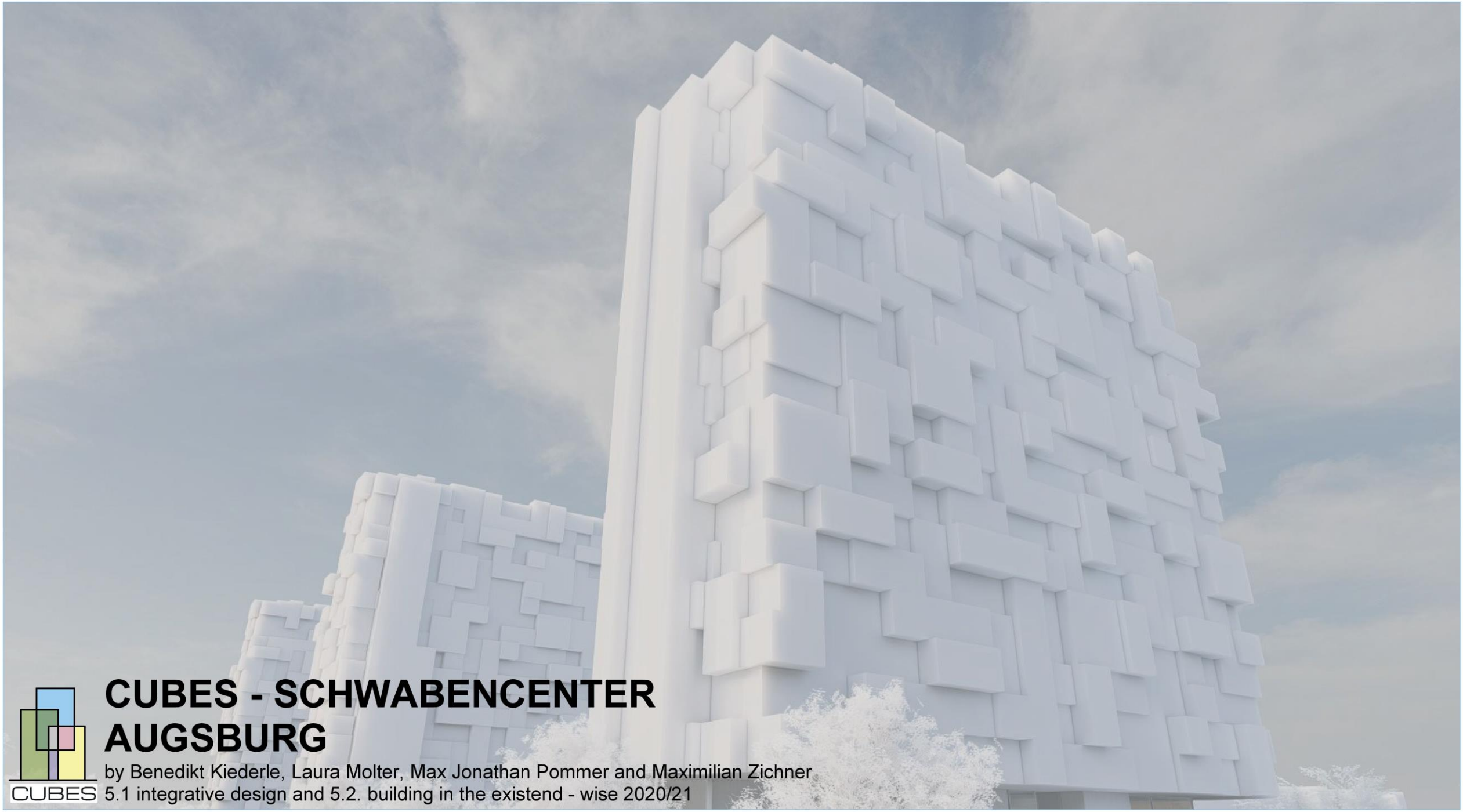
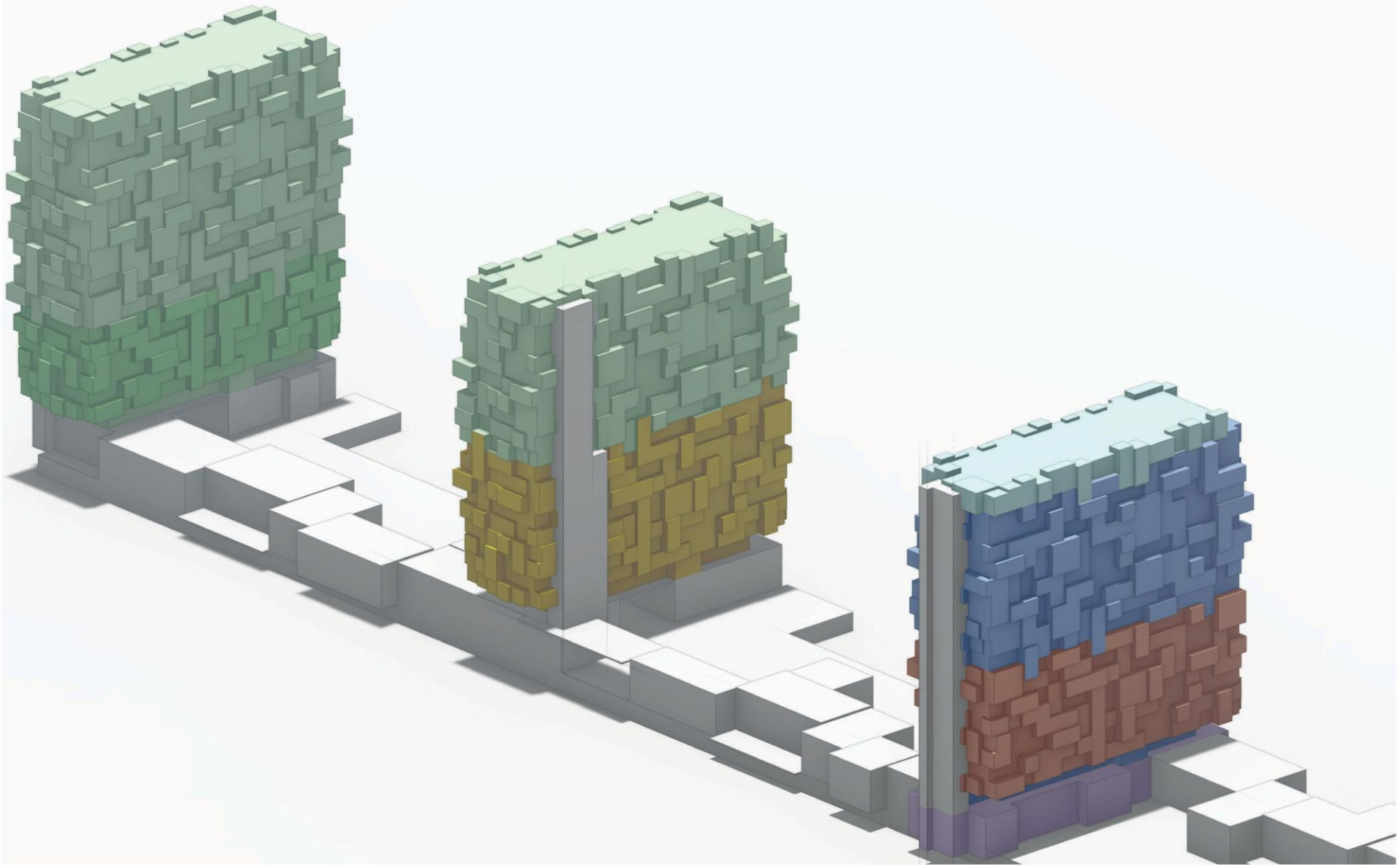


CUBES - SCHWABENCENTER AUGSBURG

by Benedikt Kiederle, Laura Molter, Max Jonathan Pommer and Maximilian Zichner

5.1 integrative design and 5.2. building in the existend - wise 2020/21

FUNCTIONAL DISTRIBUTION ON SITE



DIFFERENT USES

The various uses were distributed in such a way that they do not conflict with each other, have the necessary distance to each other, but also communicate with each other.
The entrance area on the ground floor was placed so that it is as close as possible to public transport. Due to its location under the right tower, it is also easily visible from the street.
There are also different uses on the roofs:
left tower and middle tower: outdoor recreation and sports areas for residents
right tower: rooftop bar with express lift, predominantly used by the uses below, but but still accessible to everyone.

- GENERAL LIVING
- STUDENTS LIVING
- AGE APPROPRIATE LIVING
- CO-WORKING SPACES
- SERVICED APARTMENTS
- ROOFTOP BAR
- MAIN ENTRANCE

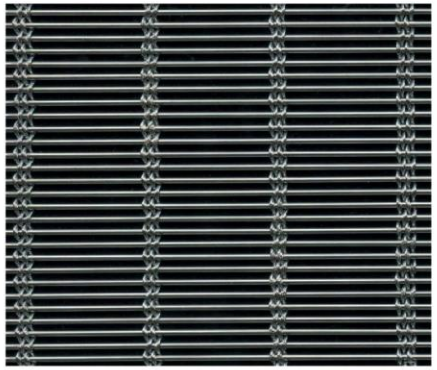
CUBES

MATERIALS AND FACADE

the base

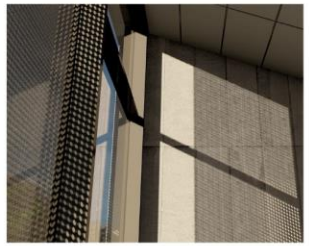






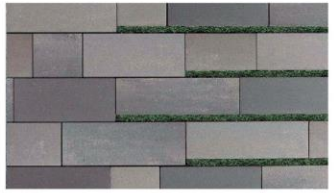

XXL version



L version



DESIGN

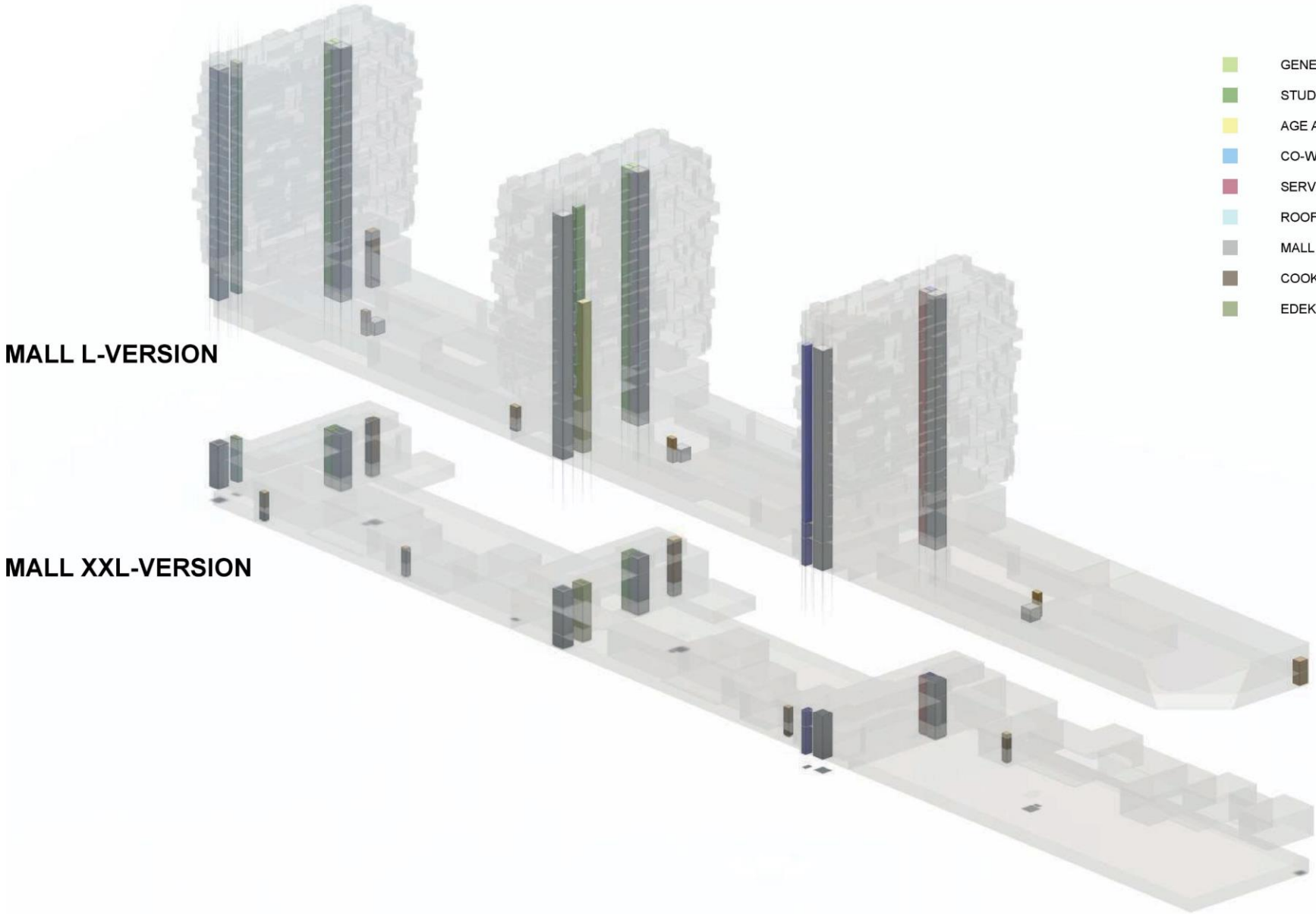
the base:
- green elements, roof gardening
- glas, mullion-transom facade
- movable metal mesh for solar protection (towers)

L version:
take over the historical background of textile industry
- expanded metal
-> metal textiles
- textile curtains
- stone tiles

XXL version:
- walls of textured concrete
- concrete paving
- perforated metal sheets for solar protection, privacy, guidance

CUBES

ELEVATOR CONCEPT



CALCULATION

1
GENERAL LIVING

person	364
rush hour	7:00-9:00/17:00-19:00

STUDENT LIVING

person	138
rush hour	7:00-9:00
ELEVATOR	
capacity:	8 pers / elevator (3x)
speed:	2,5m/sek
height:	65m
affordable time:	52 sec. / incl. buffer 90 sec
capacity/hour:	320 pers/h x 3 = 960 pers/h

2
GENERAL LIVING

person	272
rush hour	7:00-9:00/17:00-19:00

AGE APPRORIATE LIVING

person	206
rush hour	9:00-12:00 / 15:00-18:00
ELEVATOR	
capacity:	8 pers / elevator (3x)
speed:	2,5m/sek
height:	65m
affordable time:	52 sec. / incl. buffer 90 sec
capacity/hour:	320 pers/h x 3 = 960 pers/h
ELEVATOR	
capacity:	13 pers / elevator (1x)
speed:	1,5m/sek
height:	65m
affordable time:	88 sec. / incl. buffer 120 sec
capacity/hour:	390 pers/h

3
CO-WORKING

person	320
rush hour	07:00 - 08:00 / 17:00 - 18:00

SERVICED APPARTMENTS

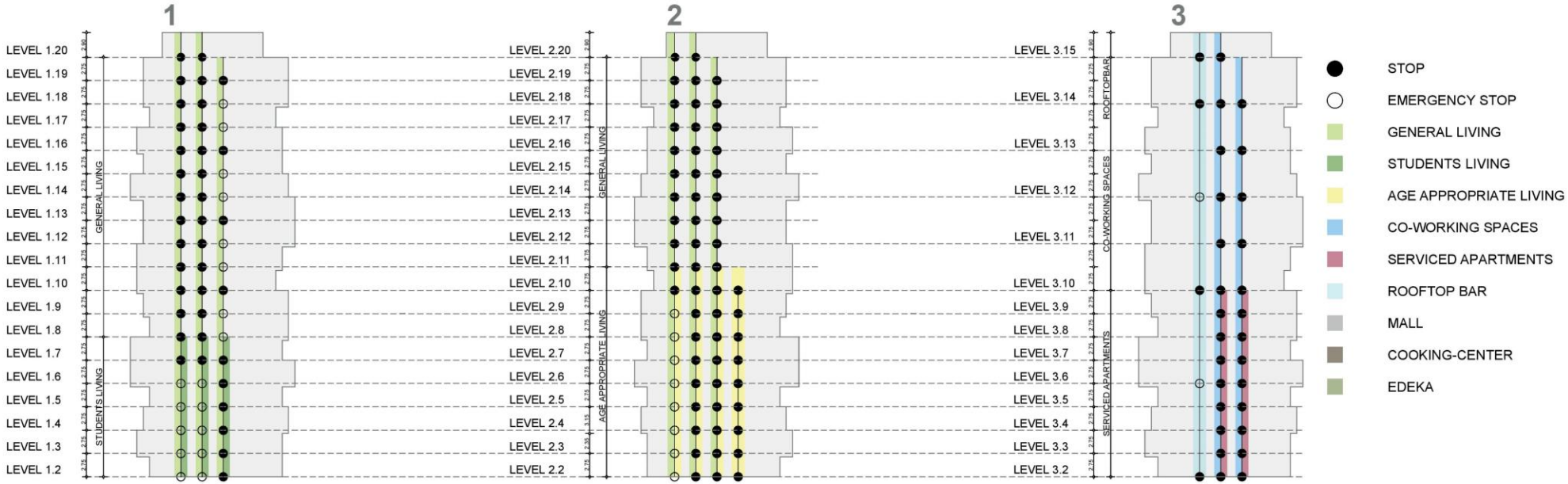
person	418
rush hour	06:30 - 08:00 / 16:00 - 18:00

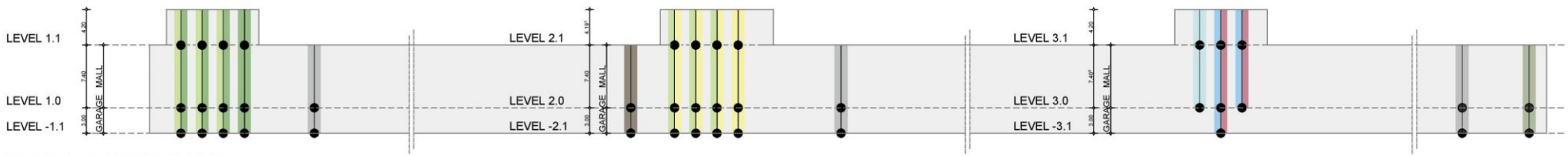
ROOFTOP-BAR

person	150
rush hour	12:00 - 14:00 / 17:00 - 02:00
ELEVATOR	
capacity:	8 pers / elevator (3x)
speed:	2,5m/sek
height:	65m
affordable time:	52 sec. / incl. buffer 90 sec
capacity/hour:	320 pers/h x 3 = 960 pers/h

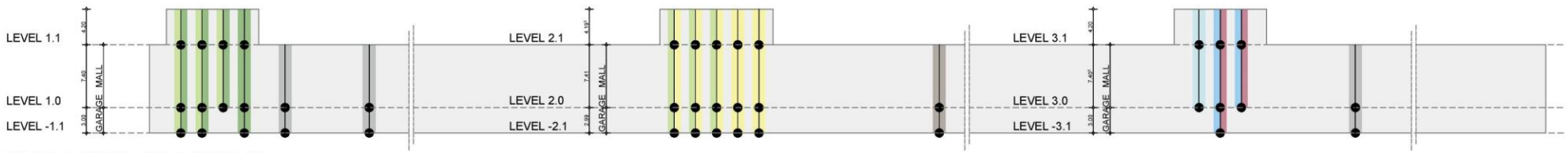
CUBES

ELEVATOR CONCEPT





MALL L-VERSION



MALL XXL-VERSION

CALCULATION

1

GENERAL LIVING

person	364
rush hour	7:00-9:00/17:00-19:00

STUDENT LIVING

person	138
rush hour	7:00-9:00
ELEVATOR	
capacity:	8 pers / elevator (3x)
speed:	2,5m/sek
height:	65m
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2

GENERAL LIVING

person	272
rush hour	7:00-9:00/17:00-19:00

AGE APPRORIATE LIVING

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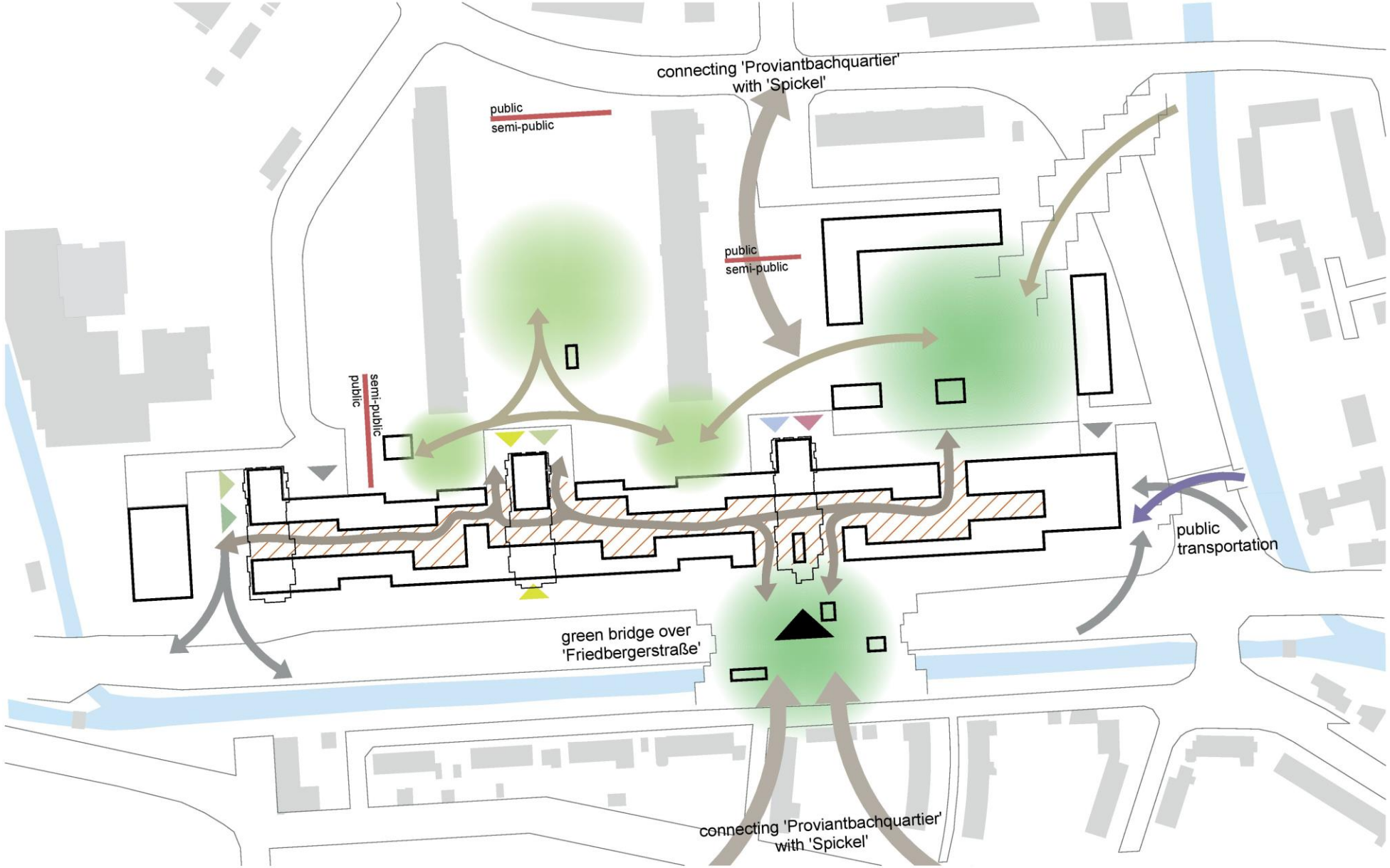
CUBES

MALL - THE L VERSION

CUBES by Max Jonathan Pommer & Maximilian Zichner - 5.2 building in the existend - wise 2020/21

THE CONCEPT



S.W.O.T. REPORT

Strengths
- Mixing of cultures & generations
- Optical landmark of Augsburg
- Short distances
- Connection to public transport
- Location Central between several districts

Weaknesses
- Deterrent external effect
- Vacancy rate
- Unattractive entrances
- Unattractive open spaces
- Obsolescence

Opportunities
- Link between Friedberg and Augsburg
- Creating attractive open and recreational spaces
- Design entrances intuitively
- Connect surrounding areas and public transportation with bridges

privat area for inhabitans

public area for events and community

N

CUBES

S : 1 : 500

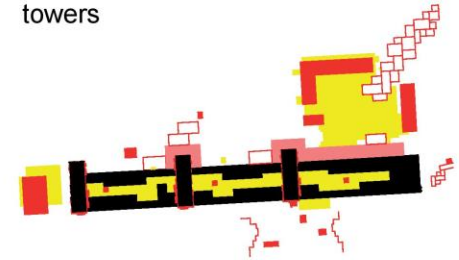
THE SITE

S : 1 : 500

DESIGN WRAP

Demolition:
- Parking decks east
- Access to the parking deck
- Parking decks of the mall
- open the center of the mall
- Interruption of the "Willhelm-Hauff Straße"

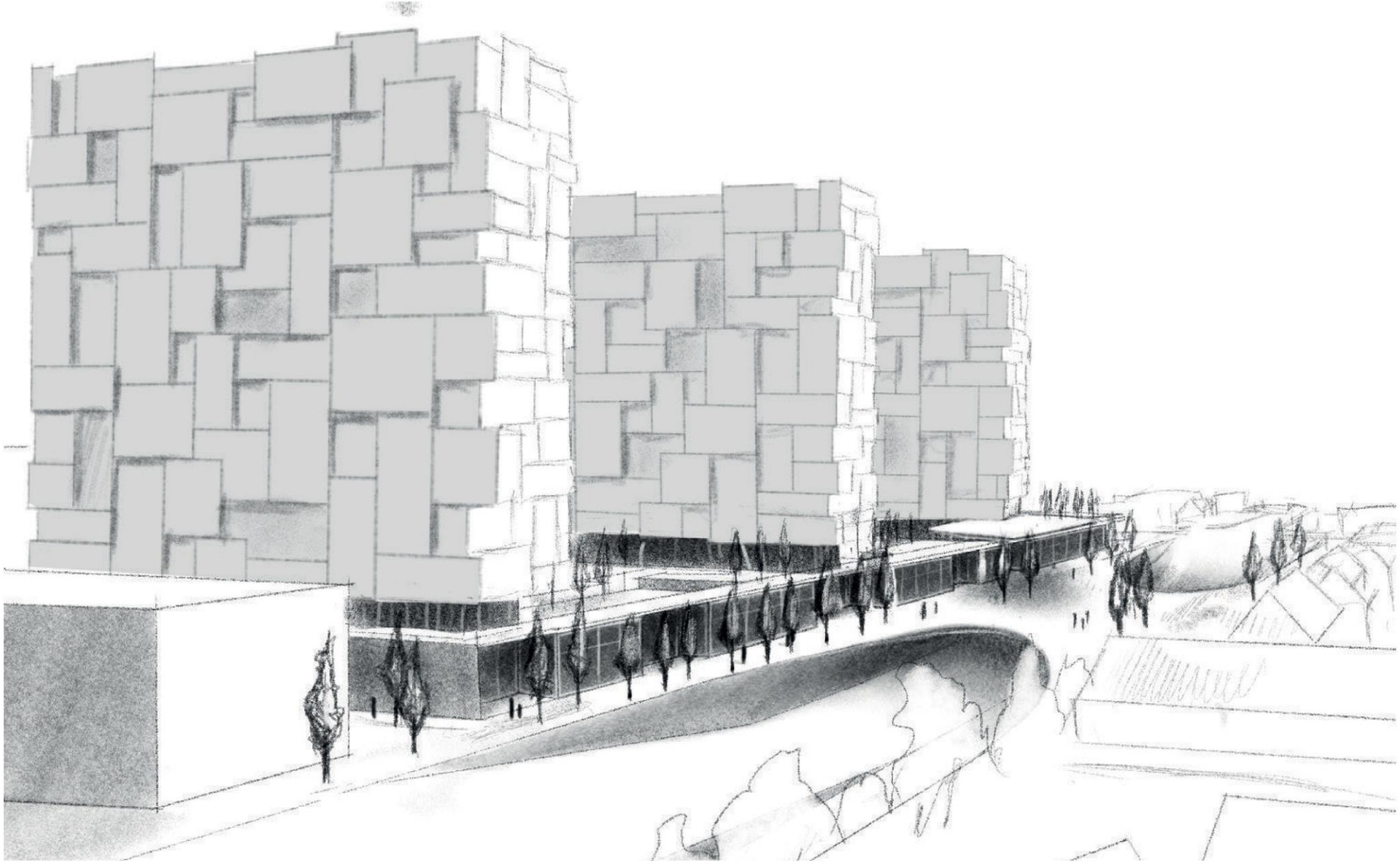
Redesign:
- Reactivation of the underground car park, settlement of necessary ancillary areas
- Transformation of the mall into a promenade, adaptation of the cubes
- Entrance of the towers via mall or shortcuts in the north
- Linking new green areas with the existing ones
- Road overpass for connection to Spickel
- New skin over promenade and the towers



N

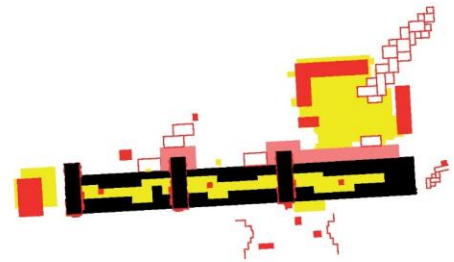
CUBES

THE SITE - SURROUNDINGS



CONNECTIONS

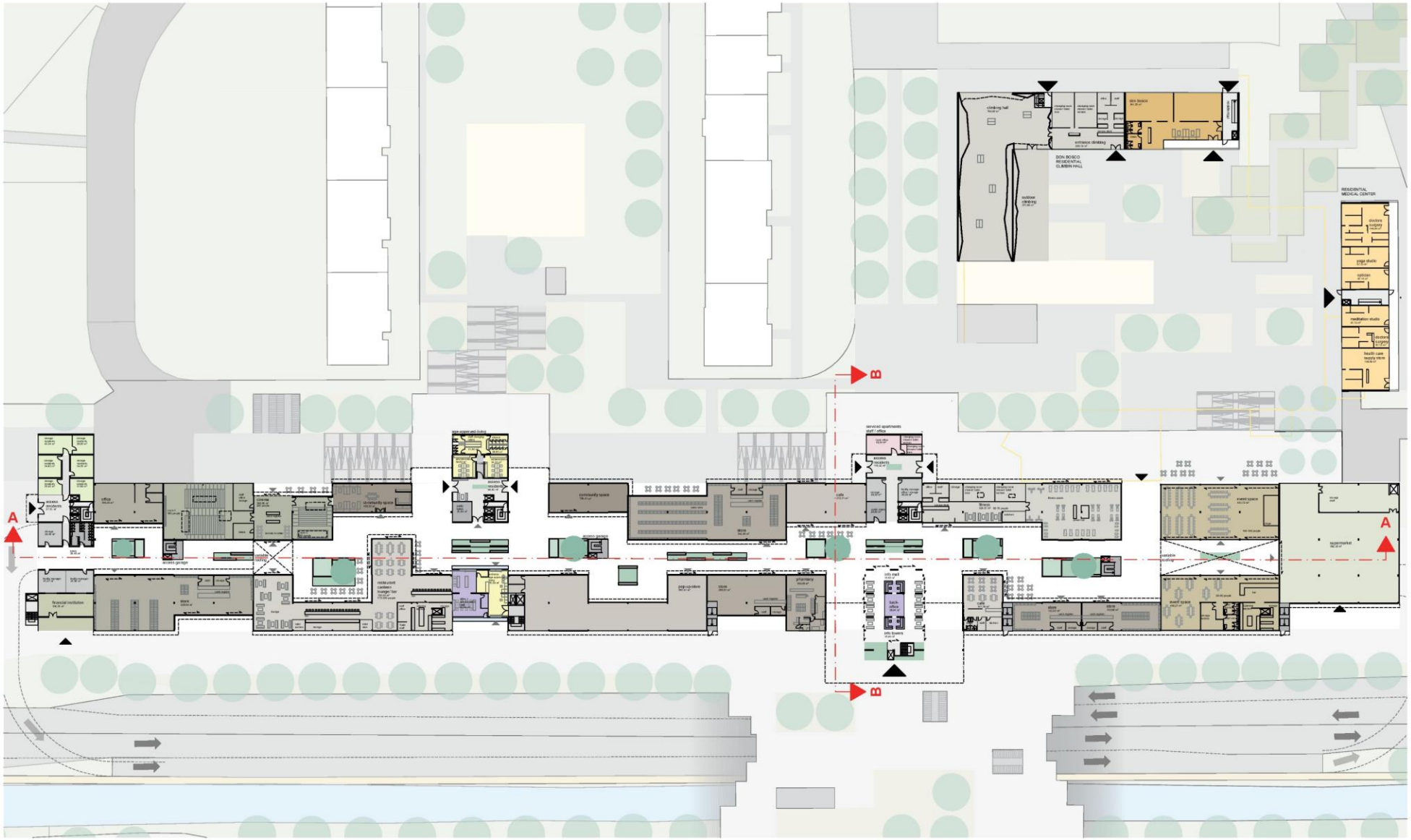
- Barrier-free linking of the surrounding districts, good integration into the neighborhood, easy access
- Bringing in through green arm / bridge over lowered B300 / Friedberger-Straße
- Creation of a plaza with a roofed main entrance
- Green from the surroundings is led into the mall and continues on the roof



