

SPACES FOR UNIVERSITIES

Design as criticism II

Prof. Christian Kerez
Introduction: TUE 23.02.2021, 10:00 (zoom)

Group & single work

Assistants: Nadia Cristelo Dias, Hermes Killer, Michelle Nägeli

SPACES FOR UNIVERSITIES

ETH ZÜRICH
DEPARTMENT OF ARCHITECTURE AND DESIGN
PROFESSOR CHRISTIAN KEREZ
SPRING SEMESTER 2021

STUDENTS

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Nathan Loretan
Max Nagler
Riccardo Pizzolotto
Georg Rohr
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Marcel Studer
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Salim Umar
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Yannick Wettstein
Henry Zimmermann
Jonas Zimmermann
Davide Zippo

ASSISTANTS

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Hermes Killer
Michelle Nägeli

SEMESTER TASK

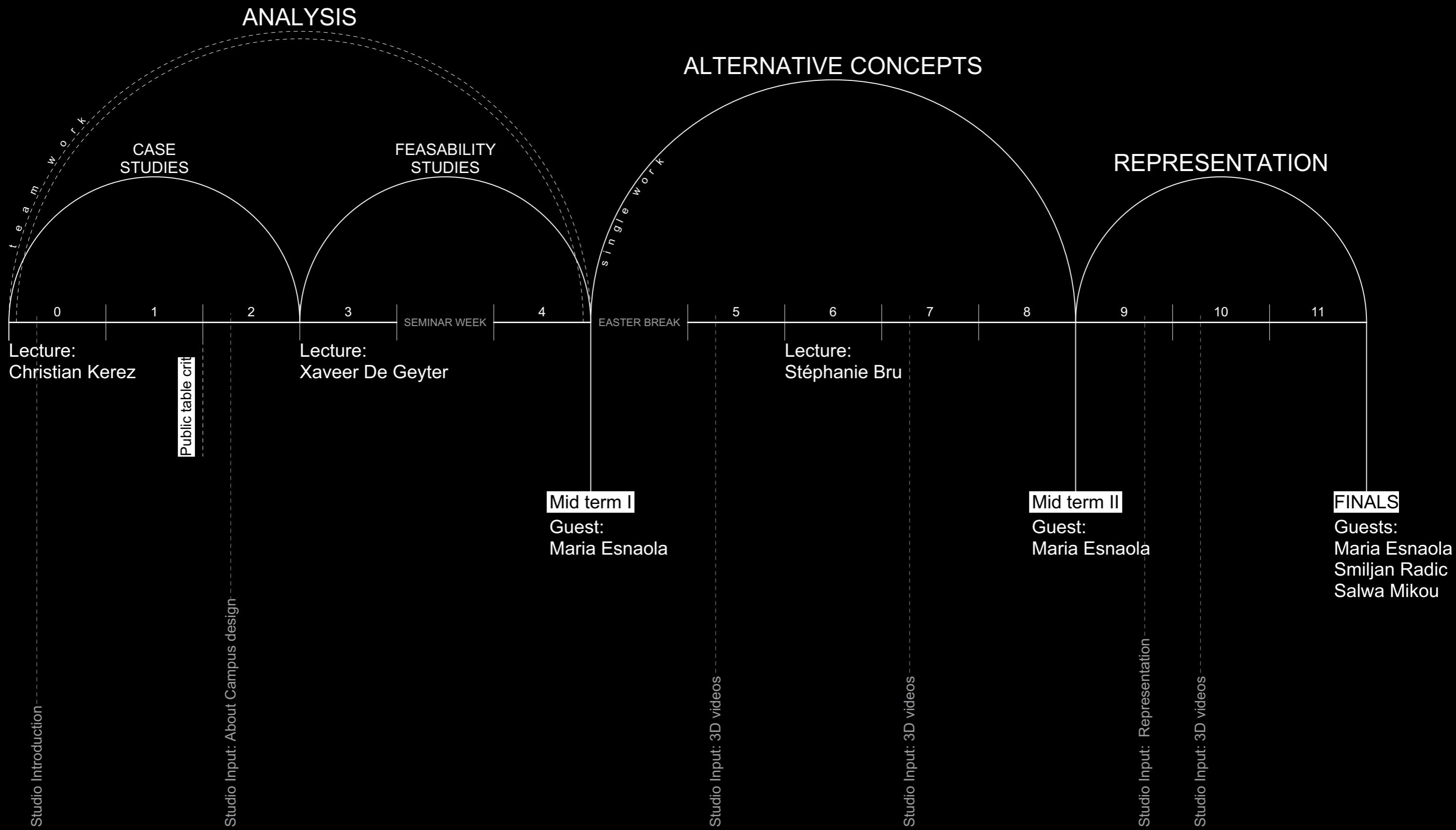
The design process is a preparation for the architect's everyday professional life.

Nine case studies from different countries and fields of discipline serve as the starting point for the semester in the form of existing, curated competition briefs. All case studies include research and teaching facilities of universities and campuses around the world - some built and others unbuilt. During the first part of the semester, students will work in groups and gain insight into the history and development of spaces of higher education as well as an understanding of the current discourse in different disciplines and in different countries.

Design is a method of criticism, a means of investigating these wide-ranging fields of activity and is derived from an analytical understanding of the current task. This understanding is intended to help students develop an independent, critical design position.

The projects will be developed singularly and explained primarily through three dimensional models. The spatial experience is illustrated through film sequences. Students will receive additional support and inputs for this form of representation during the semester.

SEMESTER OVERVIEW



CASE STUDIES

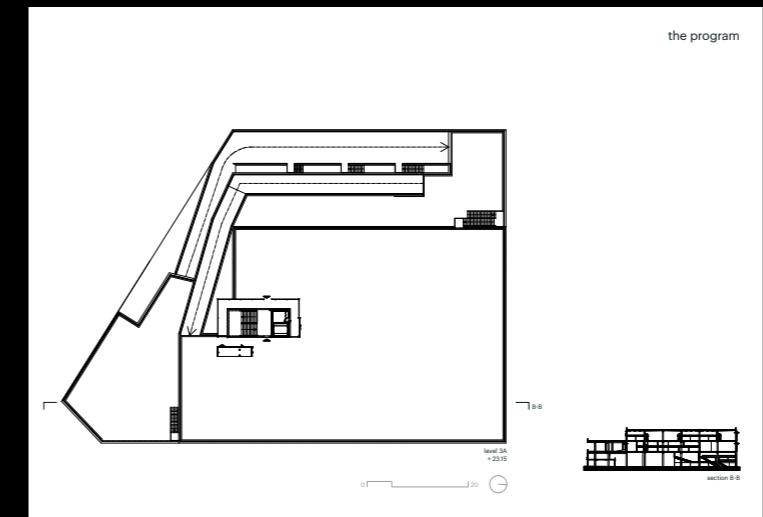
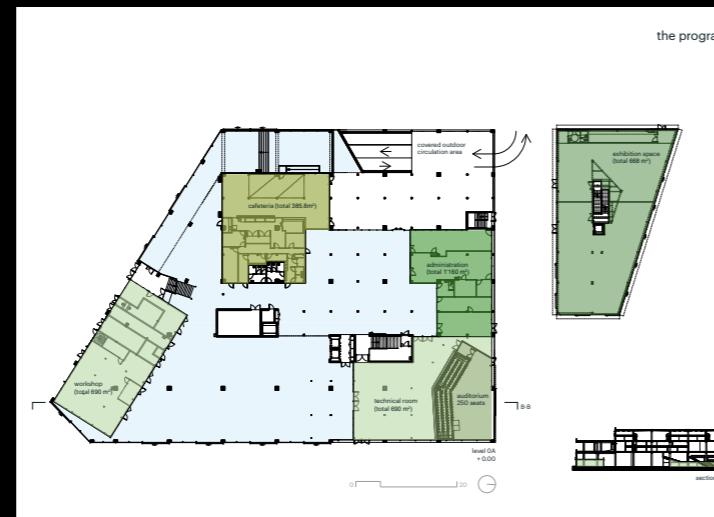
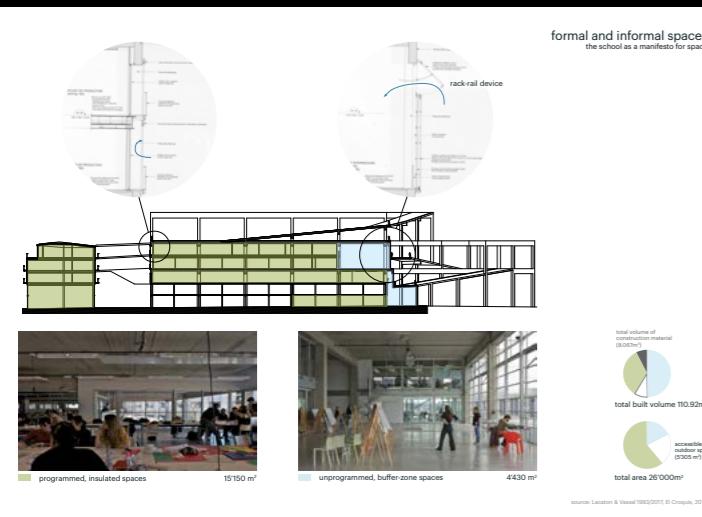
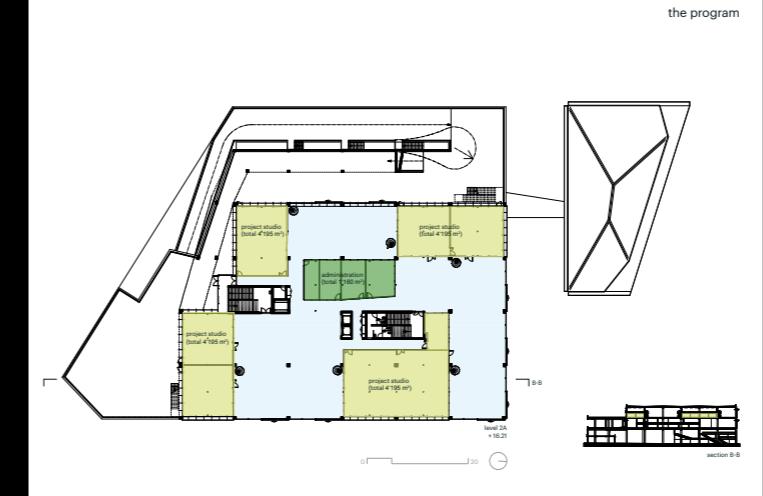
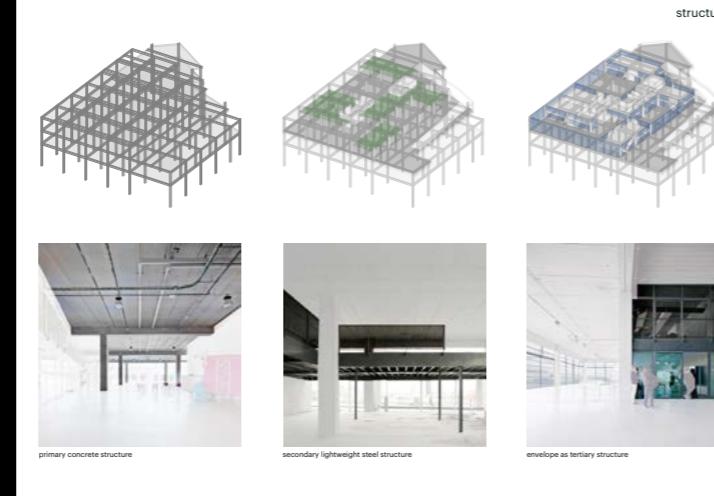
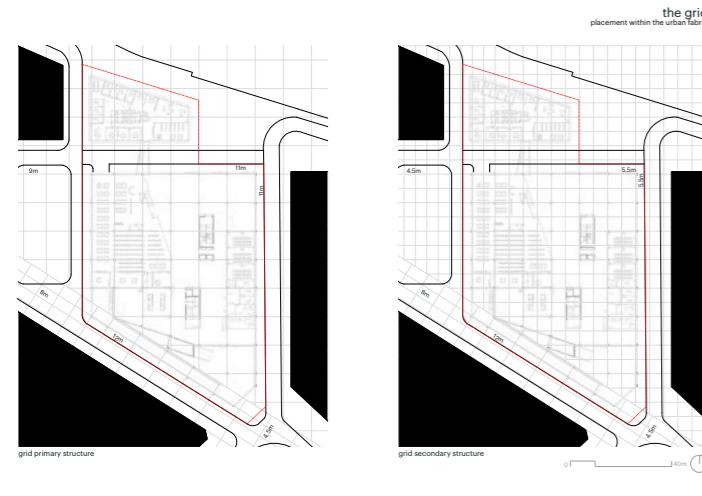
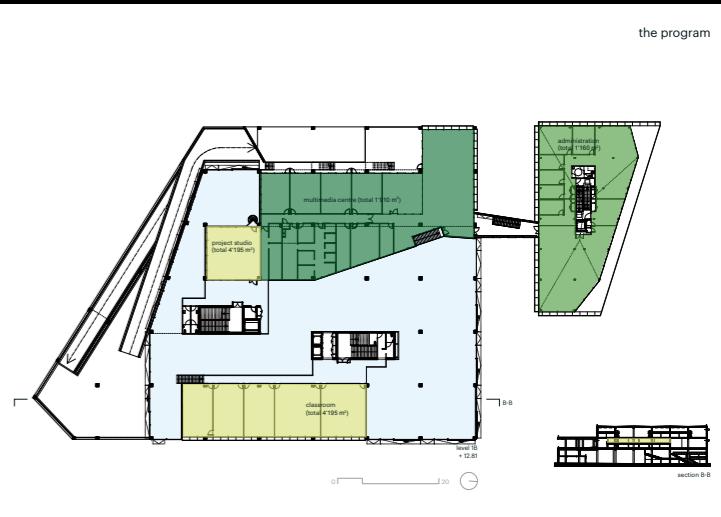
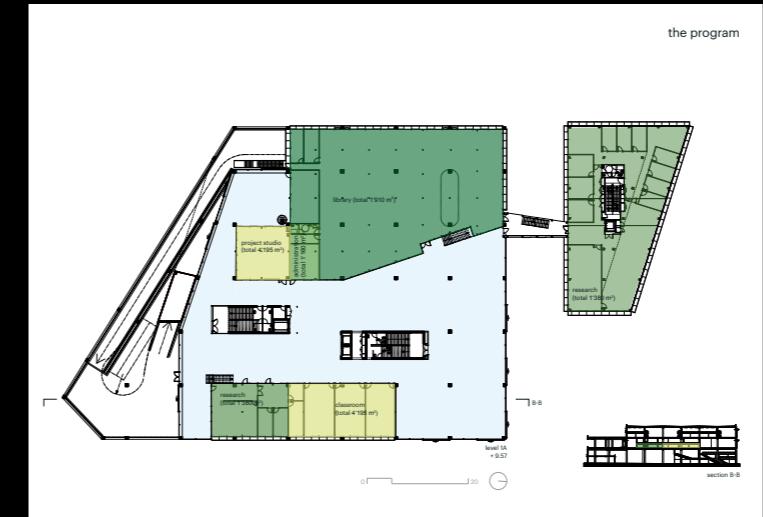
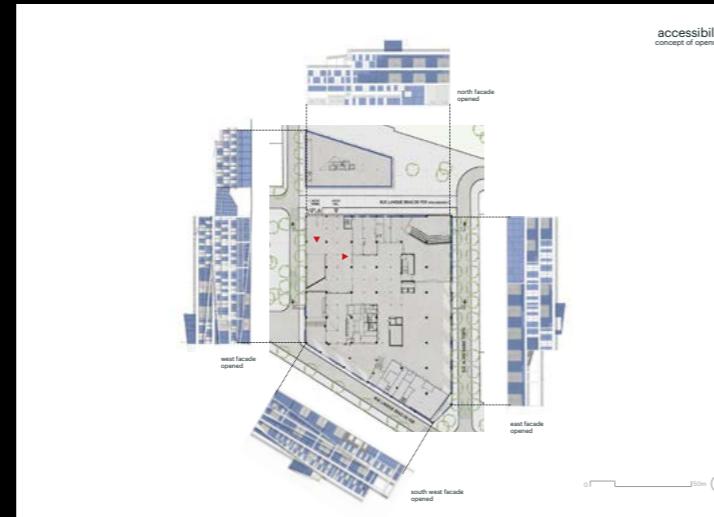
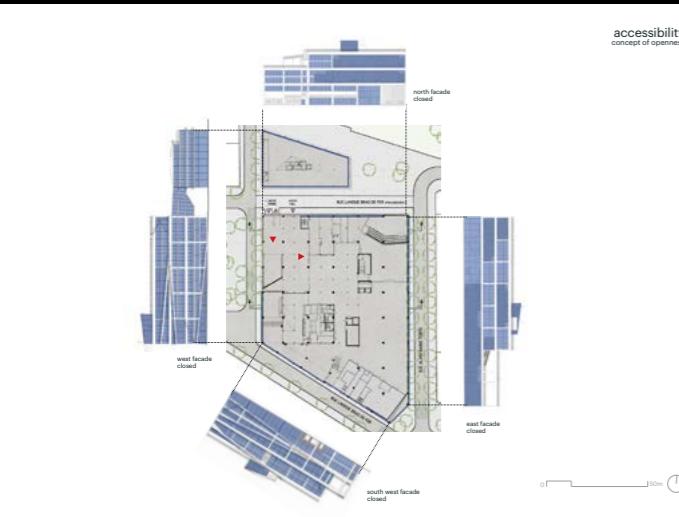
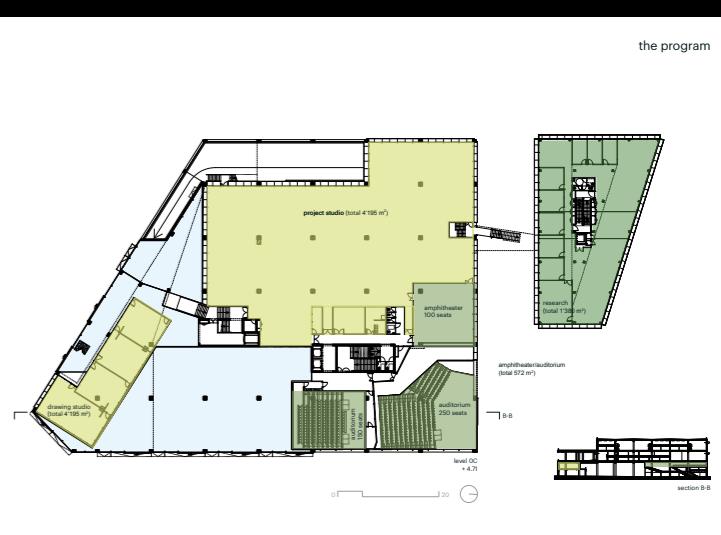
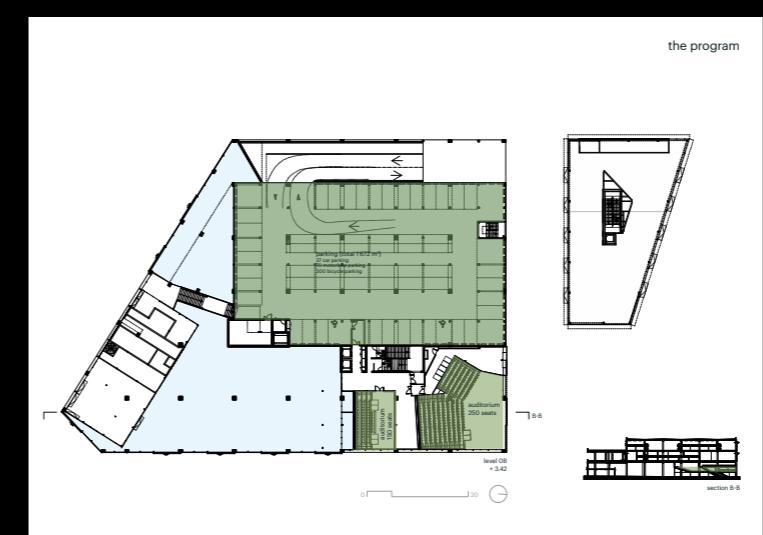
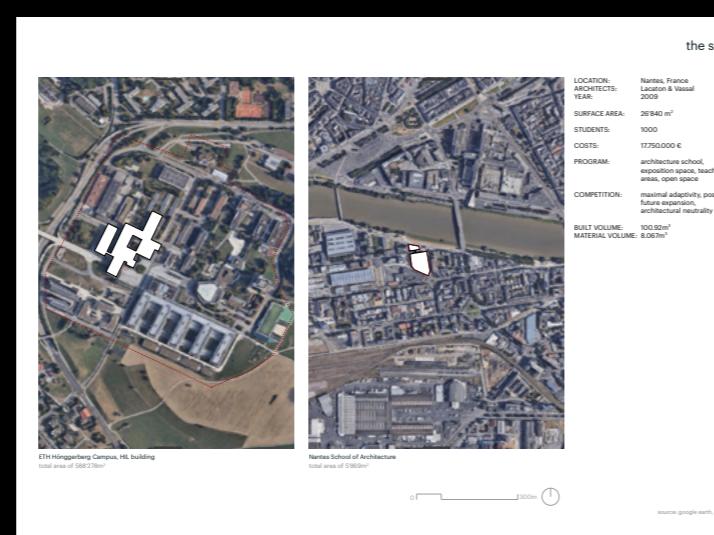
Architecture School Nantes, <i>Lacaton Vassal</i>	p. 10
Unam, Mexico City, <i>Mario Pani and Enrique del Moral</i>	p. 16
Lomonosov Moscow State University, <i>Lev Rudnev</i>	p. 22
Faculdade de Arquitectura, Porto, <i>Alvaro Siza</i>	p. 26
Lab City Centrale-Supélec, <i>OMA</i>	p. 30
Columbia Northwest Corner Building, <i>Rafael Moneo</i>	p. 36
Escuela Técnica Superior de Arquitectura, <i>J. A. Coderch</i>	p. 40
Yale Art and Architecture Building, <i>Paul Rudolph</i>	p. 44
Bell Labs Holmdel Complex, <i>Eero Saarinen</i>	p. 52
Adgb Trade Union School, Berlin, <i>Hannes Mayer</i>	p. 56
EPF, Lausanne, <i>J. Zweifel, R. Bamert and M. Schellenberg</i>	p. 60
Jokey Club Innovation Tower, <i>Zaha Hadid Architects</i>	p. 66
Illinois Institute of Technology, <i>Mies van der Rohe</i>	p. 72
School of Mathematics, Seville, <i>Alejandro de la Sota</i>	p. 76
The New School, New York, <i>SOM</i>	p. 80
Campus Universitario de Vigo, <i>EMBT</i>	p. 86
University of Cambridge, UK	p. 90
Institute of Indology, Ahmedabad, <i>Balkrishna Doshi</i>	p. 94
School of Design, Ulm, <i>Hermkes, Scharoun and Hammerbecker</i>	p. 98
University of Jyväskylä, Finland <i>Alvar Aalto</i>	p. 102
Aarhus Universitet, Denmark, <i>C.F. Møller</i>	p. 106
Institute of Management, Ahmedabad, <i>Louis I. Kahn</i>	p. 110
Engineering Building, Leicester, <i>J. Stirling and J. Gowan</i>	p. 114
Gund Hall, GDS Harvard, <i>John Andrews</i>	p. 118
TU Berlin, <i>I. Aicher-Stoll, O. Aicher and M. Bill</i>	p. 122
Bocconi campus extension, Milan, <i>Grafton Architects</i>	p. 126

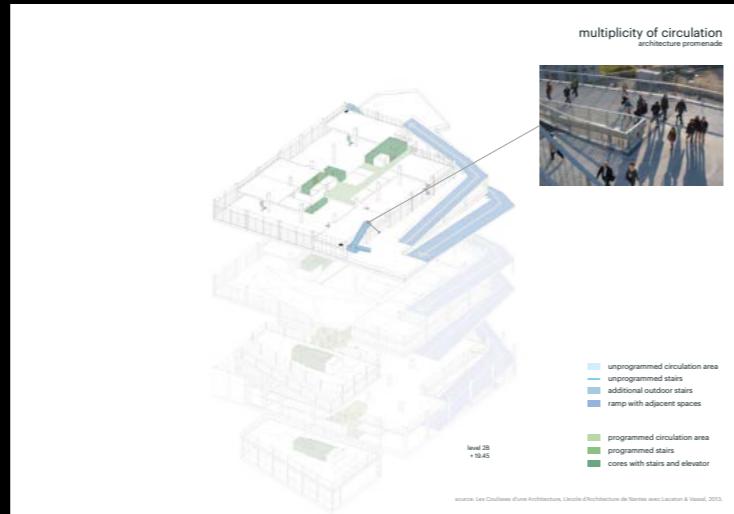
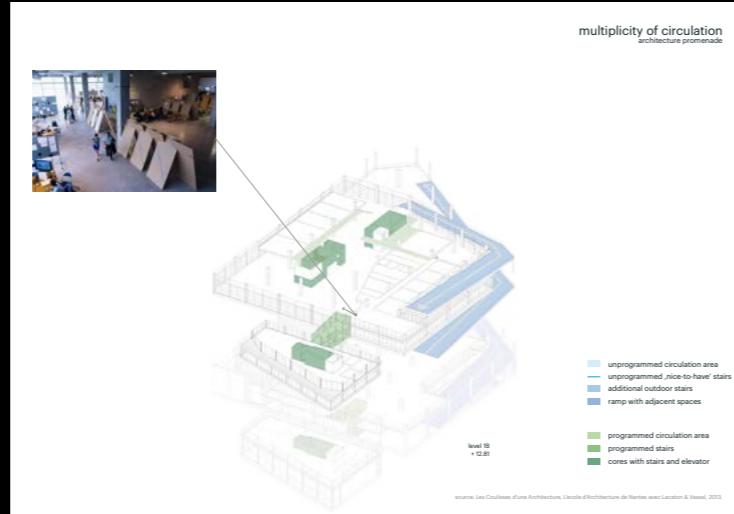
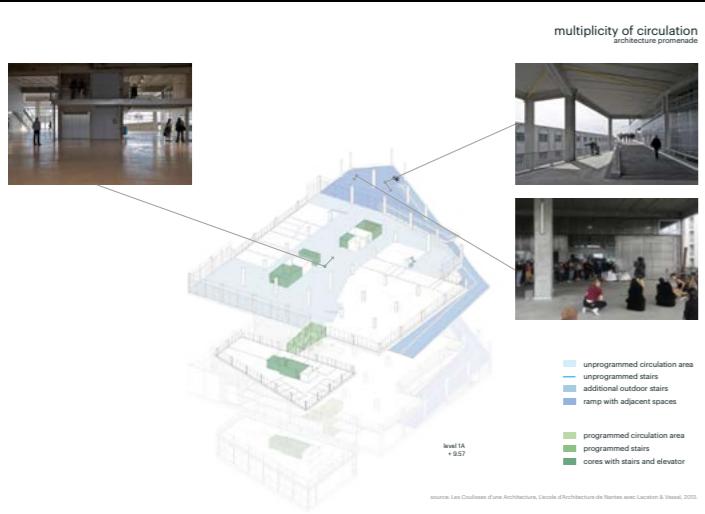
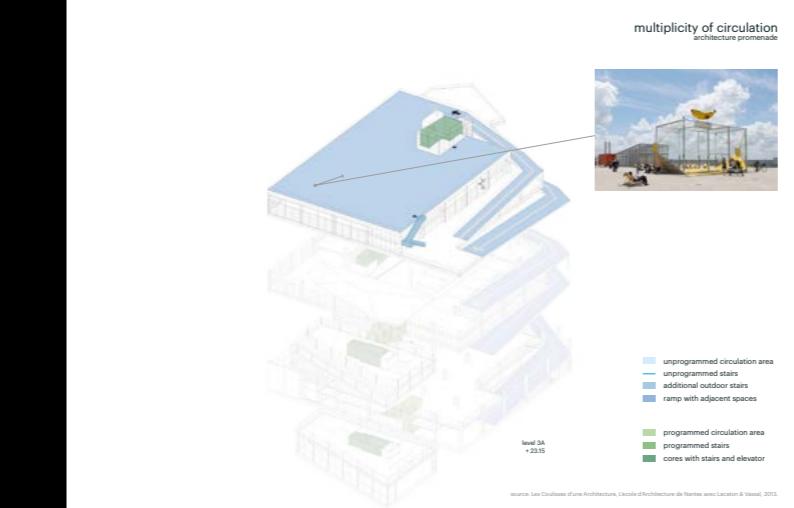


École Nationale Supérieure Architecture (ENSA)



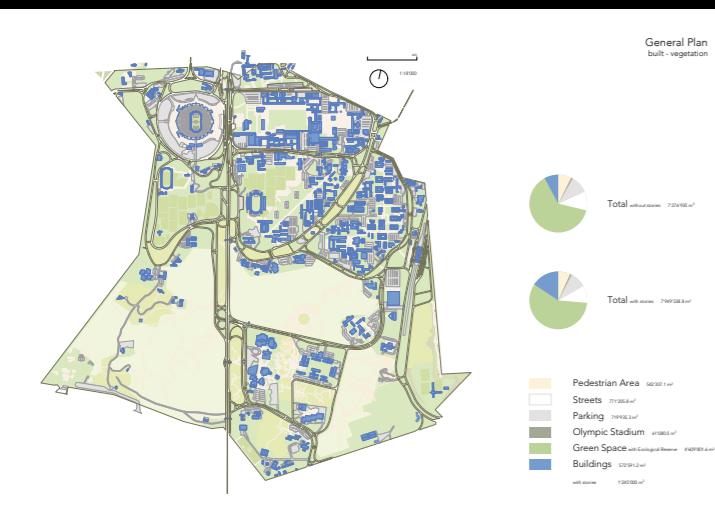
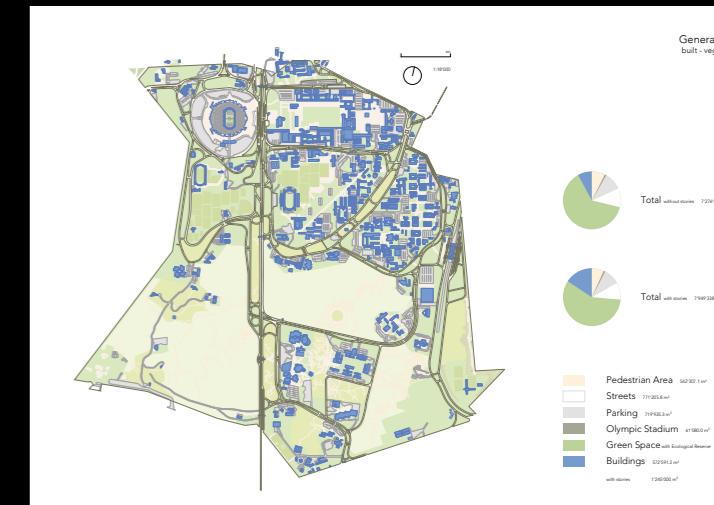
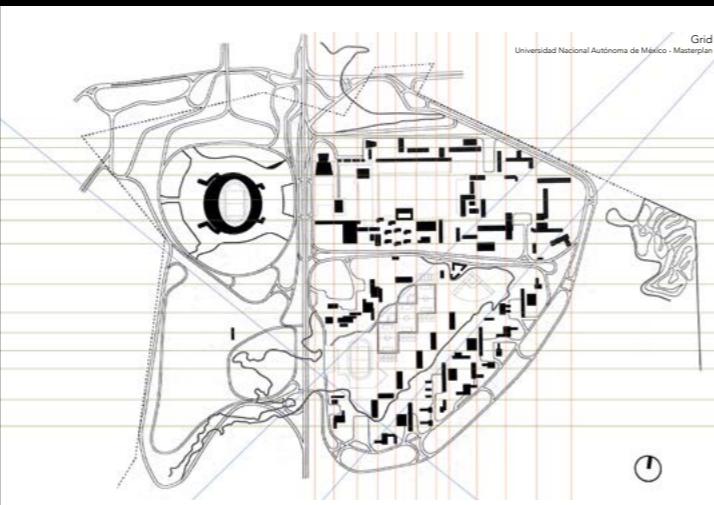
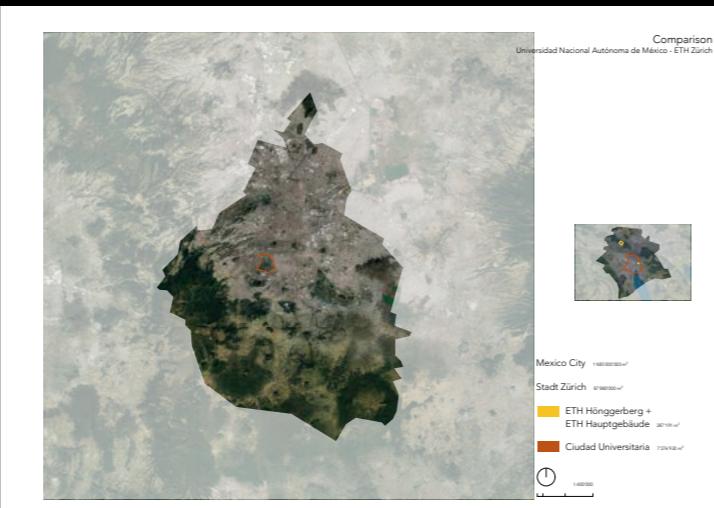
Studio Ch. Kerez | FS21 Case Study Analysis by Lara Marie Besser

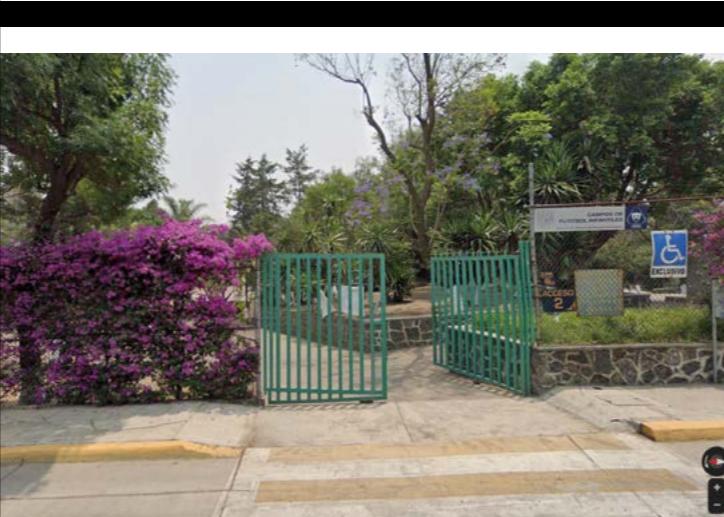
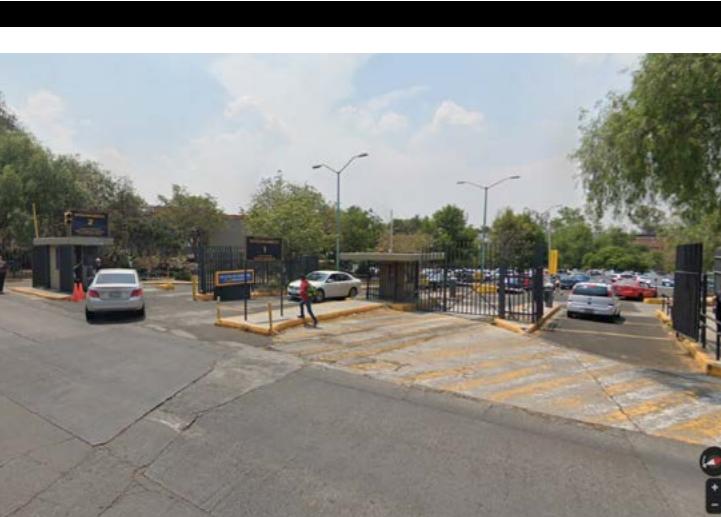
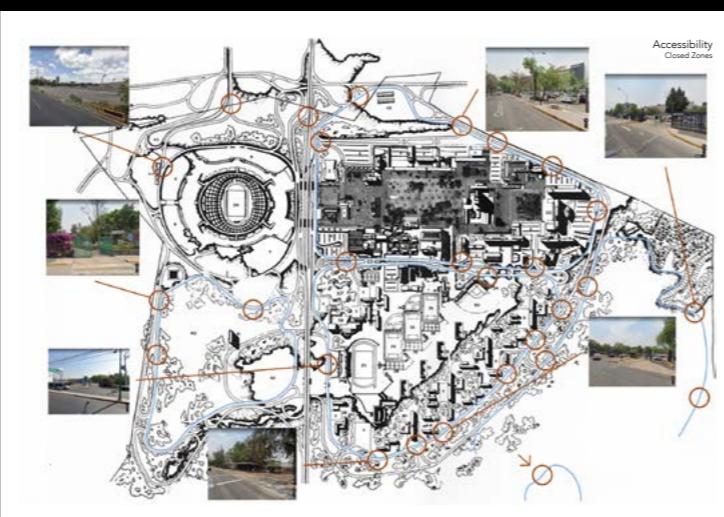
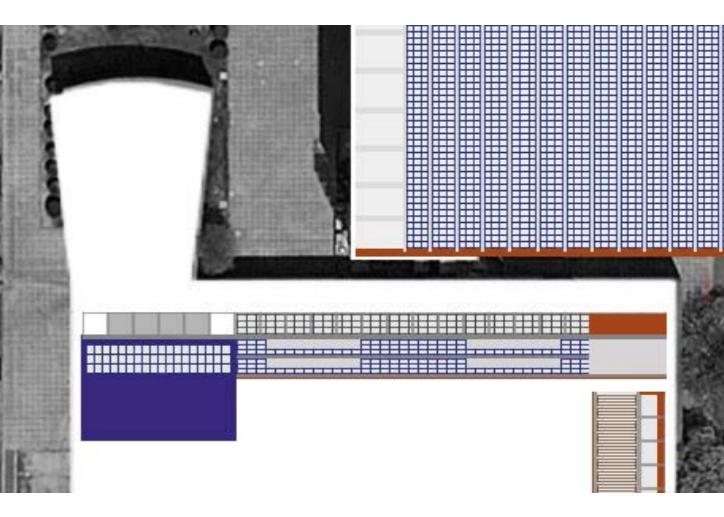
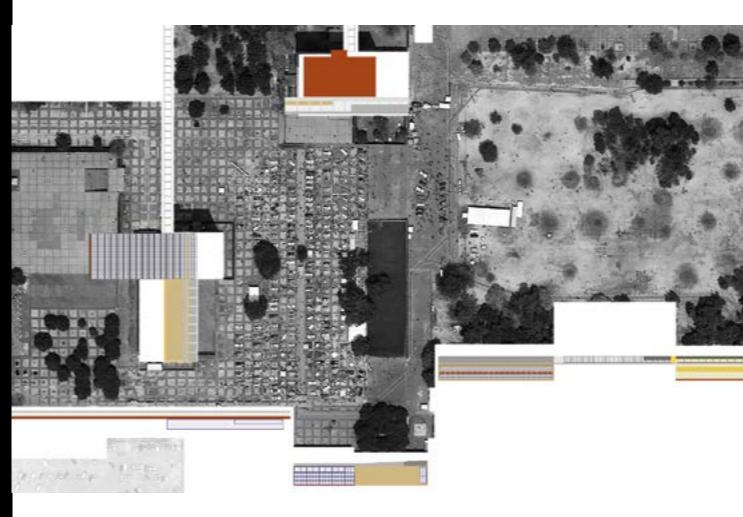
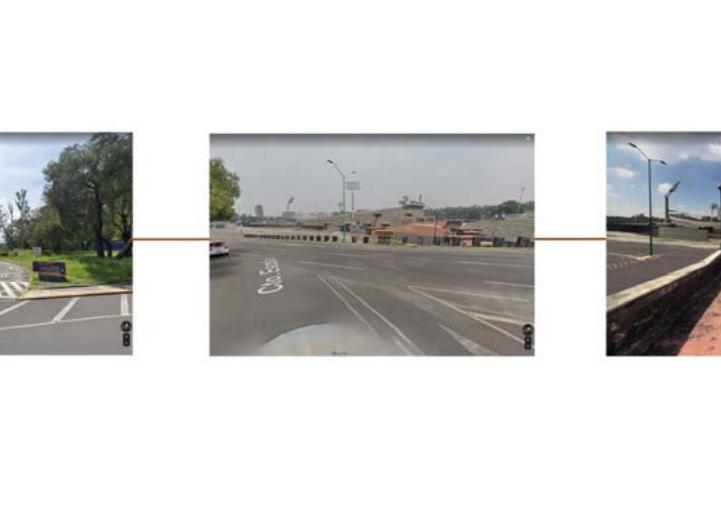
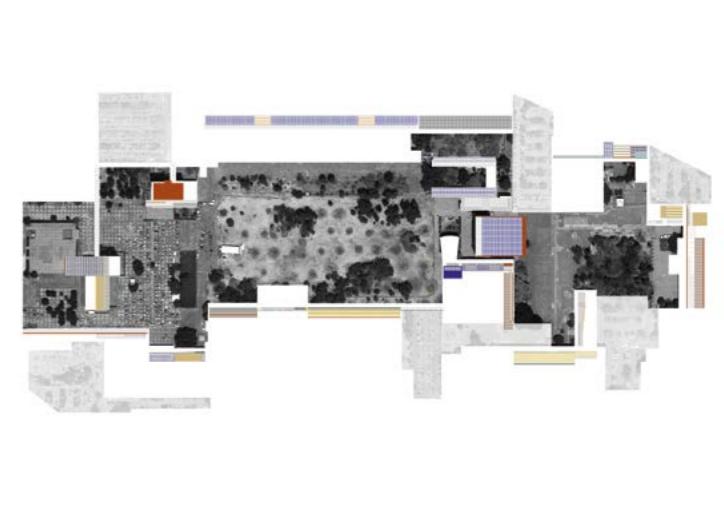






Architects: Mario Pani, Enrique del Moral and 60 further architects, artists, engineers
Location: Mexico City, Mexico
Year of Completion: 1954
UNESCO world heritage: 2007
Surface Area: 7'276'930 m²
Green Space: 3.3 % of total
Buildings: 1000
Students + Employees: 360'883 + 41'332
Faculties/Institutes: 40
Program: liberal public autonomous research university, largest campus in Latin America
Specifies: public space and park, ecological reserve, cultural epicenter







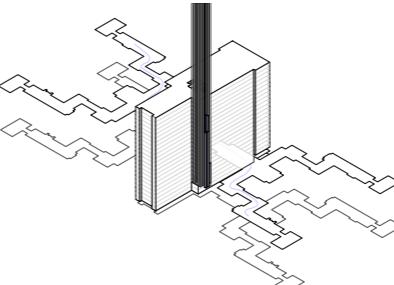
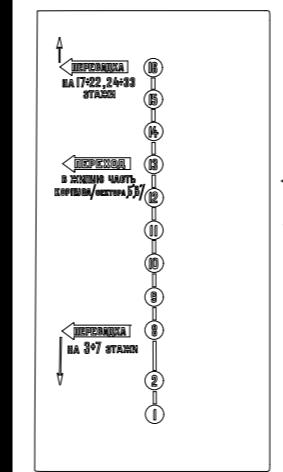


Московский государственный
университет имени М. В. Ломоносова

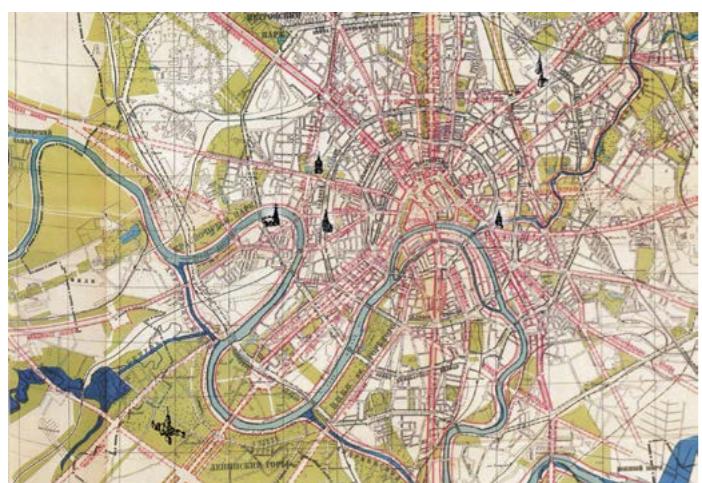
Paul-Mari Bugis FS21 Prof. Christian Kerez



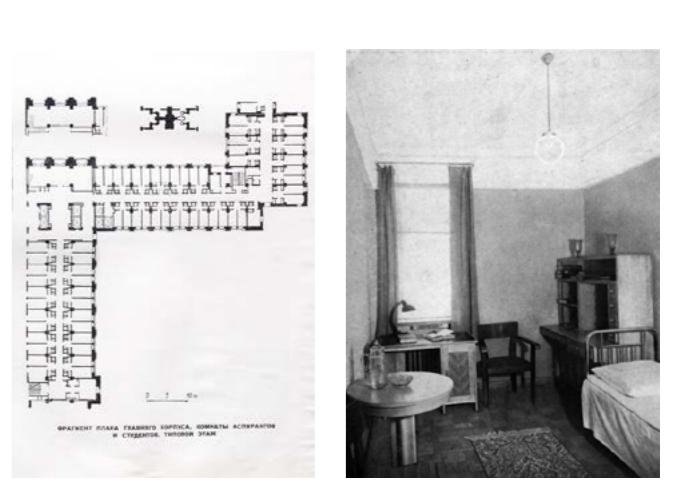
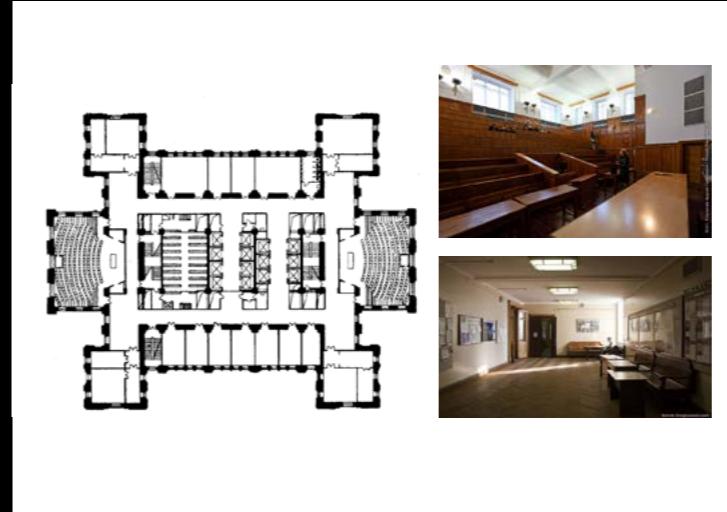
- 2,000,000 m² volume of the complex
- 102,000 m² teaching
- 23 classrooms for lectures
- 350 study laboratories for students and teaching staff each
- assembly hall for 1,500 people
- 1,200,000 books
- several science museums
- 39 faculties and 15 research centres
- 47,000 students
- 5,000 academic staff



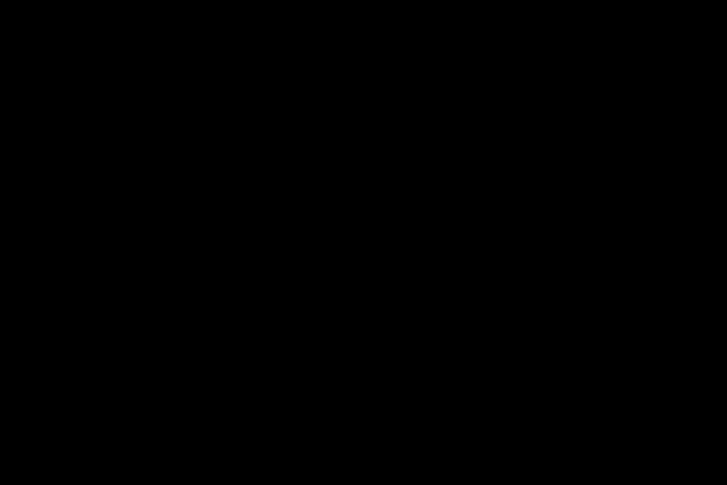
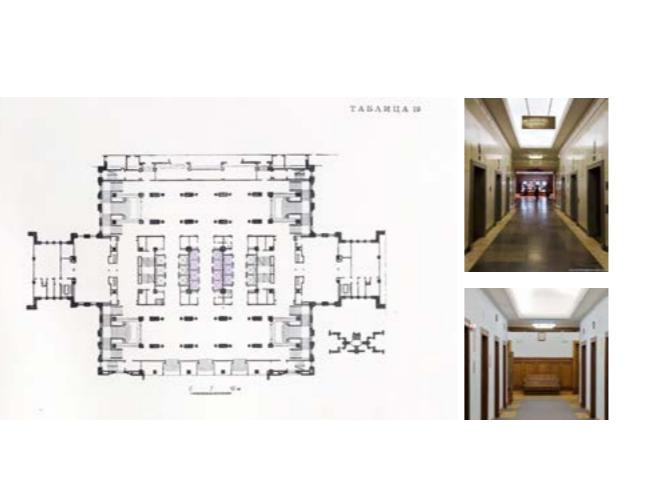
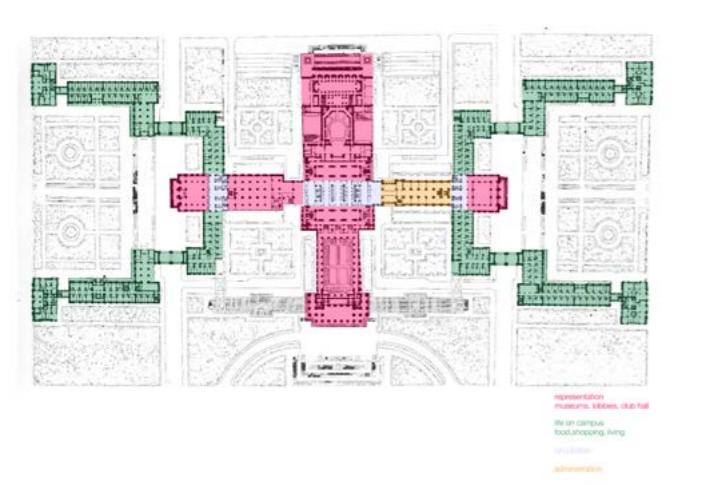
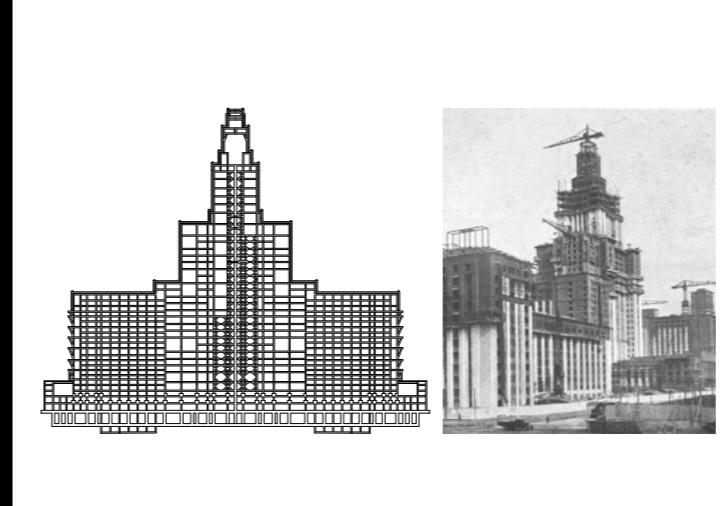
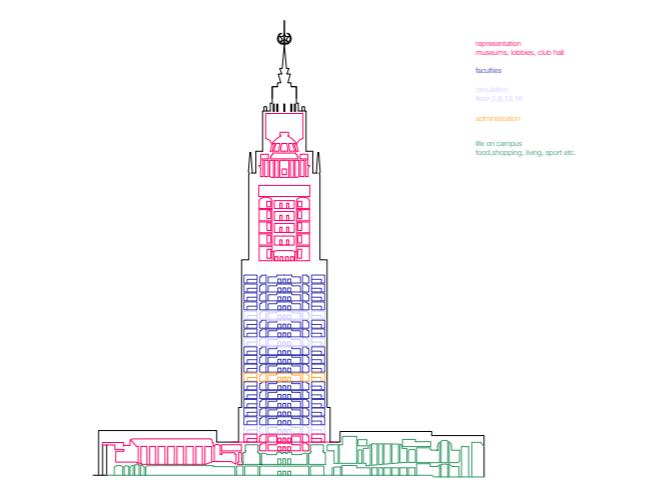
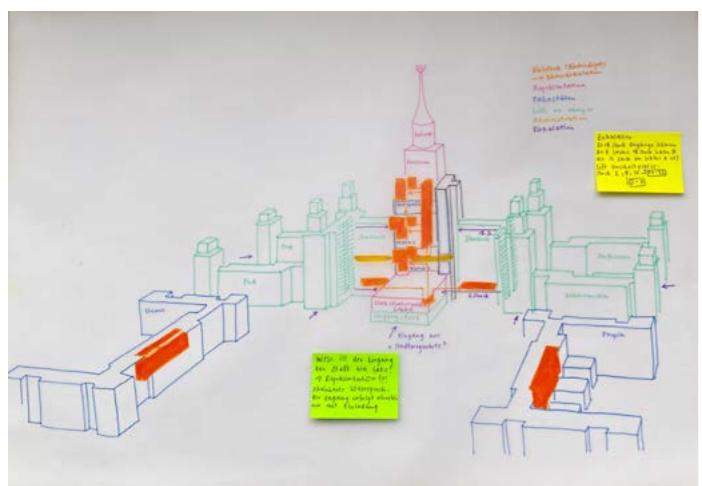
<http://theses.think.uu.se/2011/10/21/main-building/comment-page-1/>



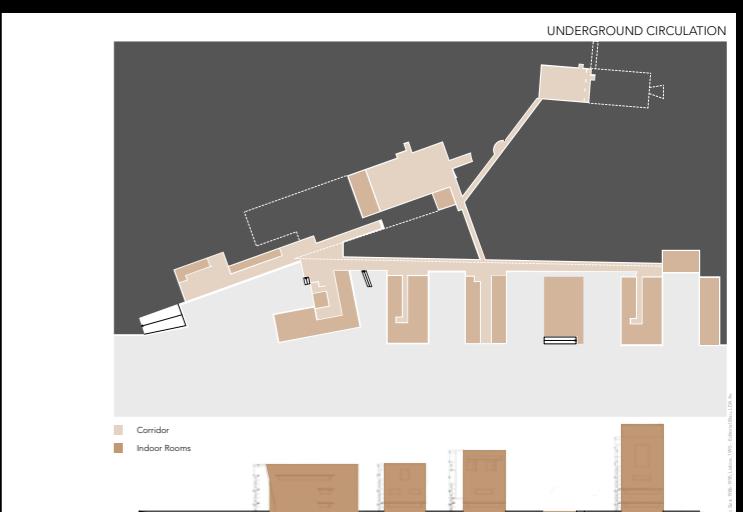
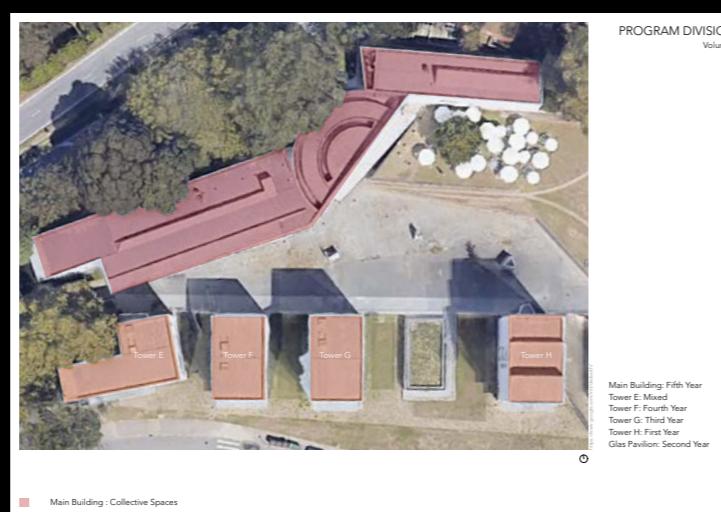
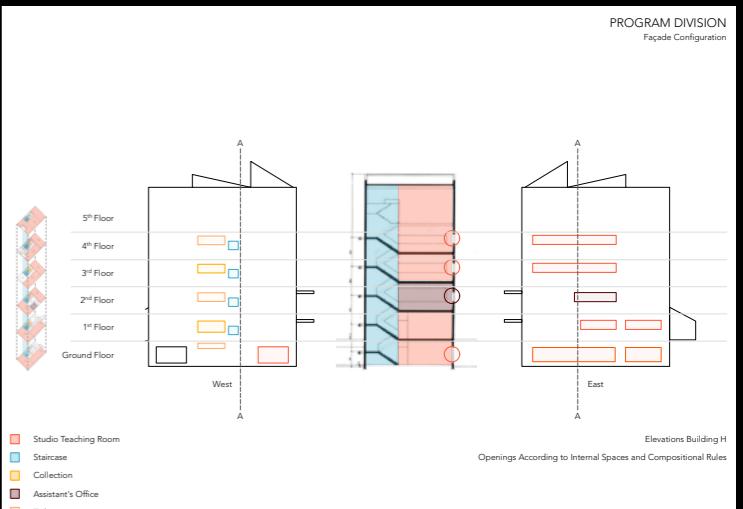
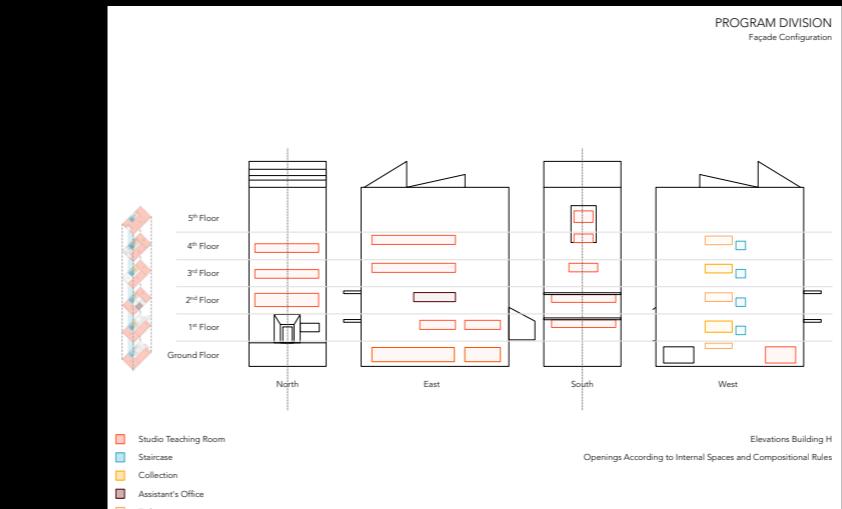
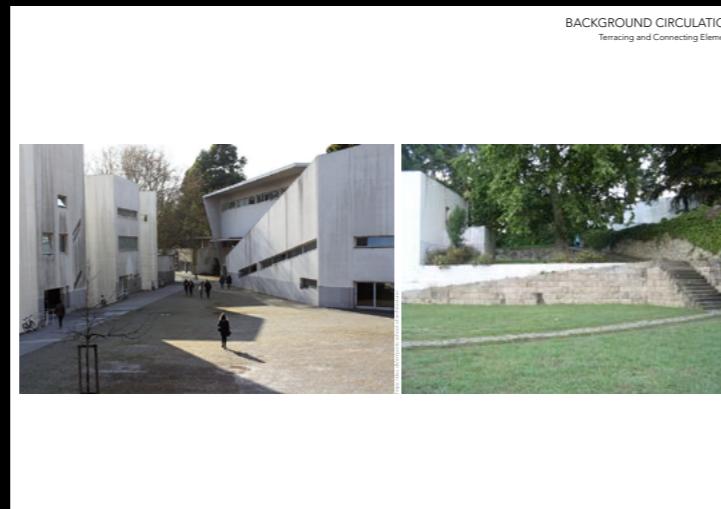
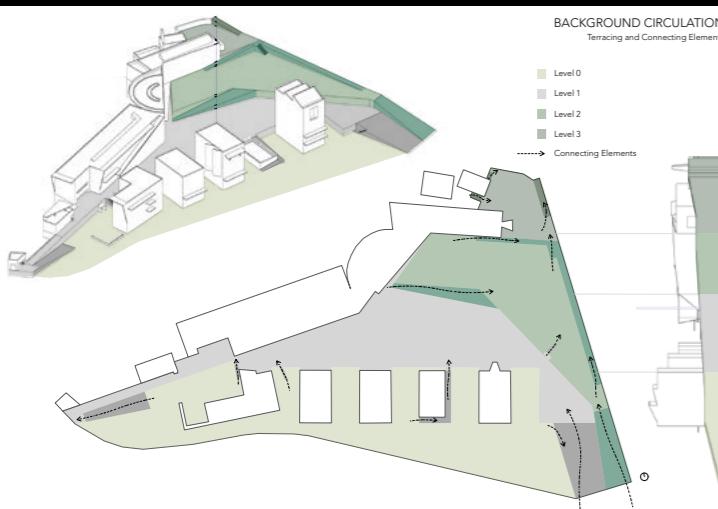
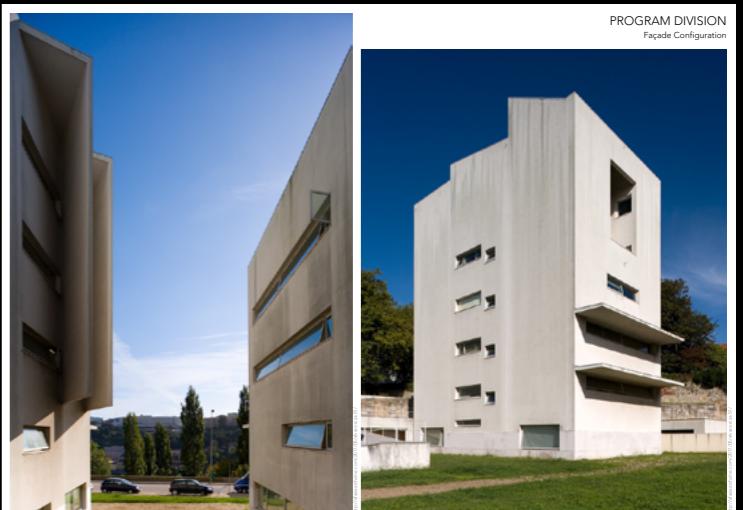
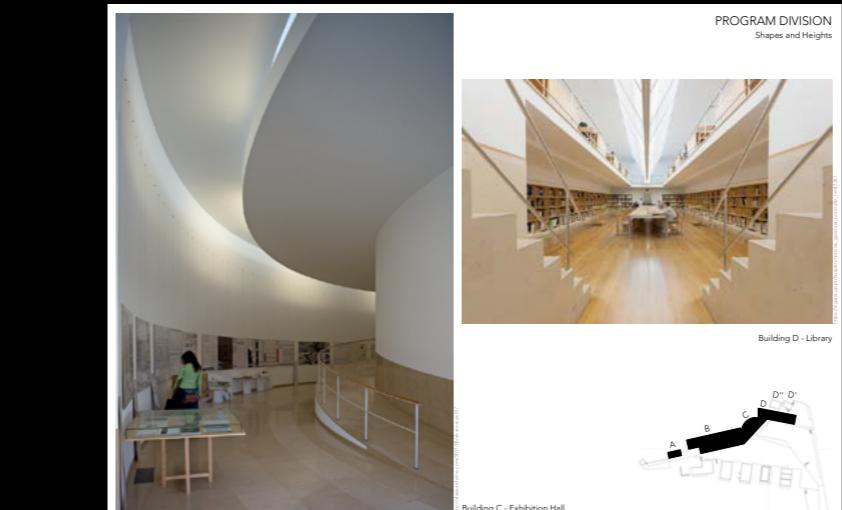
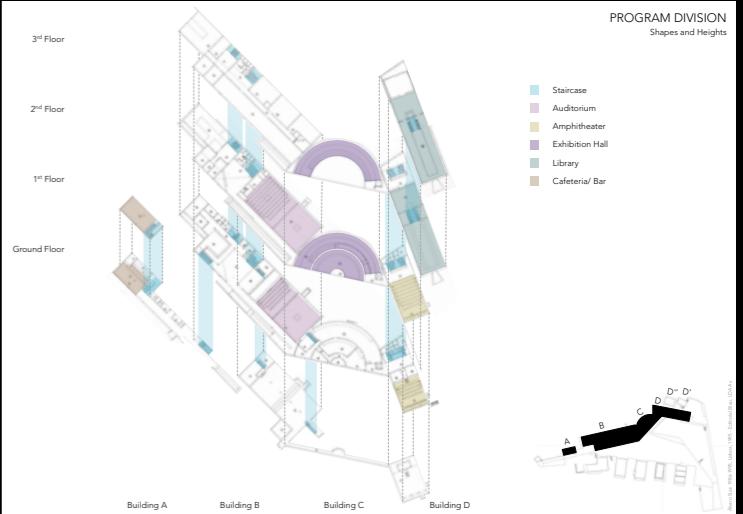
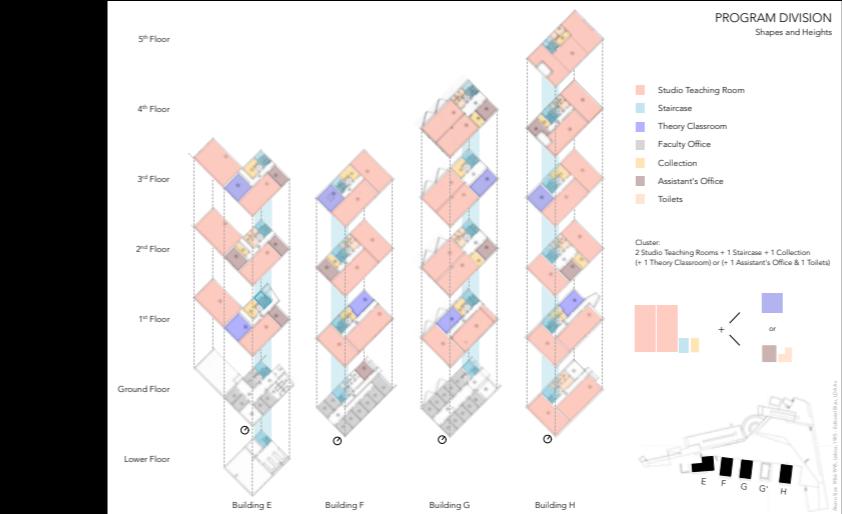
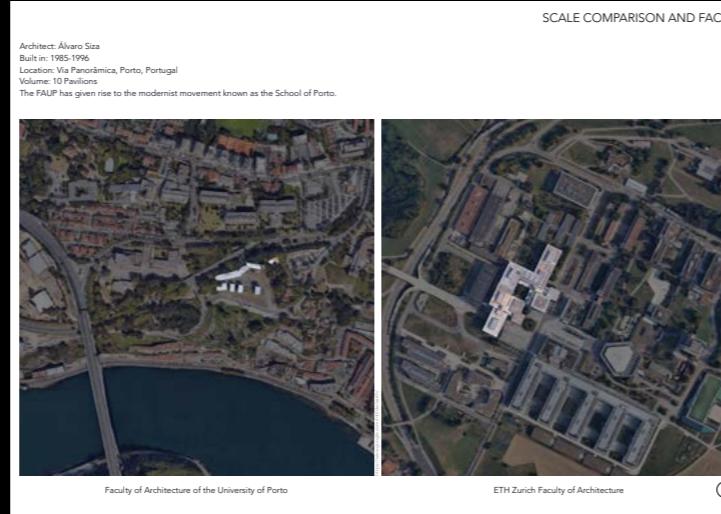
Aleksandr Shchusev. Plan for a new Moscow 1925



<https://doi.psu.edu/10.4236/ach.201606106102>

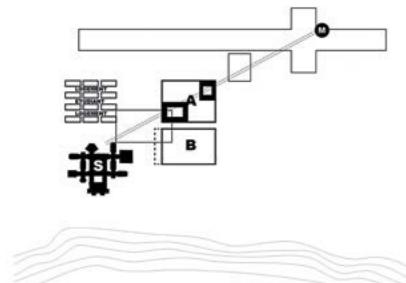








Lab City CentraleSupélec by OMA

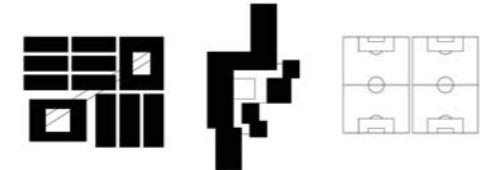


source: scheme Quartier Joliot Curie Masterplan, by OMA

STUDIO KERÉZ FS 2021, presentation by Jessica Cabrera

Lab City CentraleSupélec by OMA facts and scale

completed in 2017
in gif sur yvette
40 km south of Paris
48 700 m² total area
9 000 m² offices
2 500 m² restaurants
15 000 m² library
70 classrooms
750 auditorium seats
65 000 students on campus

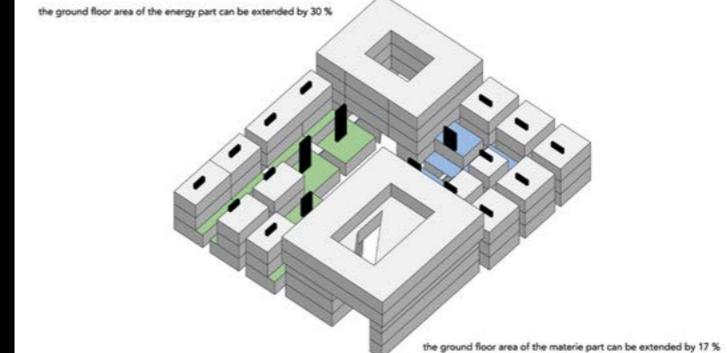


city lab OMA

HIL ETH

football fields, WM

Lab City CentraleSupélec by OMA expandability



the ground floor area of the energy part can be extended by 30 %

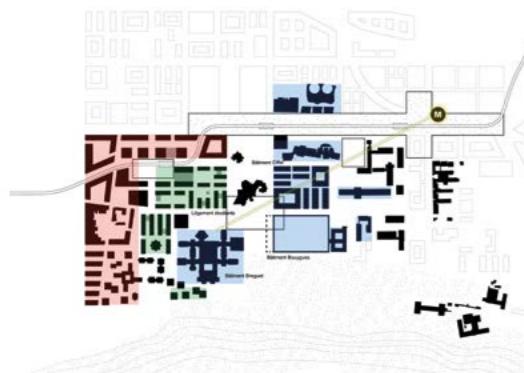
the ground floor area of the matière part can be extended by 17 %

Lab City CentraleSupélec by OMA circulation



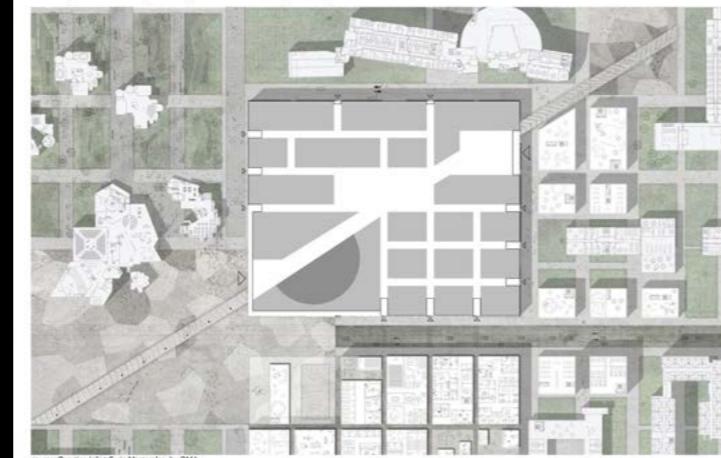
source: Roofplans by OMA

Lab City CentraleSupélec by OMA context



source: scheme Quartier Joliot Curie Masterplan, by OMA

Lab City CentraleSupélec by OMA facing the city



source: Quartier Joliot Curie Masterplan, by OMA

Lab City CentraleSupélec by OMA circulation



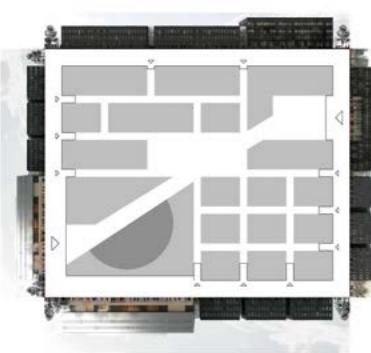
source: Roofplans by OMA

Lab City CentraleSupélec by OMA circulation



source: Roofplans by OMA

Lab City CentraleSupélec by OMA facing the city



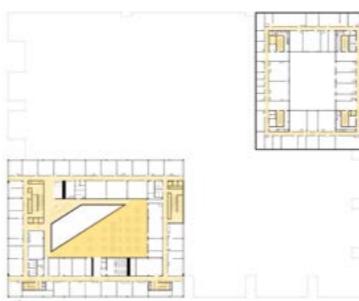
source: Lab City CentraleSupélec, elevations by OMA, Rotterdam

Lab City CentraleSupélec by OMA facing the city



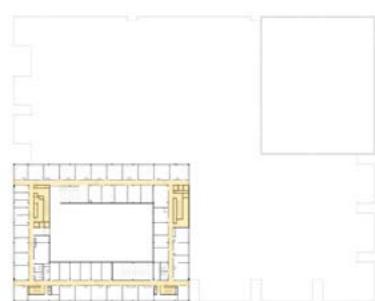
source: (1) centraleSupélec summer school photo gallery (2) Philippe Rusuit, OMA (3) OMA, Rotterdam (4) Philippe Rusuit, OMA

Lab City CentraleSupélec by OMA circulation



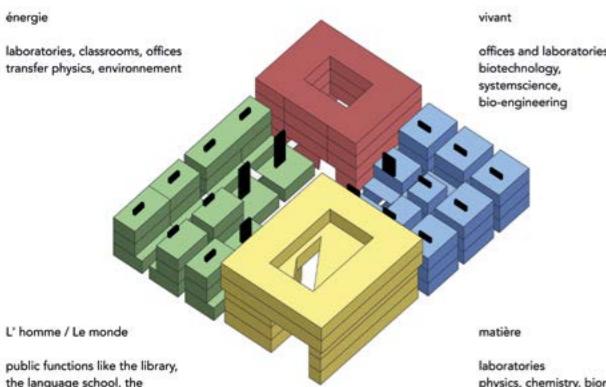
source: Roofplans by OMA

Lab City CentraleSupélec by OMA circulation



source: Roofplans by OMA

Lab City CentraleSupélec by OMA program



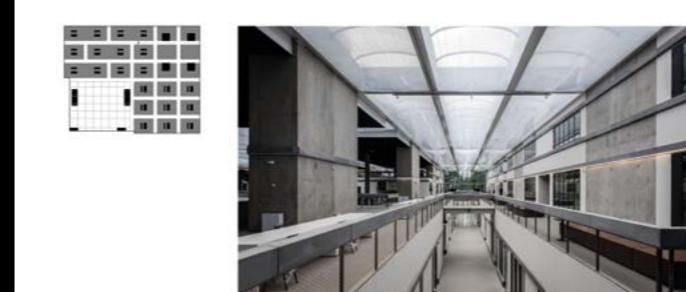
source: Dossier APS - Livre 2 Résumé architectural et technique - Ecole Centrale Paris, OMA

Lab City CentraleSupélec by OMA program



source: Roofplans by OMA

Lab City CentraleSupélec by OMA urban - grid



source: Philippe Rusuit, OMA

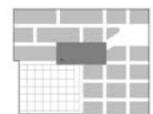
Lab City CentraleSupélec by OMA urban - diagonal main street



source: Philippe Rusuit, OMA

Lab City CentraleSupélec by OMA

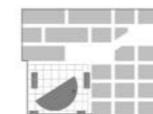
urban - central hall, square



source: Philippe Ruault, OMA

Lab City CentraleSupélec by OMA

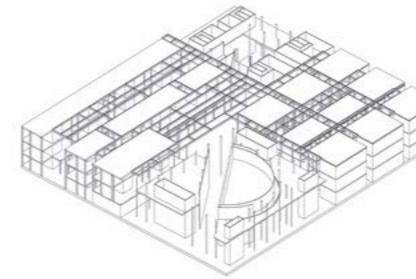
urban - auditorium



source: Philippe Ruault, OMA

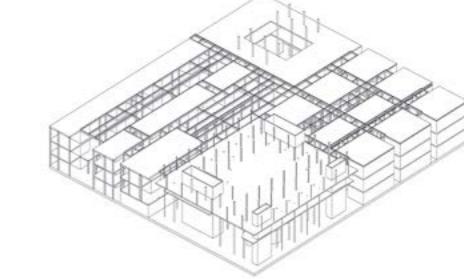
Lab City CentraleSupélec by OMA

structure



Lab City CentraleSupélec by OMA

structure



Lab City CentraleSupélec by OMA

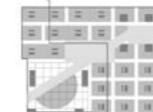
spaces inbetween - inverted pyramid



source: Dossier APS – Livre 2 Résumé architectural et technique - Ecole Centrale Paris - Office for Metropolitan Architecture (2) Philippe Ruault, OMA

