extension is designed as a ventilated envelope made of wooden slats, which materially distinguishes the residential

Event hall

Architectural Solution: The conversion of the large production hall into a multifunctional cultural and social space (event hall, concerts, theater performances, conferences, and festivals) relies on preserving the monumental height and openness of the original volume. The architectural design works with the principle of a clean industrial space, into which integrated mobile acoustic walls and telescopic stands are inserted. These allow for a flexible configuration change of the hall and its rapid adaptation according to the type of event.

Structural and Material Solution: The original massive reinforced concrete skeleton was preserved. The structure of the roof trusses was locally reinforced with steel space frames to enable the safe hanging of heavy lighting ramps, sound equipment, and stage technology (scenic rig). The original roof envelope was completely replaced with a modern sandwich system with high sound absorption and thermal insulation properties, eliminating noise leakage to the exterior. The floor of the hall is designed from steel-fiber reinforced concrete with a dust-free finish (power-troweled concrete with dry-shake topper) for high point loads from stage systems and equipment.

Contribution of the Design to the City of Pezinok

The proposed transformation of the former Winery complex into the CAV HUB Pezinok brings an entirely new quality of public environment to the city. The project successfully changes the perception of the area from a degraded brownfield and an isolated industrial zone into an active, attractive, and organic part of the city. The main benefits for the city of Pezinok include:

Cultural and Social Dimension: The creation of a strong regional creative center focusing on crafts, art, and the local winemaking identity (connecting local winemakers into a single hub).

Economic and Educational Dimension: The arrival of the Secondary School of Applied Arts, the creation of space for emerging artists, design work-shops, start-ups, a manufactory, and leasable office spaces.

Sustainable Development: Effective utilization of the existing building stock without the need to occupy new agricultural land, support for pedestrian movement, cycling transport, and train connections to the metropolitan region of Bratislava.

Conclusion

The architectural and urban planning design of the CAV HUB Pezinok presents a complex, long-term, and sustainable vision for the development of this specific area. Through the lens of the “creative fermentation” concept, it proves that raw industrial matter from the past does not need to be demolished, but can instead become a fertile incubator for modern vibrant culture, education, and communal life in the 21st century. The project creates a harmonious dialogue between historic industrial heritage and new, sensitively placed architectural layers, thereby returning the identity of the place back to the citizens and visitors of the city of Pezinok.

A handwritten signature in black ink, appearing to read 'Grac', with a horizontal line extending from the left and a vertical stroke extending downwards from the 'c'.