N

CUBES

THE GROUND FLOOR



DIFFERENT USES

- Mixed use with common areas, cantine and everyday use
- Barrier-free connection of all levels
- Complementary northern development with sports, medical center, residential development and DonBosco extension areas

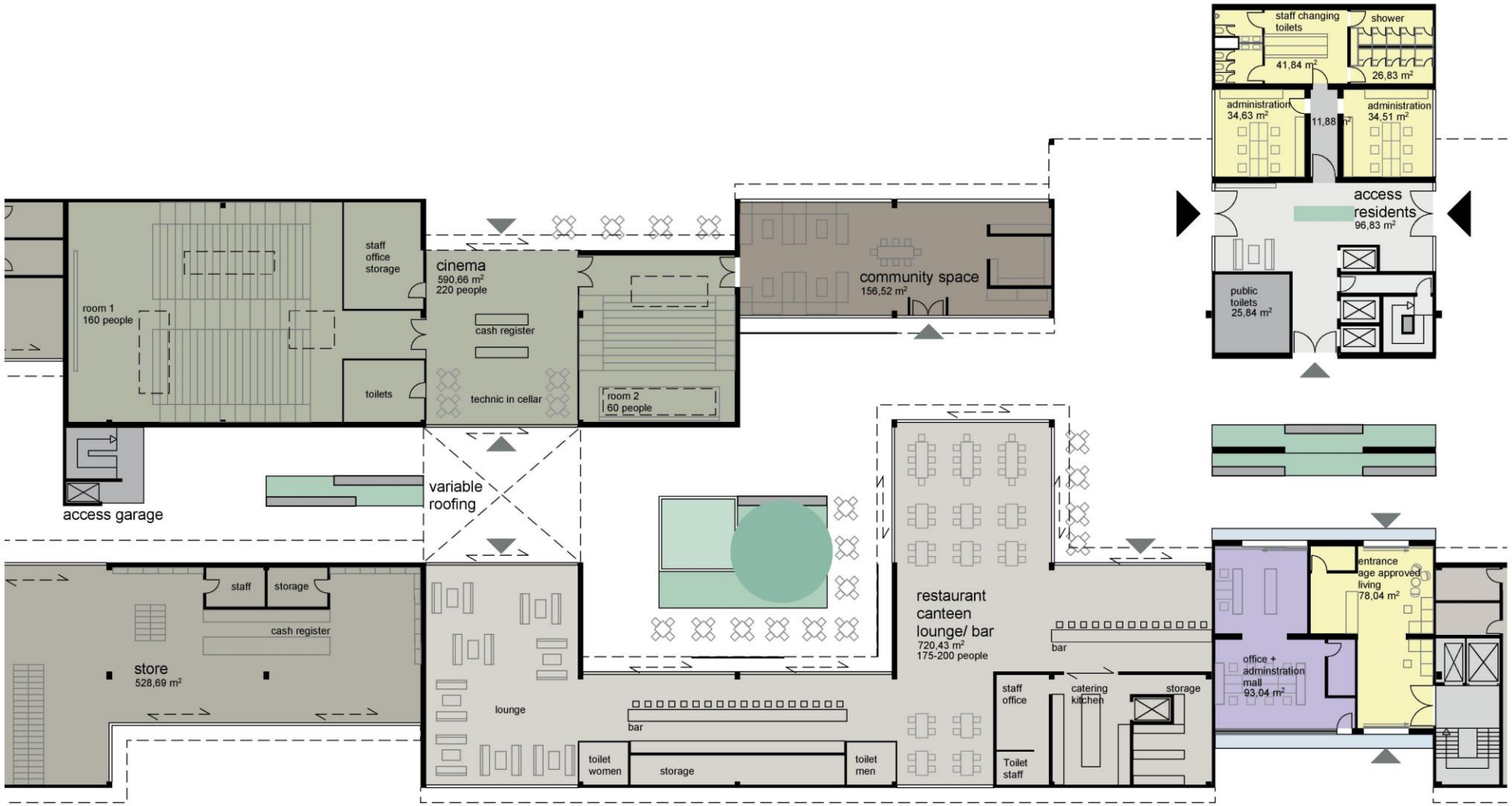
- COMMUNITY/ SOCIAL SPACES
  SOCIAL MEETINGPOINT, 'WOHNZIMMER'
- RETAIL
  CLOTHING 4X, TECHNIC, HARDWARE, DRUD-STORE, PHARMACY
- CAFE/ RESTAURANT / CANTINE
  TRANSPARENT AREAS WITH ROOFING
- POP UP - STORE / WAREHOUSE
- CINEMA
- FITNESS / CLIMBING HALL
- EDEKA
- EVENT-SPACE
- FINANCIAL INSTITUTION
- CENTRAL RECEPTION SPACE
- OFFICE SPACES
- HEALTH CENTER
- EXTENSION AREA DON BOSCO

N

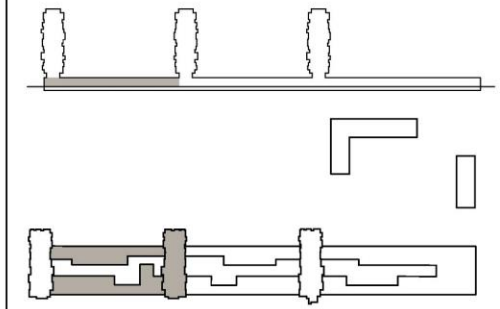
CUBES

S : 1 : 500

THE GROUND FLOOR



CONNECTED MALL



- direct entrances and concierge under the towers
- different uses between the towers in the mall level
- cinema as variable event space with direct link to lounge, restaurants and common areas
- side areas for age-appropriate living, administration rooms of the mall and rentable office spaces

COMMUNITY/ SOCIAL SPACES
SOCIAL MEETINGPOINT, 'WOHNZIMMER'

RETAIL
CLOTHING 4X, TECHNIC, HARDWARE, DRUG-STORE, PHARMACY

CAFE/ RESTAURANT / CANTINE
TRANSPARENT AREAS WITH ROOFING

CINEMA

CENTRAL RECEPTION SPACE

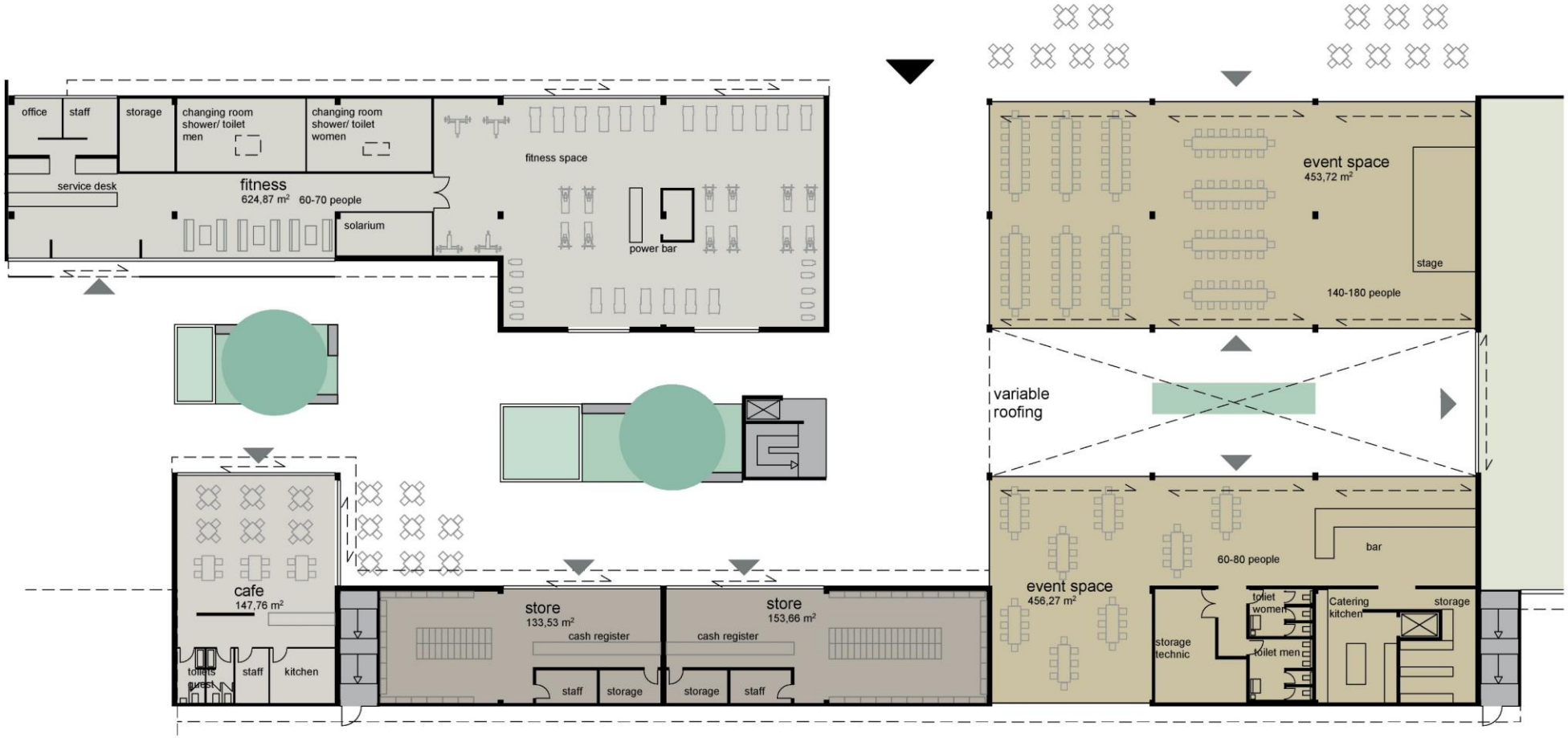
OFFICE SPACES

N

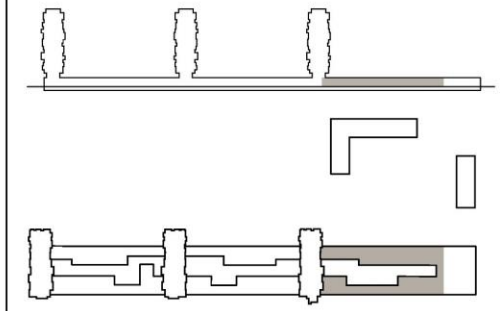
CUBES

S : 1 : 200

THE GROUND FLOOR



CONNECTED MALL



- direct access to the underground car park
- variable event space with connectable rooms, terrace in the north of the mall
- fitness studio as connection to northern sports center
- shopping facilities and existing Edeka
- high quality of stay due to greenery and seating islands

COMMUNITY/ SOCIAL SPACES
SOCIAL MEETINGPOINT, 'WOHNZIMMER'

CAFE/ RESTAURANT / CANTINE
TRANSPARENT AREAS WITH ROOFING

FITNESS

EDEKA

EVENT-SPACE

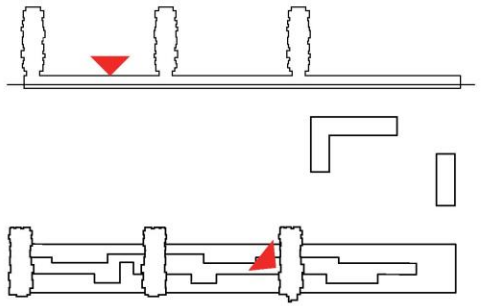
N

CUBES

S : 1 : 200

THE INFO POINT - ATMOSPHERE

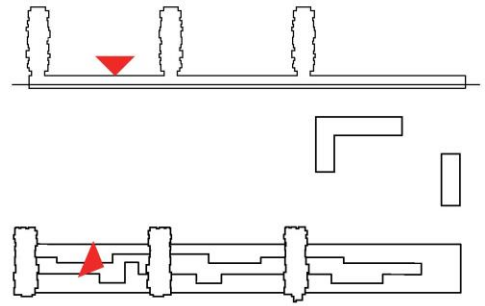
INFO POINT



CUBES

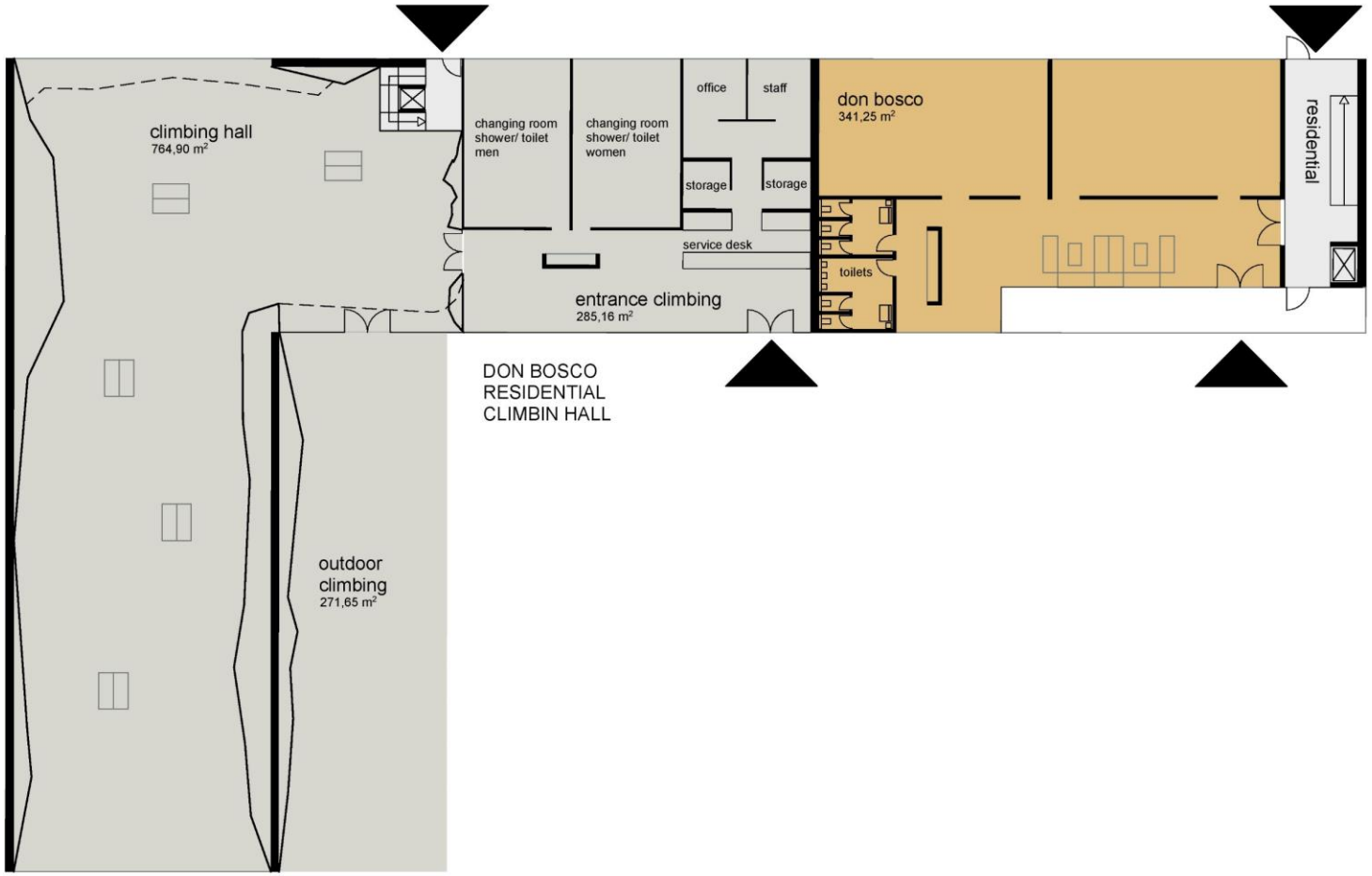
THE GROUND FLOOR MALL - ATMOSPHERE

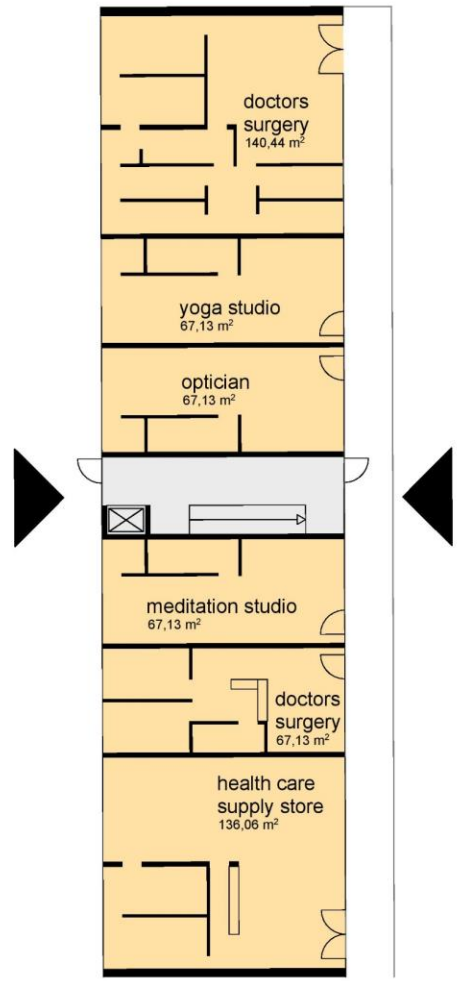
CONNECTED MALL



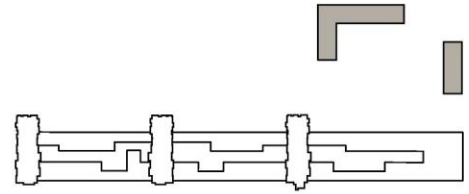
CUBES

THE GROUND FLOOR ADDITIONAL BUILDINGS





SPORT-/ MEDICAL CENTER



- Climbing hall with outdoor patio and lobby
- Extension-/ event areas DonBosco
- Apartments on the upper floors
- Formation of a public protected courtyard, ringed by additional development and existing mall
- health care and supply stores on the first floor
- medical practices and apartments on the upper floors

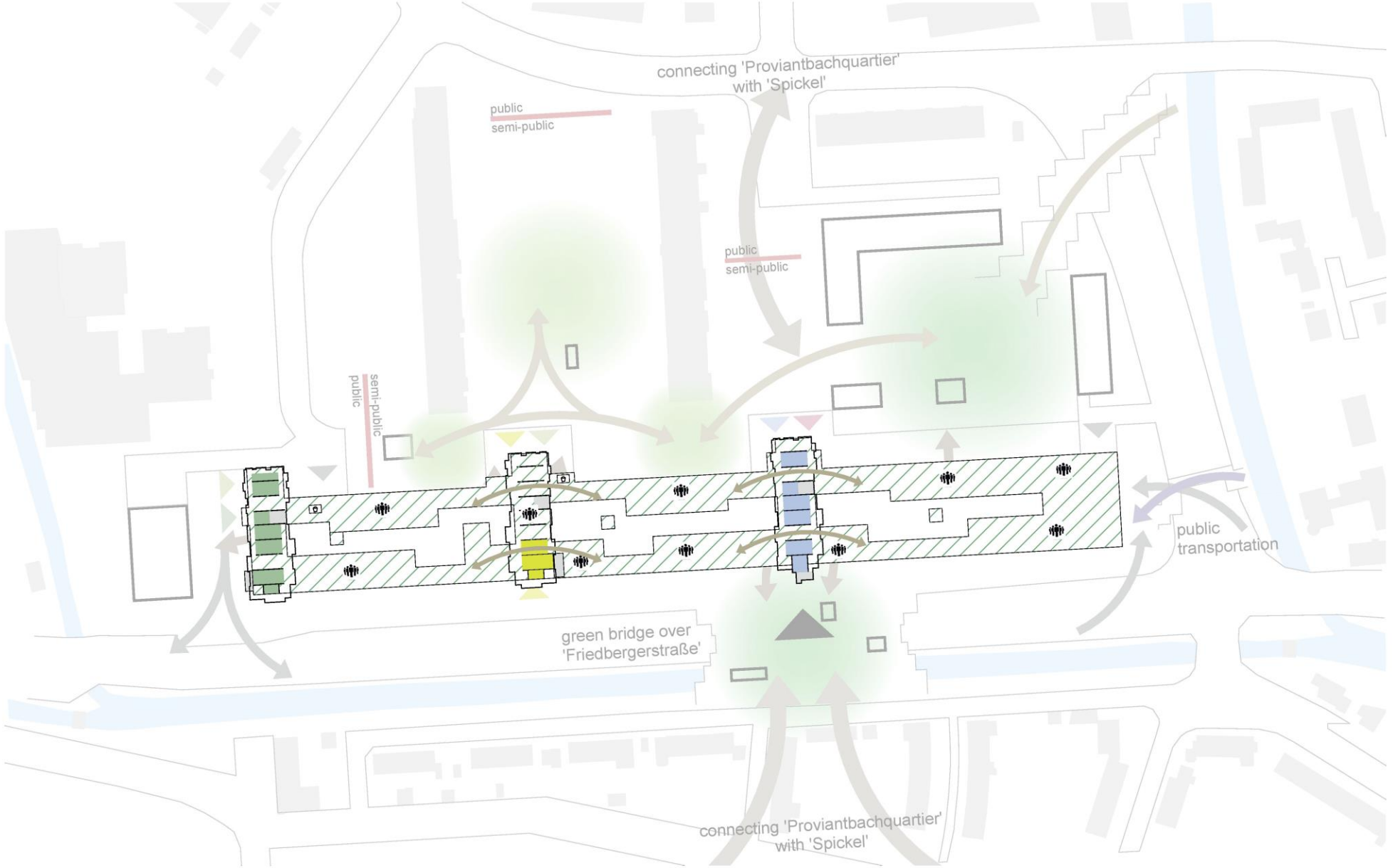
CLIMBING HALL
HEALTH CENTER
EXTENSION AREA DON BOSCO

N

CUBES

S : 1 : 200

THE CONCEPT OG



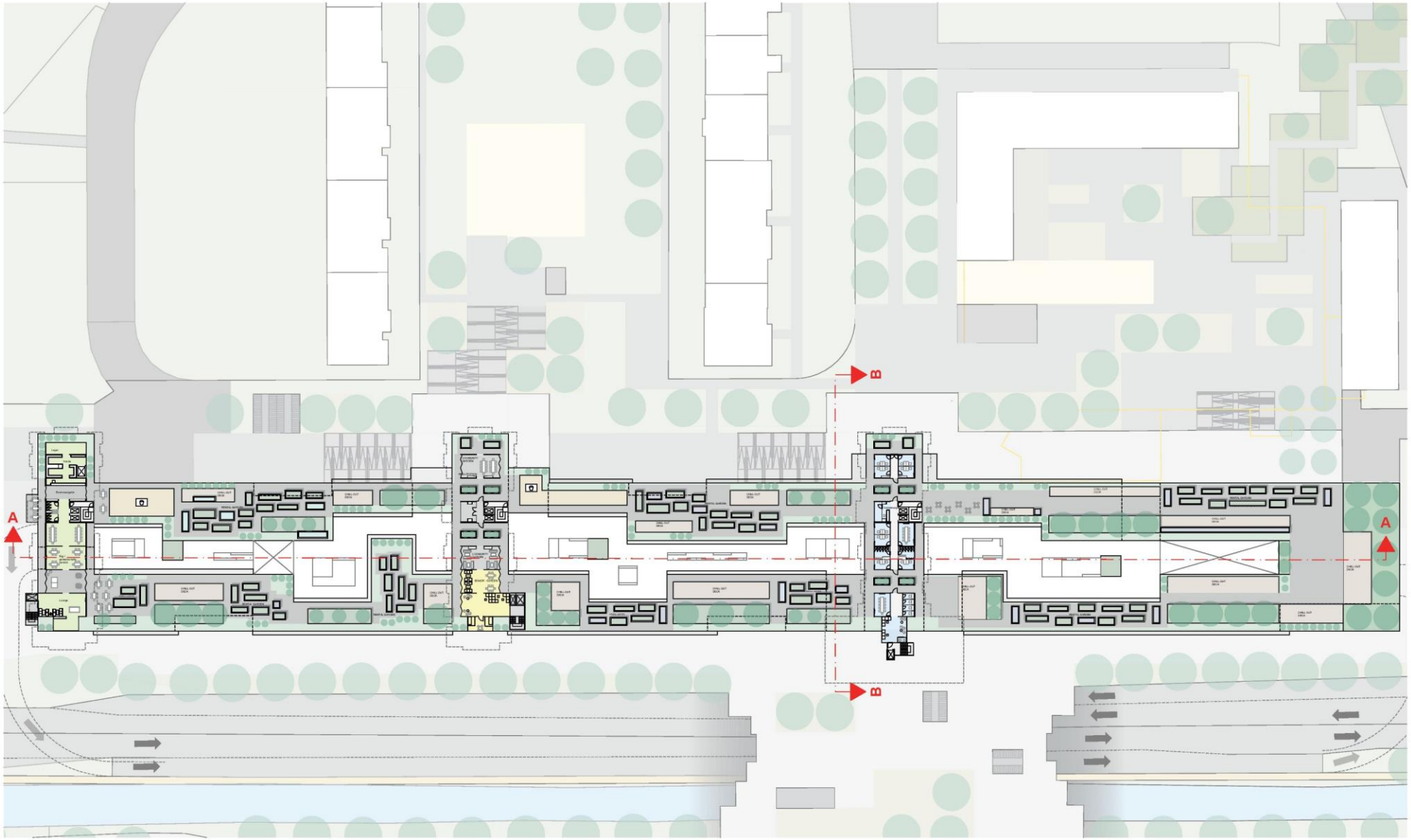
PRIVATE MEETING POINT

N

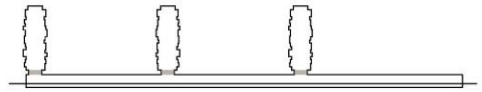
CUBES

S : 1 : 500

THE 1st FLOOR



ROOF GARDENING



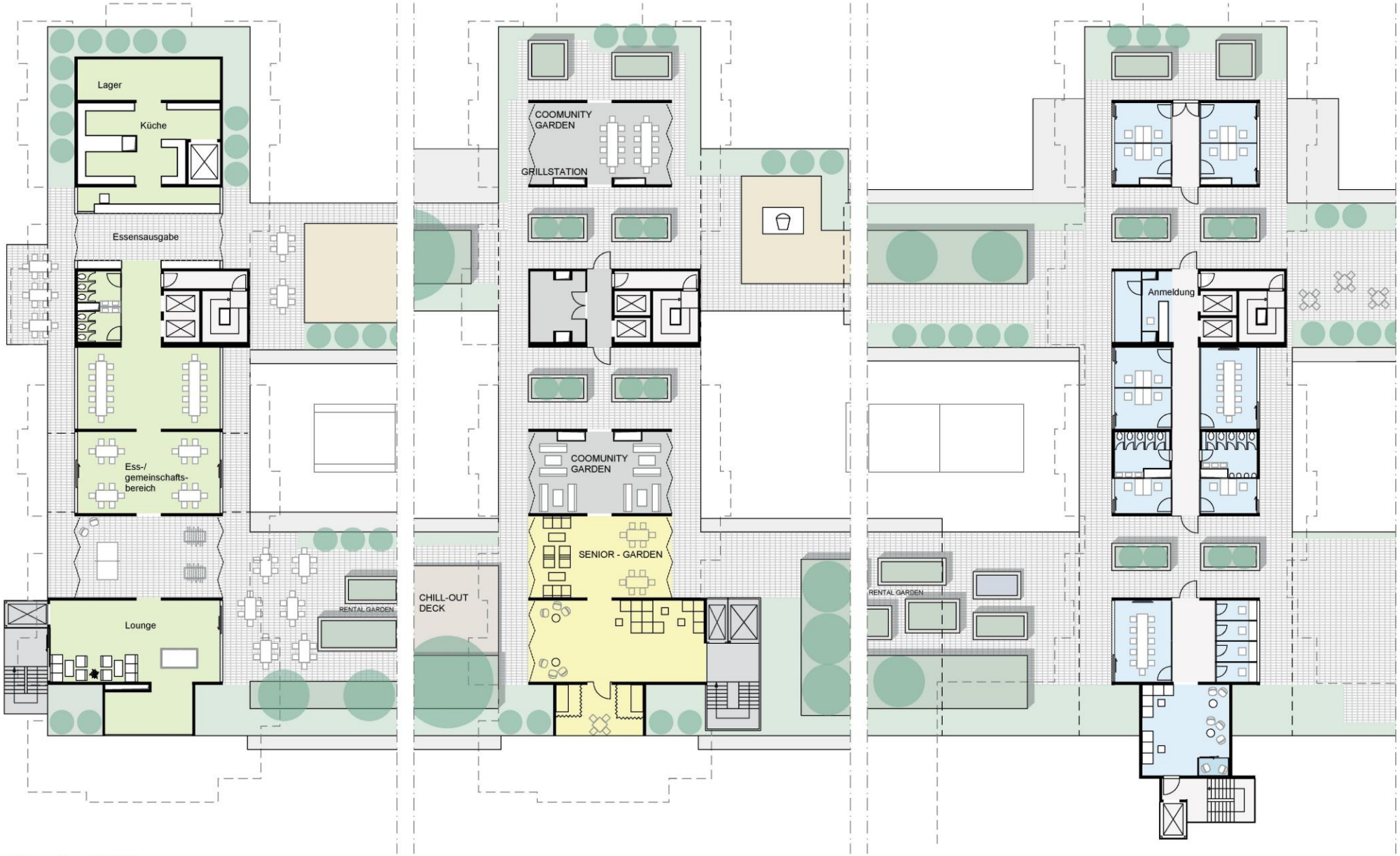
- Roof terrace as communication area for the different residents, place of meeting
- Greenery creates privacy and high quality of stay
- Upper floor openly designed and with benefits for the different user groups
- Rental gardens between the towers in the form of cubes

N

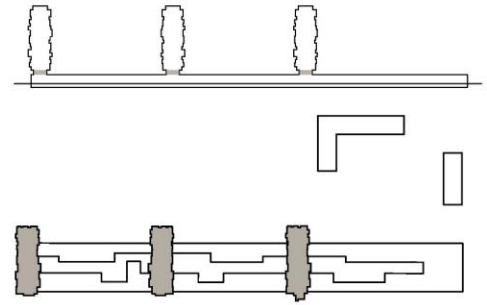
CUBES

S : 1 : 500

THE 1st FLOOR



ROOF GARDENING



left tower:
- Student common areas, such as cafeteria, recreational facilities, semi-public lounge.

middle tower:
- Communal garden and open spaces
- Relaxation room for staff of the age-appropriate living facility
- Facades can be opened and closed variably

right tower:
- rentable office space to complement the co-working spaces
- semi-public stay
- connection to eastern roof garden