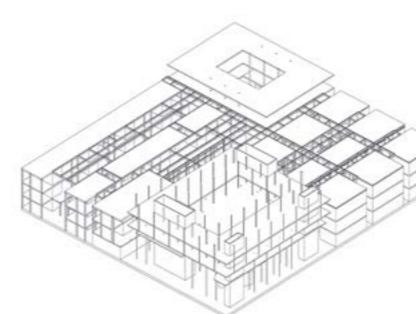
Lab City CentraleSupélec by OMA

spaces inbetween - street



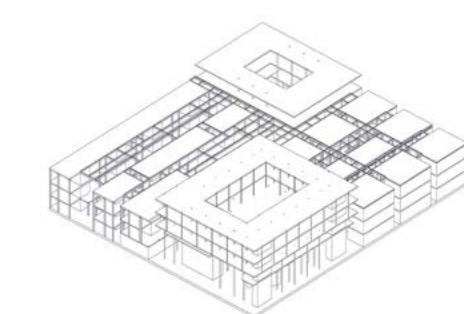
Lab City CentraleSupélec by OMA

structure



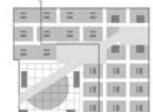
Lab City CentraleSupélec by OMA

structure



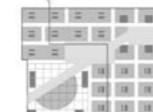
Lab City CentraleSupélec by OMA

spaces inbetween - boulevard



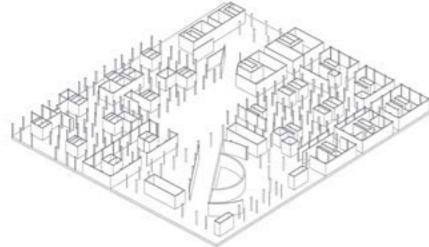
Lab City CentraleSupélec by OMA

spaces inbetween - terrace



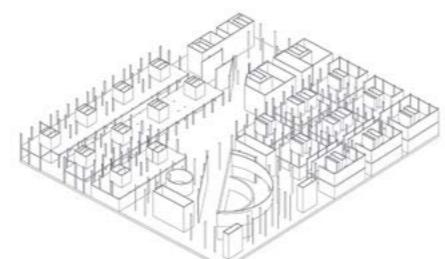
Lab City CentraleSupélec by OMA

structure



Lab City CentraleSupélec by OMA

structure



COLUMBIA NORTHWEST CORNER BUILDING

Rafael Moneo



Columbia Northwest Corner Building

Rafael Moneo



Analysis - Case Studies

Jan Christen

Facts + Comparison

Architect: Rafael Moneo + Moneo Brock Studio
Location: 550 W 120th Street, New York, USA
Construction Time: 2007-2010
Year: 2010
Client: Columbia University
Structural: Ove Arup & Partners Consulting Engineers
Structure: Steel Skeleton
Building Cost: n.A.
Certification: LEED gold
Program: Arts & Sciences, Engineering and Applied Sciences
Floor Area: 17500m²
Stories: 14
Levels: 21
Height: 78m

Floor Area
= 2.5 Football Fields



Specification III



Specification III



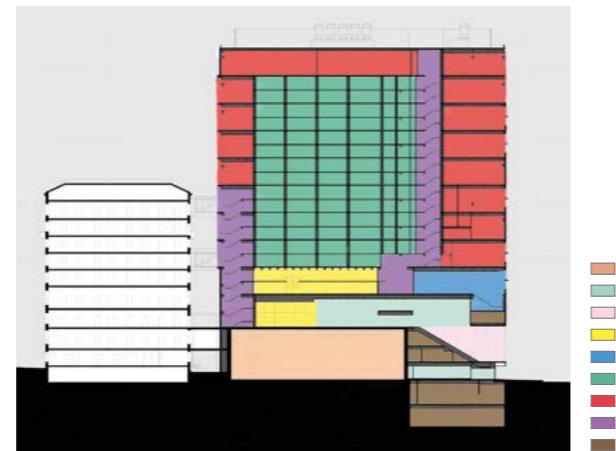
Source: Wikipedia

Axonometry

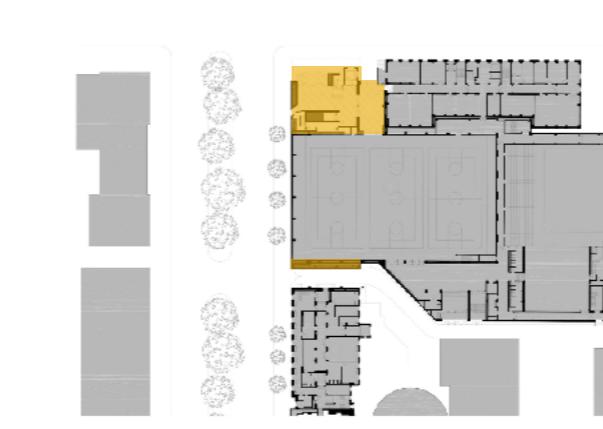


Source: Rafael Moneo, International Portfolio 1985-2012

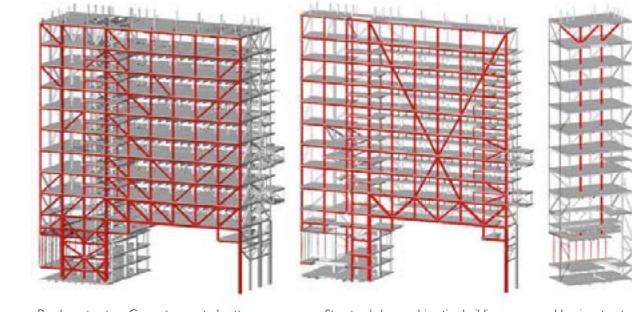
Program



Specification IV



Specification IV



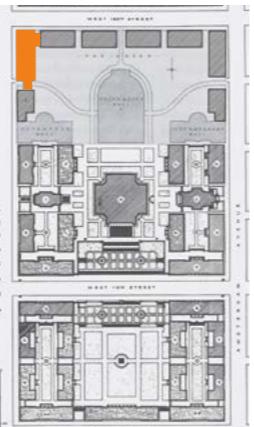
Source: Skill Shot Productions

Specification I

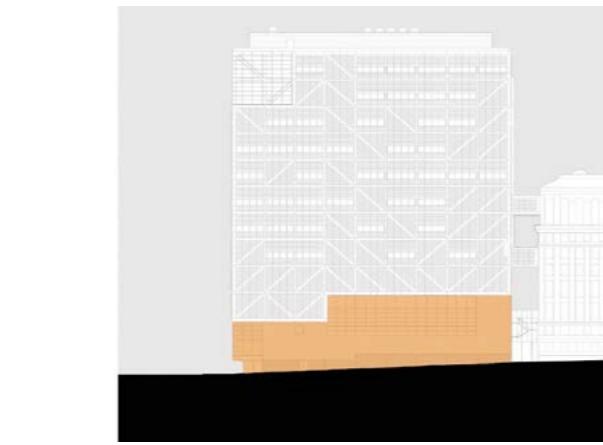


Source: ArchDaily Bloomberg AP

Specification II



Specification V



Specification V

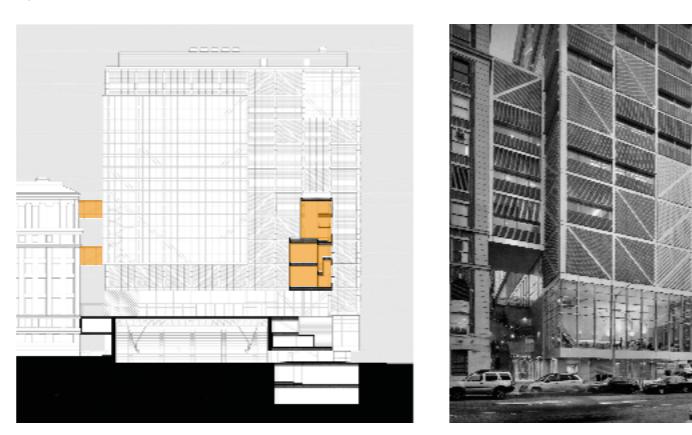


Source: Rafael Moneo, International Portfolio 1985-2012

Specification III

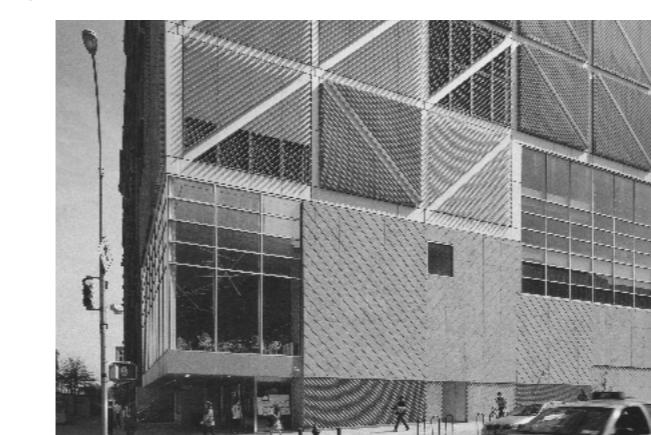


Specification III



Source: Rafael Moneo, International Portfolio 1985-2012

Specification V



Source: Rafael Moneo, International Portfolio 1985-2012

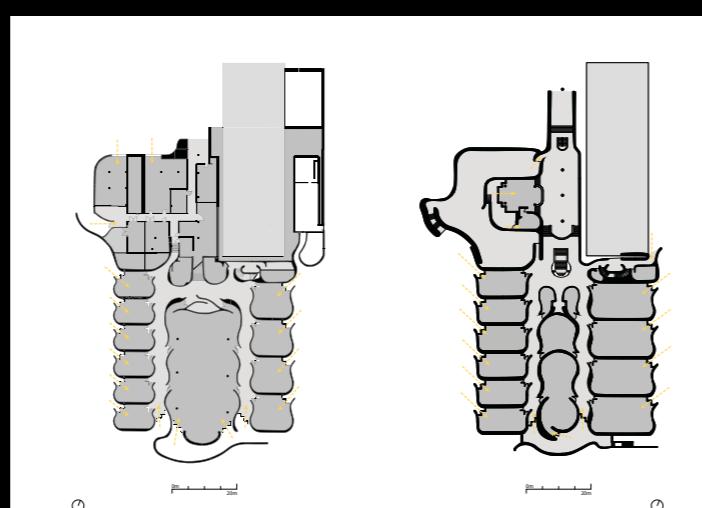
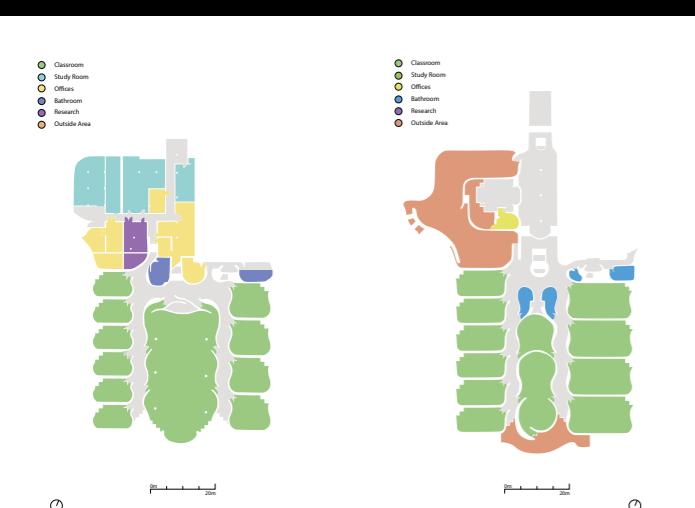
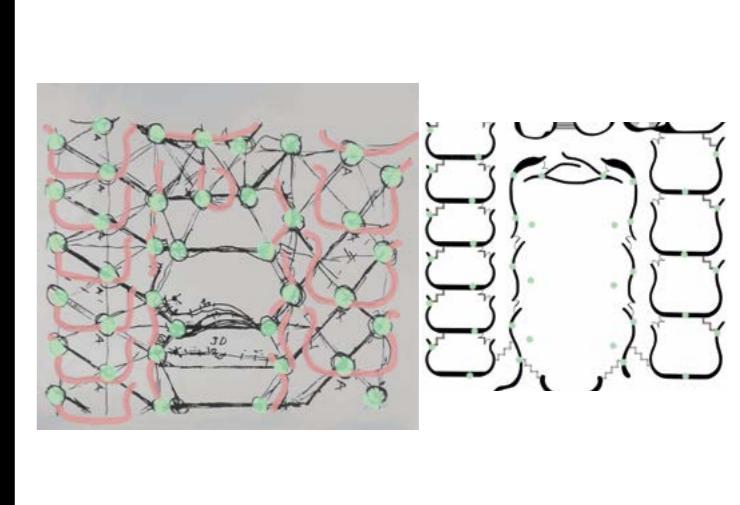
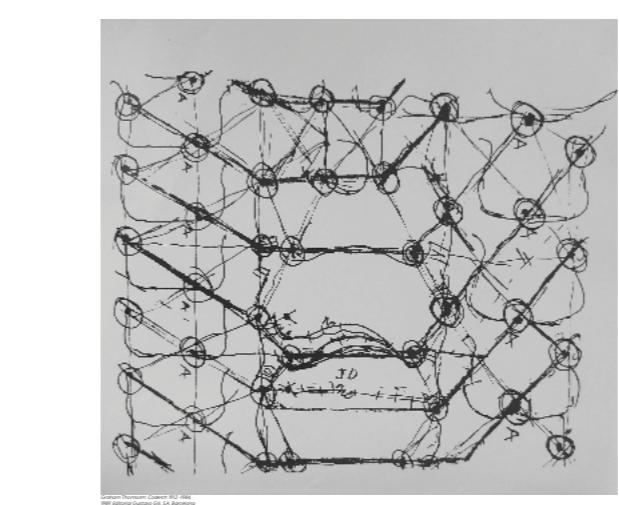
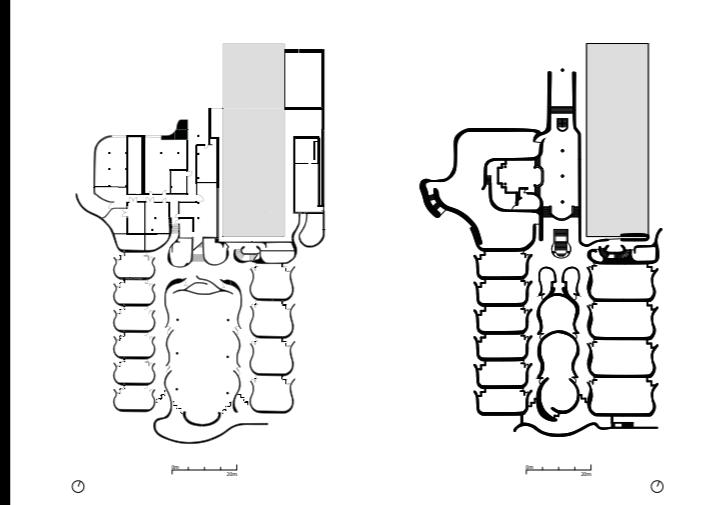
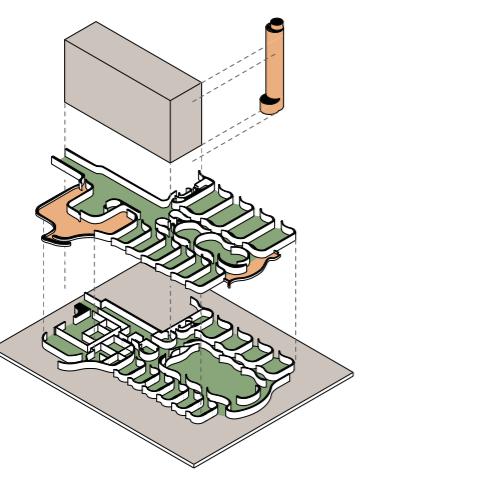
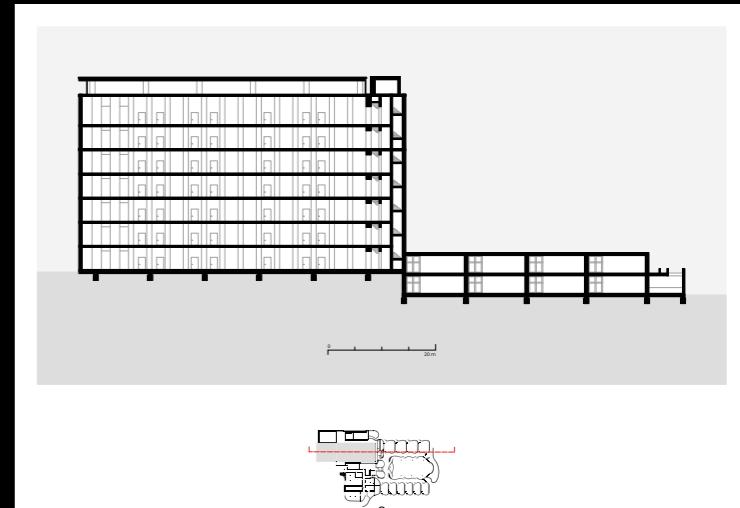
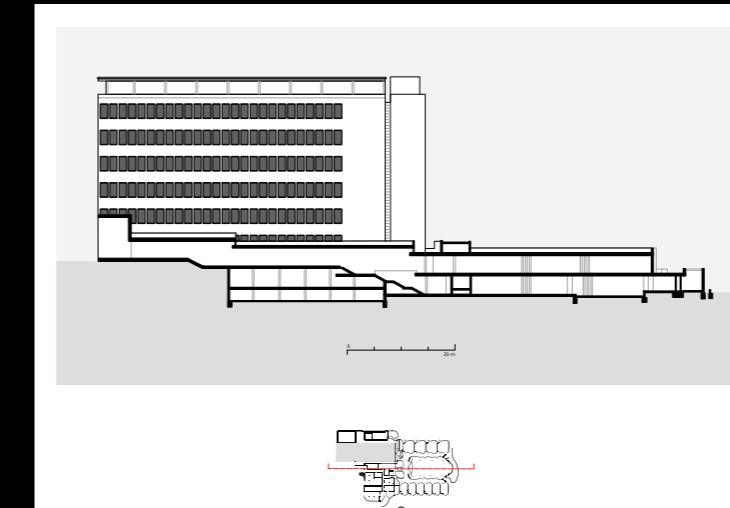
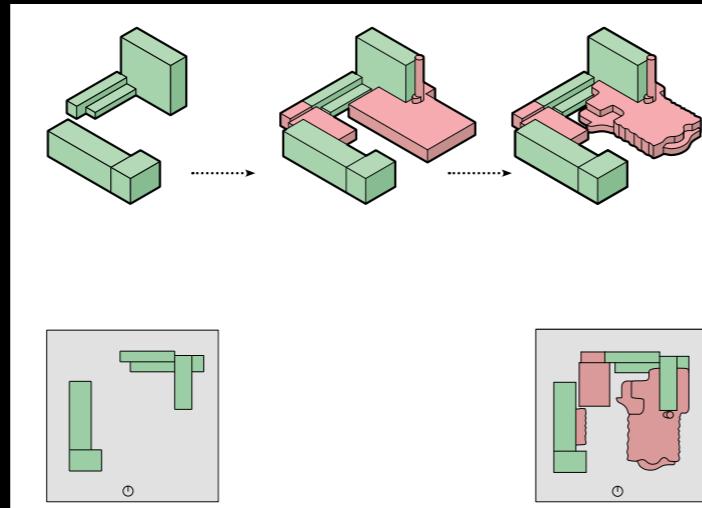
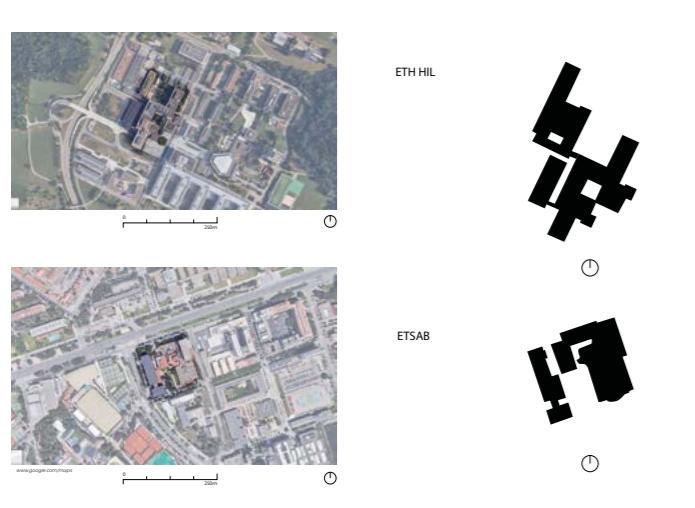
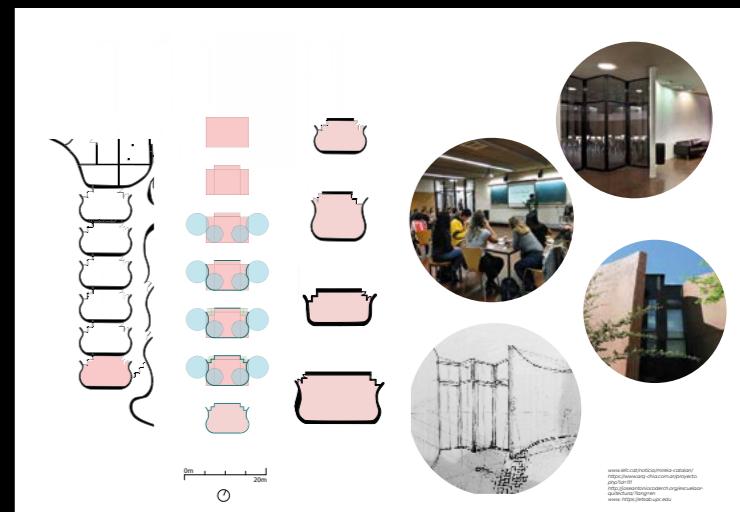
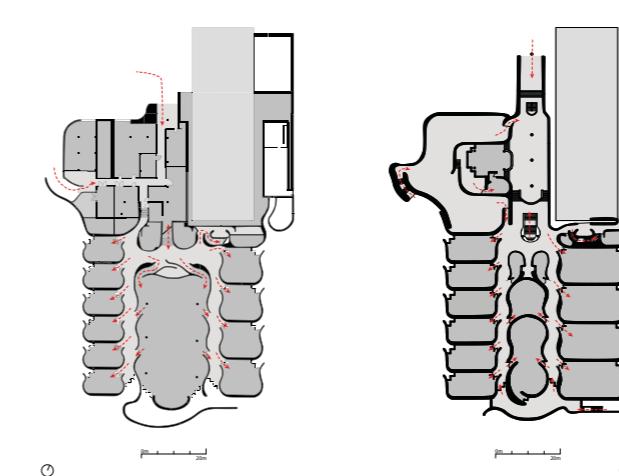


ETSAB Architecture School Extension

José Antonio Coderch



- Escuela Técnica Superior de Arquitectura de Barcelona
- Oldest and biggest Architecture School in Catalonia
- Founded 1875
- First Part built by José María Segarra Solsona in 1961
- Extension by José Antonio Coderch 1978
- Plot Area: 23'250 m²
- Ground floor Area: 11'040 m²a
- Total Floor Area: ~30'516 m²
- 3000 Students 300 Teachers





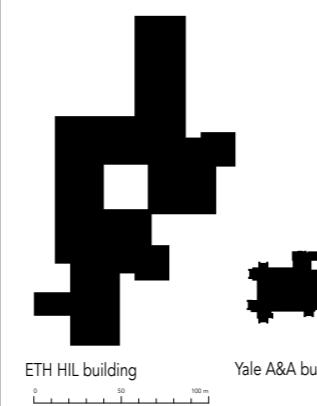
Yale Art and Architecture Building by Paul Rudolph



picture by Paul Rudolph Heritage Foundation

case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder

size comparison and general facts



1958-1964
Paul Rudolph
New Haven, Connecticut, USA
Yale University

10'590 m²
26.41 m high
7 floors above ground, 2 floors below ground
poured on site concrete rib structure with „bush-hammered“ finish

space for:
166 students of architecture and city planning
150 students of painting/sculpture/graphic design

ETH HIL building

Yale A&A building

0 50 100 m

case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder

busy building



Project: Health Hazards of YSoA, Drawing by Winston Yuen and Christopher Tritt, Model by Jack Lipson

case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder

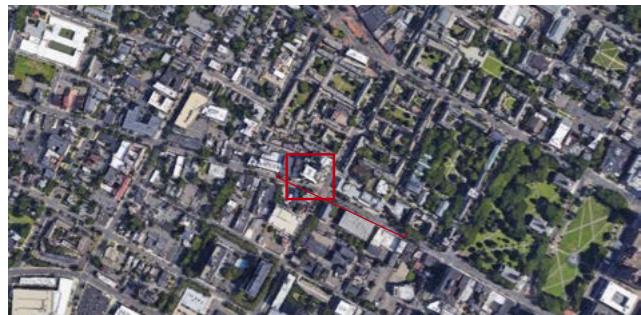
sectional perspective by Paul Rudolph



picture by Paul Rudolph Heritage Foundation

case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder

city context



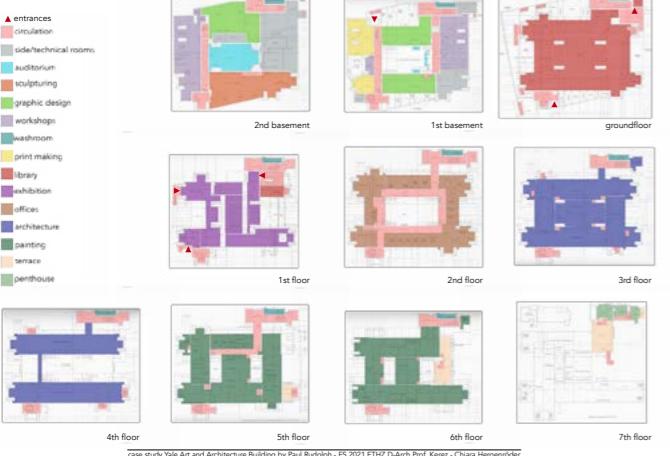
Google Maps image



elevation by Paul Rudolph Heritage Foundation

case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder

programme & entrances

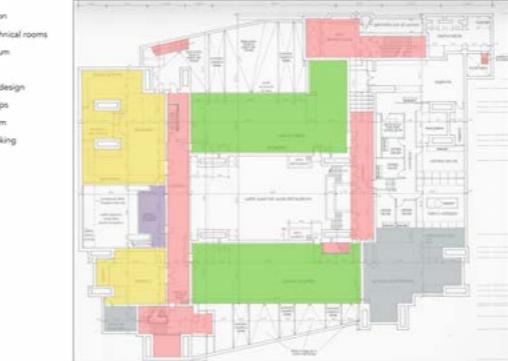


case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder

9 floors - >30 levels



case study Yale Art and Architecture Building by Paul Rudolph - FS 2021 ETHZ D-Arch Prof. Kerez - Chiara Hergenröder



1st basement



1st basement



1st basement



groundfloor



groundfloor



1st floor



1st floor



1st floor



1st floor



1st floor



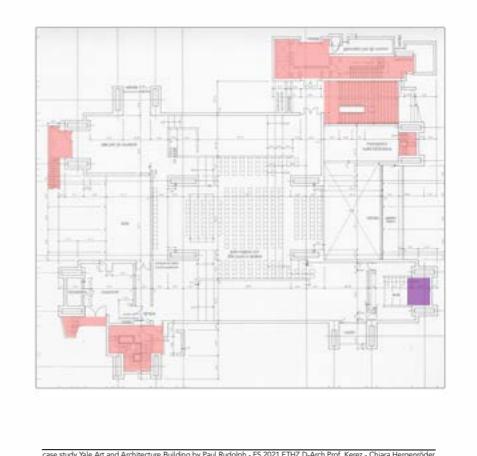
1st floor



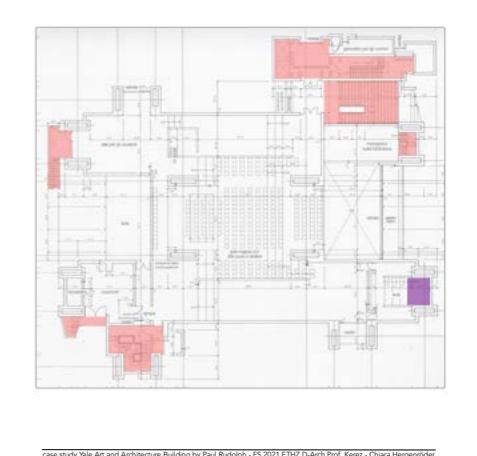
1st floor



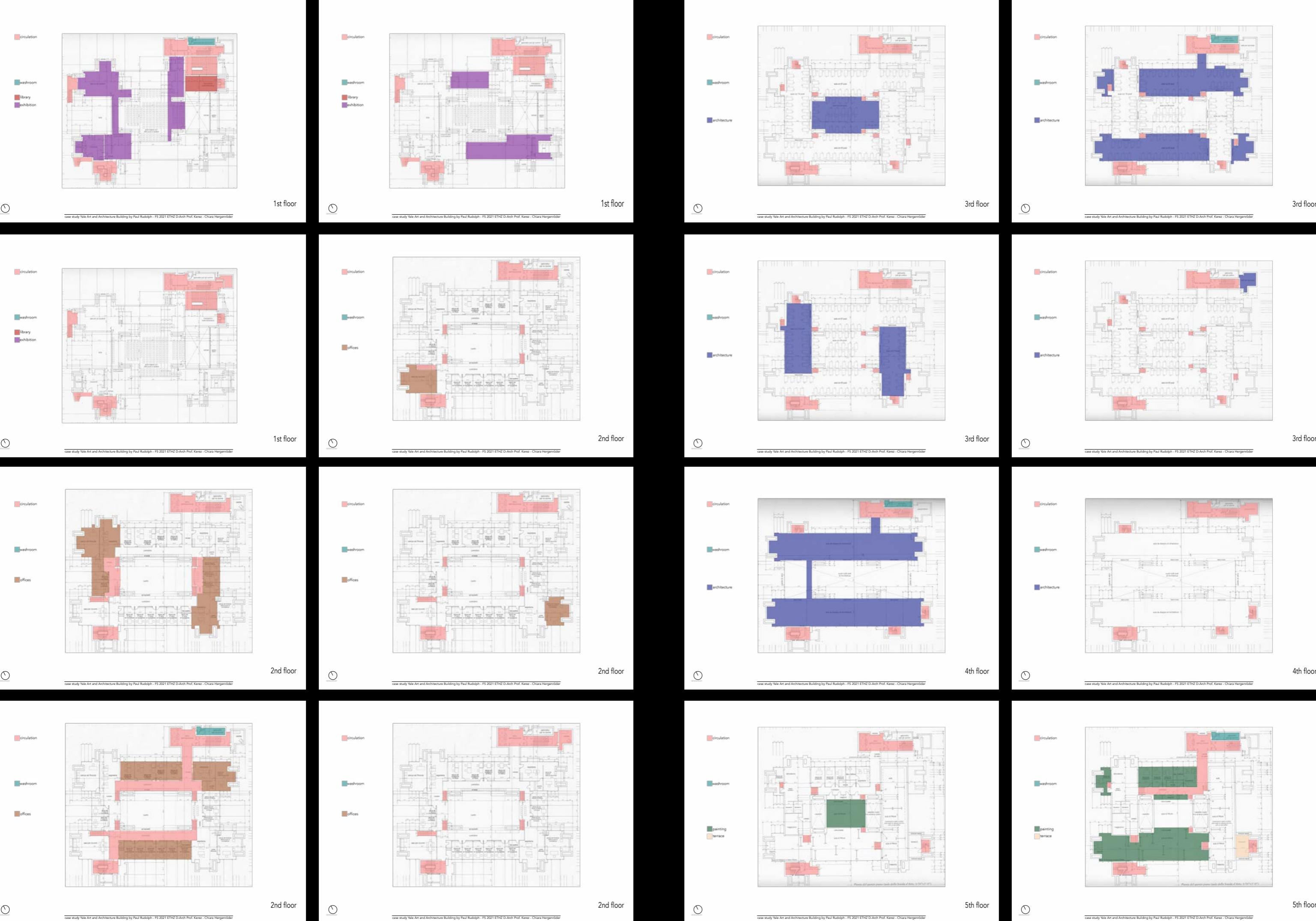
1st floor



1st floor



1st floor



BELL LABS HOLMDEL COMPLEX

Eero Saarinen



Anna Luzia Hess



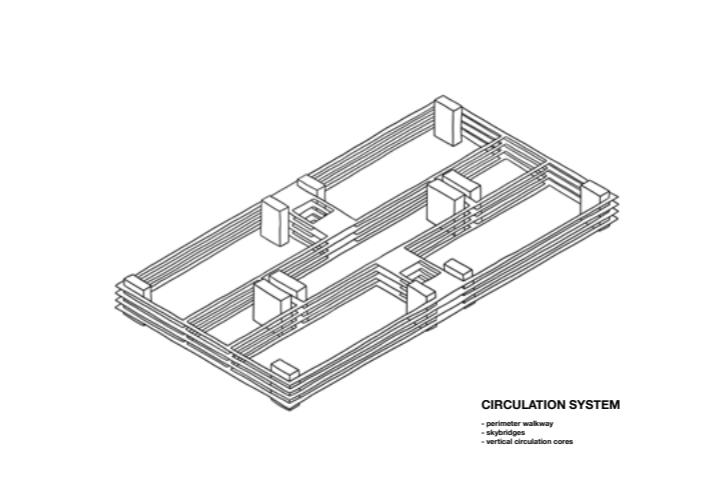
BELL LABS HOLMDEL COMPLEX

Research Laboratories, New Jersey
by Eero Saarinen and Associates

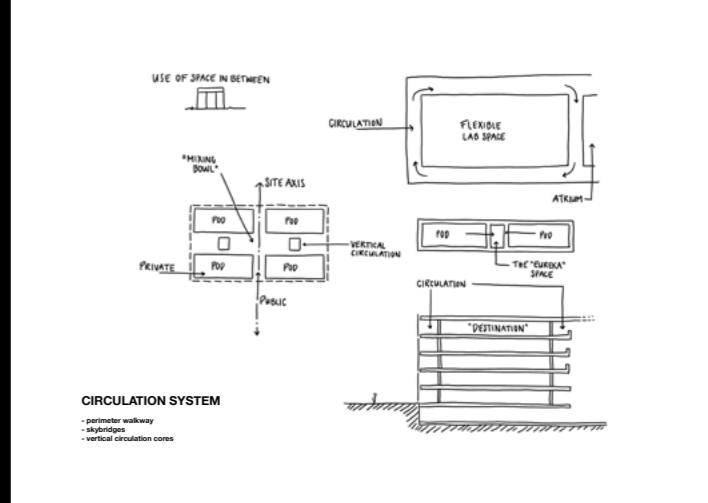


BELL LABS HOLMDEL COMPLEX
ARCHITECT Eero Saarinen and Associates
LANDSCAPE ARCHITECT Sasaki Walker and Associates
LOCATION New Jersey, USA
YEAR 1959-1962 (1959)
PROGRAM research and development facility
GROUNDS 540'000 m²
FACILITIES over 4'700 employees
OCCUPANCY 2'650 parking spaces
PARKING 2'300 seats
RESTAURANT 50'000 Volumes
LIBRARY

ETH HÖNGGERBERG
GROUNDS 480'000 m²



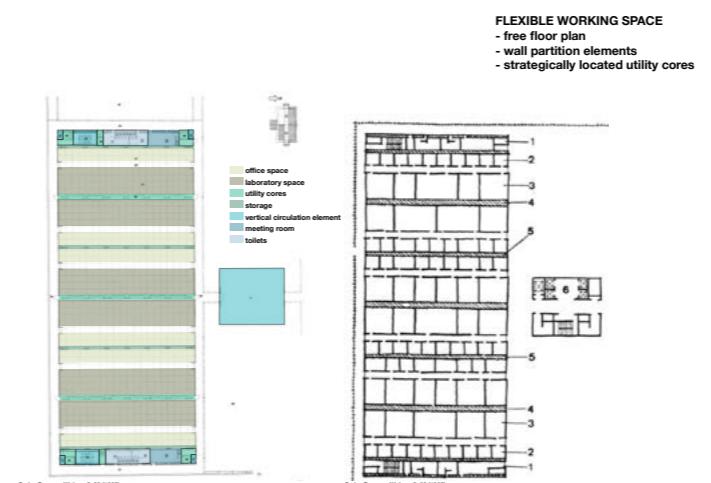
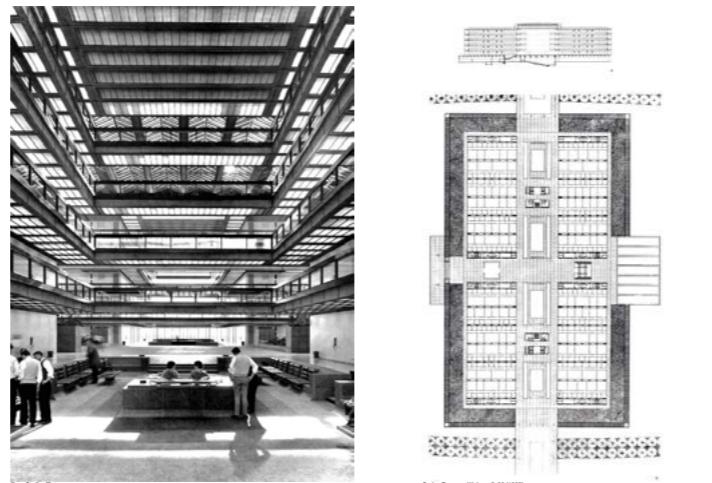
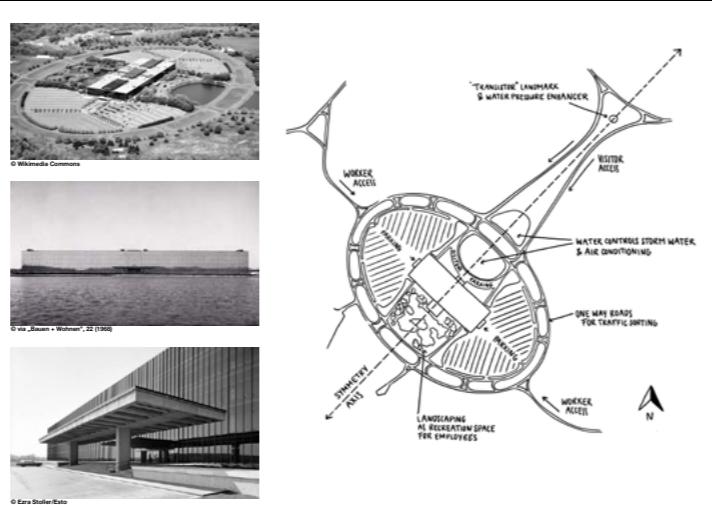
CIRCULATION SYSTEM
- perimeter walkway
- skybridges
- vertical circulation cores



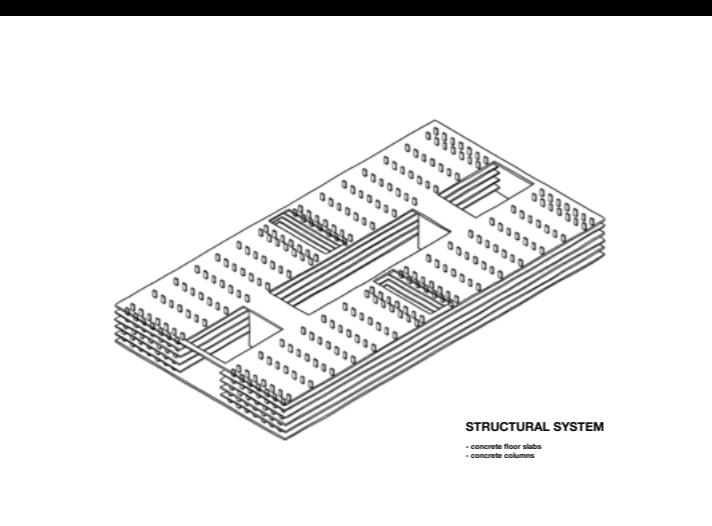
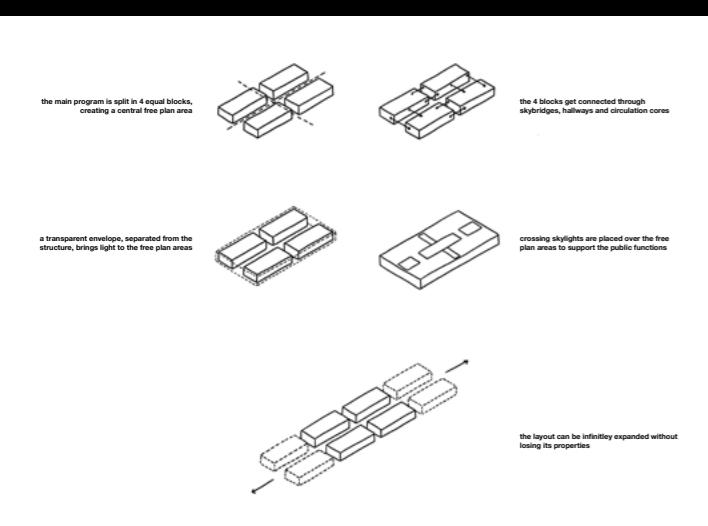
CIRCULATION SYSTEM
- perimeter walkway
- skybridges
- vertical circulation cores

DESIGN CRITERIA

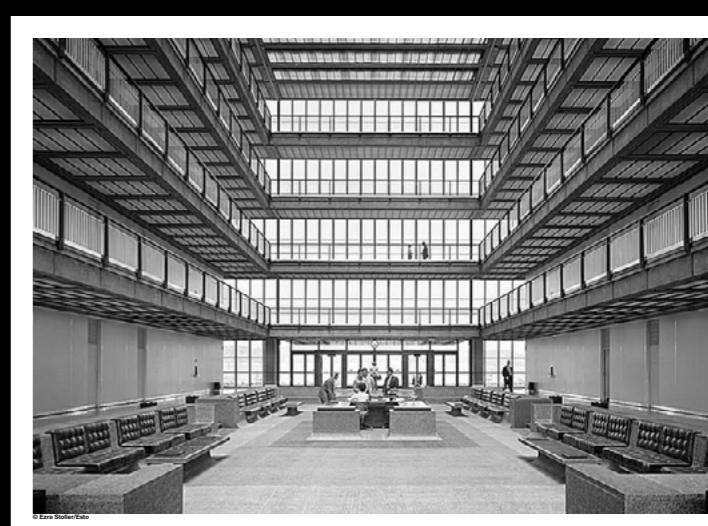
- 1 Maximum Flexibility in the use of space.
- 2 Centrally located common service facilities such as library, medical, personnel, restaurant and reproduction.
- 3 Flexibility to make changes in laboratories, with minimum interruption of work.
- 4 Minimum traffic past offices and Labs.
- 5 Central air conditioning.
- 6 Minimum distance from parking lots to buildings.
- 7 Road System to eliminate pedestrian traffic across roads, plus minimum traffic problems on public roads.
- 8 Construction and operating costs as low as feasible.



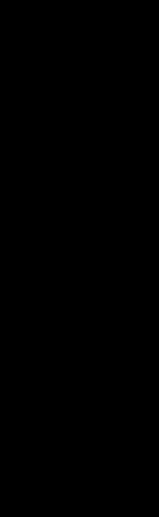
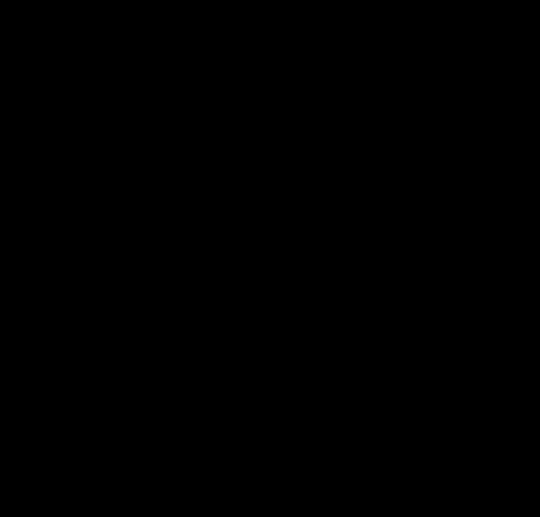
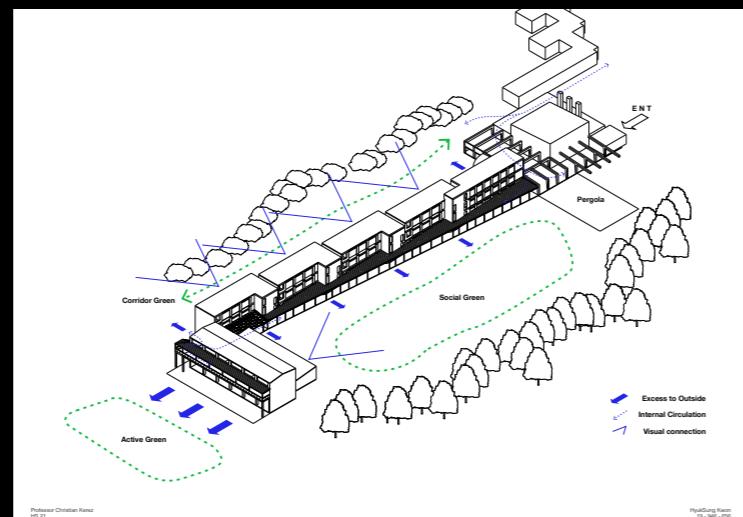
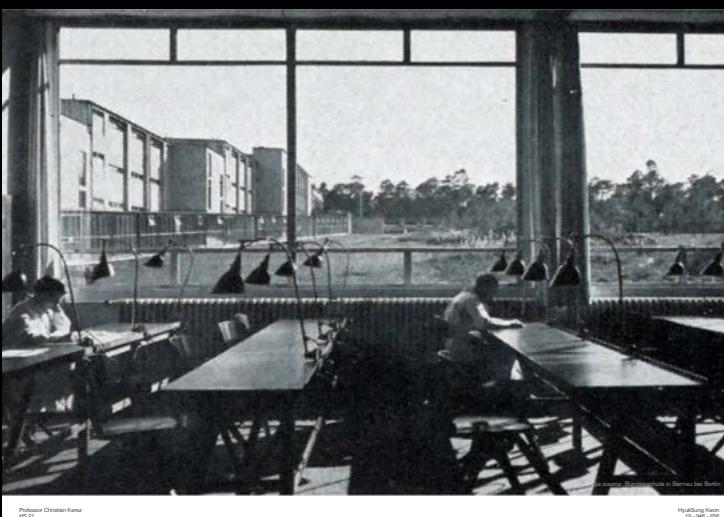
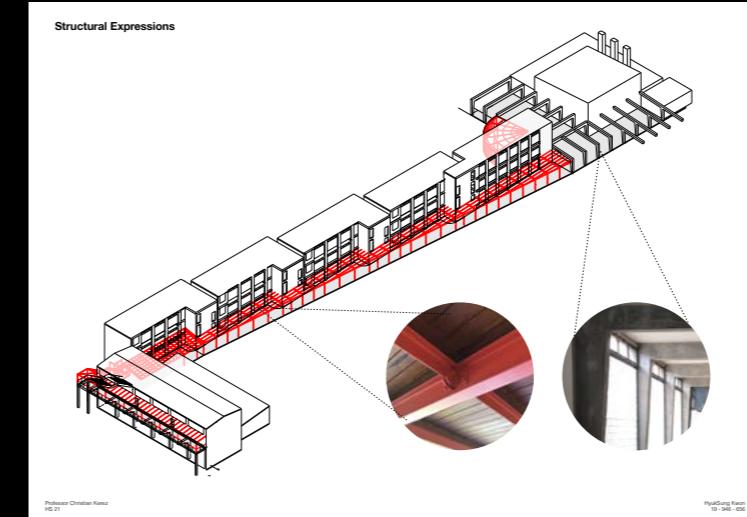
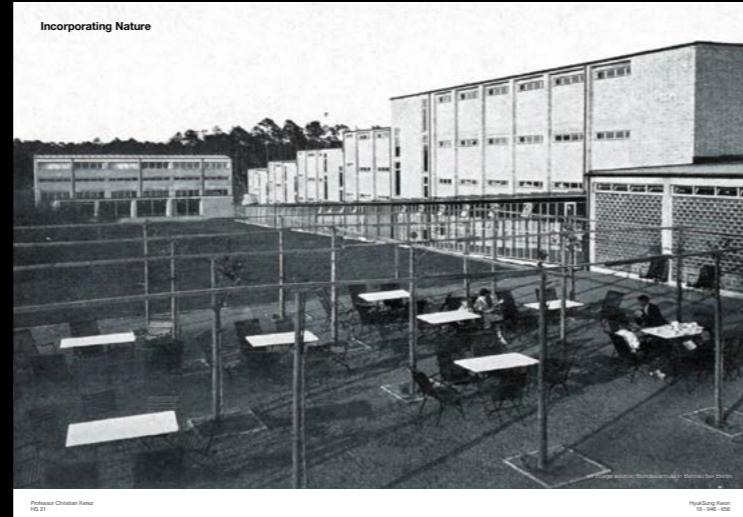
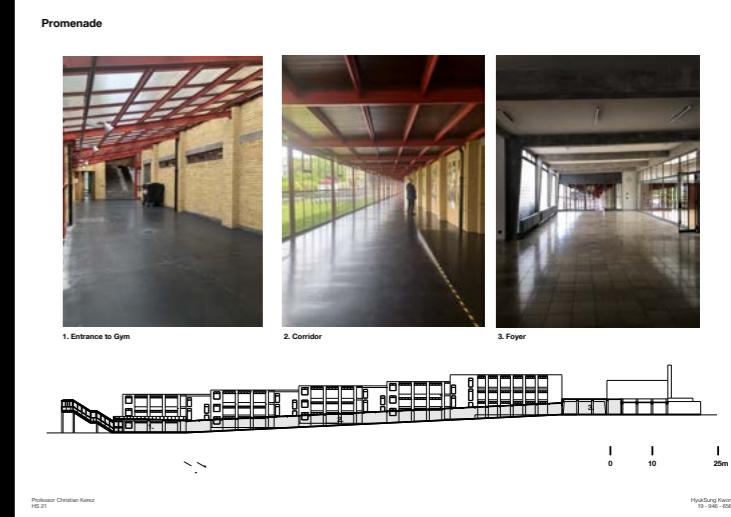
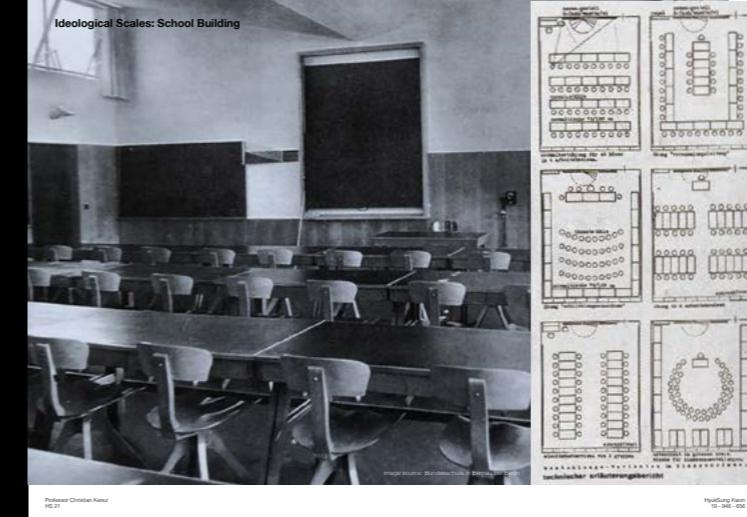
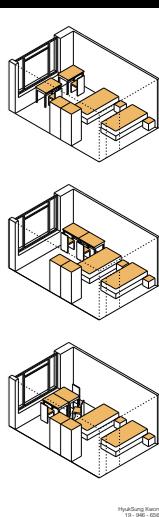
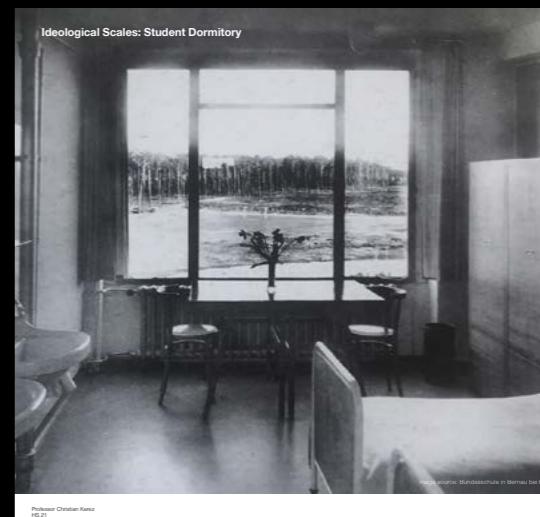
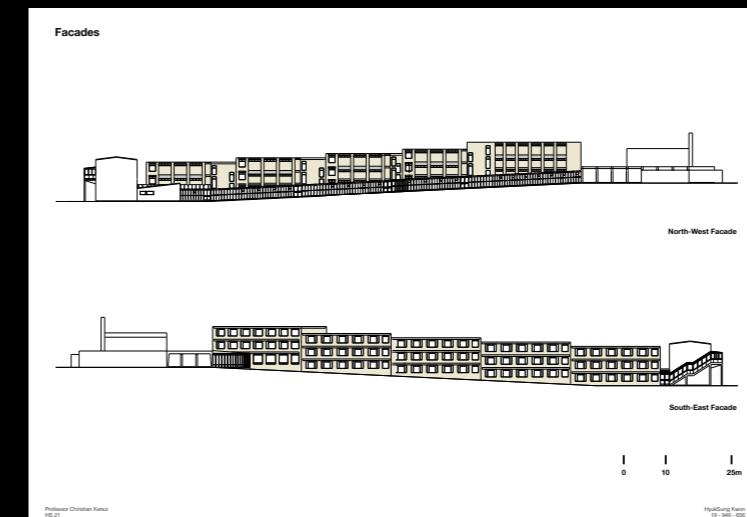
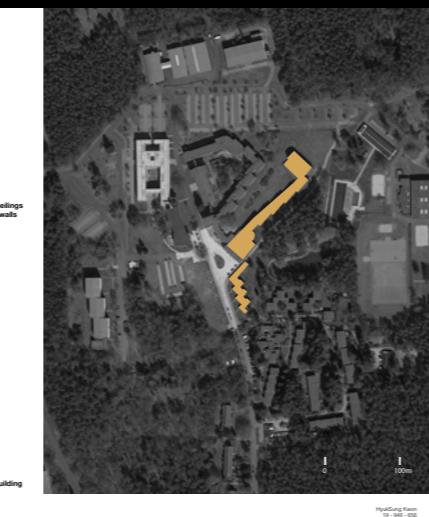
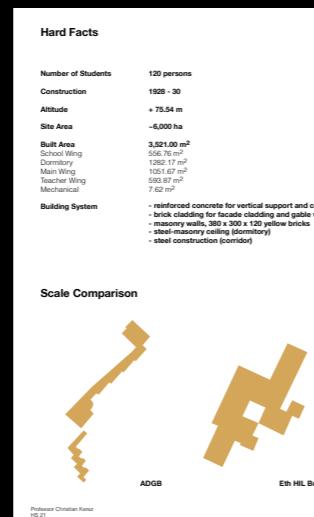
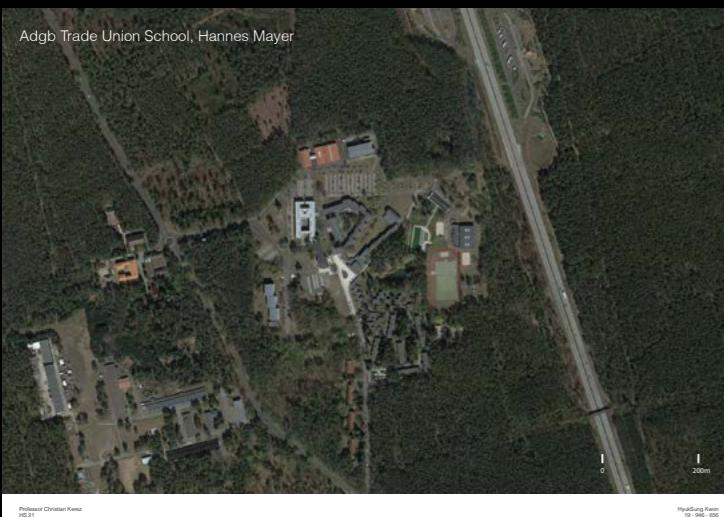
FLEXIBLE WORKING SPACE
- free floor plan
- wall partition elements
- strategically located utility cores

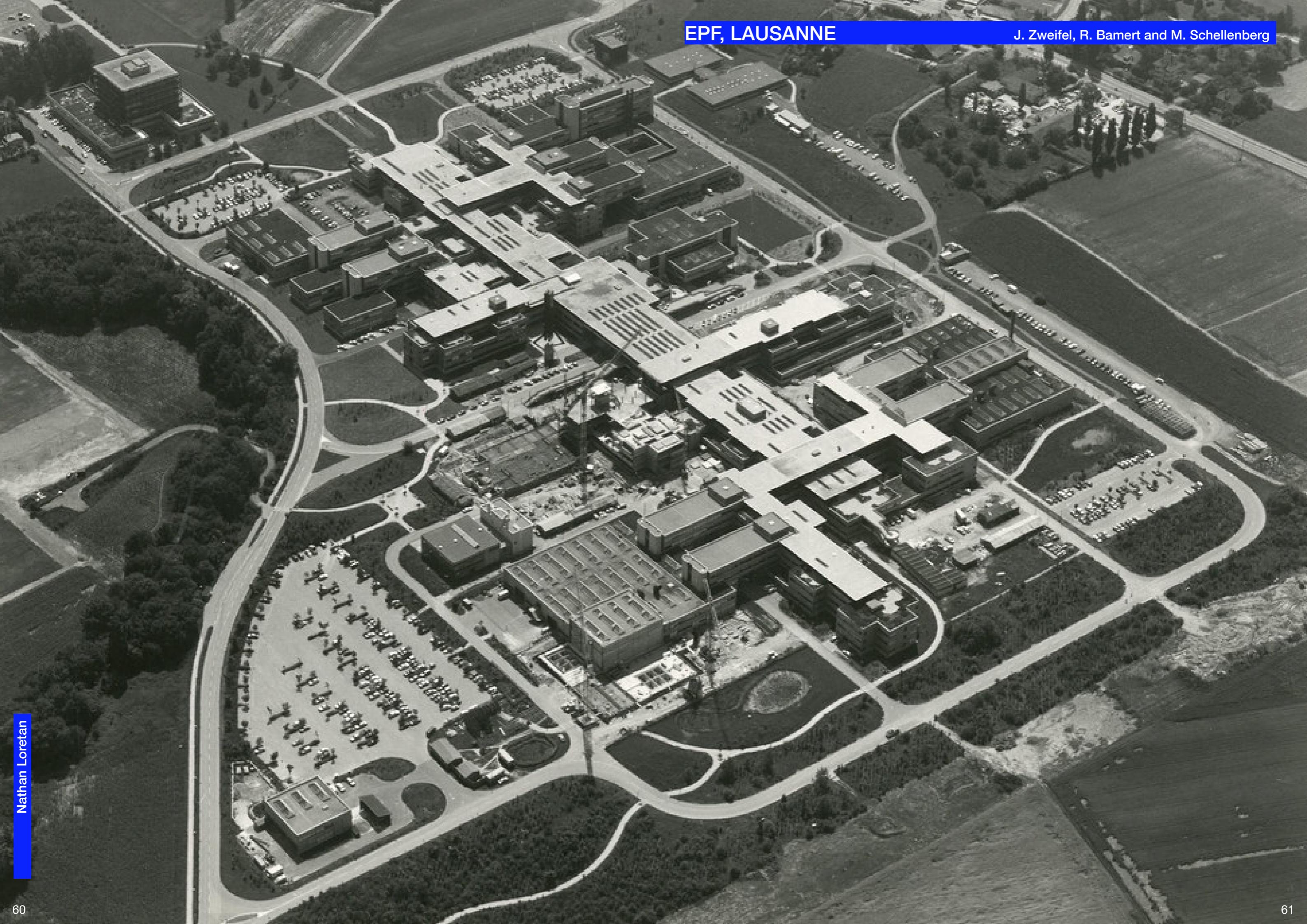


STRUCTURAL SYSTEM
- concrete floor slab
- concrete columns











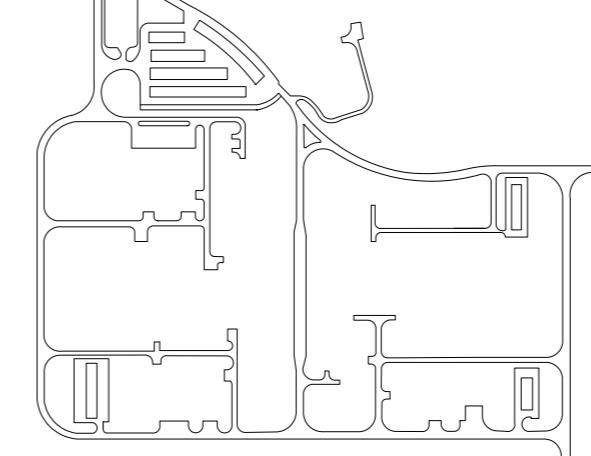
Presentation by Nathan Loretan

EPFL - Facts and Size

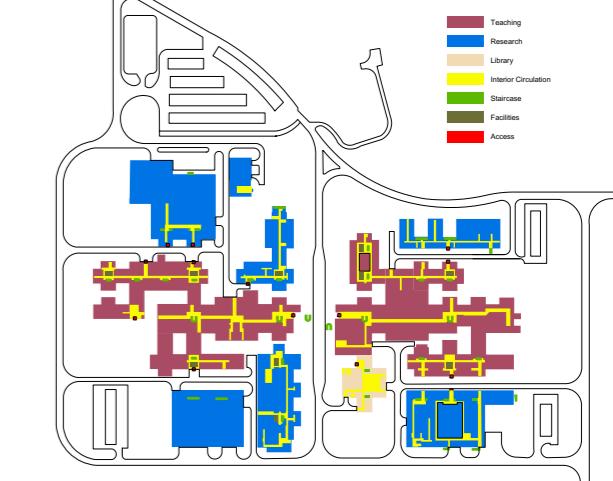
Jakob Zweifel Robert Bamert Markus Schellenberg
1971-1983 (opening in 1978)
Dorigny, Ecublens
East of Lausanne
Polytechnic School
60'000 m² Useful Area
550'000 m² Site Area
Number of students: 2'000-2'500
Programs: Teaching units, mensa, aula, research
Continental Climate
Flat area above Lake Geneva
Functionalist rationality. Modular architecture
Standardization, strong system
Separation of circulation flows
Element inherited of modern architecture
About 5km from city center later connected to the metro
Next to the new UNIL campus



EPFL Roadways

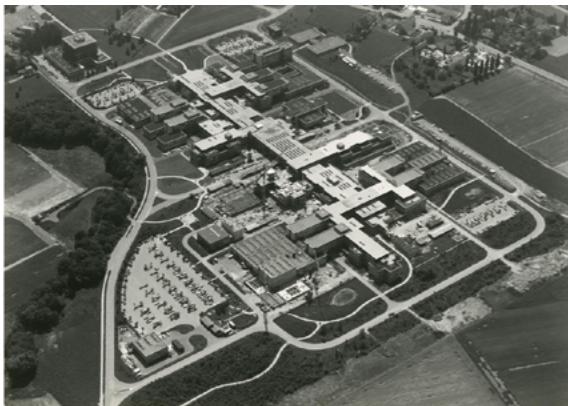


EPFL Ground Floor



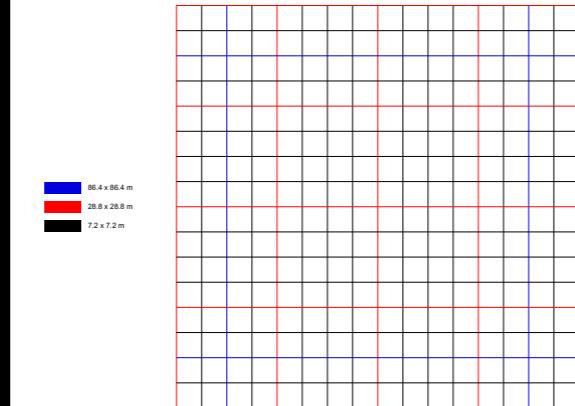
- Teaching
- Research
- Library
- Interior Circulation
- Staircase
- Facilities
- Access

EPFL General Image

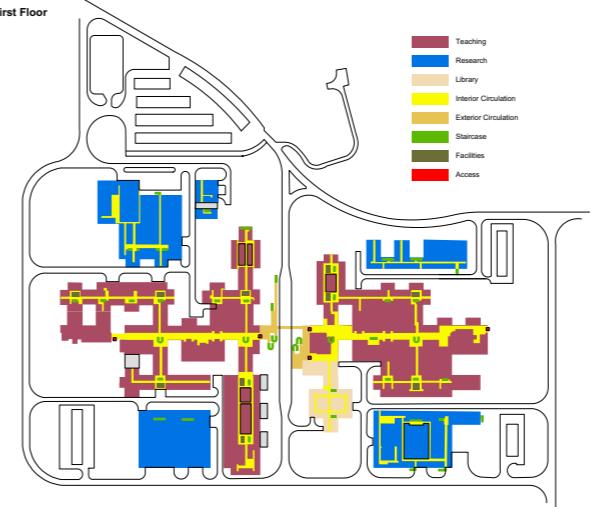


Source: <https://mediatheque.epfl.ch/album/image/53807?searched=true>

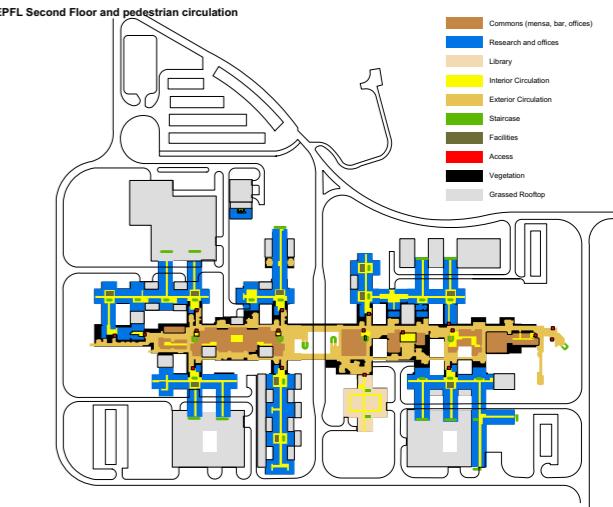
EPFL Grid and Typology



EPFL First Floor

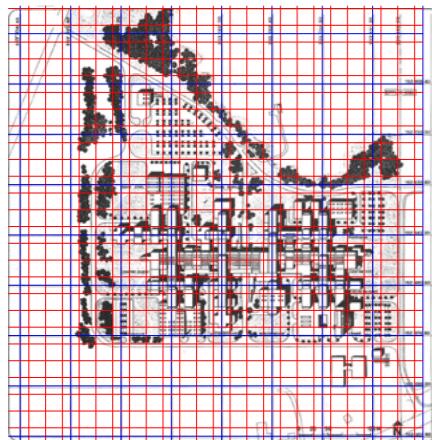


EPFL Second Floor and pedestrian circulation



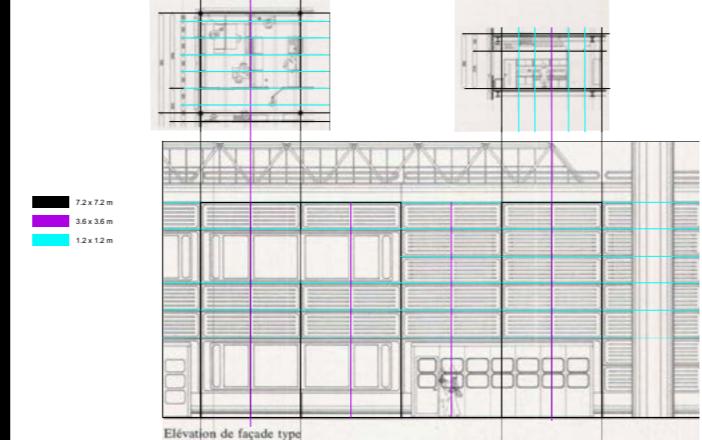
- Commons (mensa, bar, offices)
- Research and offices
- Library
- Interior Circulation
- Exterior Circulation
- Staircase
- Facilities
- Access
- Vegetation
- Grassed rooftop

EPFL Grid on Site



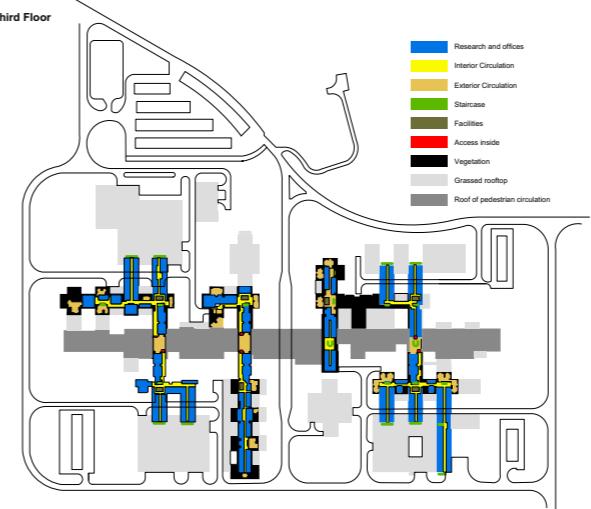
Source: <https://www.epfl.ch/campus/visitors/wp-content/uploads/2019/08/modelis07-1024x1019.png>

EPFL Internal Grid

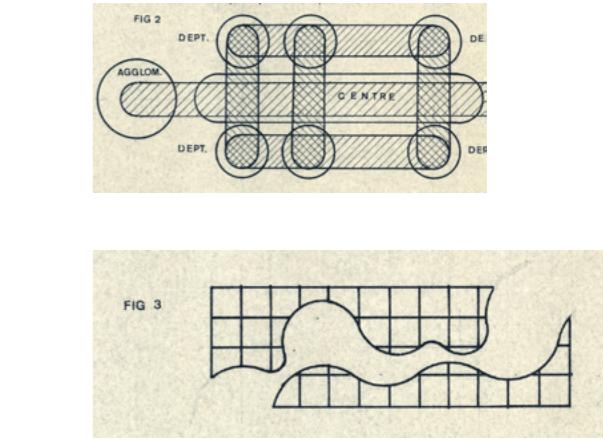


Source: Das Werk 2/76 EPFL

EPFL Third Floor

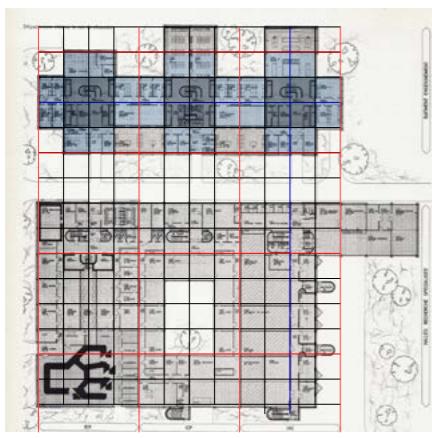


EPFL Circulation Scheme



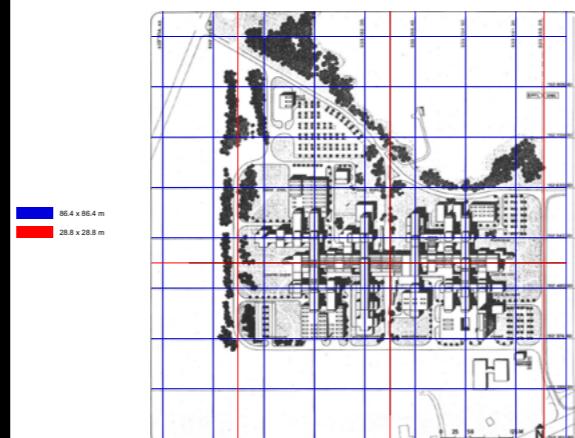
Source: [https://www.epfl.ch/campus/visitors/fr/batiments-phares/les-premiers-batiments-de-lepfl/circuler-dans-lepfl-EPFL_Fonds_Jacob_Zweifel_\(ACM\).pdf](https://www.epfl.ch/campus/visitors/fr/batiments-phares/les-premiers-batiments-de-lepfl/circuler-dans-lepfl-EPFL_Fonds_Jacob_Zweifel_(ACM).pdf)

EPFL Grid Example : chemistry building



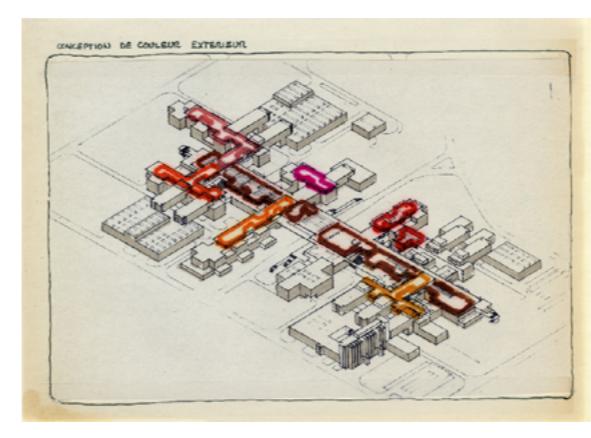
Source: Das Werk 2/76 EPFL

EPFL Circulation on Grid



Source: <https://www.epfl.ch/campus/visitors/wp-content/uploads/2019/08/modelis07-1024x1019.png>

EPFL Color Scheme



Source: Archives de la Construction Moderne, EPFL, Fonds Jacob Zweifel (ACM)
<https://www.epfl.ch/campus/visitors/fr/batiments-phares/les-premiers-batiments-de-lepfl/formes-materiaux-couleurs>