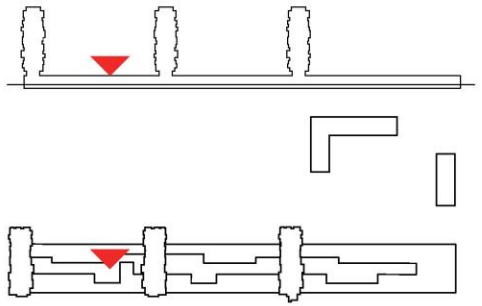
N

CUBES

S : 1 : 200

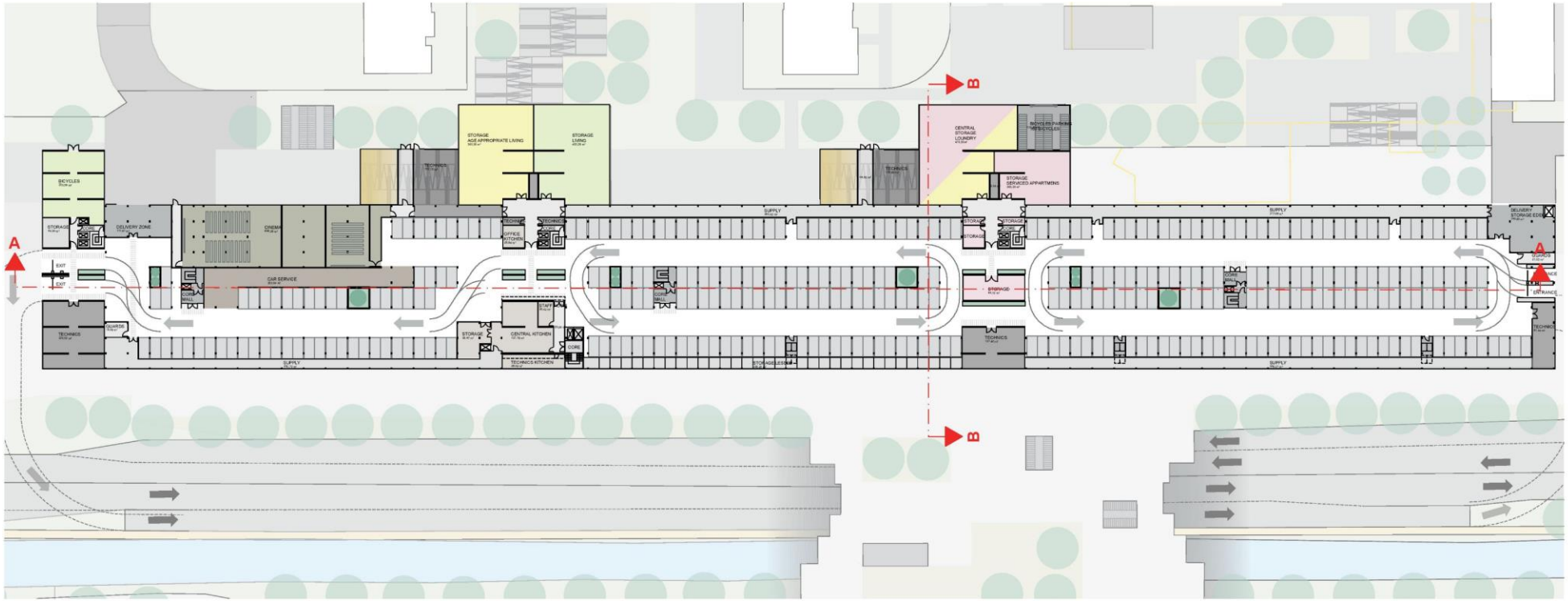
THE FIRST FLOOR - ATMOSPHERE

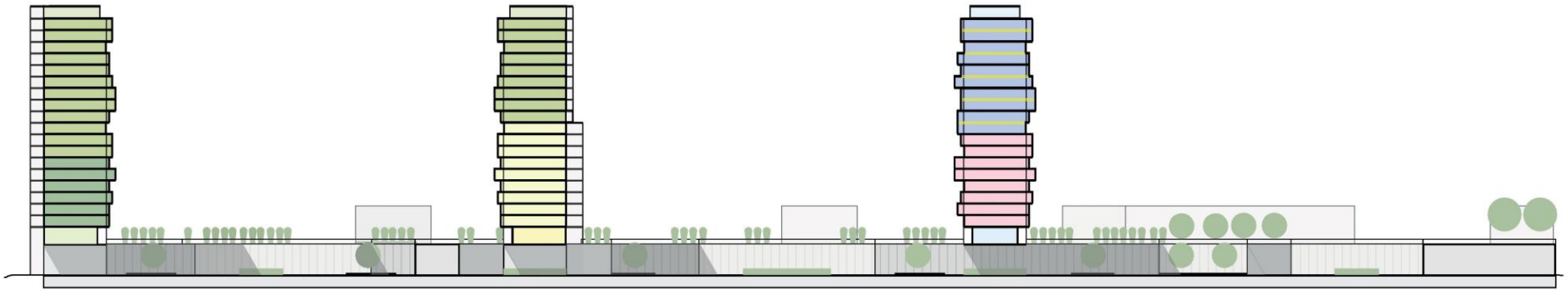
PRIVAT - PUBLIC



CUBES

THE UNDERGROUND PARKING GARAGE





BASEMENT

- Underground car park is revived
- Extension areas for tower uses in the north and south
- Delivery zones and storage areas to the east and west
- Central kitchen below the middle tower with direct connection to the customers
- Technical areas for mall and towers
- Use of the basement for the mall's cinema
- Direct barrier-free access to the mall level and the shortcuts of the towers

SECTION

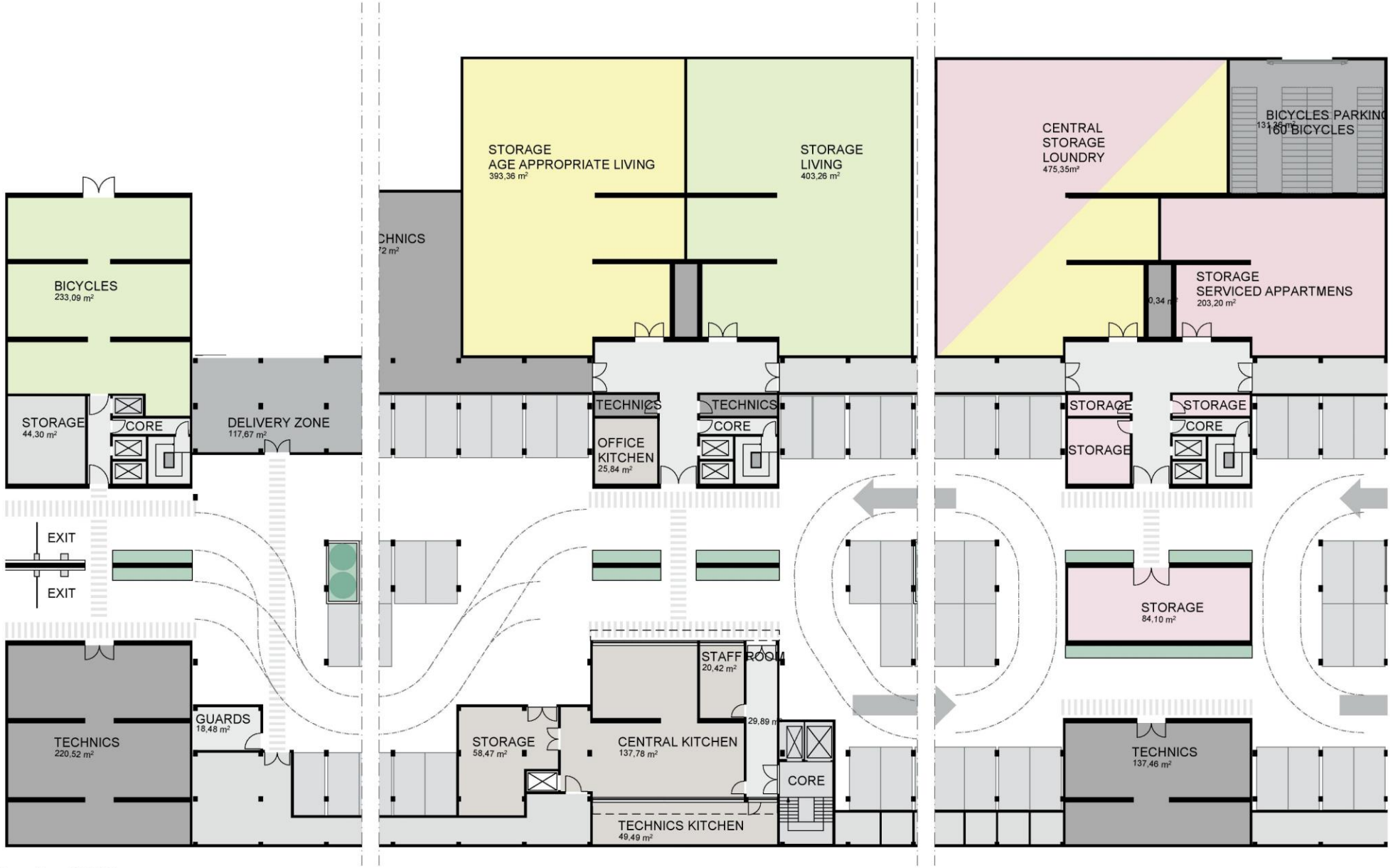
- Separation of use according to frequency, volume, audience and number of visitors
- Increase from west to east

N

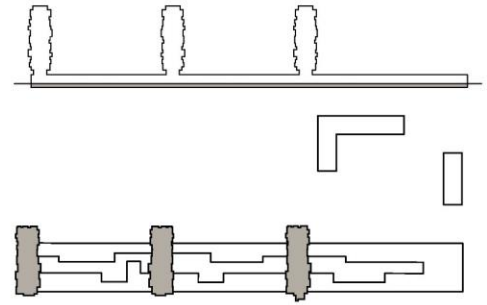
CUBES

S : 1 : 500

THE UNDERGROUND PARKING GARAGE



BACK SUPPLY



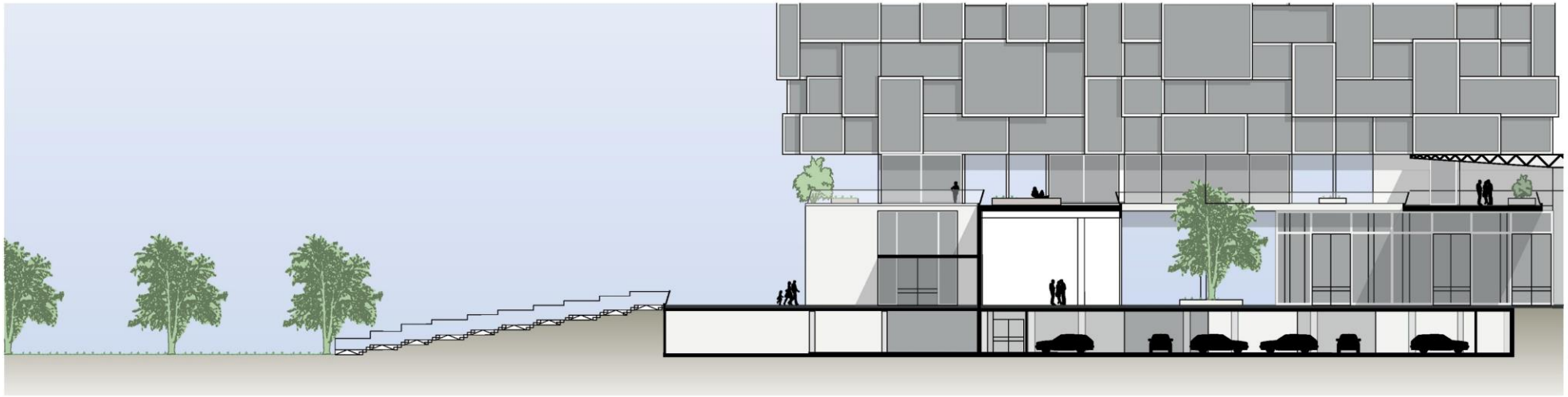
- new entrance and exit with direct connection to B300, entrance in the east, exit in the west
- central Laundry Center with connection to delivery zone and utilization units
- storage and parking areas for residents under the towers and partly directly at the parking spaces
- supply corridors to the north and south
- ventilation via green islands projecting into the mall
- Escape route concept via mall and towers

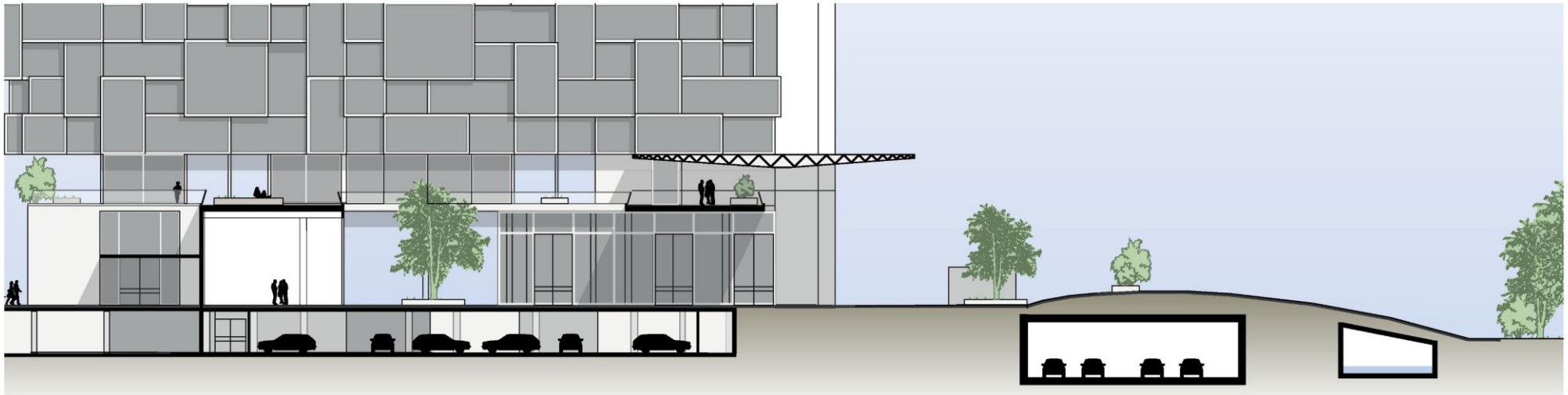
N

CUBES

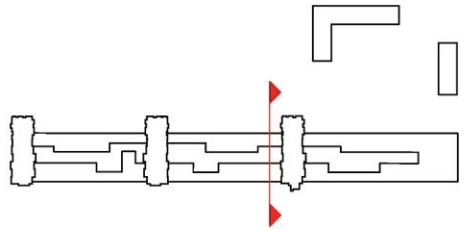
S : 1 : 200

THE SECTION





EQUALITY + INTERACTION



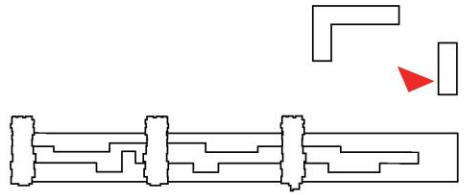
- Equal rights for people with disabilities through barrier-free stair ramp according to DIN 18040
- Linking the open spaces in the north with the level of the mall via stair ramps
- Interaction with roof terrace
- connection to the surroundings by bridge over the Kaufbach to Spickel

CUBES

S : 1 : 200

COMMUNITY SPACE - ATMOSPHERE

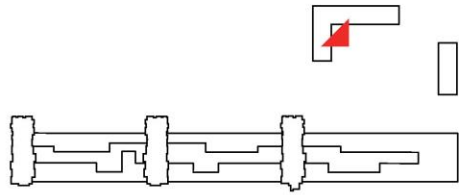
PUBLIC CUBES



CUBES

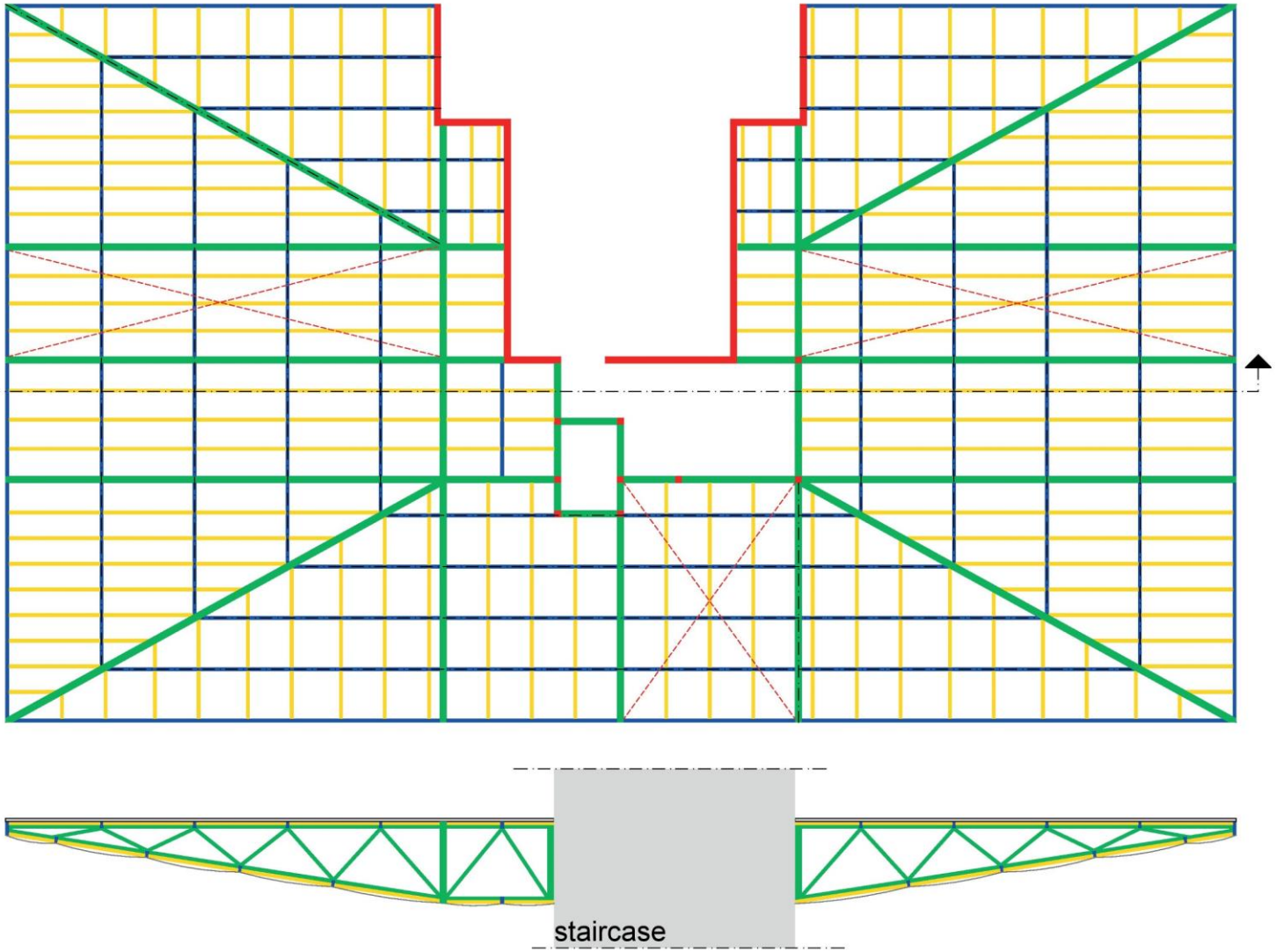
COMMUNITY SPACE - ATMOSPHERE

PUBLIC CUBES



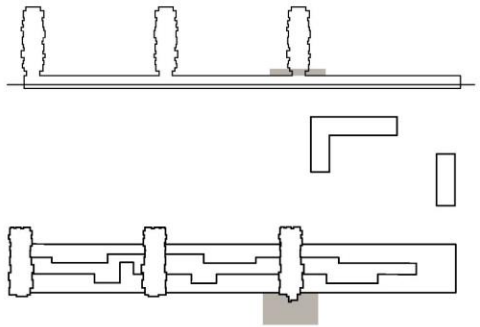
CUBES

THE CANOPY - STATIC STRUCTURE



primary structure
secondary structure
tertiary structure
wall
planar structure

TEXTILE DESIGN



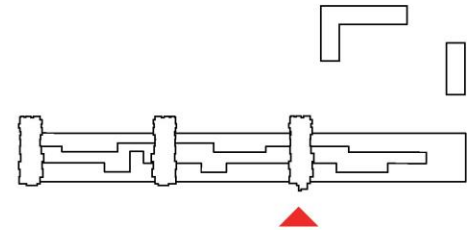
- The underside is covered with translucent fabric panels in the style of the textile city of Augsburg.
- underside indirectly illuminated
- filigree steel lattice construction
- fixed to newly constructed stair core in front of the entrance, completely free-floating construction

N

CUBES

THE CANOPY - ATMOSPHERE

MAIN ENTRANCE



CUBES

ATMOSPHERE AT NIGHT

MAIN ENTRANCE

CUBES

DETAIL: SOCKET

1 Wall structure mullion-transom:

400 mm	STB uprights 400x400 mm
250 mm	mullion-transom facade Schüco FWS 60 CV HI or equivalent
750 mm	spacing
40 mm	frame / substructure Solar shading
10 mm	solar protection element

2 Floor structure mall exterior:

80 mm	concrete slab pavement passable
50 mm	chippings bed
250 mm	base course in slope 2 sliding layer
10 mm	flow
20 mm	plastic waterproofing (DIN 18531 - K2) primer
100 mm	insulation trafficable foam glass, 0% slope
10 mm	waterproofing primer
250 mm	underground garage ceiling
125 mm	insulation

3 Sunshade element:

	Expanded metal cladding riveted mesh 50x30 mm
50 mm	steel square tube 50x50x6 welded
30 mm	spacing / steel pin 10 mm L-angle block precast in lean concrete 500/300/80 mm
20 mm	construction protection / drainage mat

4 Wall construction socket EG:

10 mm	waterproofing
150 mm	reinforced concrete wall primer
10 mm	waterproofing
90 mm	perimeter insulation primer
20 mm	plastic waterproofing (DIN 18531 - K2)
20 mm	building protection/drainage mat

5 Ceiling structure ground floor mall:

20 mm	floor covering
5 mm	waterproofing primer
100 mm	hollow floor system (elevation 330 mm) Knauf GIFAfloor FHBplus climate with underfloor heating
200 mm	insulation soft
10 mm	waterproofing primer
250 mm	reinforced concrete ceiling
125 mm	thermal insulation, soundproofing Tektalan fire behavior A2 (n.b.)

PARKING GARAGE

Socket construction mullion-transom facade:

1 Mullion-transom façade Schüco FWS 60 CV HI with triple insulating glass

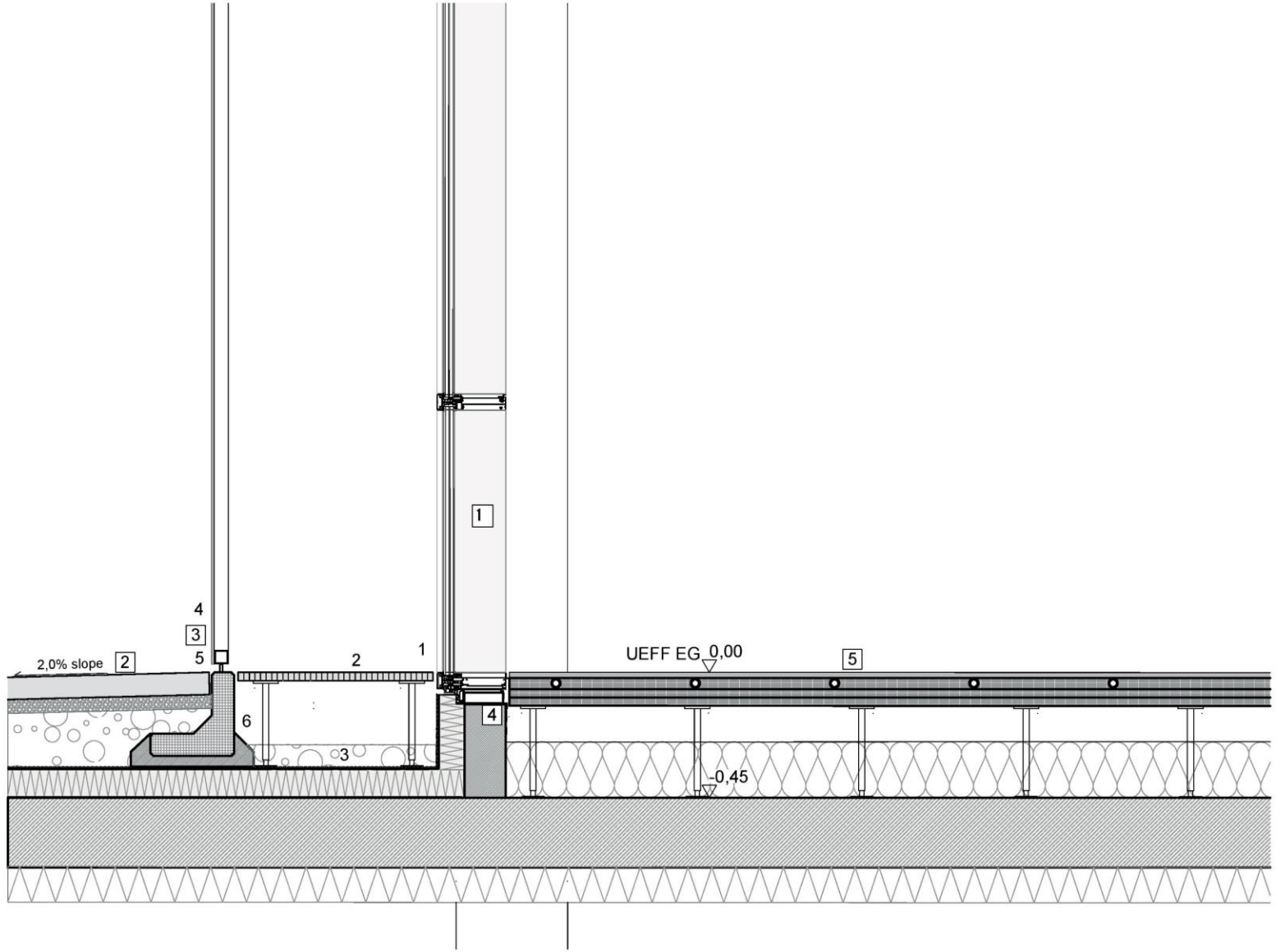
2 Grating galvanized non-slip with clamps thickness 30 mm, mesh size 20/20 mm elevated

3 Roll Gravel

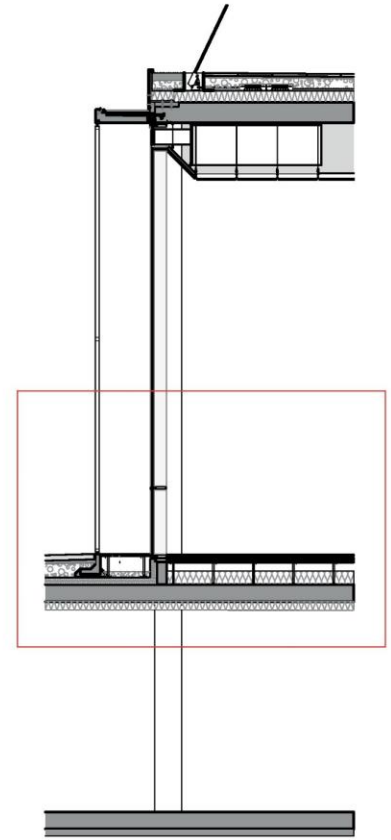
4 Expanded metal riveted on

5 Support pin frame, round, 30 mm set in concrete

6 L-angle block precast in lean concrete 500/300/80 mm
Support sunshade element



COMPLETE SECTION



CUBES

S : 1 : 5

L version by Max Jonathan Pommer and Maximilian Zichner_wise 2020/21_5.2 building in the existend_prof. Irmler & Elke Nagel_pin-up detailed design 02.02.2021

DETAIL: ROOF

1a Floor structure roof garden:

	greening
100 mm	substrate
150 mm	base layer at a slope of 2
	filter fleece
30 mm	water storage slab
10 mm	fiber protection mat
	sliding layer
20 mm	plastic waterproofing
	(DIN 18531 - K2)
	primer
200 mm	insulation walkable
	XPS, 0% slope
10 mm	waterproofing
	primer
250 mm	reinforced concrete ceiling

1b Floor structure roof garden path:

40 mm	concrete slab pavement
30 mm	chippings
250 mm	base course in slope 2
	filter fleece
30 mm	water storage slab
10 mm	fiber protection mat
	sliding layer
20 mm	plastic waterproofing
	(DIN 18531 - K2)
	primer
200 mm	insulation walkable
	XPS, 0% slope
10 mm	waterproofing
	primer
250 mm	reinforced concrete ceiling

2 Floor structure roof garden plantings:

400 mm	planting substrate
300 mm	base layer
	filter fleece
30 mm	water storage slab
	root penetration protection
10 mm	fiber protection mat
	sliding layer
20 mm	plastic waterproofing
	(DIN 18531 - K2)
	primer
200 mm	foam glass insulation,
	pressure-resistant, 0% slope
10 mm	waterproofing
	primer
250 mm	reinforced concrete ceiling

3 Structure suspended ceiling:

System:	Knauf company
800 mm	suspension
	Knauf suspension system
30 mm	suspension construction metal rail
12.5 mm	gypsum plasterboard acoustic panel

Construction elements roof:

1 ISO Korb connected to existing ceiling
Schöck type XT K-U

2 blind panel, as supply air opening
with insect screen

3 Ventilation unit in suspended ceiling

4 U-profile inserted in precast element, position fixation
perforated plate

5 Fall protection, BauderSECUTEC BARRIER G
Angle: 65°

6 Insulation pressure-resistant, screw connection
steel angle through sleeve in existing ceiling

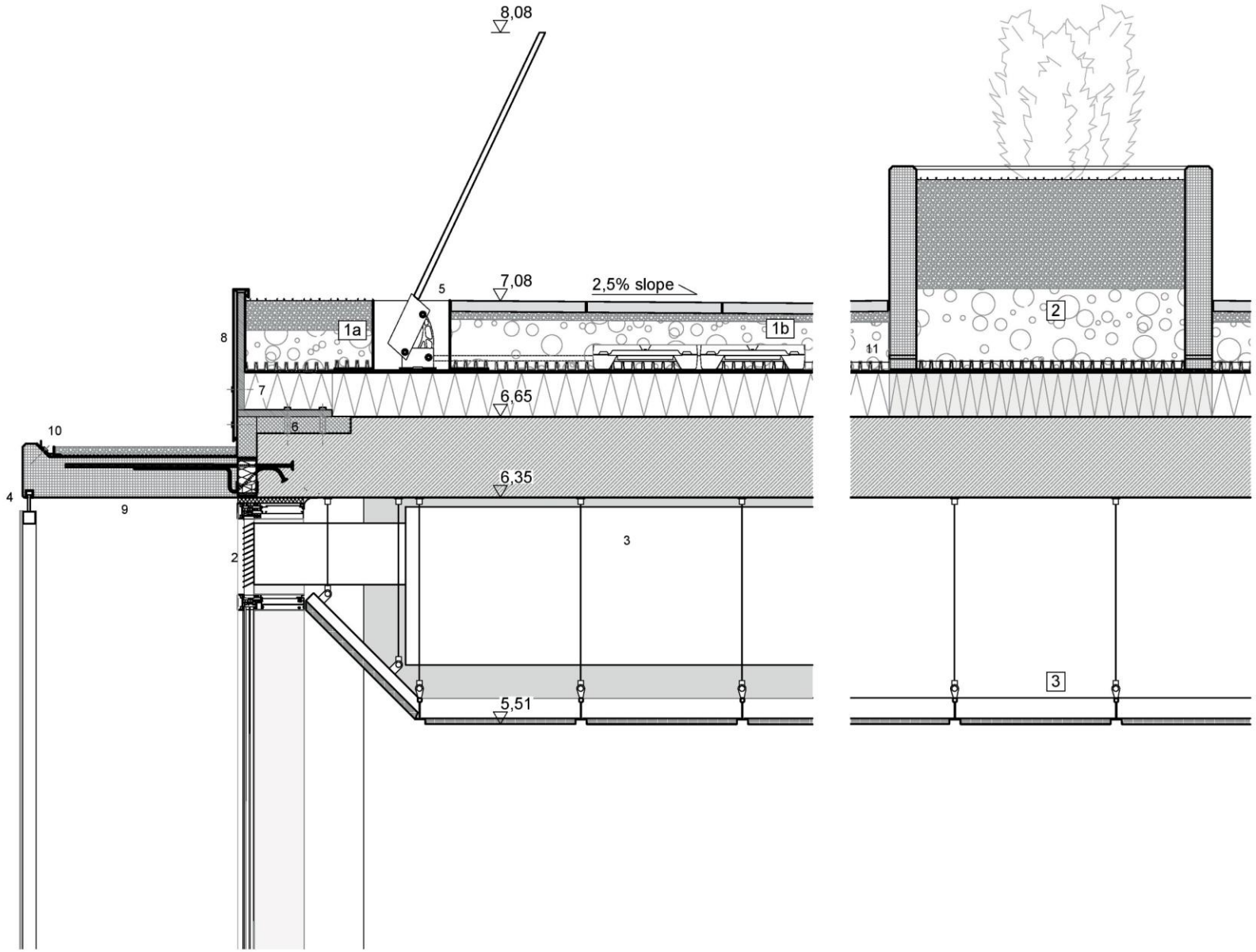
7 Steel angle 460 / 350 / 25 mm
Fixed to existing ceiling

8 Cover plate, galvanized

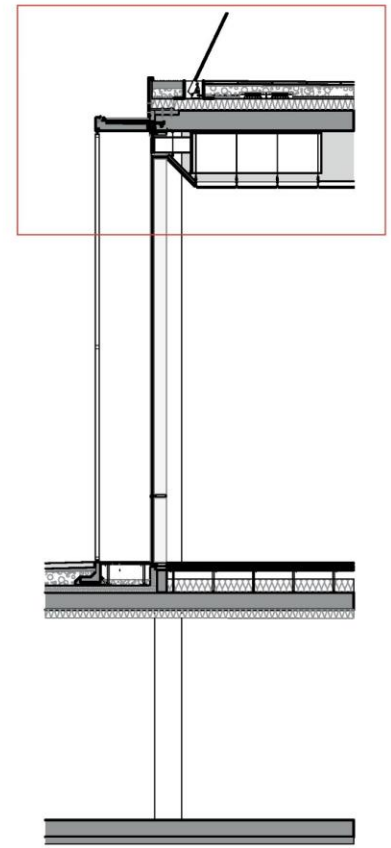
9 Precast 150 mm, K2 Plastic sealed, gravelled

10 fixing profile screwed into prefabricated element
for roof sealing

11 Reinforced concrete prefabricated part as a planting bed,
100 mm thick Drainage openings in the wall in the lower part



COMPLETE SECTION



S : 1 : 5

CUBES

DETAIL: FLOORPLAN

Construction in the top view:

1 Mullion-transom façade
Schüco FWS 60 CV HI
with triple insulating glass

2 Grating galvanized non-slip
with clampsThickness 30 mm,
mesh size 20/20 mm
elevated

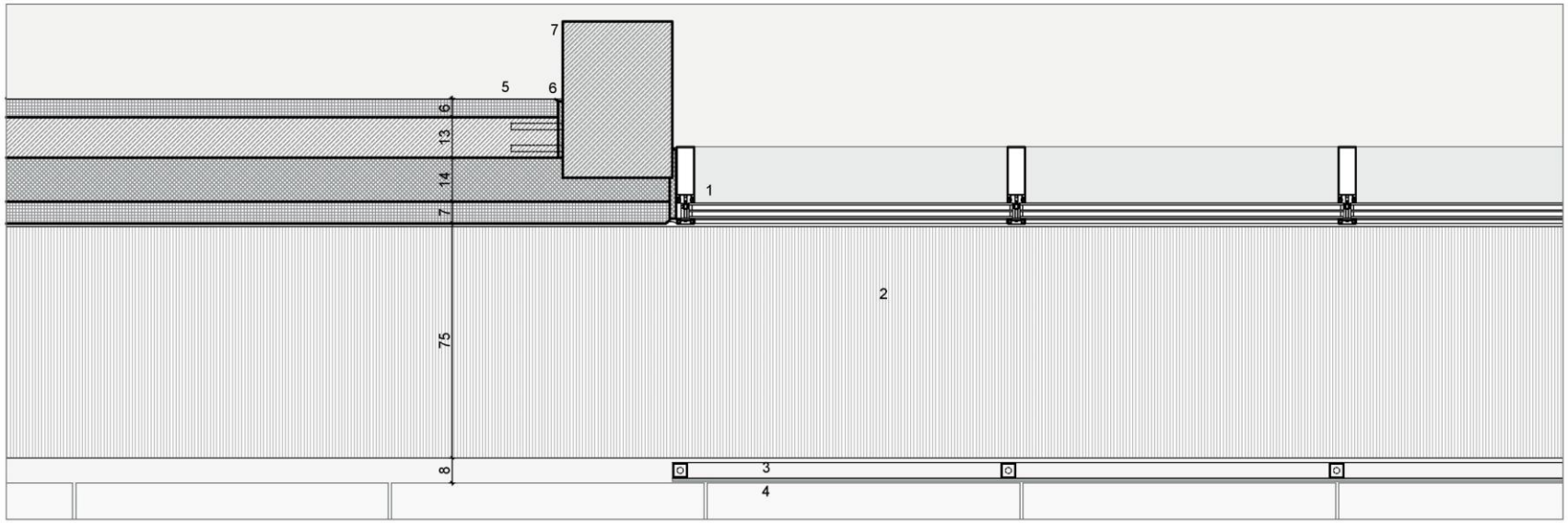
3 Sunscreen element

4 Slabbed pavement, trafficable

5 Double-shell, core-insulated
exposed concrete element
Outer shell 70 mm
Insulation 140 mm
(75 mm in front of the support)
In-situ concrete shell 130 mm
inner shell 60 mm
Connection to underground garage via
glued-in iron
Connection reinforcement
Wall sitting on column axis

6 Joints insulated, finish /
Weather resistance due to
Permanently elastic joint (PU joint)

7 Reinforced concrete column
350 mm x 500 mm
Stock



FACADE DESIGN

- Differentiation between private, semi-public and public through front metal mesh cladding and roof overhangs
- Entrance areas with porches made of exposed concrete elements
- Connection of the construction to the existing support grid and ceiling

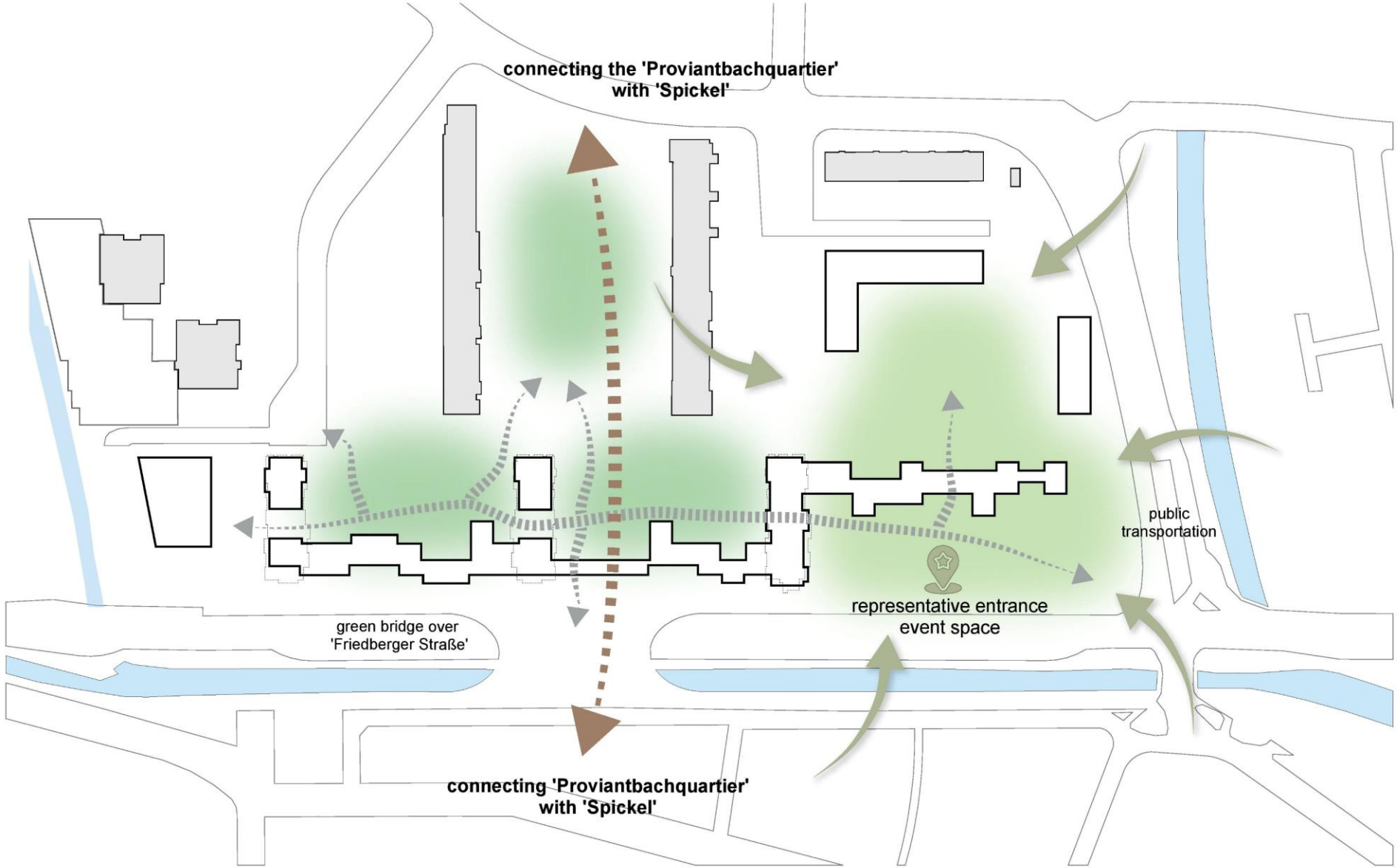
CUBES

S : 1 : 5

MALL - THE XXL VERSION

CUBES by Benedikt Kiederle & Laura Molter - 5.2 building in the existend - wise 2020/21

THE CONCEPT



S.W.O.T. REPORT

Strengths
- Mixing of cultures & generations
- Optical landmark of Augsburg
- Short distances
- Connection to public transport
- Location Central between several districts

Weaknesses
- Deterrent external effect
- Vacancy rate
- Unattractive entrances
- Unattractive open spaces
- Obsolescence

Opportunities
- Link between Friedberg and Augsburg
- Creating attractive open and recreational spaces
- Design entrances intuitively

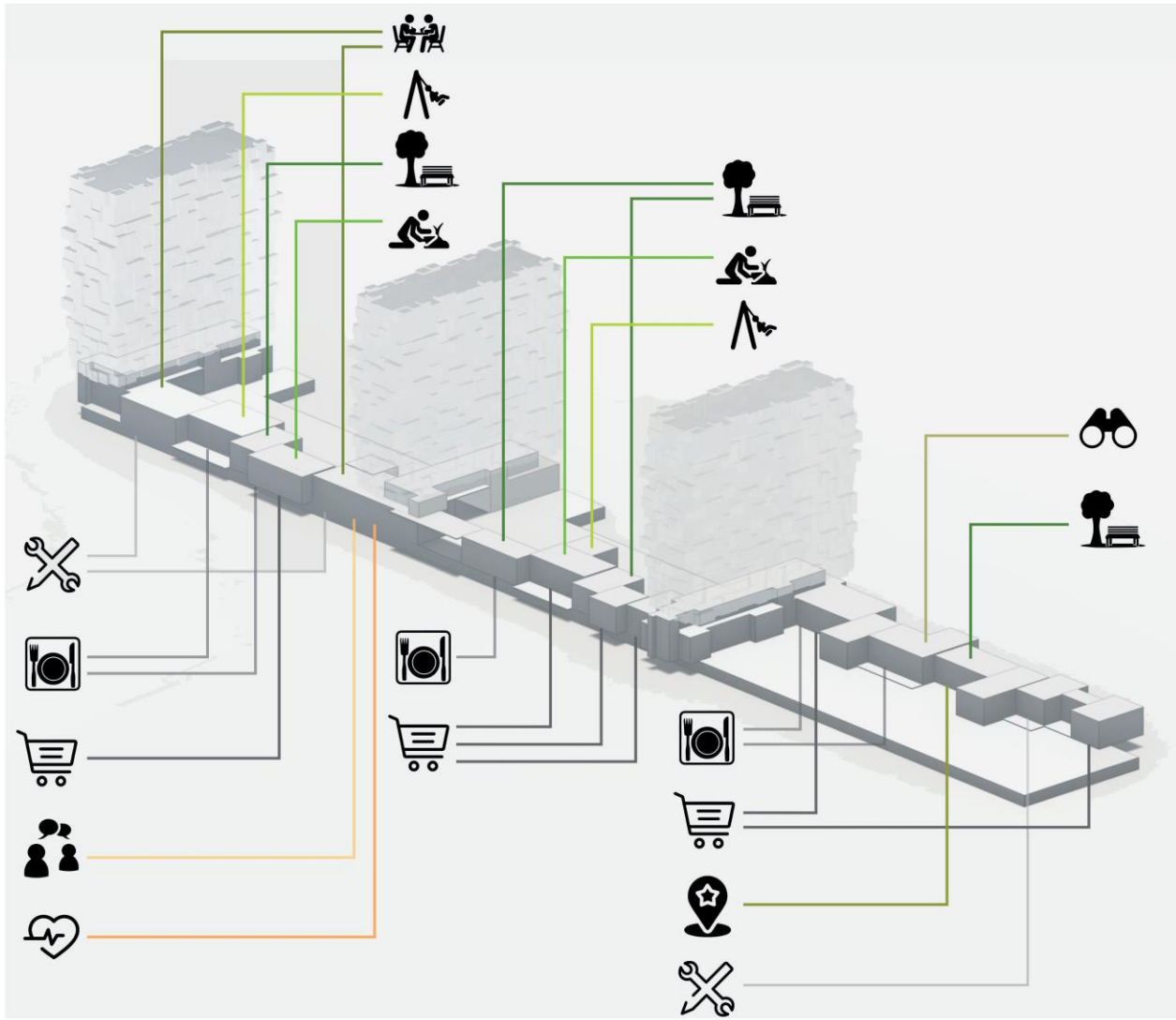
public area for events across districts

community area for residents

N

CUBES

THE CONCEPT



MIX OF USE

Roof gardens

The roof gardens above the promenade do, depending on their position, serve as outdoor dining area, play area, recreational space or herb garden. The area above the event space is open to the public and can thus be used as viewpoint.

Promenade

The mall was transformed into a promenade for residents of the Schwabencenter and the surrounding neighborhoods as well as visitors. The different sections of the promenade are adapted to the utility of the respective towers and include the following functions:

- gastronomy
- services
- retail
- health
- social "living room" by AWO
- event space

CUBES

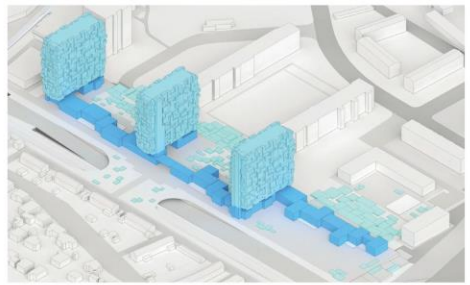
THE CONCEPT

CUBES IN ALL SCALES

Tower Cubes
The cube structure of the towers allows flexible floor plans depending on the internal use and creates a lively facade.

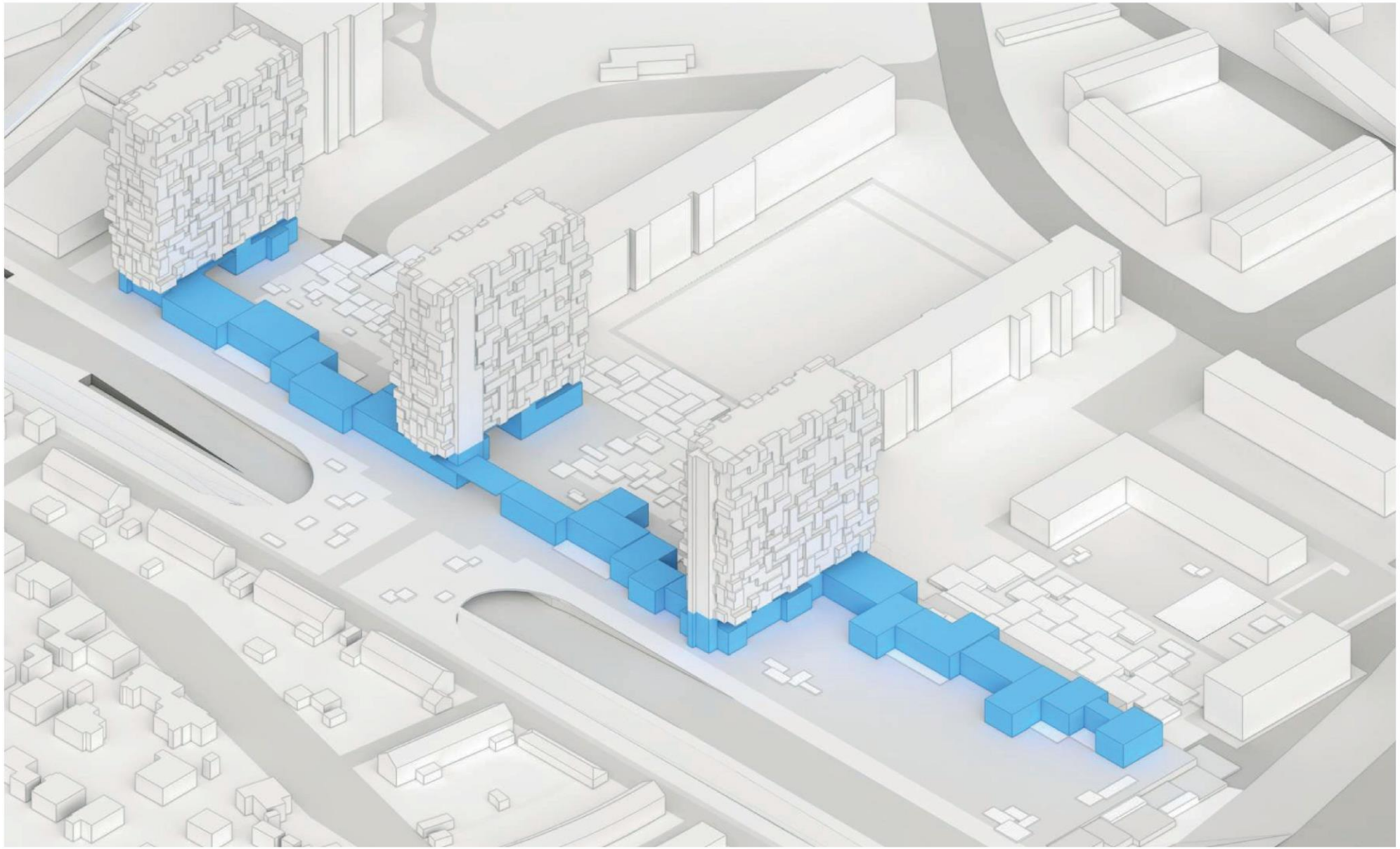
Promenade Cubes
The large cubes demarcate different uses of the promenade from each other and serve as the foundation of the smaller-scale tower structure.

Landscape Cubes
The landscape cubes transfer the cube theme into the outdoor environment and serve as an extension of the Schwabencenter into the surrounding area.



CUBES

THE CONCEPT



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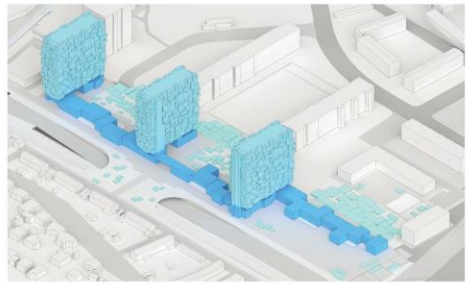
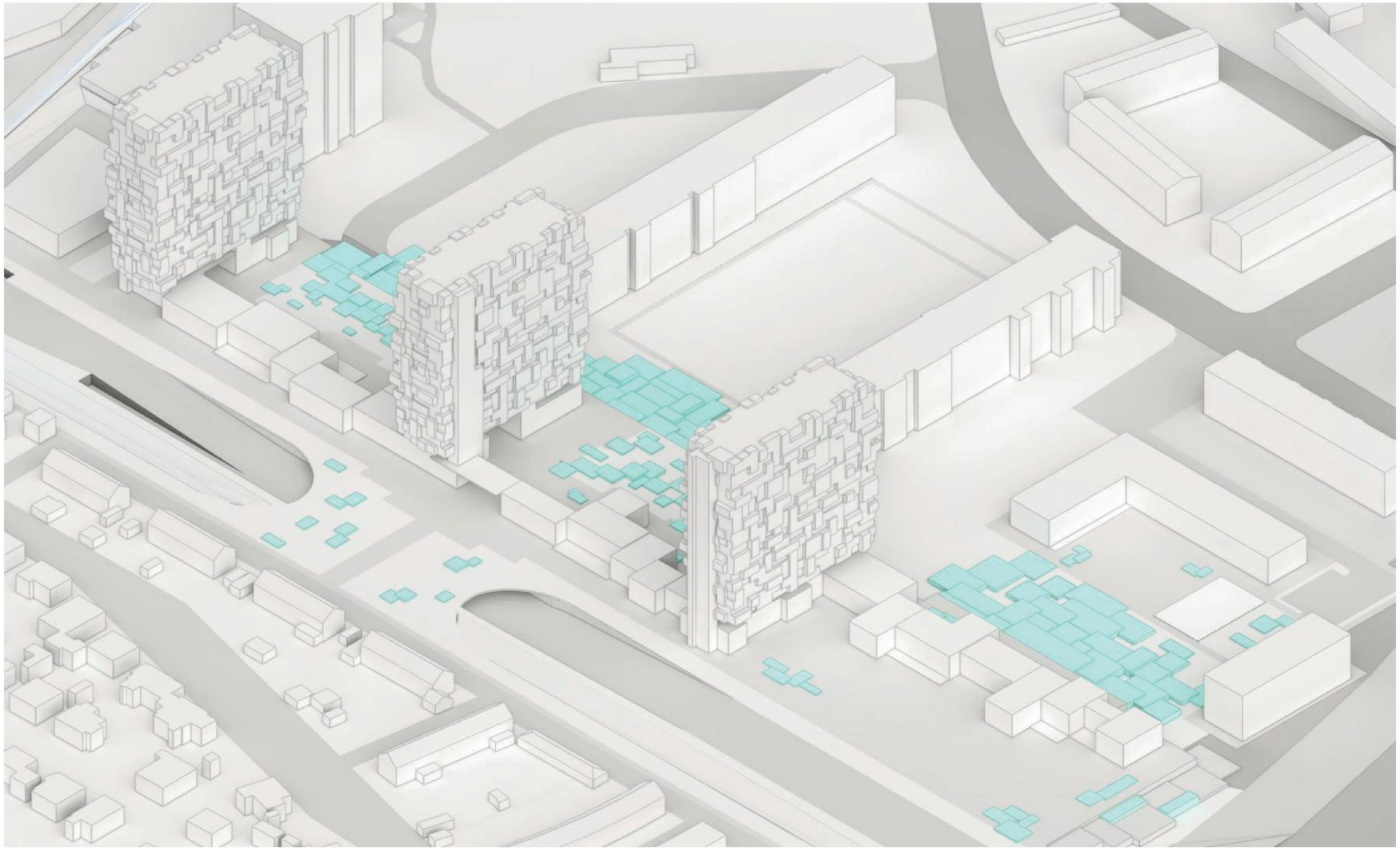


CUBES

THE CONCEPT



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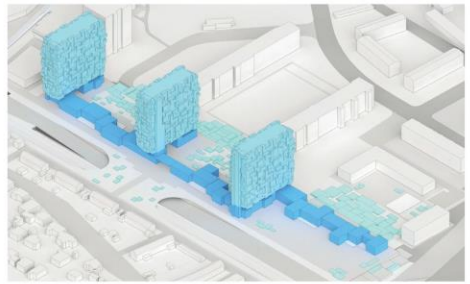
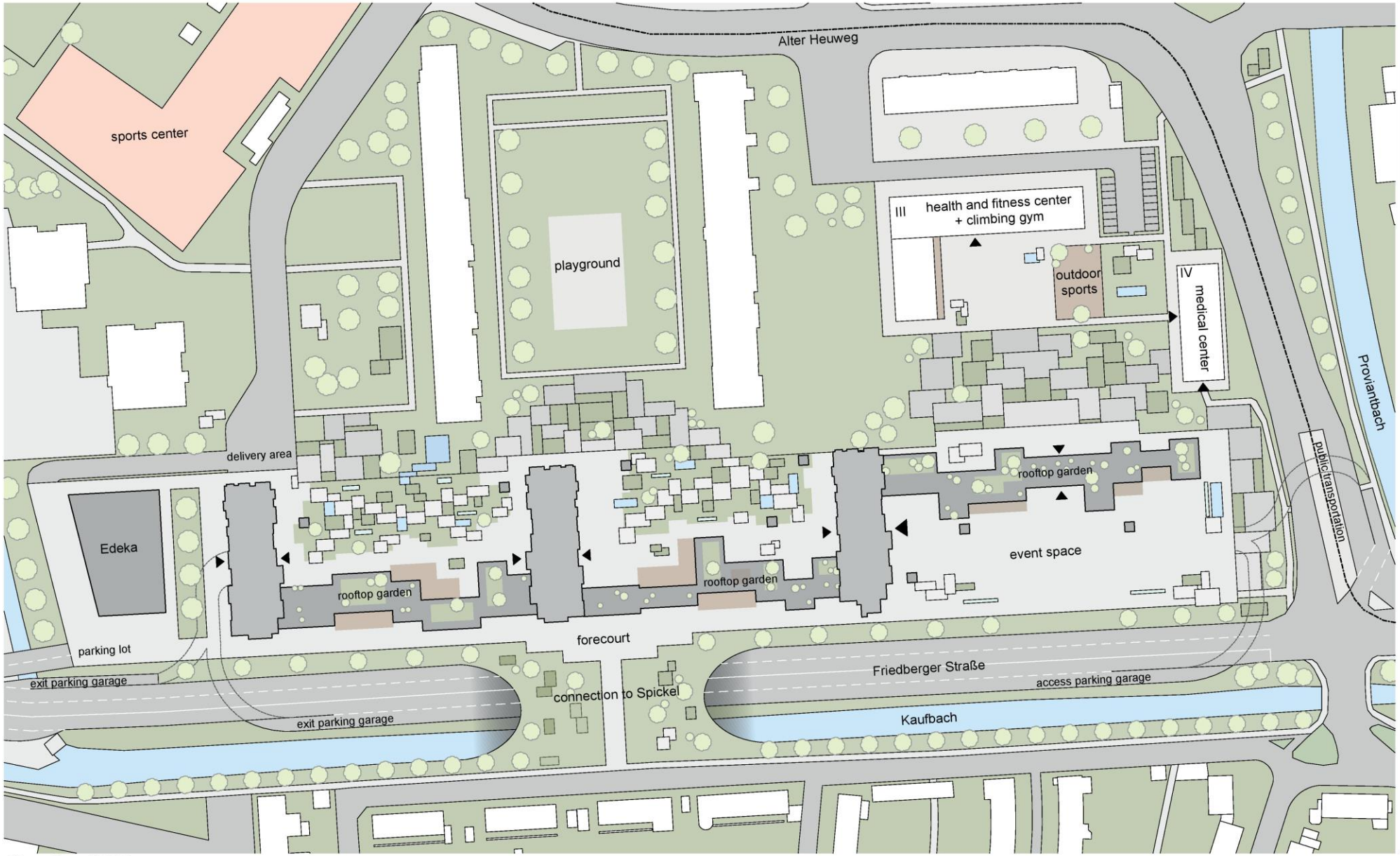


CUBES

THE SITE



S : 1 : 500

DESIGN WRAP

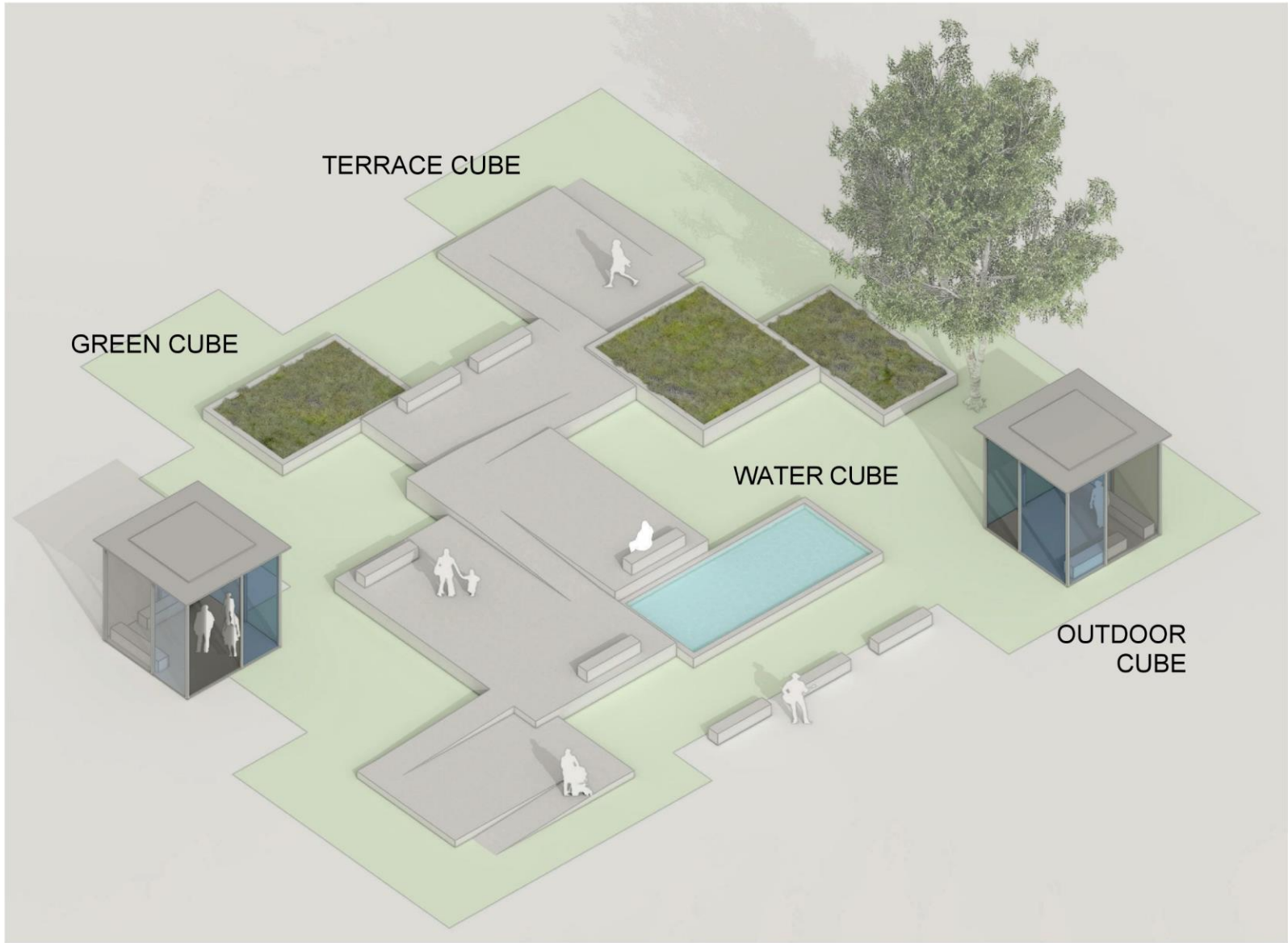
Demolition:
- Parking decks to the east
- Access to the parking deck
- Parking decks of the mall
- of the northern part of the mall
- Interruption of the "Willhelm-Hauff Straße"

Redesign:
- Reactivation of the underground parking garage
- Mall becomes a promenade
- Entrances of the towers independent of the promenade
- Linking new green areas with the existing ones
- Road overpass for connection to Spickel
- New skin over promenade and the towers

N

CUBES

LANDSCAPE DESIGN



TERRACES

The landscape cubes, in their versions as Terrace Cube, Green Cube and Water Cube create a new landscape surface while leading the way throughout the Schwabencenter area. They also run in the surrounding area in the form of satellites to spread the cubes theme throughout the whole neighborhood.
They can be accessed barrier-free through the use of ramps.

The terraced landscape creates a lively topography, overcoming the existing height differences of the terrain.
New outdoor areas for recreation and play are created, offering new views over the complex and the neighborhood.

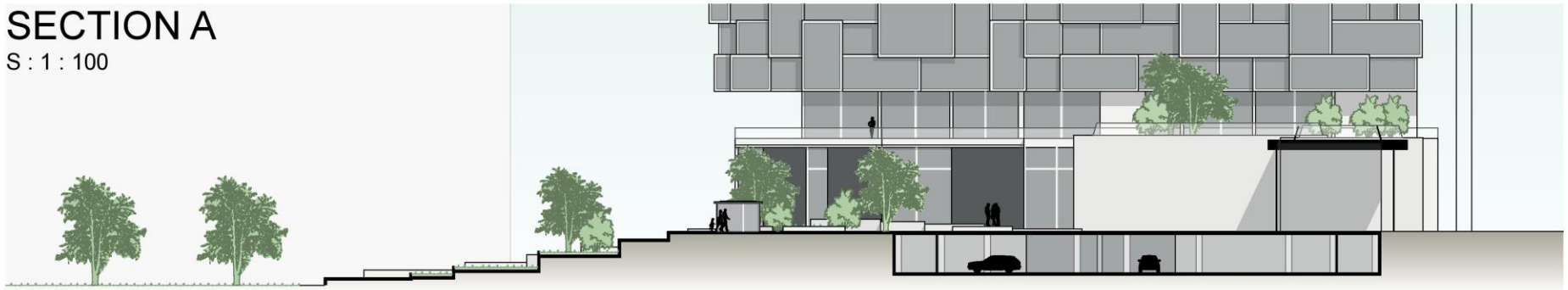
The pavilon-like Outdoor Cubes create protected environments in the outdoor area of the Schwabencenter thus providing a place for visitors and residents to come together and communicate.