EPFL Pictures



Source: <https://mediatheque.epfl.ch/album/image/53807?searched=true>

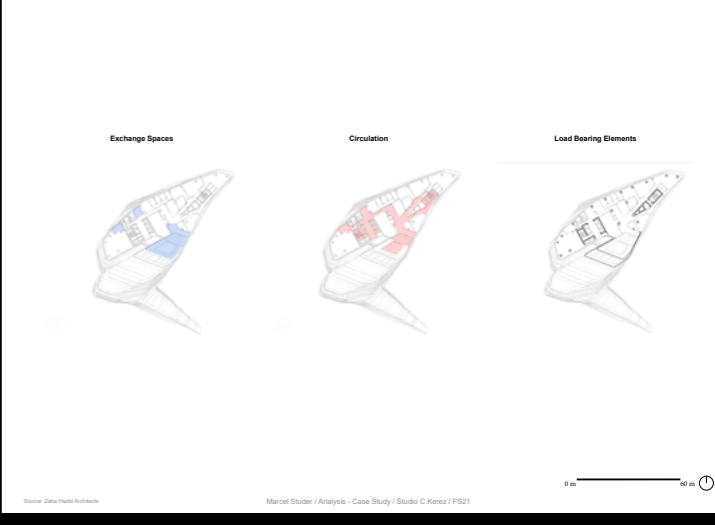
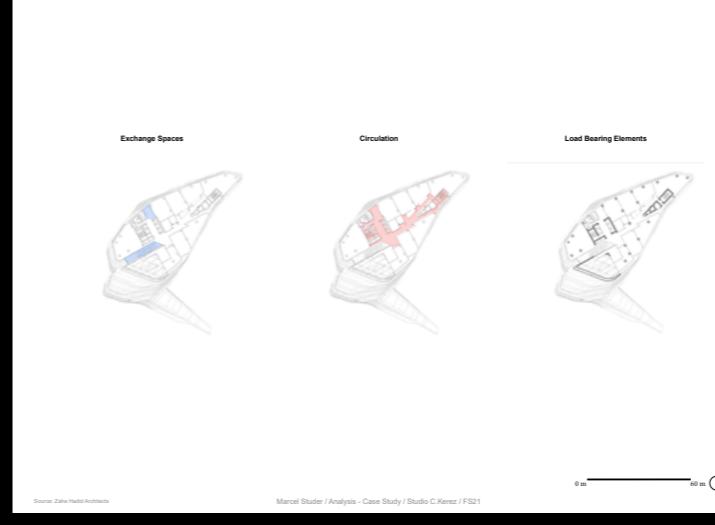
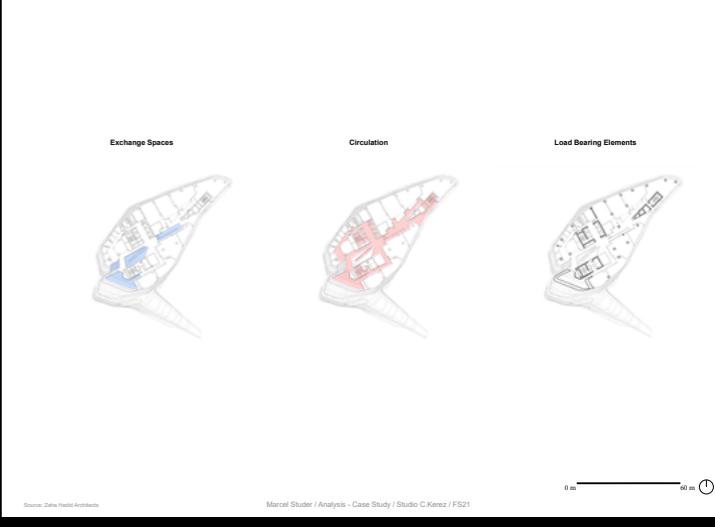
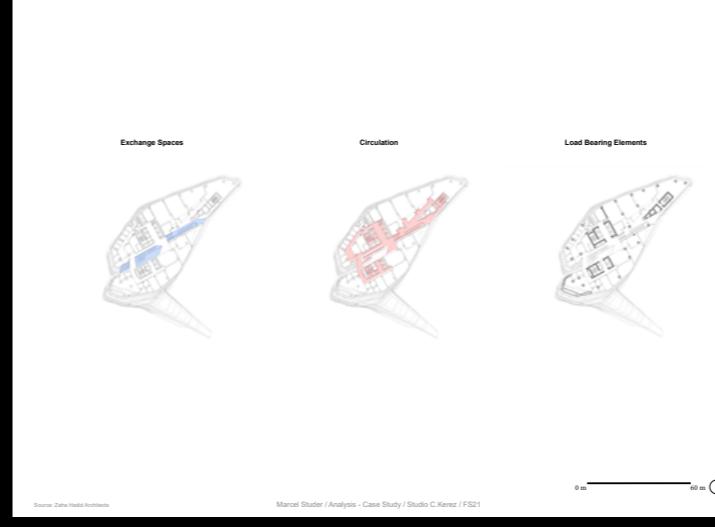
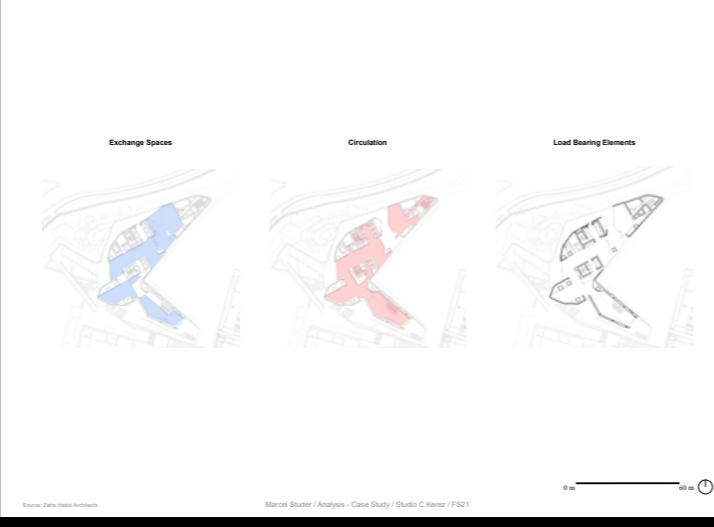
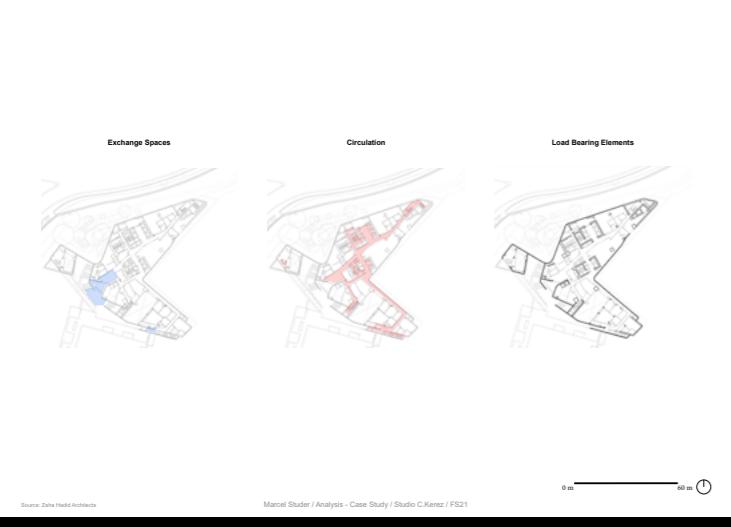
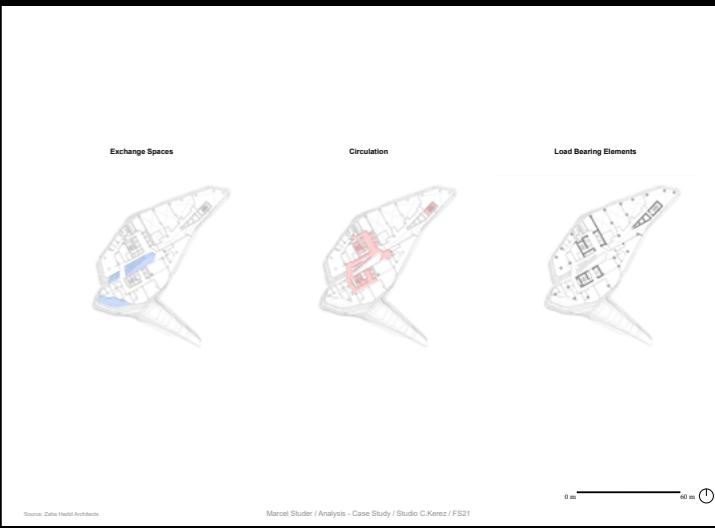
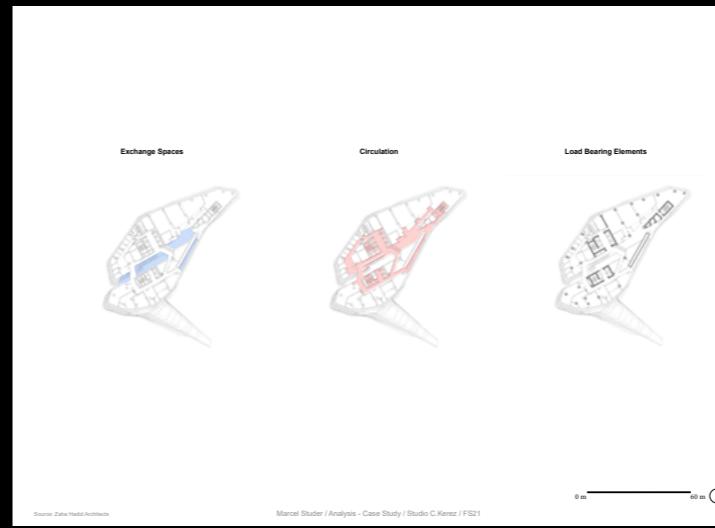
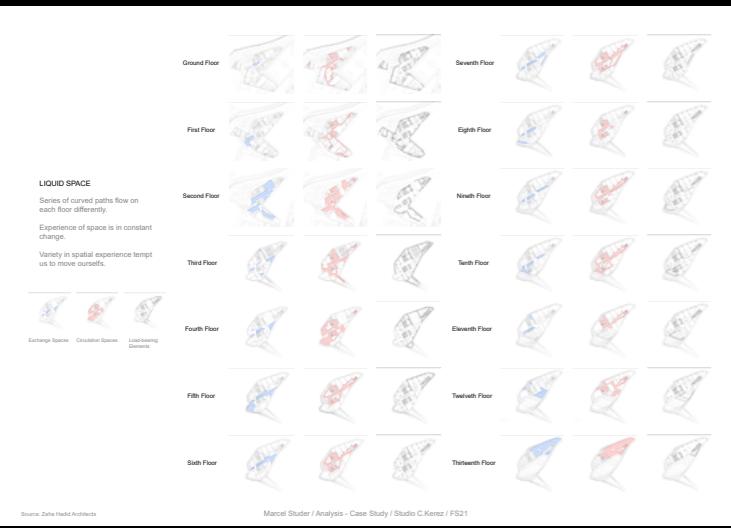
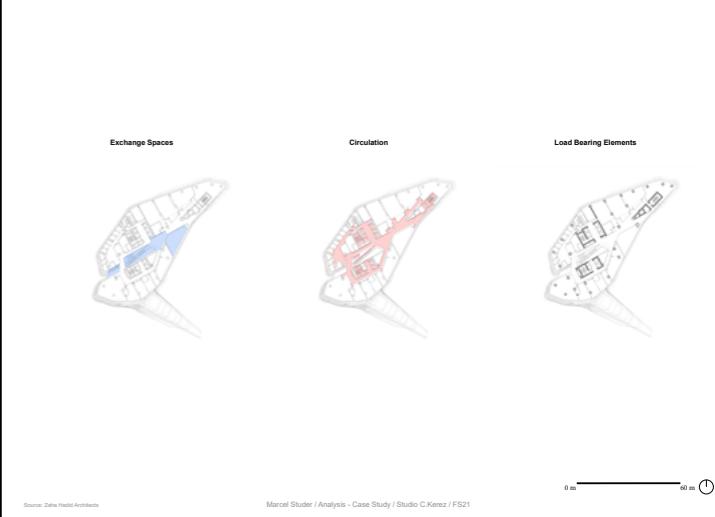
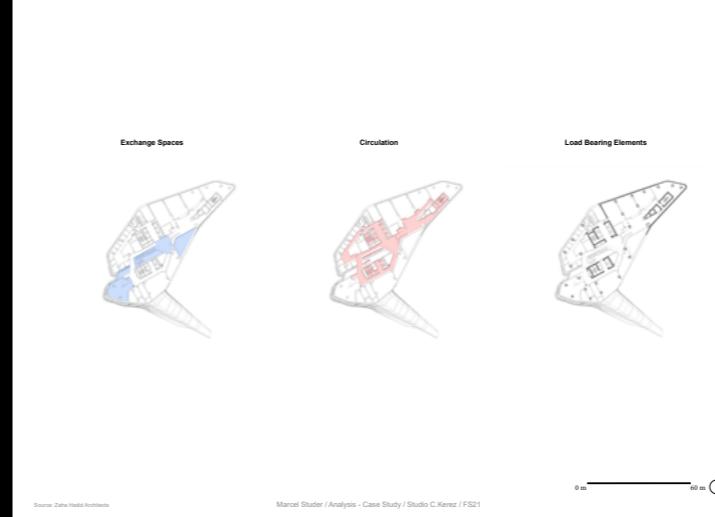
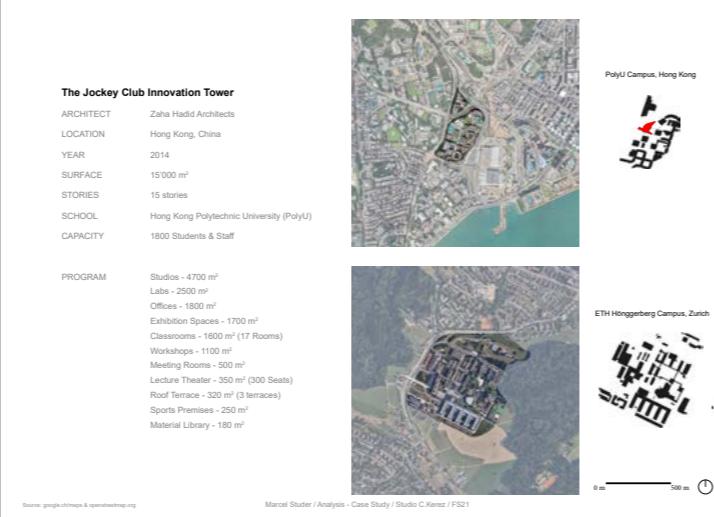


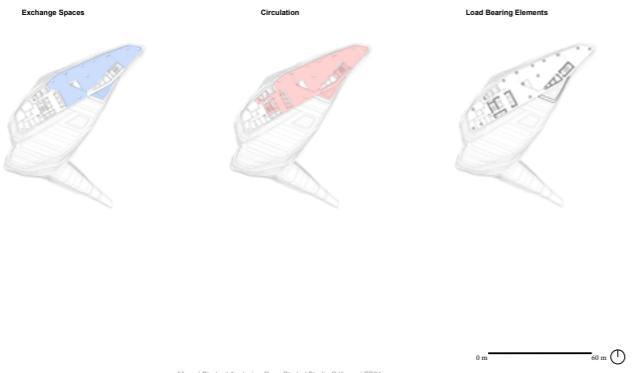
JOKEY CLUB INNOVATION TOWER

Zaha Hadid Architects



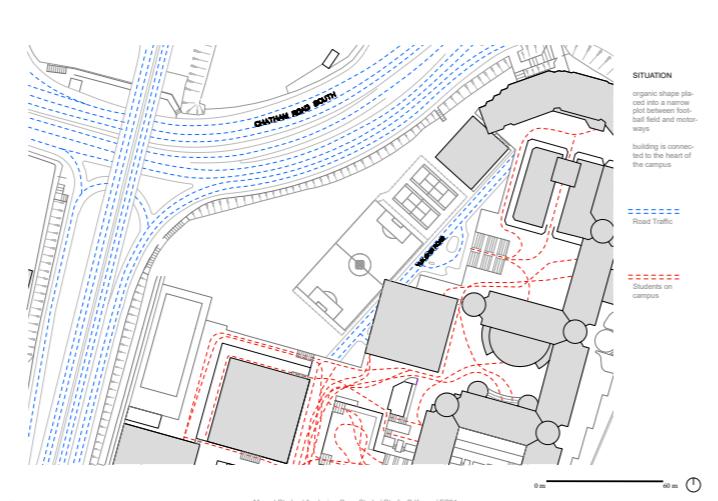
The Jockey Club Innovation Tower





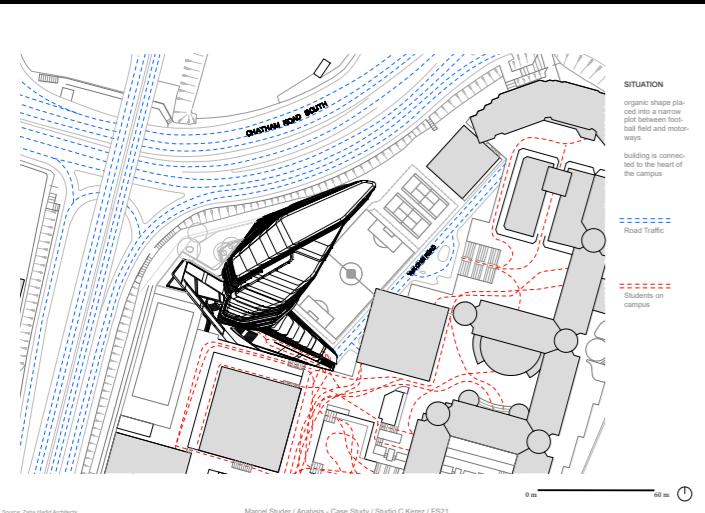
Source: Zaha Hadid Architects

Marcel Studer / Analysis - Case Study / Studio C Kerez / FS21



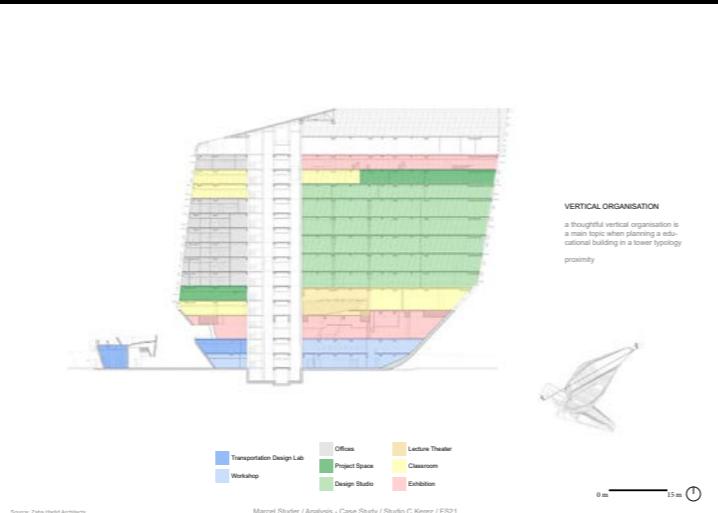
Source: Zaha Hadid Architects

Marcel Studer / Analysis - Case Study / Studio C Kerez / FS21



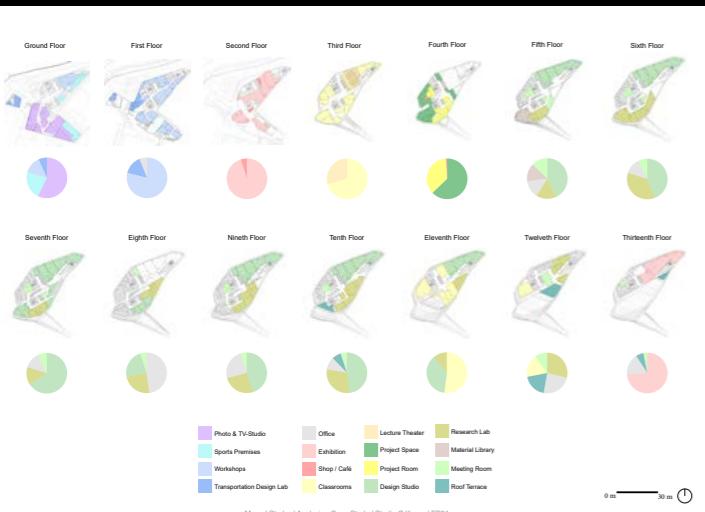
Source: Zaha Hadid Architects

Marcel Studer / Analysis - Case Study / Studio C Kerez / FS21



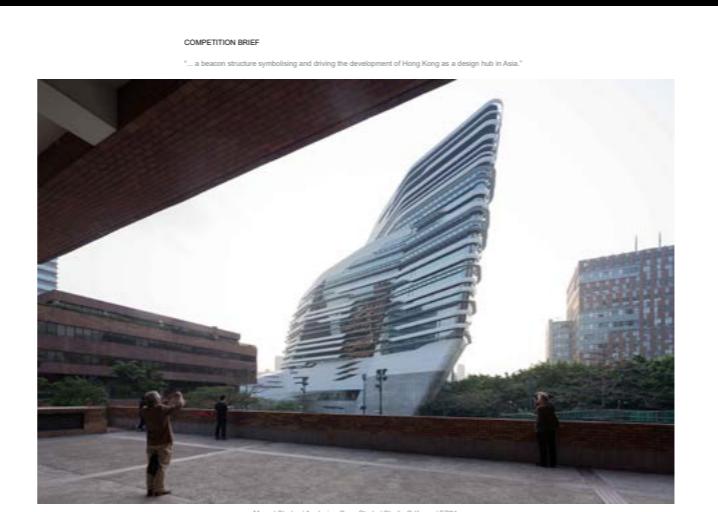
Source: Zaha Hadid Architects

Marcel Studer / Analysis - Case Study / Studio C Kerez / FS21



Source: Zaha Hadid Architects

Marcel Studer / Analysis - Case Study / Studio C Kerez / FS21



Source: studiokerez.com

Marcel Studer / Analysis - Case Study / Studio C Kerez / FS21

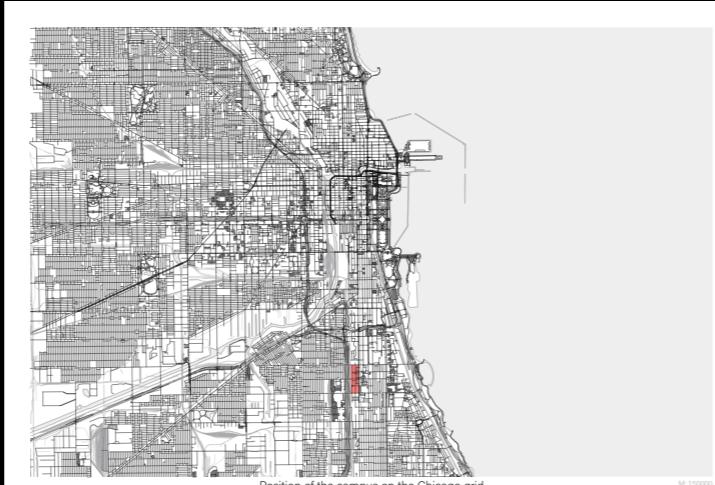




The Mies Campus (1940)

Mies van der Rohe

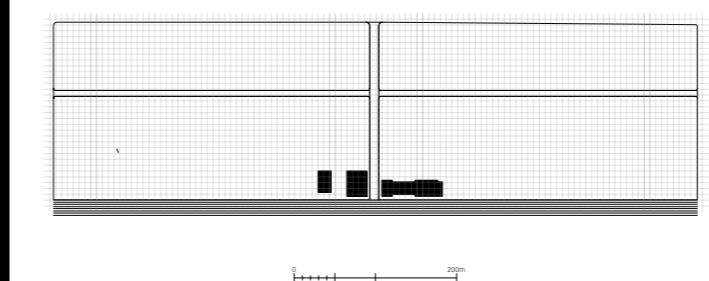
The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



Position of the campus on the Chicago grid

M. 100000

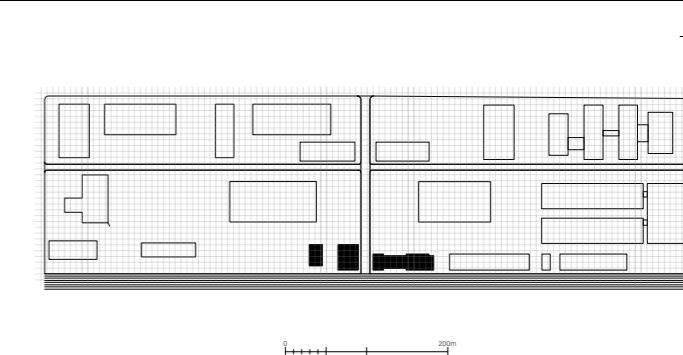
The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



The 24'x24' grid | Campus level | Original site

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler

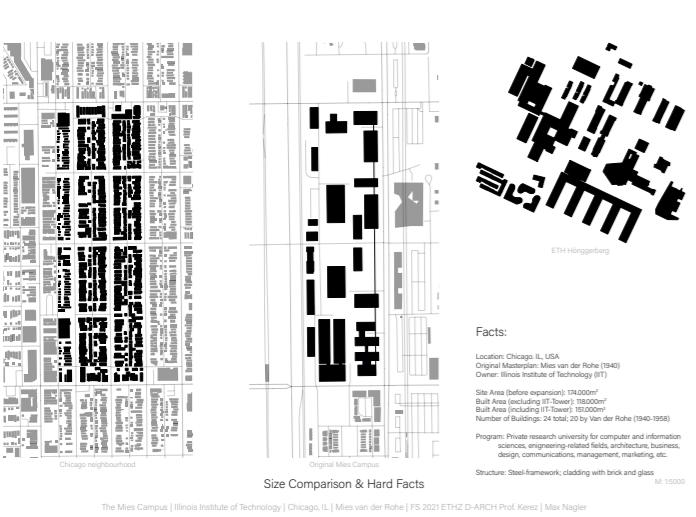
The 24'x24' grid | Campus level | Original site



The 24'x24' grid | „Universal Space“ | Positioning of the campus buildings

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler

The 24'x24' grid | „Universal Space“ | Positioning of the campus buildings



Facts:

Location: Chicago, IL, USA
Original commission: Mies van der Rohe (1940)
Owner: Illinois Institute of Technology (IIT)
Site Area (before expansion): 174,000m²
Built Area (excluding IIT Tower): 18,800m²
Built Area (including IIT Tower): 20,000m²
Number of Buildings: 24 total; 20 by Van der Rohe (1940-1956)
Program: Private research university for computer and information sciences, engineering-related fields, architecture, business, design, communications, management, marketing, etc.
Structure: Steel-framework, cladding with brick and glass

Structure: Steel-framework, cladding with brick and glass

Drawing: moma.org M. 1:5000



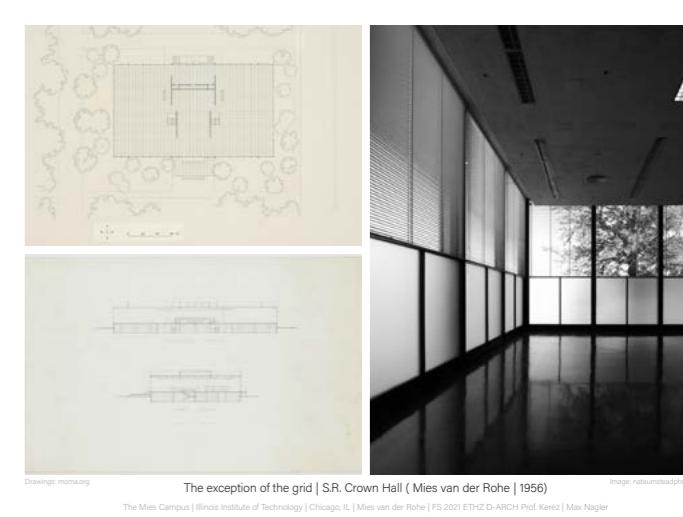
The 24'x24' grid | Modular level | classroom, drafting & laboratory work

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



The 24'x24' grid | „Campus in the Park“ | Circulation & pathways

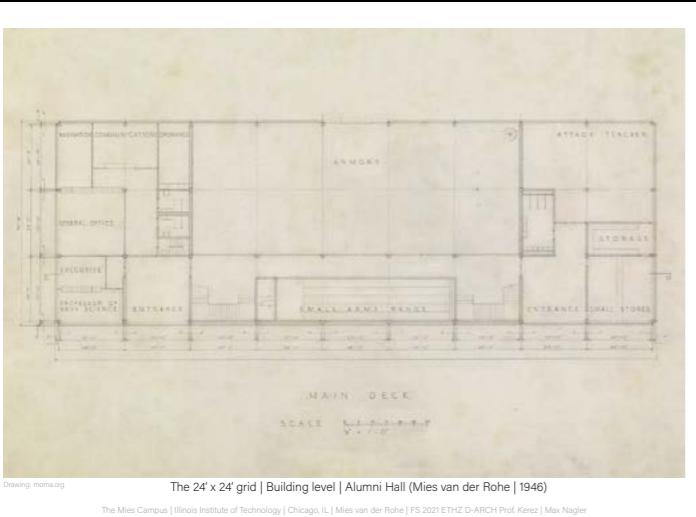
The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



The exception of the grid | S.R. Crown Hall (Mies van der Rohe | 1956)

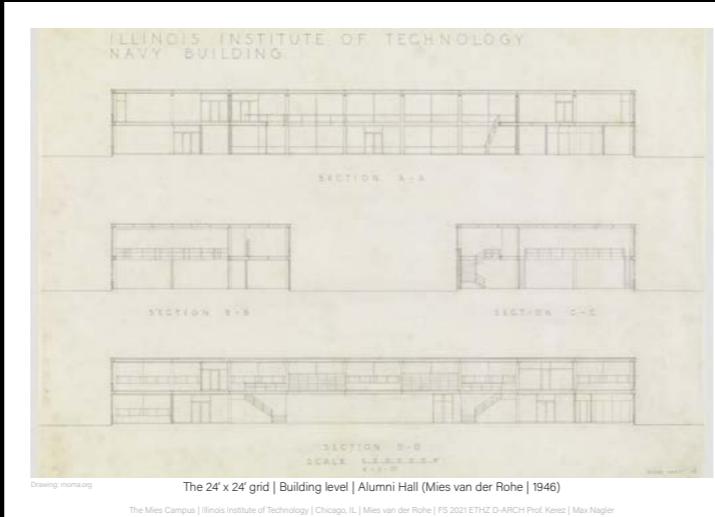
The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler

The exception of the grid | S.R. Crown Hall (Mies van der Rohe | 1956)



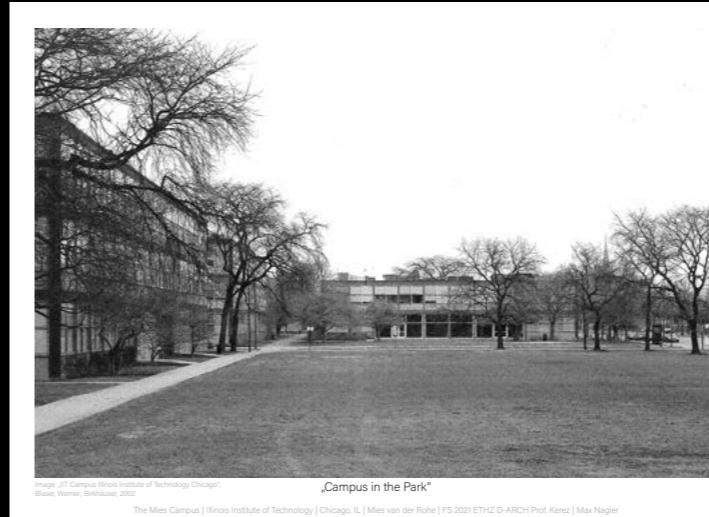
The 24'x24' grid | Building level | Alumni Hall (Mies van der Rohe | 1946)

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



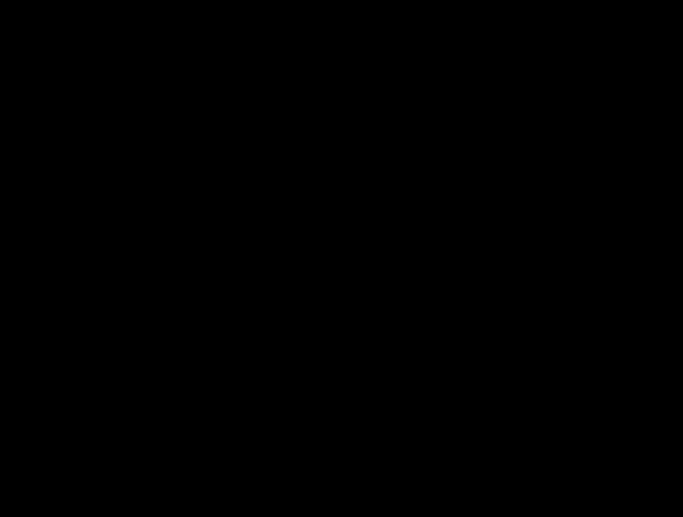
The 24'x24' grid | Building level | Alumni Hall (Mies van der Rohe | 1946)

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



„Campus in the Park“

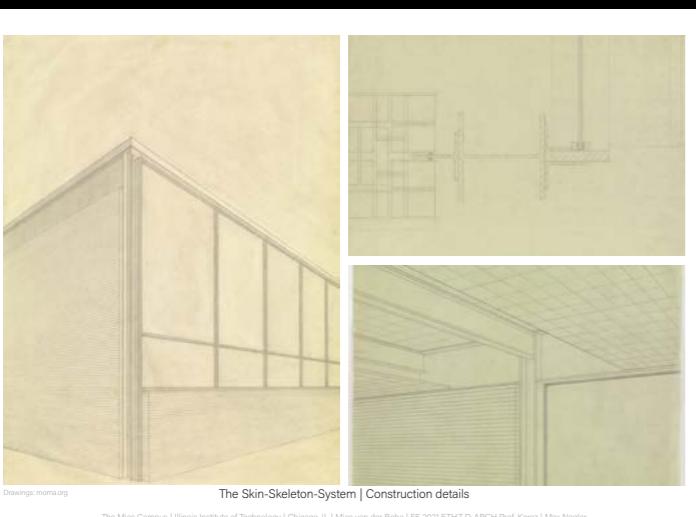
The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



The Skin-Skeleton-System | Construction details

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler

The Skin-Skeleton-System | Construction details



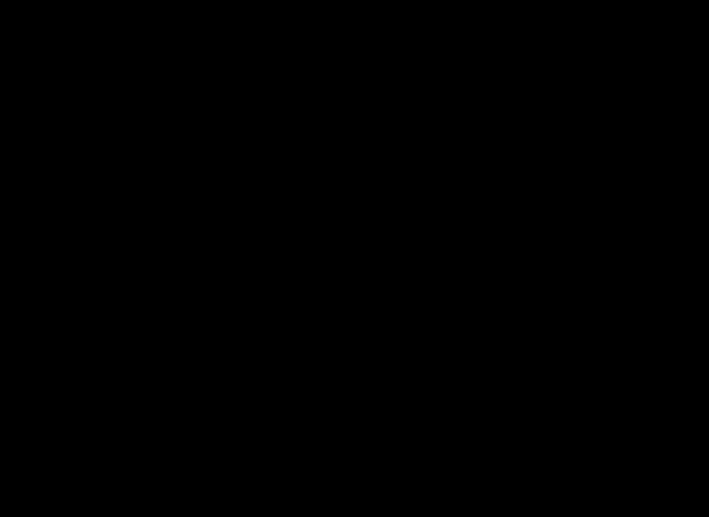
The Skin-Skeleton-System | Construction details

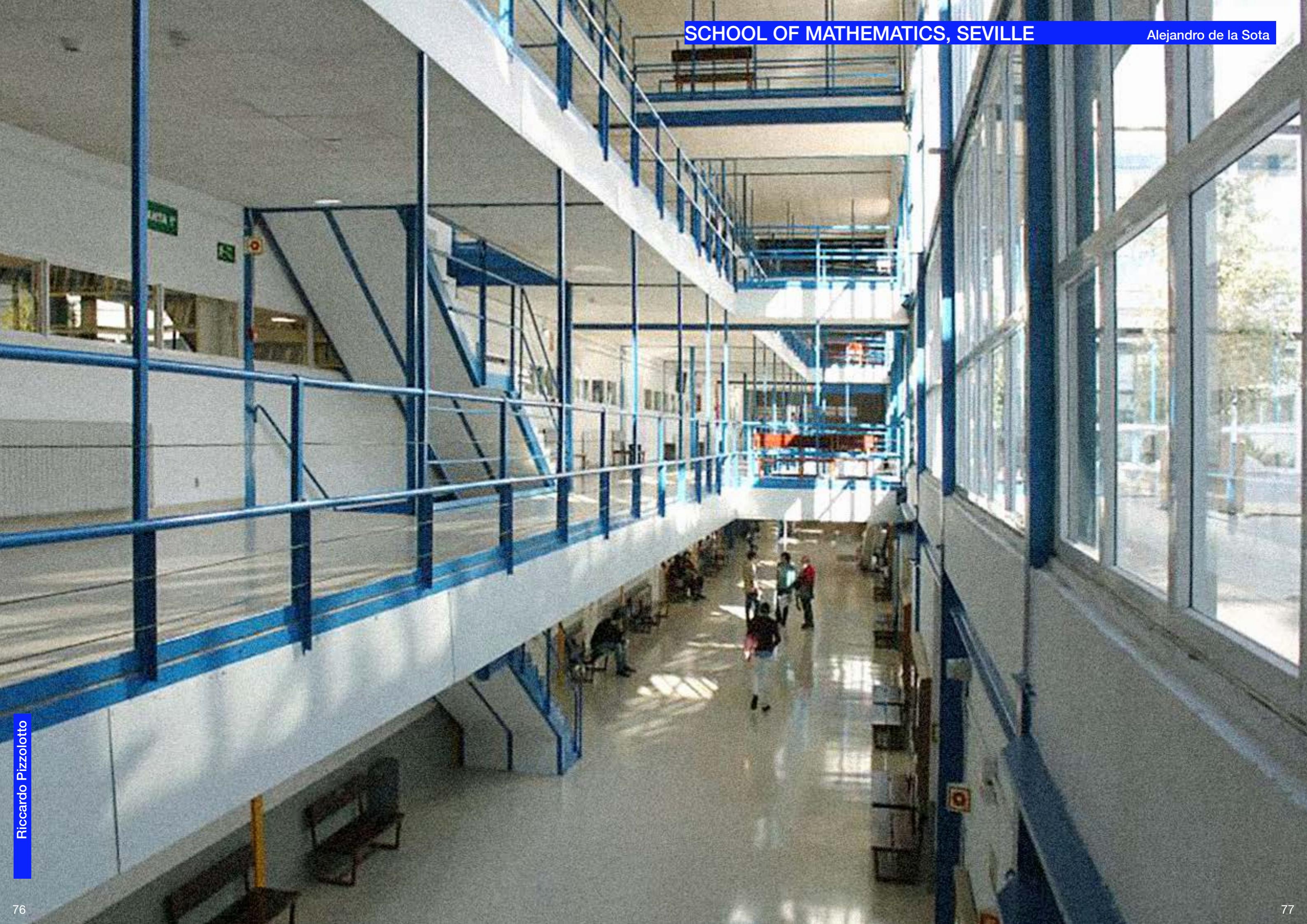
The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler



The Skin-Skeleton-System | Alumni Hall (Mies van der Rohe | 1946)

The Mies Campus | Illinois Institute of Technology | Chicago, IL | Mies van der Rohe | FS 2021 ETHZ D-ARCH Prof. Kerez | Max Nagler





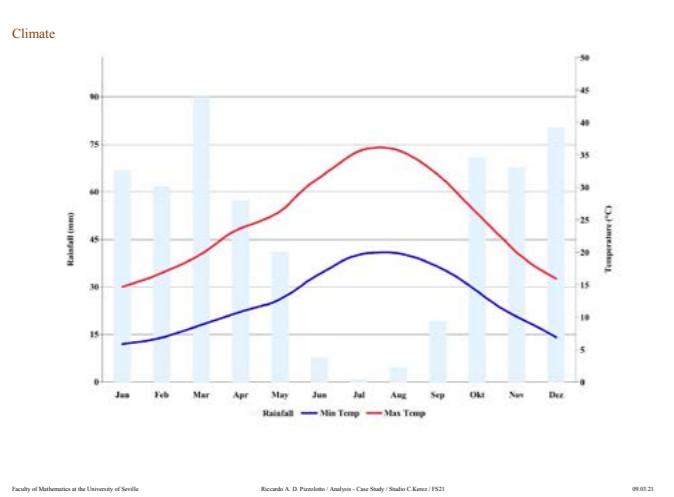
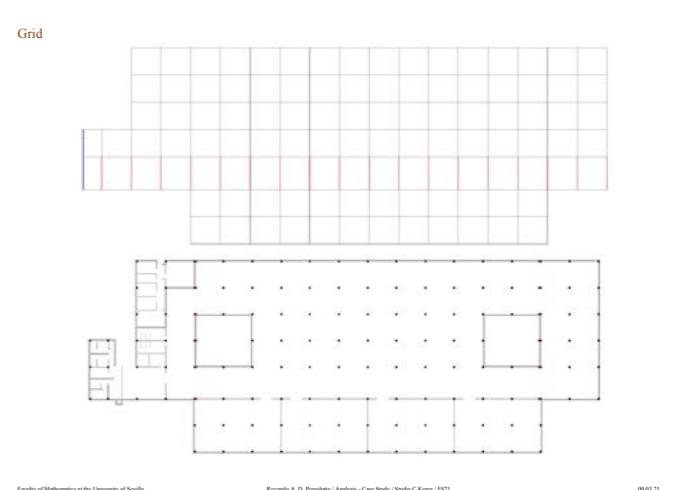
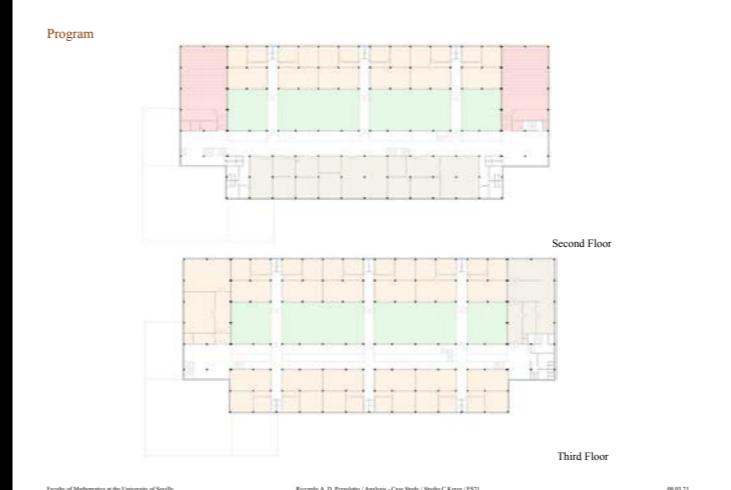
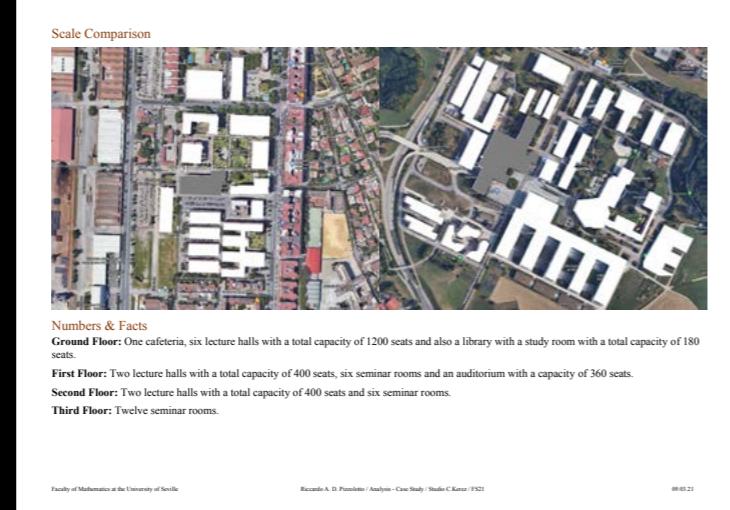
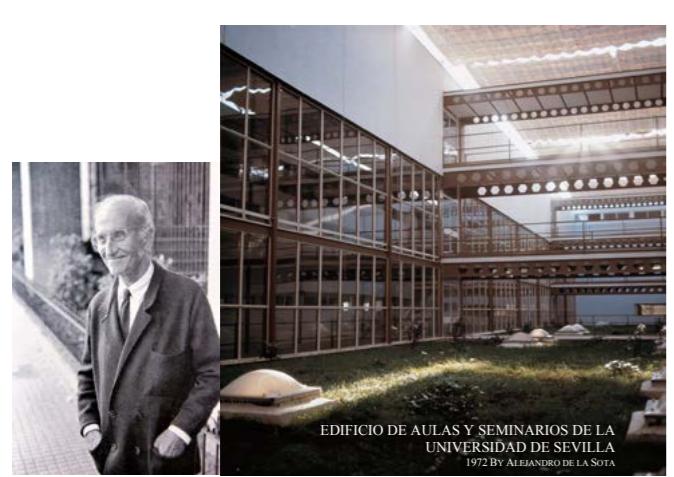
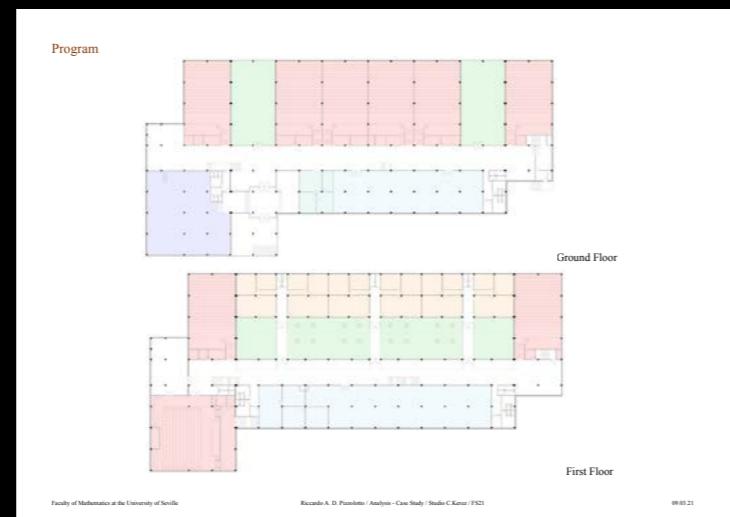
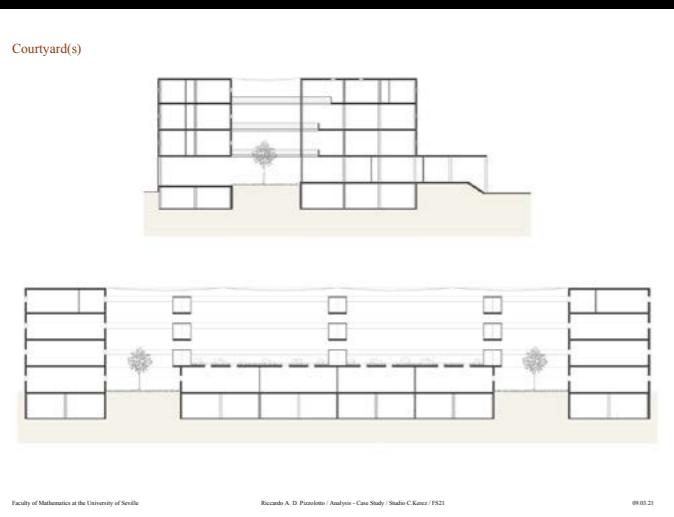
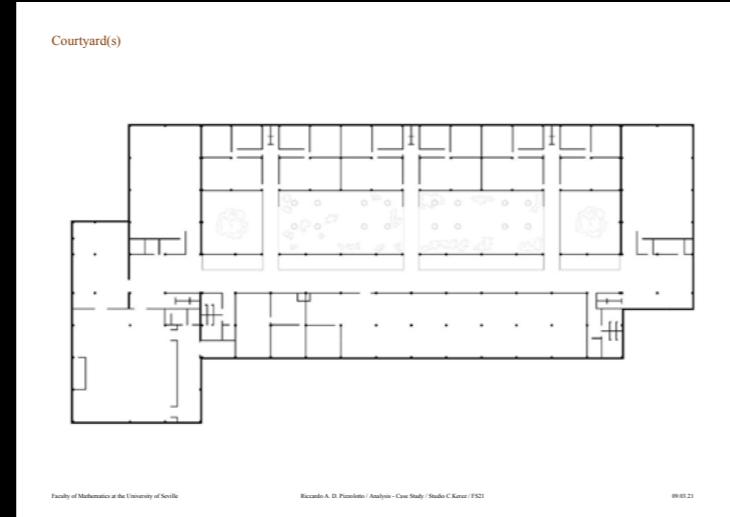
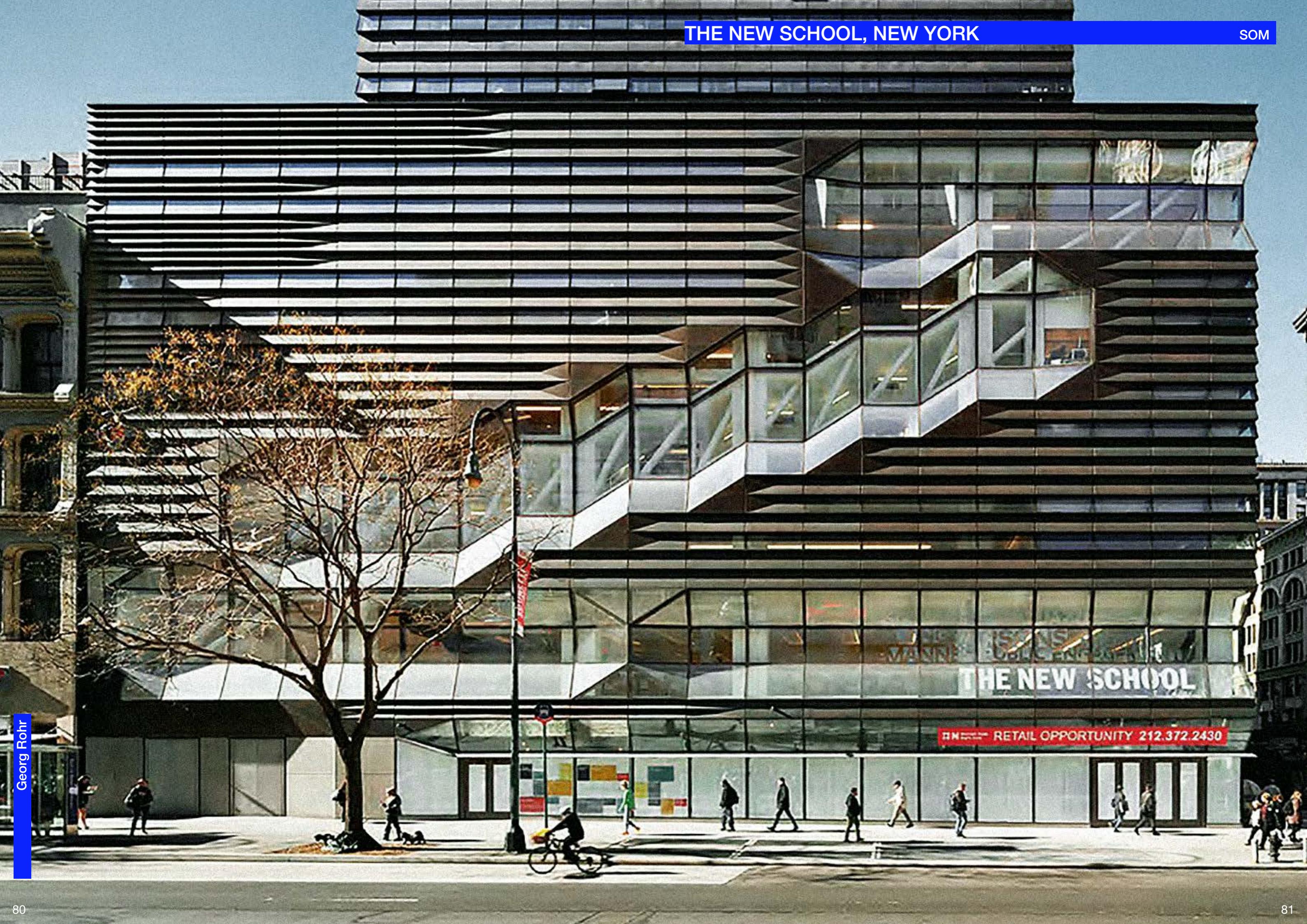


Image Sources

- archivo.alejandrodelasota.org
- alchetron.com
- gailalontour.com
- google maps

Faculty of Mathematics at the University of Seville
Riccardo A. Di Pasquale / Analysis - Case Study / Studio C-Karze / FS21
09/01/21







University Center - The New School
SOM, New York

Georg Rohr, FS21, Prof. Kerez, ETH Zurich

Facts

Location: New York, USA
Completion: 2013
Architect: Skidmore, Owings & Merrill LLP (SOM)
Owner: The New School
Cost: \$350,000,000

Project Area: 33,000 m²
Number of Stories: 15
Program: 57 Studios/Classrooms, Laboratories, 600-seat Auditorium, 200-seat Cafeteria, 600-seat Assembly, University Main Library, Gym, Common Rooms, Retail

Structure: Steel-Concrete, Steel Trusses (Stairs, Auditorium)
Facade: Glass & Brass
Energy Concept: On-Site Cogeneration Plant, Thermal Energy Storage, Heat Recovery System, Evaporative Green Roof, Low Glazing Facade with Daylight Harvesting, LEED-Gold Standard

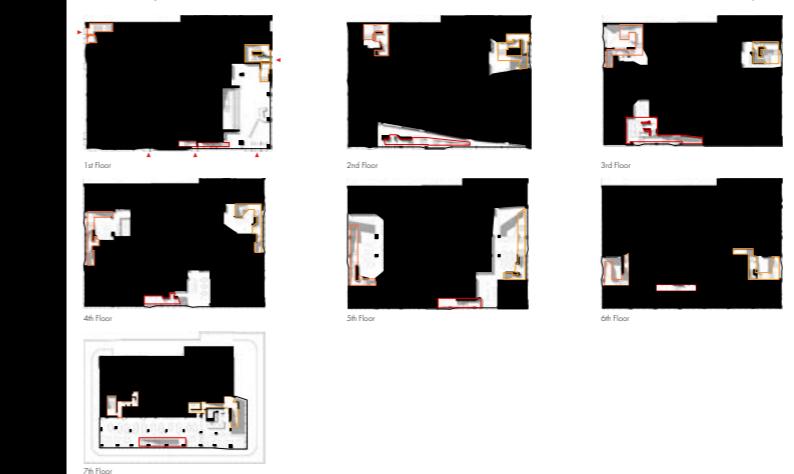
Certifications: LEED-Gold Standard

Notable Features: Vertical Campus which provides all amenities for the daily life on site.
Three terraces, creating an open atrium, which serves as the main social space for the school.
Stairs are double, one fire-proof. They are cantilevered from a truss running along the facade.

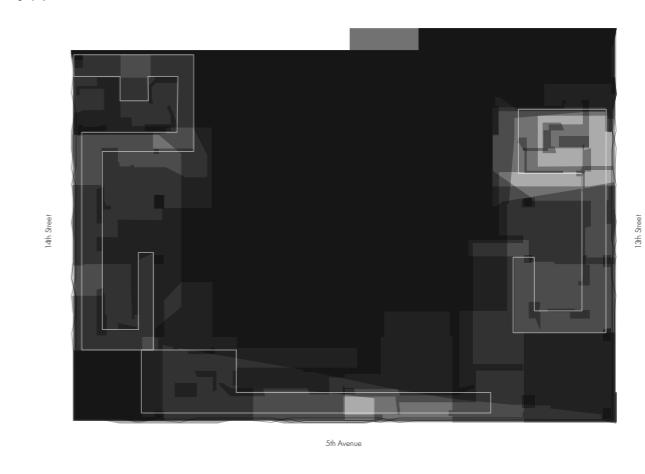
Size Comparison



Stairs & Social Space - Floor Plan



Tomography



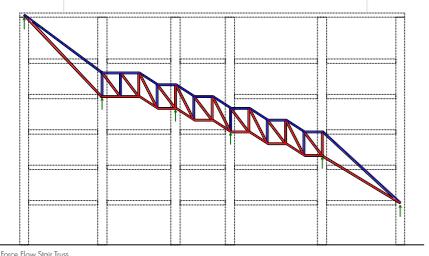
Site

1:25,000

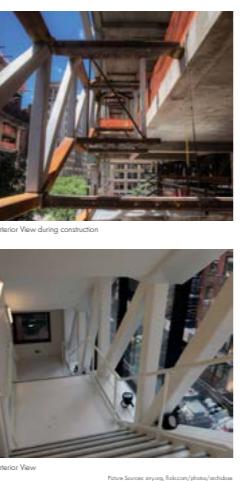
New School Campus

University Center

Source: architecture.com



Force Flow Stair Truss



Interior View during construction



Interior View

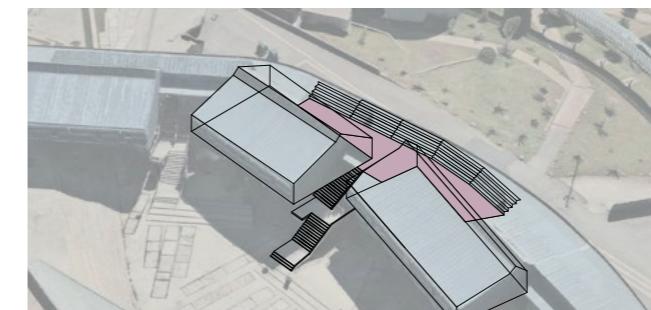
University Center - The New School | SCSM, New York
Photo: Dennis Hwang, Studio 2000, Archisearch



CAMPUS UNIVERSITARIO DE VIGO



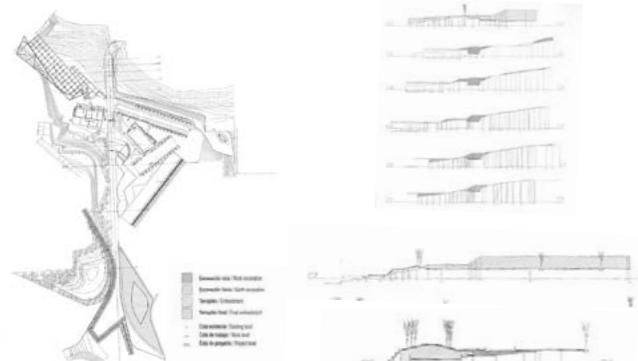
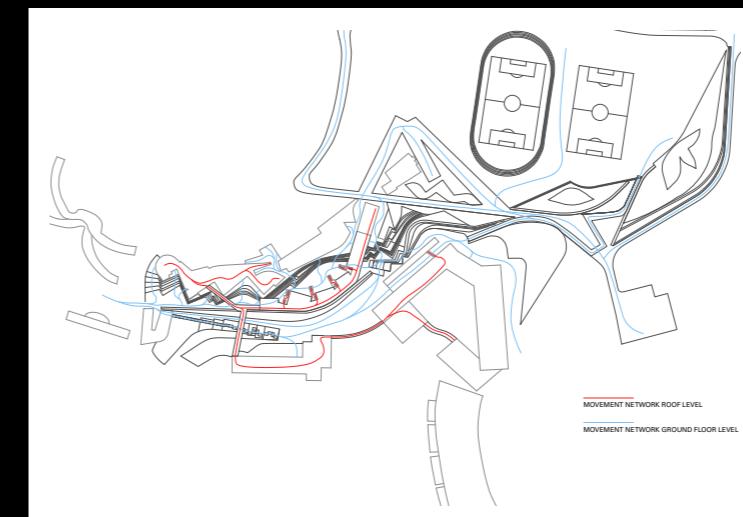
SITE COMPARISON



SIZE COMPARISON



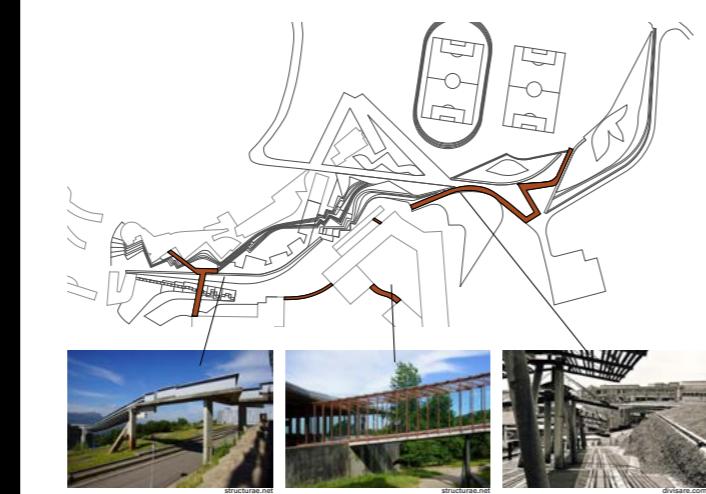
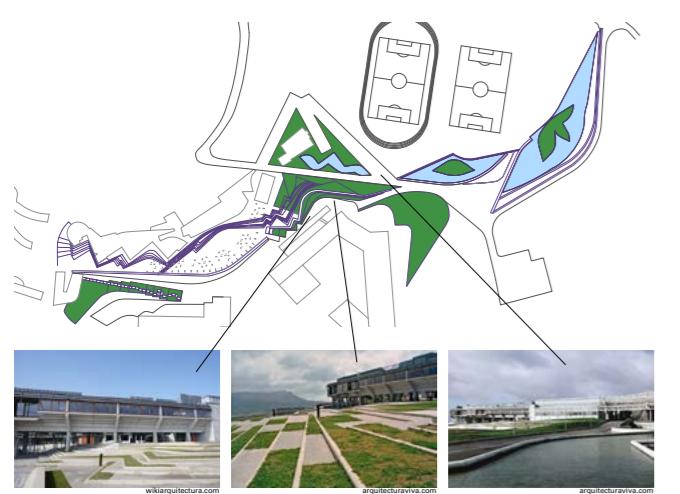
SCHEMATIC MASTERPLAN



TOPOGRAPHICAL ANALYSIS



arquitecturaviva.com



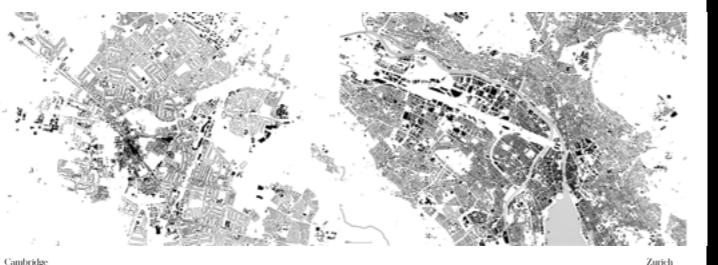


Cambridge University

University as a City

Cambridge University

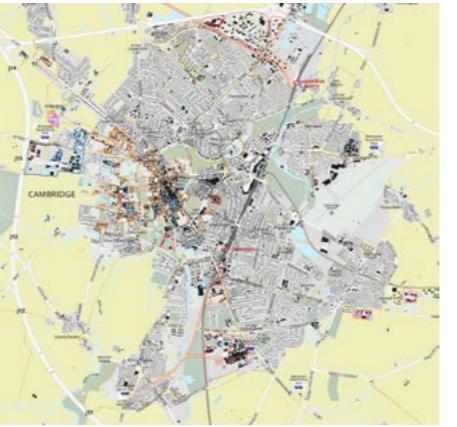
Established 1209
Number of students 21 150
Number of staff 11 528
Size of campus' 117 000m² 0.117km²
Size of city 107 km²
Buildings more than 350



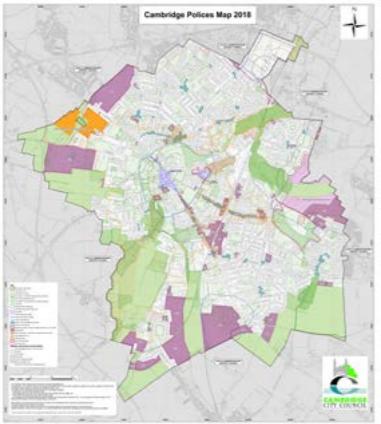
Historic Maps



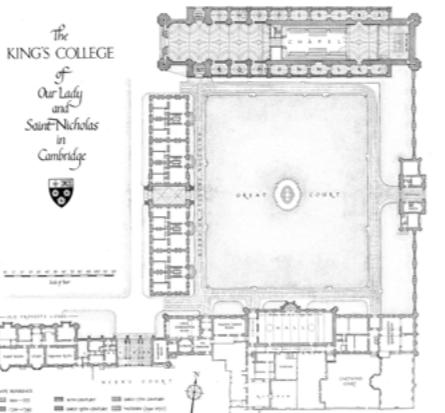
What is part of the university?



Policies Plan



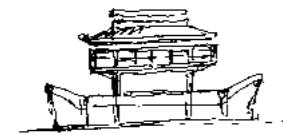
Colleges



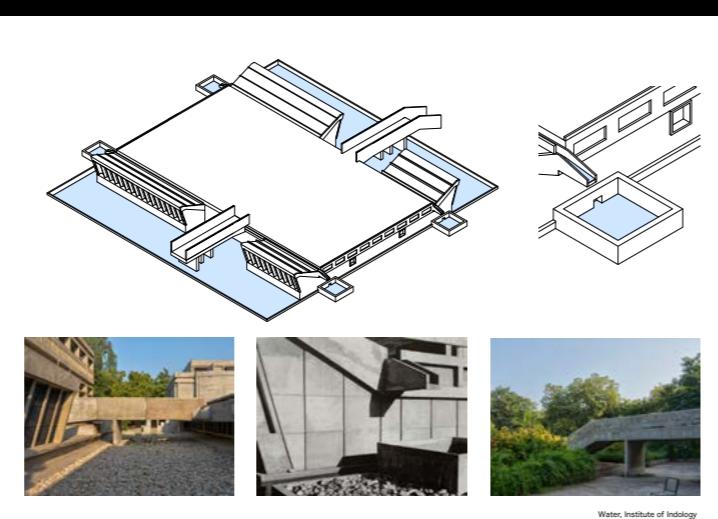
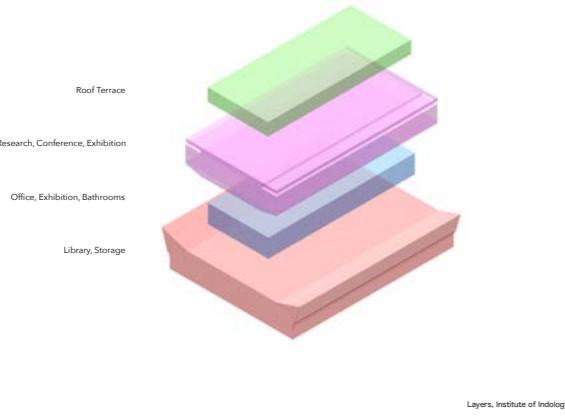
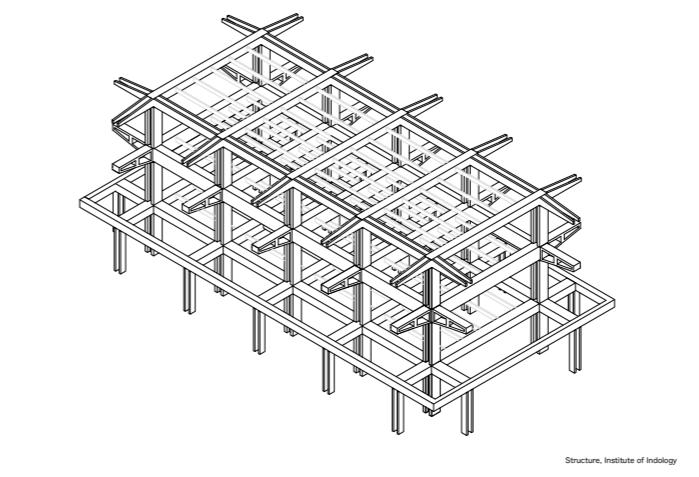
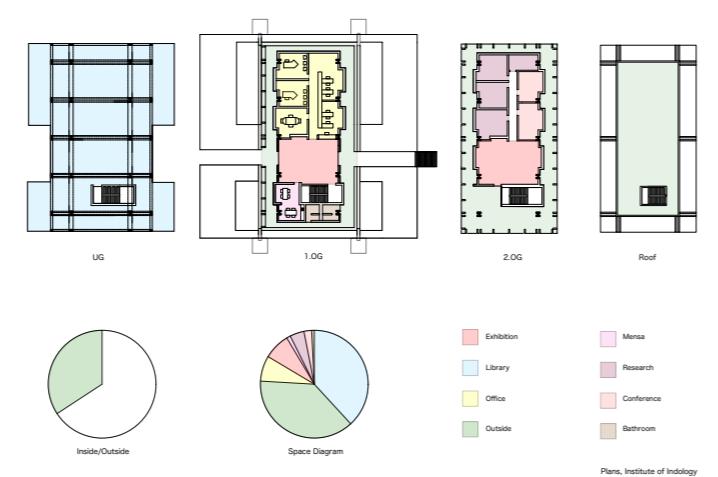
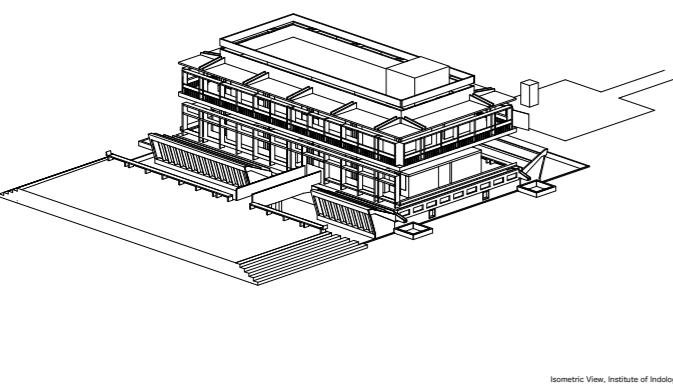
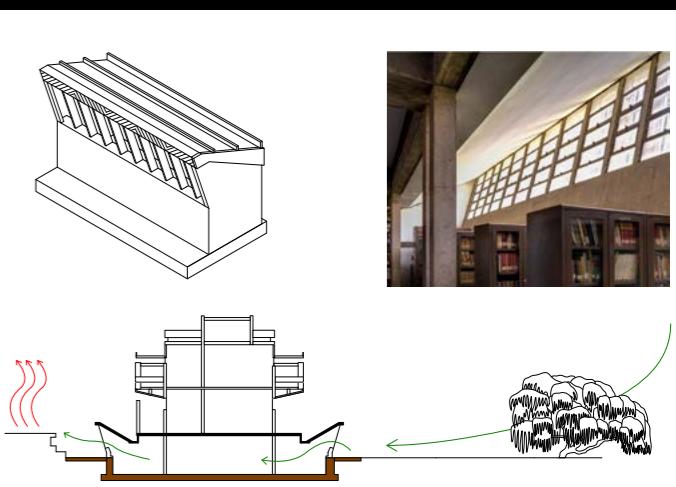
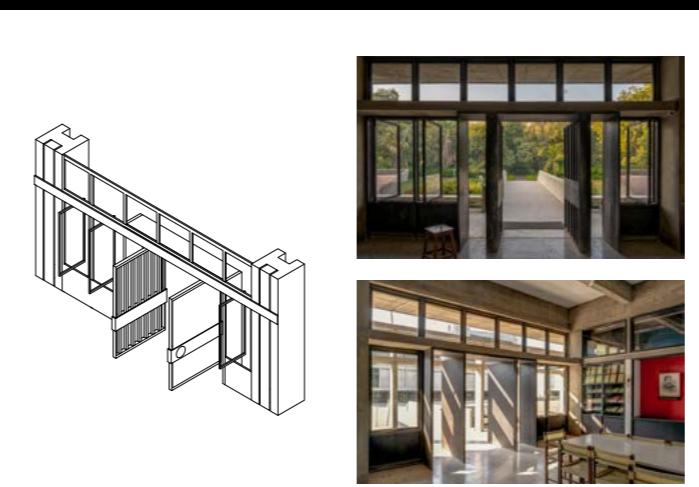
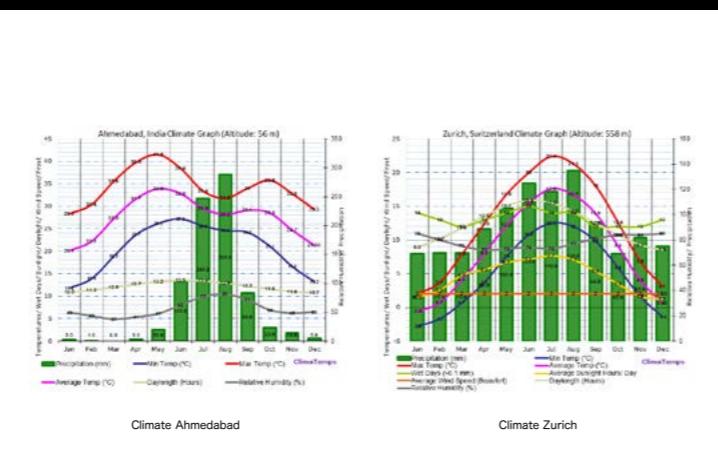
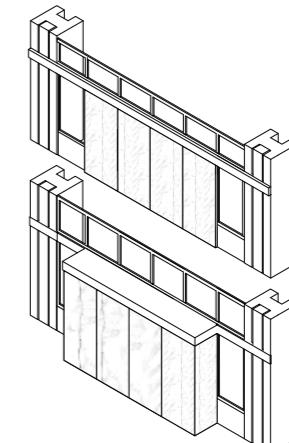
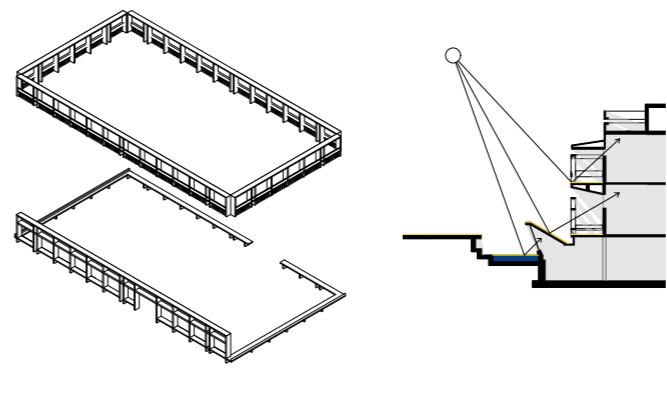
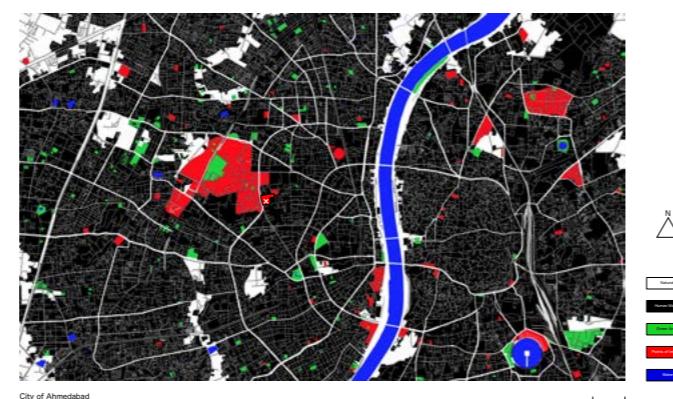
Tourism







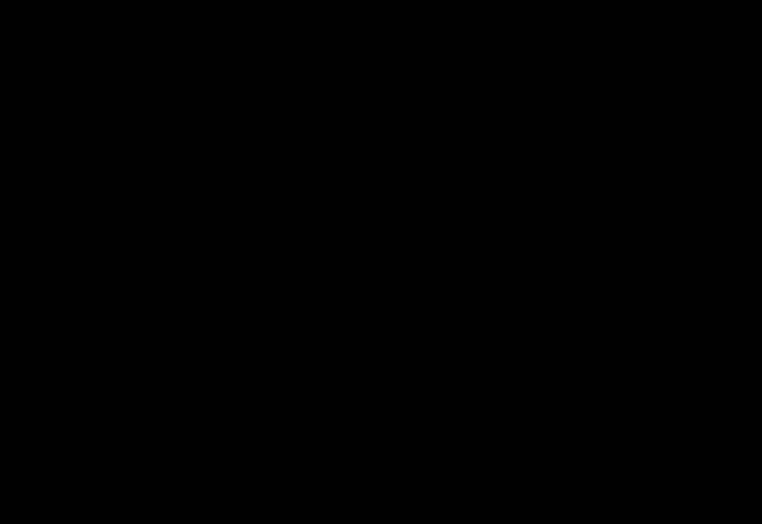
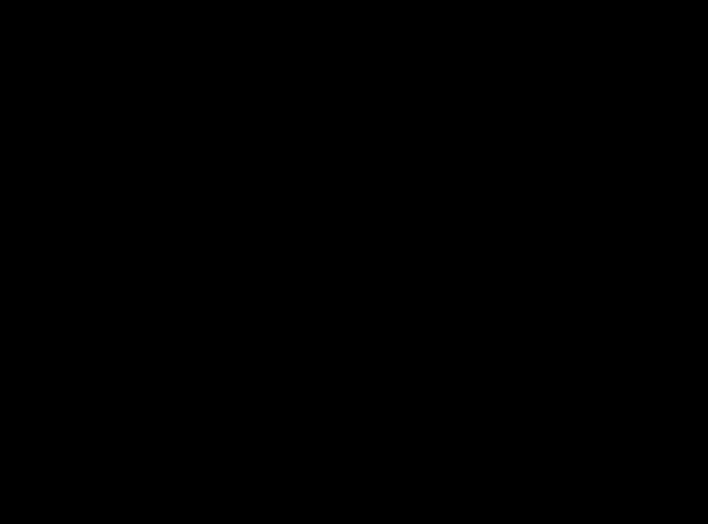
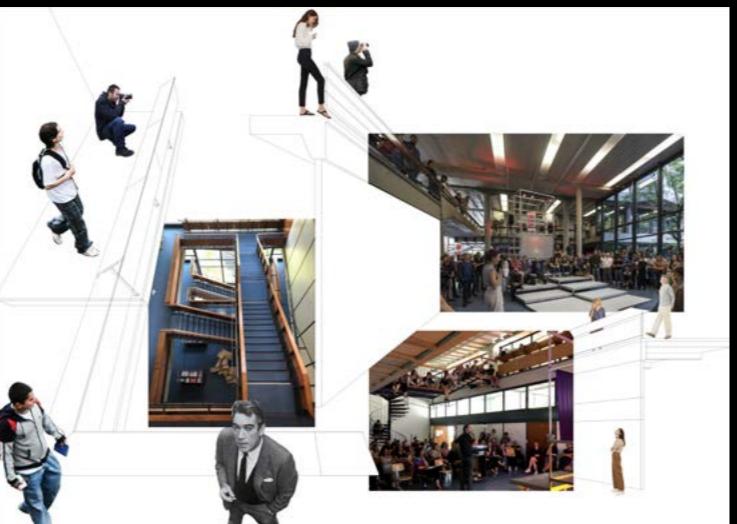
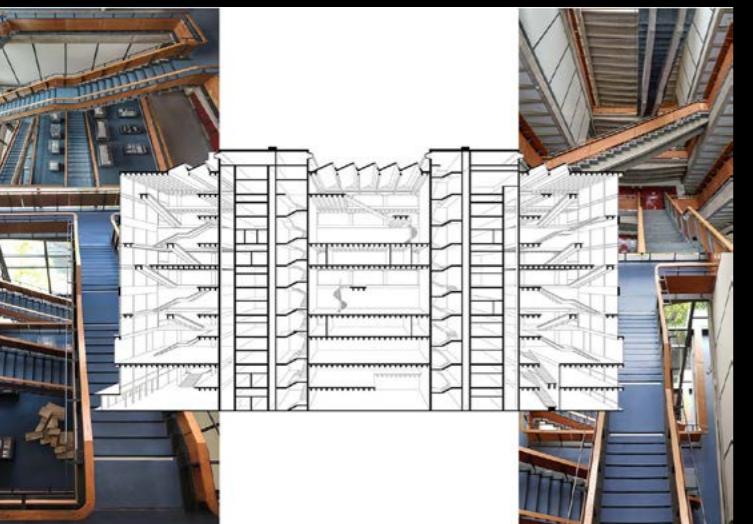
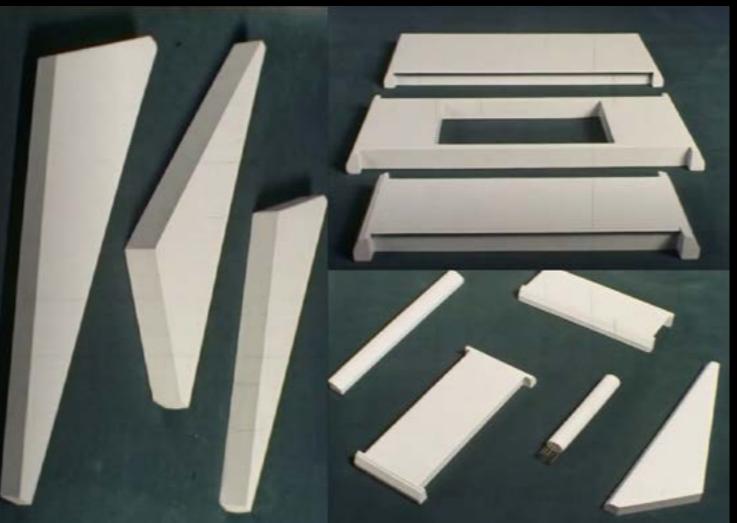
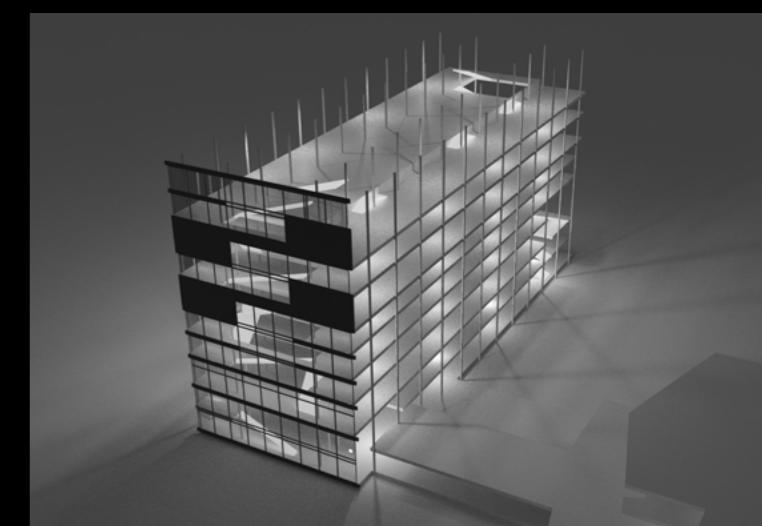
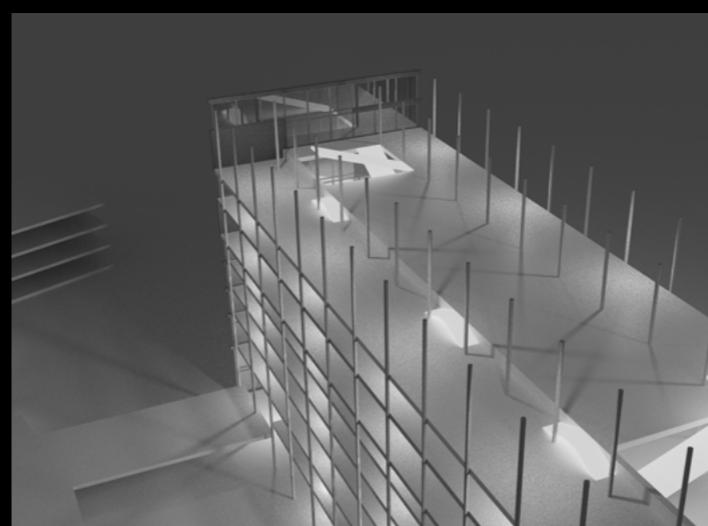
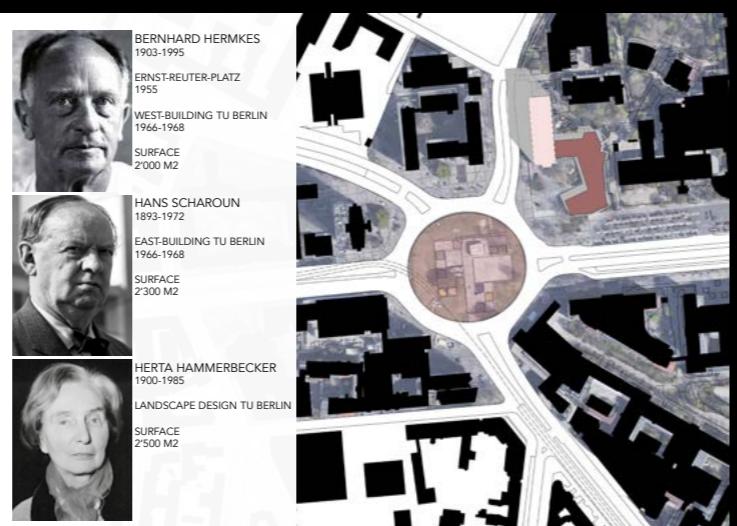
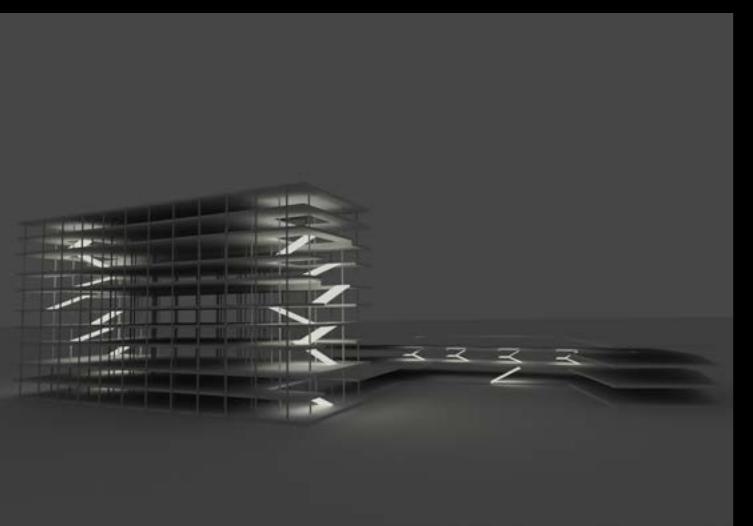
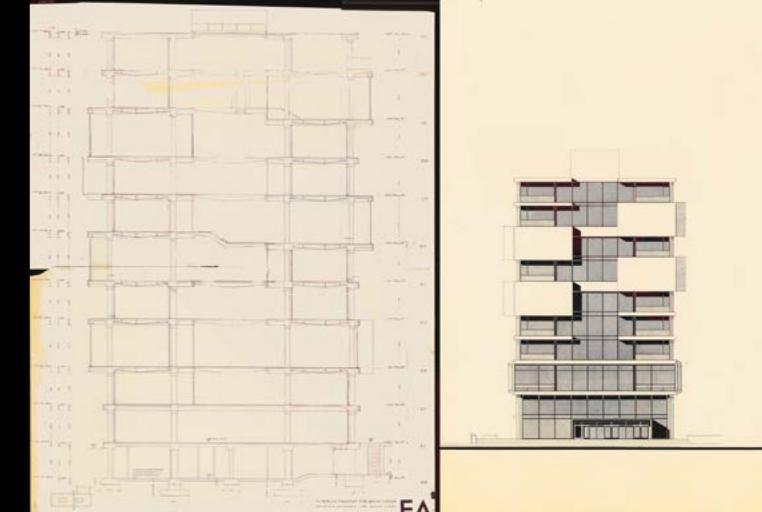
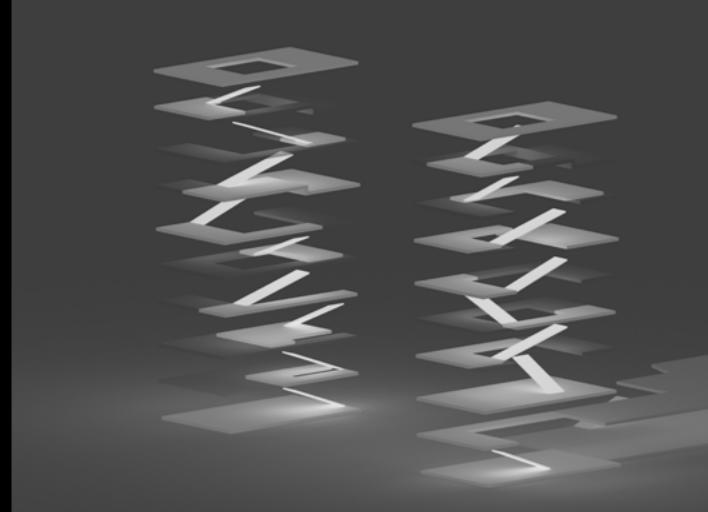
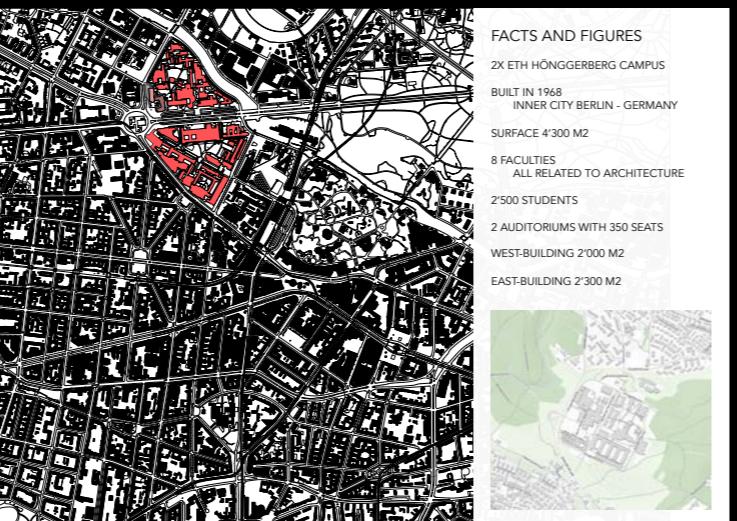
Institute of Indology, Balkrishna Doshi
Ahmedabad, 1962



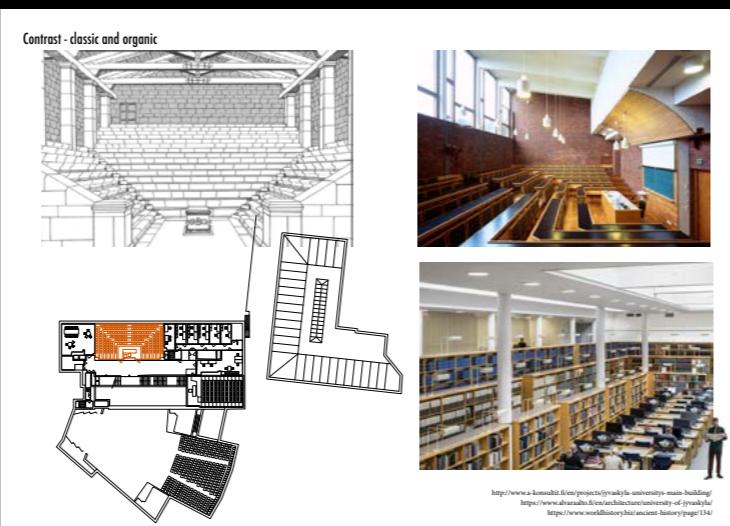
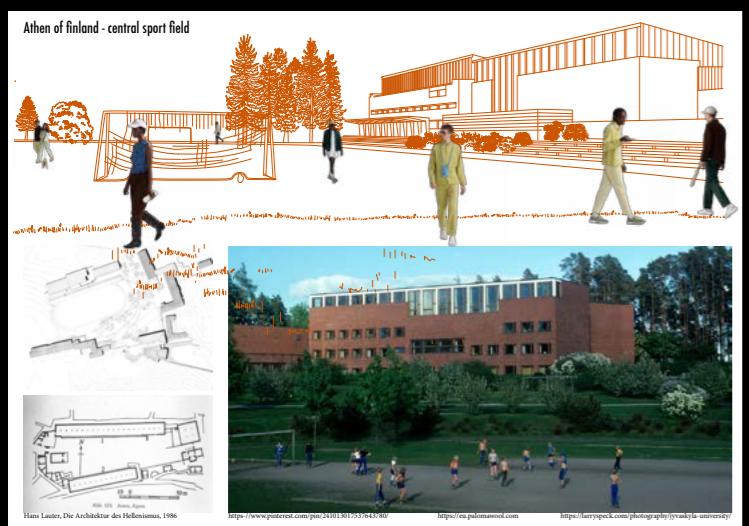
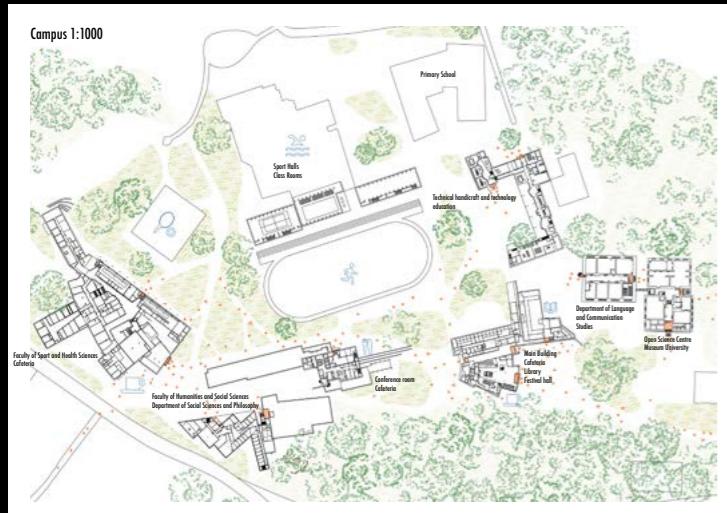
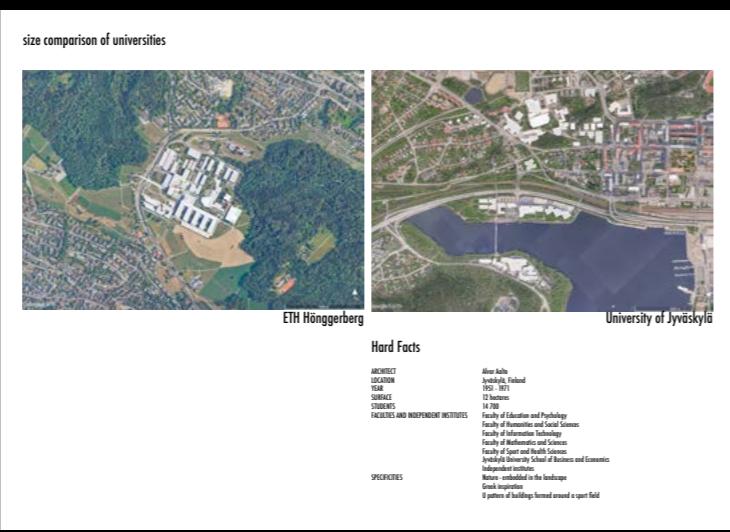
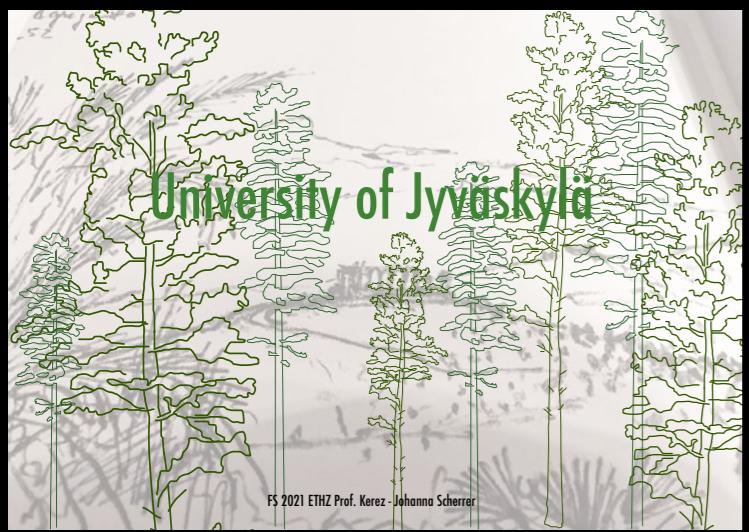


TU BERLIN

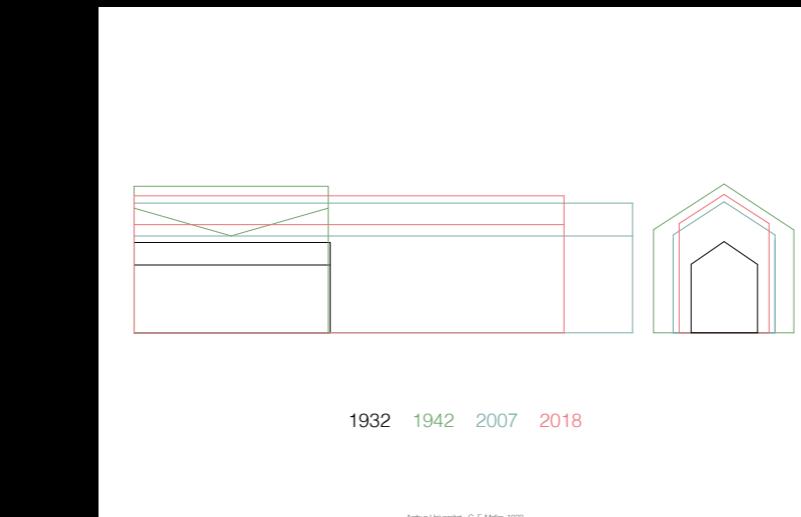
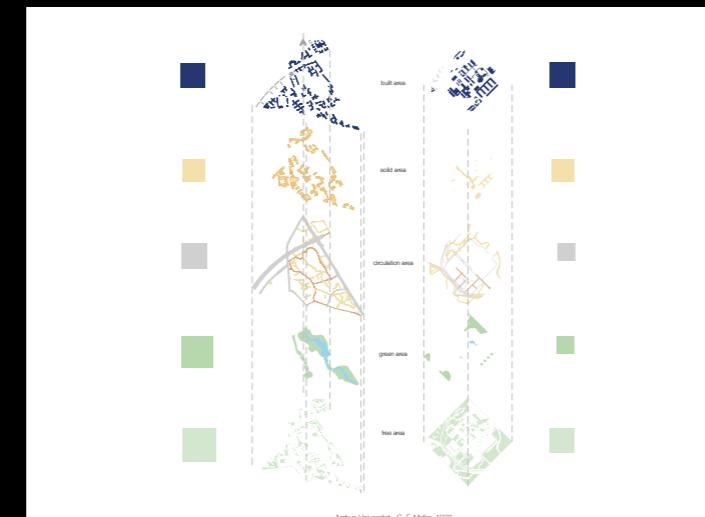
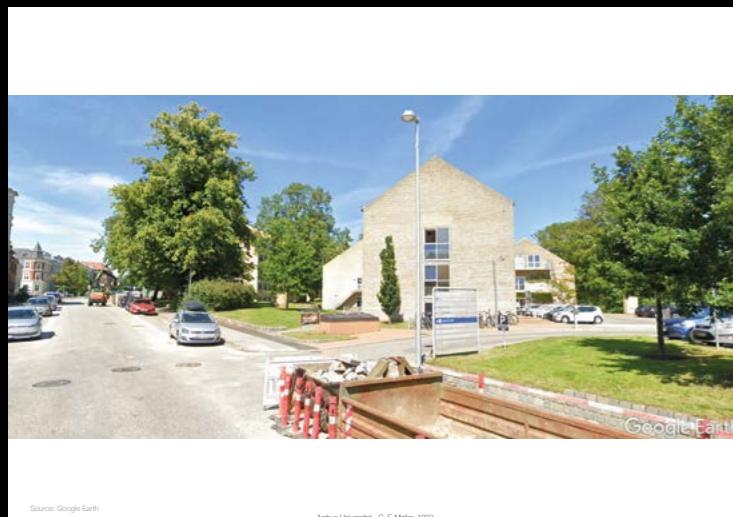
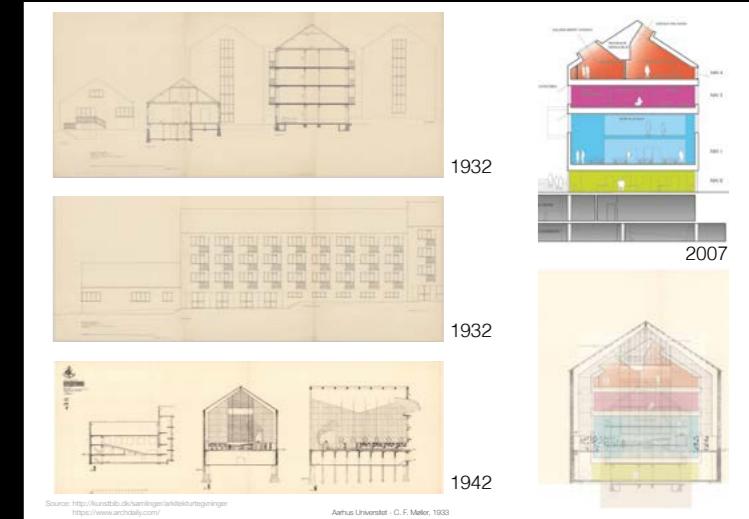
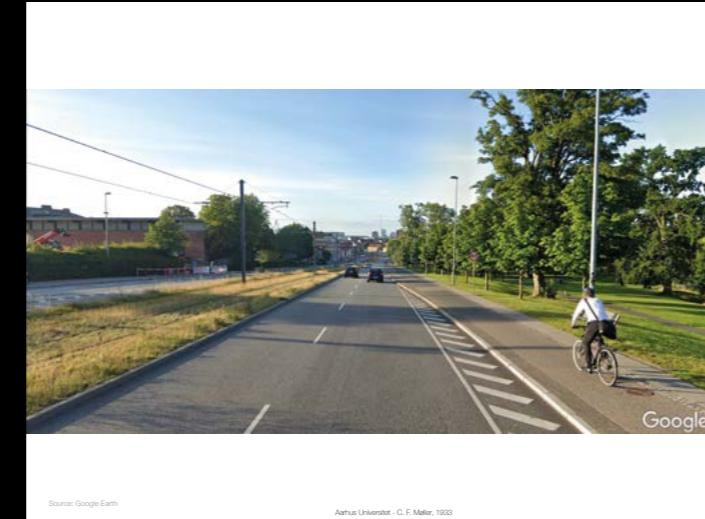
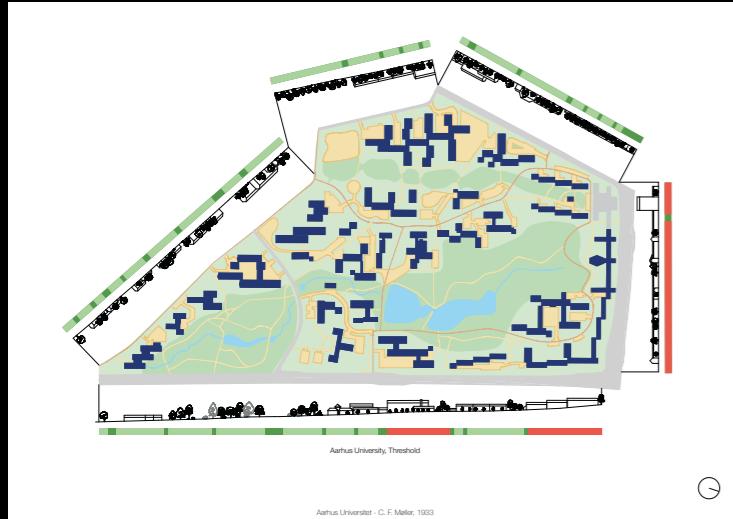
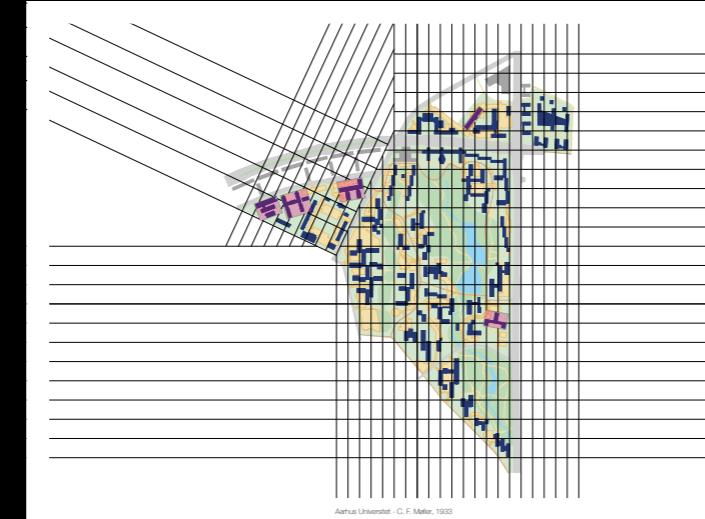
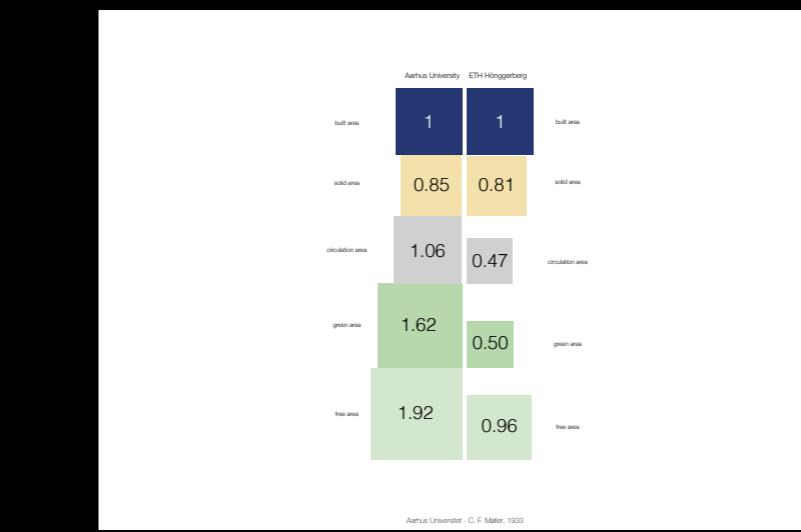
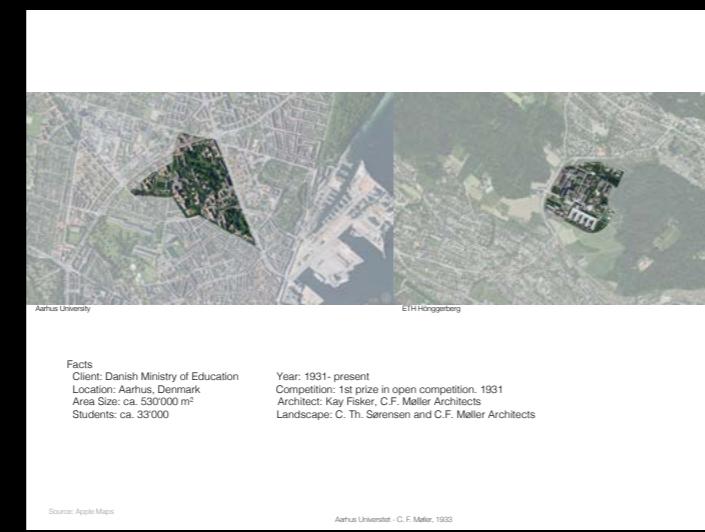
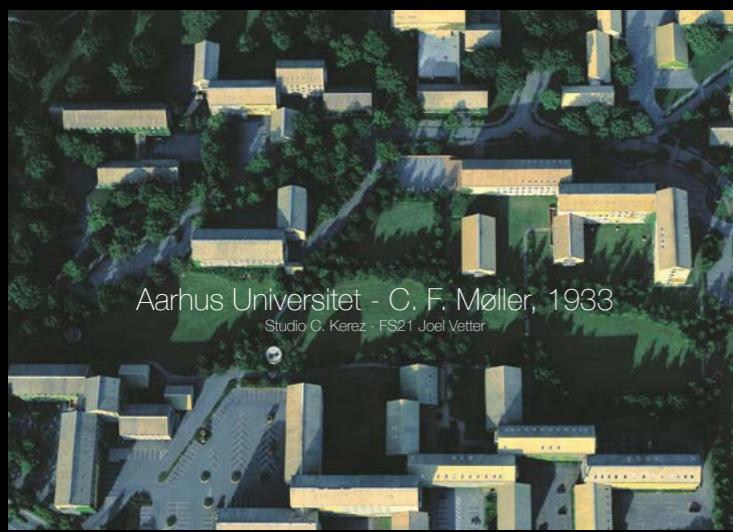
MAX SCHUBERT
BJÖRN THORSTEINSEN









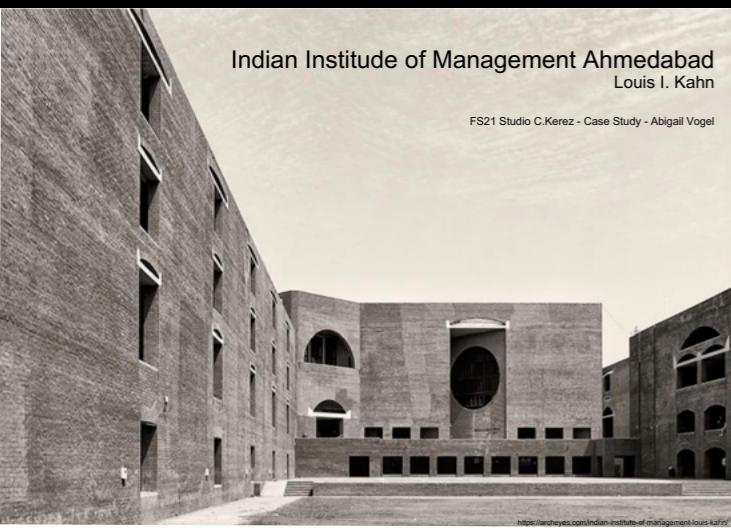




Indian Institute of Management Ahmedabad

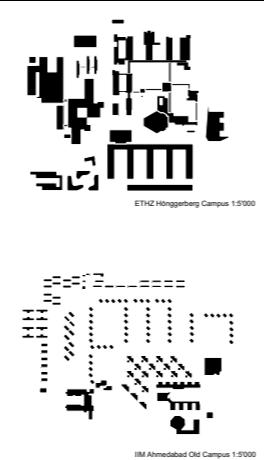
Louis I. Kahn

FS21 Studio C.Kerez - Case Study - Abigail Vogel

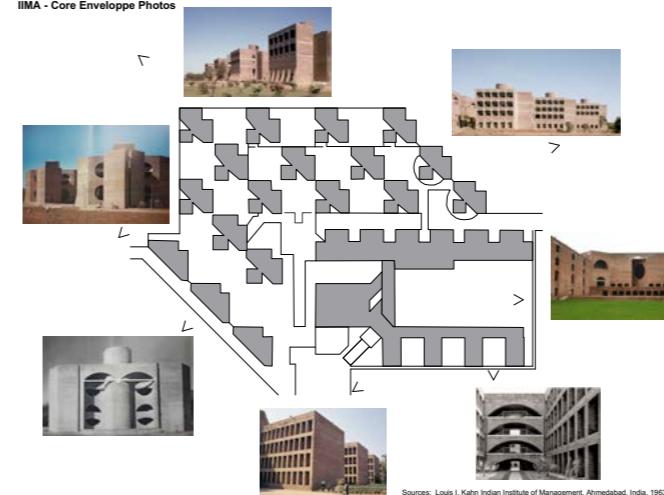


IIMA - Facts and Size

Louis I. Kahn, Balkrishna Vithaldas Doshi & Anant Raje
1962-1974
Ahmedabad, Gujarat, India
Arid Climate
Flat dryland
Use of red brick
Vernacular and traditional architecture with strong geometric shapes
About 8km from city center, in the university area
Public Business School
63'000 m² built area
About 1000 students



IIMA - Core Envelope Photos



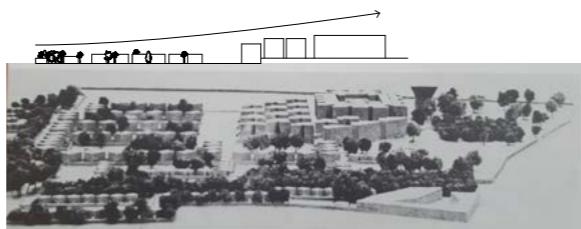
IIMA - Floor Circulation



IIMA - Campus Map and Programs



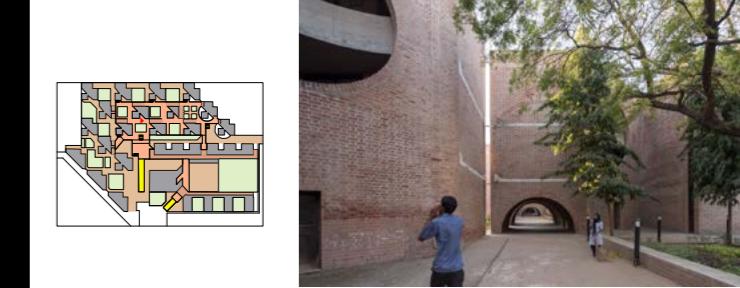
IIMA - Topography



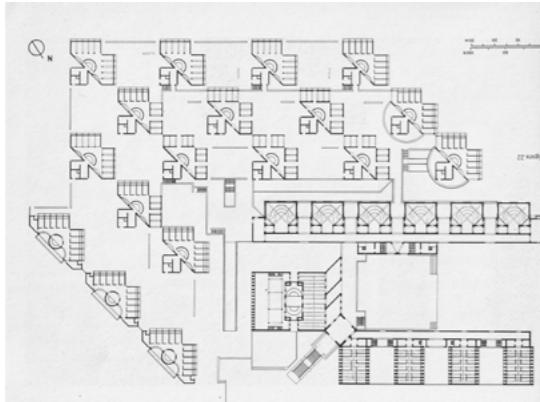
IIMA - Circulation Example



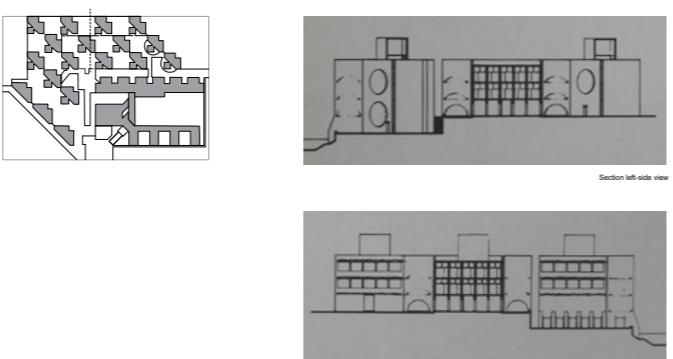
IIMA - Visualisation



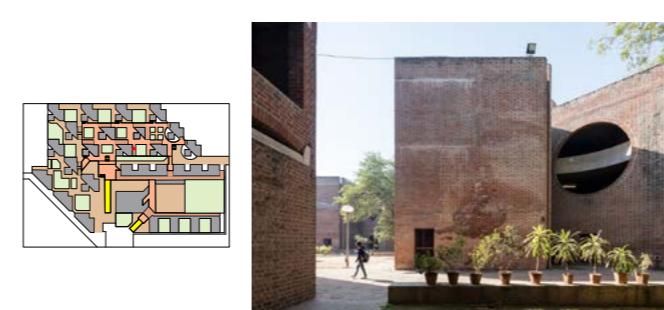
IIMA - Core Plan



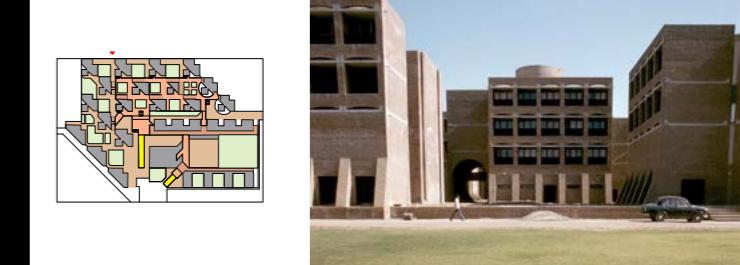
IIMA - Core Sections



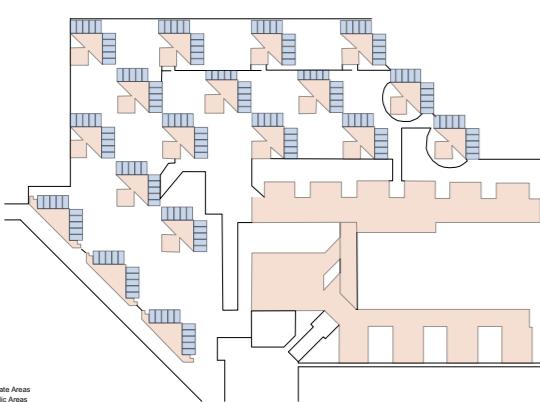
IIMA - Visualisation



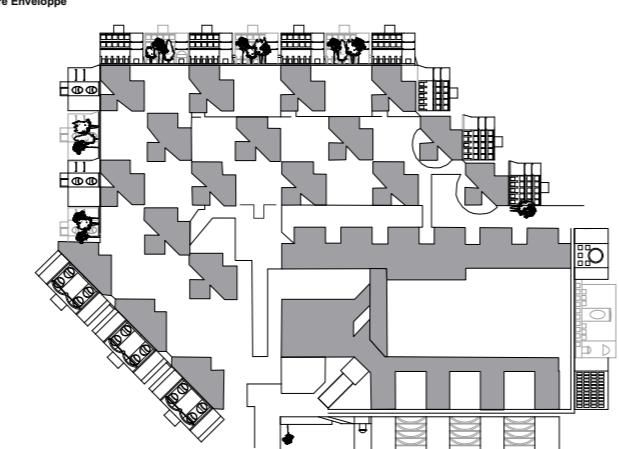
IIMA - Visualisation



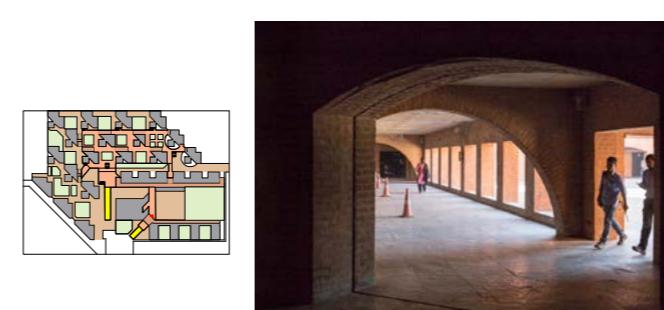
IIMA - Monastery Typology



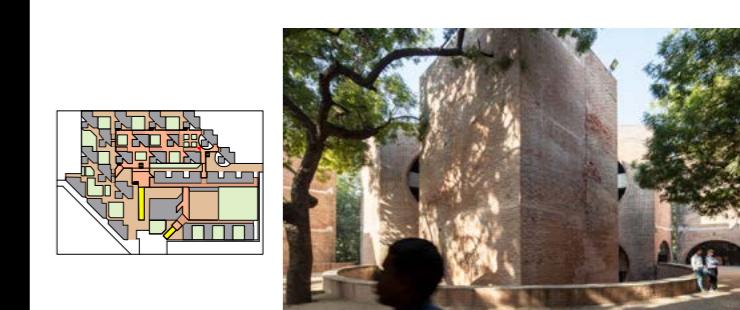
IIMA - Core Envelope



IIMA - Visualisation



IIMA - Visualisation





Leicester University Engineering Building

James Stirling and James Gowan



FS 2021 ETHZ Prof. Kerez - Yannick Wettstein

Fact sheet

Architects: James Sterling and James Gowan
Structural engineer: Frank Newby
Location: 2°37'12"N/1°7'25"O
Start of the design: 1957
Occupation of the building (still incomplete): 1963
Number of students: 250
2 lecture theaters: 100/200 seats
Renovation of the roof in 2011 by Arup facade engineers

Sources:
The documents that I use in this presentation come originally from this sources (some are edited):
s¹ Making Waves, Critical analysis of Leicester University Engineering Building (youtube)
s² Leicester University Engineering Building, John McLean, 1994 Phaidon
s³ Archeeyes, timeless architecture (internet site)
s⁴ University Faculty of Engineering Leicester (youtube)

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Lab tower

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6. Floor

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Ground floor

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Workshop

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1.

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2.

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3.

FS 2021 ETHZ Prof. Kerez - Yannick Wettstein

Overview

FS 2021 ETHZ Prof. Kerez - Yannick Wettstein

Entrances

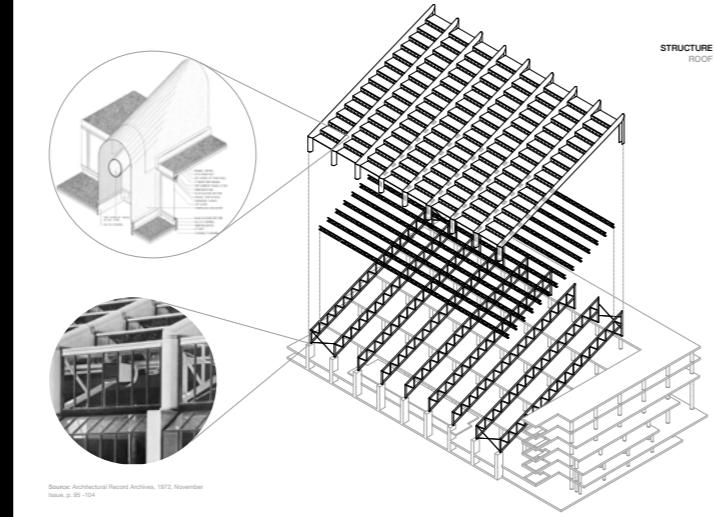
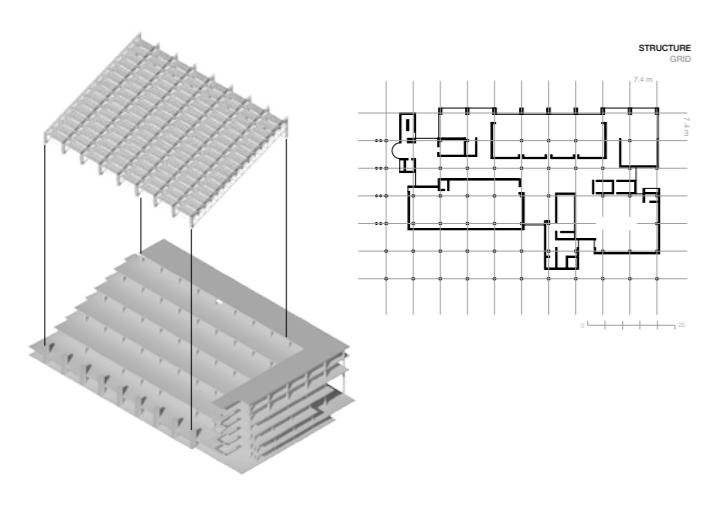
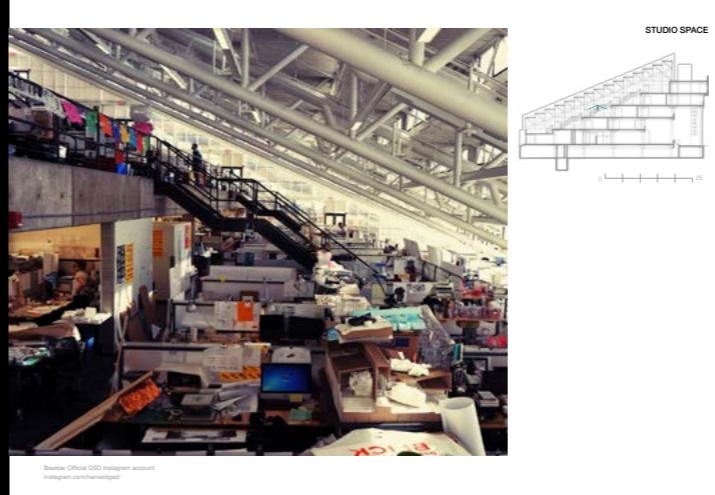
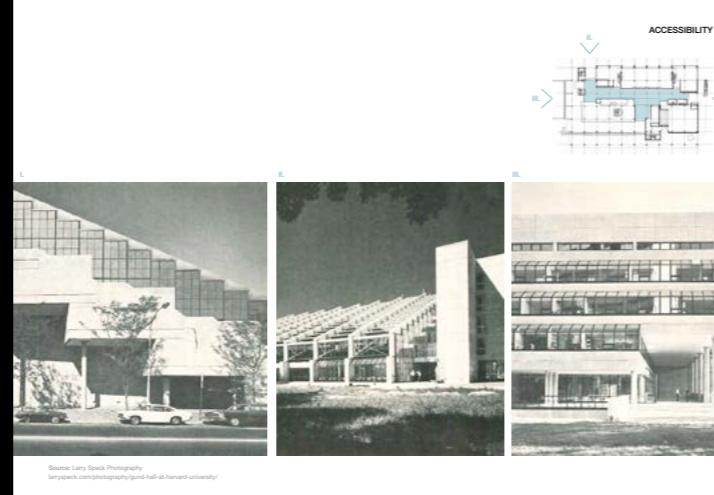
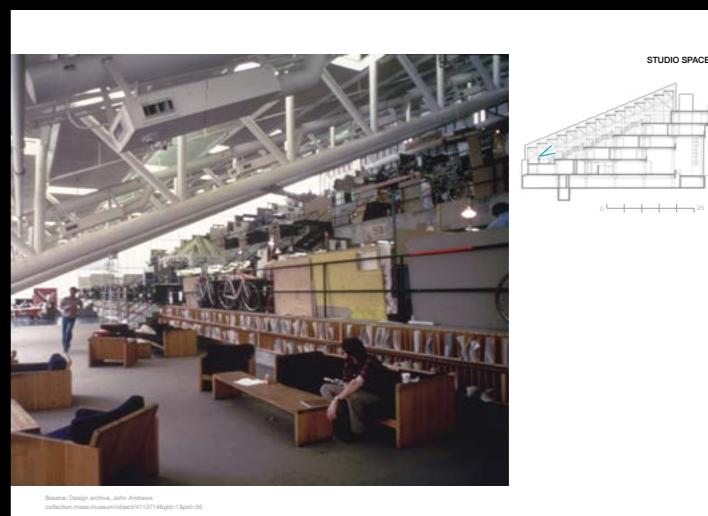
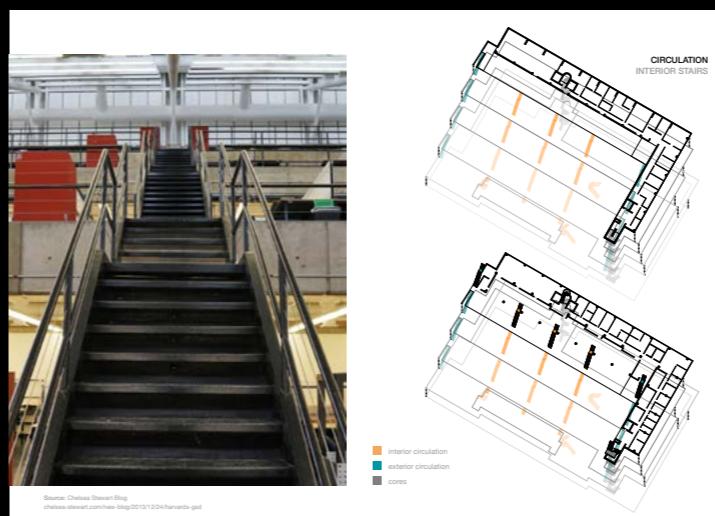
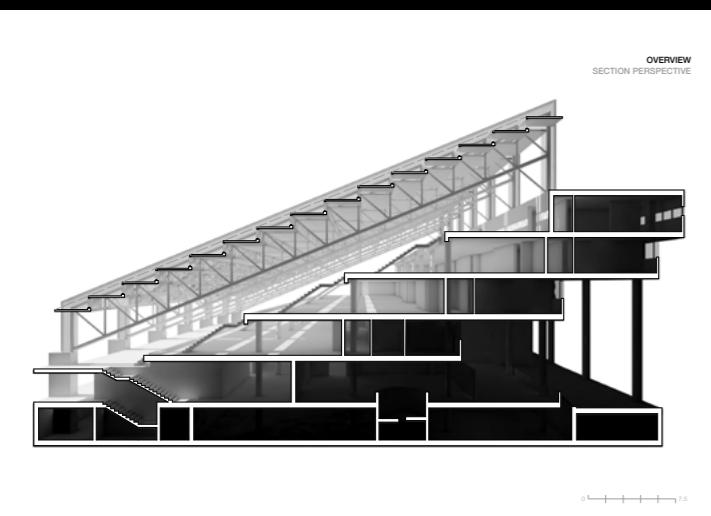
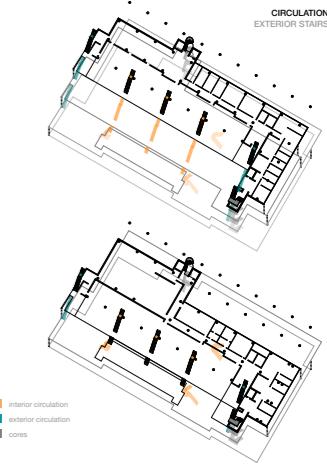
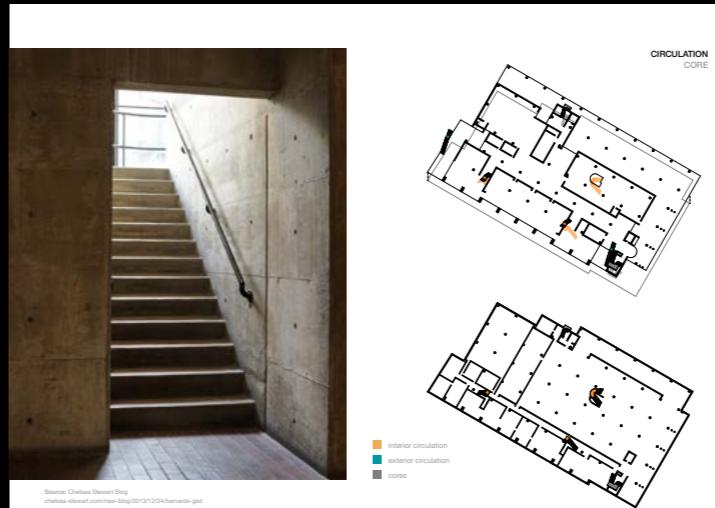
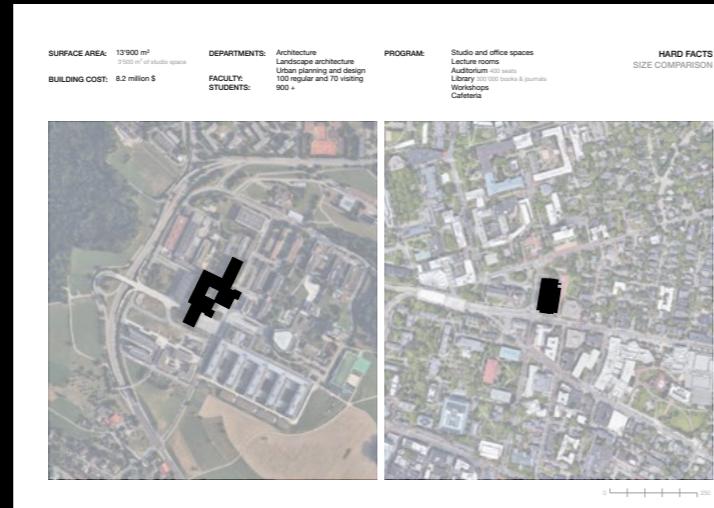
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II. <img alt="Architectural site plan showing the building's footprint



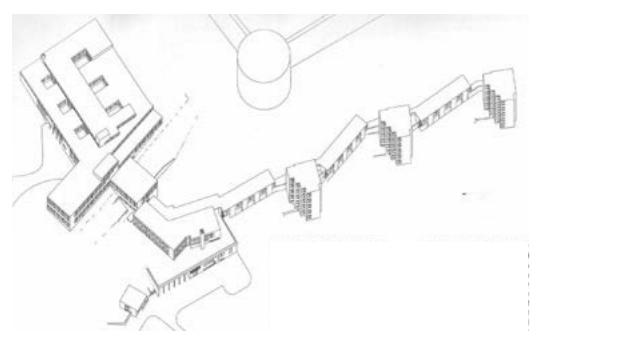


Gund Hall, GSD Harvard
ARCHITECT John Andrews
LOCATION Cambridge MA, USA
YEAR 1972

ARCHITECT John Andrews
LOCATION Cambridge MA, USA
YEAR 1972







School of Design Ulm - HfG Ulm

Inge Aicher-Scholl, Otl Aicher and Max Bill
1953

W0-W2 Case Studies
Jonas Zimmermann

Hard facts

Architect: Inge Aicher-Scholl, Otl Aicher and Max Bill
Location: Germany
Year: 1953
Client: Geschwister Scholl Stiftung
Structure: Reinforced Concrete Skeleton
Grid: 3m x 3m
Program: Design School, Studios, Canteen, Student Accommodation, Docent Houses
Building Costs: ca. 2.400.000 DM
(Material + Donation: ca. 1.950.000 DM)

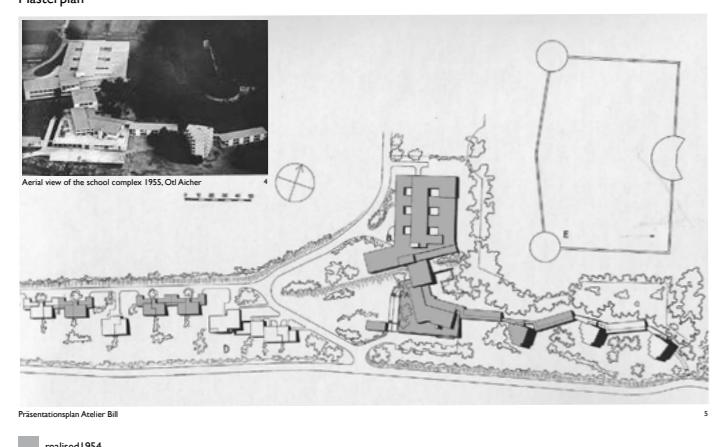
Size comparison

Connection „Säge“

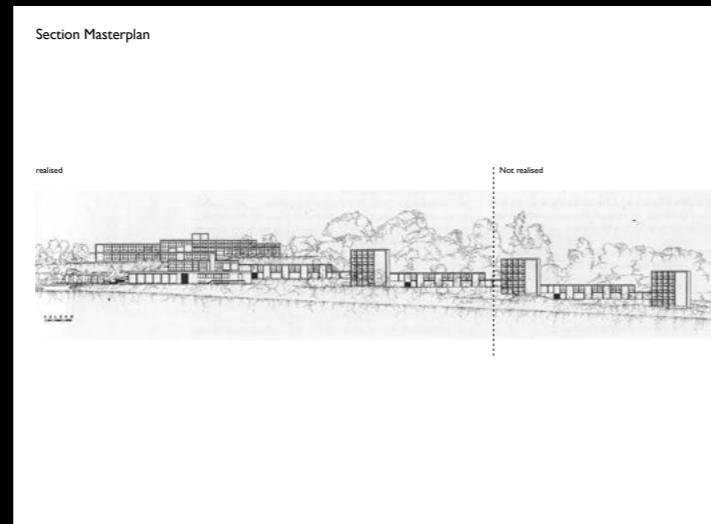
Floor plan 2.level 20 Connection School 21
Schnitt O-O 22

Inside / Outside

Masterplan



Section Masterplan



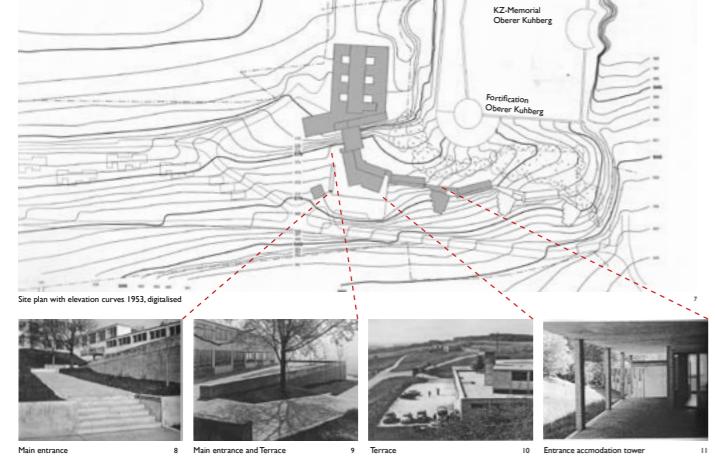
Construction

41 25
42 26
43 27
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49 33
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51 35
52 36

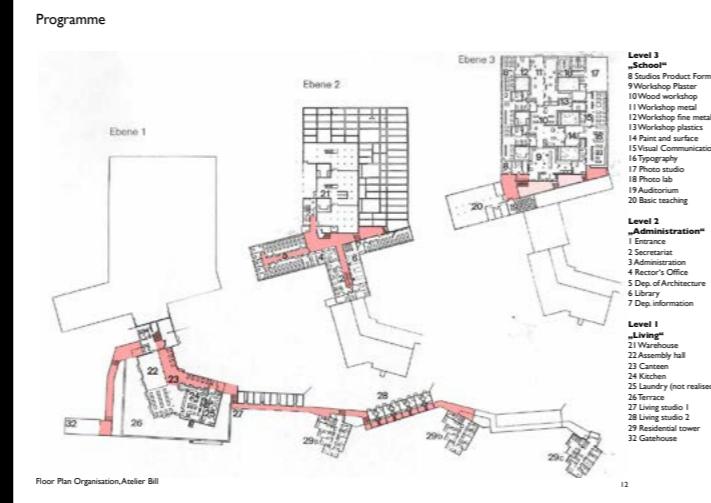
Flexibility

31 32
33 34
35 36

Topography



Programme



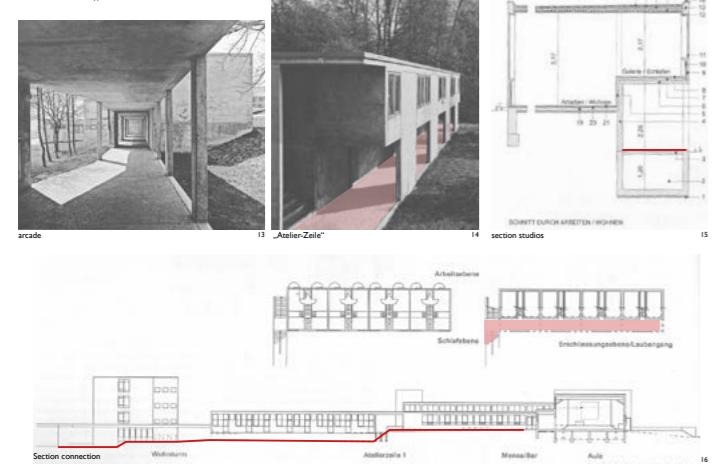
Additions to the overall complex through new buildings 1983 - 2007

New utilisation concept and general refurbishment 2007 - 2012

31 32
33 34
35 36

37

Connection „arcade“



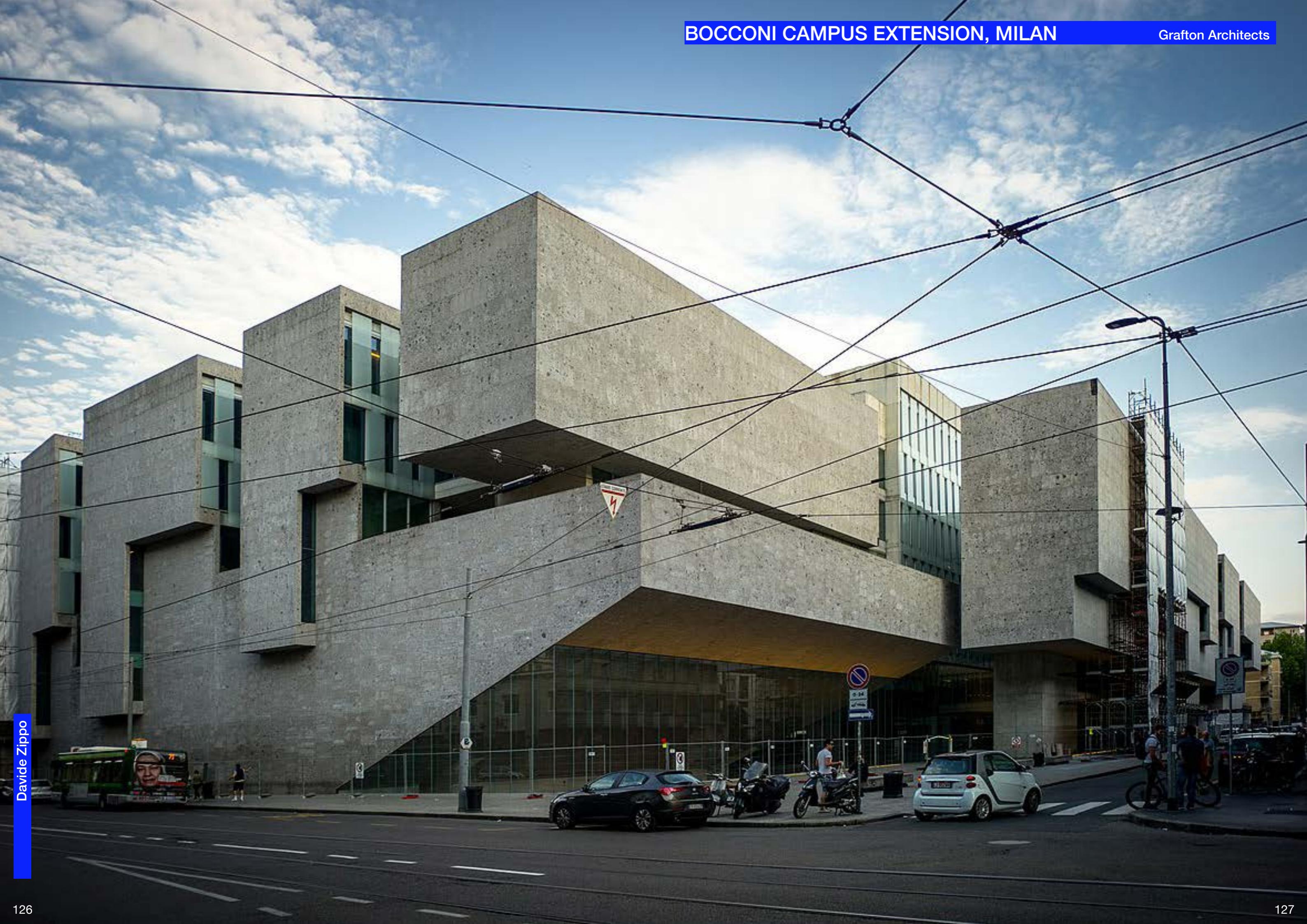
Connection „canteen“

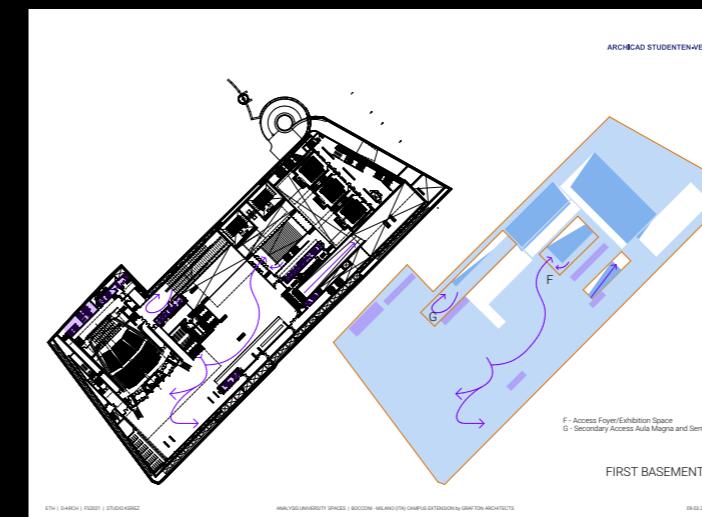
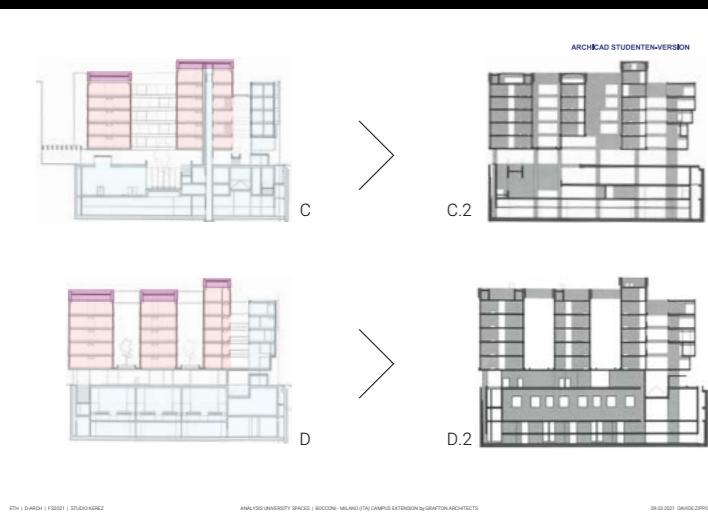
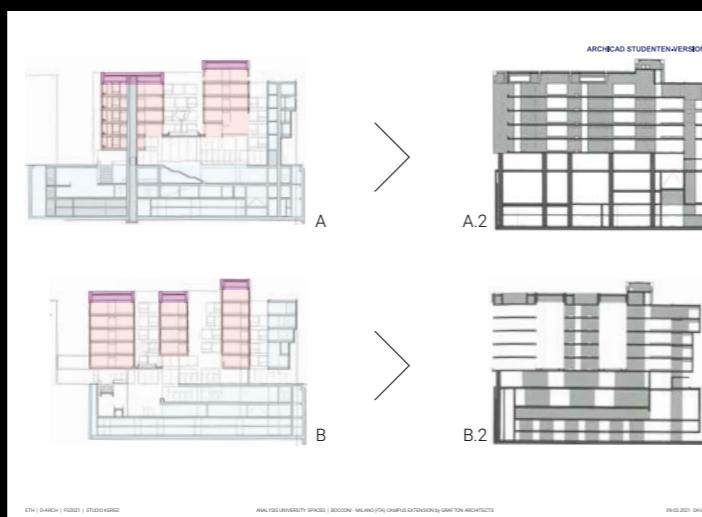
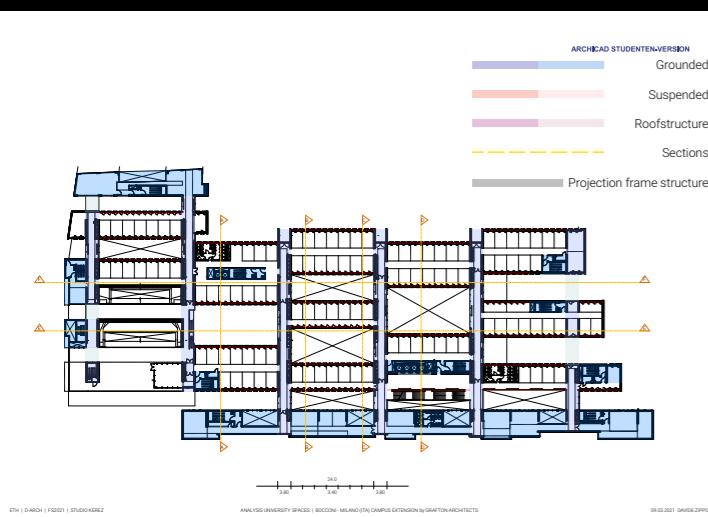
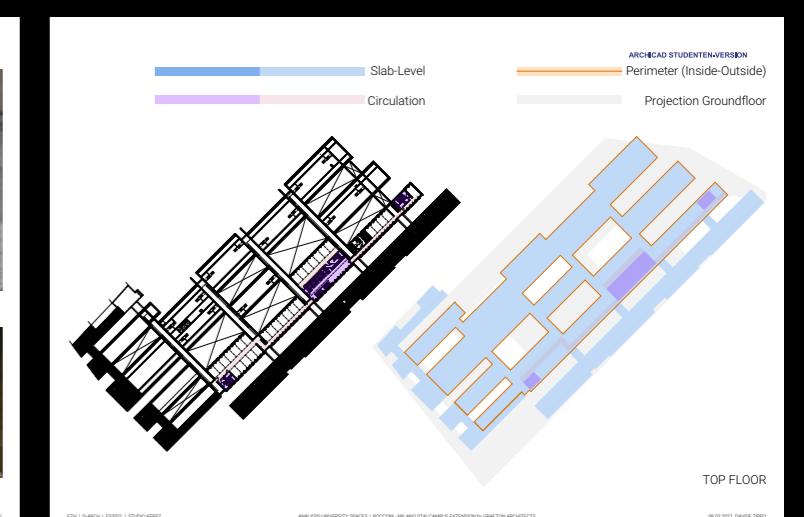
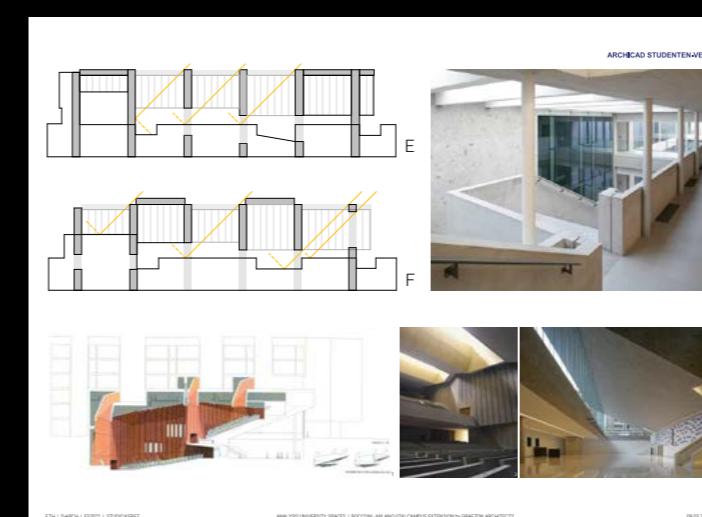
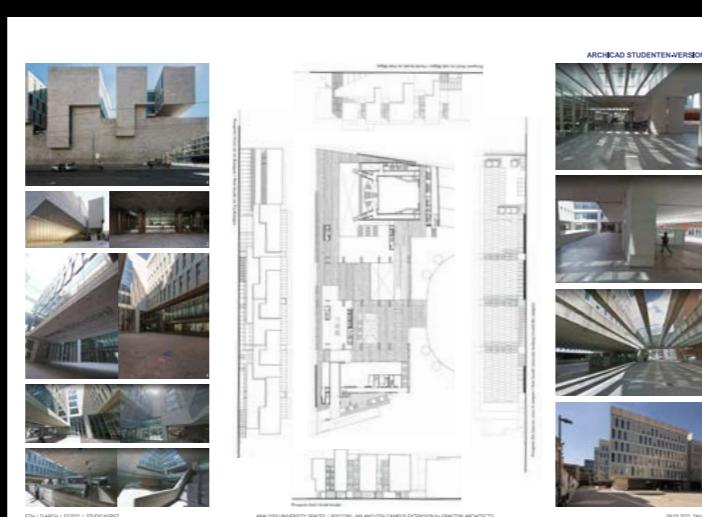
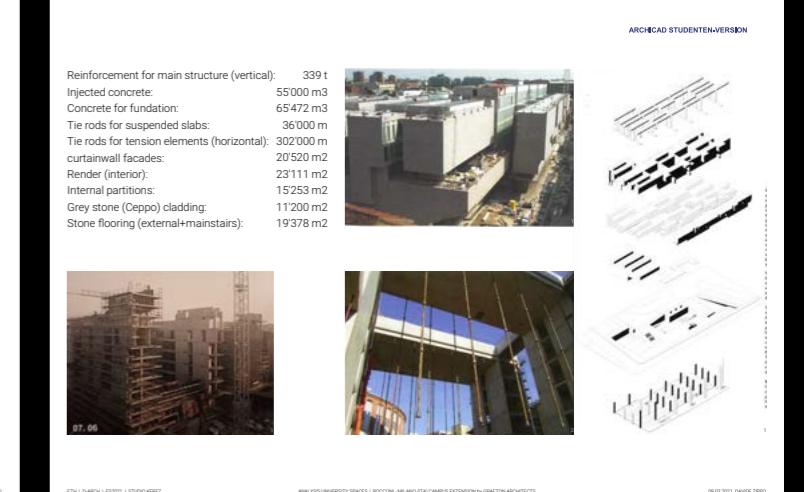
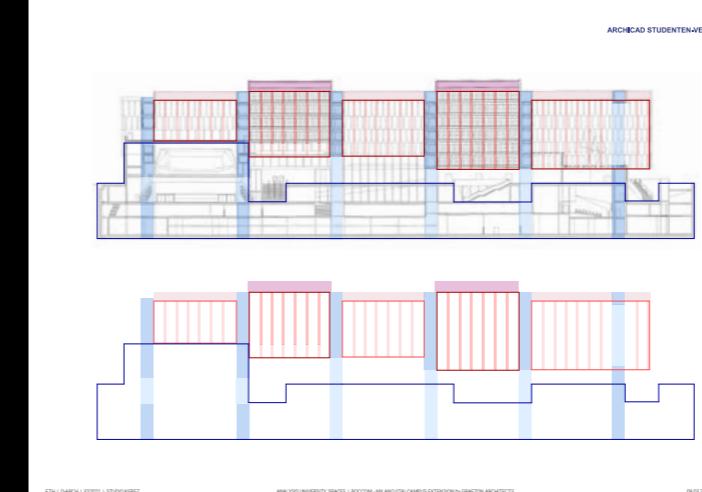
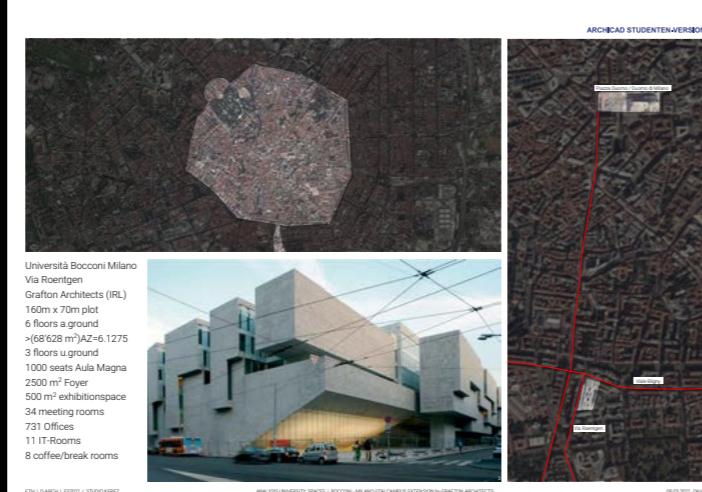


Sources:

- Abkürzung BiMA = Buch: einach komplex - max bill und die architektur der hfg ulm, Schneidergger & Spies Zürich
- Tatblatt Isometrische Gesamtanlage, Originalplan digitalisiert: Originales M 1:200, 1.5.1953, Stadtarchiv Ulm, BiMA S. 116
- Buch: einach komplex - max bill und die architektur der hfg ulm, Schneidergger & Spies Zürich S. 55
- 1-Google Earth (08.03.2021)
- 2-Google Earth (08.03.2021)
- 3-Google Earth (08.03.2021)
- 4-Luftaufnahme des Schulungsbüros vom 02.08.1955, Foto: Otl Aicher, HfG-Archiv, BiMA S.385
- 5: Construction stage master plan, Projektteam Atelier Bill, geplante Gesamtanlage, BiMA, BiMA S.127
- 6-Prinzipieller Raumorganisation, Ansicht Gesamtanlage Süd, BiMA Archiv, BiMA S.125
- 7-Lagemaß der Gesamtanlage, Originalplan digitalisiert, I:500, 27.5.1953, BiMA Archiv, BiMA S.113
- 8-Foto Eva-Koch-Normann, HfG-Archiv, BiMA S.368
- 9-Ernst Scheidegger, HfG-Archiv, BiMA S.367
- 10-Wolfgang Söhl, BiMA Archiv, BiMA S.345
- 11-Peter Dusch, Archiv Meister, BiMA S.314
- 12-Grundriss Raumorganisation, Atelier Bill, BiMA Archiv, BiMA S.375, Ergänzung JZ
- 13-Ernst Scheidegger, HfG-Archiv, BiMA S.289
- 14-Victor Guérard, HfG-Archiv, BiMA S.378
- 15-Verkäuferisches Ateliers, meisterarchitekten, BiMA S.379
- 16-Schreinerei Originalplan, Original-M, 1:100, datiert 13.02.1953 BiMA Archiv, BiMA S.590
- 17-Grundriss Eingangsbereiche, BiMA S.123
- 18-ebenfalls, BiMA S.378
- 19-Dagmar Meister Klüber, BiMA S.264
- 20-Wolfgang Söhl, HfG-Archiv, BiMA S.307
- 21-Plan Wohnstube 1, HfG-Archiv, Buch: einach komplex - max bill und die architektur der hfg ulm, Schneidergger & Spies Zürich S.49
- 22-Plan Wohnstube 2 & 3, HfG-Archiv, Buch: einach komplex - max bill und die architektur der hfg ulm, Schneidergger & Spies Zürich S.49
- 23-Grundriss Raumorganisation, Atelier Bill, BiMA Archiv, BiMA S.414
- 24-Erschließungsprinzip, meisterarchitekten 2017, BiMA S.414
- 25-Bild Fliesen im Raumverbindungen im Werkstatt-Trakt, Foto: Ernst Scheidegger, HfG-Archiv, BiMA S.375
- 26-ebenfalls

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ARCHICAD STUDENTENVERSION

Themes Related to the Project:

- Ville Spatiale by Yona Friedman
- Vertical city by Ludwig Hilbersheimer
- Study of the proportional ratios by Gino and Paola Levi Montalcini
- Museum for modern art - project Liebeskind in Milan (Role of Bocconi in milanese culture and art)