CUBES

LANDSCAPE DESIGN

SECTION A

S : 1 : 100



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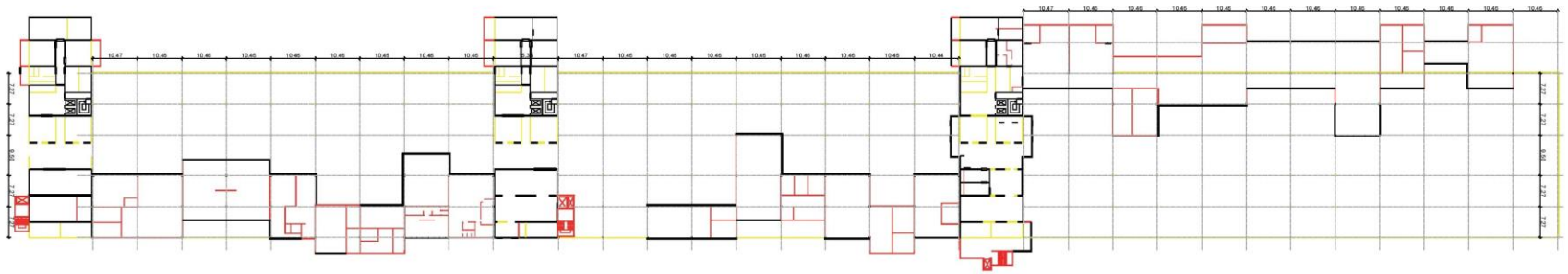
CUBES

THE GROUND FLOOR



level 1.00 - 3.00

The building complex consists of a mixed-use promenade and the entrances to the three towers.
The conversion of the mall into a promenade was based on the existing column grid.

In the north-east of the site a sports- and health center can be found, which is connected to the public part of the Schwabencenter via the landscape terraces.

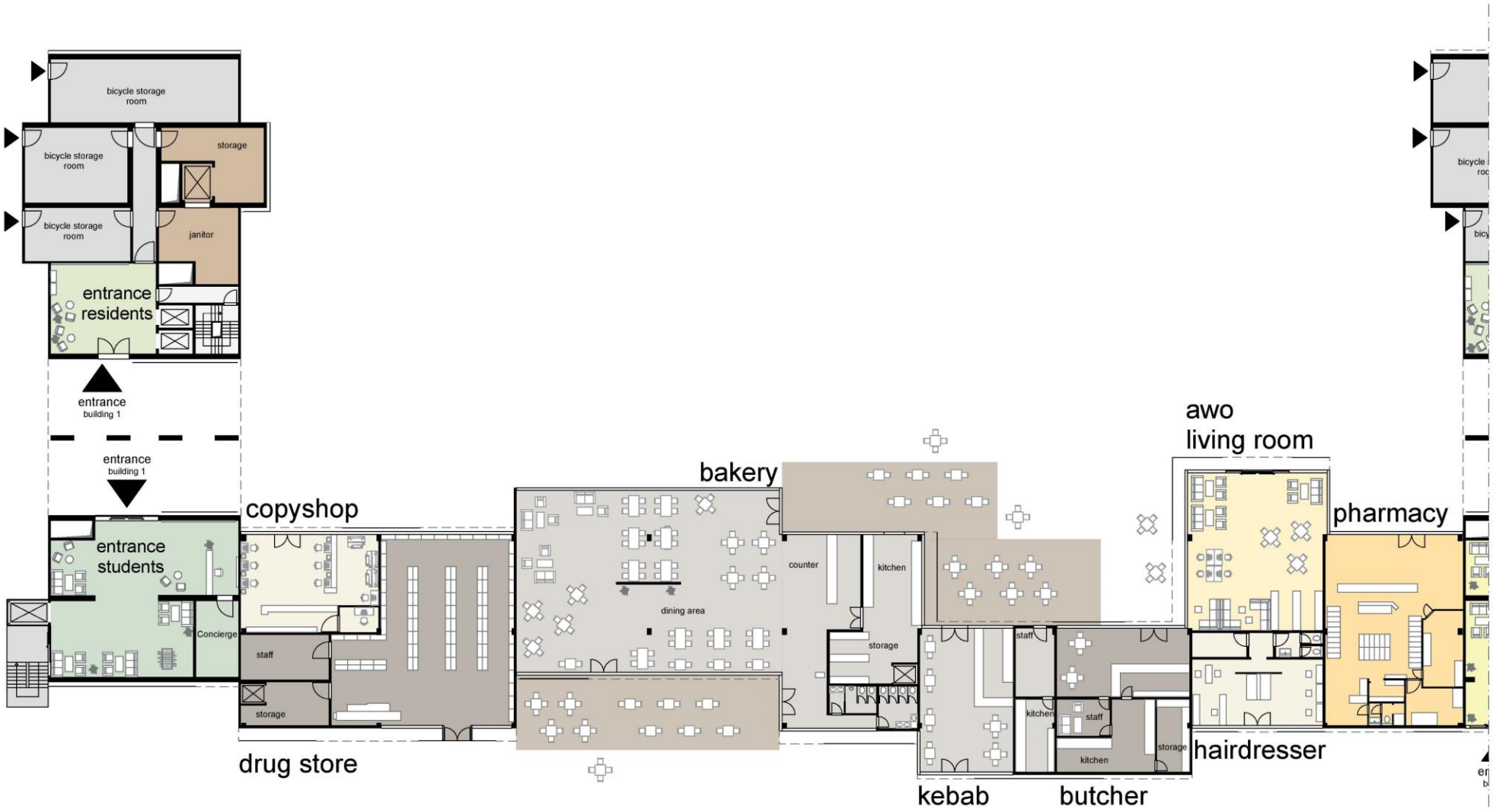
The Edeka that was formerly located in the malls east wing is rebuilt in the west of the Schwabencenter.

N

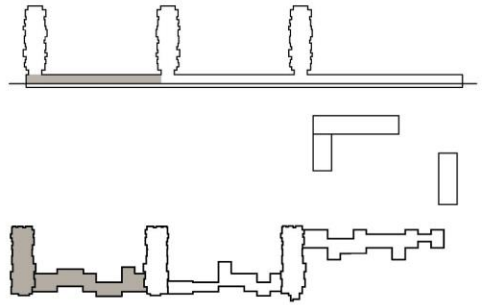
CUBES

S : 1 : 200

THE GROUND FLOOR



level 1.00



The ground floor of Tower 1 has a lobby-style entrance area for the residing students as well as a more private residents' shortcut. Furthermore bycicle parking spaces and the janitors office can be found in the north half of the building.

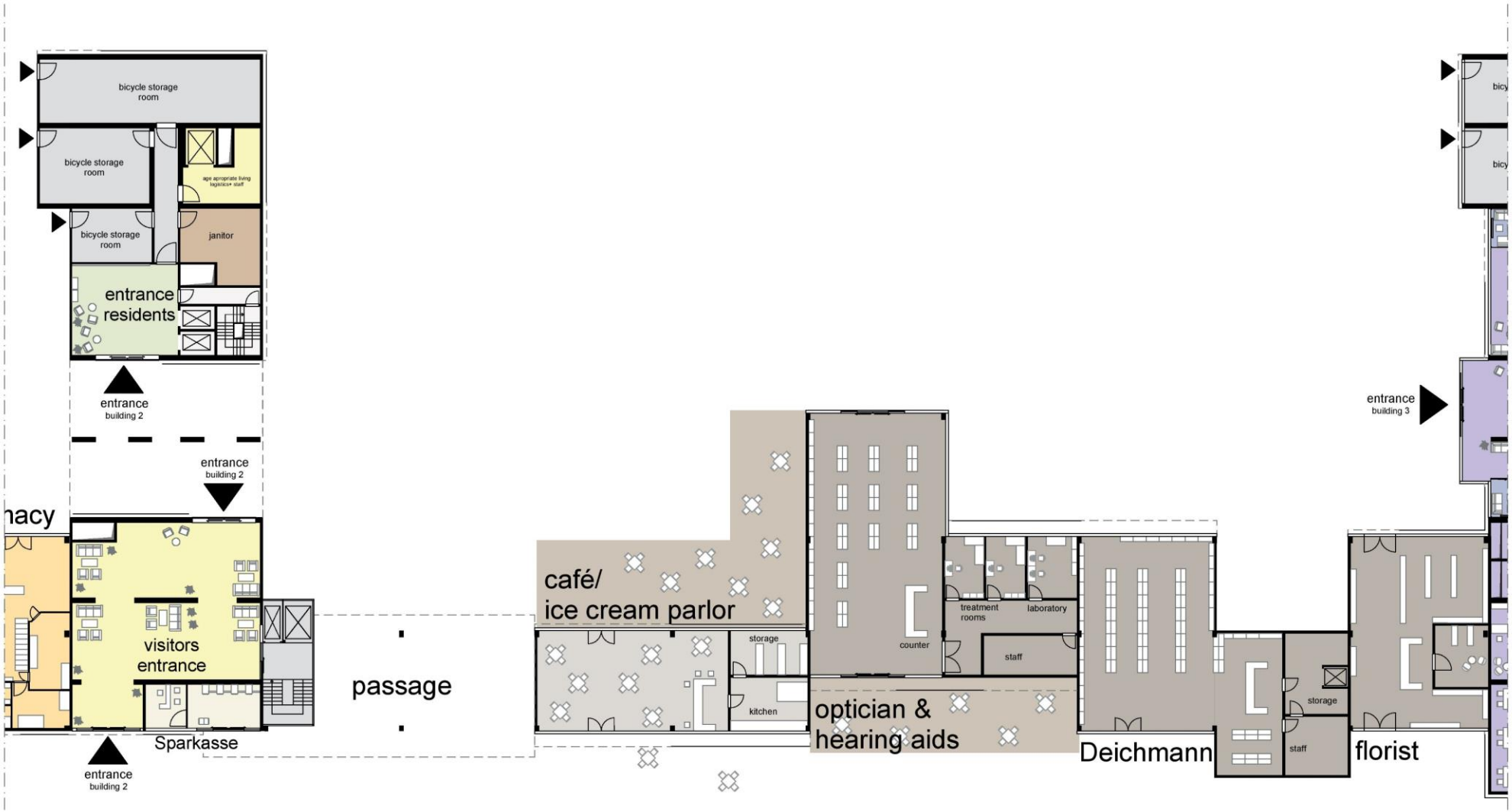
The promenade contains various uses adapted to the residents of each tower, such as a copyshop for students or the "living room" for elderly residents of Tower 2. There are also other retail and food service outlets as well as a pharmacy.

N

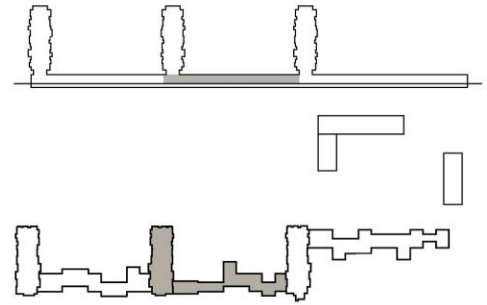
CUBES

S : 1 : 100

THE GROUND FLOOR



level 2.00



The visitors entrance of the age-appropriate living facility is located in the south of Tower 2.
In the north, similar to Tower 1, there is another residents' shortcut and bicycle parking spaces.
This section of the promenade consists mainly of stores and an ice cream parlor.

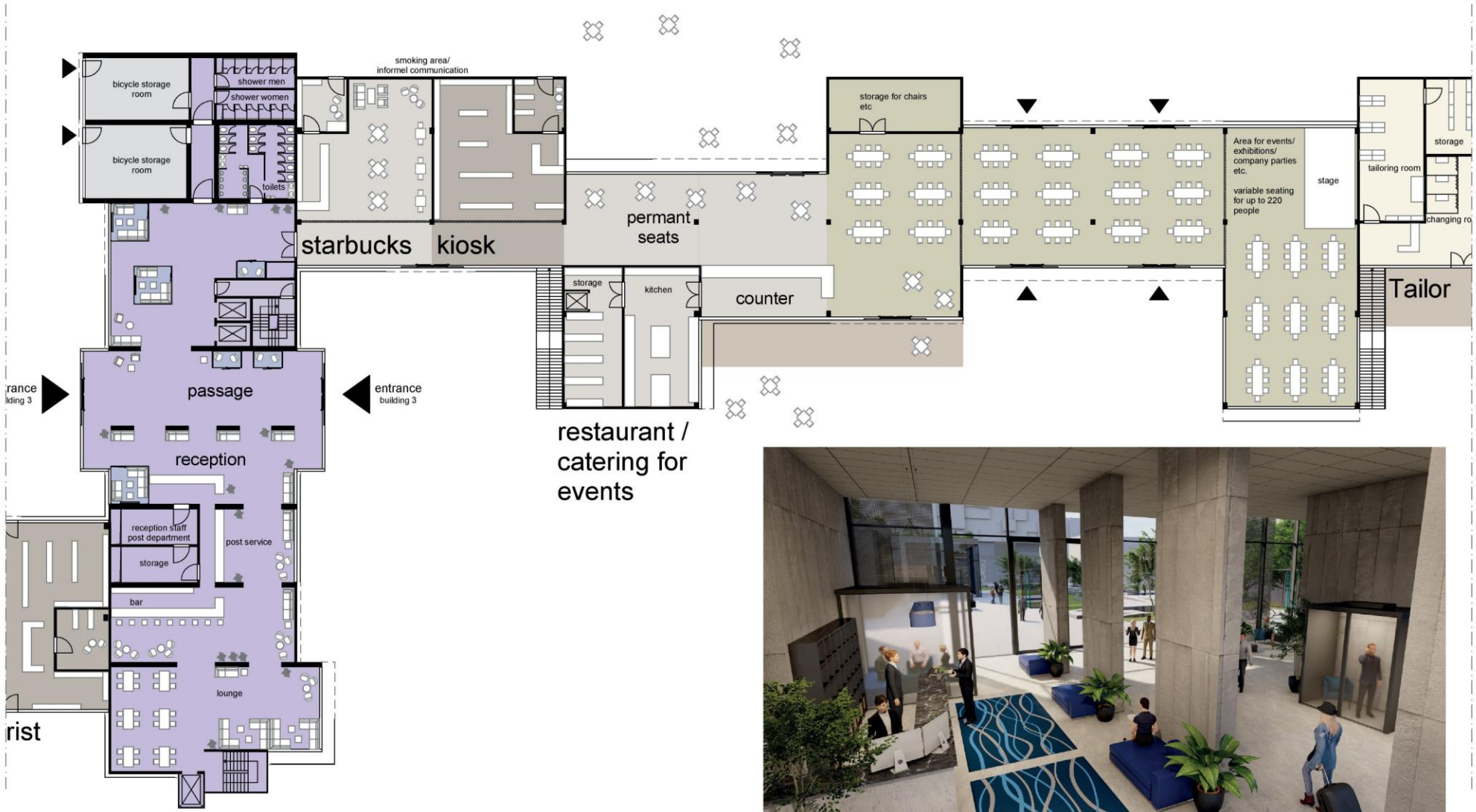
Immediately east of Tower 2, there is a break in the promenade that connects the green bridge of "Spickel" with the "Proviantbachquartier" and thus ensures a permanent connective axis between the two quarters, regardless of opening hours of the stores. In order to integrate this interruption into the promenade, a canopy is formed.

N

CUBES

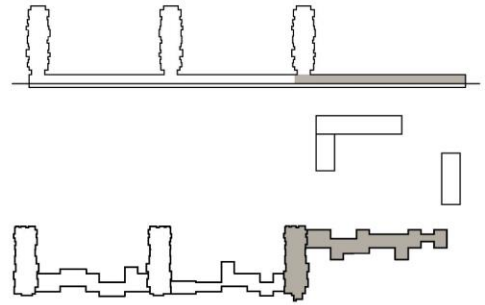
S : 1 : 100

THE GROUND FLOOR



ENTRANCE TOWER 3

level 3.00



The ground floor of Tower 3 contains the entrance area for the serviced apartments and the co-working spaces and features the reception with post office and a spacious lobby with bar. This space is directly connected to parts of the promenade.

In its right wing the promenade contains a variably funishable indoor event area next to a catering business that can be utilised for events. Furthermore other stores, gastronomy businesses and service providers can be found here.

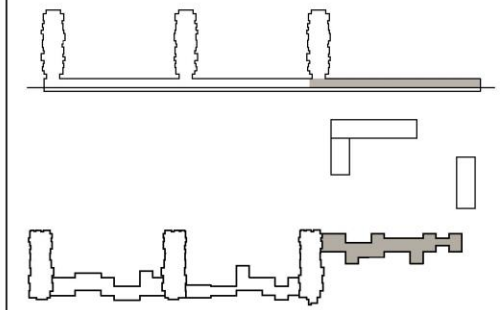
N

CUBES

S : 1 : 100

THE EVENTSPACE

level 3.00



The plaza to east of the builidng complex serves as a gathering place for residents of the Schwabencenter and the surrounding neighborhoods and can function as a space vor various types of events throughout the whole year:
In the summer it can be used for festivals, markets, open air music events or neighboorhood partys while providing a space for the erection of an ice rink or a christmas market during winter.

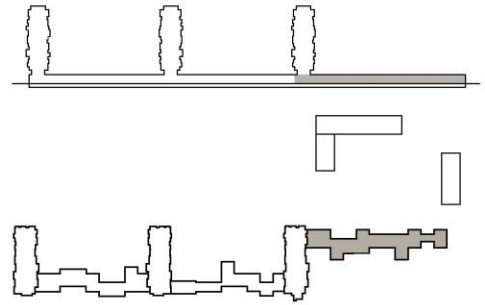
CUBES

THE EVENTSPACE

PASSAGE WHILE
NO EVENT IS
TAKING PLACE

EVENING EVENT

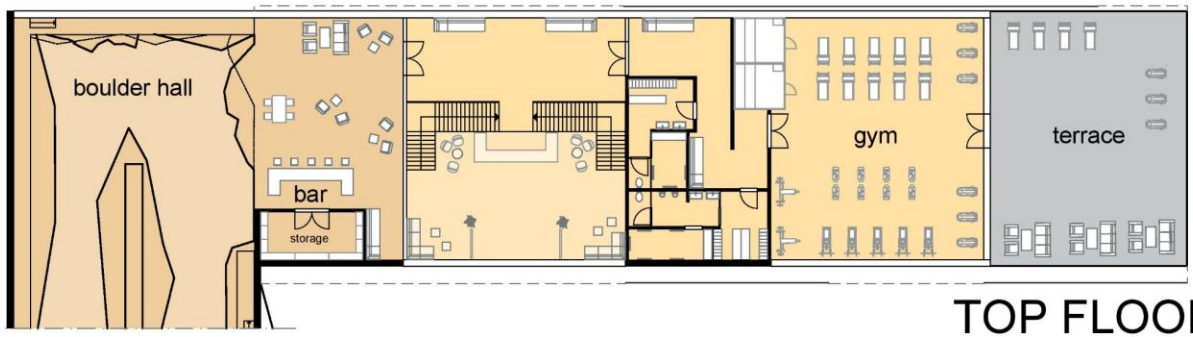
level 3.00



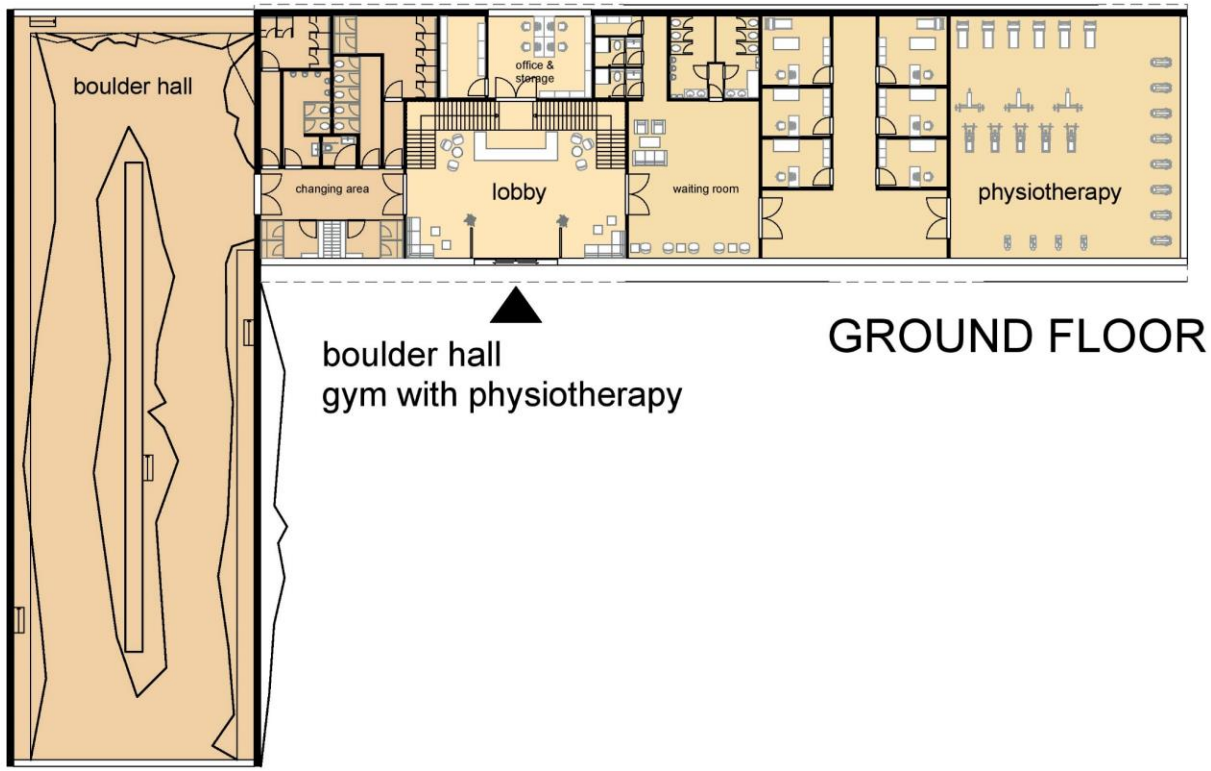
The indoor event area can be variably furnished for various events such as company or graduation celebrations or small concerts.
When the area is not in use, it functions as a passage between the outdoor event space and the area to its north.

CUBES

THE HEALTHCENTER

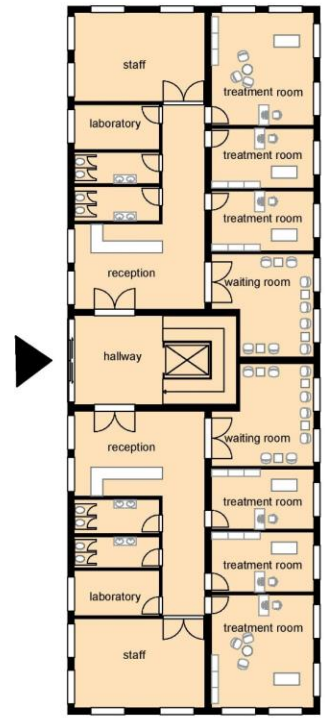


TOP FLOOR



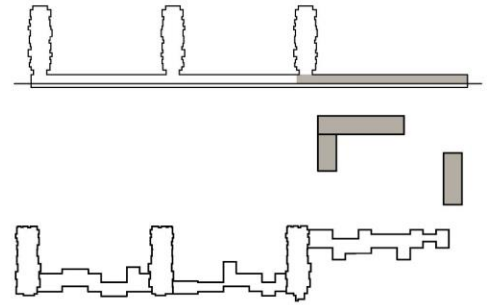
GROUND FLOOR

boulder hall
gym with physiotherapy



medical center

level 3.00



A new healthcenter is created in the northeast of the Schwabencenter.
It consists of a four-story, barrier-free medical center and a bouldering hall with fitness studio.

On the ground floor of the bouldering hall, there is a central registration desk from where the bouldering hall to the left or the barrier-free physiotherapy area to the right are accesable.

The upper floor is accesable directly through the bouldering hall or through the gallery in the entrance area.
There is a small sports bar, as well as the gym with sauna and outdoor area.

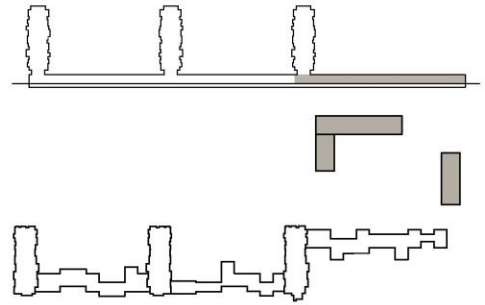
N

CUBES

S : 1 : 100

THE HEALTHCENTER

level 3.00



The arrangement of the healthcenter's buildings creates an inner courtyard that invites people to linger.

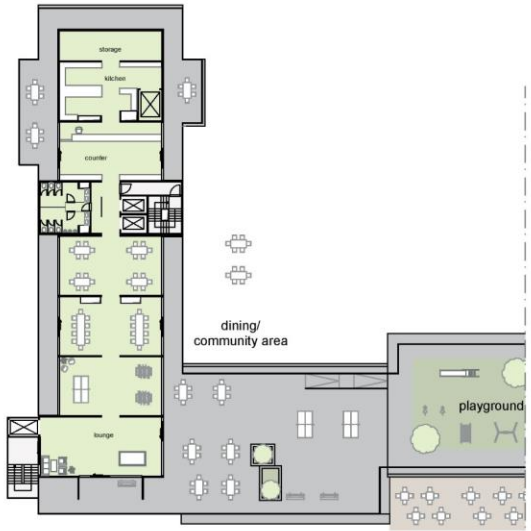
The courtyard offers various outdoor sports facilities. Calisthenics sports equipment will be installed to the east of the entrance to the bouldering hall. A small outdoor bouldering wall is also planned on the outer wall of the bouldering hall.
The free area in front of the bouldering hall can also be used for small community events.

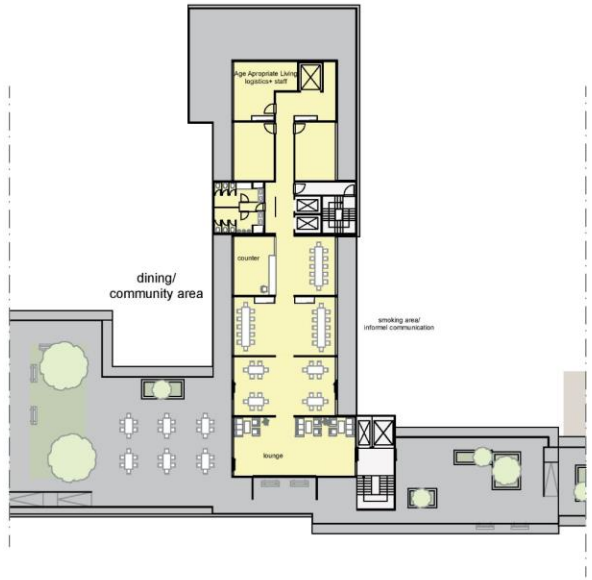
From here, the barrier-free terrace landscape connects the healthcenter with the eventspace of the Schwabencenter, which also serves as a passageway.

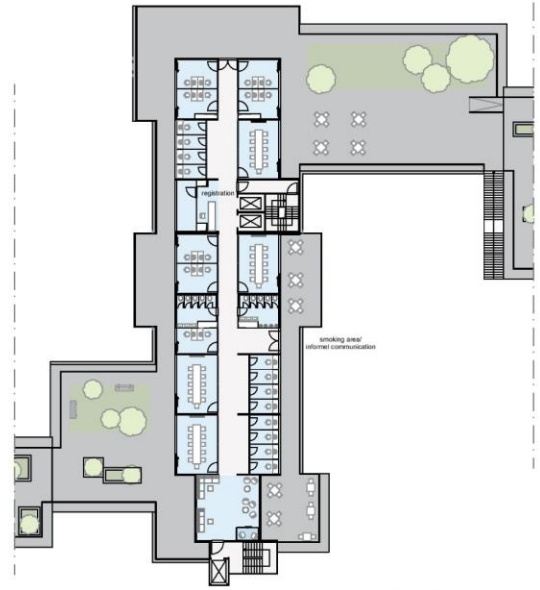
CUBES

THE FIRST FLOOR

S : 1 : 200

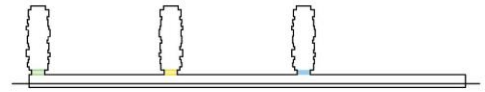






S : 1 : 100

level 1.01 - 3.01



By setting back the facades on the 1st floor, levels 1.01 - 1.03 become a mediating floor between the promenade and the towers.
By moving them inwards, the perforated sheets for sun protection can be deliberately dispensed with, so that the intermediary floors also visually separate the towers from the promenade.

A canteen for students, is located on Level 1.01 Delivery is via the underground car park on level -1.01.

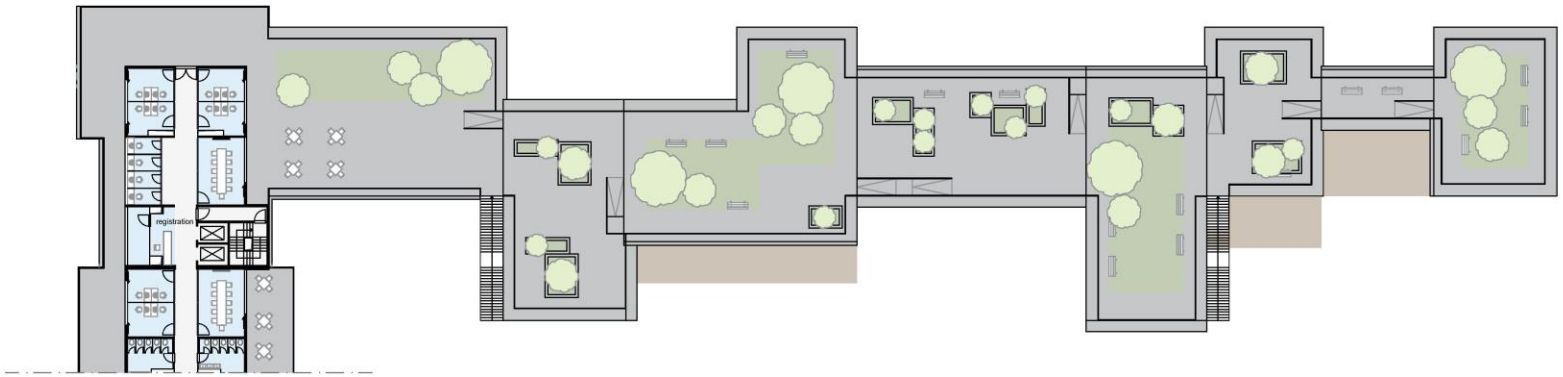
On level 1.02 there is a communal dining area for senior citizens. This is supplied via the central canteen kitchen on level -1.02.

On level 3.01 there are further workplaces that can be rented on a flexible basis.

N

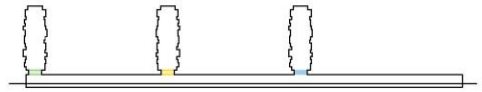
CUBES

THE ROOF GARDEN



S : 1 : 100

e.g. level 3.01



Access to the roof gardens is via floors 1.01 - 1.03:
The roof gardens connect the towers and serve as a recreational area for the residents.

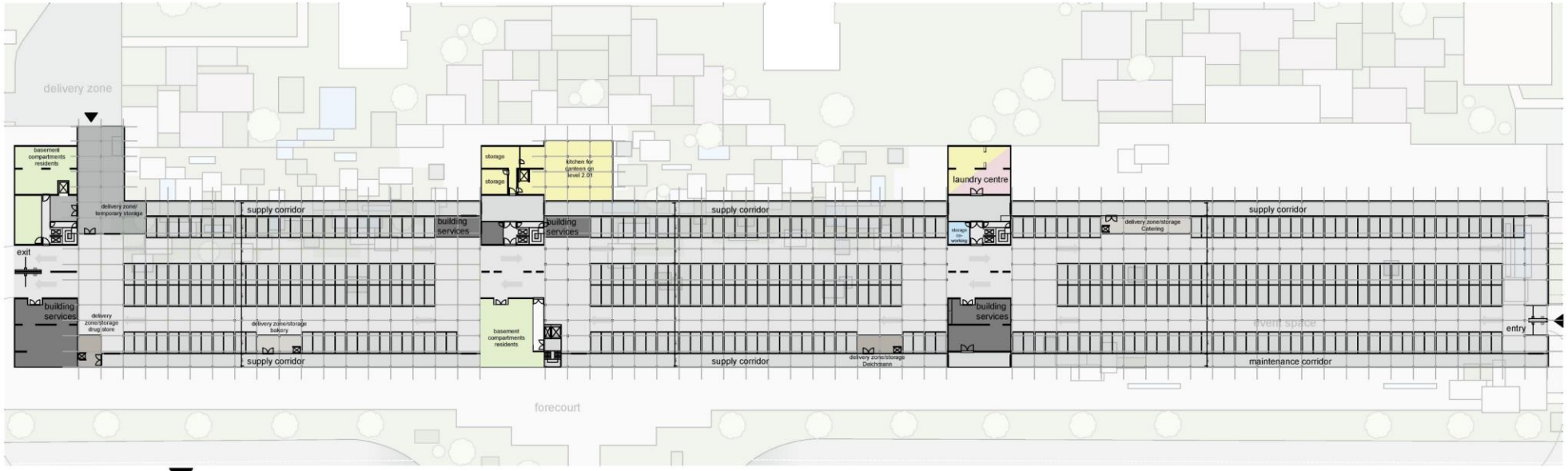
In particular, the two roof gardens between the three towers will be designed for residents and equipped with playgrounds, raised beds and seating.

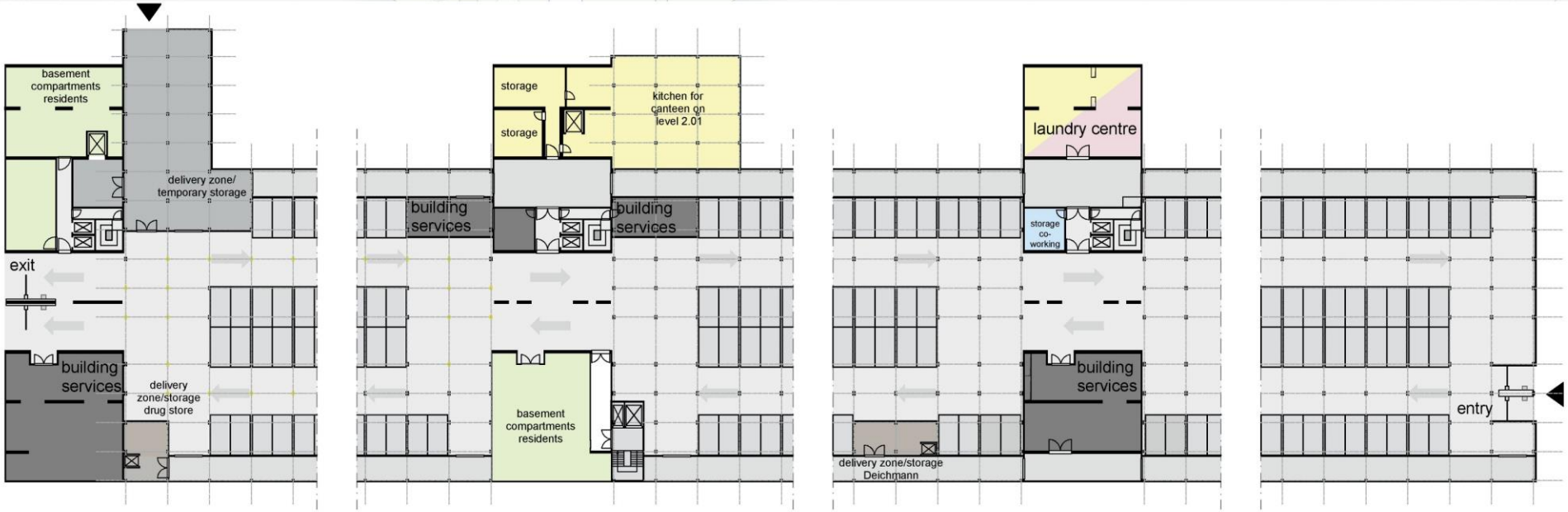
The third roof garden is attributed to the representative part of the Schwabencenter and the event area. It is accessible in addition to the access on Level 3.1 via two exterior staircases flanking the event building. Additionally, it serves as a vantage point over the surrounding city, as well as when events are taking place.

N

CUBES

THE UNDERGROUND PARKING GARAGE





S : 1 : 200

level -1.01 - -3.01

By reactivating the old underground parking garage, parking spaces (386) will be created for visitors and residents.

In the north of the 1st tower, a new delivery zone is planned, which will supply the large units of the promenade and the event catering via supply corridors.

Under the left tower on level -1.01 are basement compartments for residents and building services.

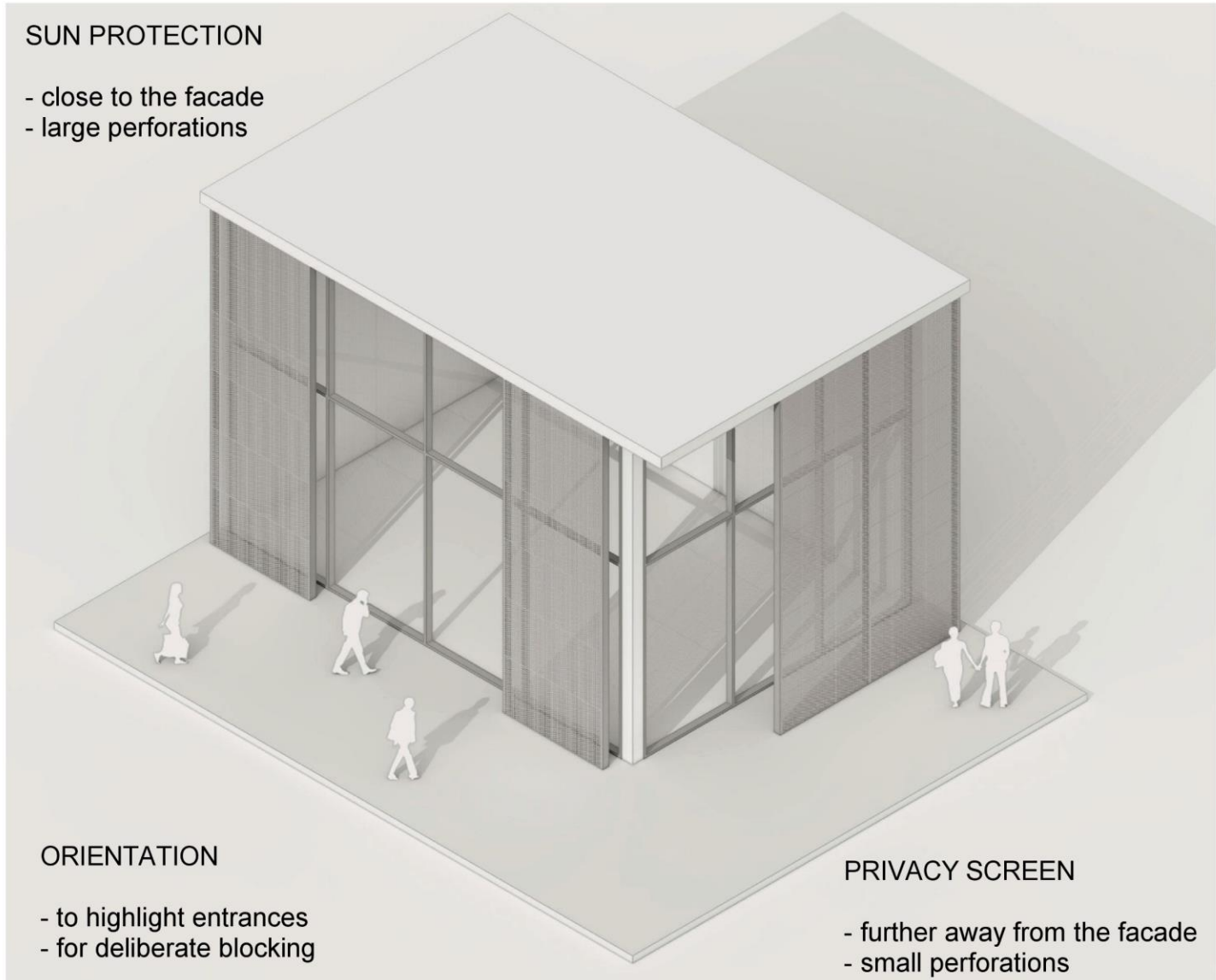
Under the middle tower on level -2.01 is a commercial kitchen for the canteen of the age-appropriate living on level 2.01 and basement compartments for residents.

Under the right tower on level -3.01 there is a laundry store for the age-appropriate living and the serviced apartments as well as building services.

N

CUBES

FACADE DESIGN



METAL SHEETS

Combination of functions in facade design:
Perforated panels are placed in front of the facade at different intervals, and perform different functions.
In order not to interrupt the exterior cubature, precast canopies are installed along the entire length of the facade.

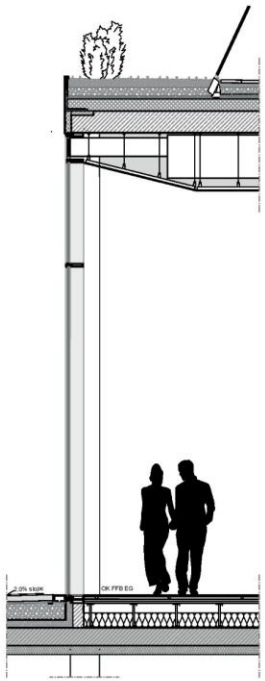
No perforated sheeting:
- deliberate abandonment of perforated sheets to highlight entrances
- deliberate creation/blocking of visual axes

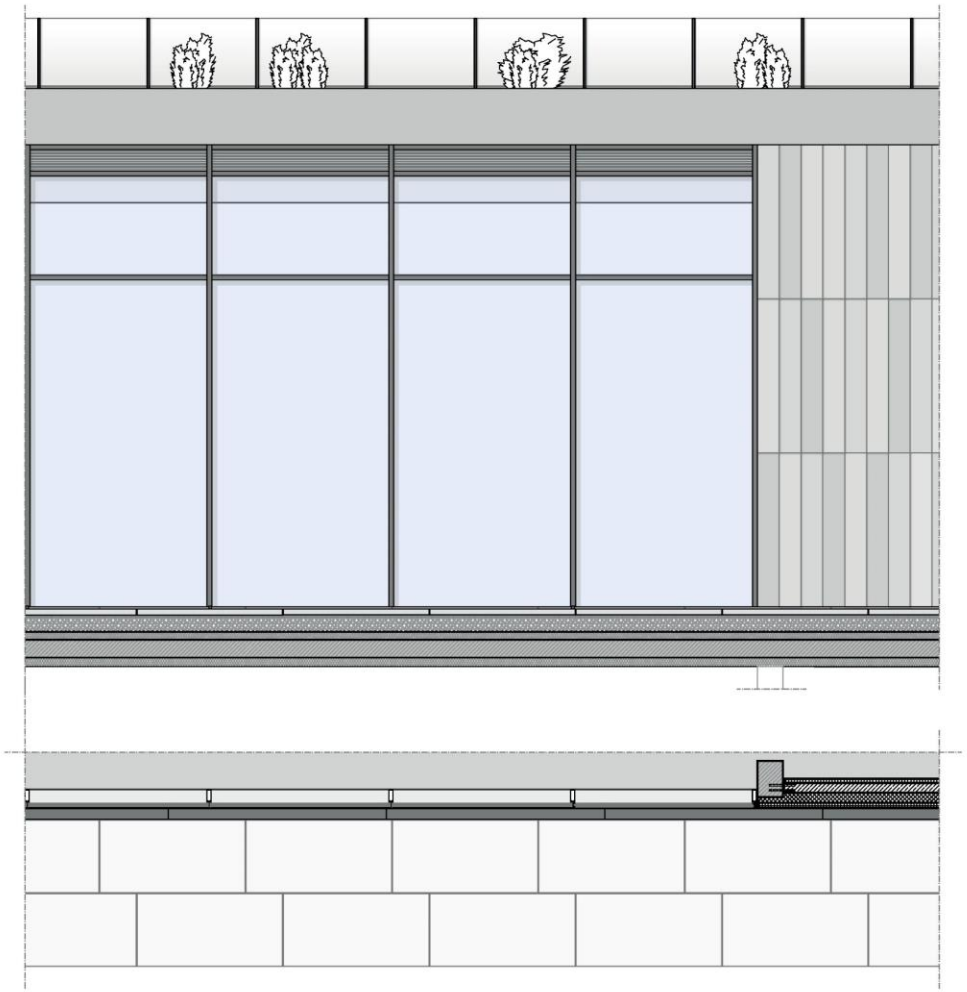
Sun protection:
- perforated sheeting with larger holes (8 cm hole diameter)
- 0,3 m in front of the facade
- achieve a shading and at the same time opaque facade.

Privacy screen:
- perforated sheeting with smaller holes (4 cm hole diameter)
- 1.0 m in front of the facade (prevent people from passing too close)
- achieve a view-impermeable facade from the outside while beeing opaque from the inside

CUBES

FACADE DESIGN





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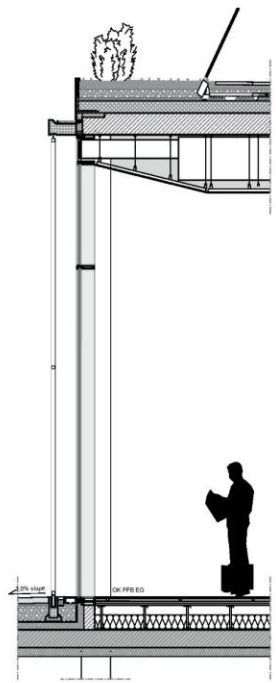
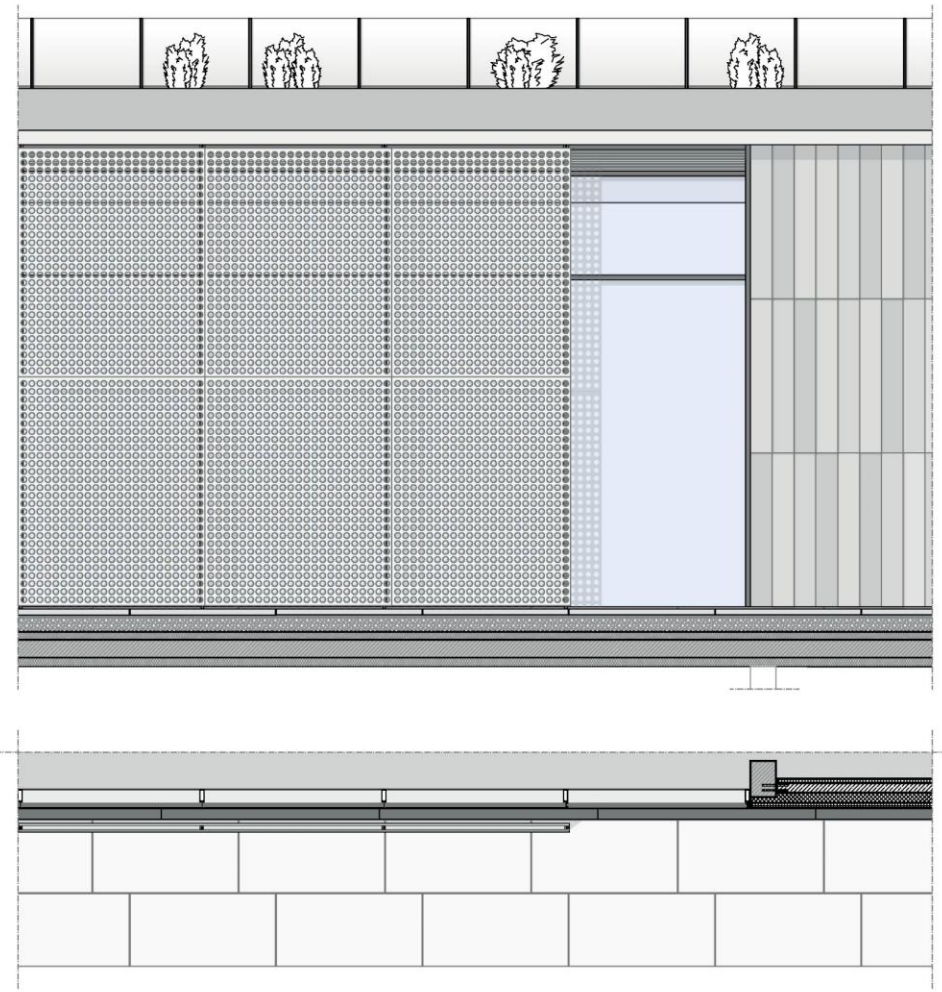
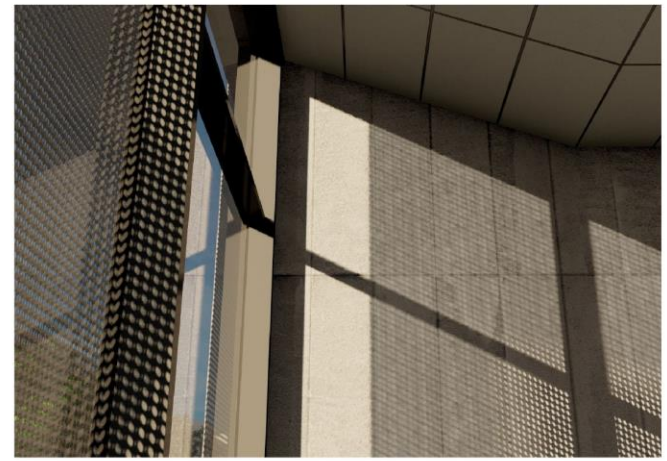
CUBES

S : 1 : 20

FACADE DESIGN







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CUBES

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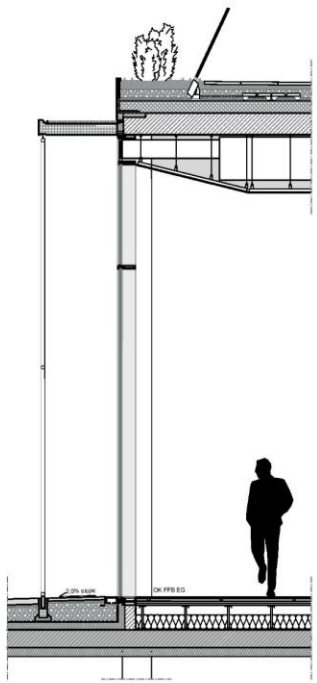

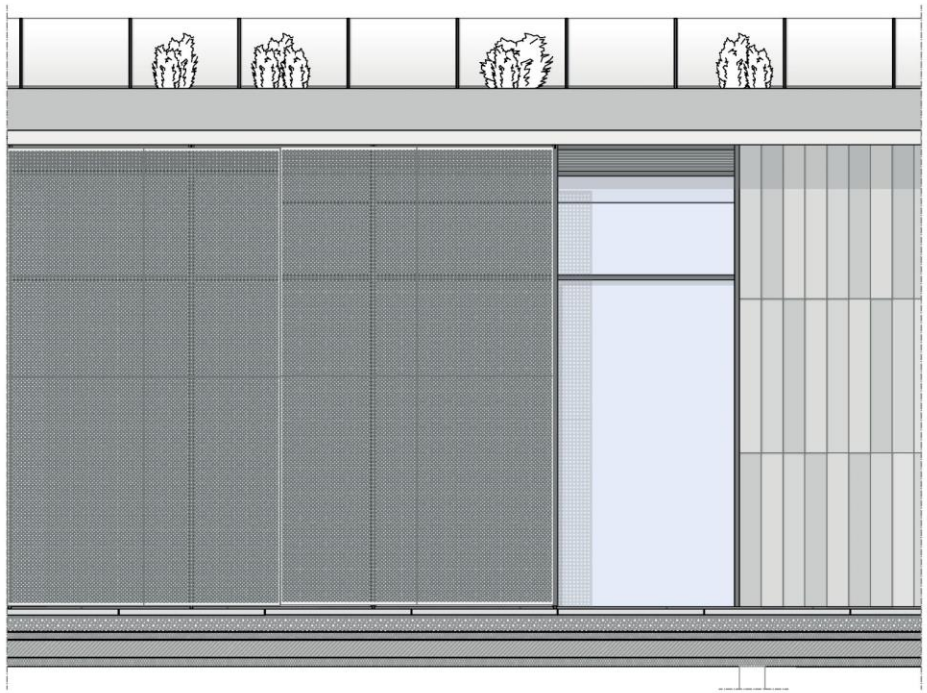

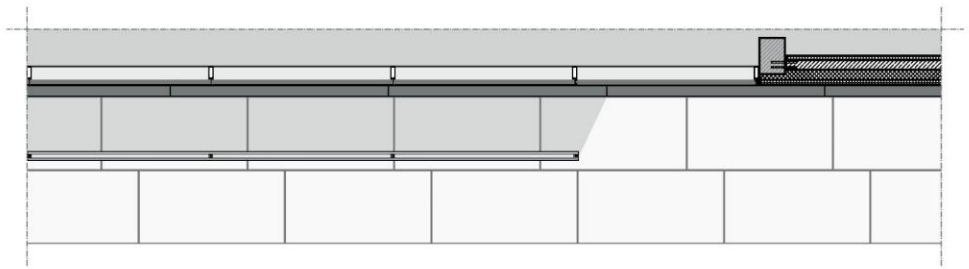

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CUBES

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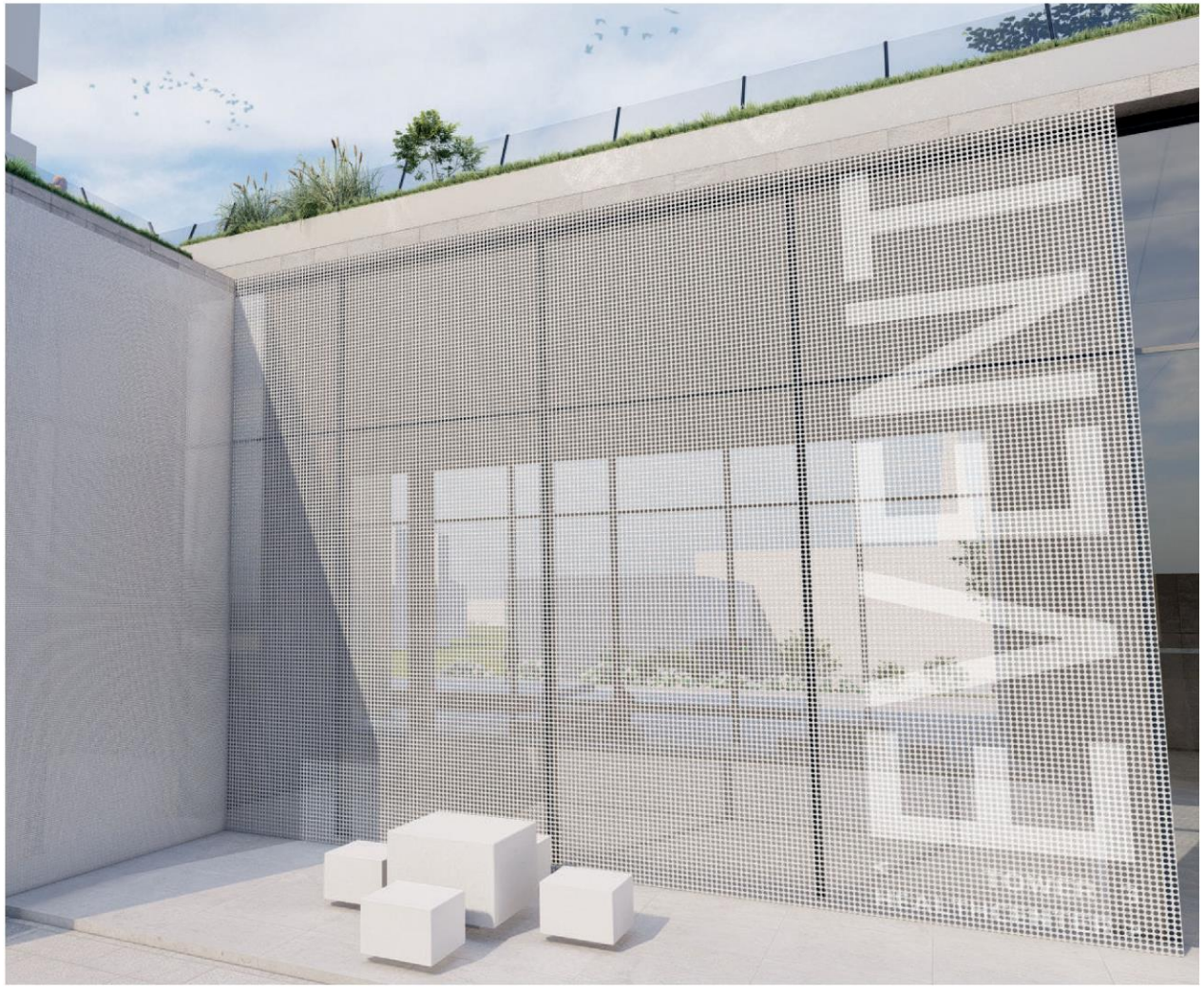


GUIDANCE SYSTEM

Printing on the perforated metal sheets:
To make it as easy as possible for residents and visitors to find their way around the Schwabencenter site, perforated sheets are printed from the outside. The print is divided into two parts: a guidance system and an information system.

Information system:
Large high-format lettering is placed at important locations, such as the event area, the tower entrances or various store entrances, which can be read by visitors from a distance and thus help them to orient themselves.

Guidance system:
Smaller signposts are placed underneath these high-format lettering so that path connections become clear. These are hirarchically subordinated as they are only of importance for newly arrived residents and visitors in the immediate vicinity.

CUBES

DETAIL: SOCKET

1 Wall construction mullion-transom facade:

400 mm	reinforced concrete columns 400x400 mm
250 mm	mullion-transom facade Schüco FWS 60 CV HI o.glw.
1000 mm	spacing
40 mm	frame for perforated plate, stainless steel painted
10 mm	perforated plate, stainless steel printed

2 Floor construction: outdoors (with basement):

80 mm	concrete slab pavement suitable for traffic
50 mm	gravel bed
250 mm	base course in slope 2 % sliding layer
10 mm	fleece
20 mm	plastic sealing (DIN 18531 - K2) primer
100 mm	insulation suitable for traffic foam glass, 0% slope
10 mm	sealing primer
250 mm	reinforced concrete floor slab
125 mm	insulation, Tektalan

3 Floor construction: indoors (with basement):

20 mm	floor covering
5 mm	sealing
100 mm	cavity floor system (elevation 330 mm) Knauf GIFAfloor FHBplus climate with underfloor heating
200 mm	insulation, soft
10 mm s	ealing primer
250 mm	reinforced concrete floor plate
125 mm	thermal insulation, sound insulation Tektalan fire behavior A2 (n.b.)

4 Wall construction socket ground floor:

10 mm	seiling
150 mm	reinforced concrete wall primer
10 mm	sealing
90 mm	perimeter insulation (2x45mm) primer
20 mm	plastic sealing (DIN 18531 - K2)
20 mm	buildprotection / drainage mat

Socket construction mullion-transom facade:

1 mullion-transom façade Schüco FWS 60 CV HI with triple insulating glass

2 grating, plastic, non-slip with clamps thickness 20 mm, mesh size 10/10 mm

3 ACO Profiline open drainage channel construction width 155 mm galvanized

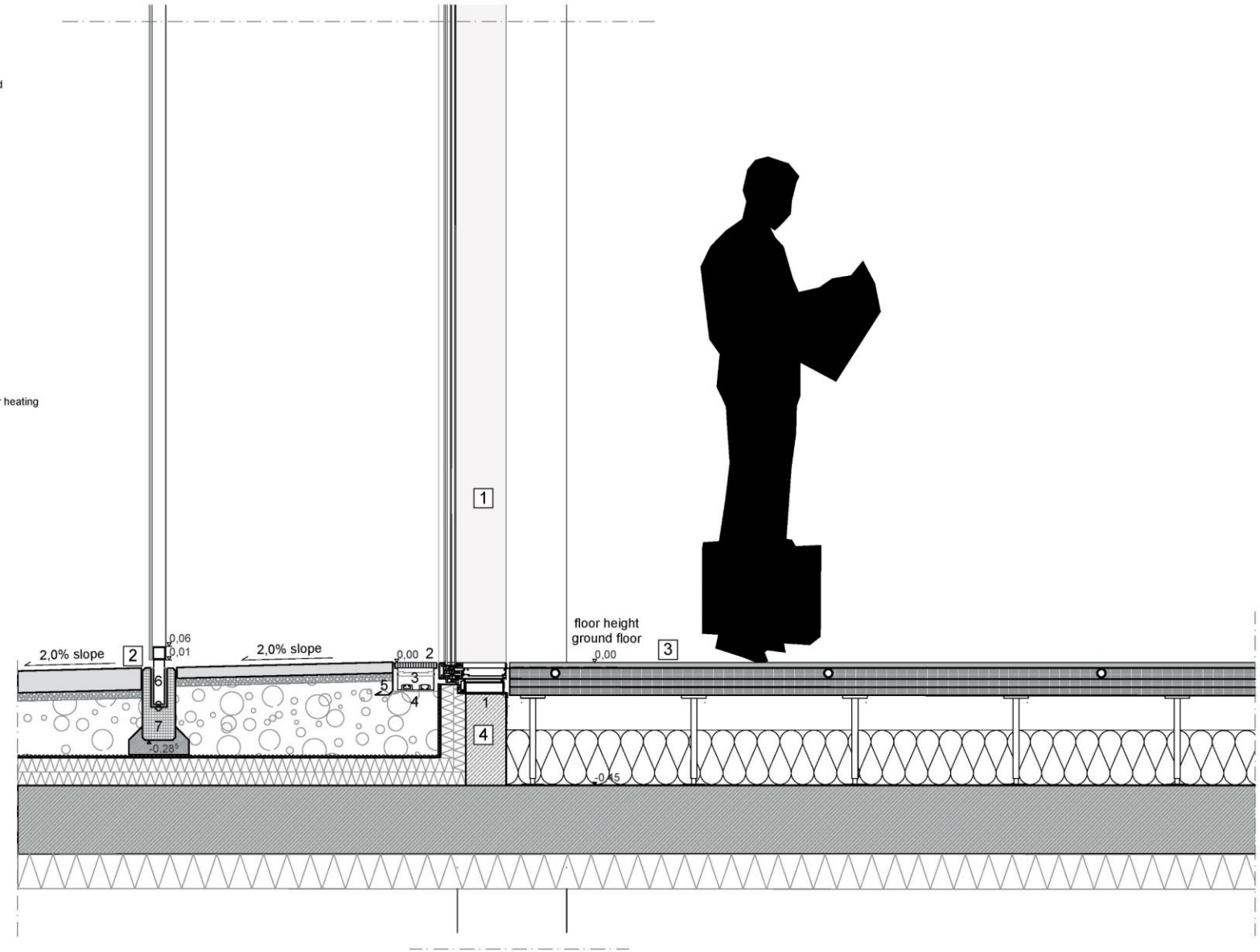
4 roll gravel

5 perforated edge plate galvanized

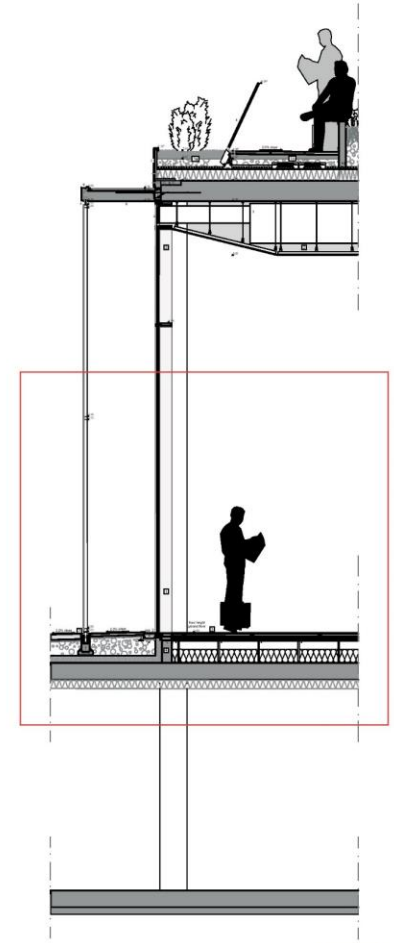
6 support foot frame 40/40 mm set in concrete

7 precast concrete foundation with recess for supporting feet in lean concrete 300/260/120 mm