Sources:

Images: 1- Un cuore di cristallo per Milano (by Stefano Casciani) / 2 - Grafton Architects (Brunetti) / 3 - Franziska Streb / 4 - Riccardo Bianchini / 5 - Paolo Tonato

Aerial views/Birdviews/Streetviews: Google Earth / Google Maps

Plans: Grafton Architects / Un cuore di cristallo per Milano (by Stefano Casciani)

Facts to the Structure: Un cuore di cristallo per Milano (by Stefano Casciani) / www.architonic.com / https://www.youtube.com/watch?v=zv3a3ZbcO1k

Facts to the Program: Un cuore di cristallo per Milano (by Stefano Casciani) / www.unibocconi.eu / www.architonic.com



ANALYSIS UNIVERSITY SPACES | BOCCONI - MILANO (IT) CAMPUS EXTENSION BY GRAFTON ARCHITECTS

09.03.2021 SWISSCUTTER

ETNA | 0-480 | FS2021 | STUDIO480

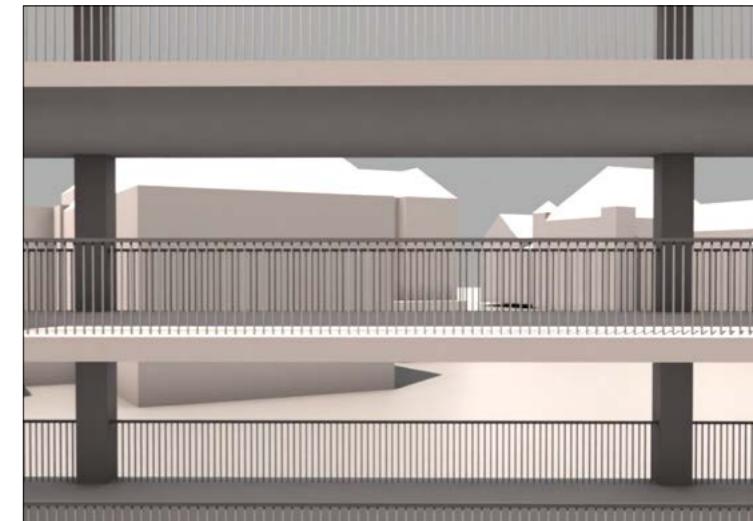
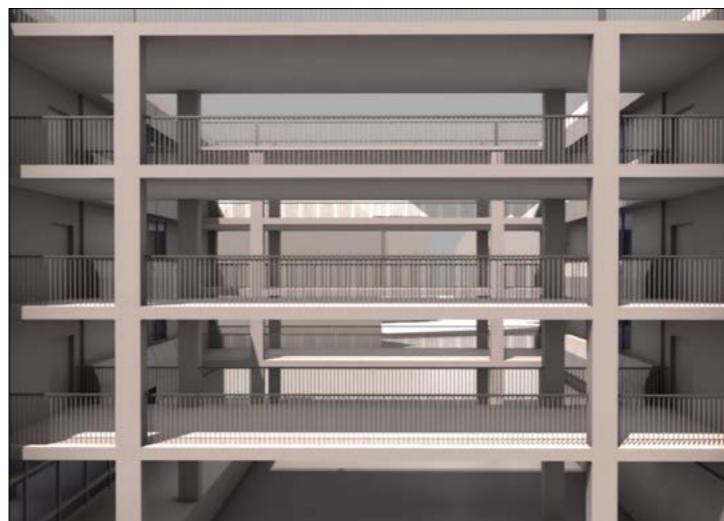
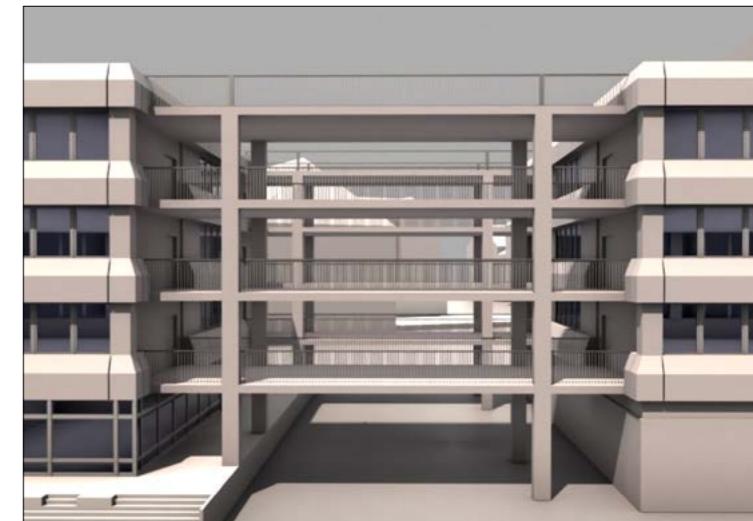
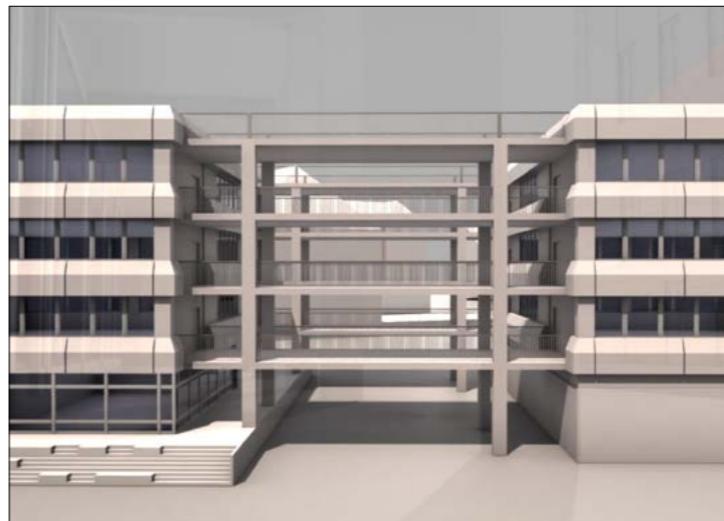
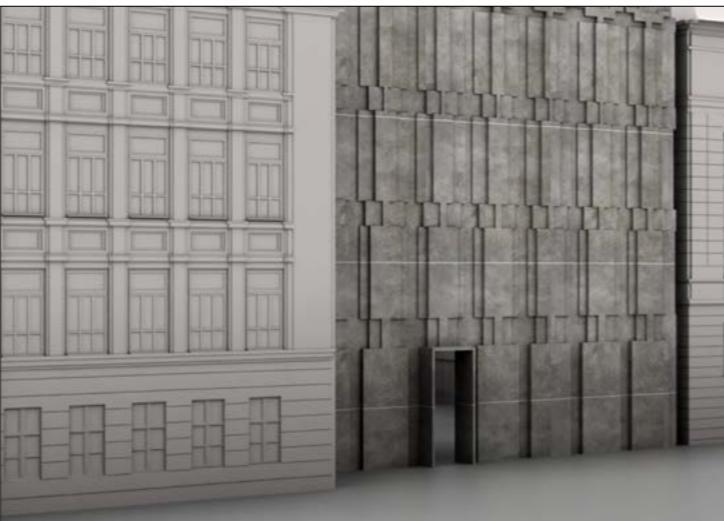
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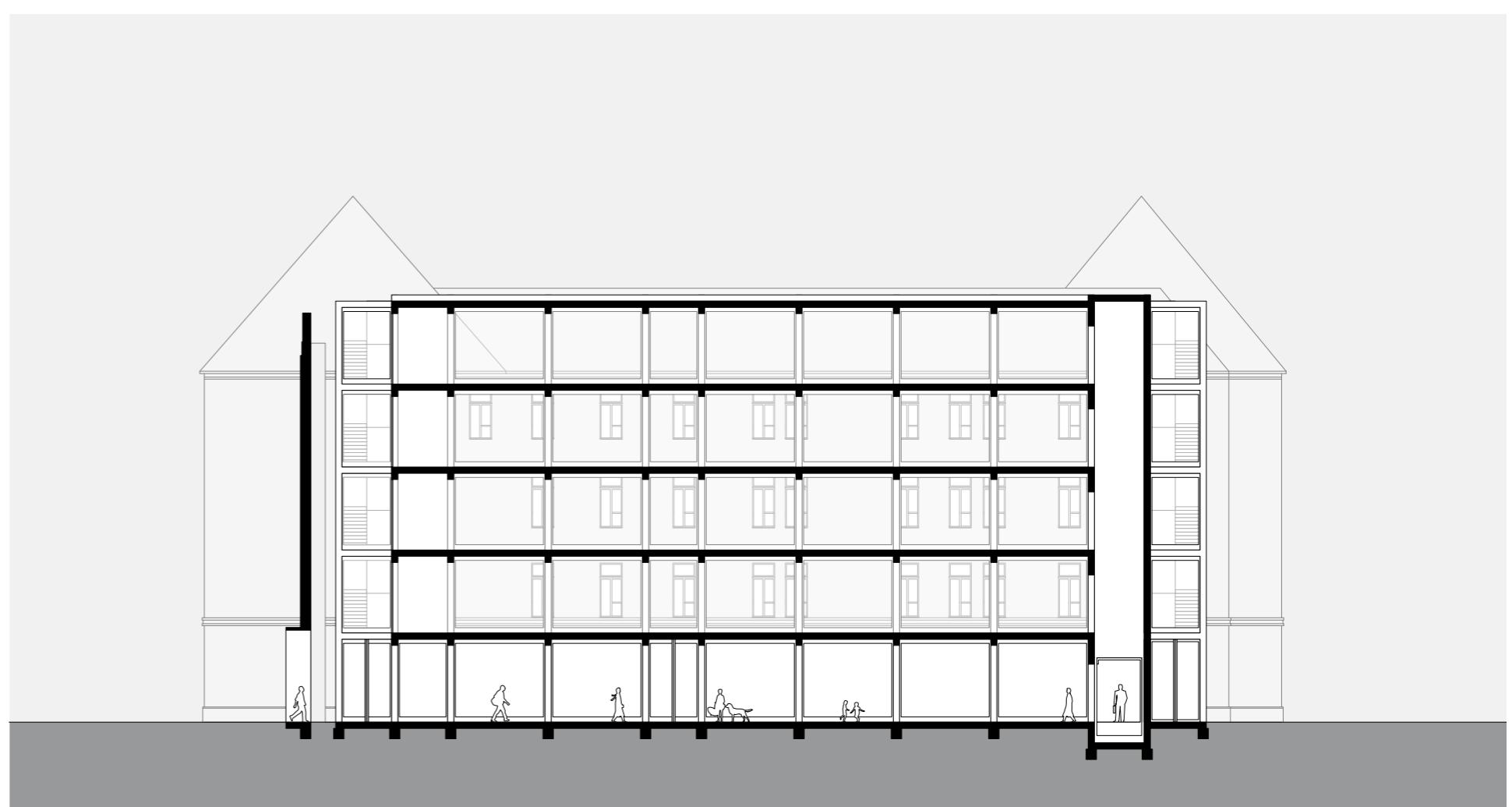
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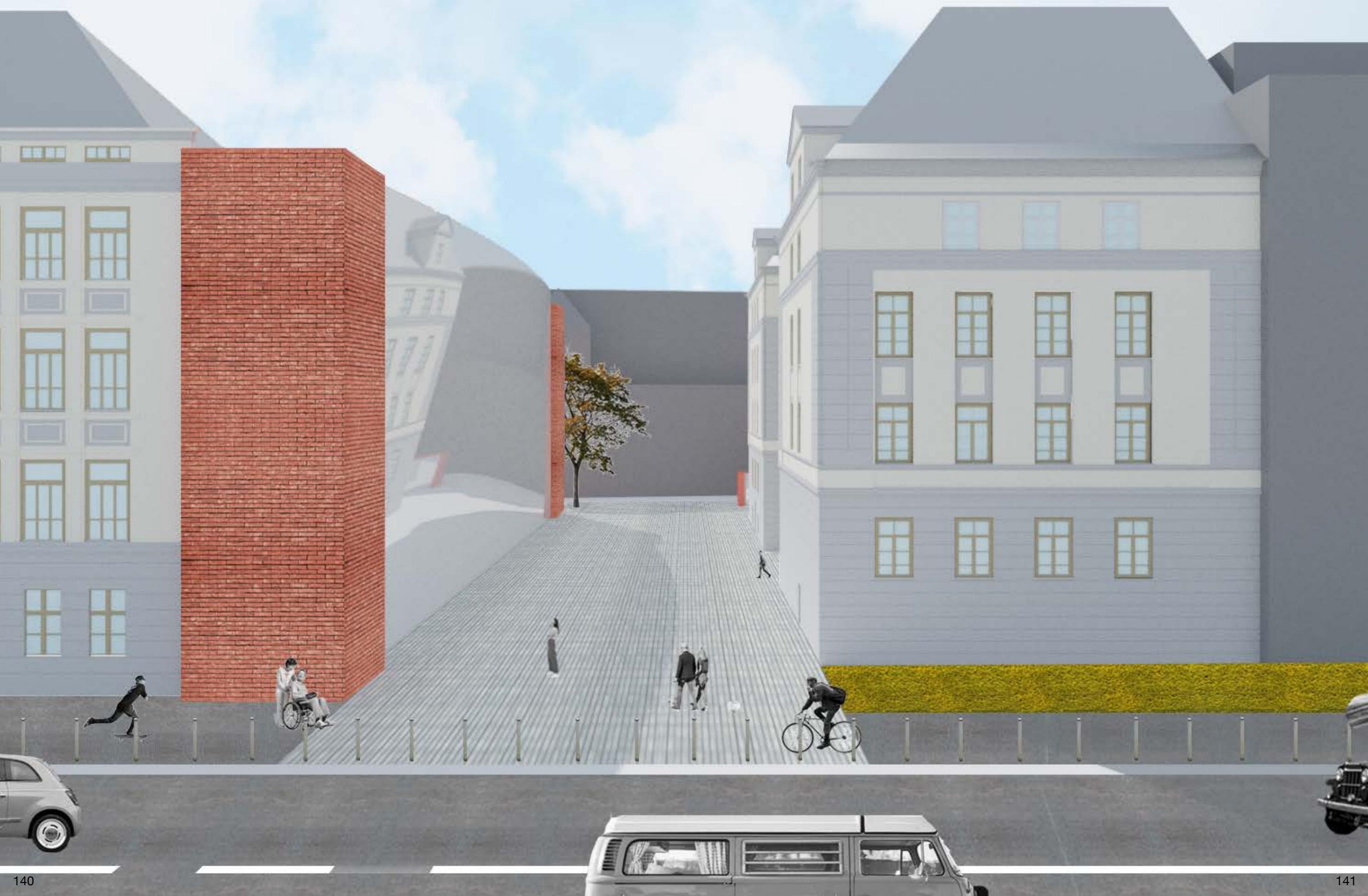
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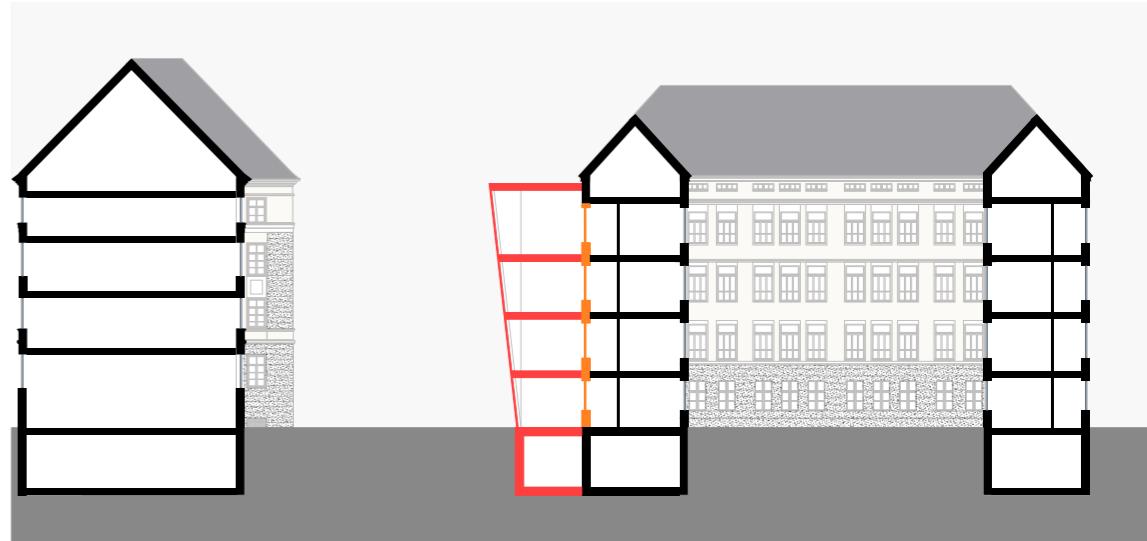
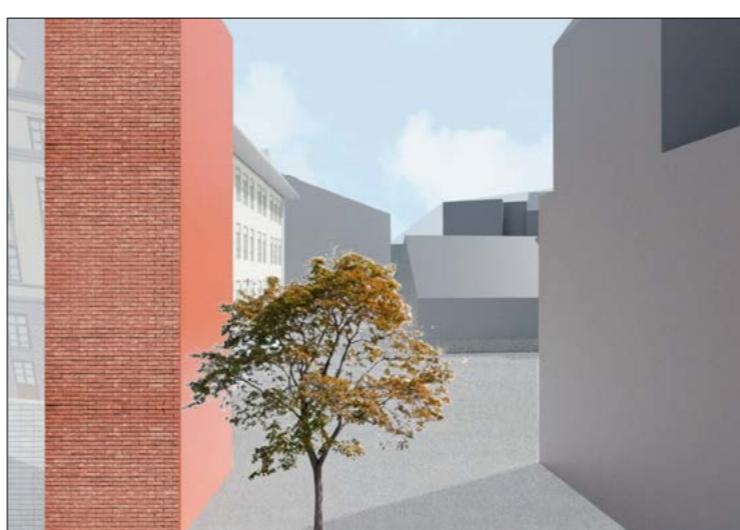
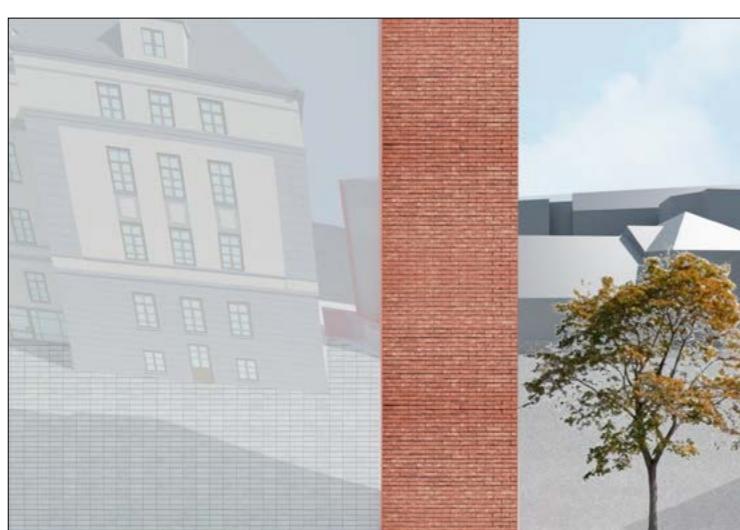
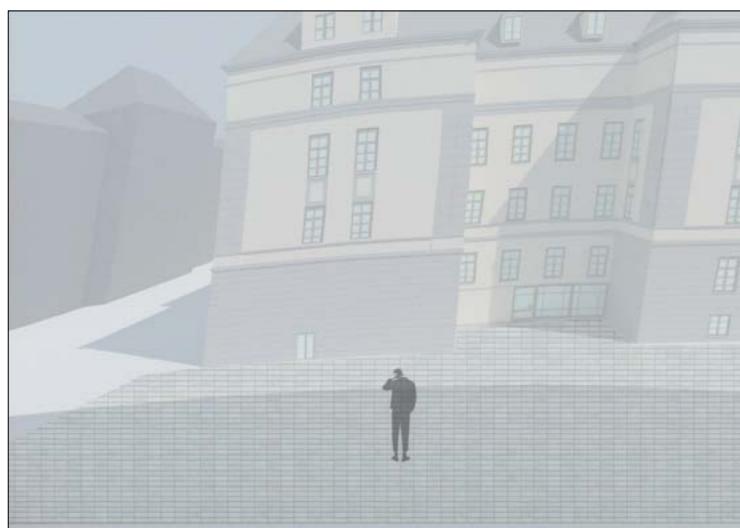
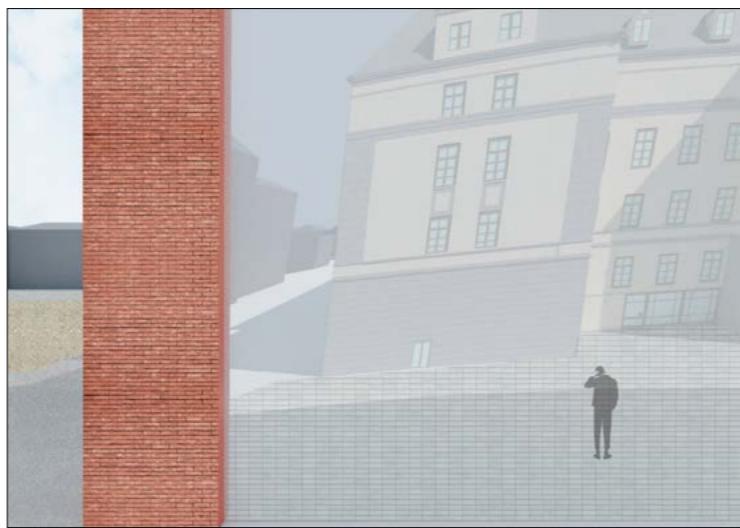
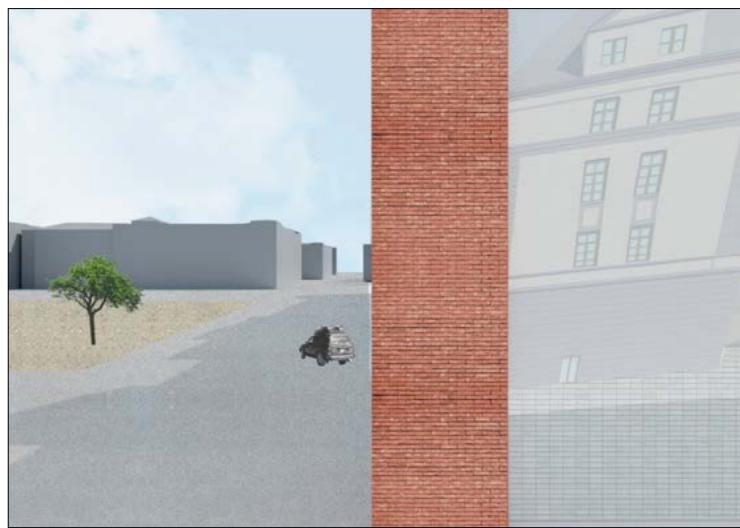
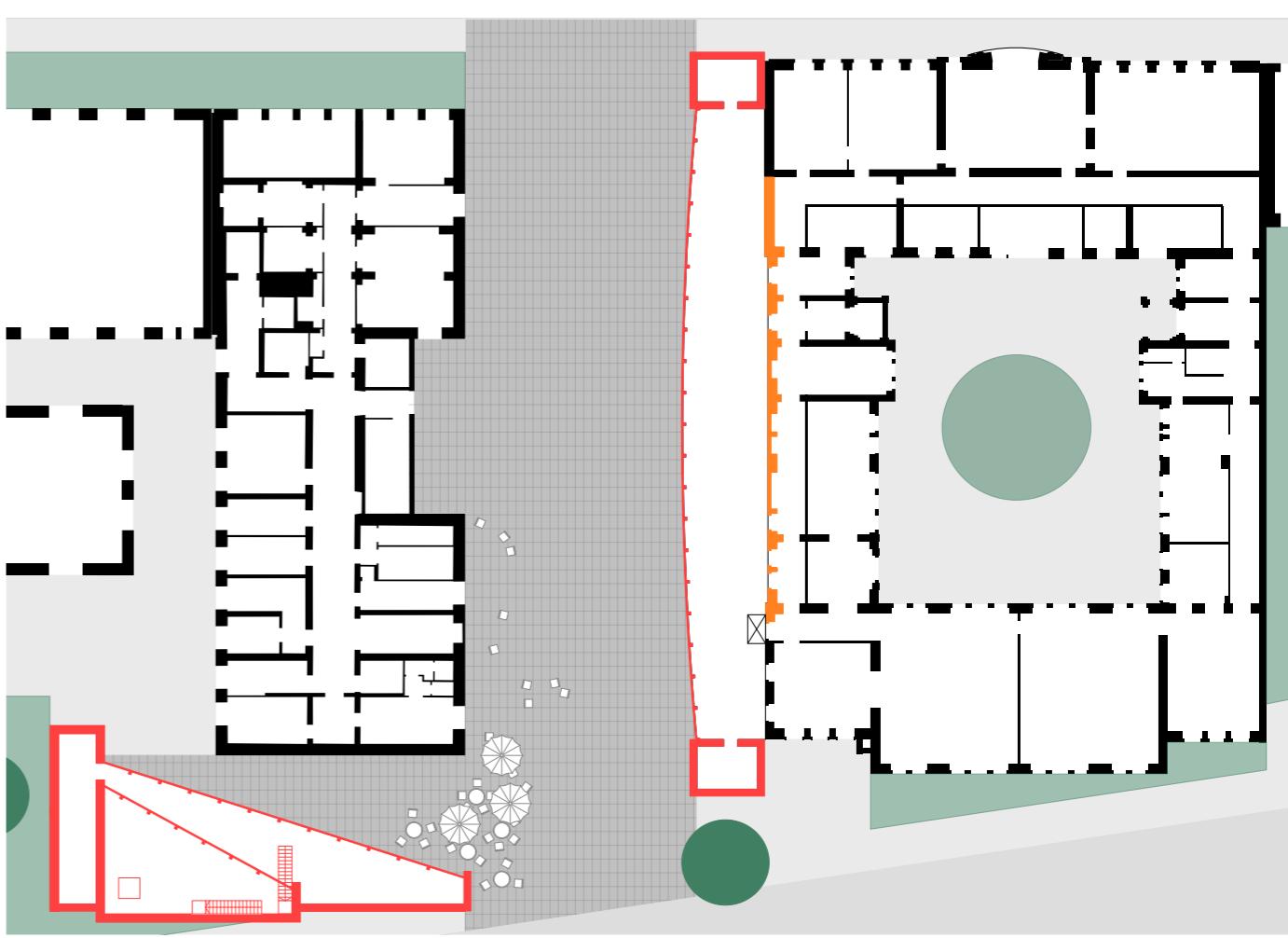
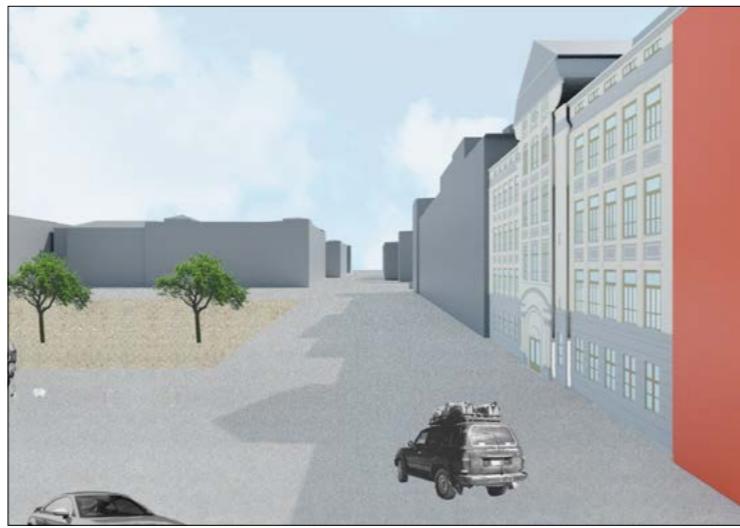
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SION	Nathan Loretan Georg Rohr Abigail Vogel	p. 160 p. 164 p. 172
PARIS	Ilenia Buzzi Chiara Hergenröder Joel Vetter	p. 176 p. 182 p. 188
MENDRISIO	HyukSung Kwon Marcel Studer	p. 194 p. 202
MÜNCHEN	Max Nagler Johanna Scherrer	p. 208 p. 214
ST. GALLEN	Jessica Cabrera Anna Luzia Hess Robin Staubli	p. 220 p. 226 p. 232
LONDON	Lara Biesser Blanca Bosshard Salim Umar Henry Zimmermann	p. 240 p. 246 p. 254 p. 260
BERN	Sébastien Fischer Yannick Wettstein Davide Zippo	p. 266 p. 272 p. 278
	Paula-Marie Bugla	

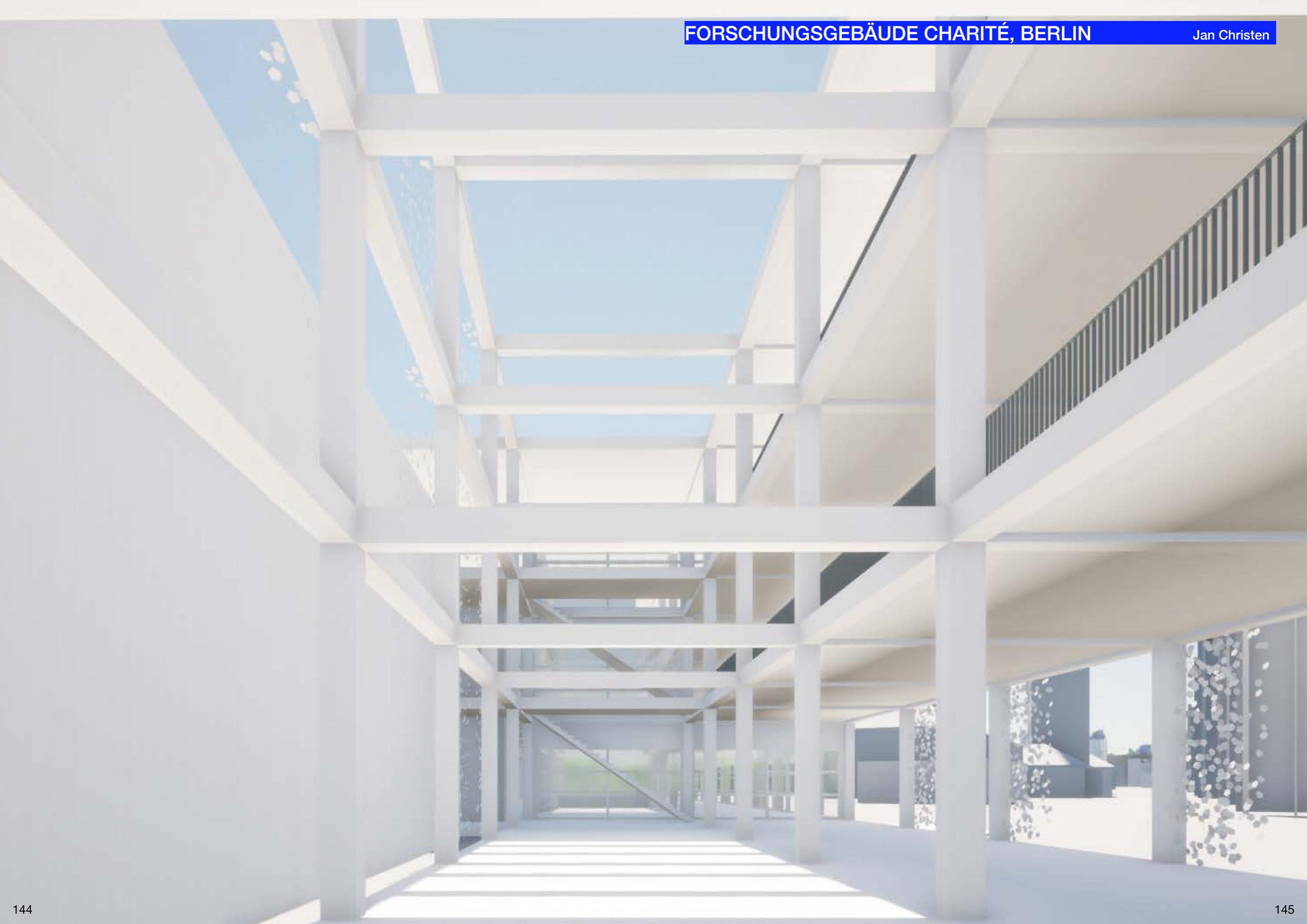


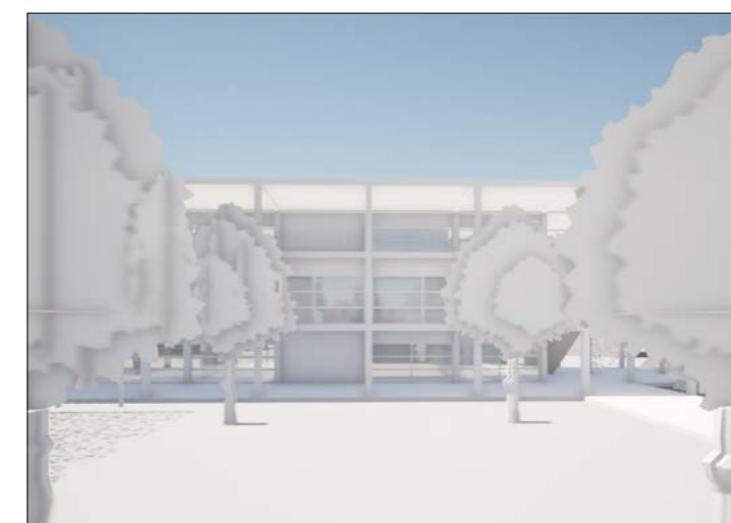
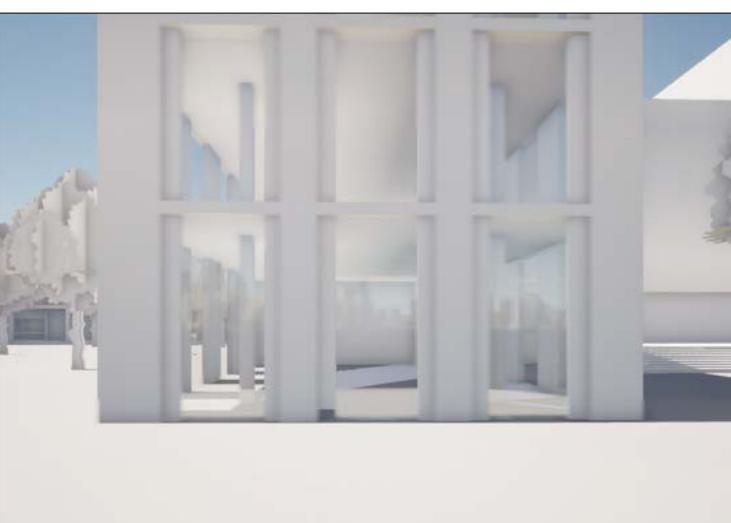
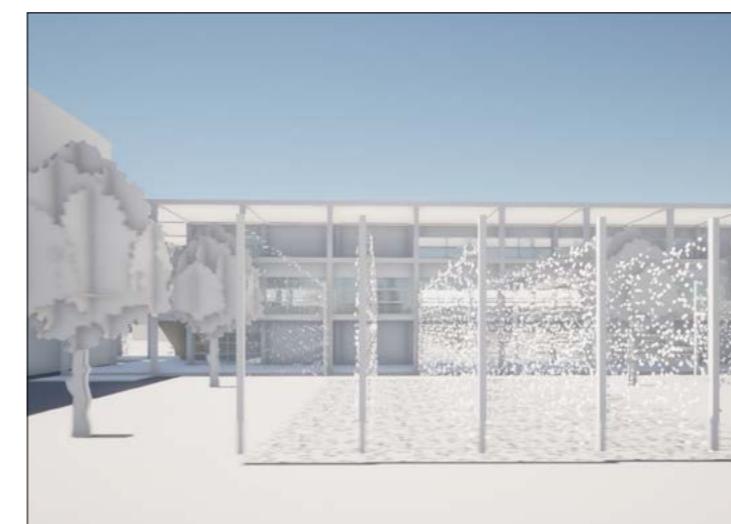
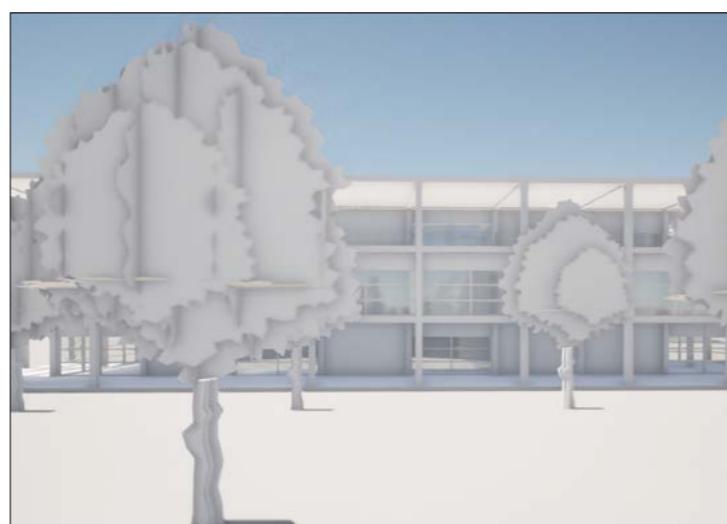
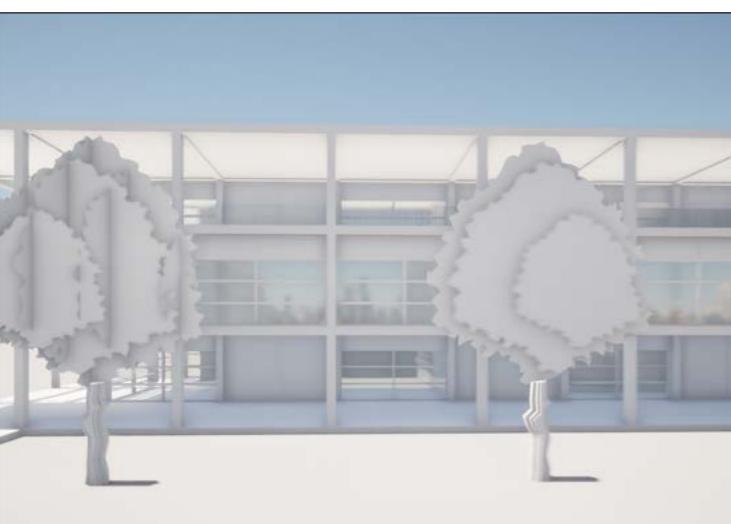
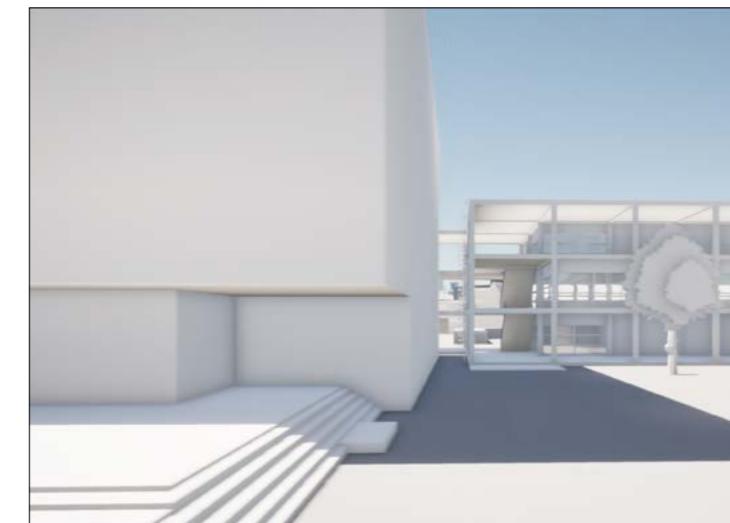
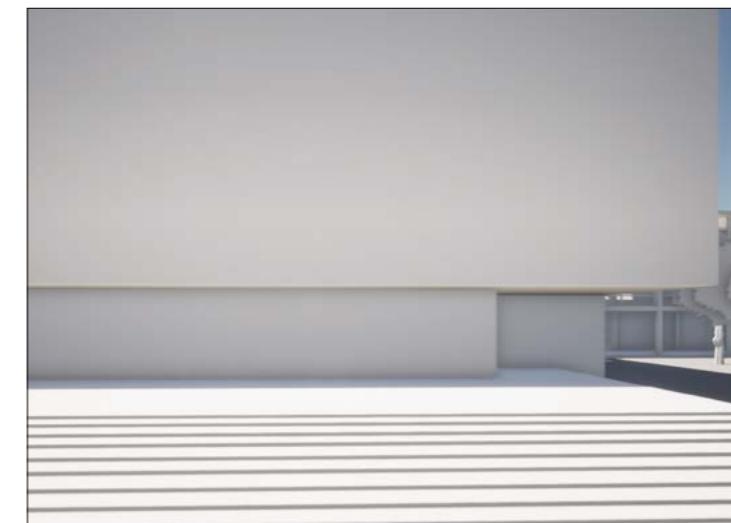
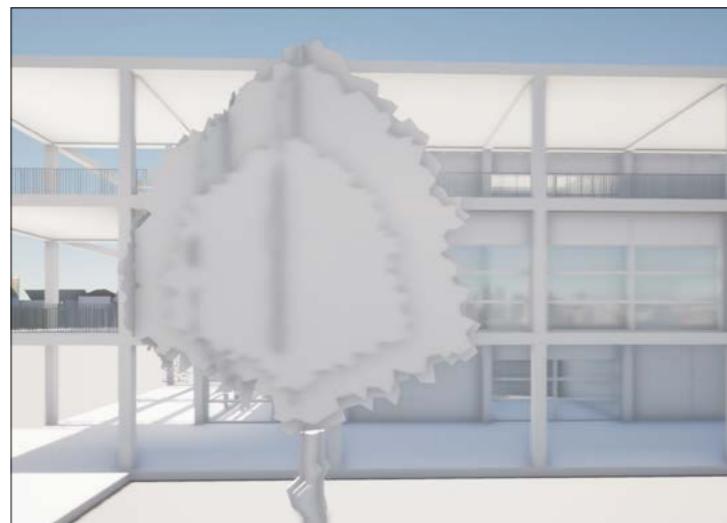


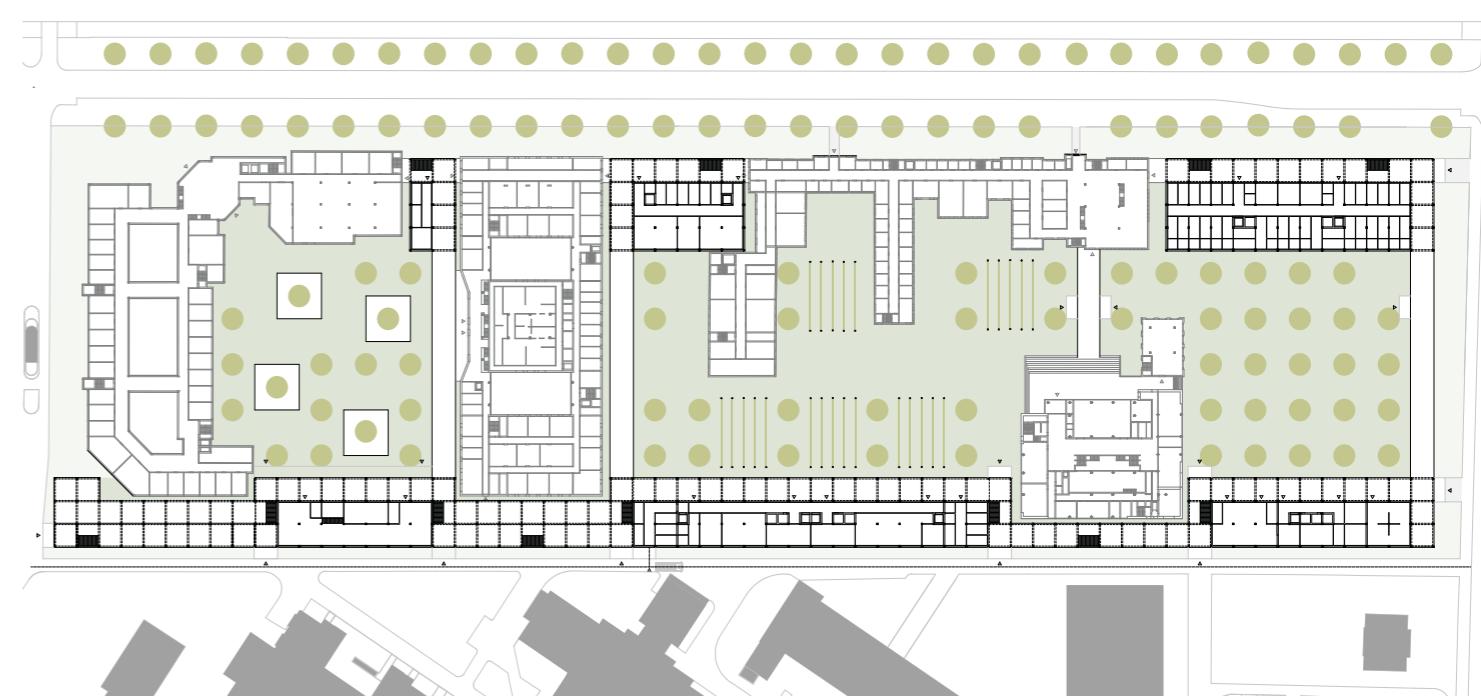
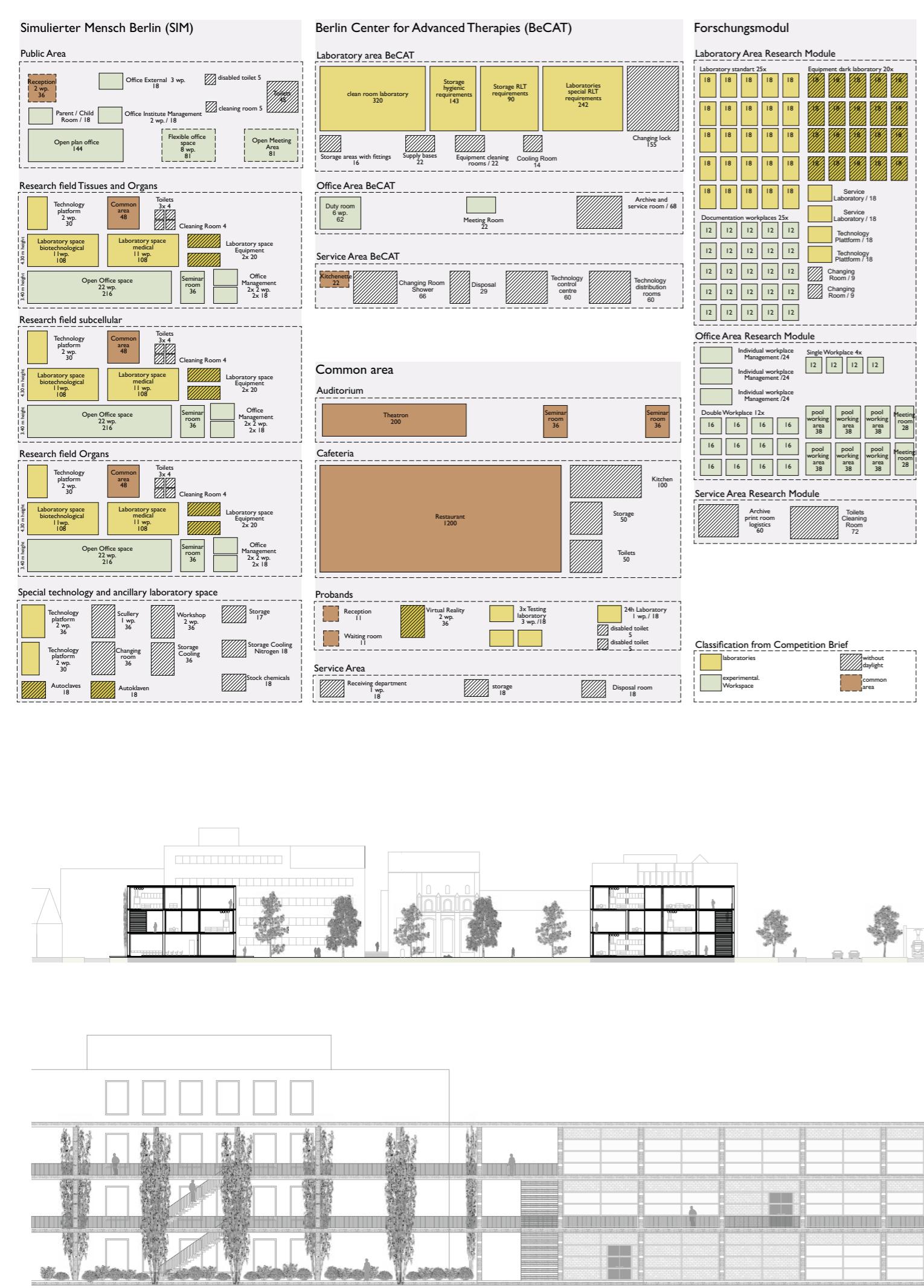




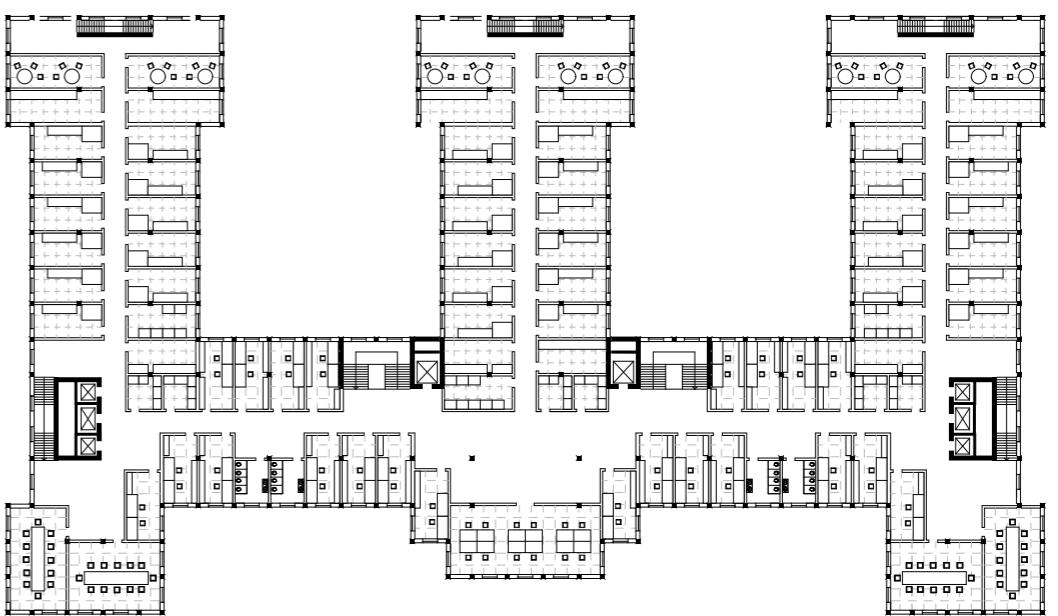
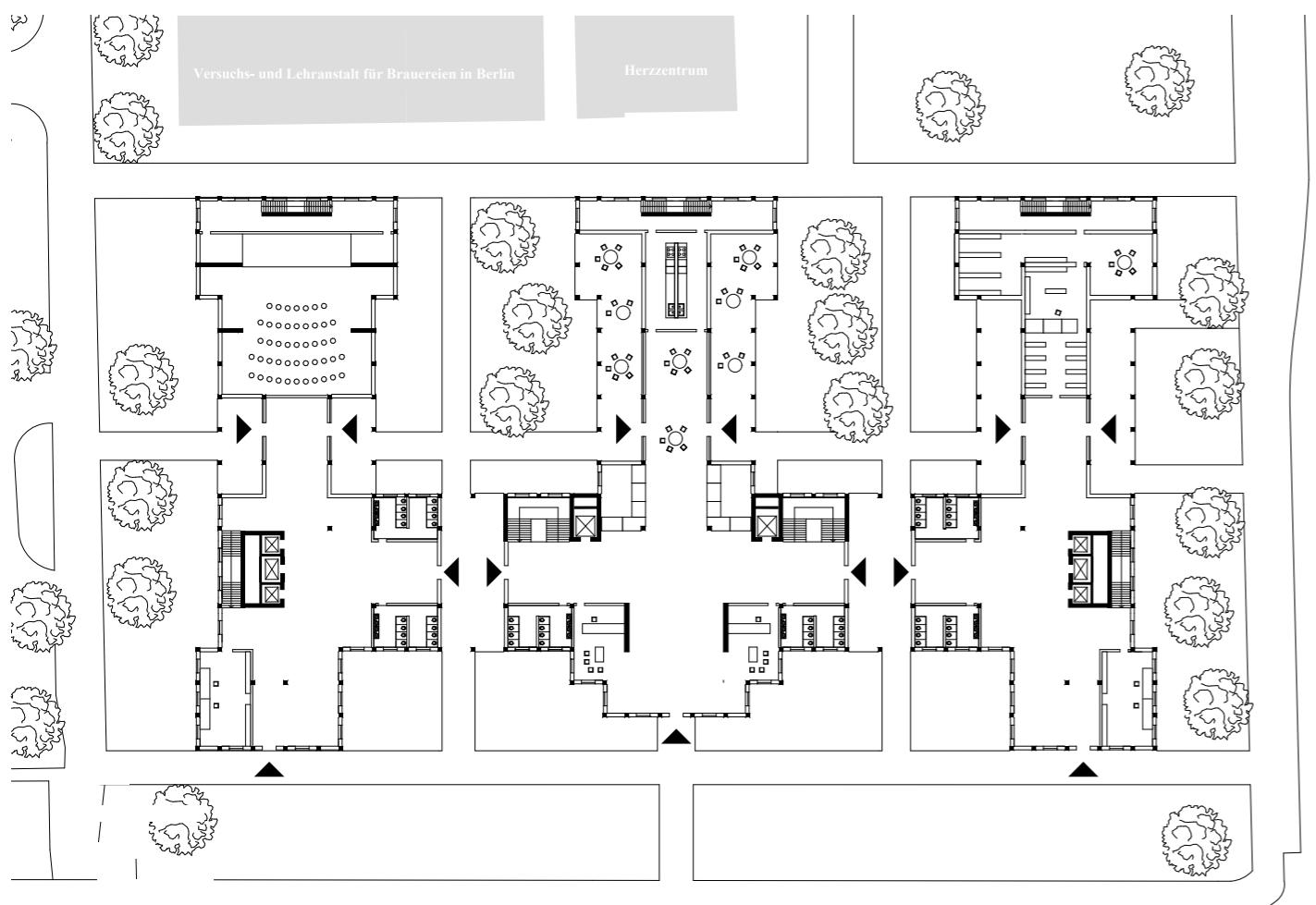






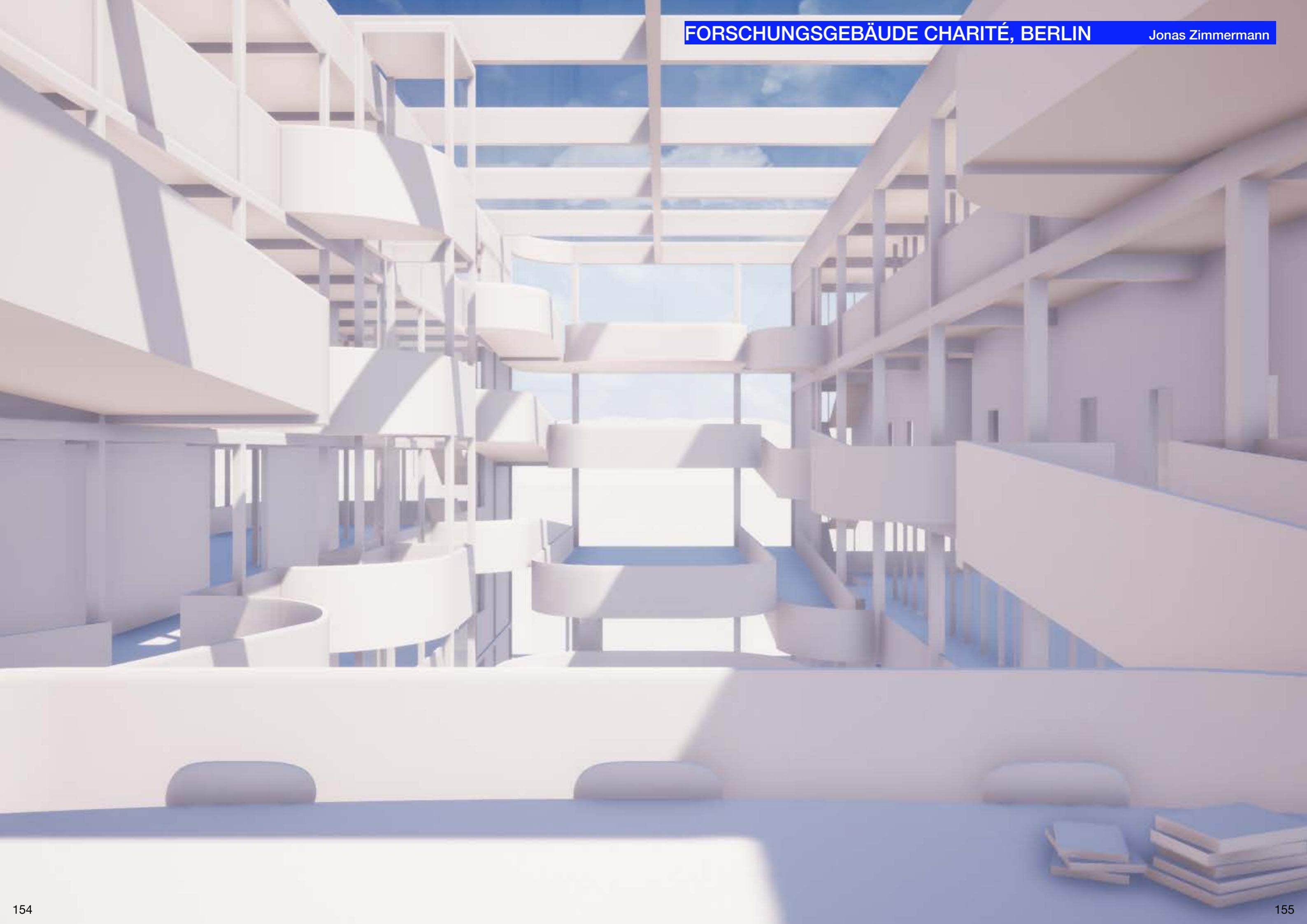


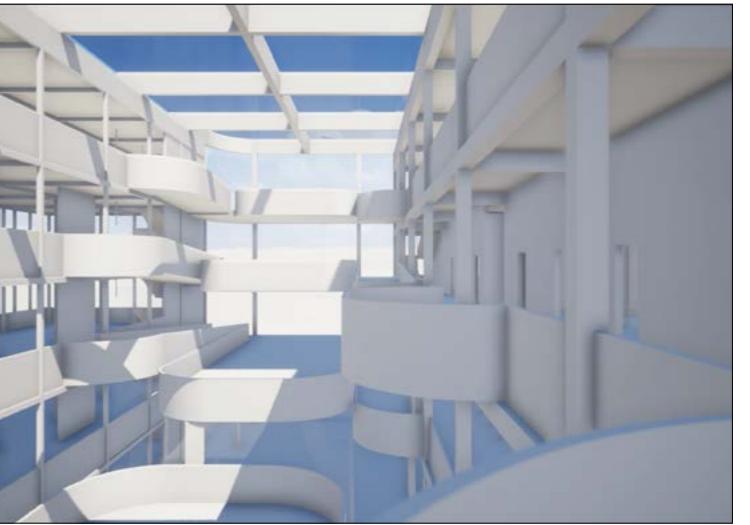
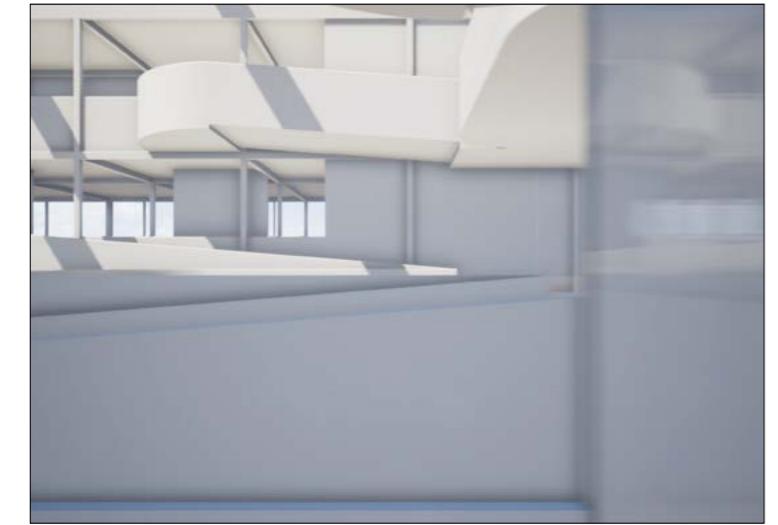
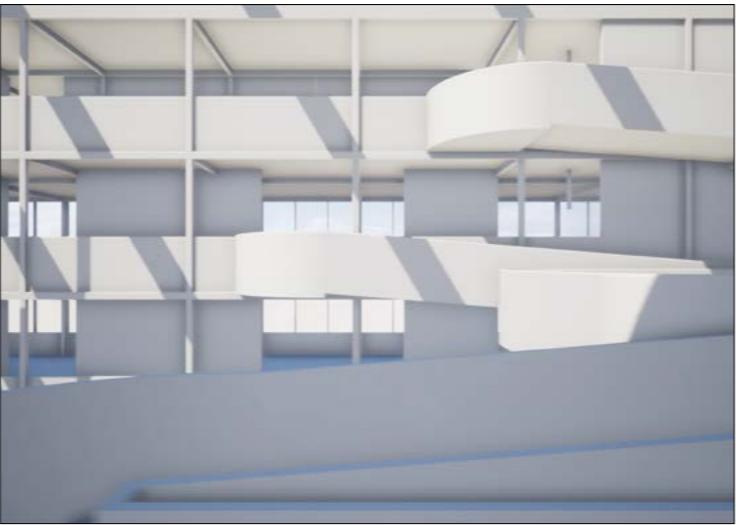
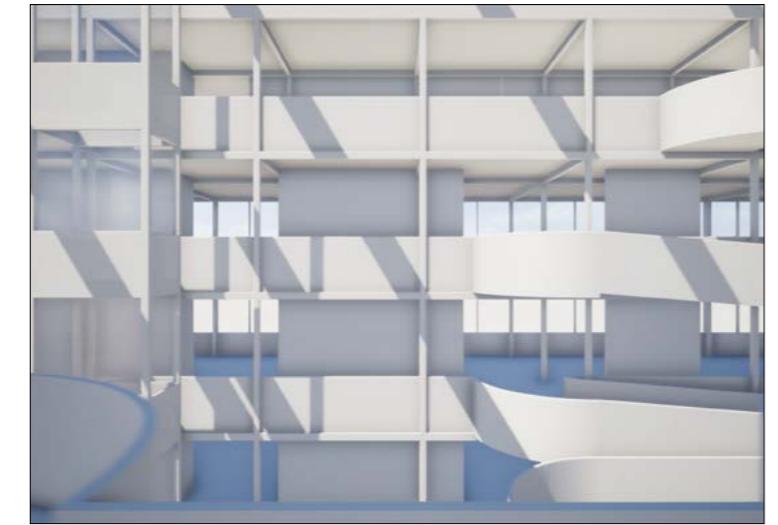
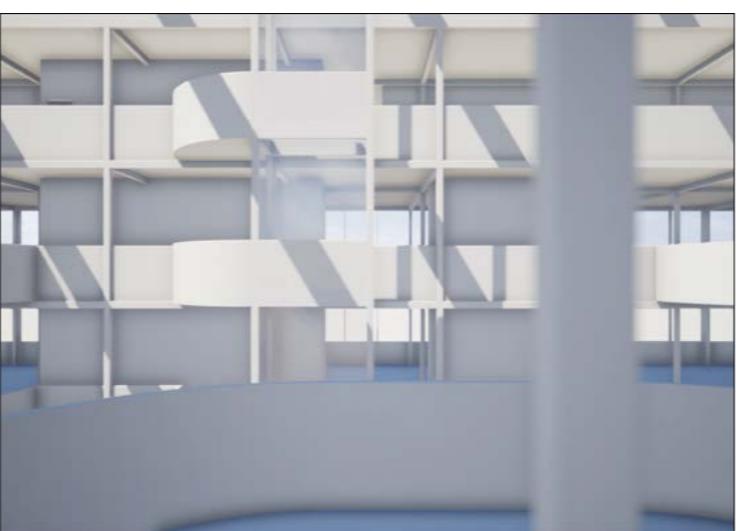
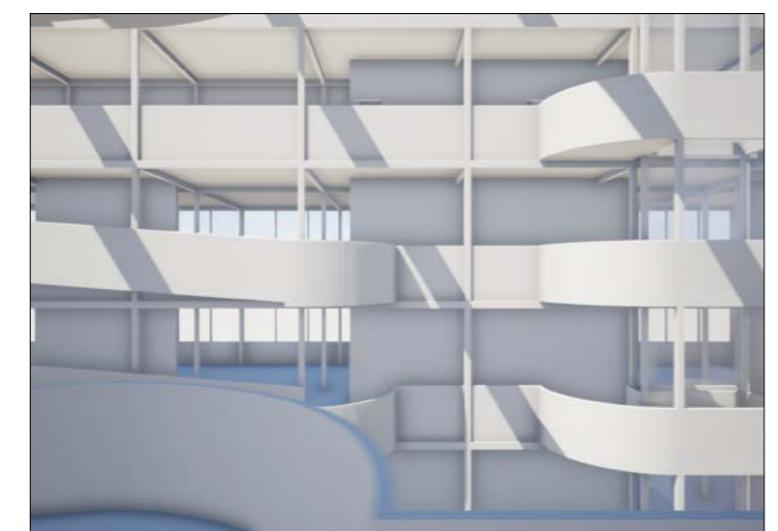
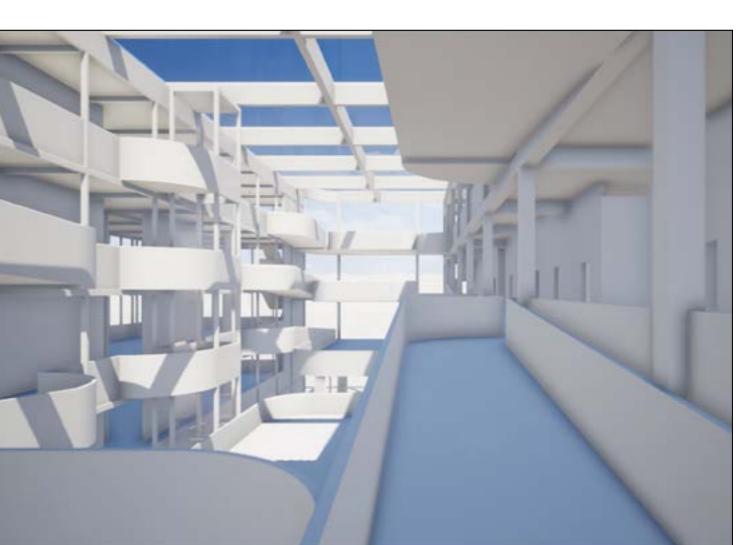
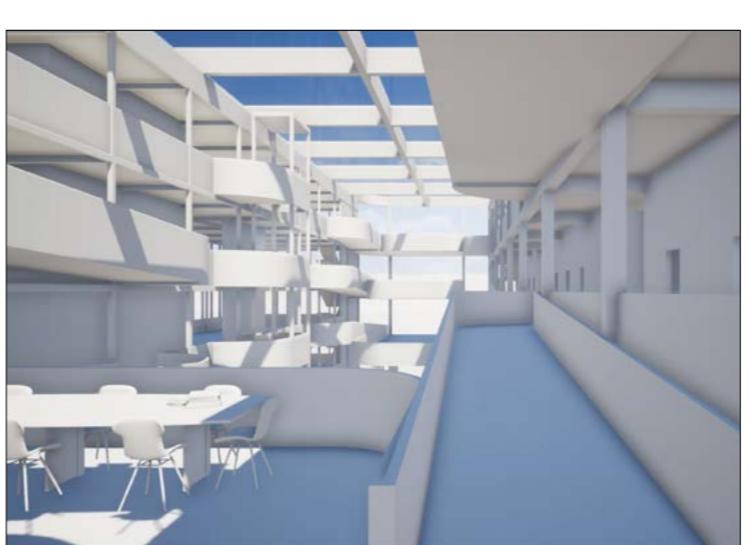
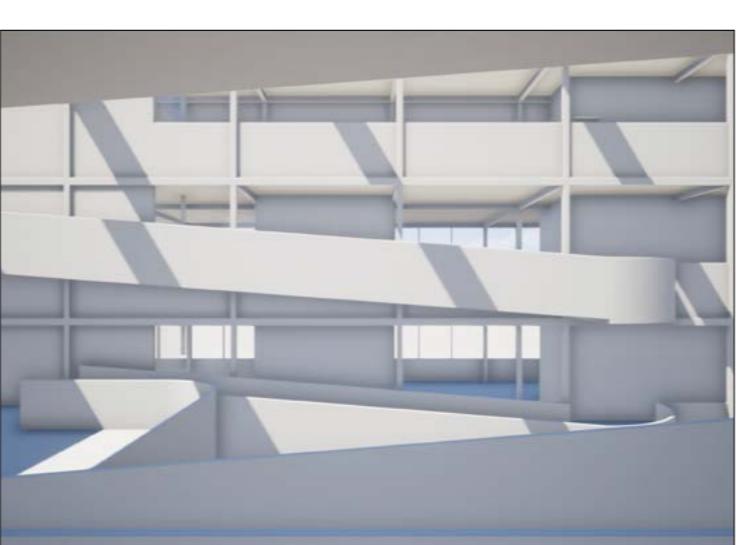
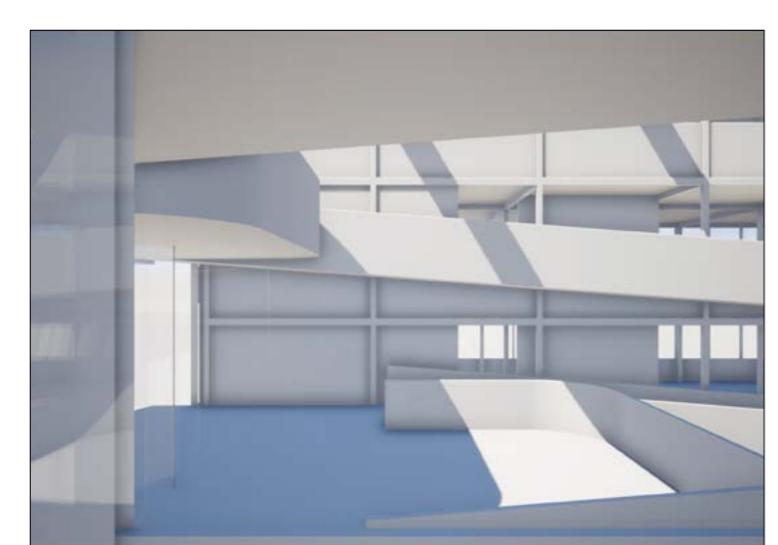


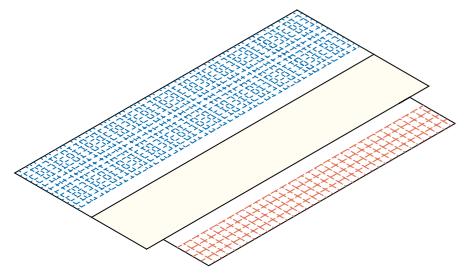


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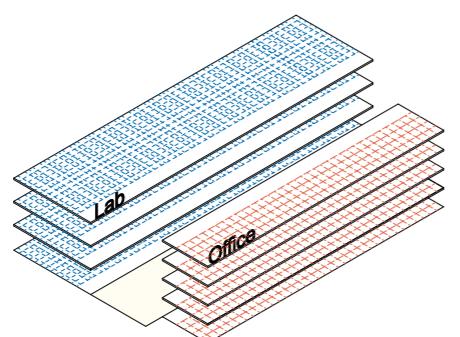
Jonas Zimmermann



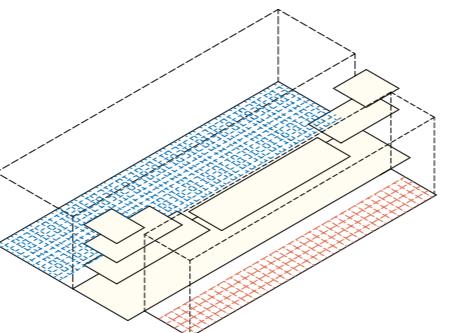




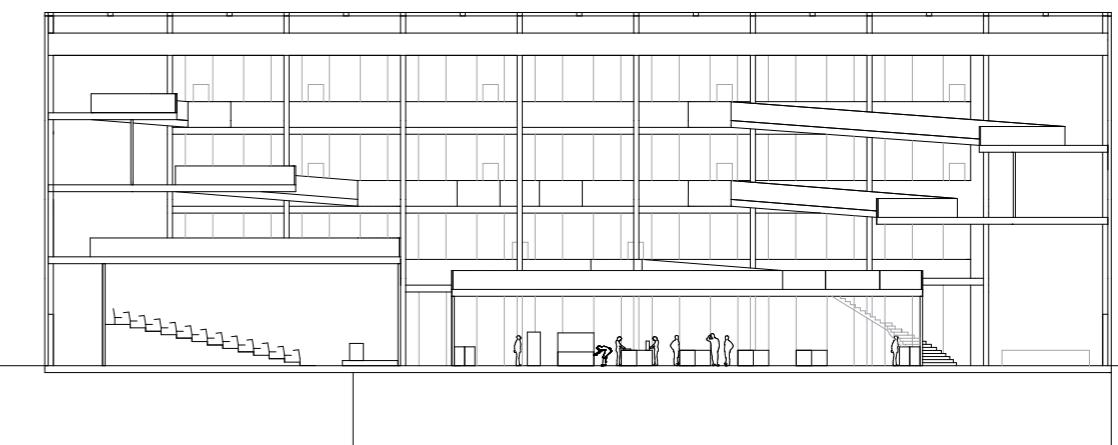
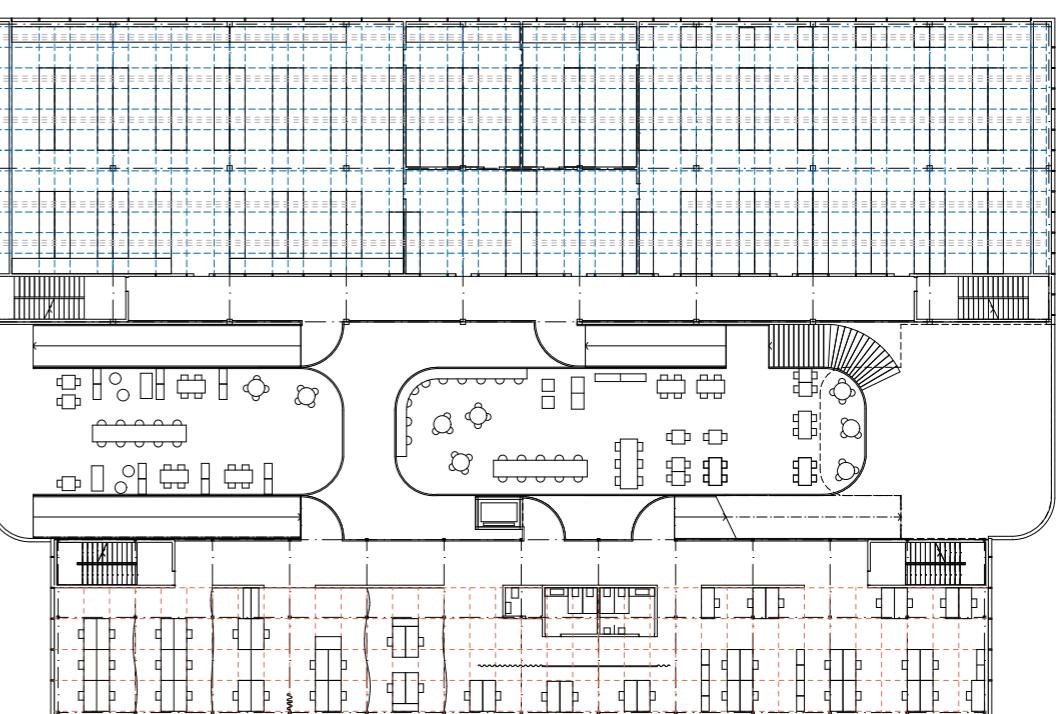
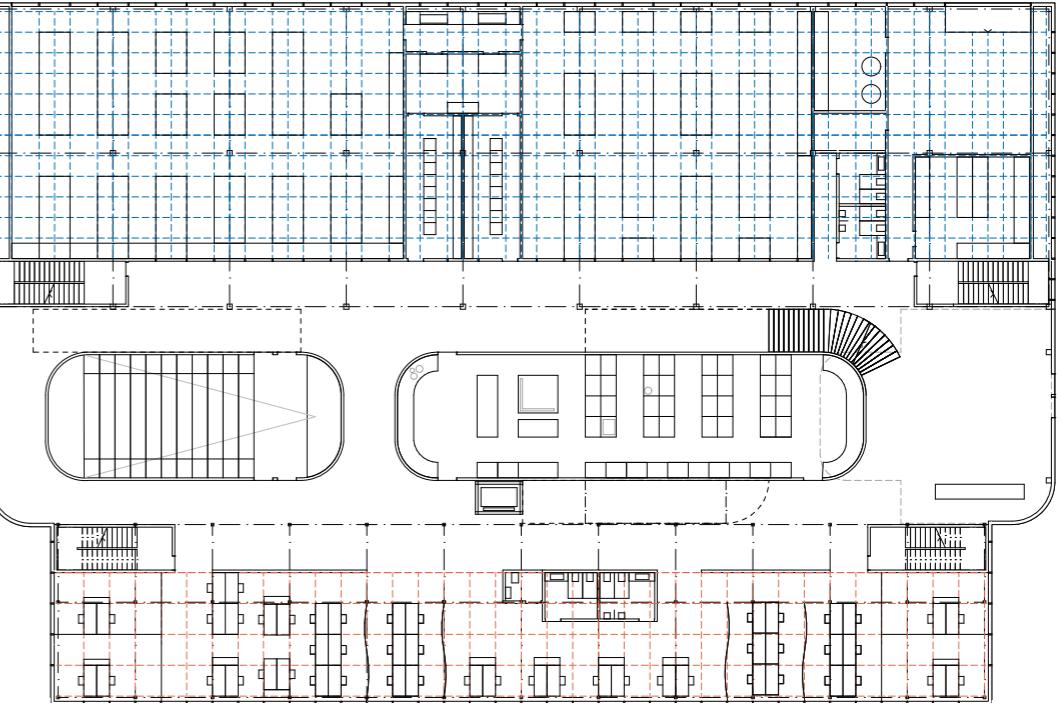
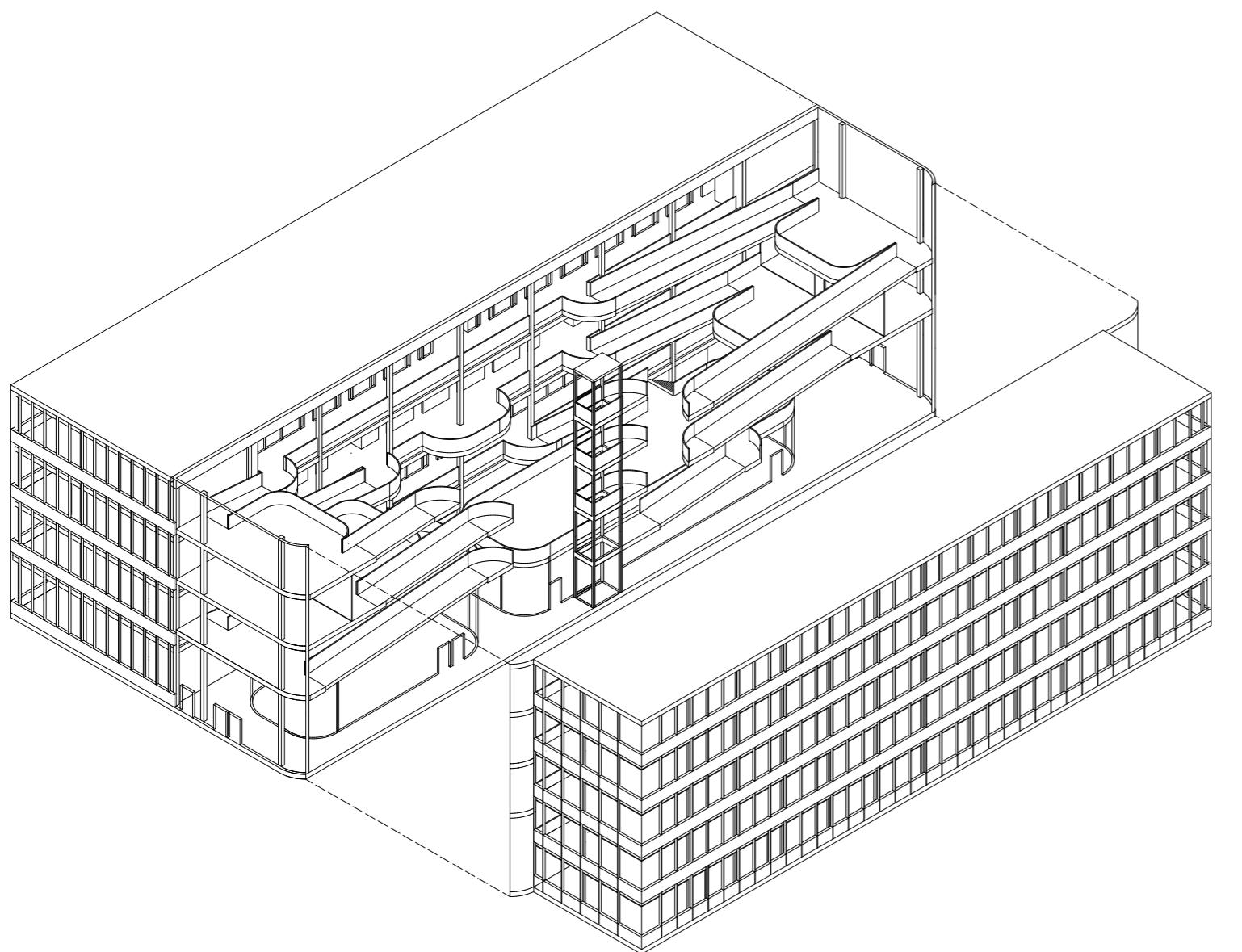
Laboratory & Office Grid



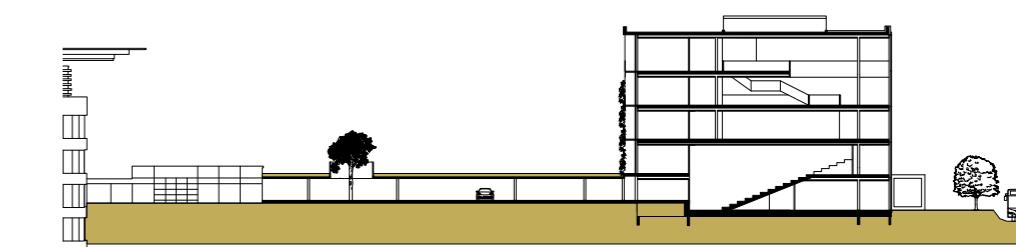
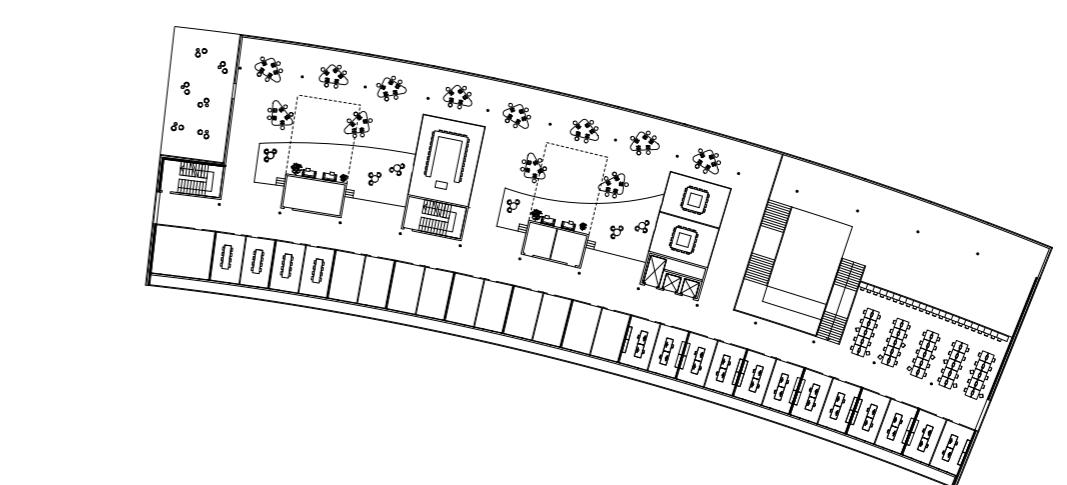
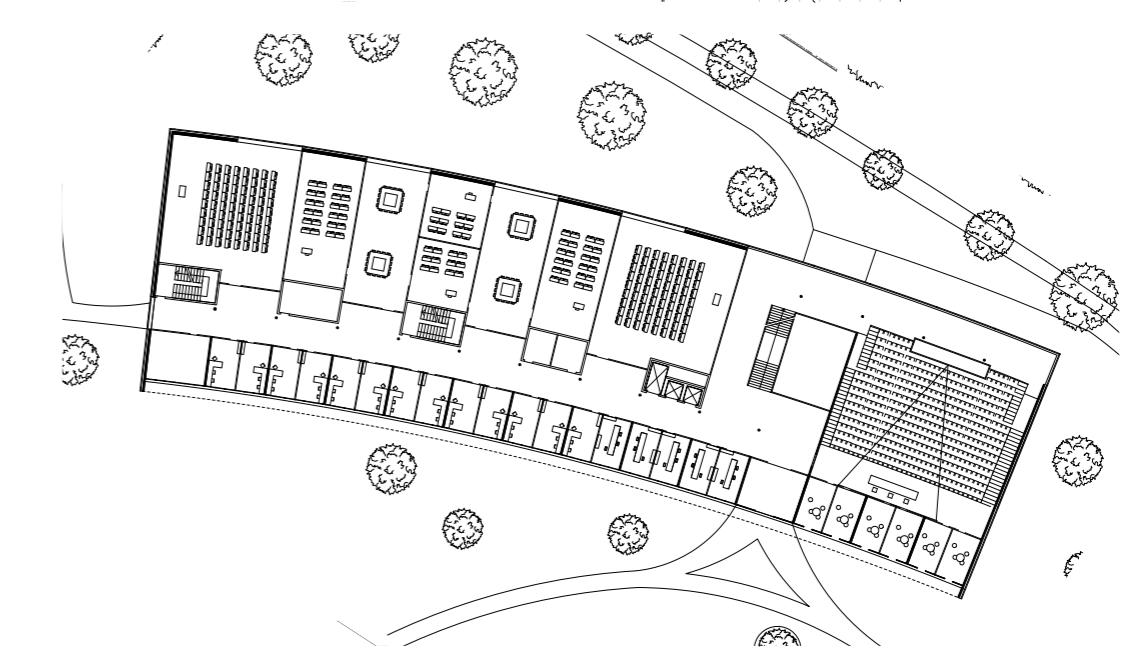
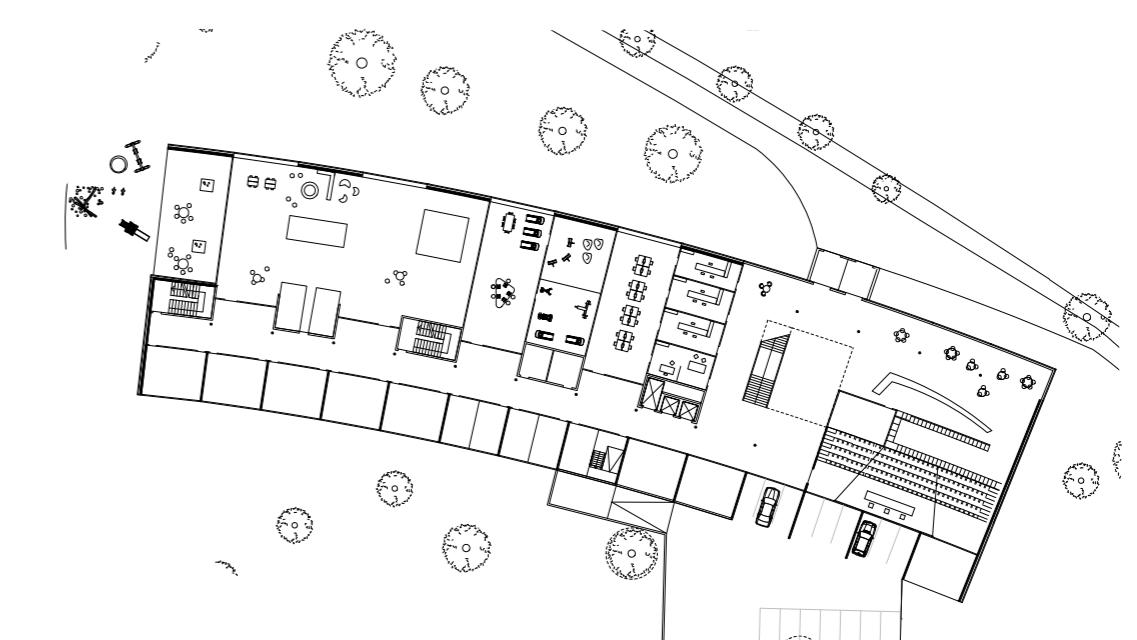
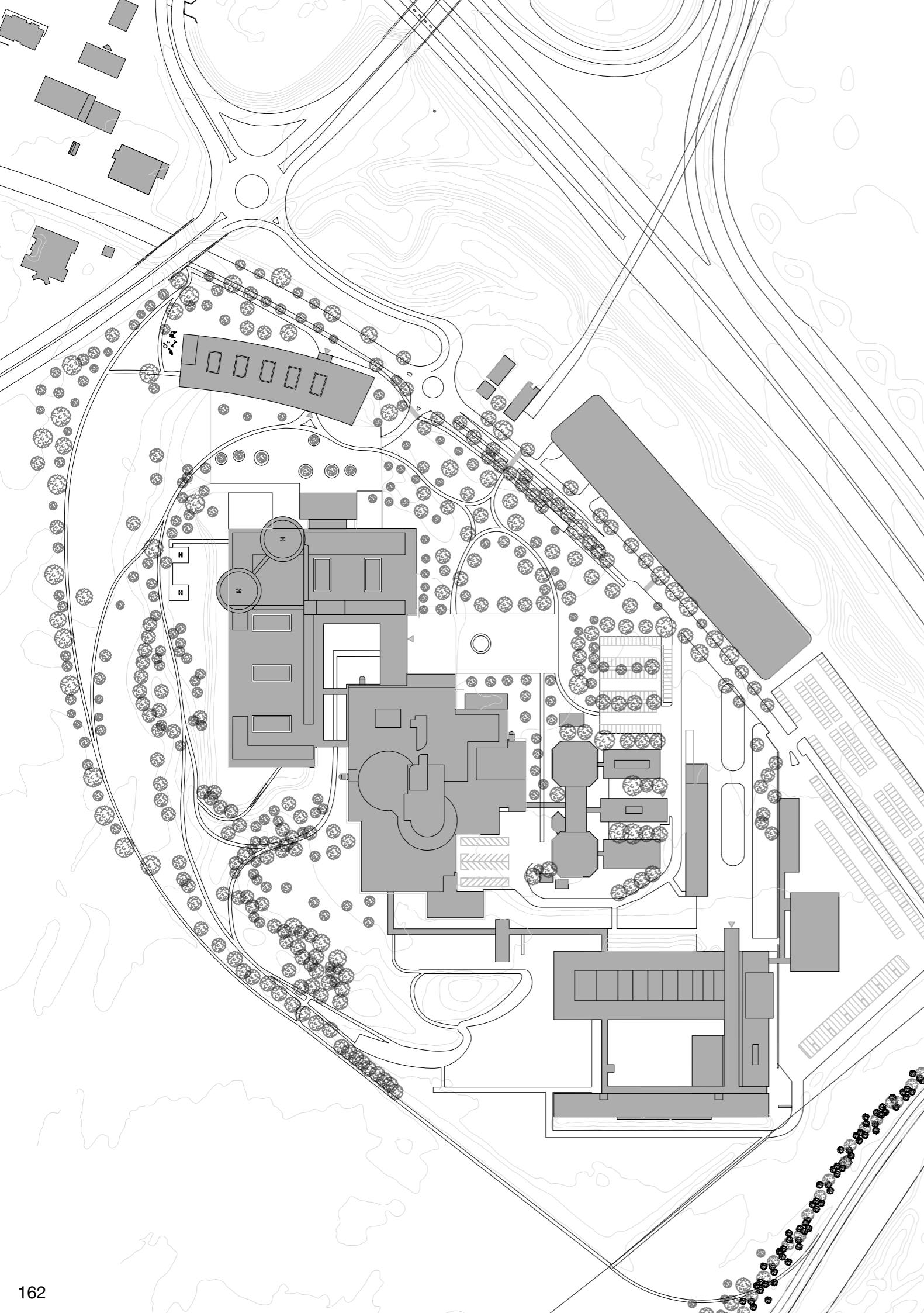
Height differentiation



Interdisciplinary platforms

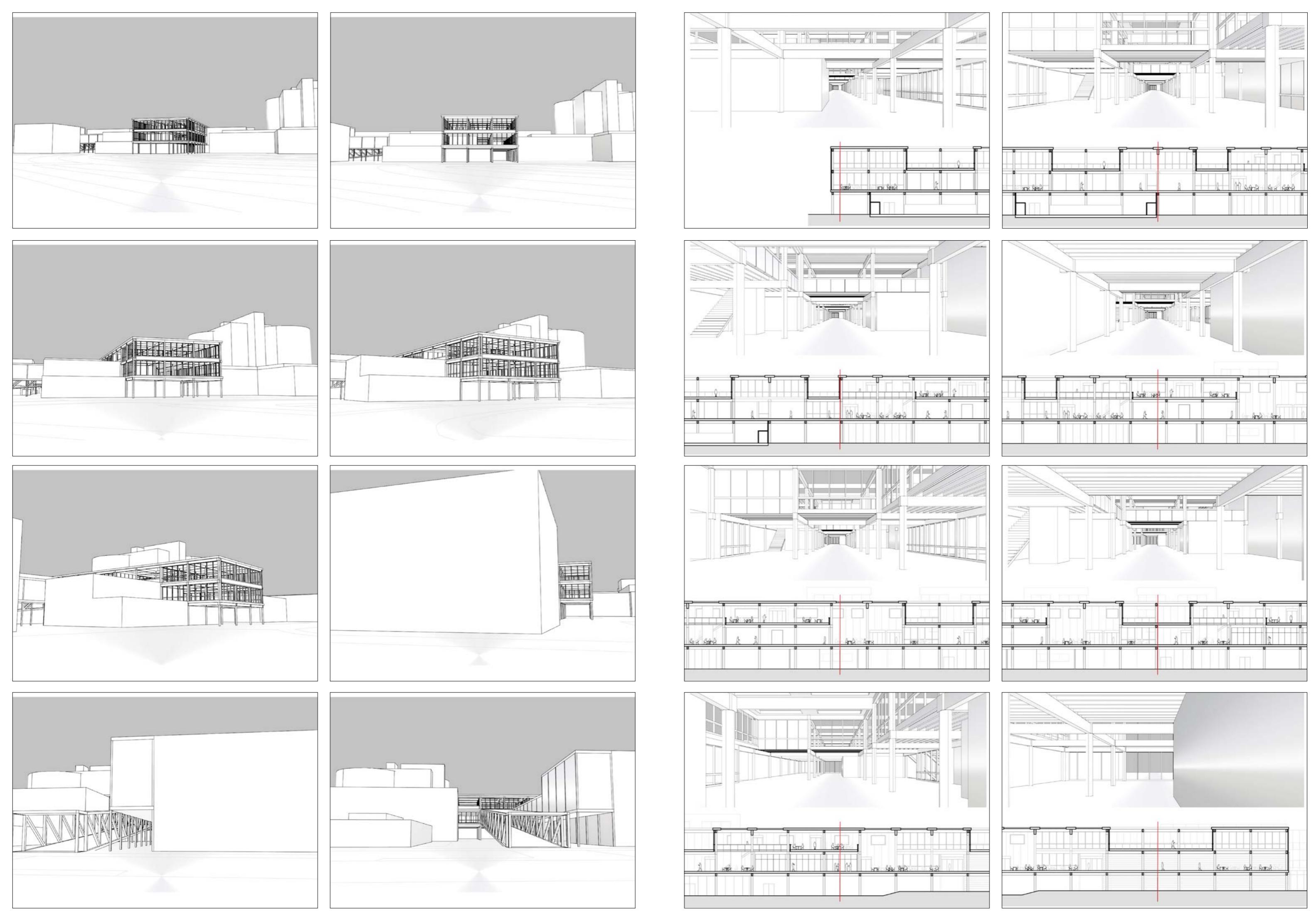


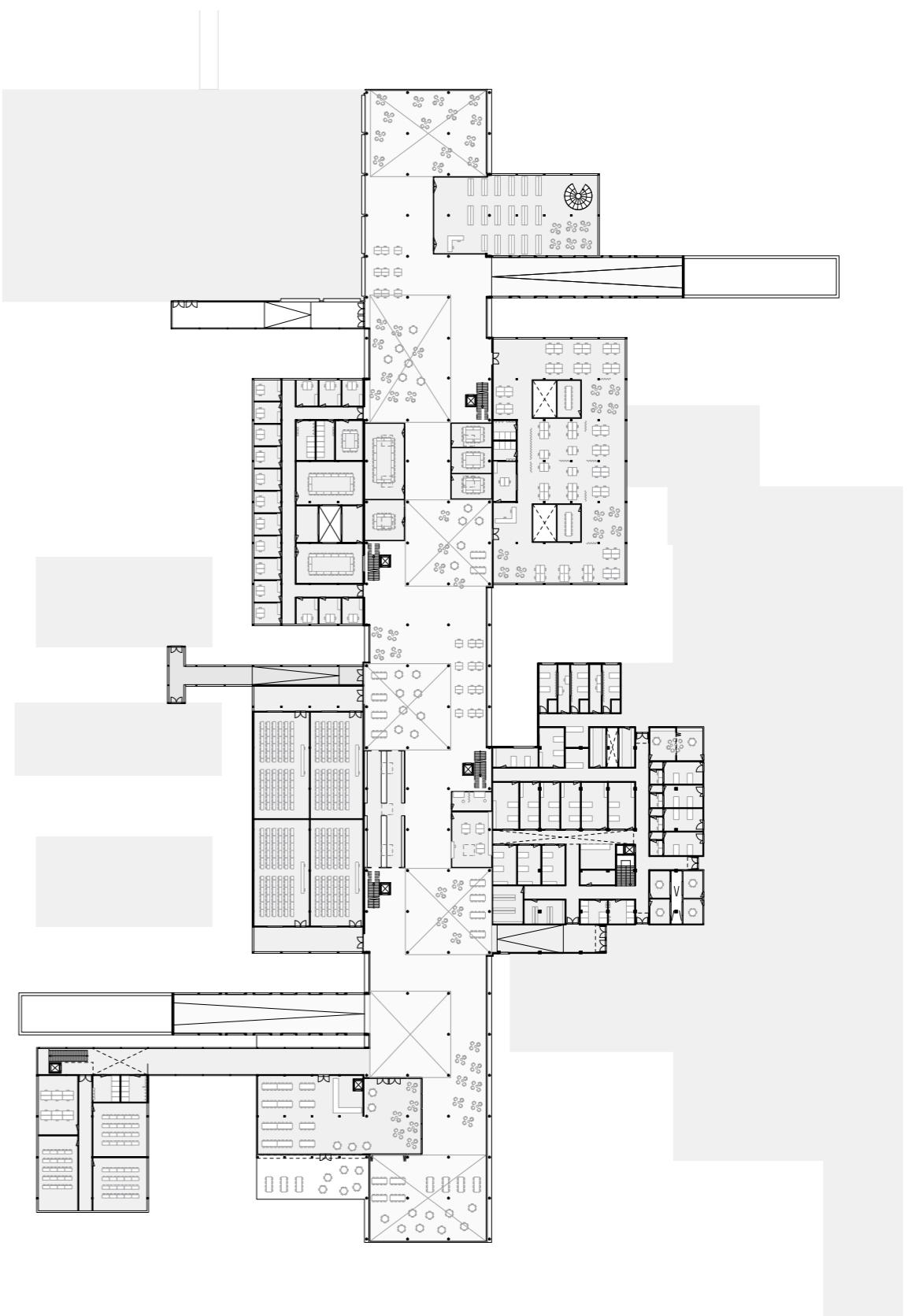
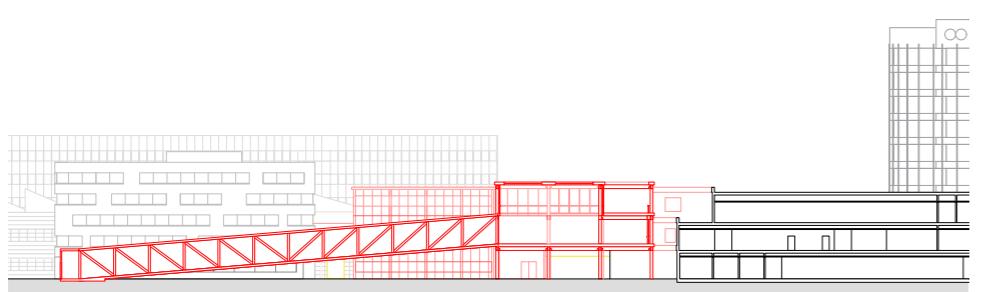
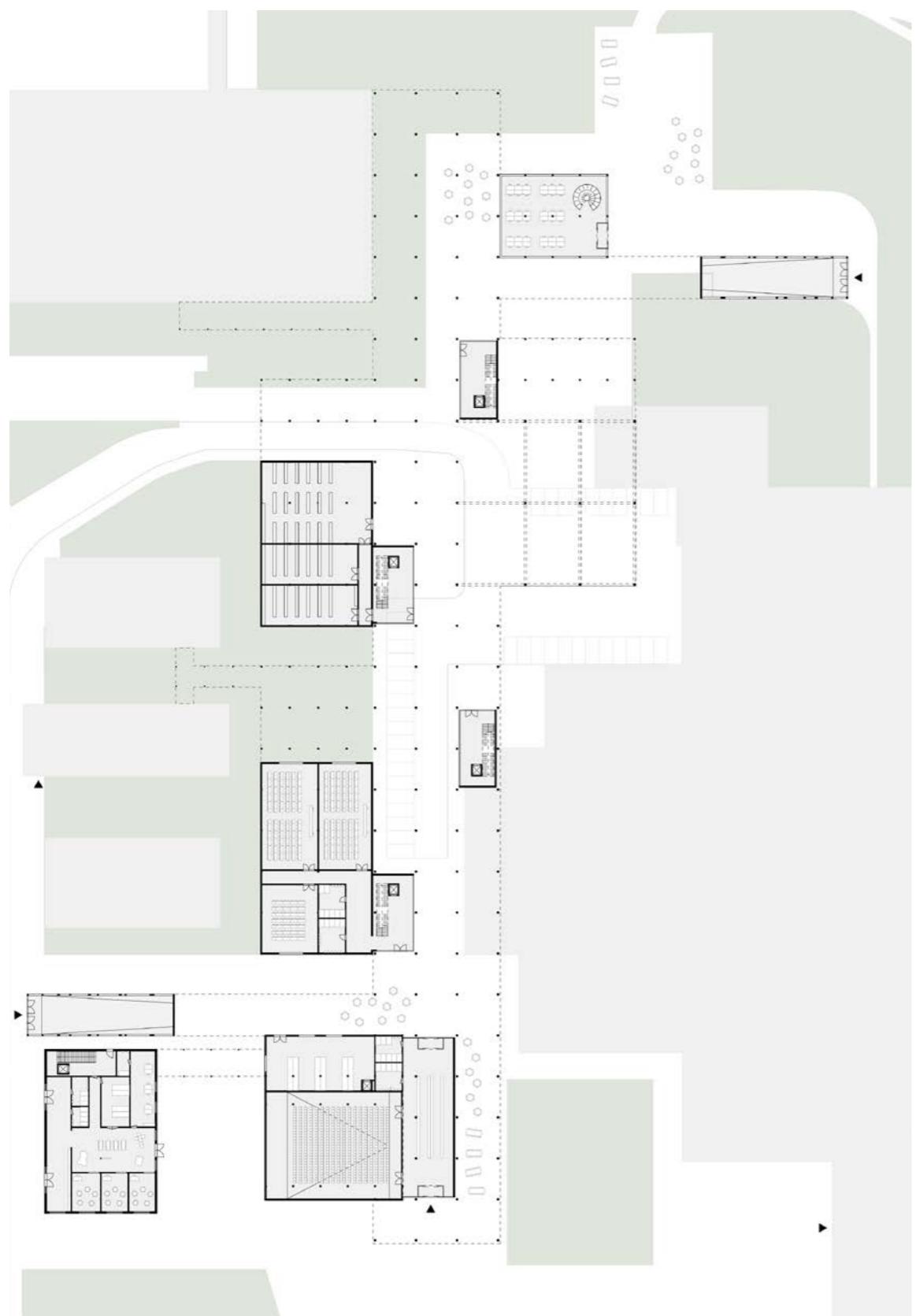




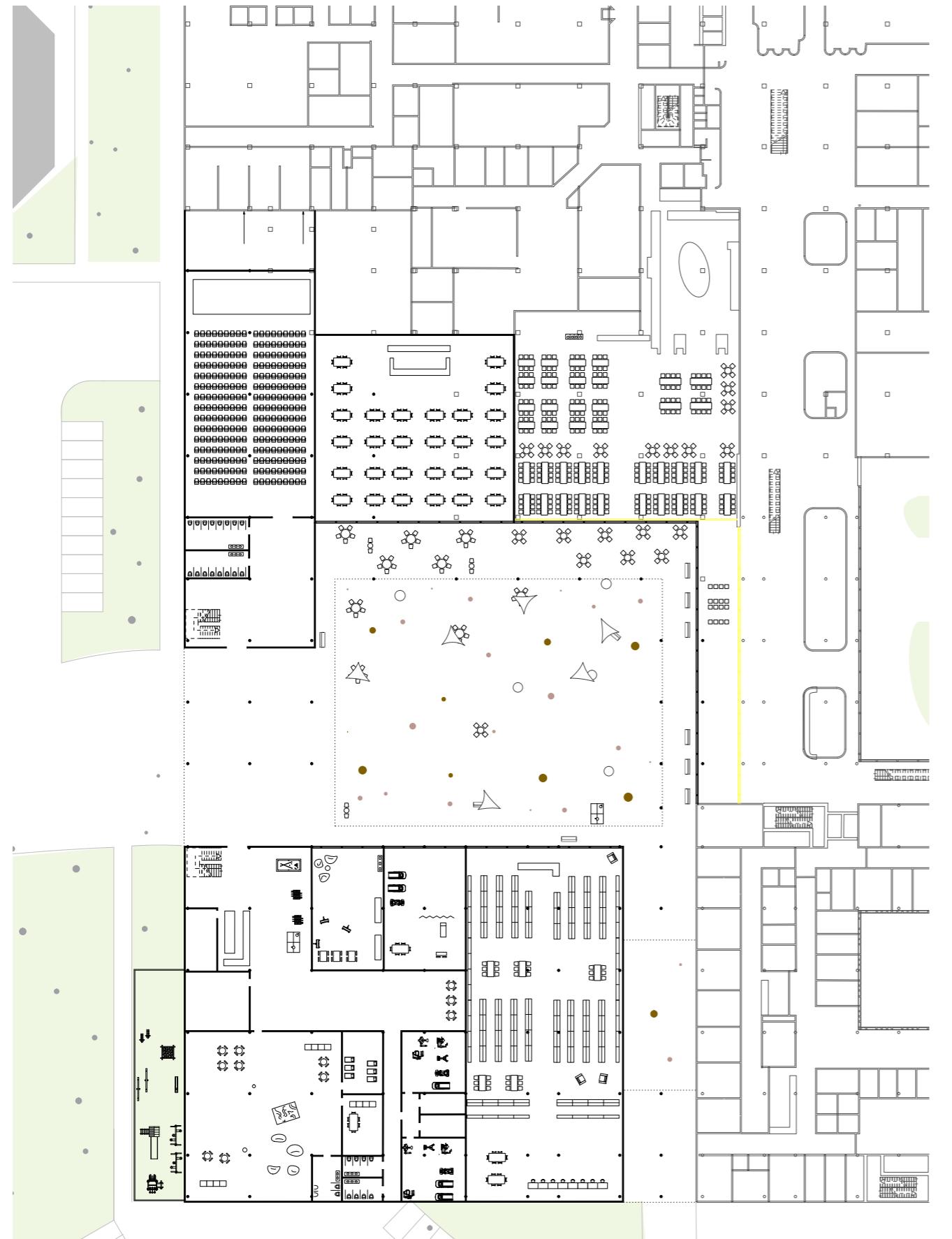


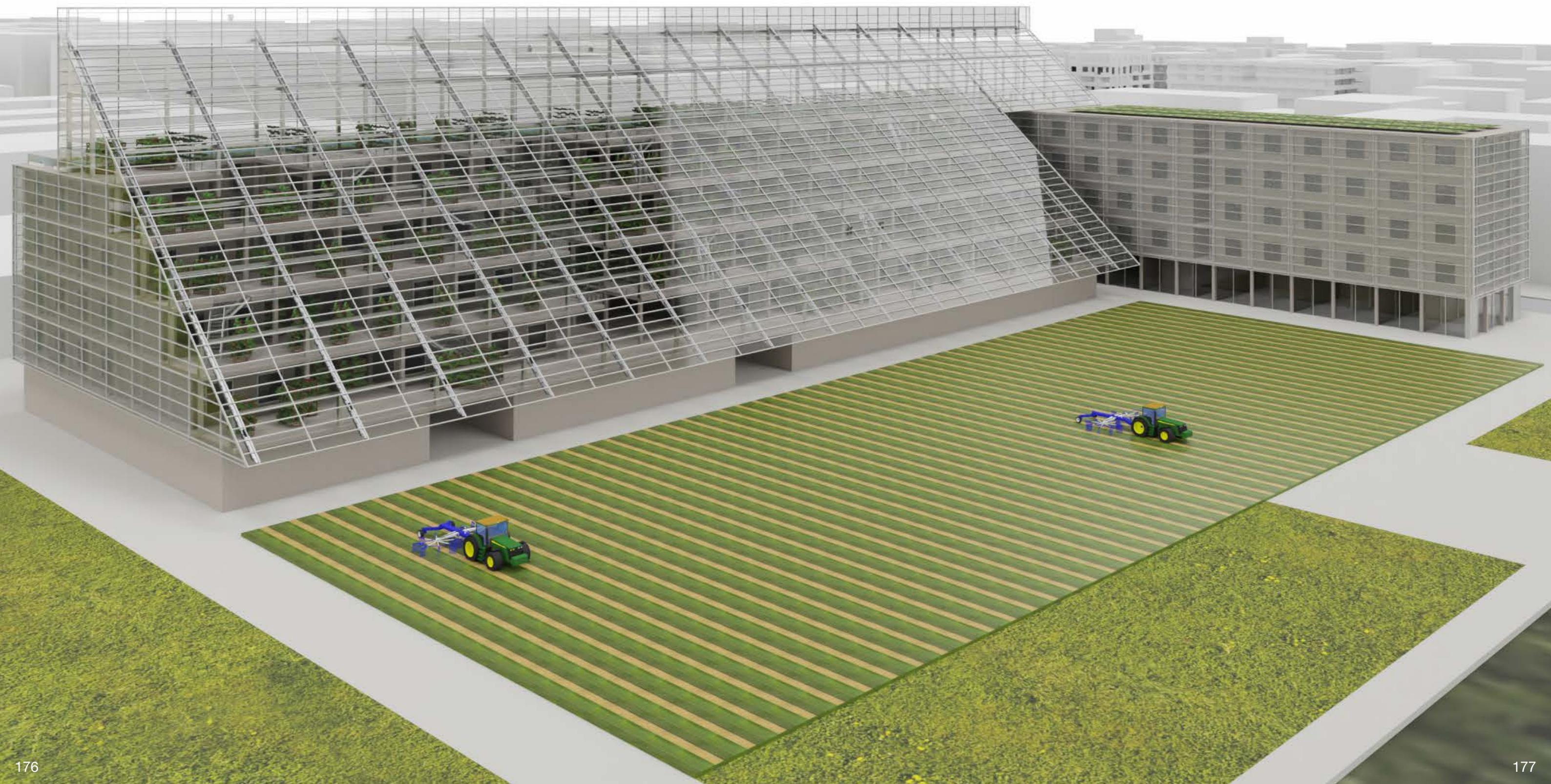


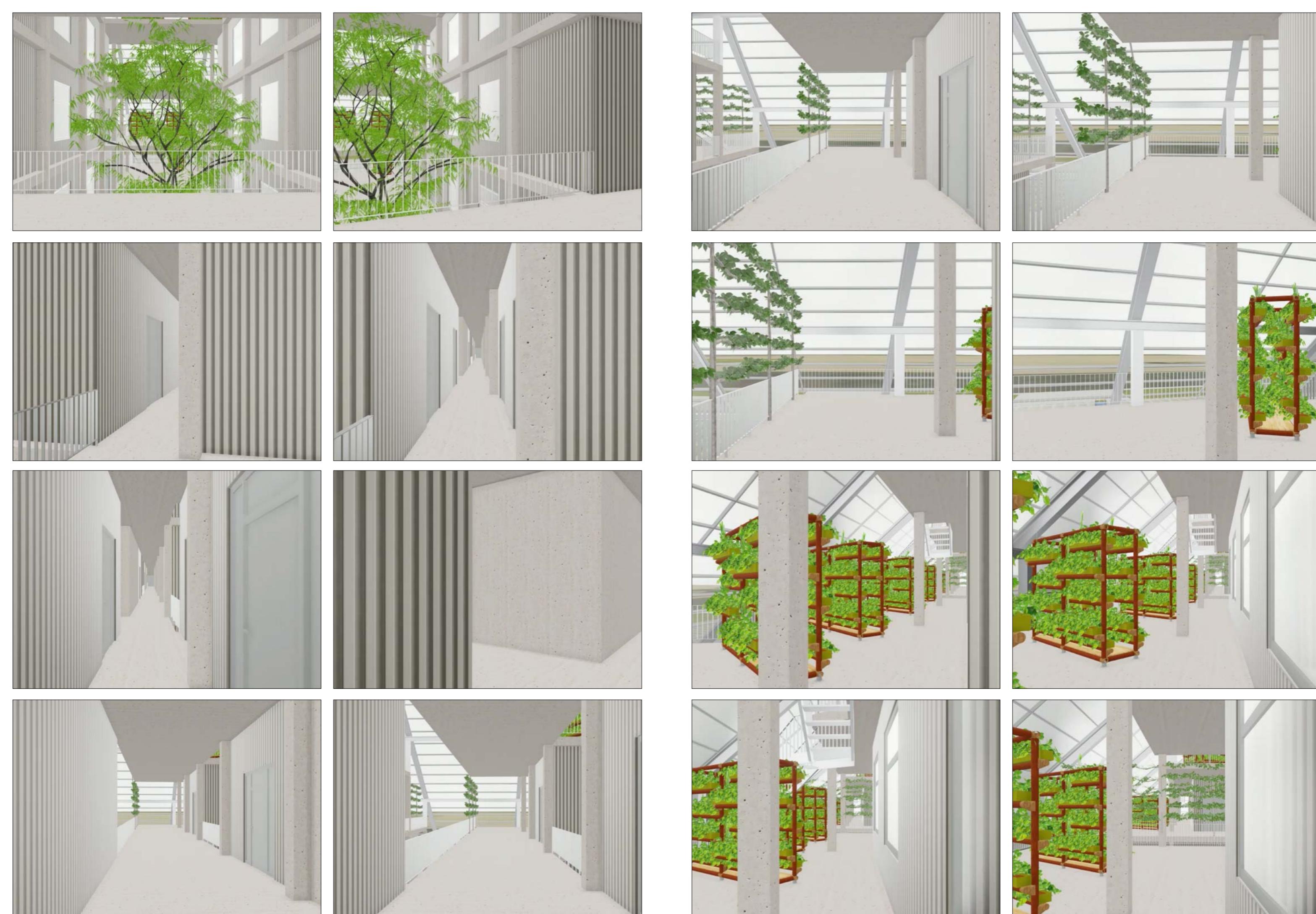








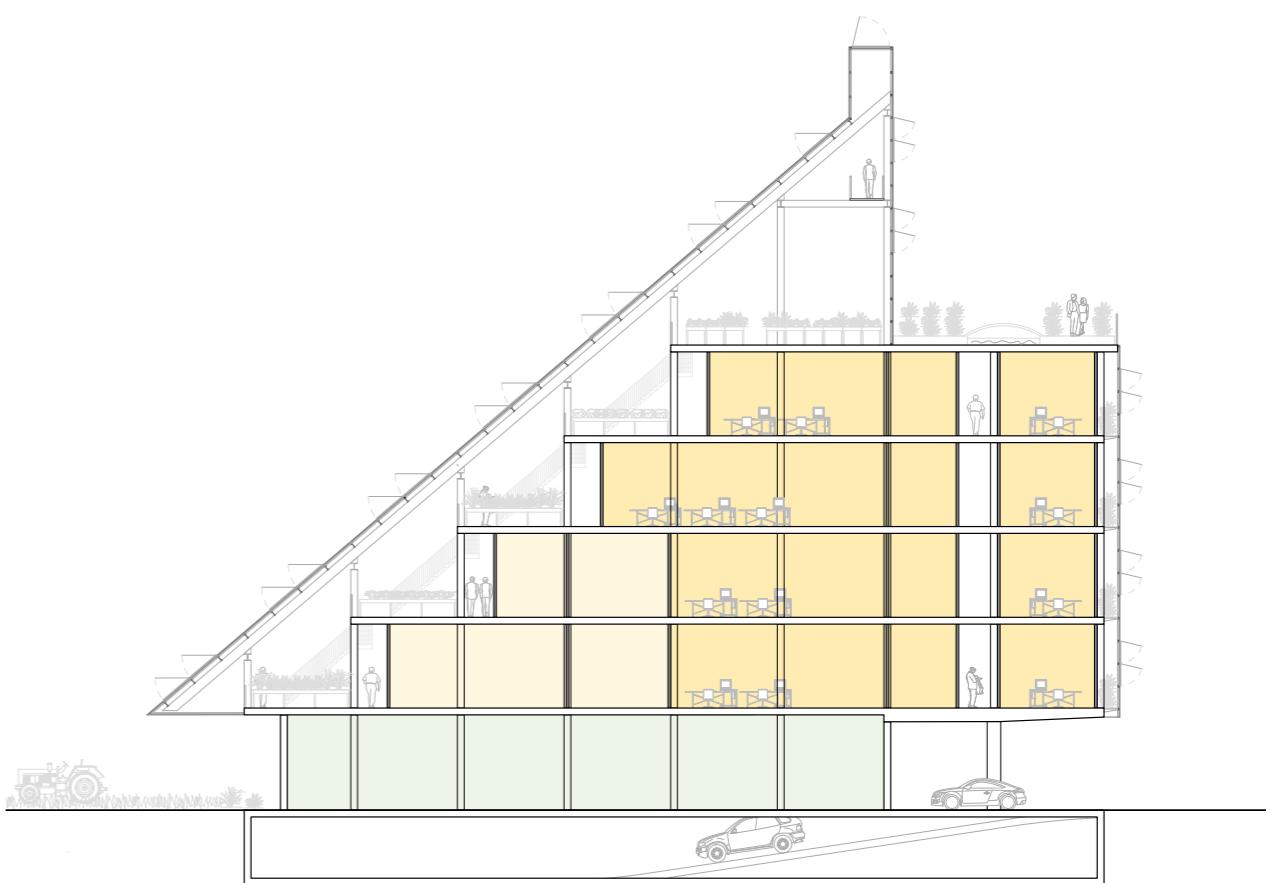


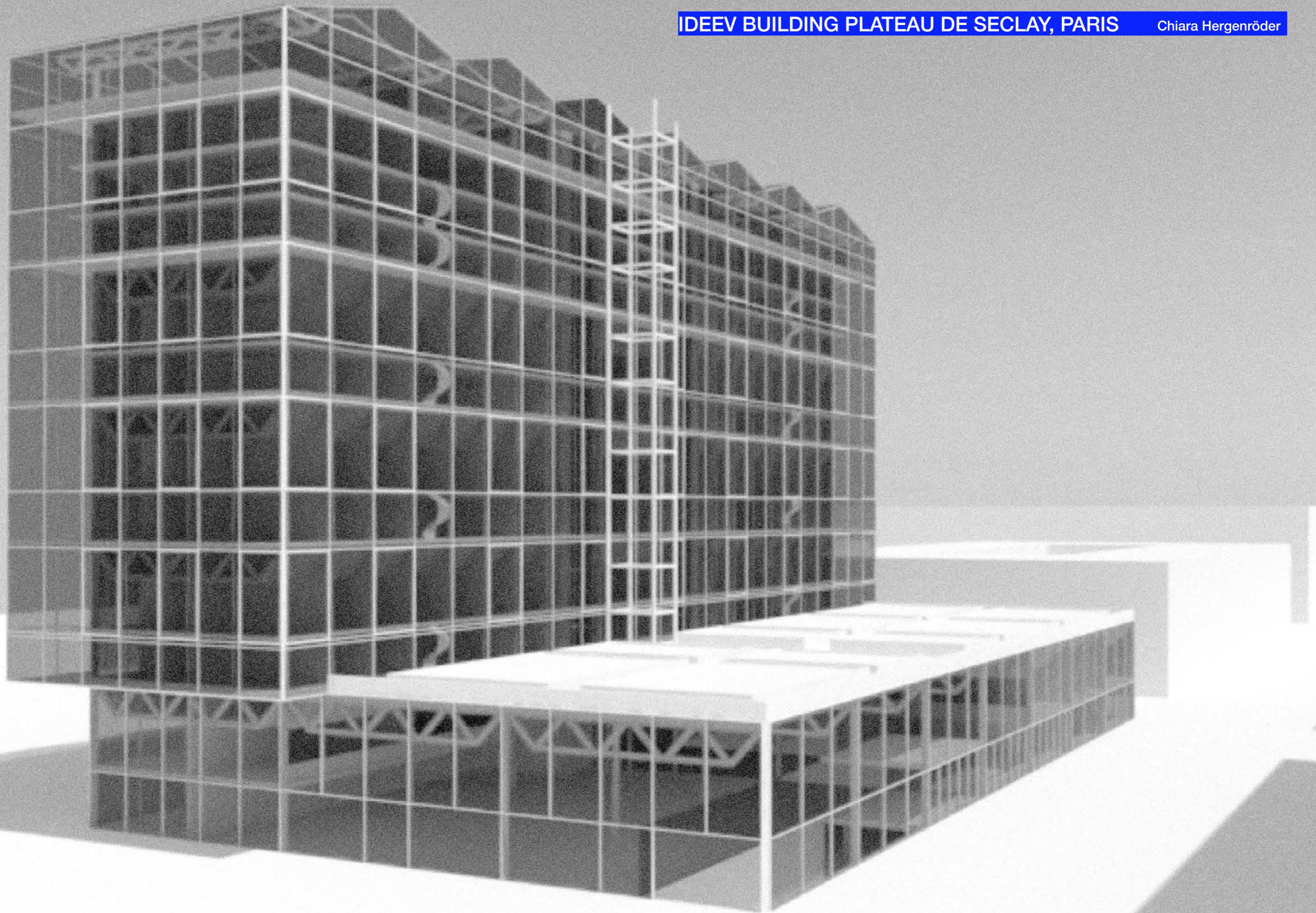


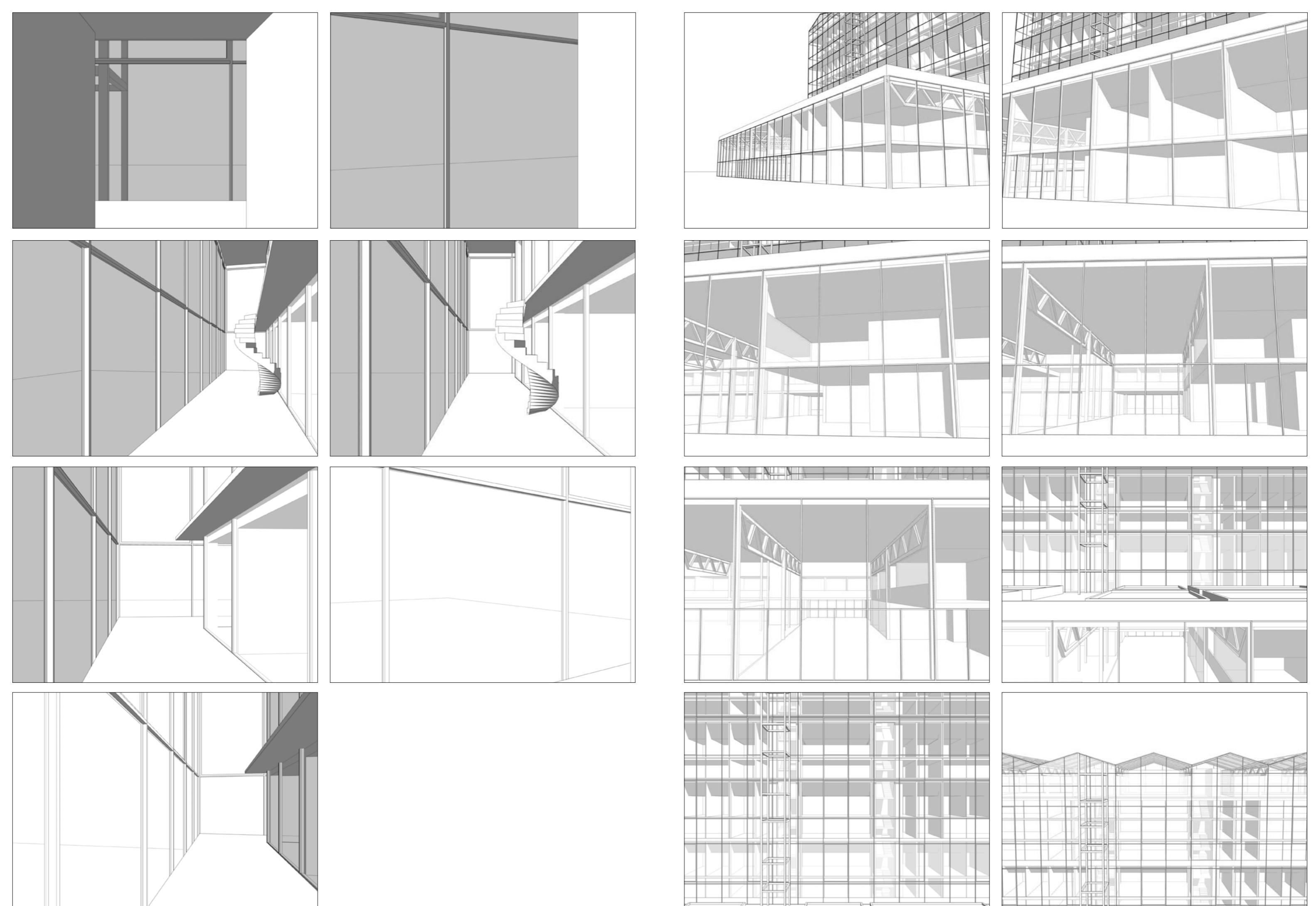
Screenshots from 3D Movie

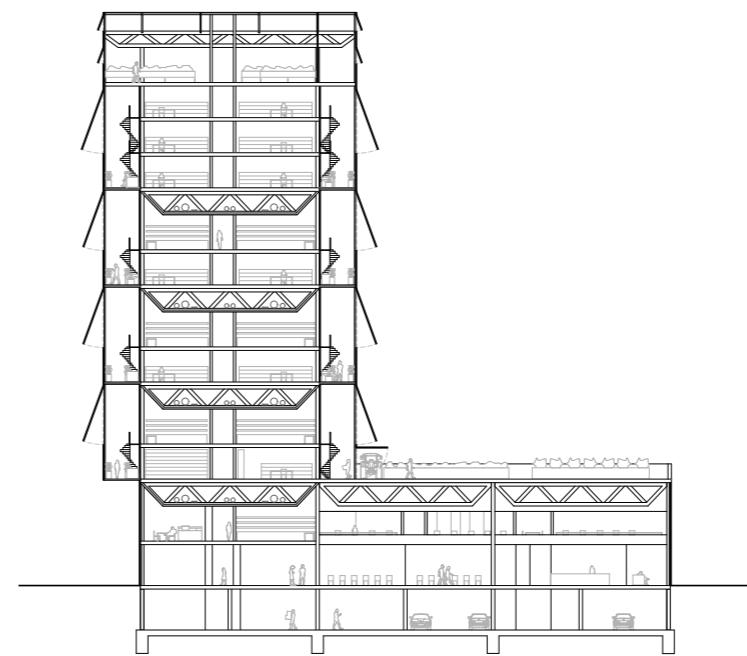
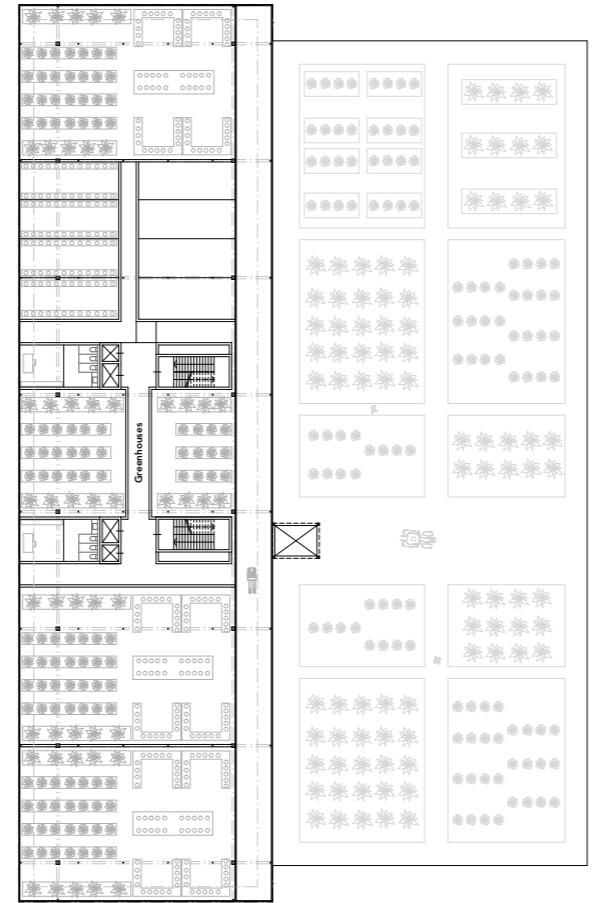
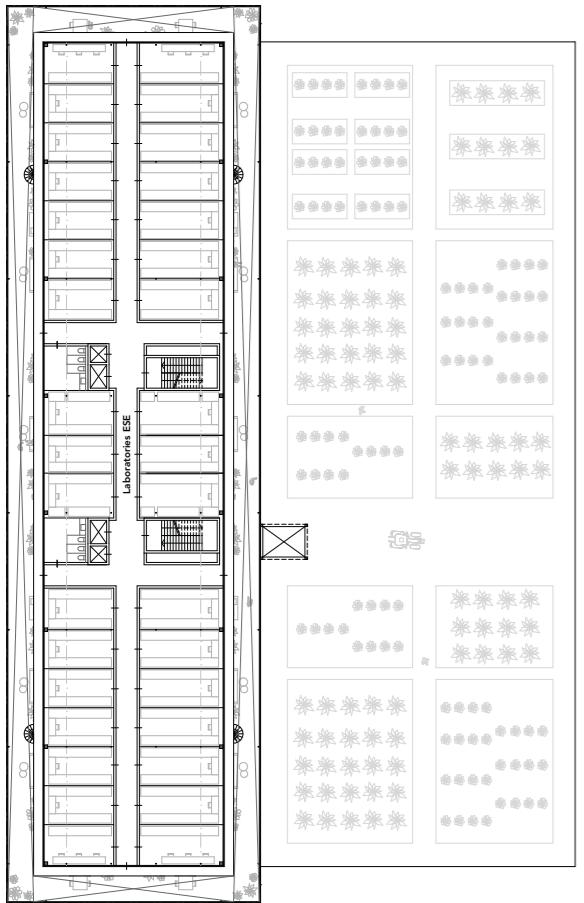
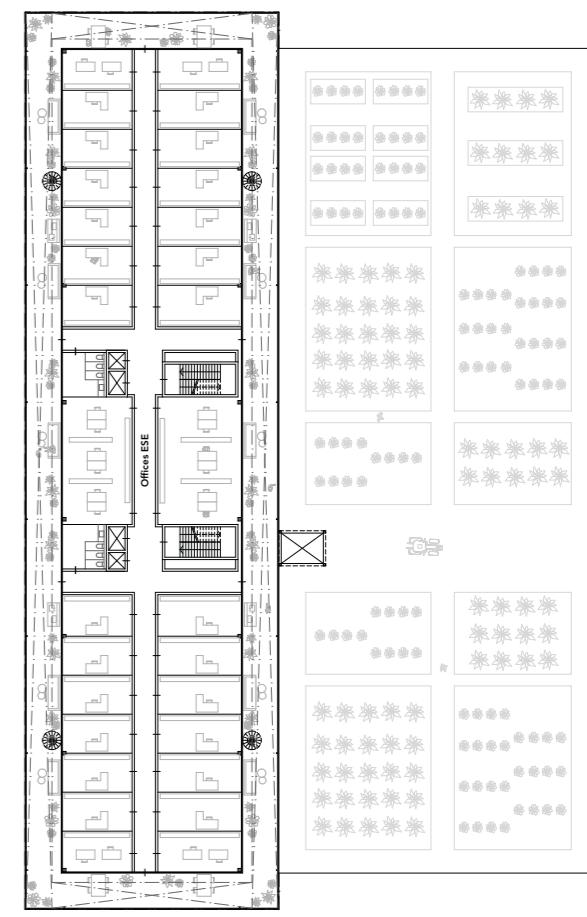
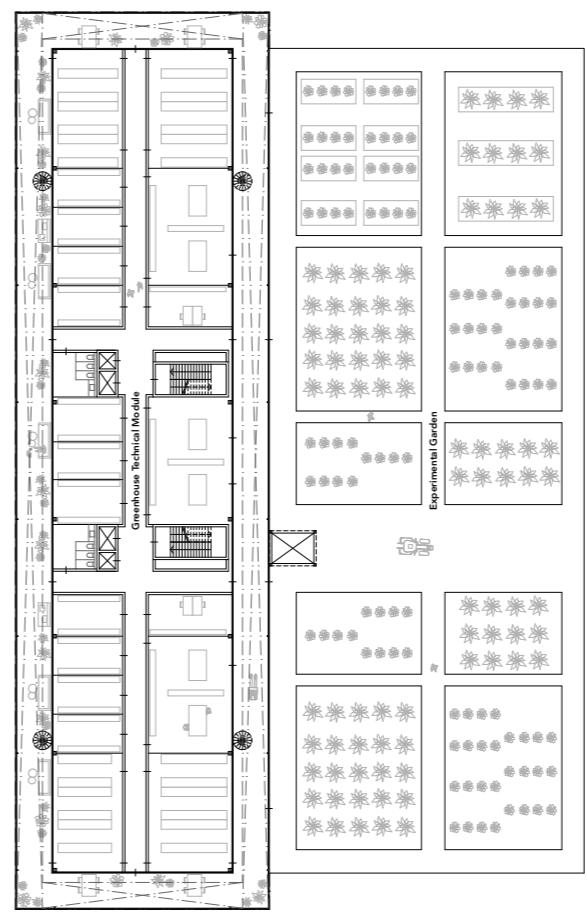
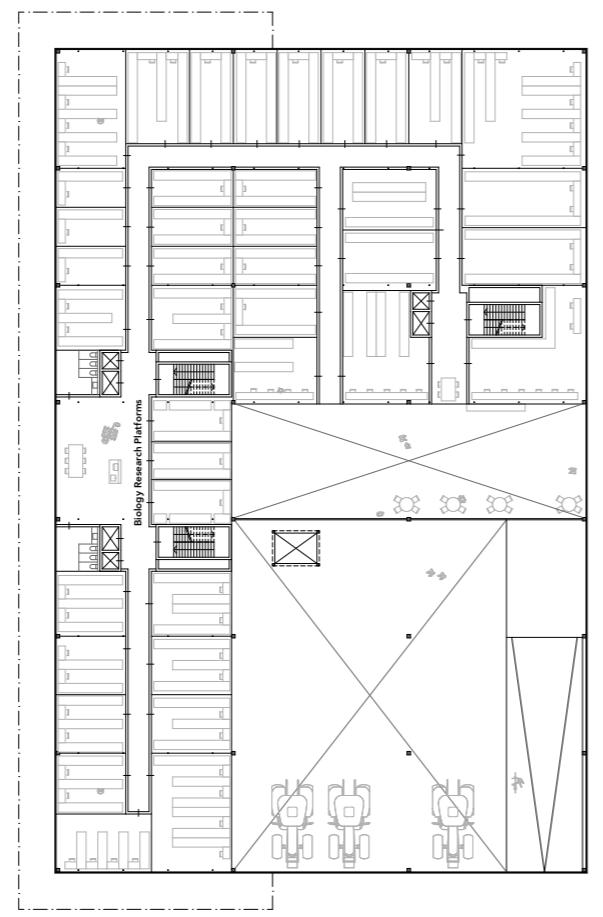
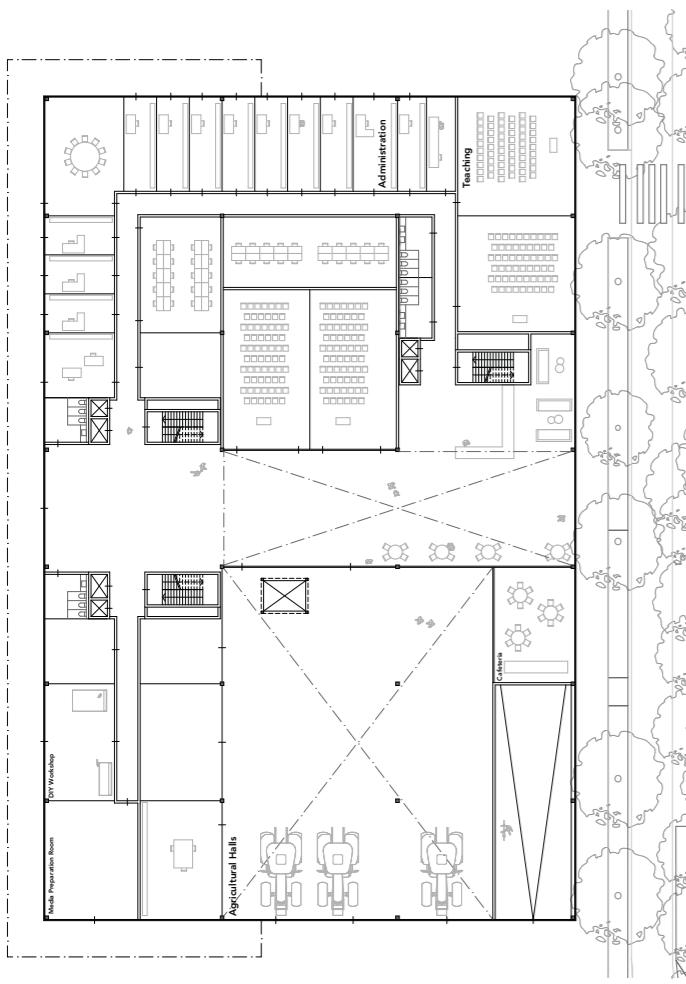


	White Room
	Circulation
	Tertiary Administration
	Agricultural Technical Halls
	Laboratory L1
	Laboratory L2
	High Tech Laboratory
	Tertiary Laboratory
	Chemistry Laboratory
	Cold Room
	Uniform Teaching
	Practical Teaching
	Greenhouse S1
	Greenhouse S2
	Animal Handling A1
	Animal Handling A2
	Meeting Room and Convivia
	Wet Logistics
	Dry Logistics
	Technical Room

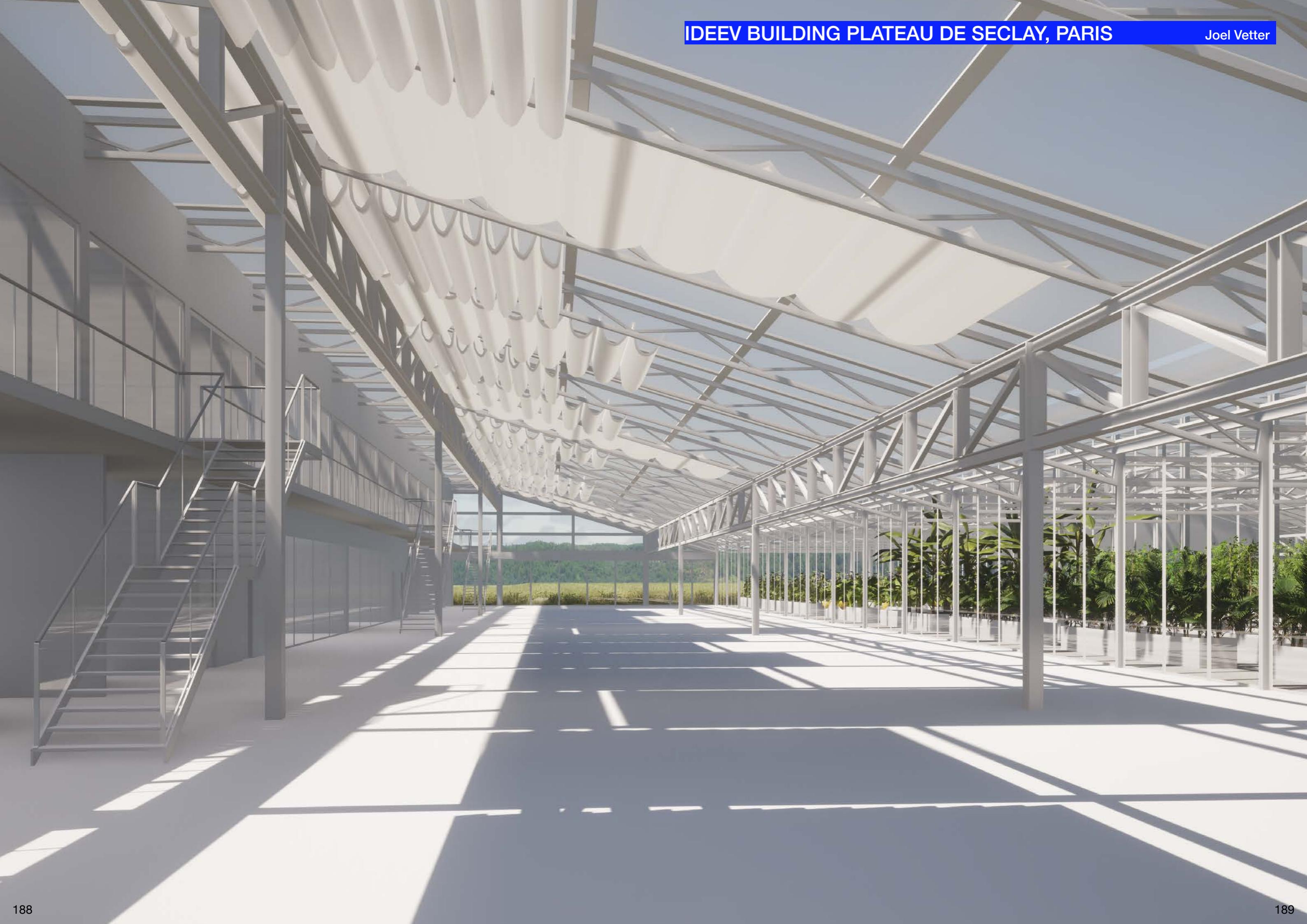


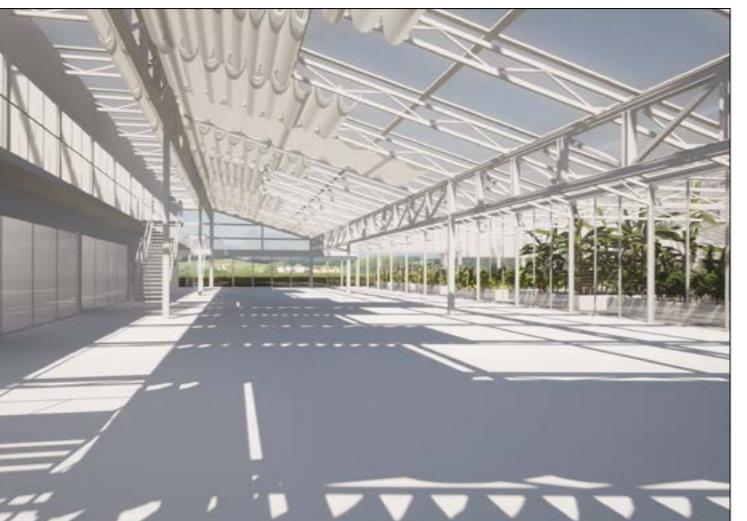




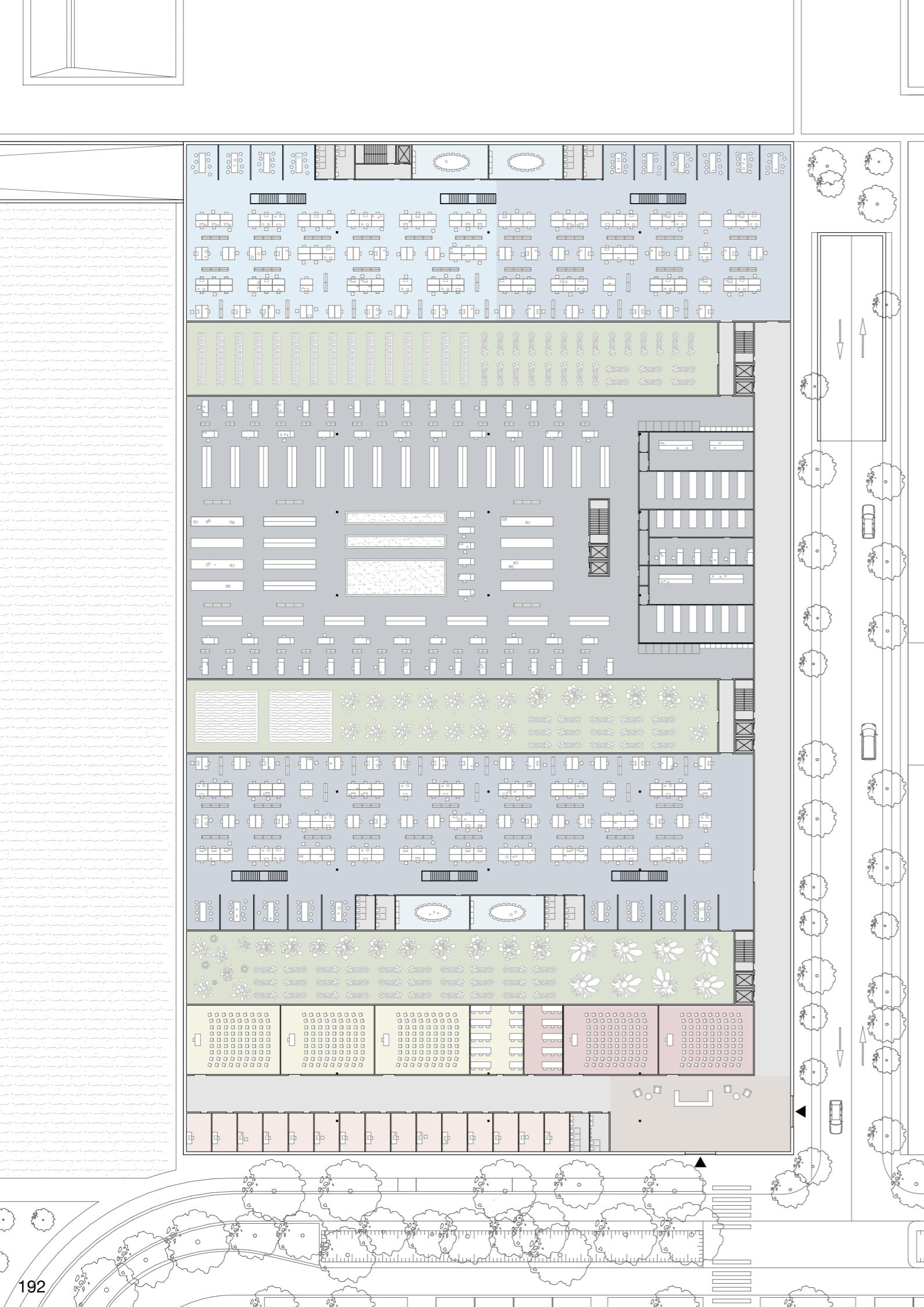


Project Representation

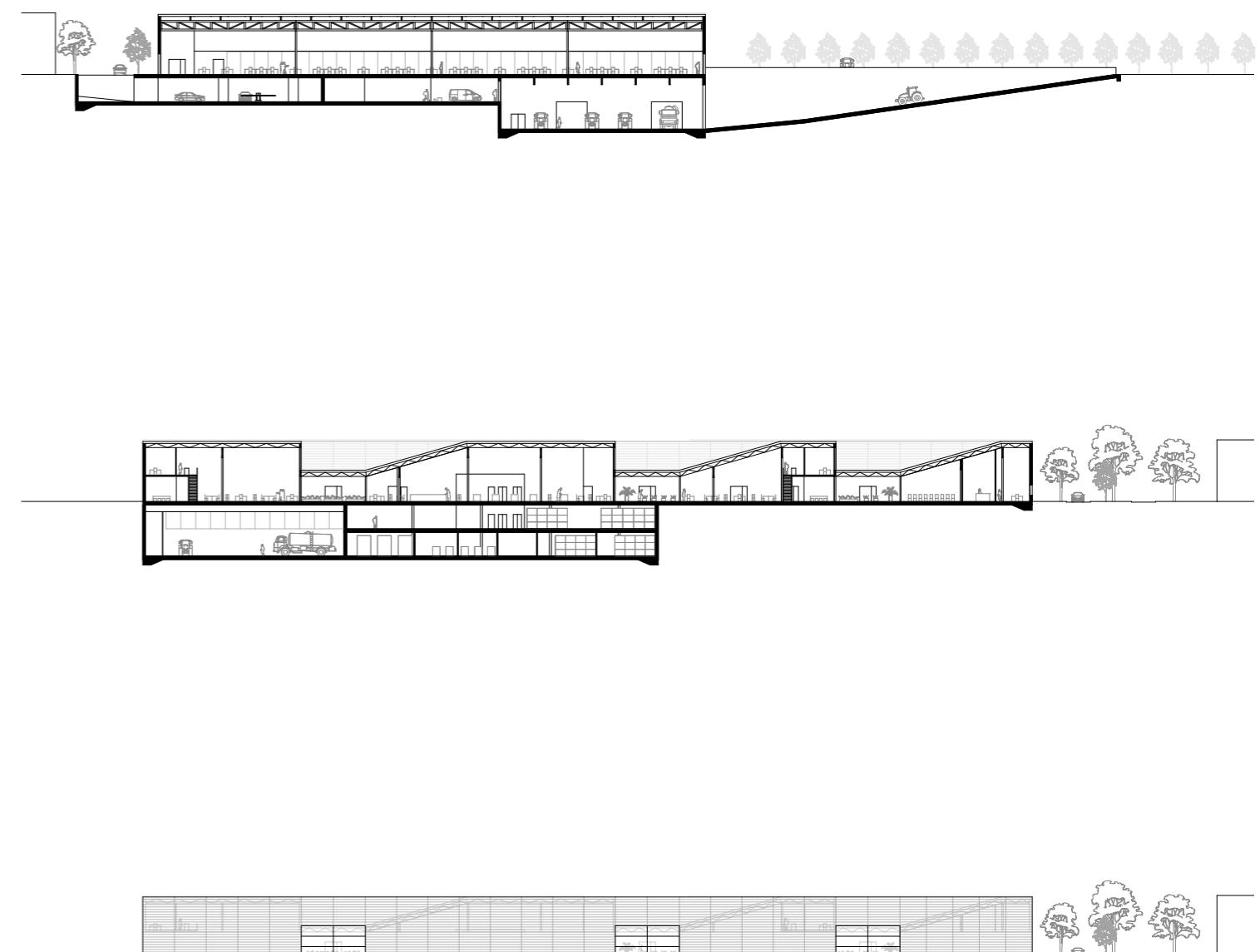




Screenshots from 3D Movie



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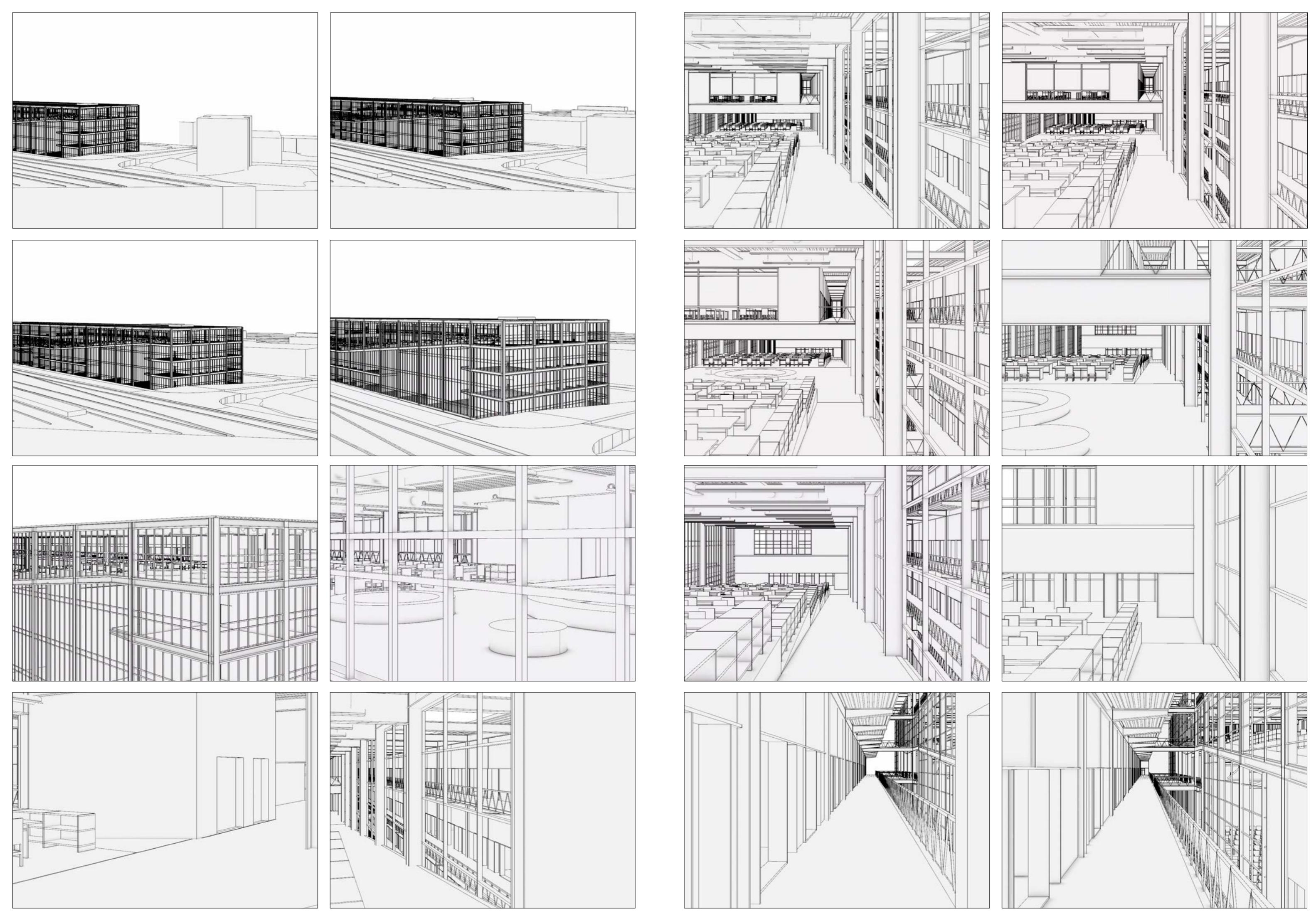