8 concrete joint 10 mm, circumferential



COMPLETE SECTION



S : 1 : 5

CUBES

DETAIL: ROOF

1a Roof structure: roof garden:

	greenery
100 mm	substrate
150 mm	base course in slope: 2 %
	filter fleece
30 mm	water storage plate
10 mm	fibre protection mat
	sliding layer
20 mm	plastic sealing
	(DIN 18531 - K2)
	primer
200 mm	insulation pressure resistant
	XPS, 0% slope
10 mm	sealing
	primer
250 mm	reinforced concrete ceiling

1b Roof structure: roof terrace:

40 mm	concrete slab decking
30 mm	grit
150 mm	base course in slope 2 %
	filter fleece
30 mm	water storage plate
10 mm	fiber protection mat
	Sliding layer
20 mm	plastic sealing
	(DIN 18531 - K2)
	primer
200 mm	insulation pressure resistant
	Foamglas, 0% slope
10 mm	sealing
	primer
250 mm	reinforced concrete ceiling

2 Construction suspended ceiling:

system: Fa. Knauf

800 mm	suspension
	Knauf Suspension System
30 mm	suspension construction metal rail
12,5 mm	plasterboard acoustic panel

3 Wall construction mullion-transom facade:

400 mm	reinforced concrete columns 400x400 mm
250 mm	mullion-transom facade
	Schüco FWS 60 CV HI o.glw.
1000 mm	spacing
40 mm	frame for perforated plate, stainless steel painted
10 mm	perforated plate, stainless steel printed

Construction elements roof:

1 Schöck Isokorb T Typ K

2 panel as air inlet with insect screen
thickness 40 mm, mesh size 20/20 mm

3 ventilation unit in suspended ceiling

4 shaped part stainless steel, screwed, position fixation perforated plate

5 fall protection, BauderSECUTEC BARRIER G
angle: 65°

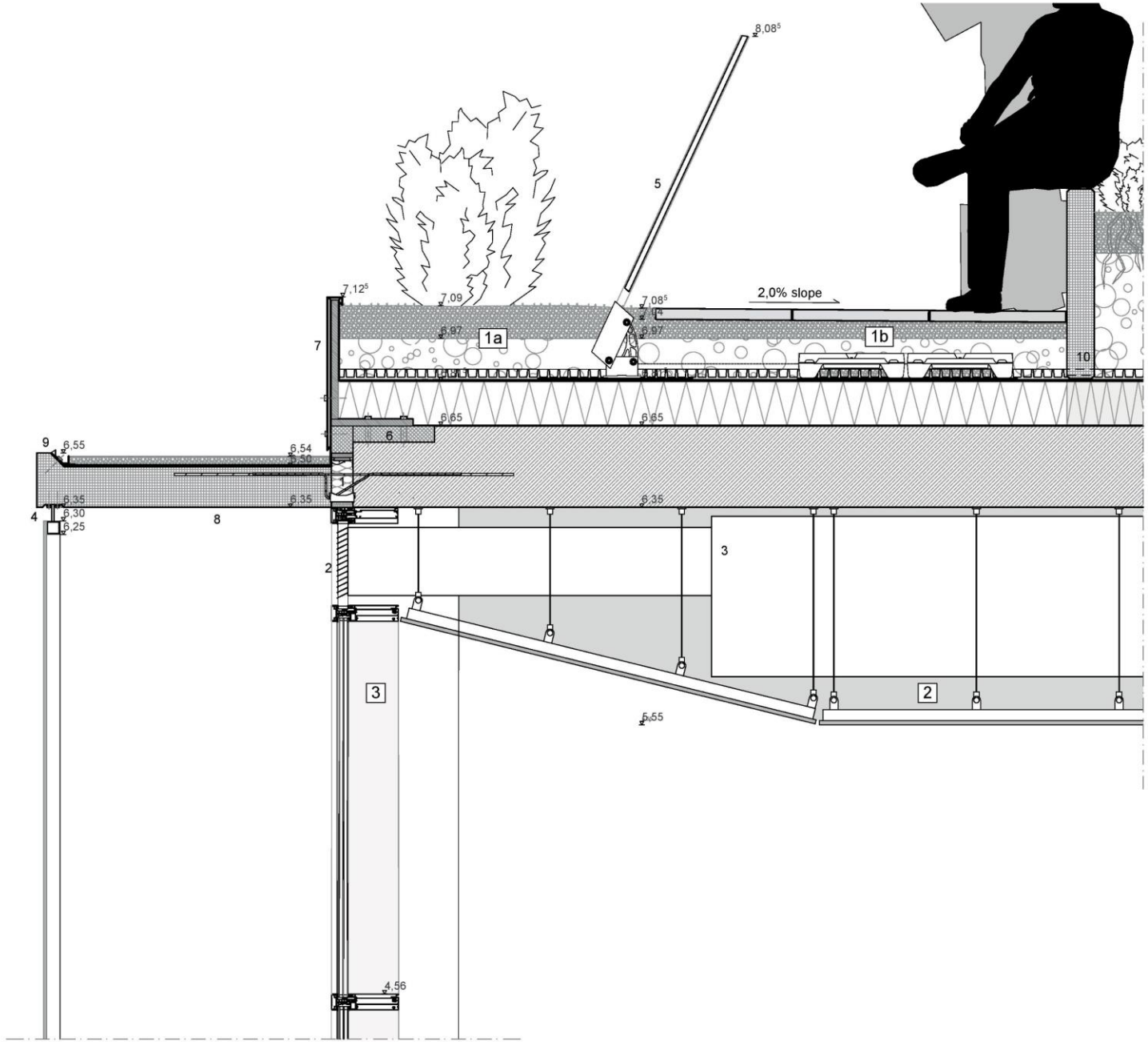
6 insulation pressure-resistant, screwed
via sleeve in reinforced concrete ceiling

7 cover plate, galvanized over steel angle 460 / 350 / 25 mm

8 concrete precast element 150 mm, K2 Plastic sealed, gravelled

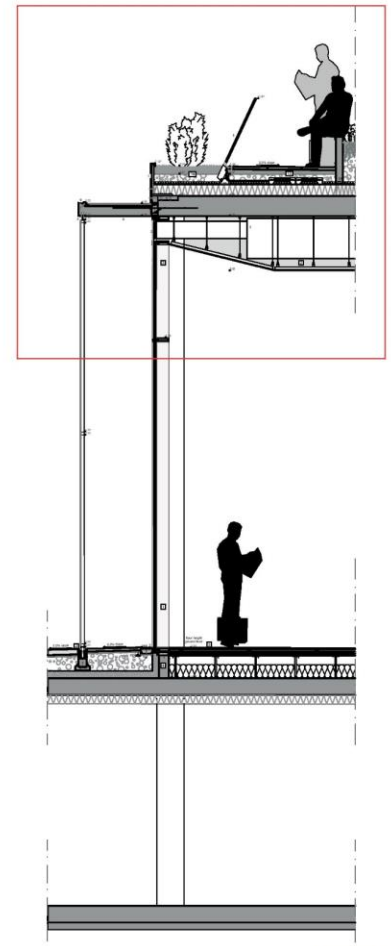
9 fixing profile screwed into concrete precast element
for roof sealing

10 reinforced concrete precast as a planting bed, 100 mm thick
drainage openings in the lower part



S : 1 : 5

COMPLETE SECTION

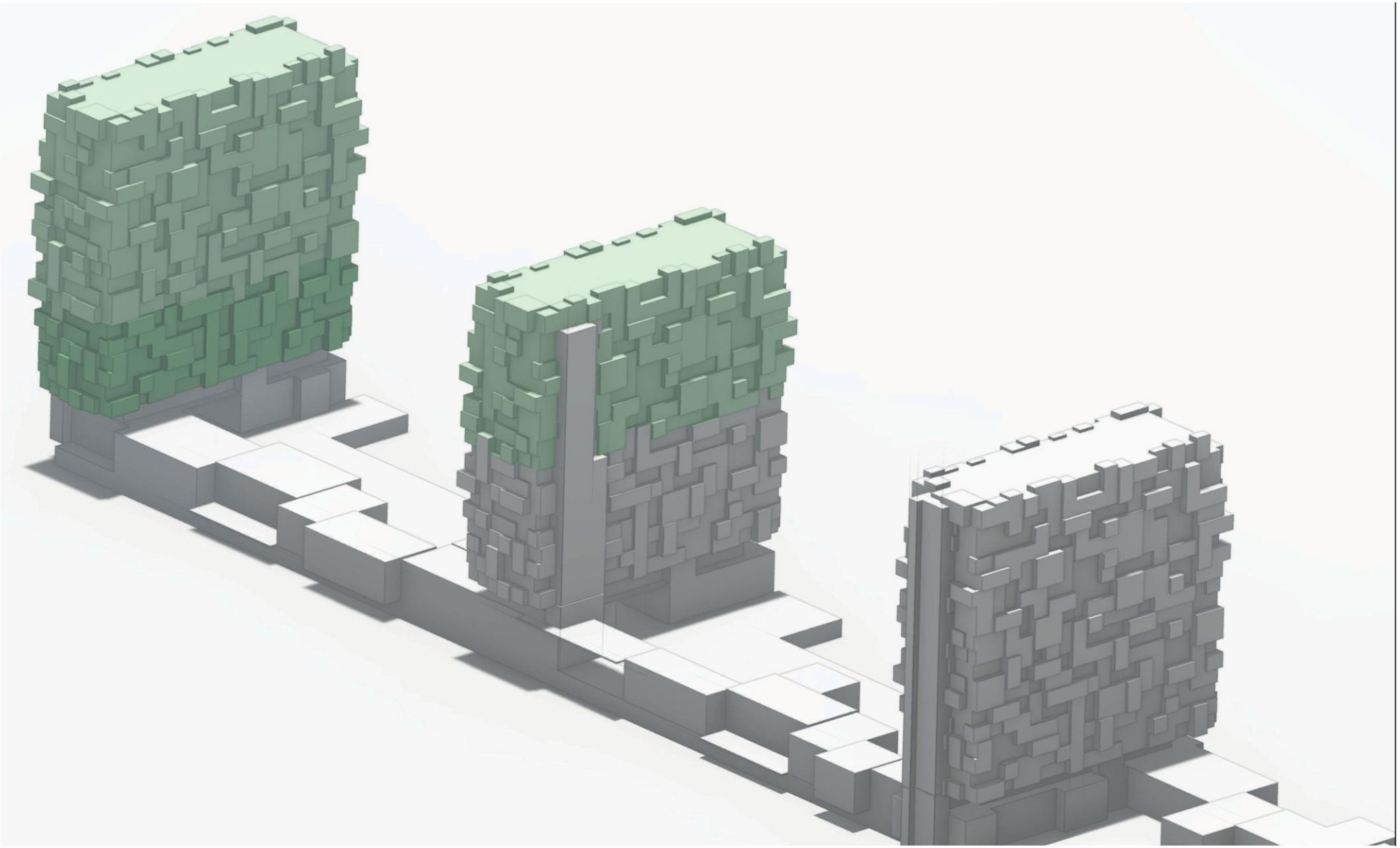


CUBES

General & Student Living @ CUBES

by Laura Molter - 5.1 integrative Design - wise 2020/21

LOCATION ON SITE

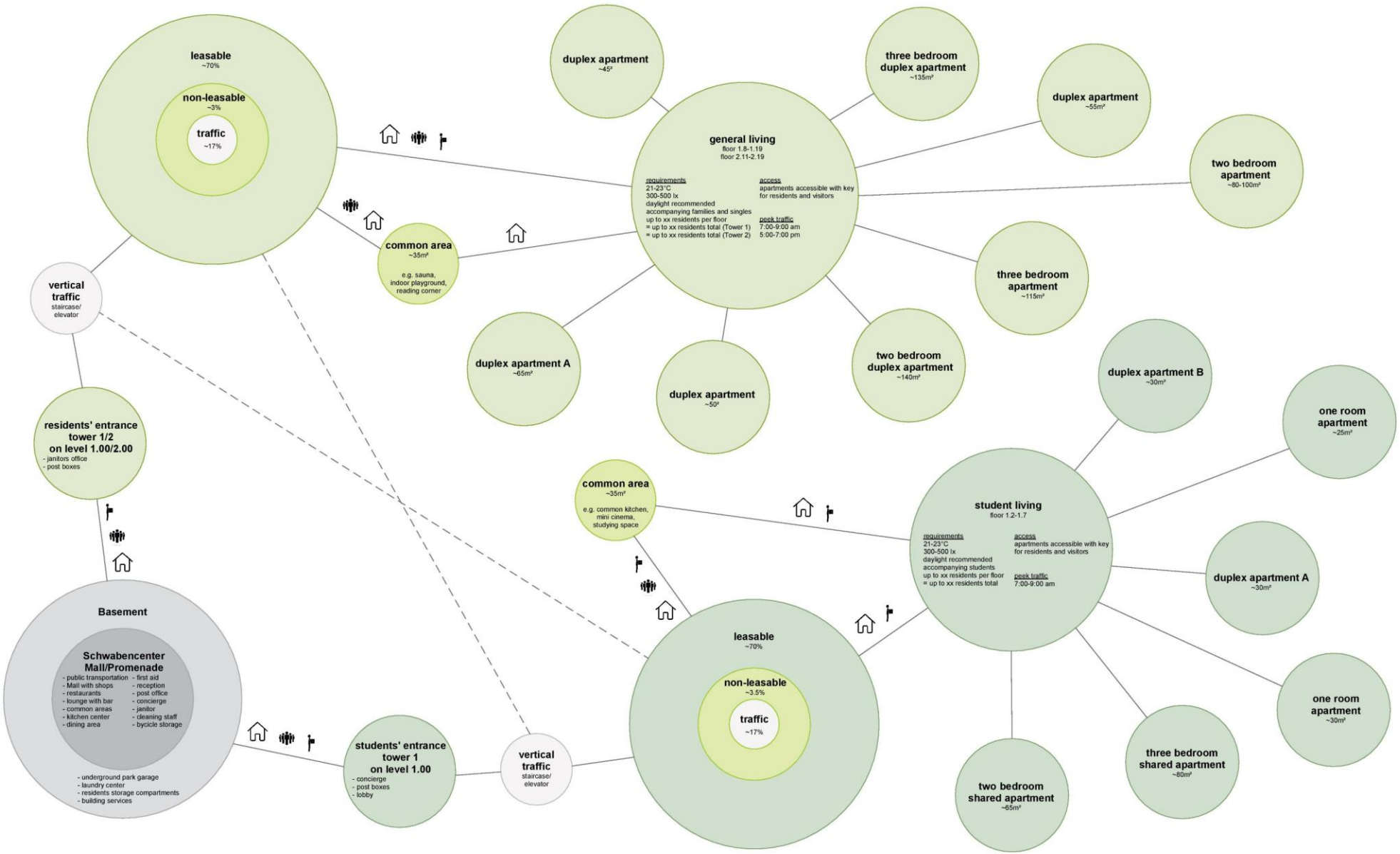


level 1.2 - 1.19
level 2.11 - 2.19

Within the middle tower apartments for singles as well as households for up to 6 people can be found on levels 2.11-2.19 right above the age approved living spaces.
The left tower contains the same general living typologies on levels 1.8-1.19 plus apartments that are fit for students on levels 1.2-1.7.

CUBES

FLOW OF GOODS - PERSONNEL FLOW



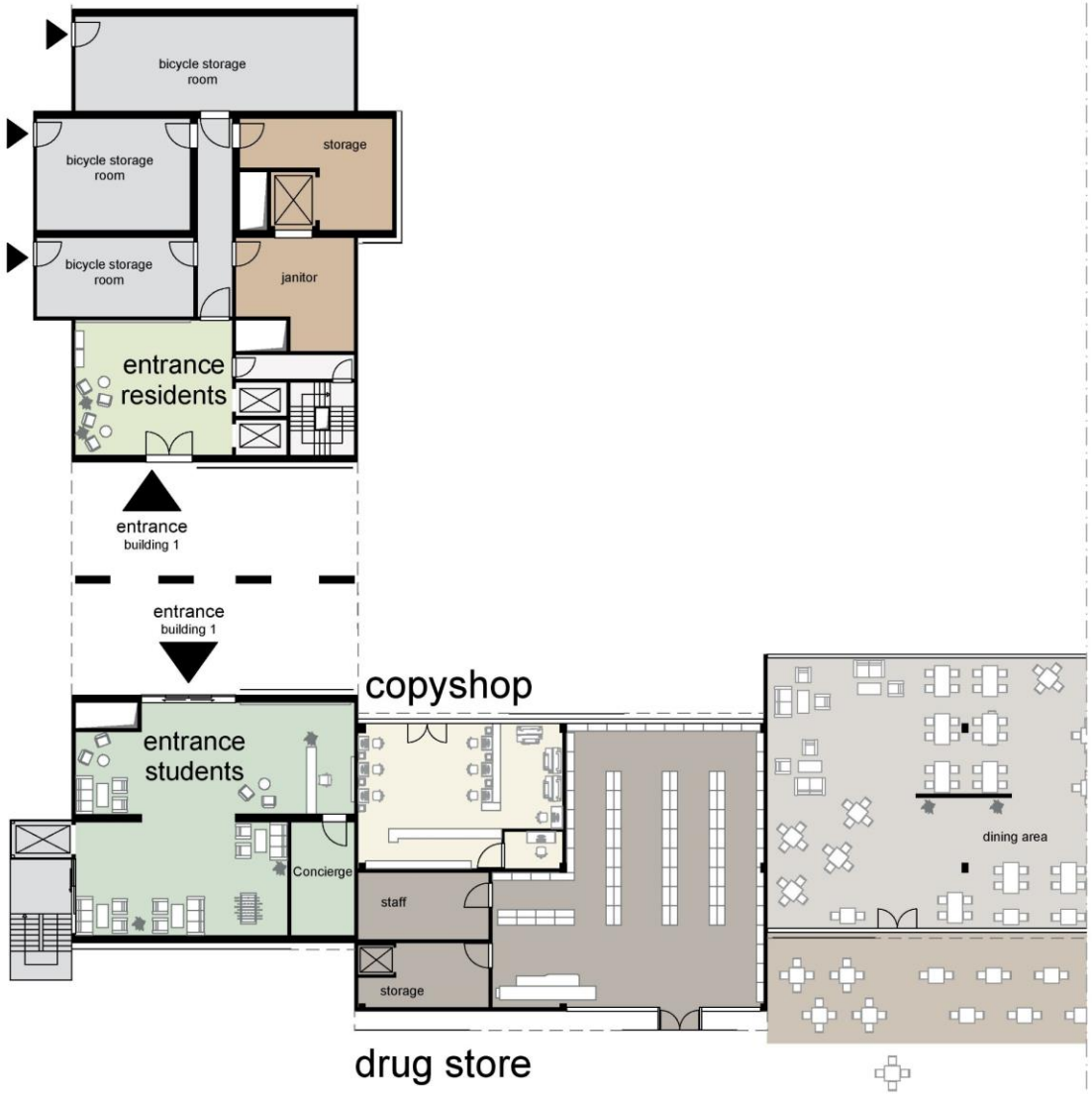
level 1.2 - 1.19
level 2.11 - 2.19

Since Tower 1 houses both general and student living, two separate entrances serve the respective groups of residents. From there, the adjoining access cores primarily serve to provide access to the associated area in the tower, but it is also possible to switch between the elevators if necessary.
The common spaces of the respective areas are located in the immediate vicinity of the access cores, so that they become places where residents can meet with each other and with visitors.

residents
visitors
light transport of goods

CUBES

THE ENTRANCE



level 1.00

XXL version

The ground level of the left tower contains two seperate entrances: the southern one functions as main entrance for the students living in the tower and consists of a lounge and the concierge service while the one in the north is a small private entrance for the remaining residents. It is directly linked to bicyle storage rooms and the janitors office.

L version

The student entrance is located in the south while the private residents' entrance is located in the northern part of the left tower ground floor which also contains several storage rooms.

N

CUBES

version XXL: Benedikt Kiederle & Laura Molter

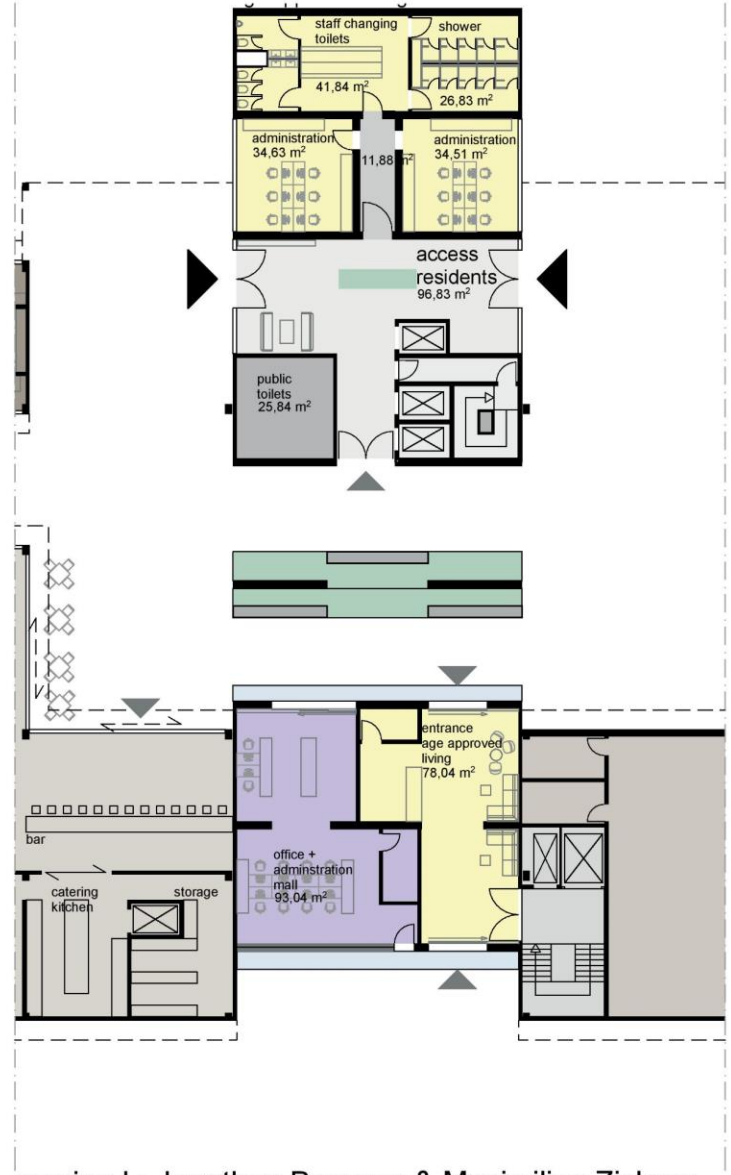
version L: Jonathan Pommer & Maximilian Zichner

S : 1 : 100

THE ENTRANCE

version XXL: Benedikt Kiederle & Laura Molter

S : 1 : 100



version L: Jonathan Pommer & Maximilian Zichner

level 2.00

XXL version
While the southern part of the ground floor contains the visitors entrance for the age approved living apartments the private residents' entrance can be found in the northern part which also contains bicyle storage rooms, the janitors office and space for staff and logistics.

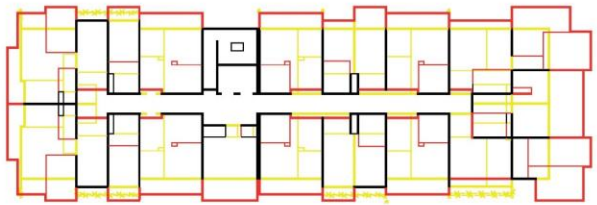
L version
While the entrance for the age approved living spaces is located in the southern part, staff and administration spaces can be found in the northern part of the ground floor. The latter also contains the residents' entrance as well as public toilets.

N

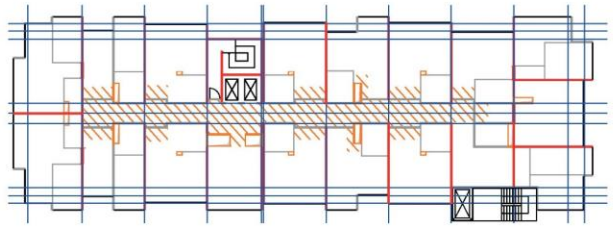
CUBES

THE STRUCTURE

general living
level 1.8-1.19
level 2.11-2.19



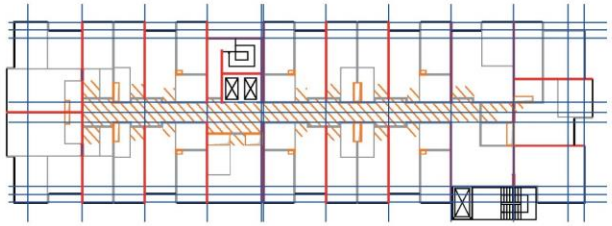
demolition/ new structure



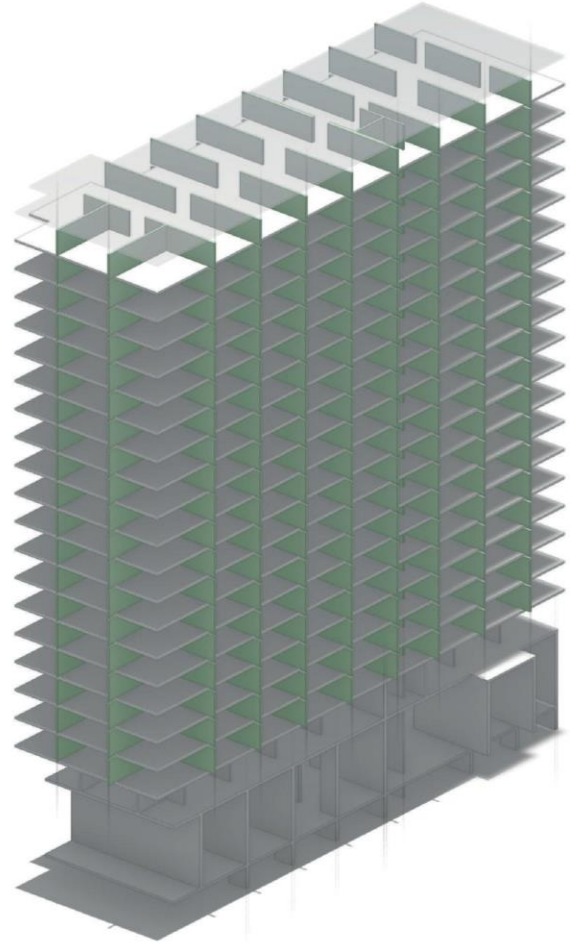
support structure/installation

student living
level 1.2-1.7

demolition/ new structure



support structure/installation



level 1.2 - 1.19
level 2.11 - 2.19

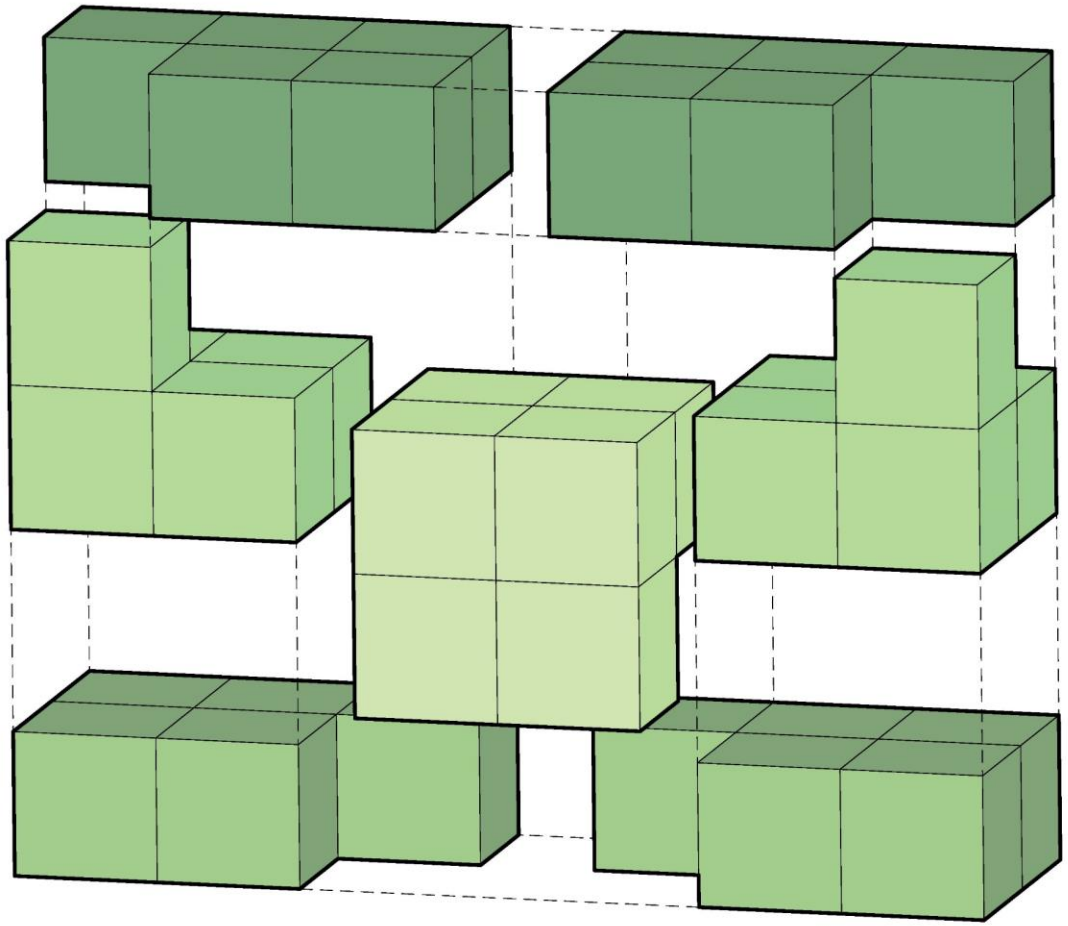
The existing ceiling panes are partially breached to enable the establishment of galery levels. Breakthroughs through loadbearing bulkheads are kept to a minimum.

The bulkheads on the southern front of the building and the existing staircase core will be used to stiffen the supporting structure.

An additional core will be attached to the existing building in the south-west.

CUBES

THE CONCEPT



general living
level 1.8-1.19
level 2.11-2.19

level 1.2 - 1.19
level 2.11 - 2.19

Referencing the CUBES concept, the apartments are shaped as a structure consisting of multiple cubes which are assembled horizontally as well as vertically. The different apartments will compliment each other in a "Tetris" sort of manner to form one large cube.

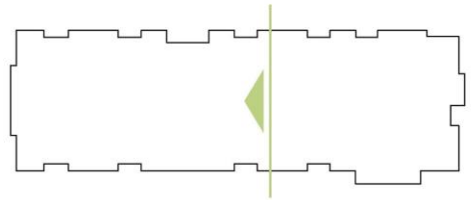
CUBES

THE SECTION

S : 1 : 100

level 1.6 - 1.10

While the two lower floors show a duplex student apartment, the ones above depict the horizontal and vertical interaction between spaces thus forming different residential units.
In the corridor and entrance spaces the ceiling is slightly suspended to make room for ventilation pipes.