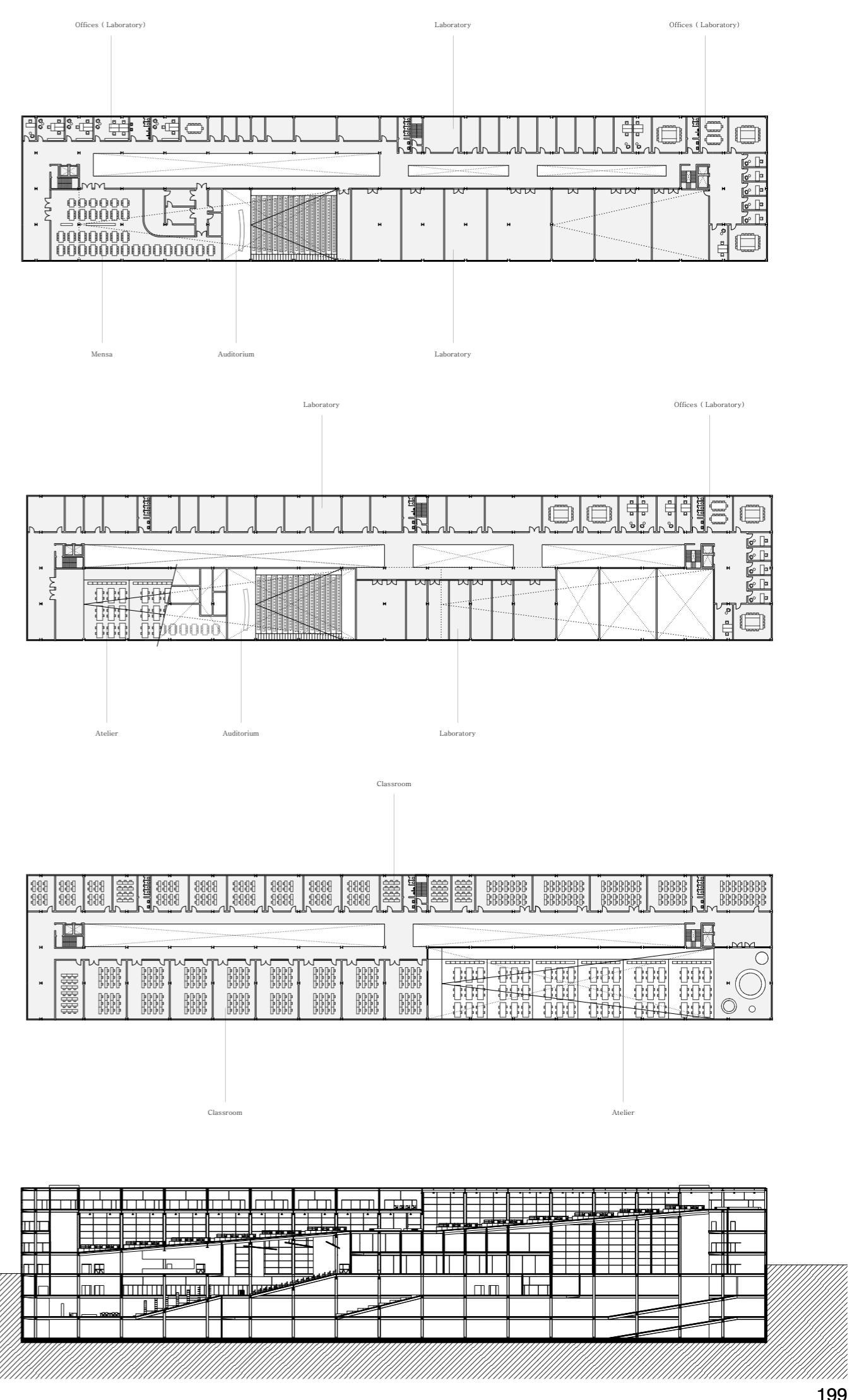
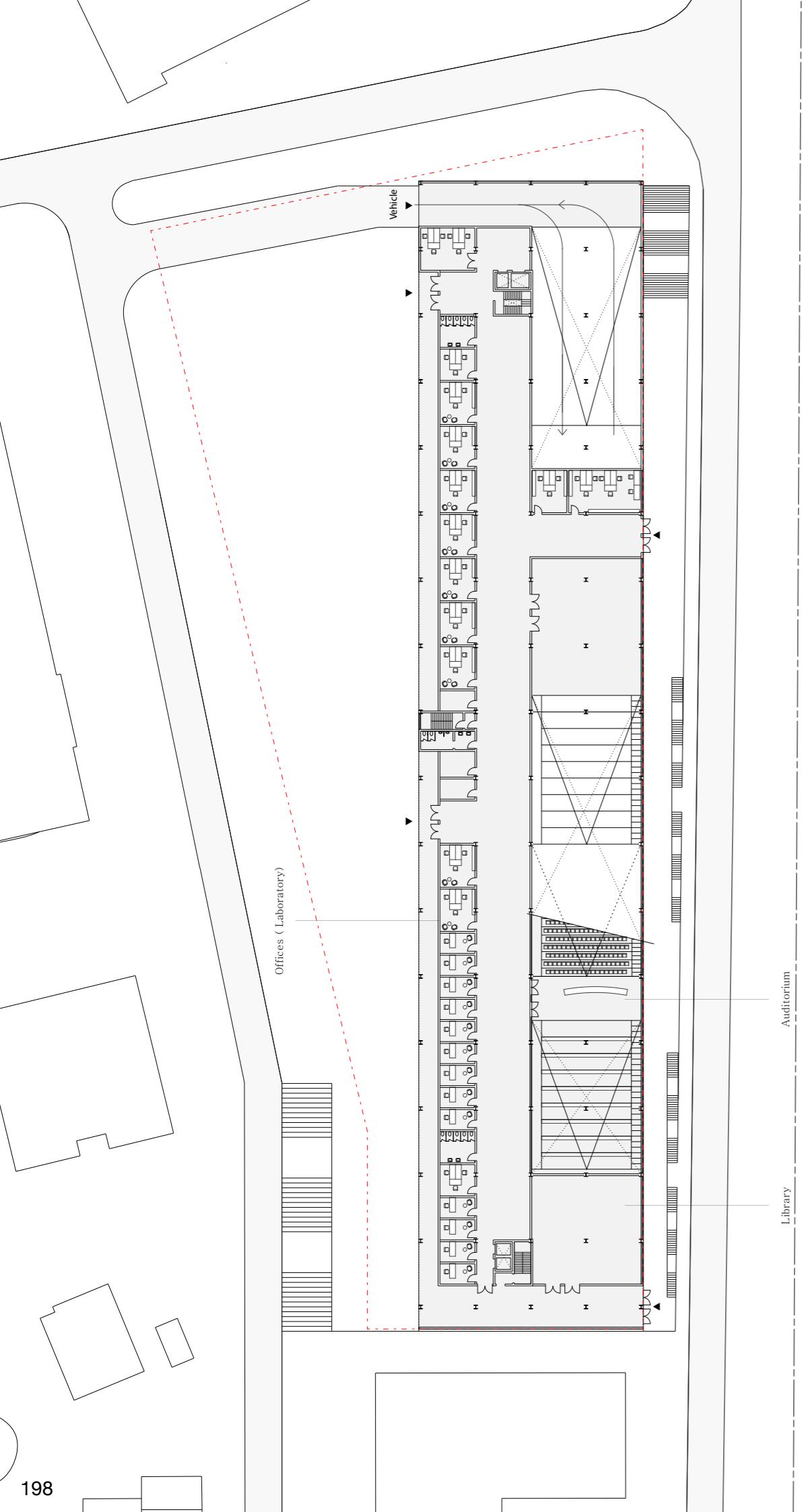
Project Representation

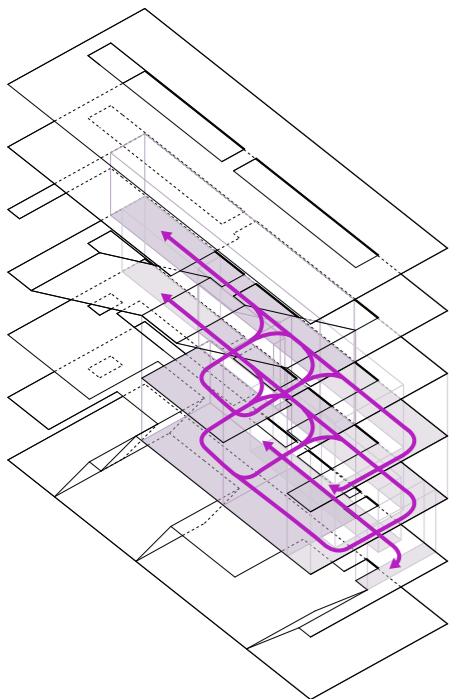


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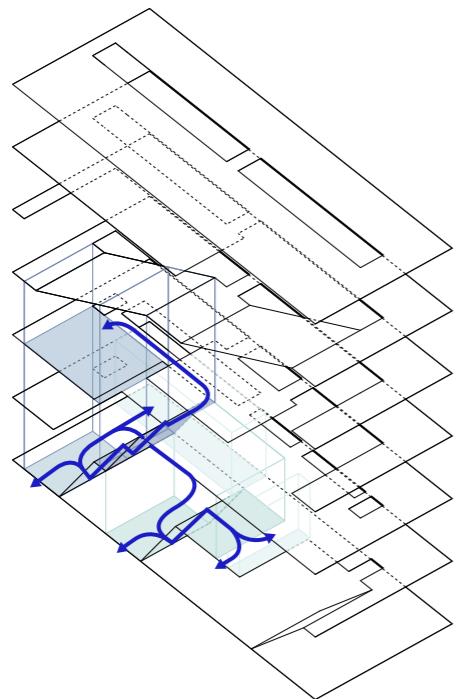




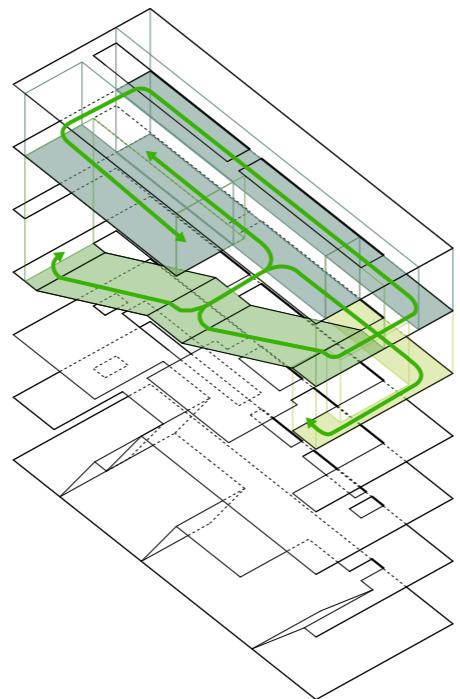




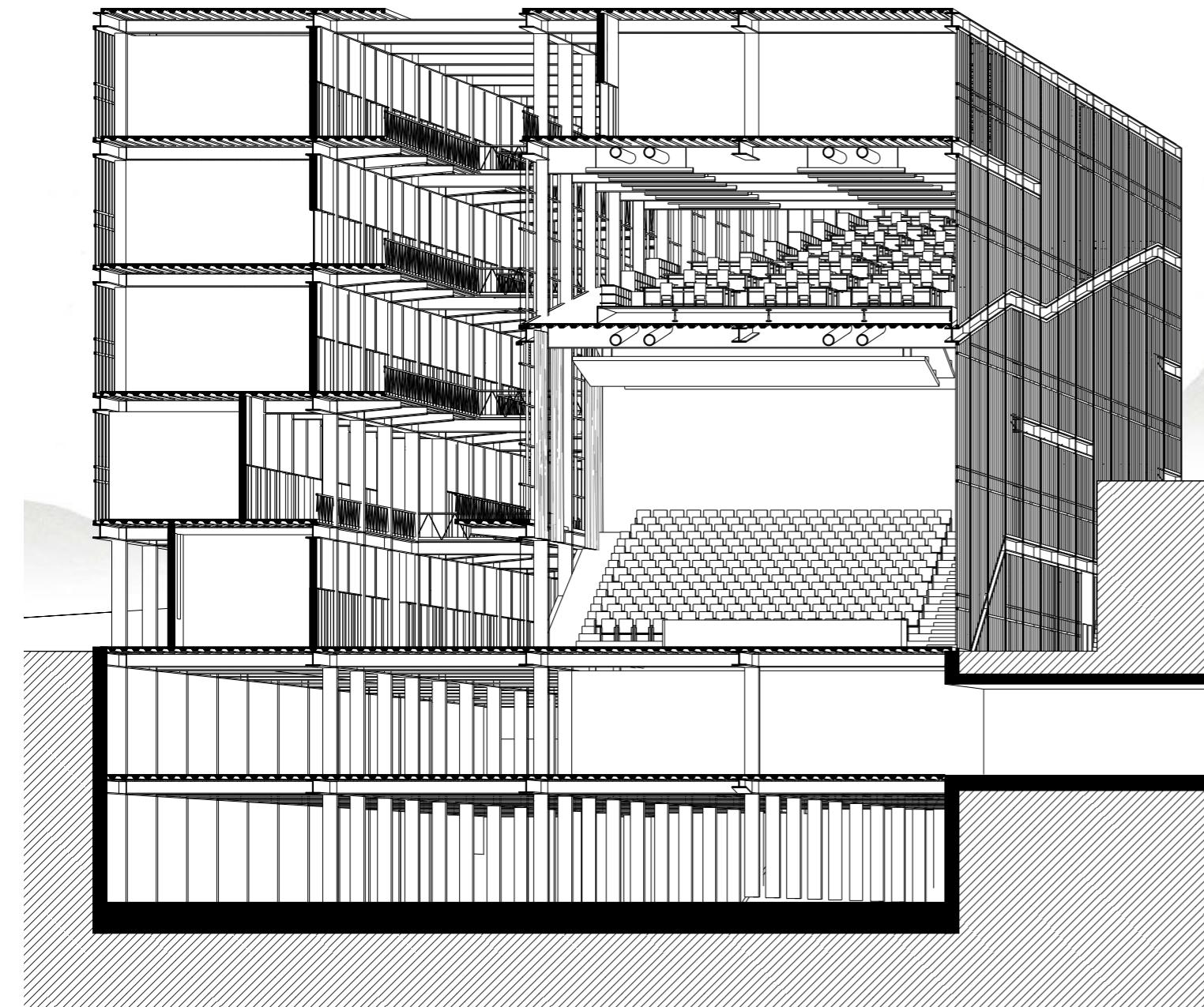
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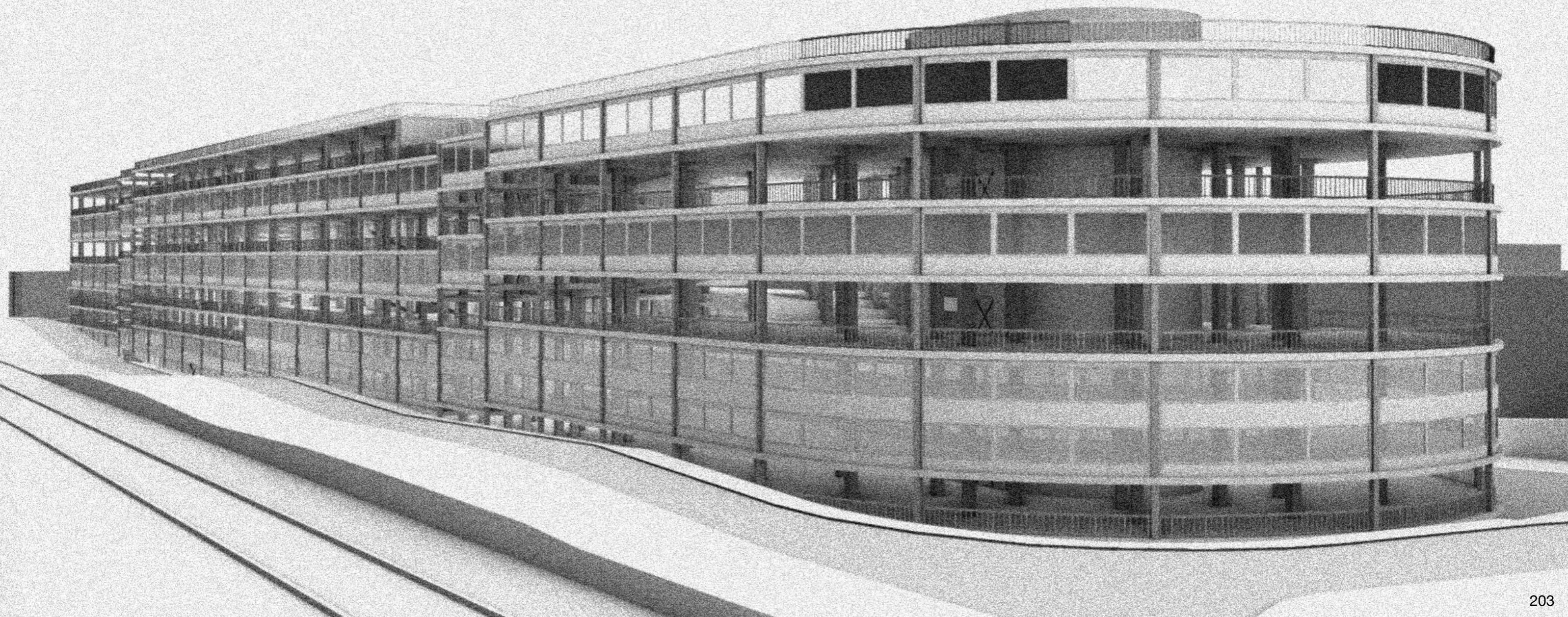


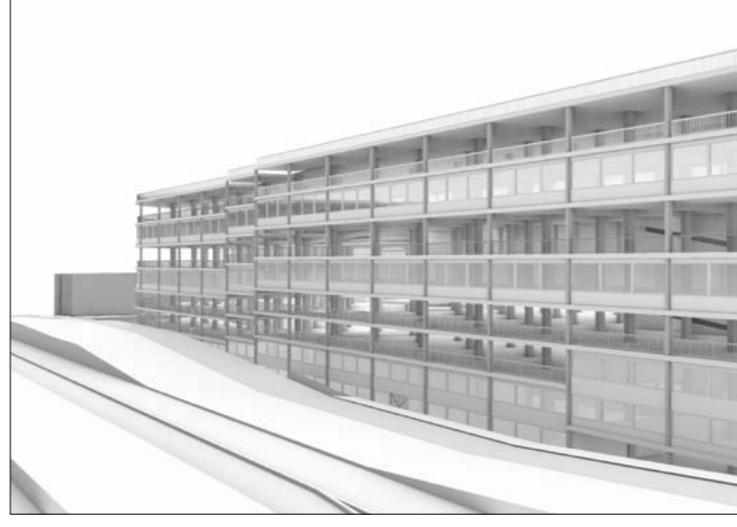
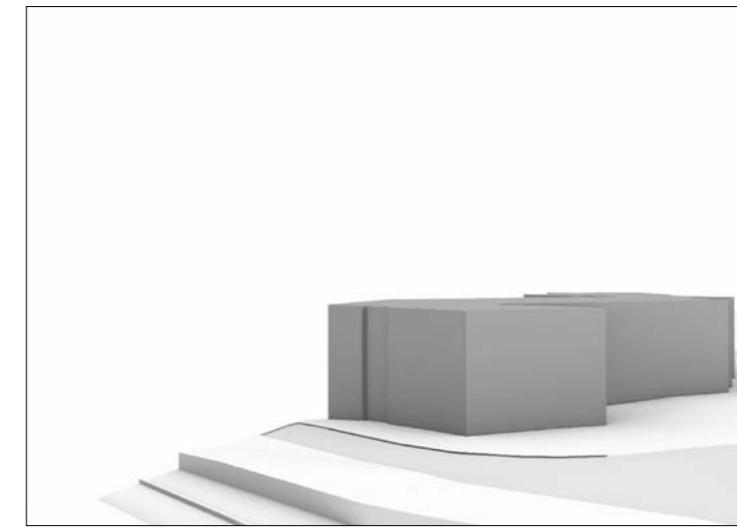
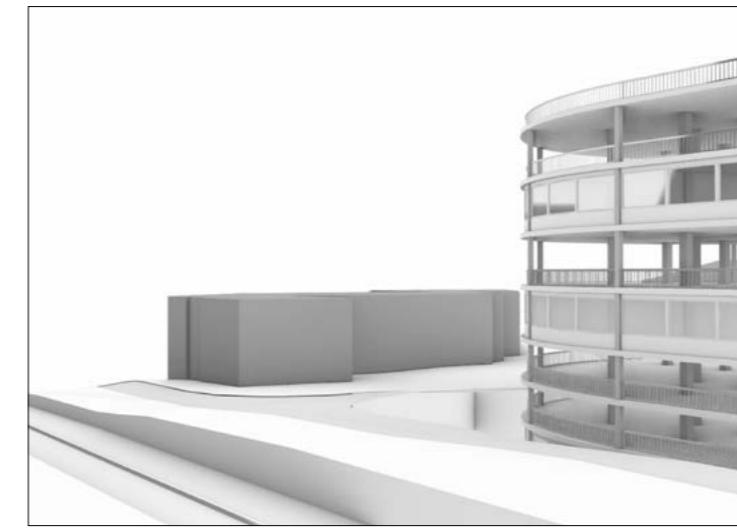
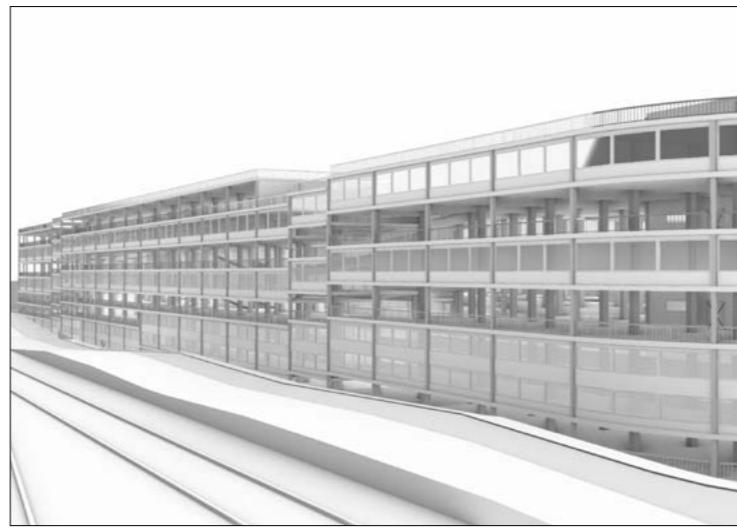
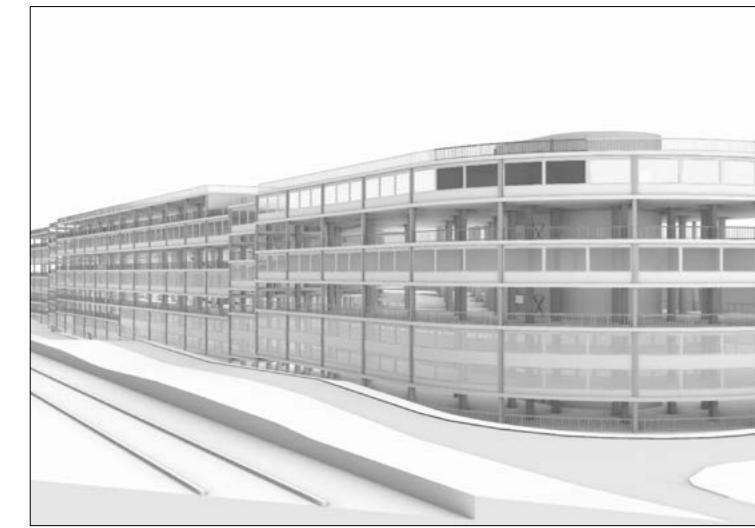
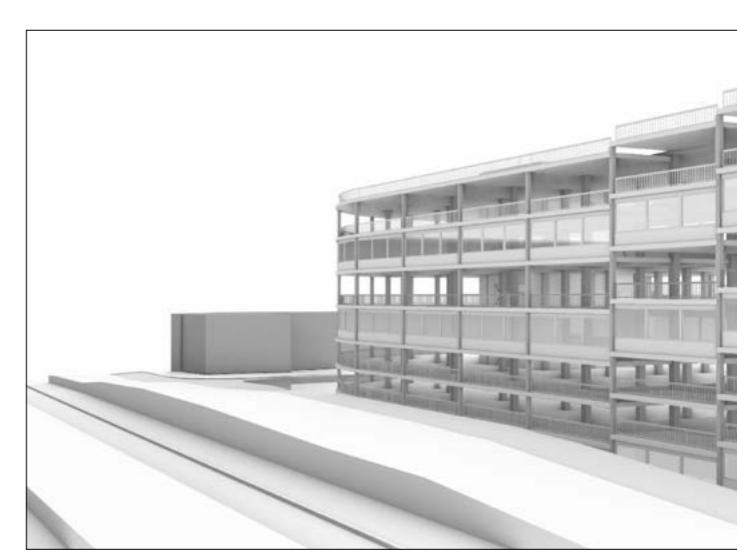
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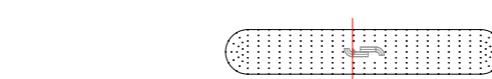
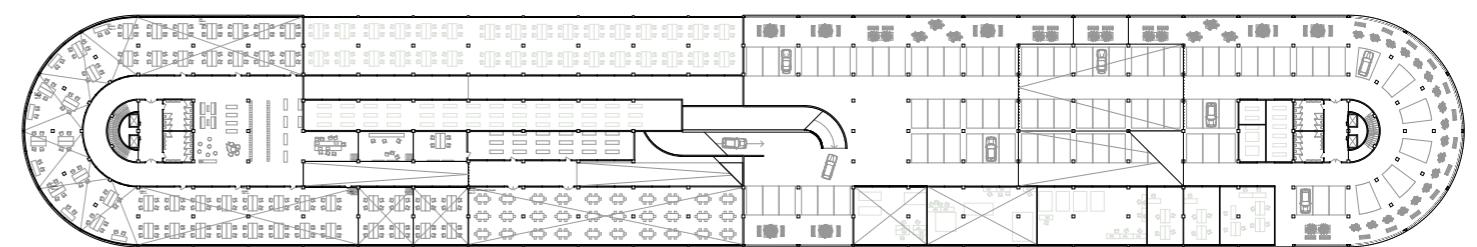
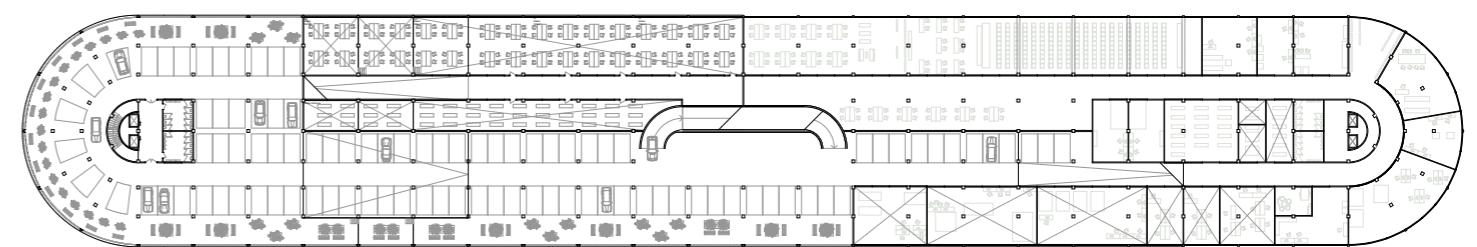
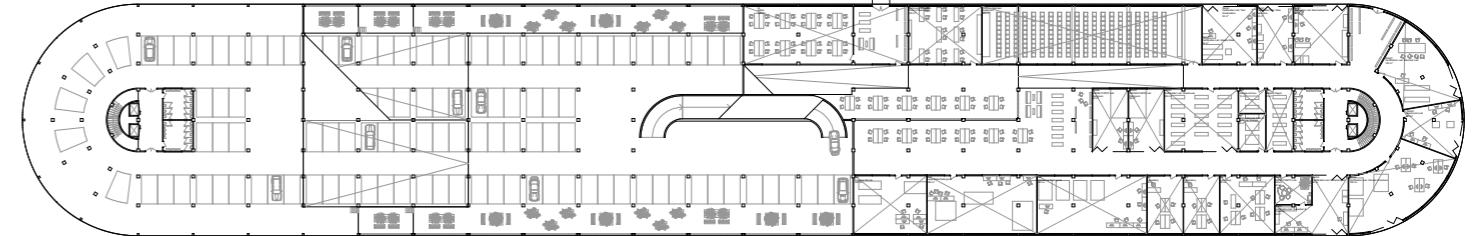
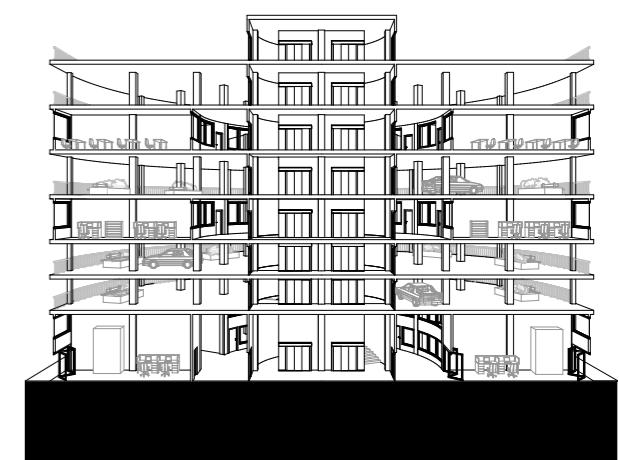
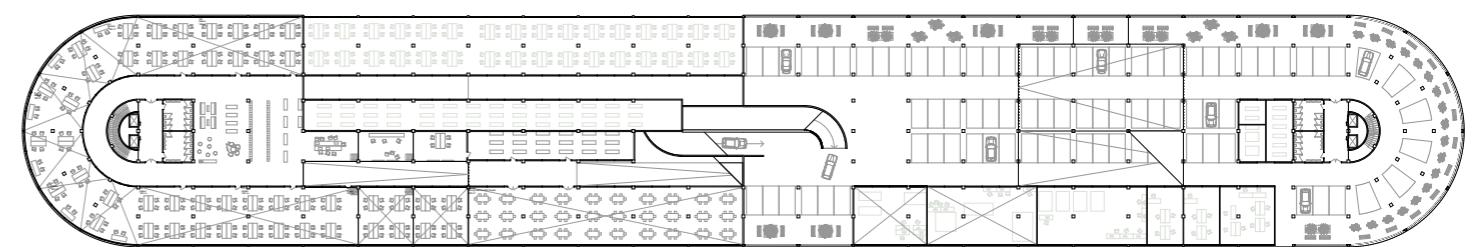
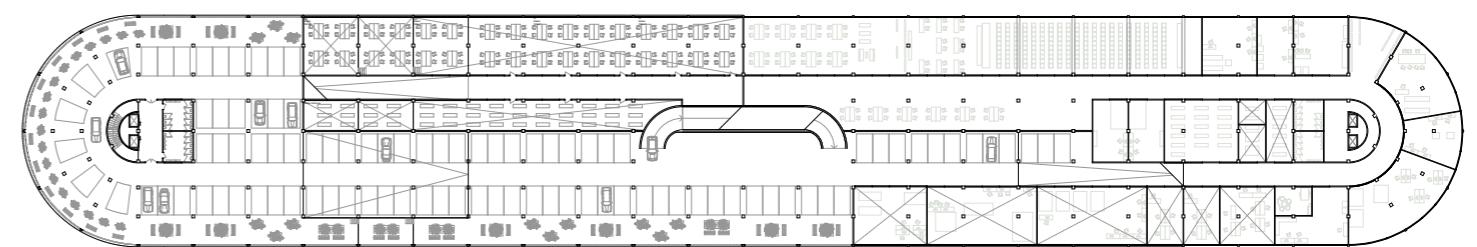
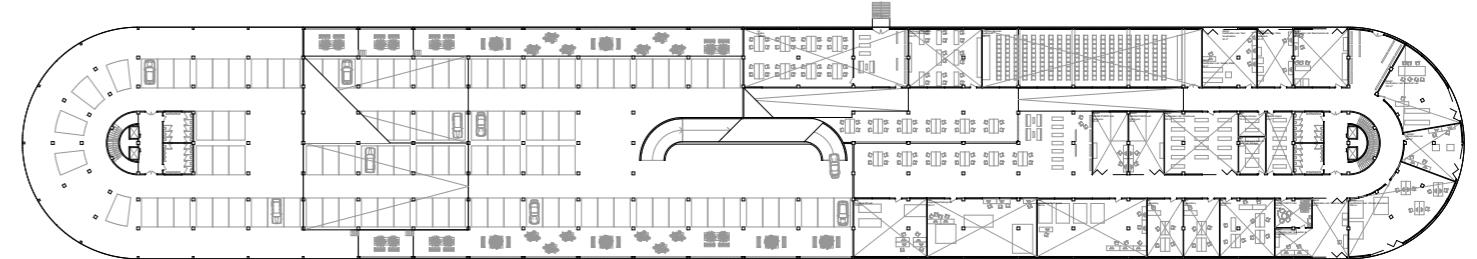
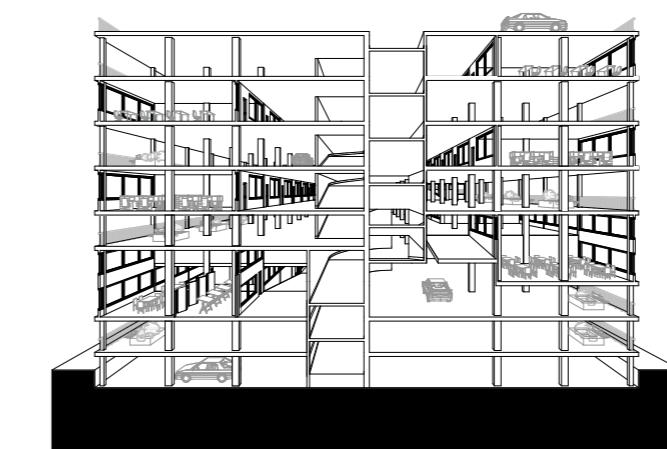
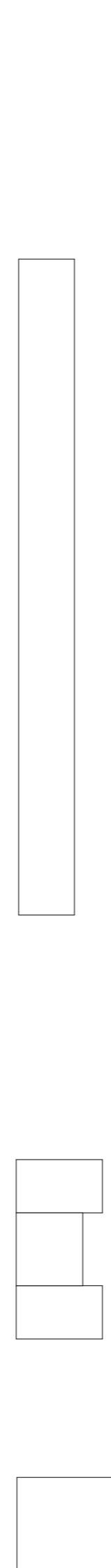
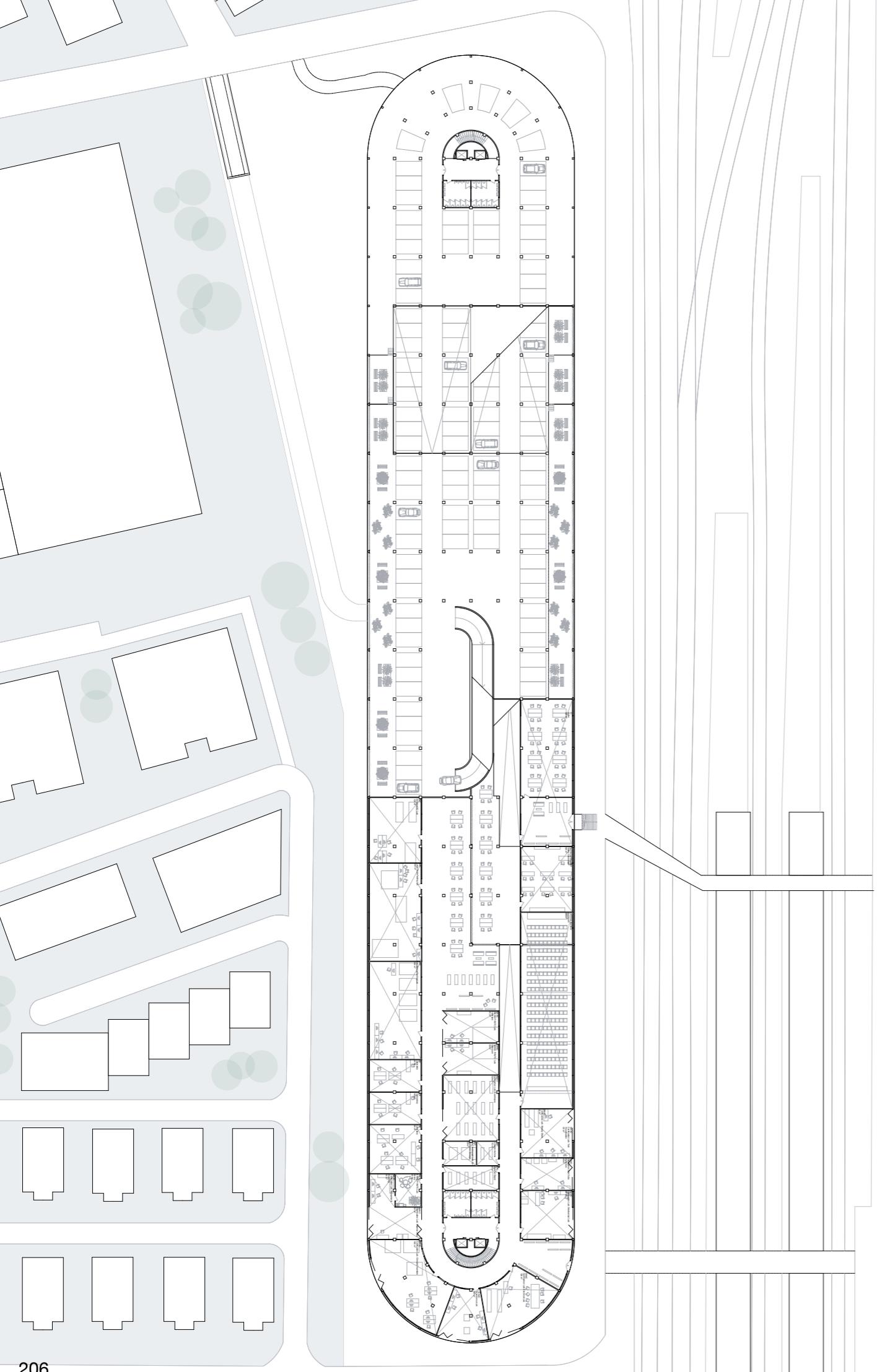


Bachelor and Master Studies



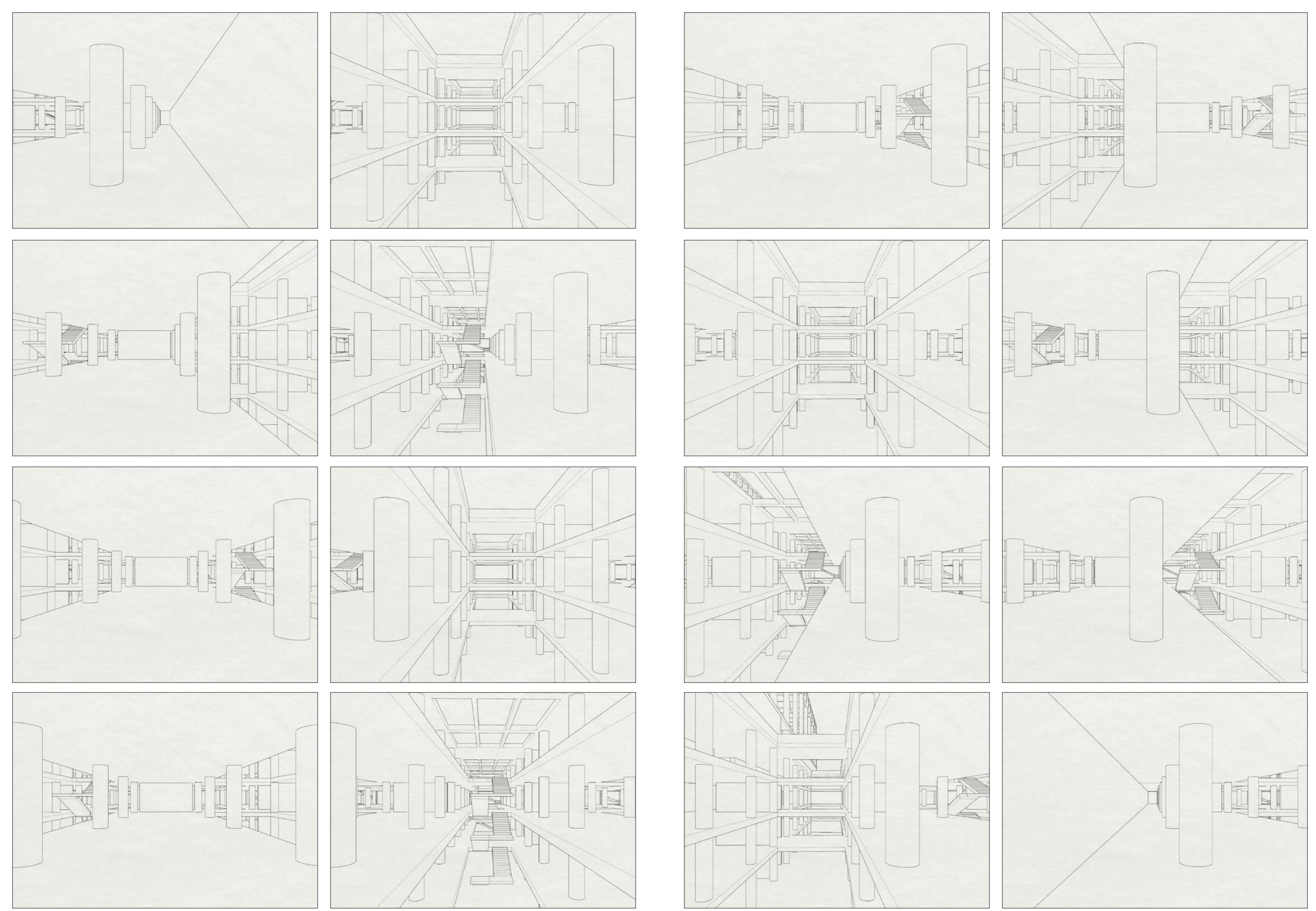


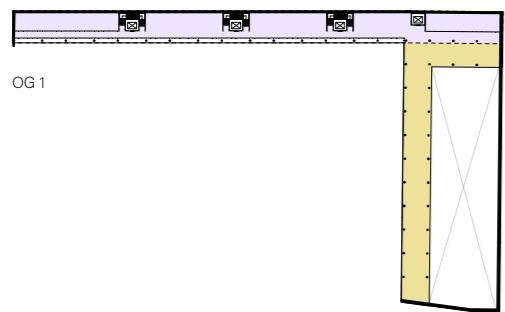
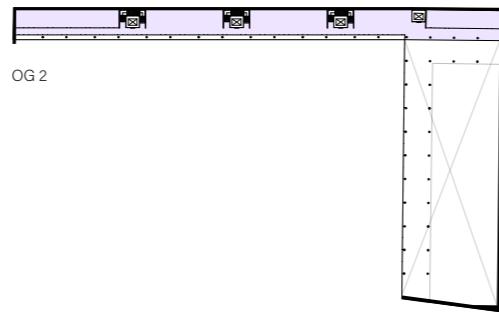
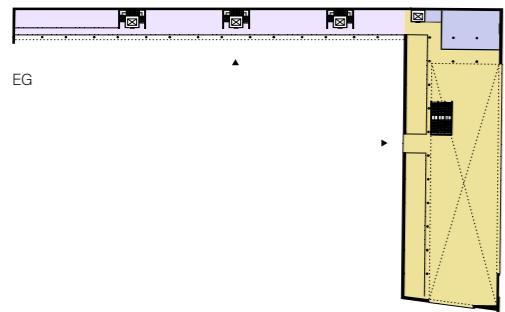




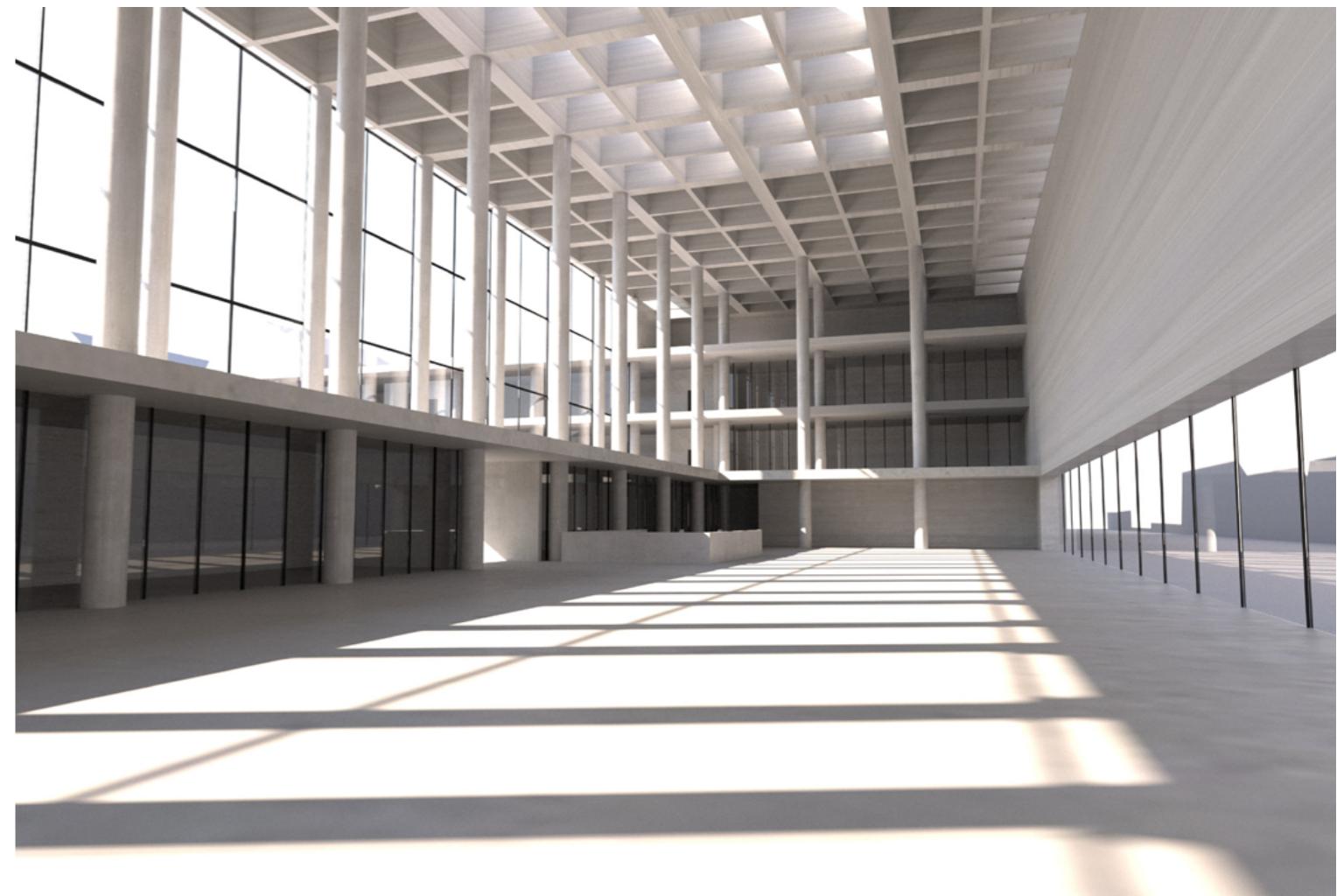
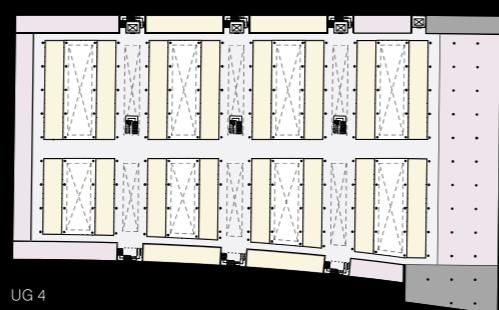
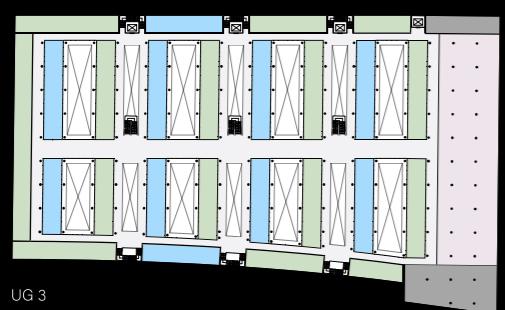
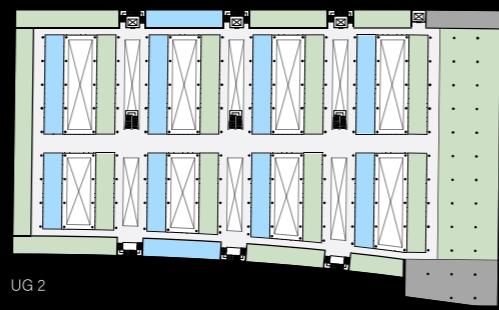
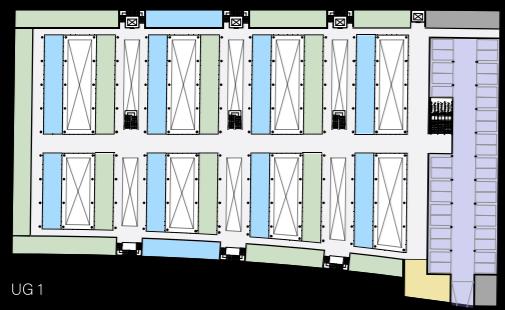
Project Representation



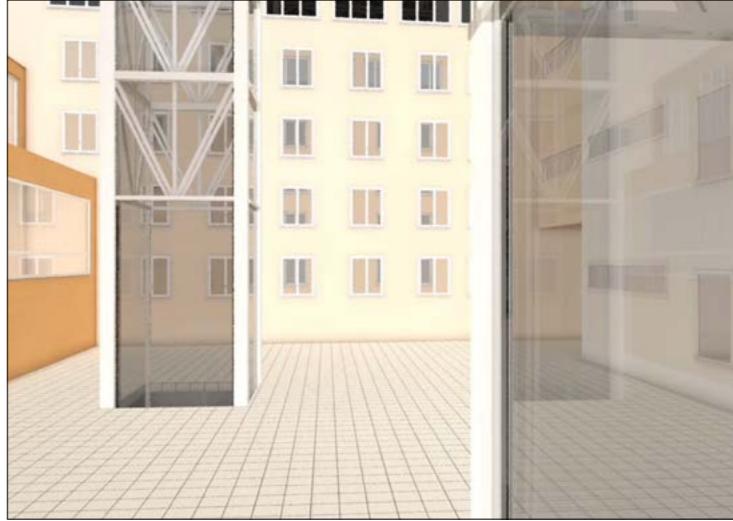
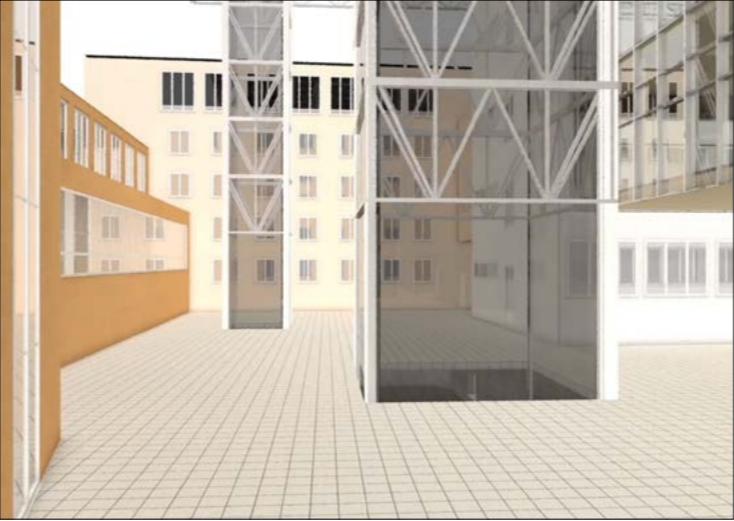
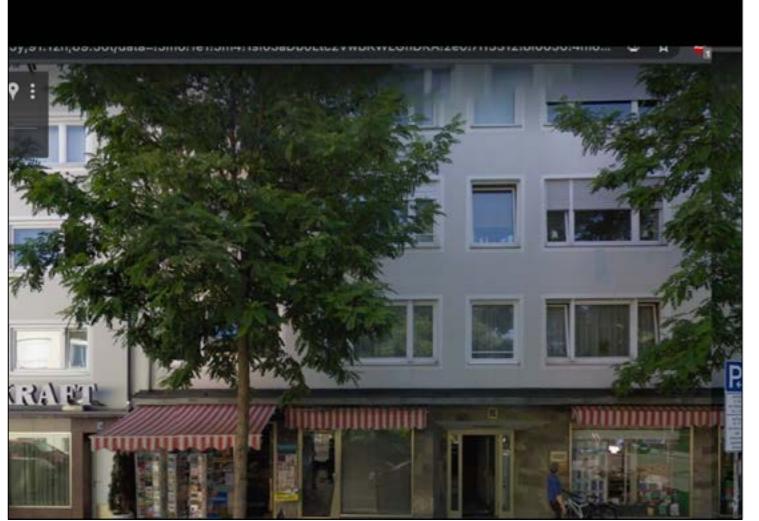
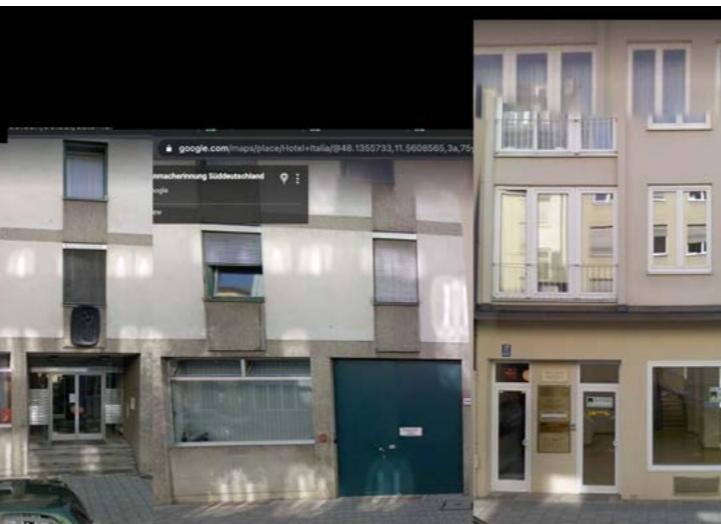
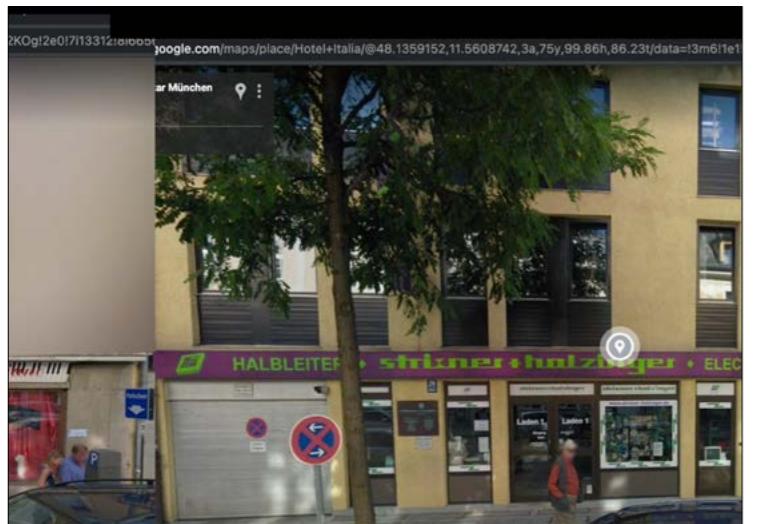


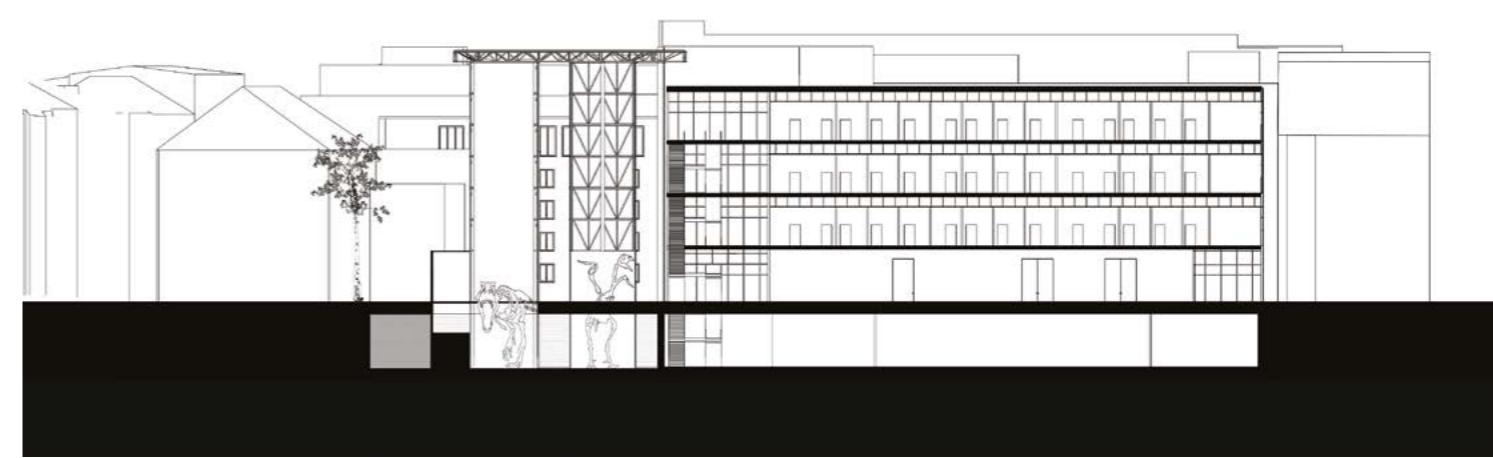
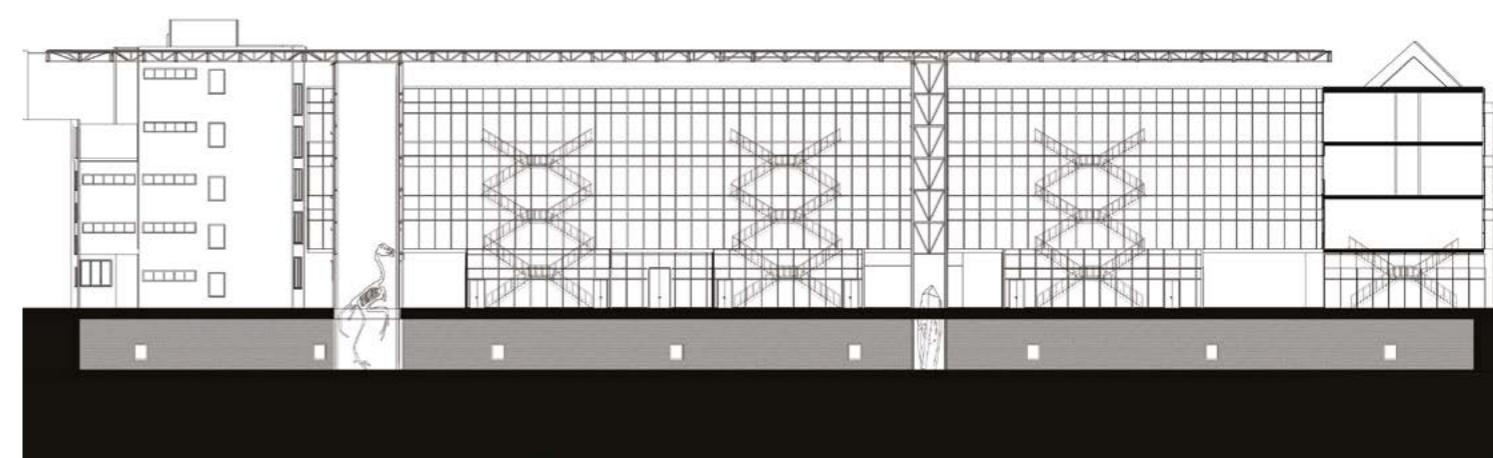
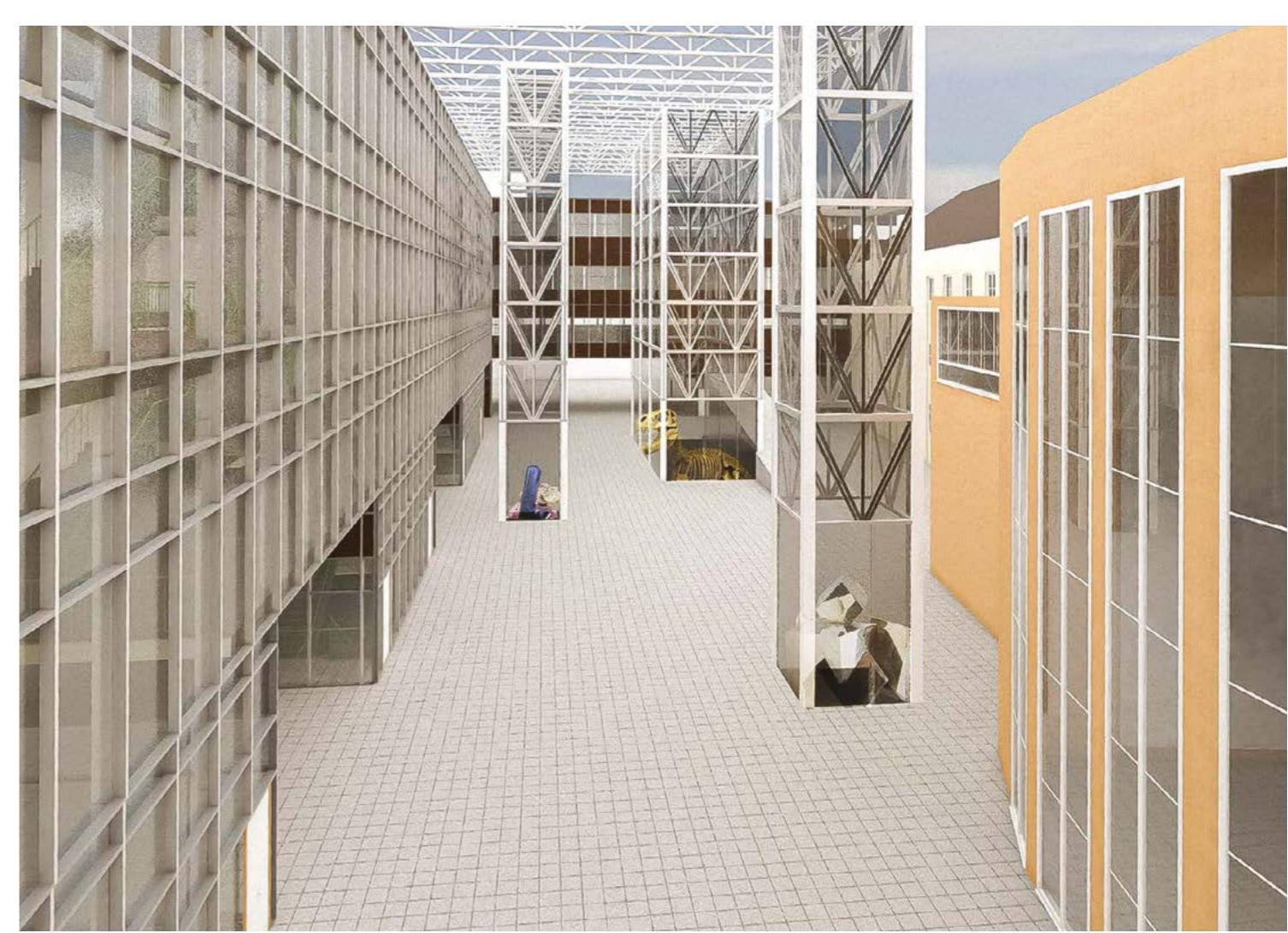


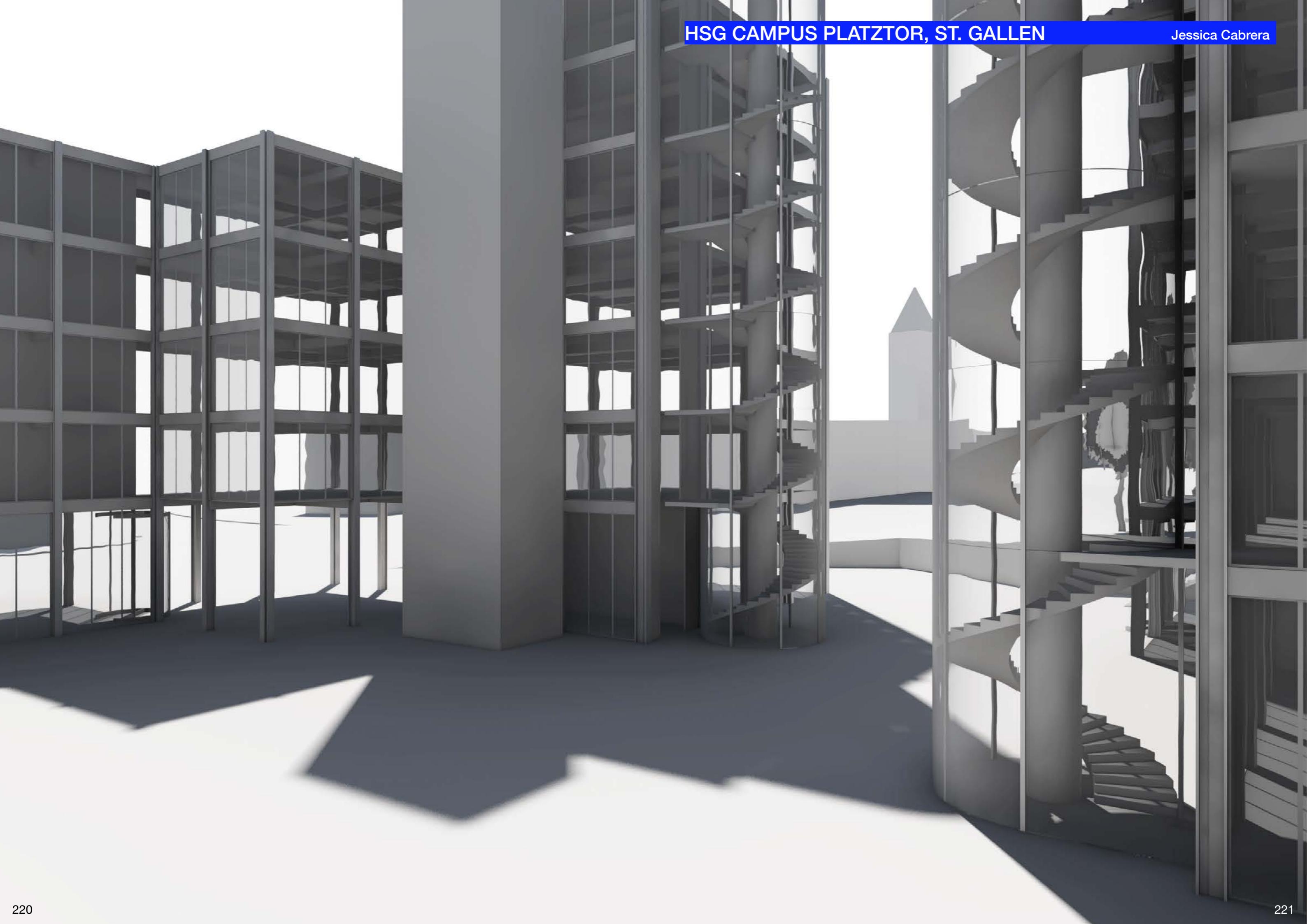
Laboratories	Offices	Workshops
Exhibition	Serving Areas	Storage SNSB
Library		

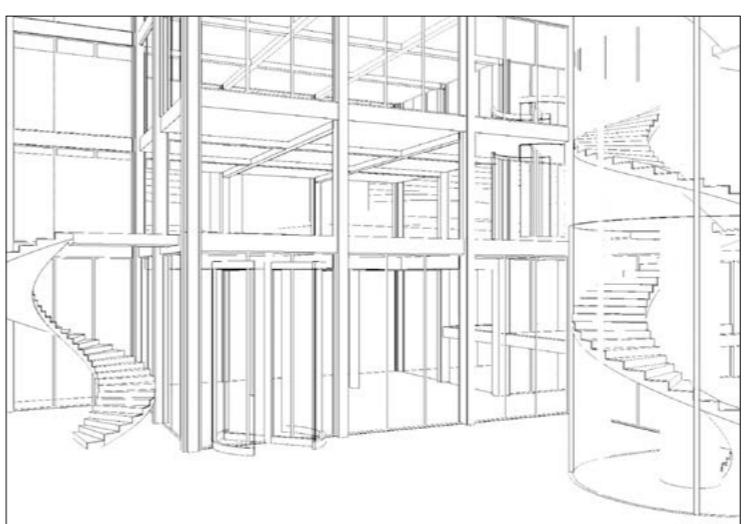
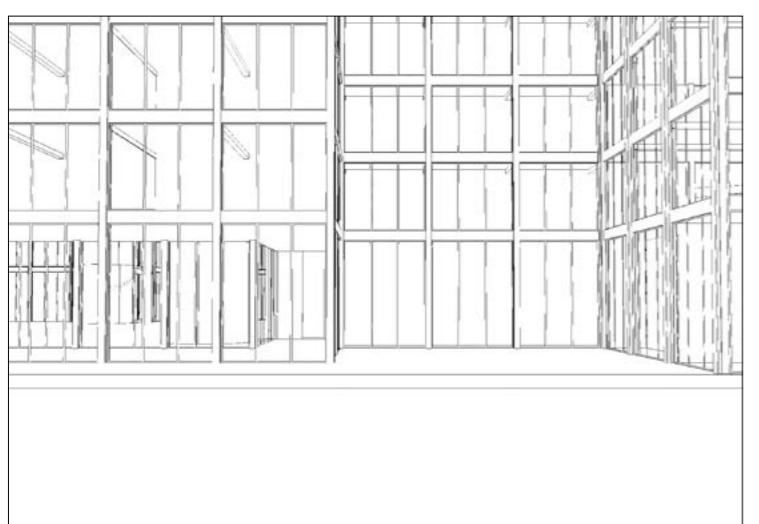
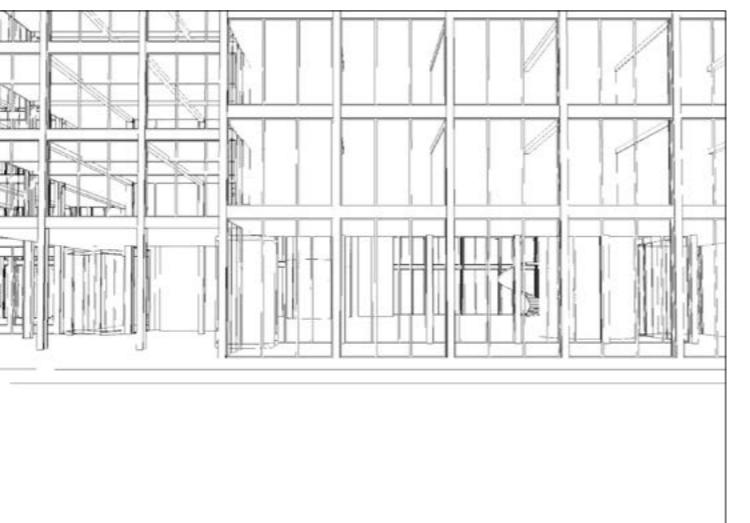
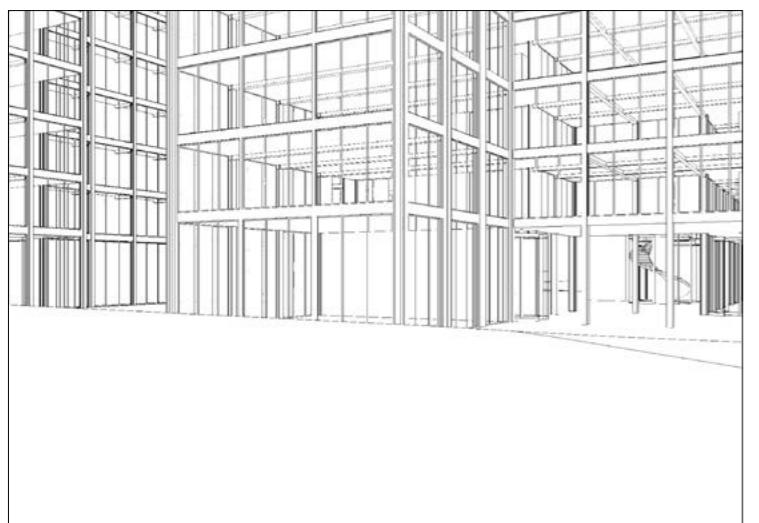
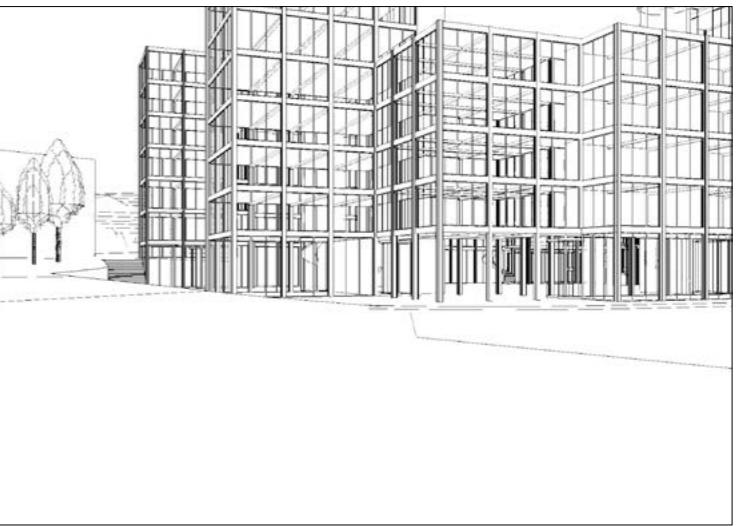
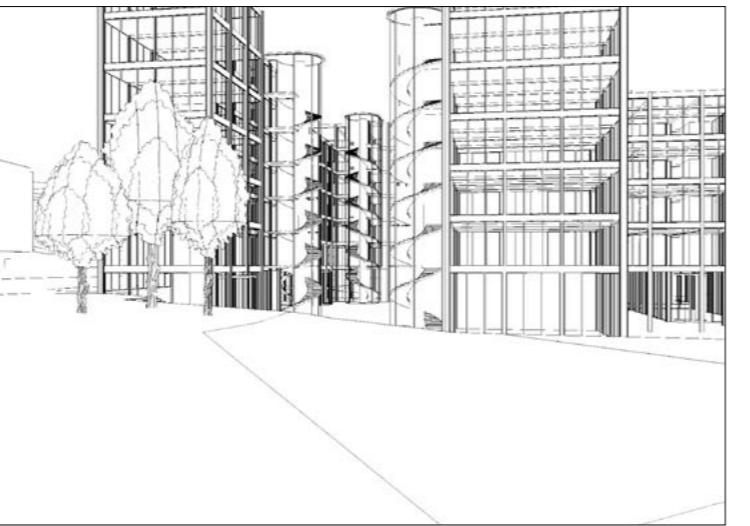


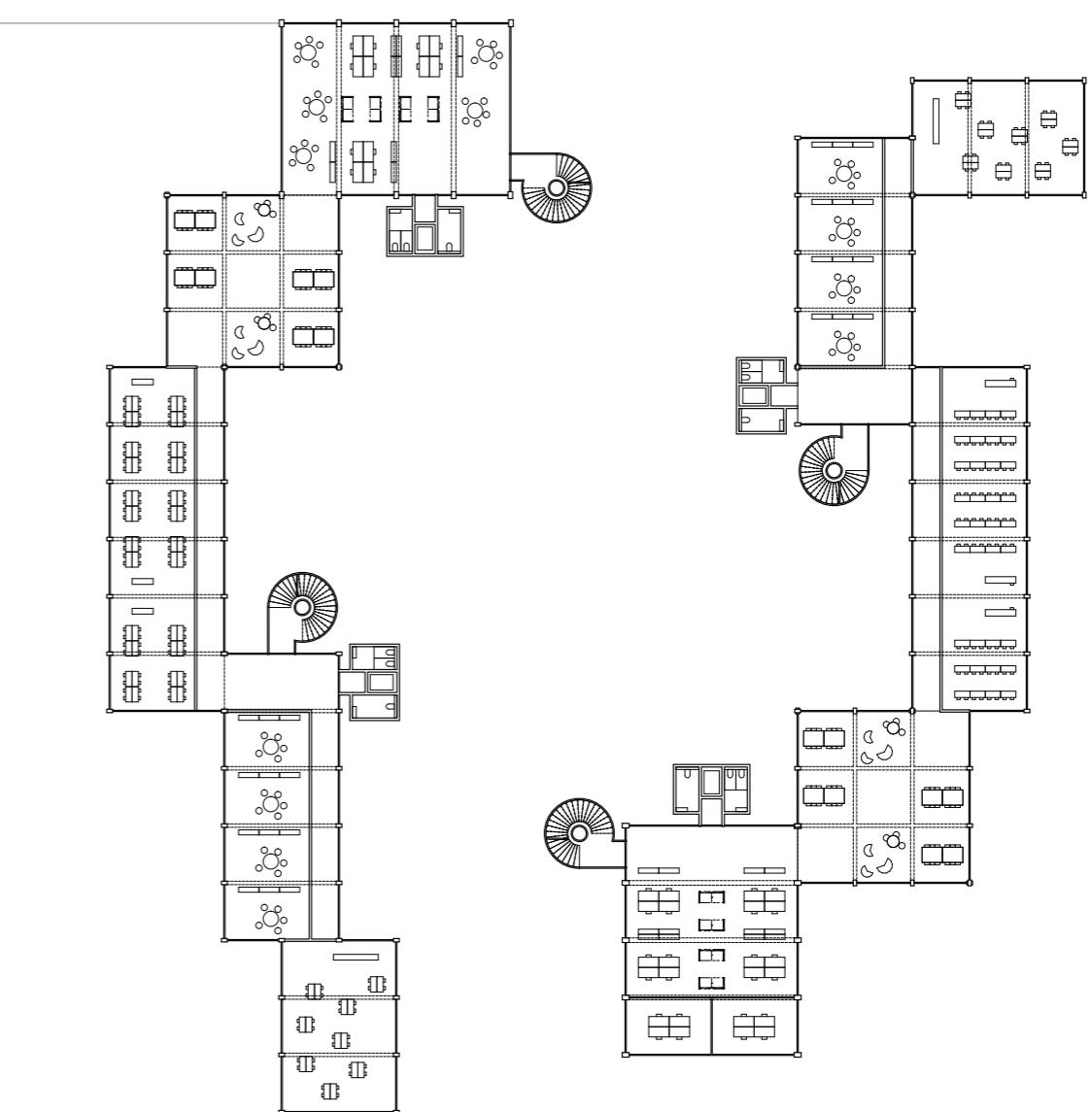
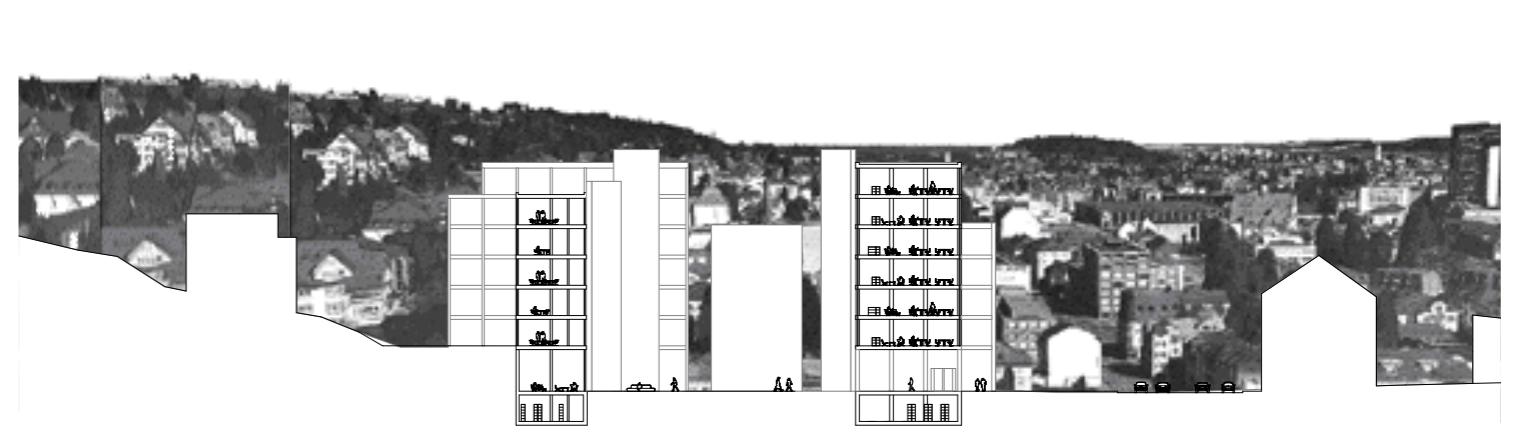
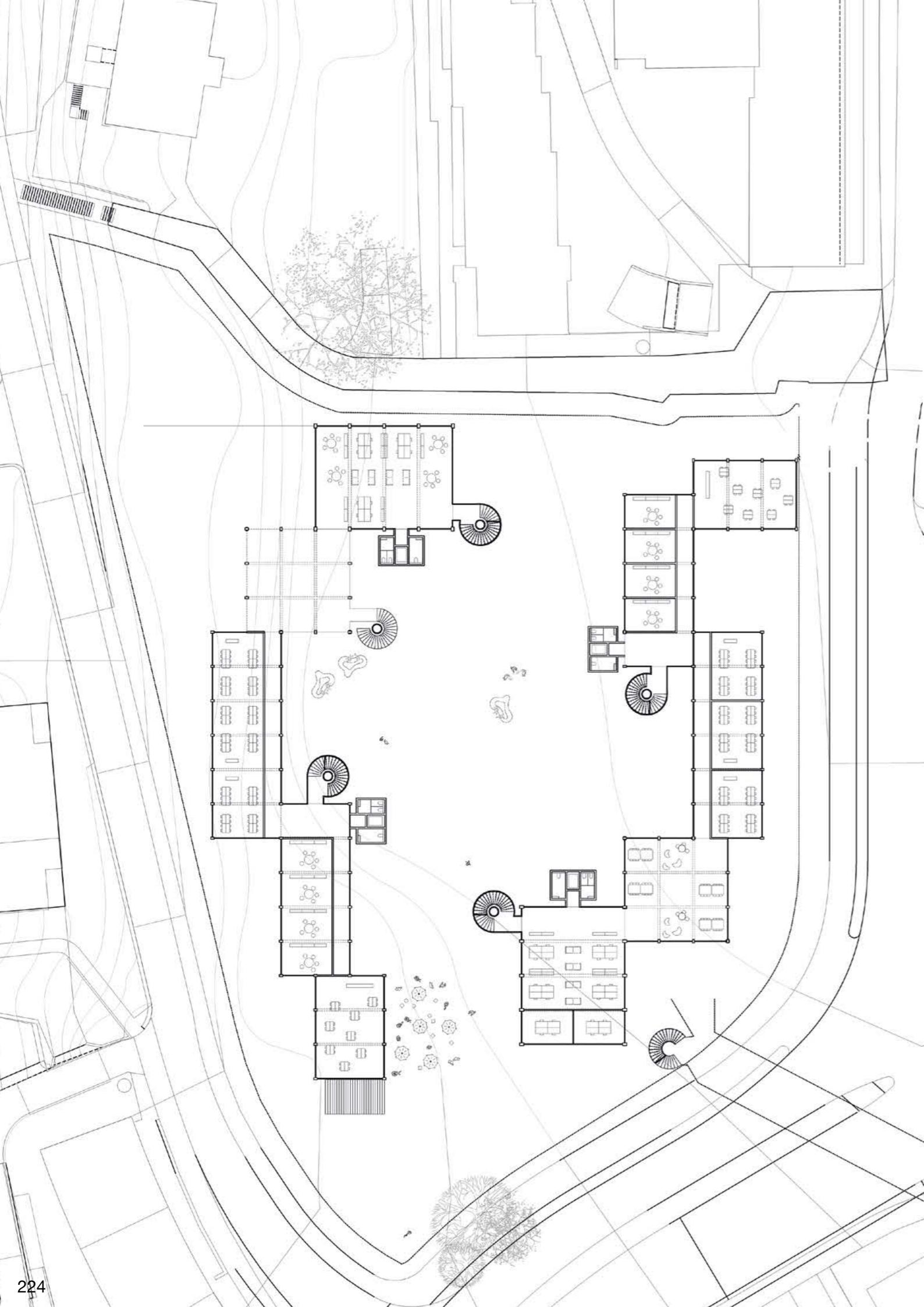


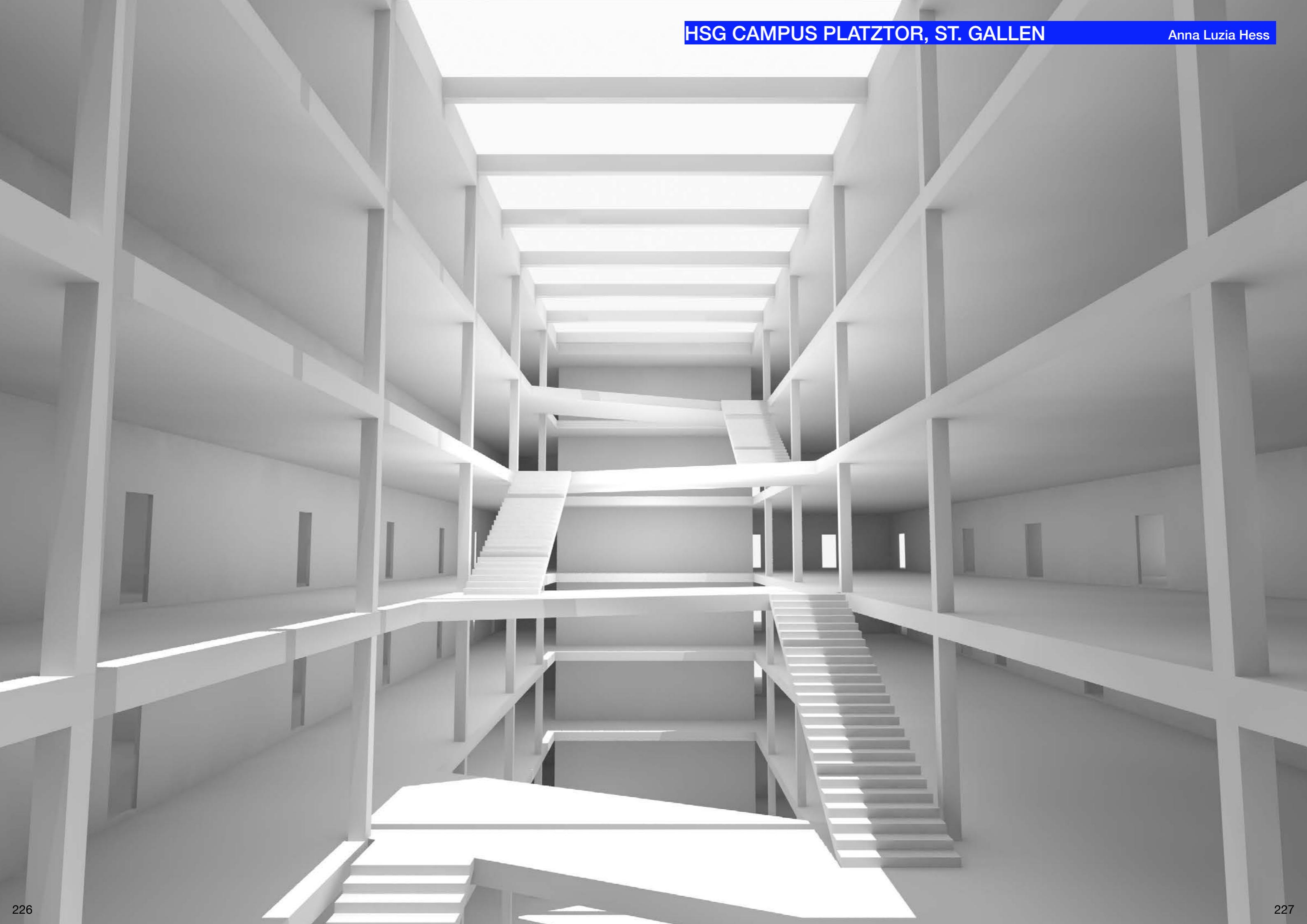


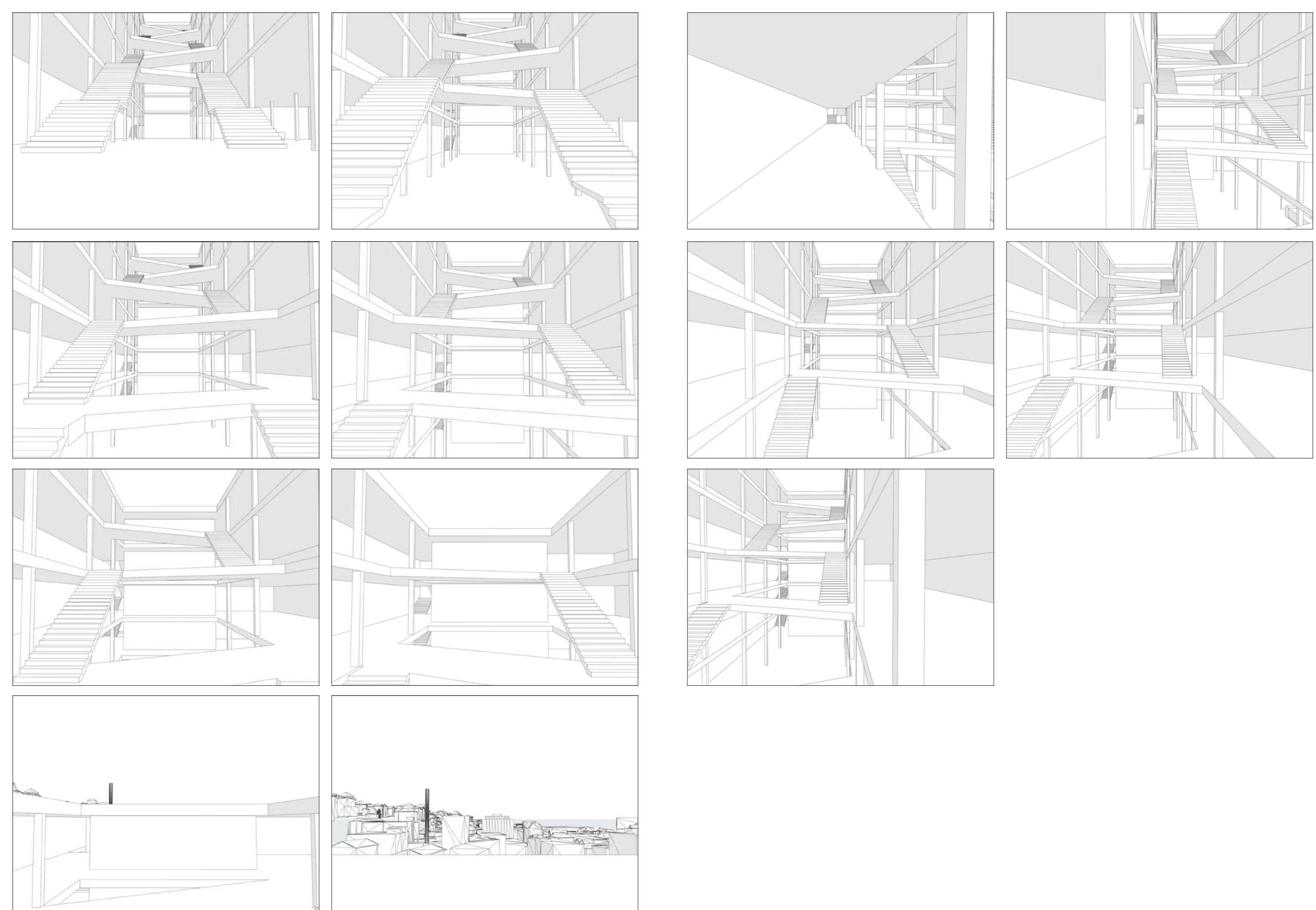


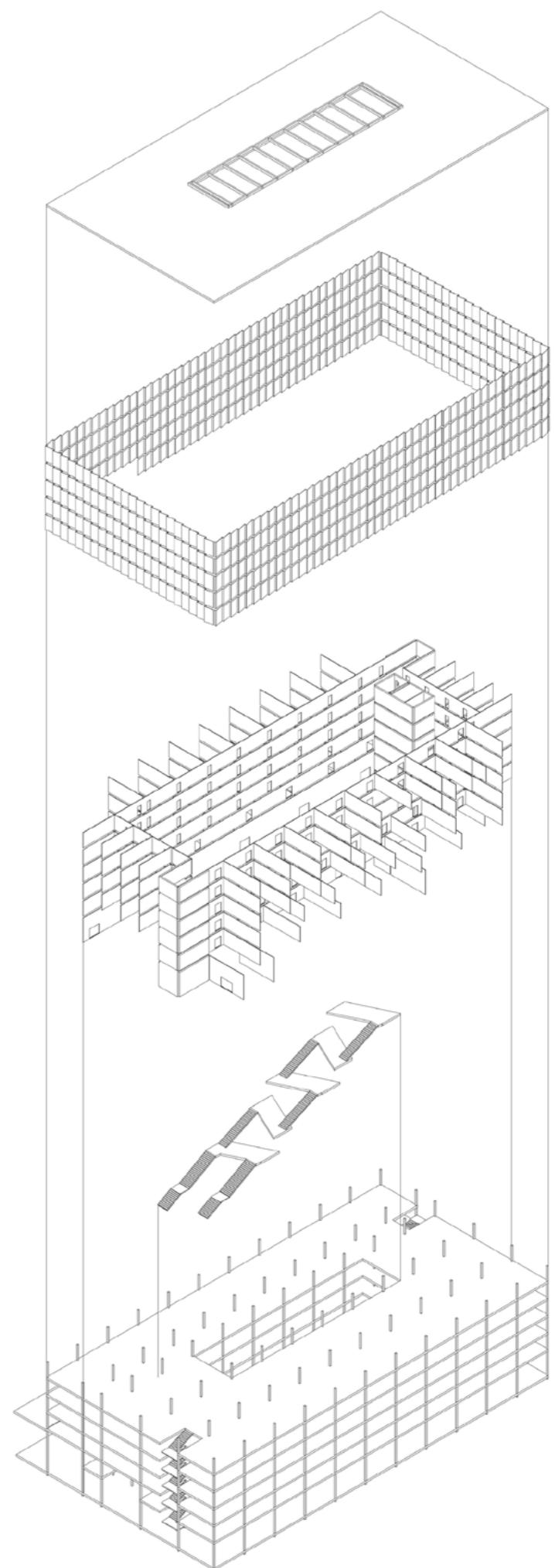
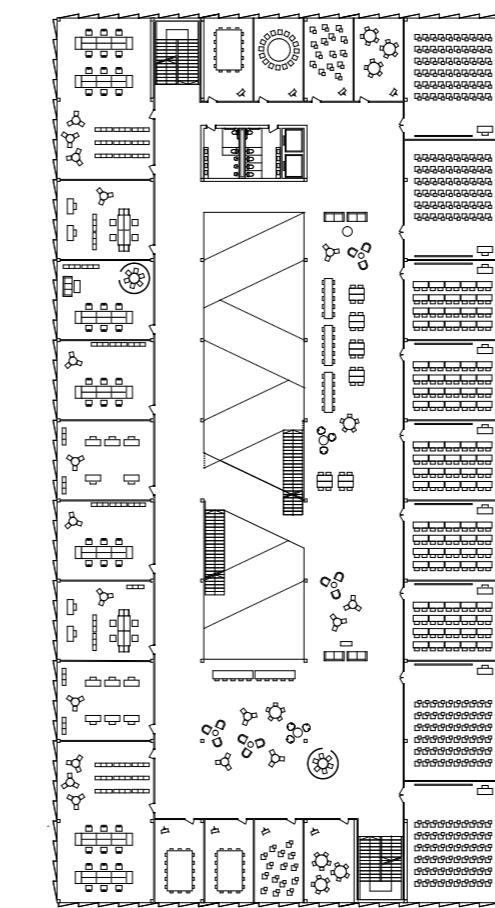
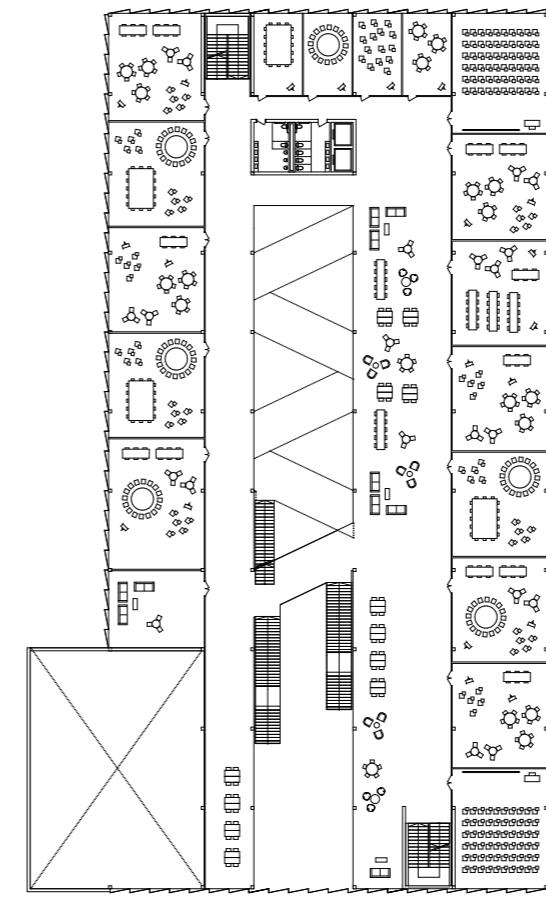
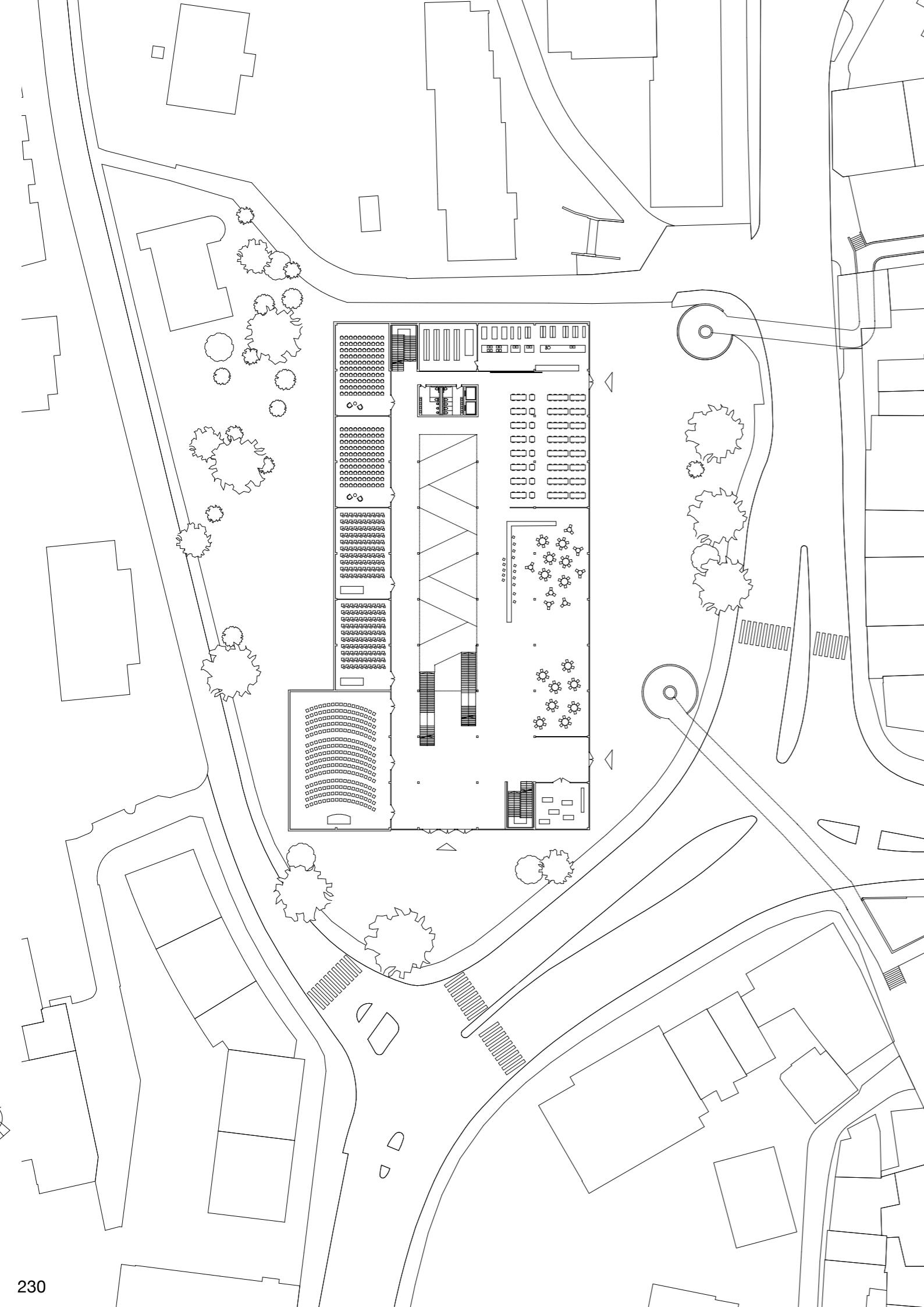




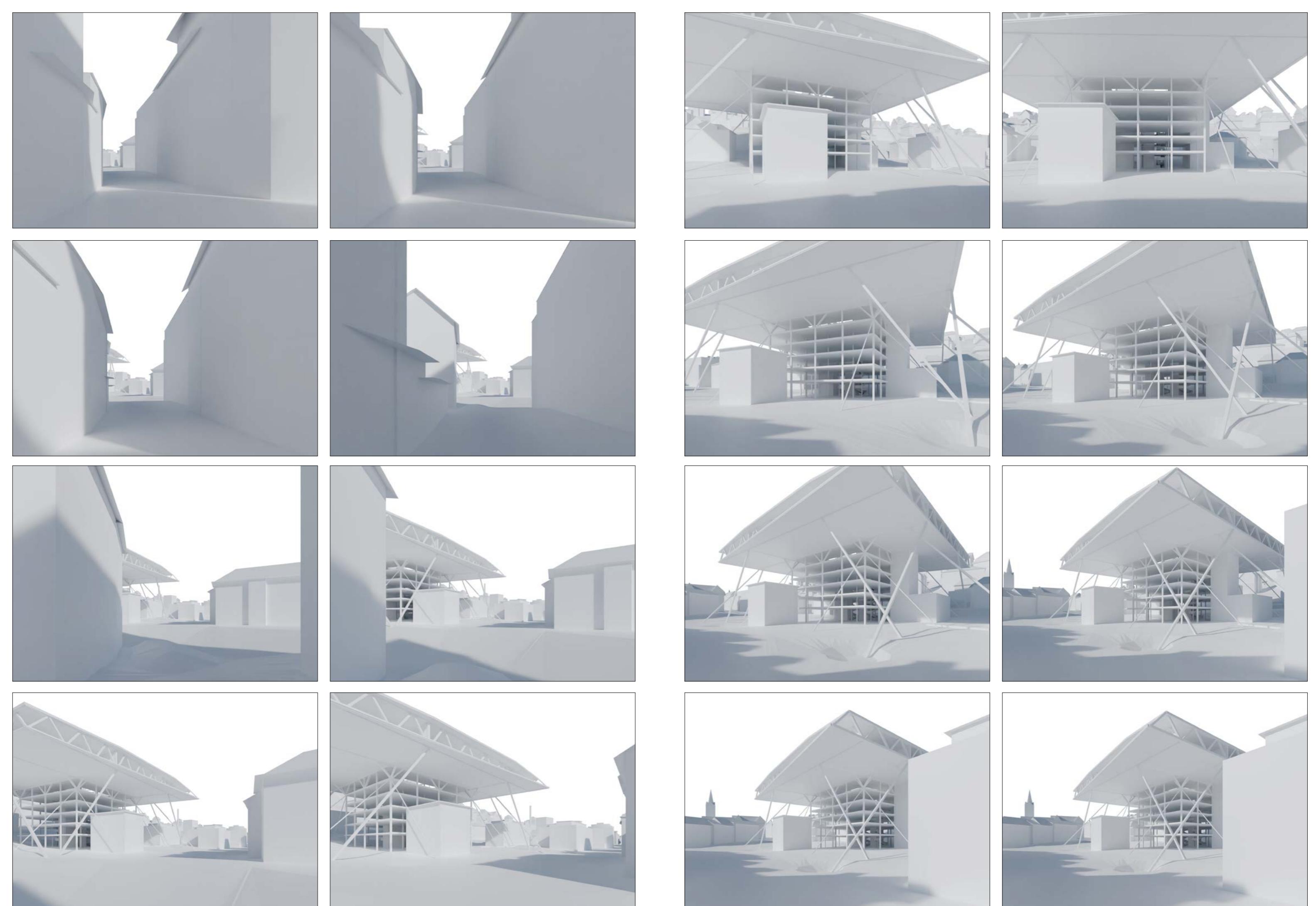


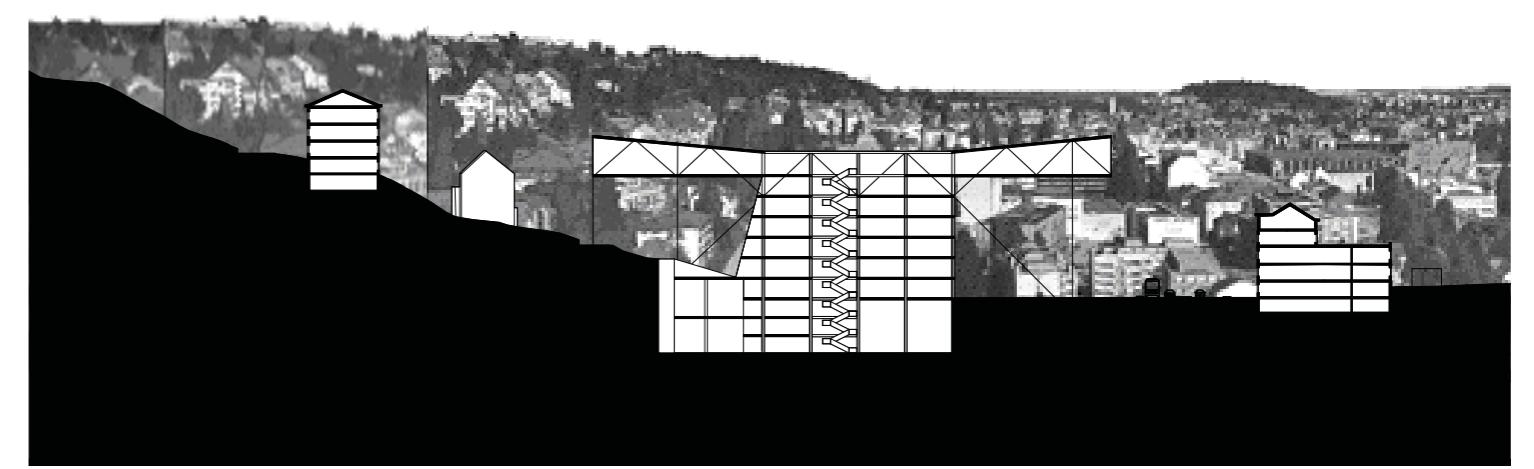
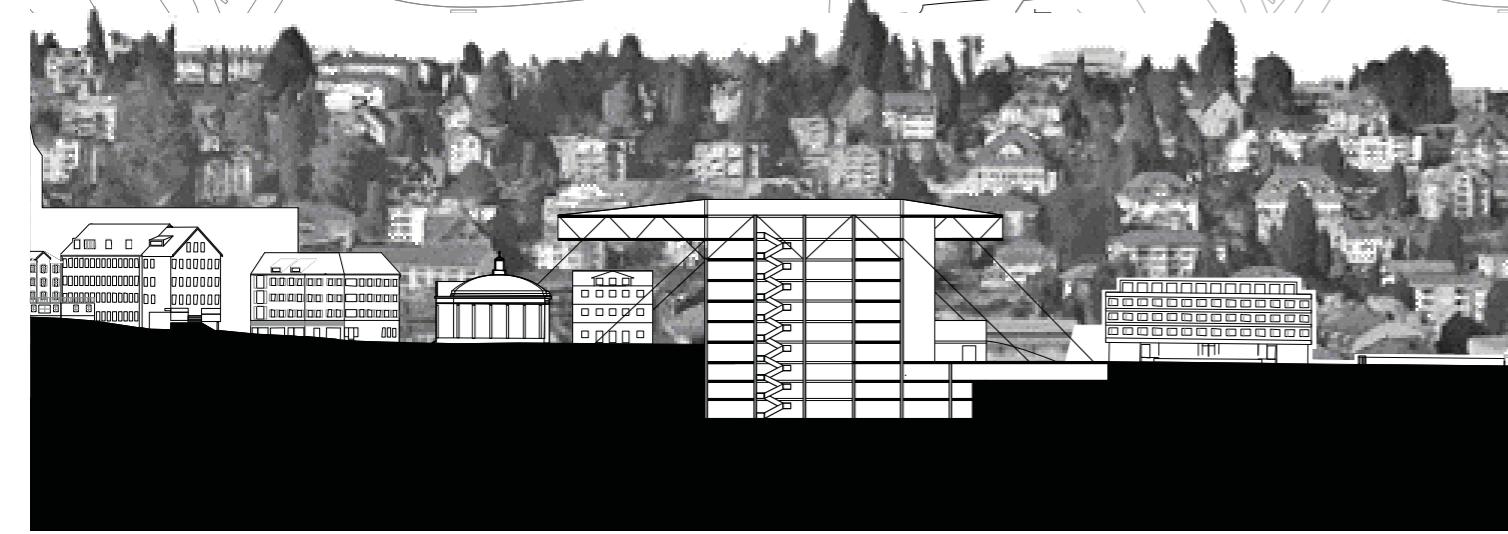
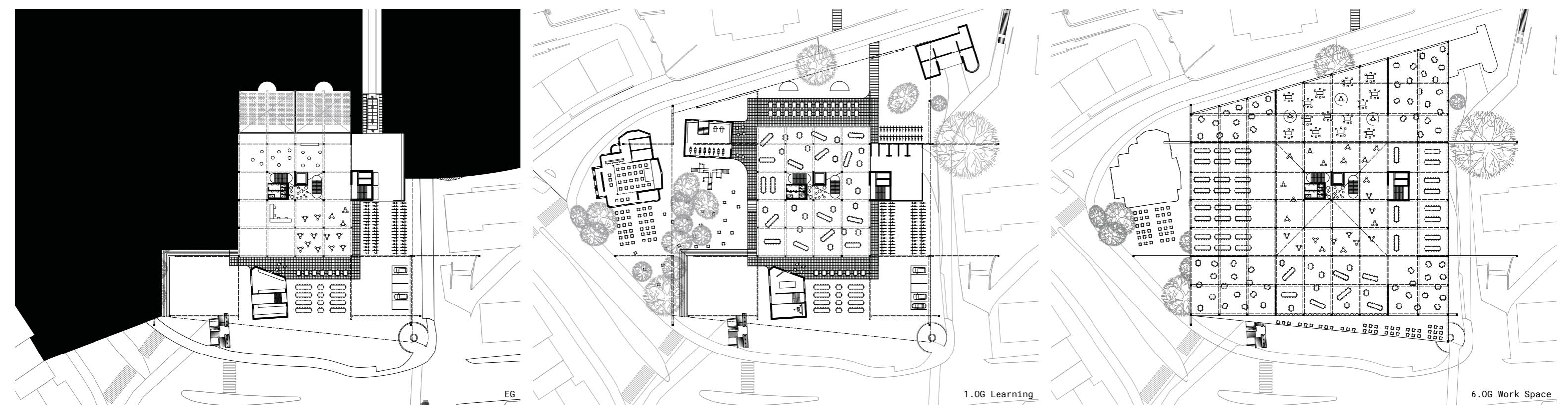
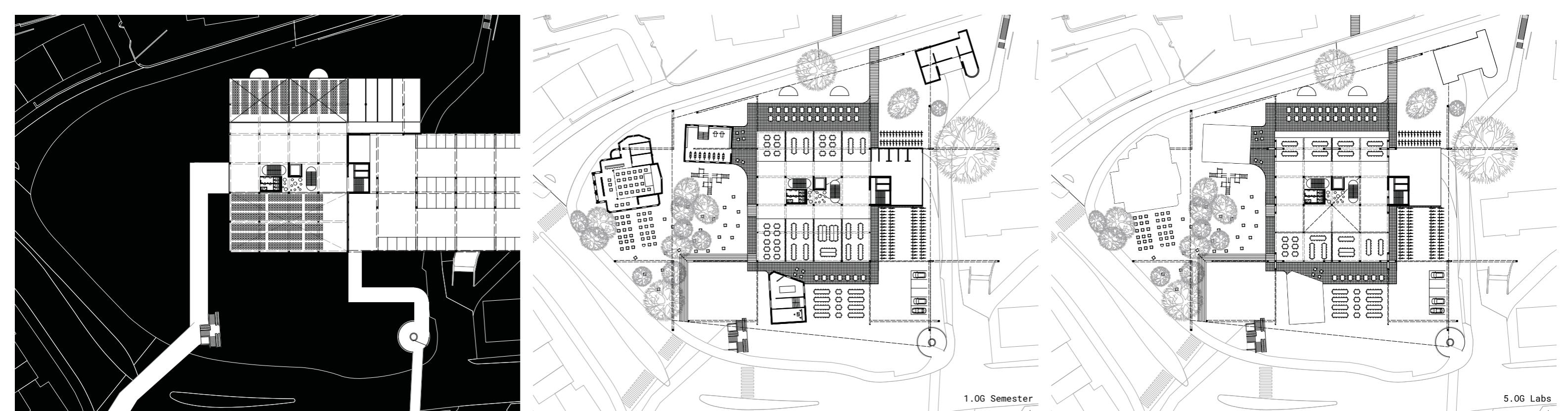


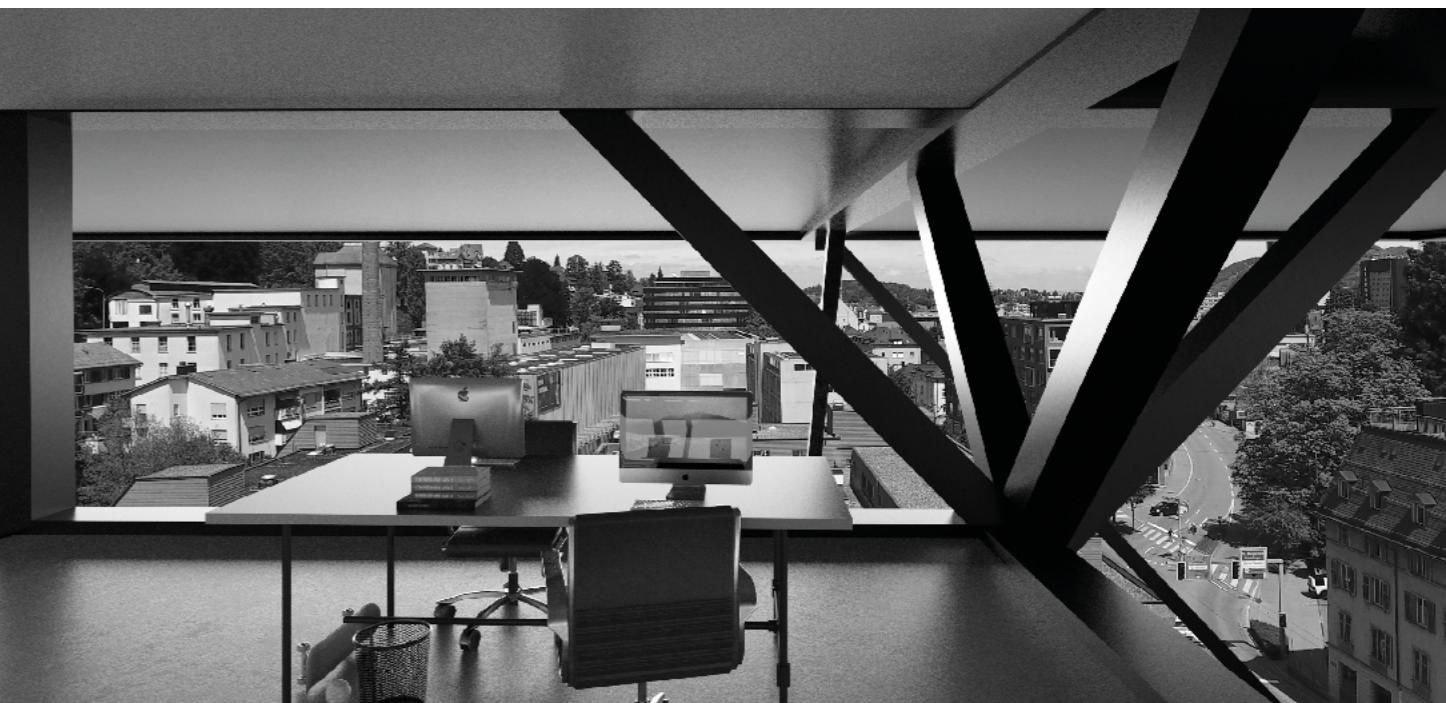
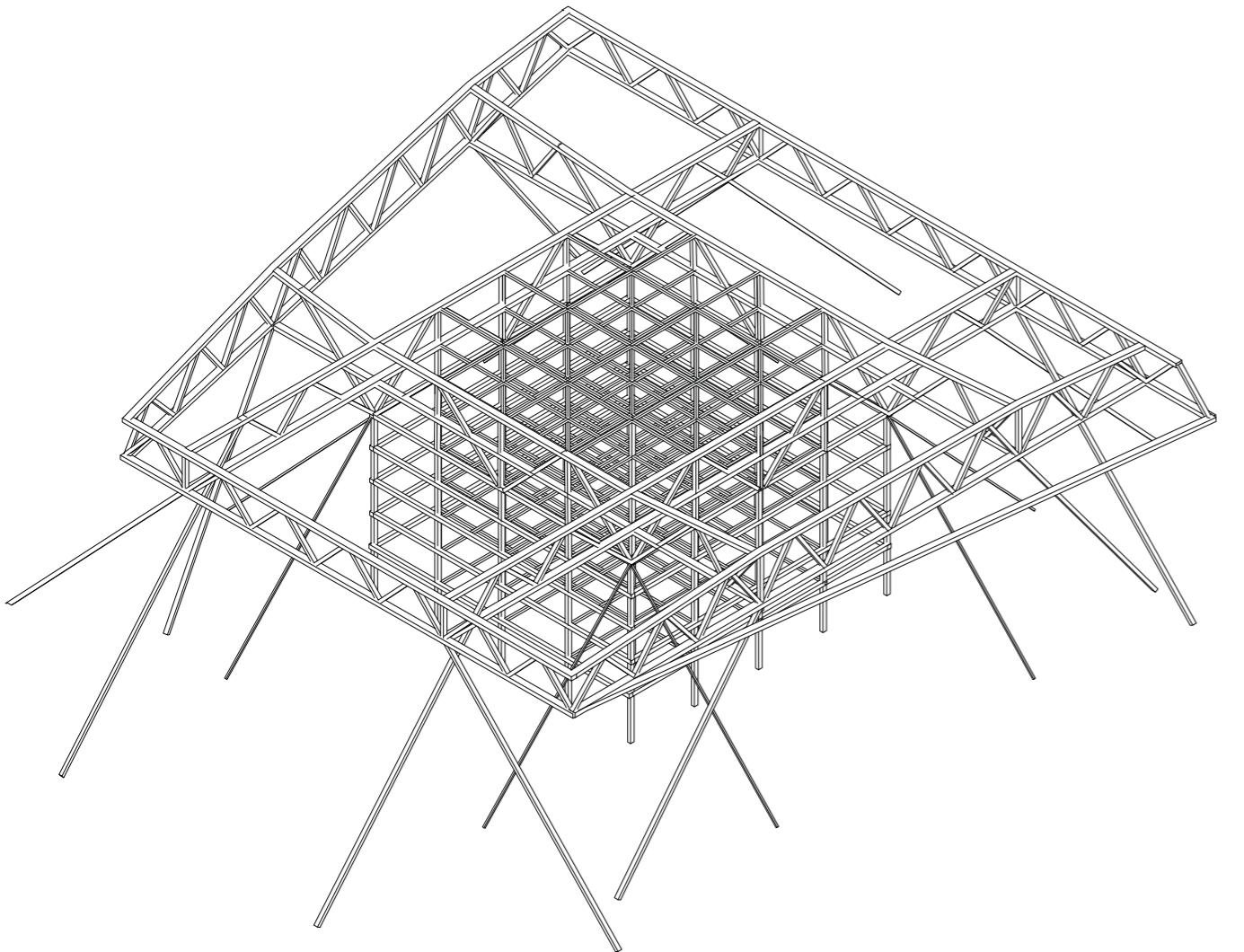




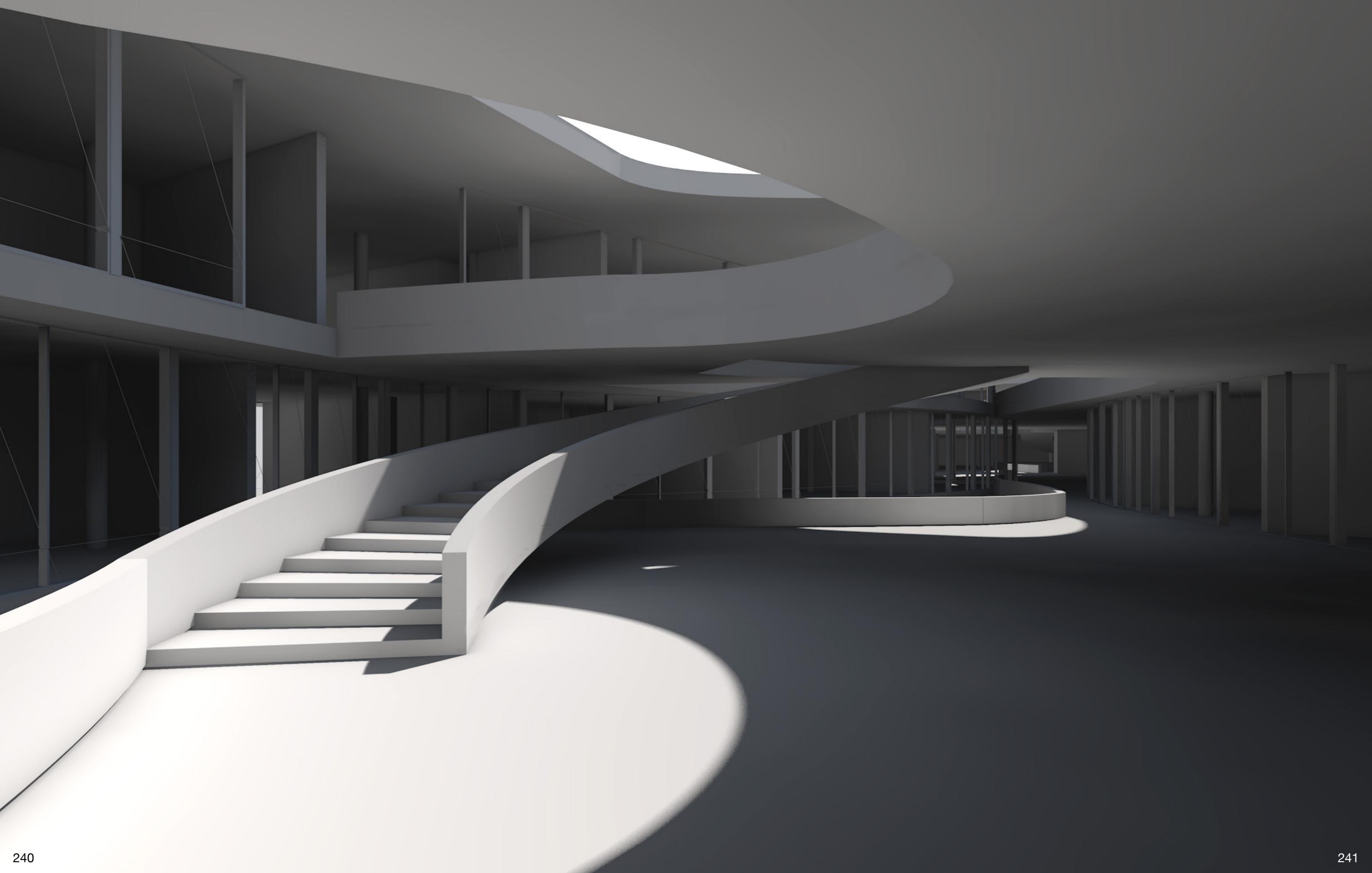


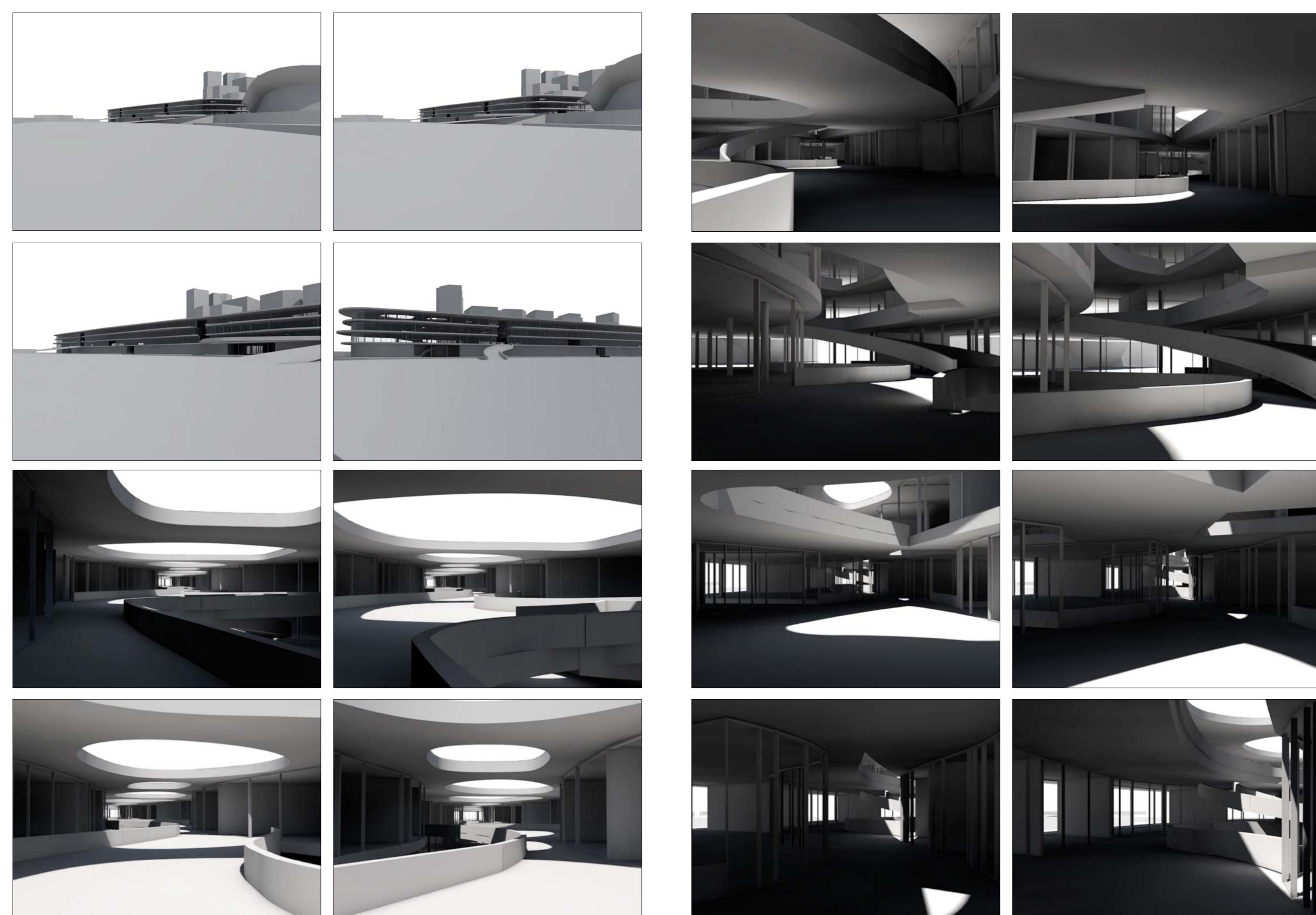


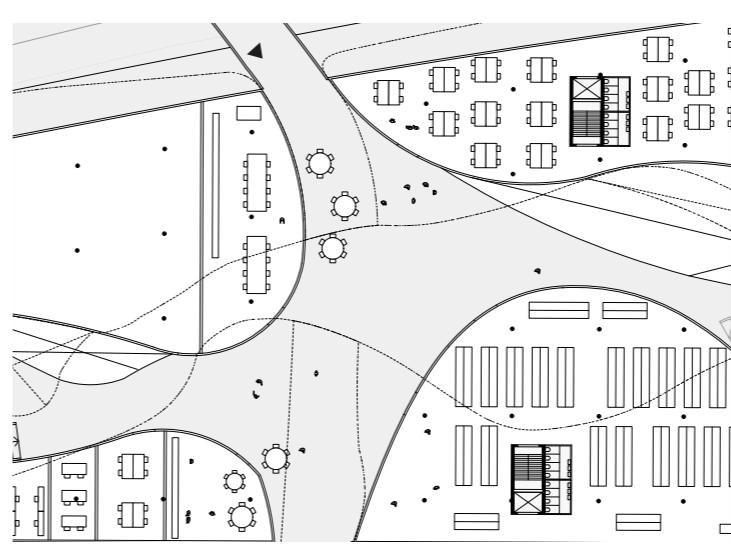
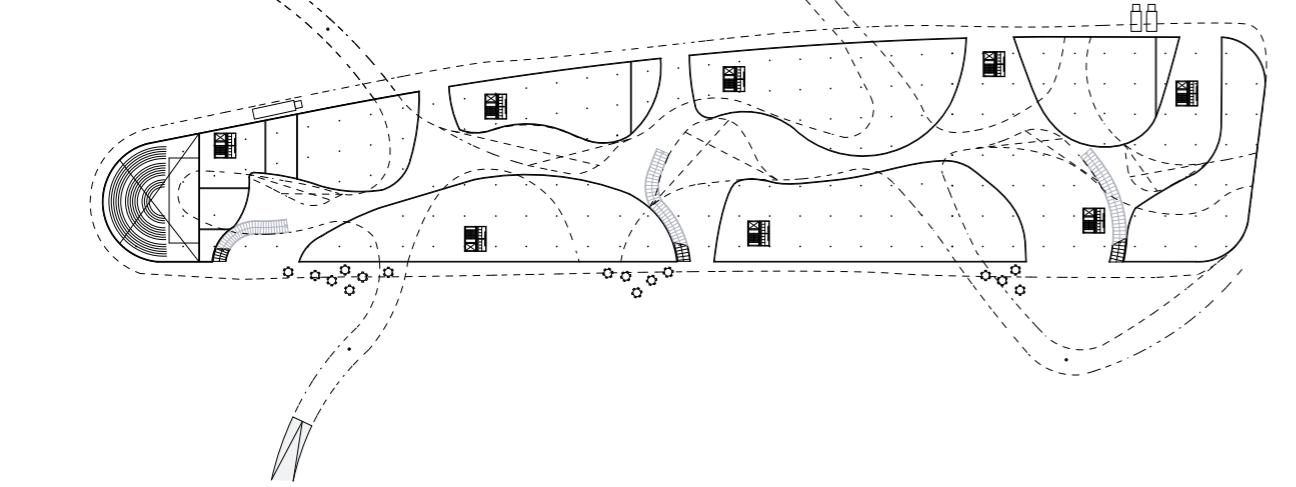
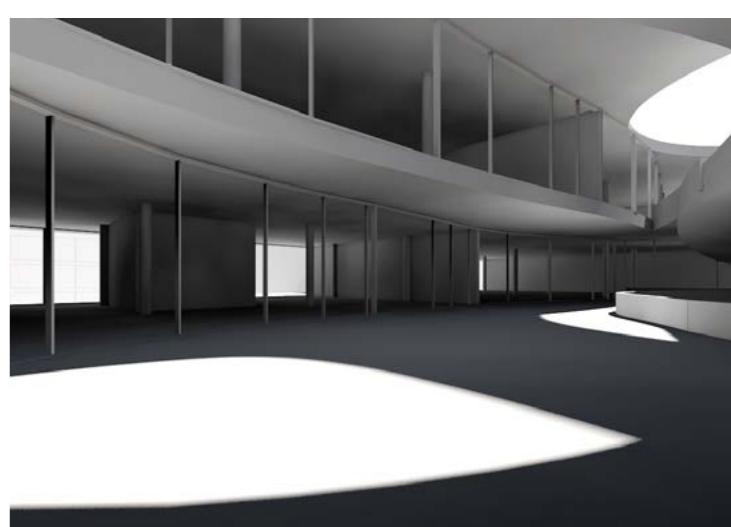
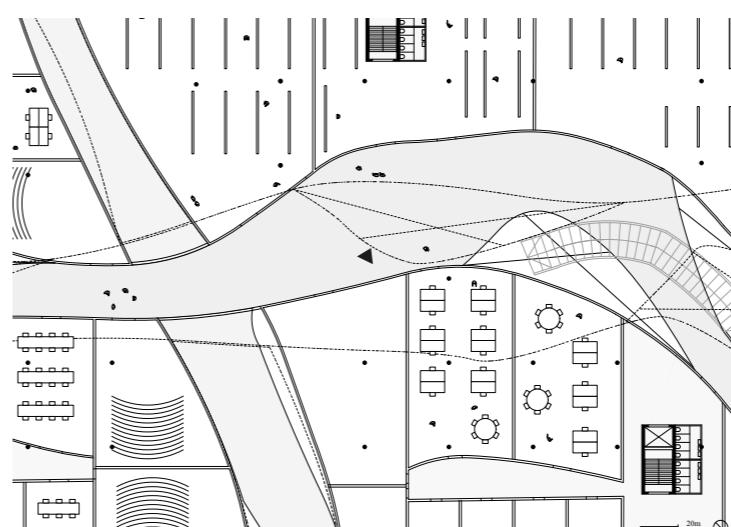
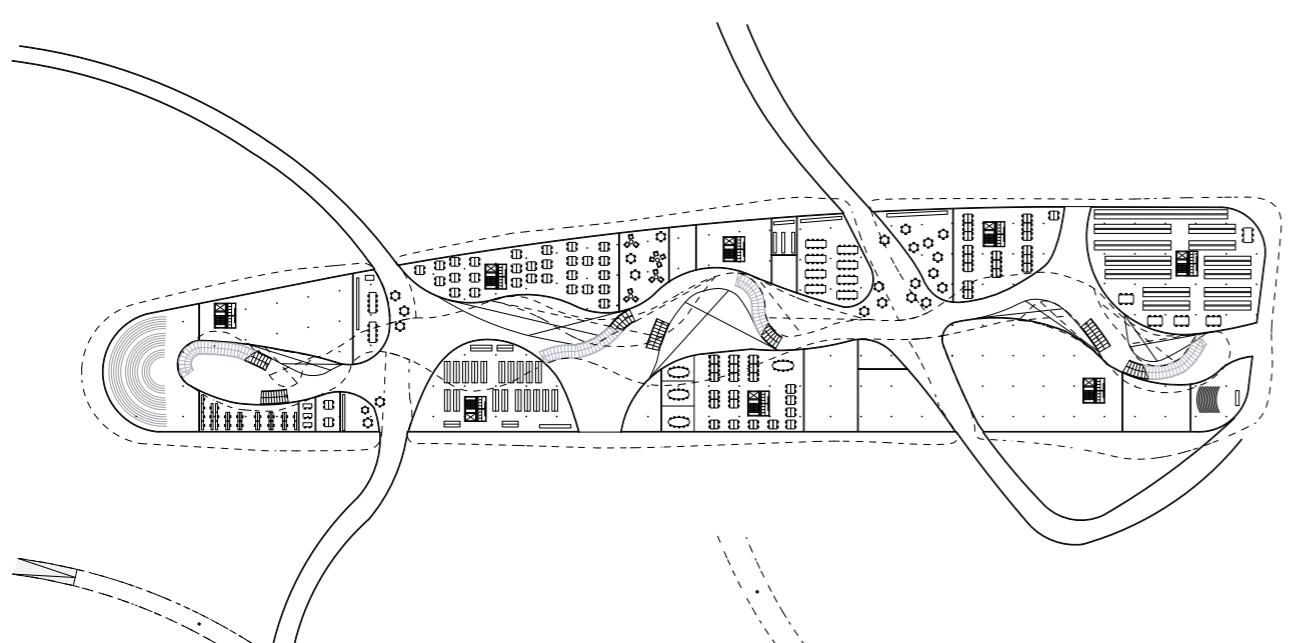
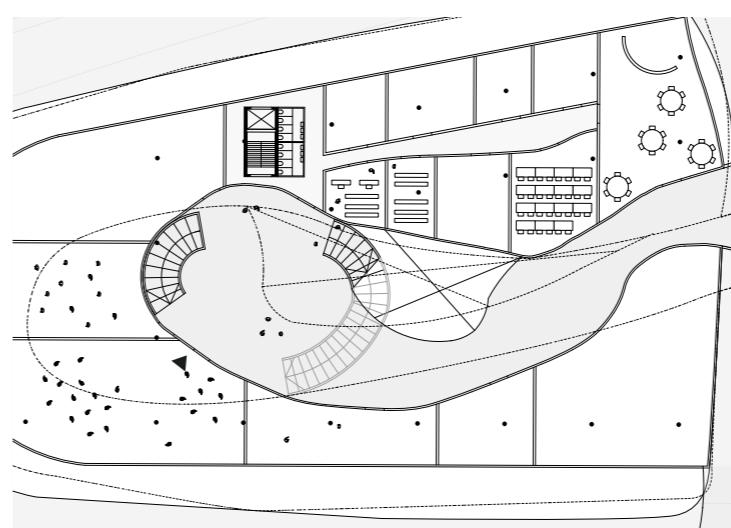
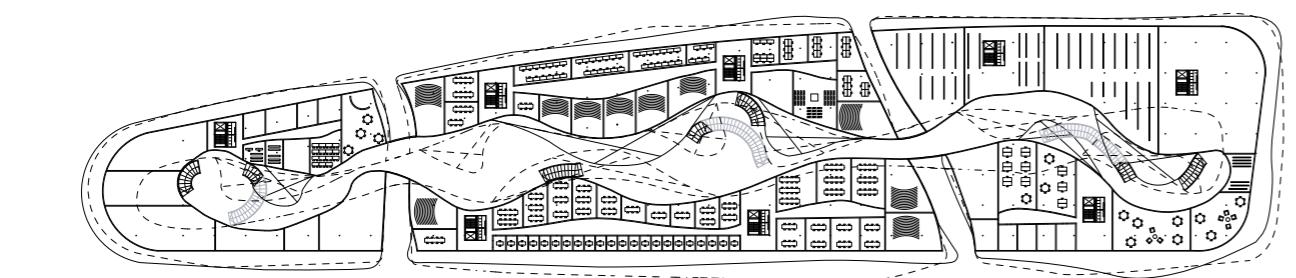
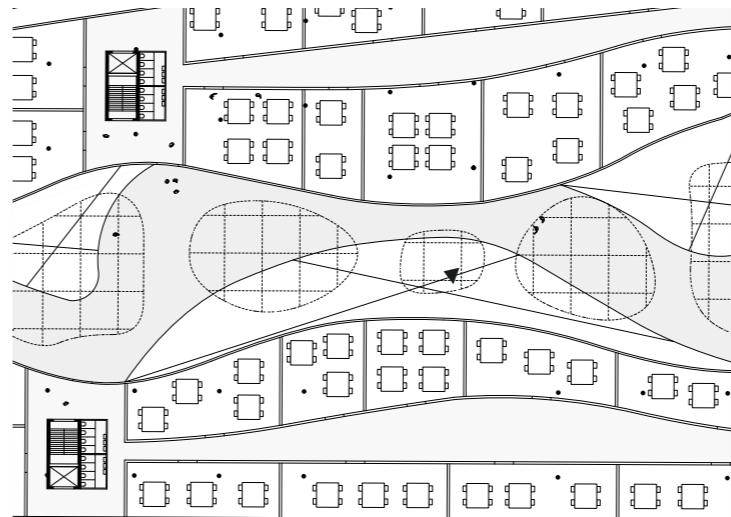
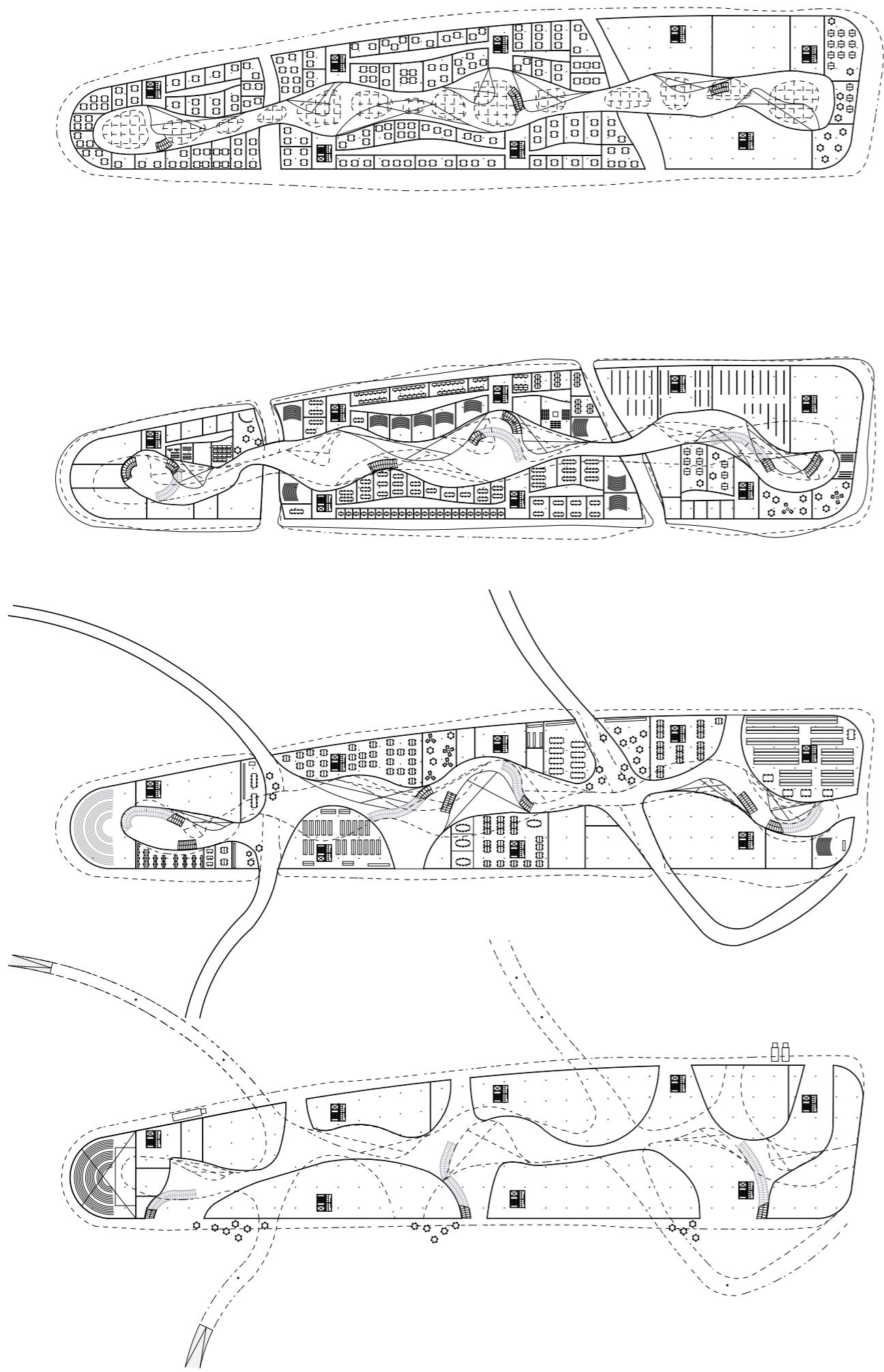




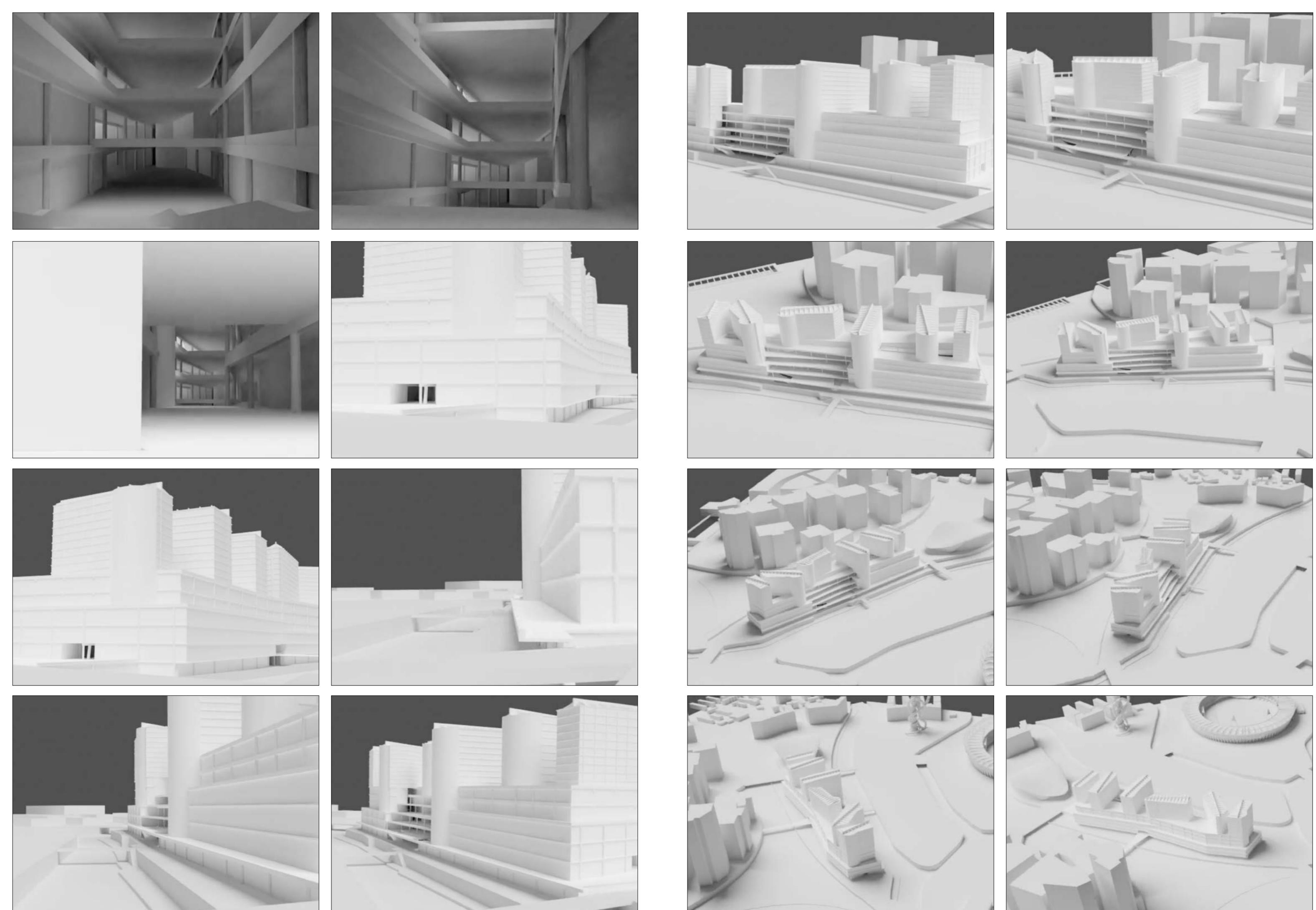
Project Representation

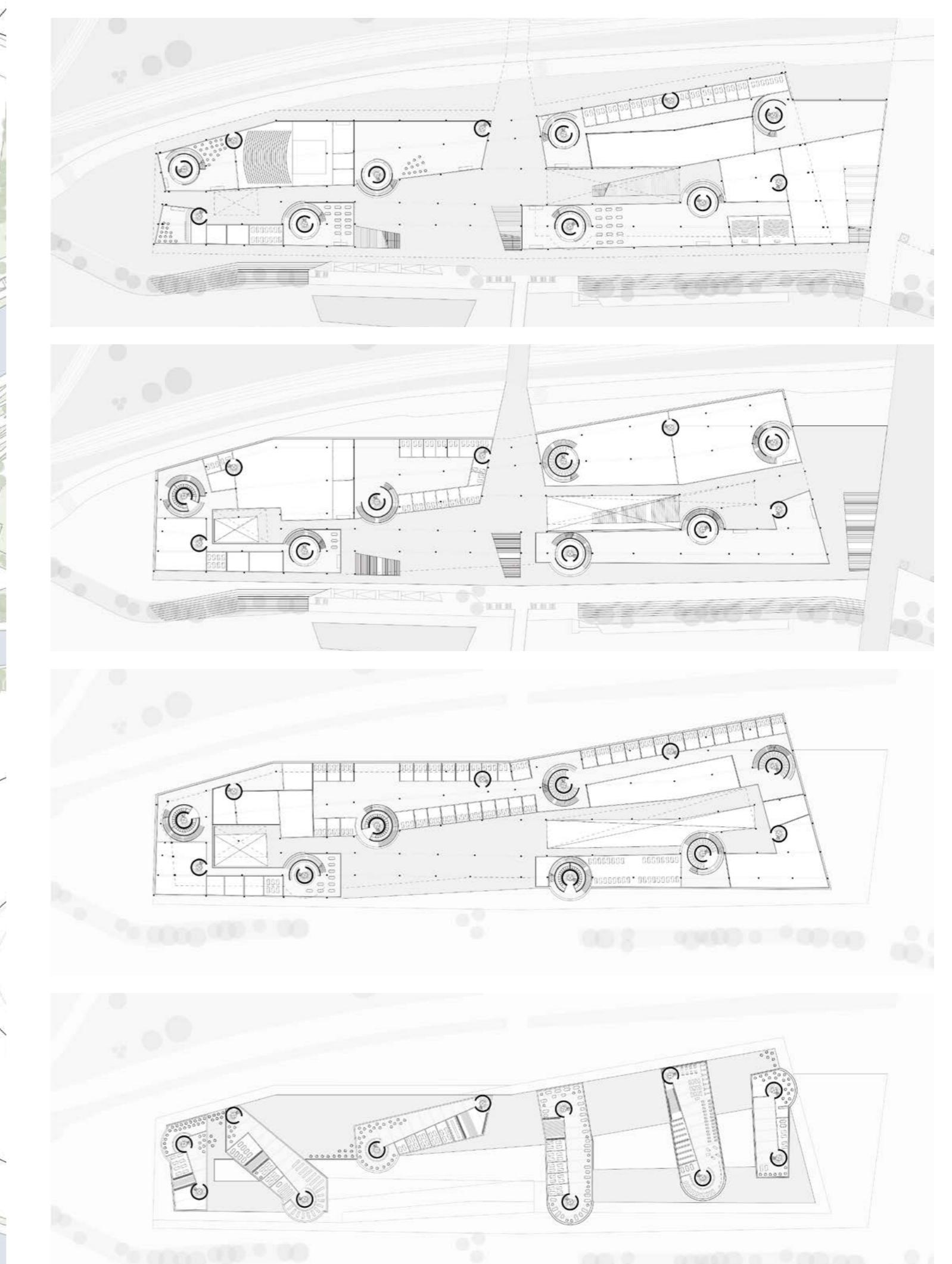












Project Representation