CUBES

THE FLOORPLAN: student living

level 1.2-1.7

1 duplex apartment A: 30m²

2 duplex apartment B: 30m²

3 one room apartment: 25m²

4 one room apartment: 30m²

5 three bedroom shared apartment: 80m²

6 two bedroom shared apartment: 65m²

7 common space: 35m² (e.g. common kitchen, mini cinema, studying space, etc)

N

CUBES

S : 1 : 100

THE FLOORPLAN: student living

level 1.3/5/7

level 1.2/4/6

S : 1 : 100

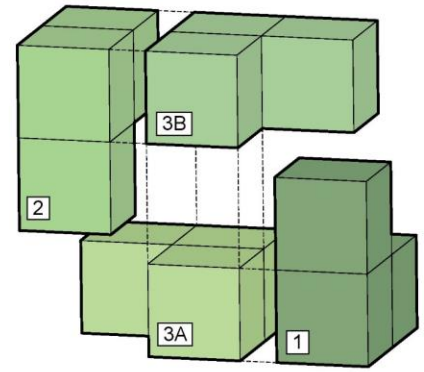
level 1.2-1.7

1 duplex apartment A: 30m²

2 duplex apartment B: 30m²

3A one room apartment: 25m²

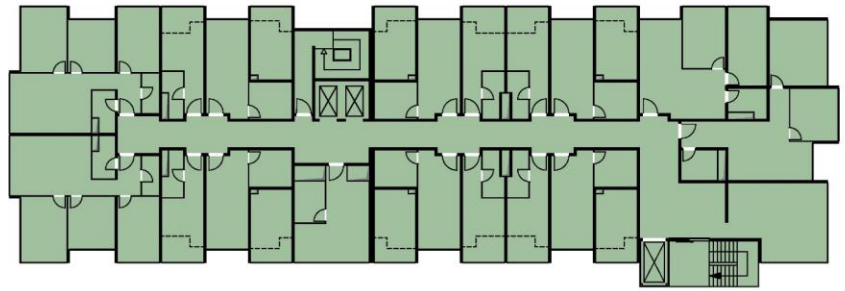
3B one room apartment: 25m²



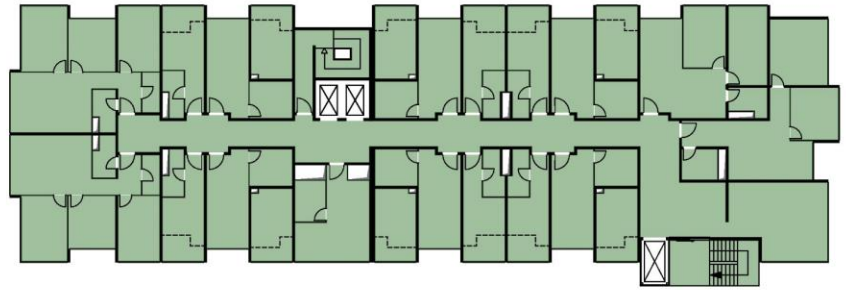
N

CUBES

THE AREA DISTRIBUTION: student living



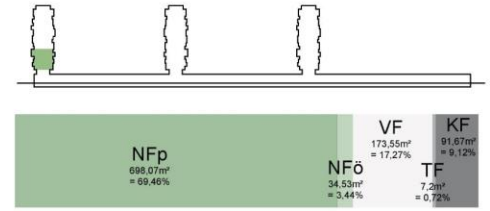
gross floor area



usable floor area

leasable floor area

level 1.2-1.7



NGF: 913,35 m² = 90,88%

BGF: 1005,02 m² = 100,00%

floor area distribution

efficiency

leasable area / usable area

= 698,07 m² / 888,72 m²

= 0,78

requirements

bath	**living**
22°C - 24°C	21°C - 23°C
200 - 500 lx	300 - 500 lx
7 m³/h*m²	4 m³/h*m²

N

CUBES

THE FLOORPLAN: general living

level 1.8-1.19
level 2.11-2.19

1 duplex apartment A: 65m²

2 duplex apartment: 55m²

4 two bedroom apartment: 80-100m²

5 two bedroom
duplex apartment: 140m²

6 three bedroom
duplex apartment: 135m²

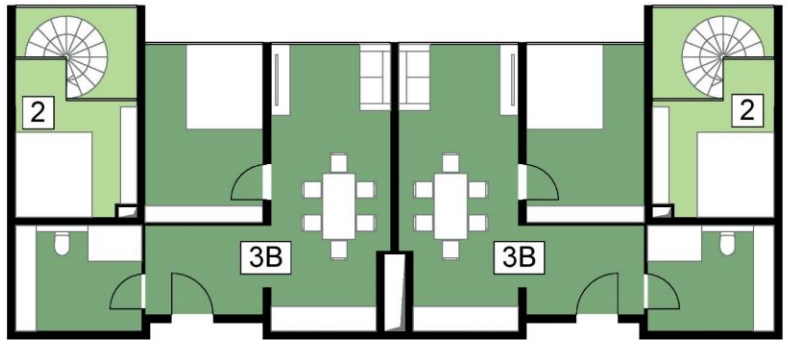
8 common space: 35m²
(e.g. indoor playground, reading corner etc)

N

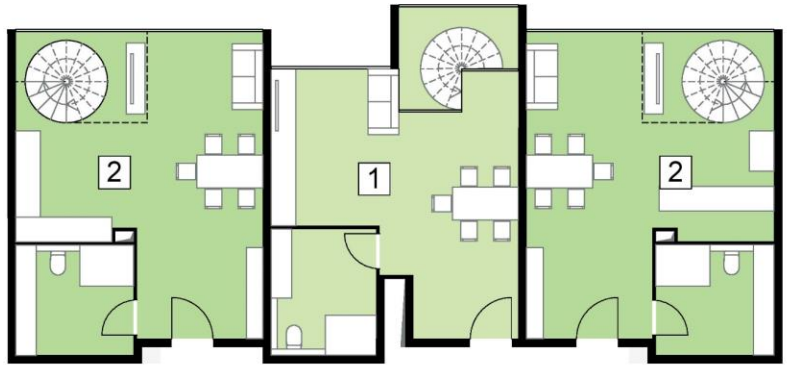
CUBES

S : 1 : 100

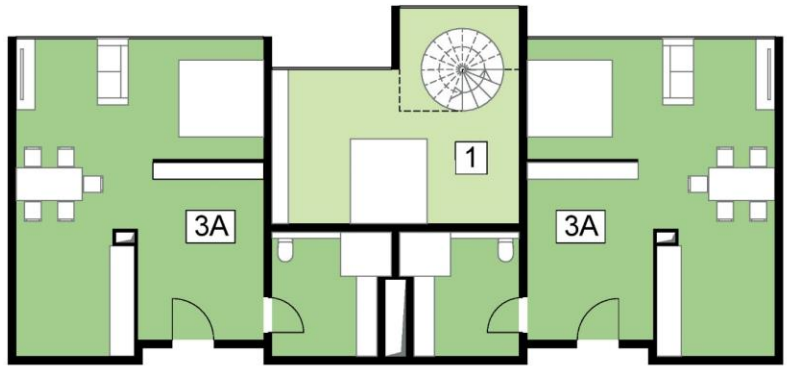
THE FLOORPLAN: general living



level 1.10/13/16/19
level 2.13/16/19



level 1.9/12/15/18
level 2.12/15/18



level 1.8/11/14/17
level 2.11/14/17

S : 1 : 100

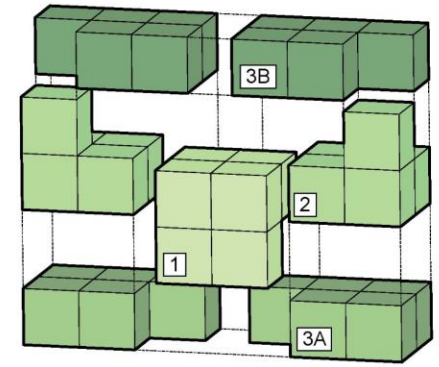
level 1.8-1.19
level 2.11-2.19

1 duplex apartment: 65m²

2 duplex apartment: 55m²

3A single apartment: 50m²

3B single apartment: 45m²

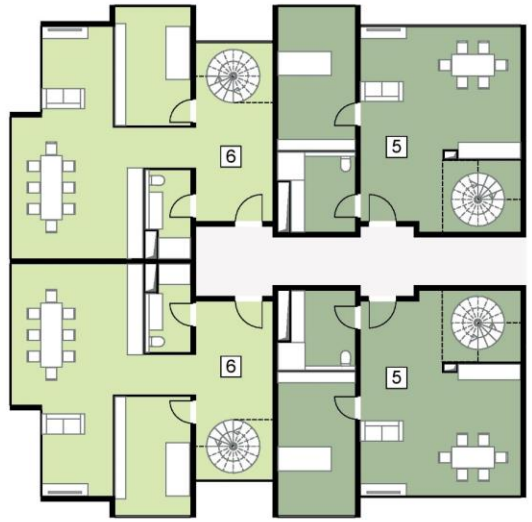


N

CUBES

THE FLOORPLAN: general living

level 1.9/11/13/15/17/19
level 2.12/14/16/18



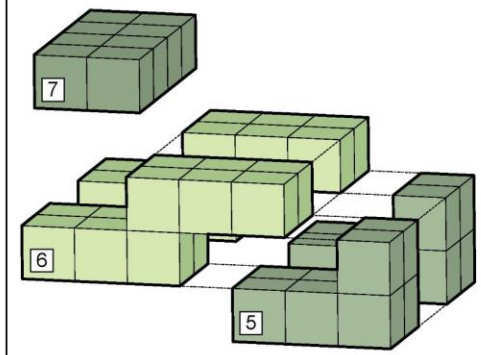
level 1.8/10/12/14/16/18
level 2.11/13/15/17

level 1.8-1.19
level 2.11-2.19

5 two bedroom
duplex apartment: 140m²

6 three bedroom
duplex apartment: 135m²

7 three bedroom apartment: 115m²

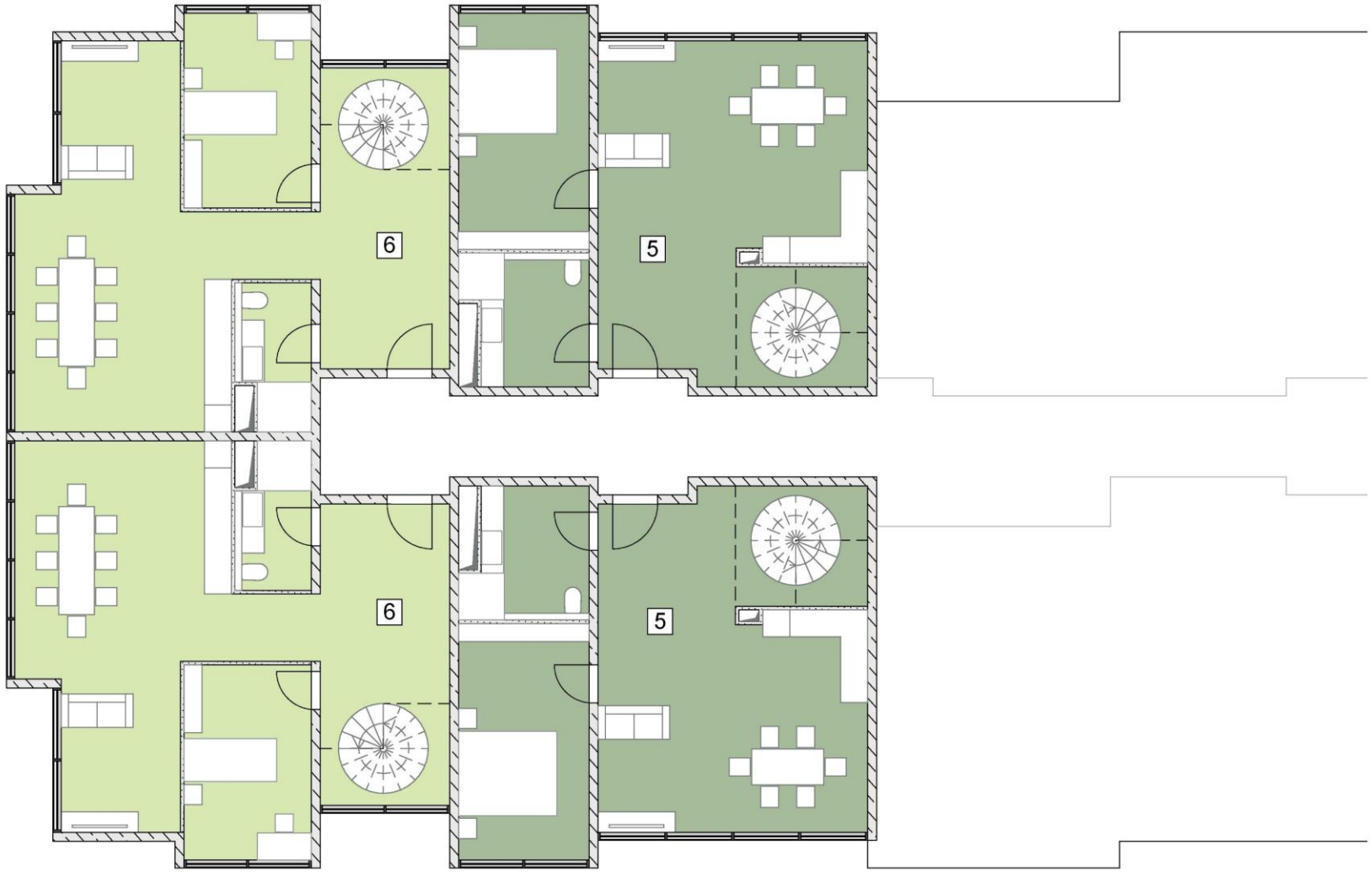


N

CUBES

S : 1 : 100

THE FLOORPLAN: general living



level 1.8/10/12/14/16/18
level 2.11/13/15/17

The lower floors of apartments 5 and 6 each have a kitchen with open living, cooking and dining area, as well as a bedroom and a bathroom with shower.

While the upper floor of apartment 5 consists only of one additional bedroom accessible via the spiral staircase, apartment 6 has two additional bedrooms, a second bathroom with bathtub and a storage room here.

Apartment 7 is a one storey flat and does like apartment 6 have three bedrooms, an open living area, two bathrooms and a storage.

N

CUBES

S : 1 : 50

THE FLOORPLAN: general living

level 1.9/11/13/15/17/19
level 2.12/14/16/18

The lower floors of apartments 5 and 6 each have a kitchen with open living, cooking and dining area, as well as a bedroom and a bathroom with shower.

While the upper floor of apartment 5 consists only of one additional bedroom accessible via the spiral staircase, apartment 6 has two additional bedrooms, a second bathroom with bathtub and a storage room here.

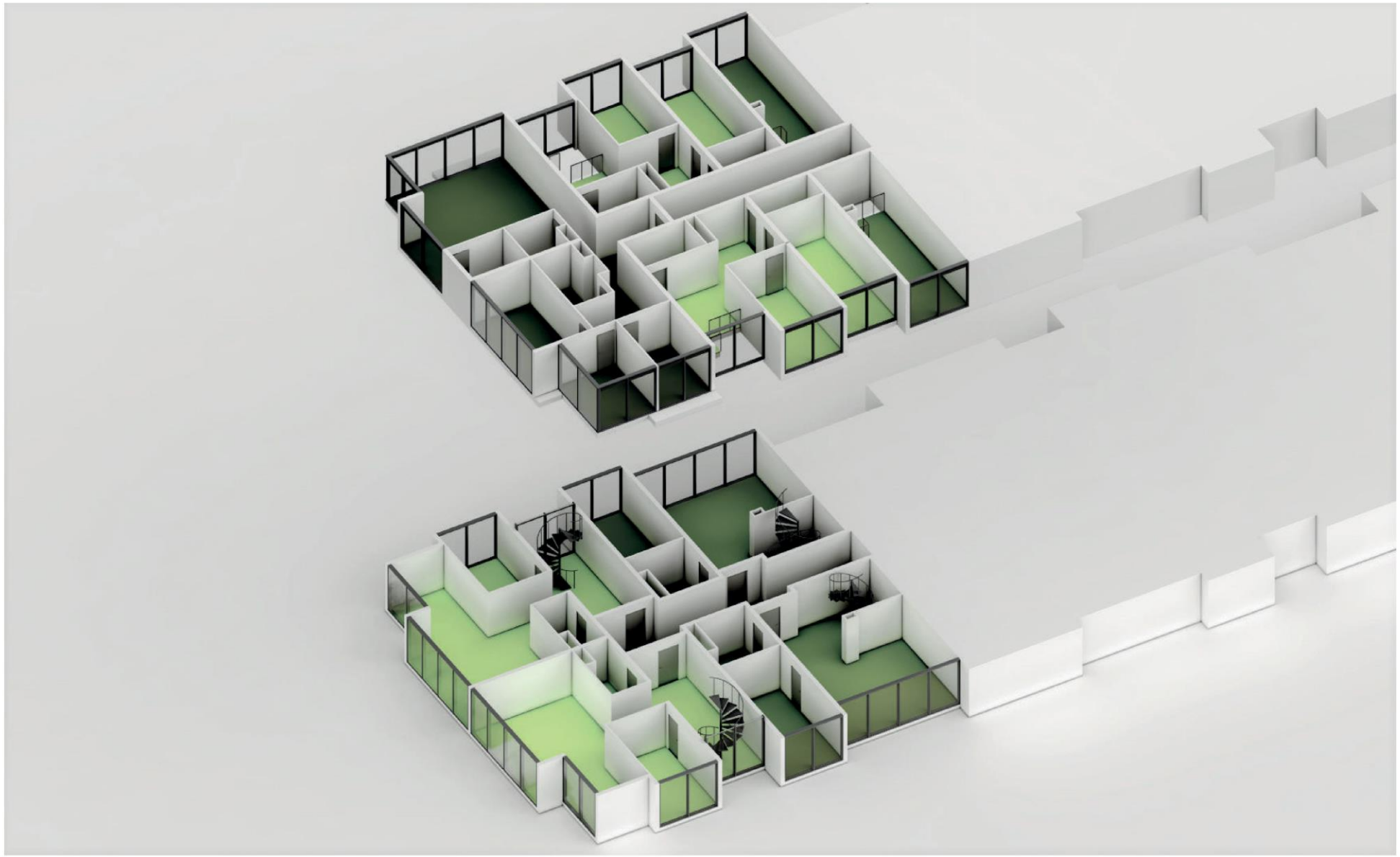
Apartment 7 is a one storey flat and does like apartment 6 have three bedrooms, an open living area, two bathrooms and a storage.

N

CUBES

S : 1 : 50

ISOMETRIC VIEW



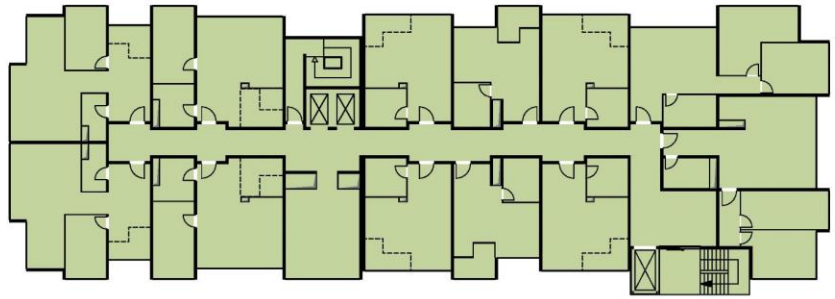
level 1.8-1.19
level 2.11-2.19

In the isometric drawing, the horizontal and vertical interrelationships of the partly multi-storey apartments both within themselves and with each other, are made clear in a three dimensional way.

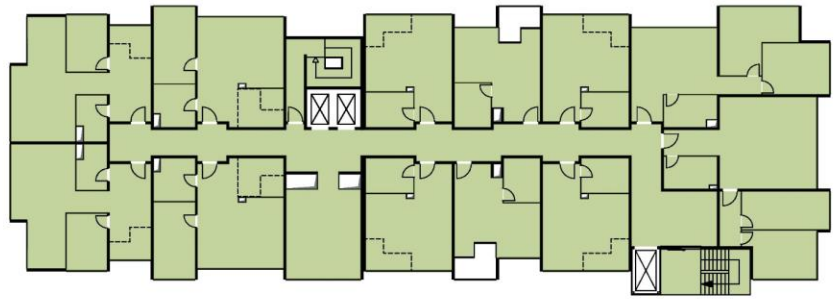
Furthermore the ratio between area and volume is made tangible while also illustrating the vertical jumps of the facades cubes structure.

CUBES

THE AREA DISTRIBUTION: general living



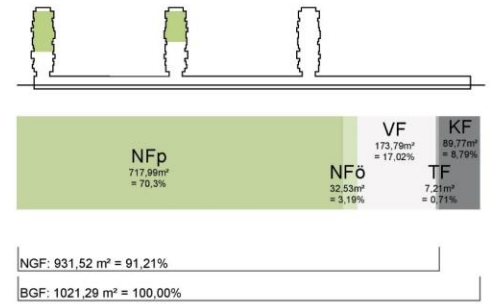
gross floor area



usable floor area

leasable floor area

e.g. level 3.12



floor area distribution

efficiency

leasable area / usable area

= 717,99m² / 906,88 m²

= 0,79

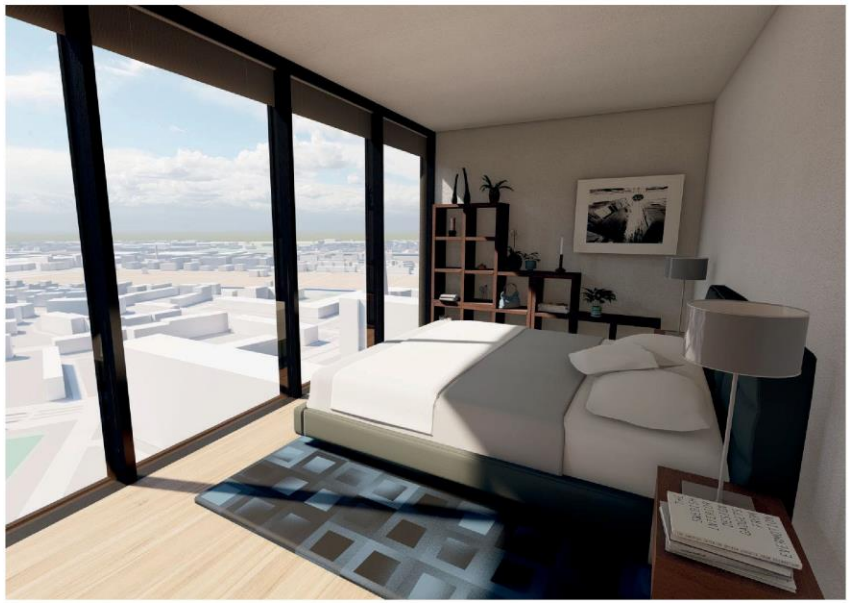
requirements

bath	**living**
22°C - 24°C	21°C - 23°C
200 - 500 lx	300 - 500 lx
7 m³/h*m²	4 m³/h*m²

N

CUBES

SPACIAL IMPRESSIONS

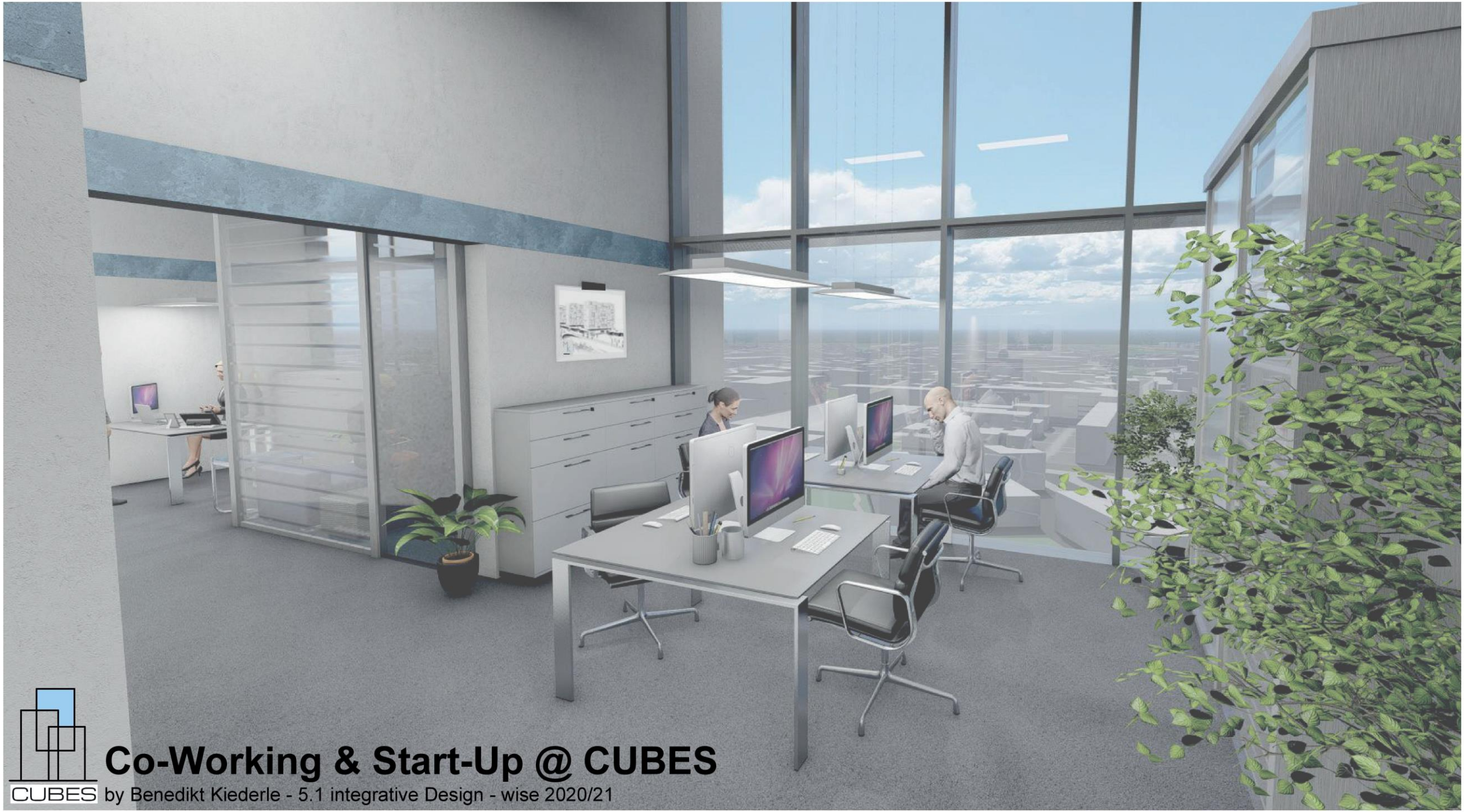


level 1.8-1.19
level 2.11-2.19

The use of galleries conveys a sense of height despite the comparatively low ceiling height.

In addition, open-plan design and floor-to-ceiling windows that provide a view over the city create a pleasant sense of spaciousness.

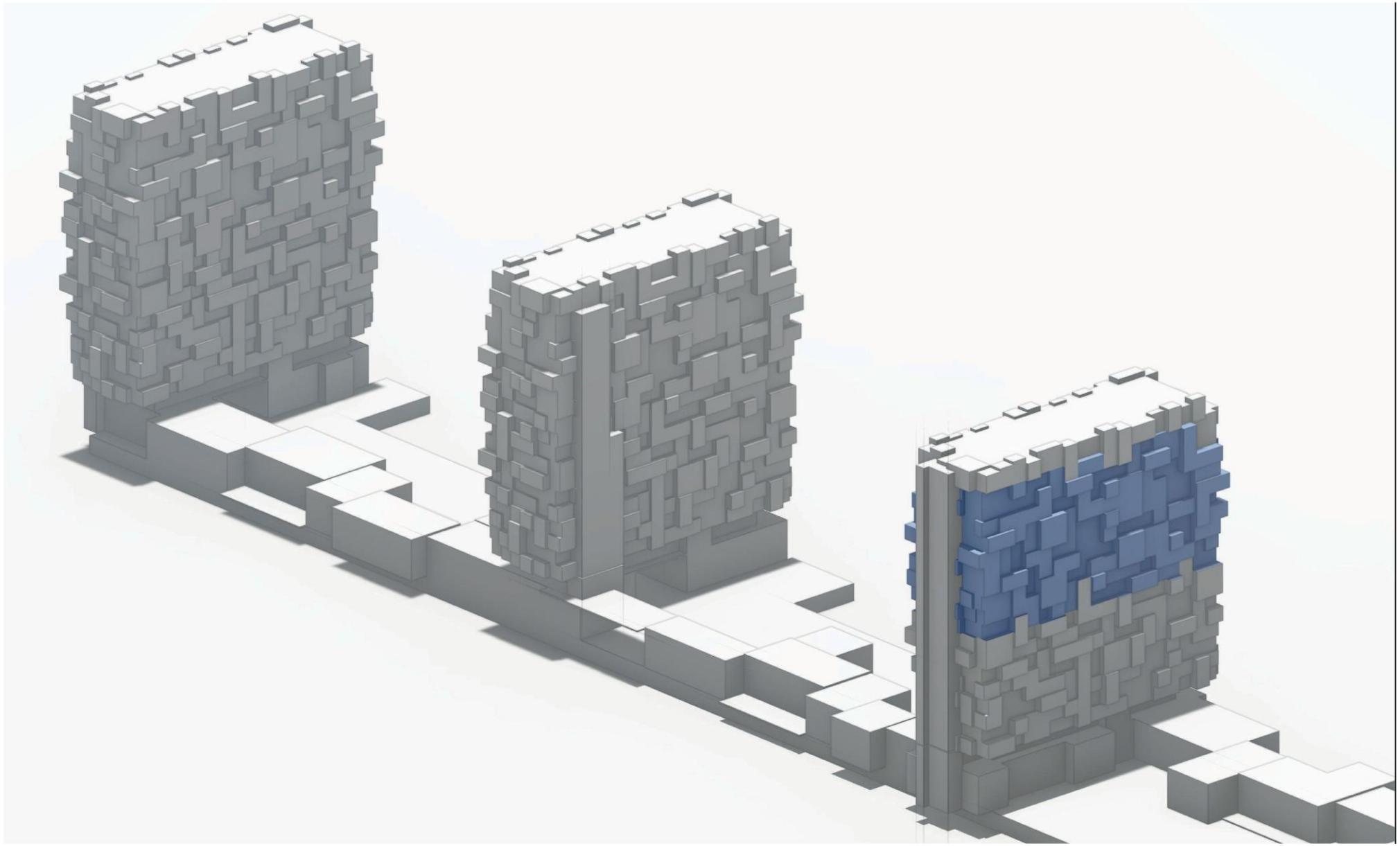
CUBES



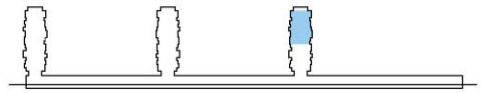
Co-Working & Start-Up @ CUBES

CUBES by Benedikt Kiederle - 5.1 integrative Design - wise 2020/21

LOCATION ON SITE



level 3.10 - level 3.14



Co-working spaces:

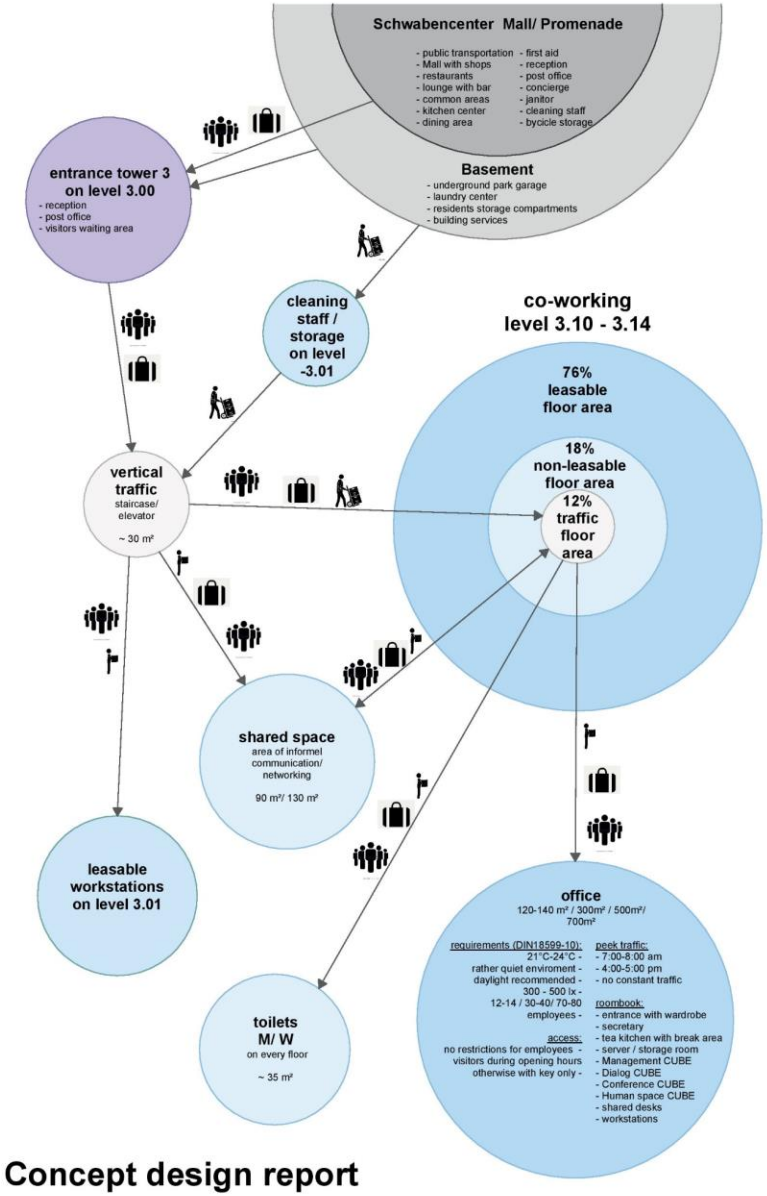
The co-working spaces are located in the upper part of tower 3 on levels 3.10 - 3.14. They are directly above the serviced apartments (designed by Maximilian Zichner).
Since there is no living in Tower 3, the entire tower is designed for business.

Adjacent areas:

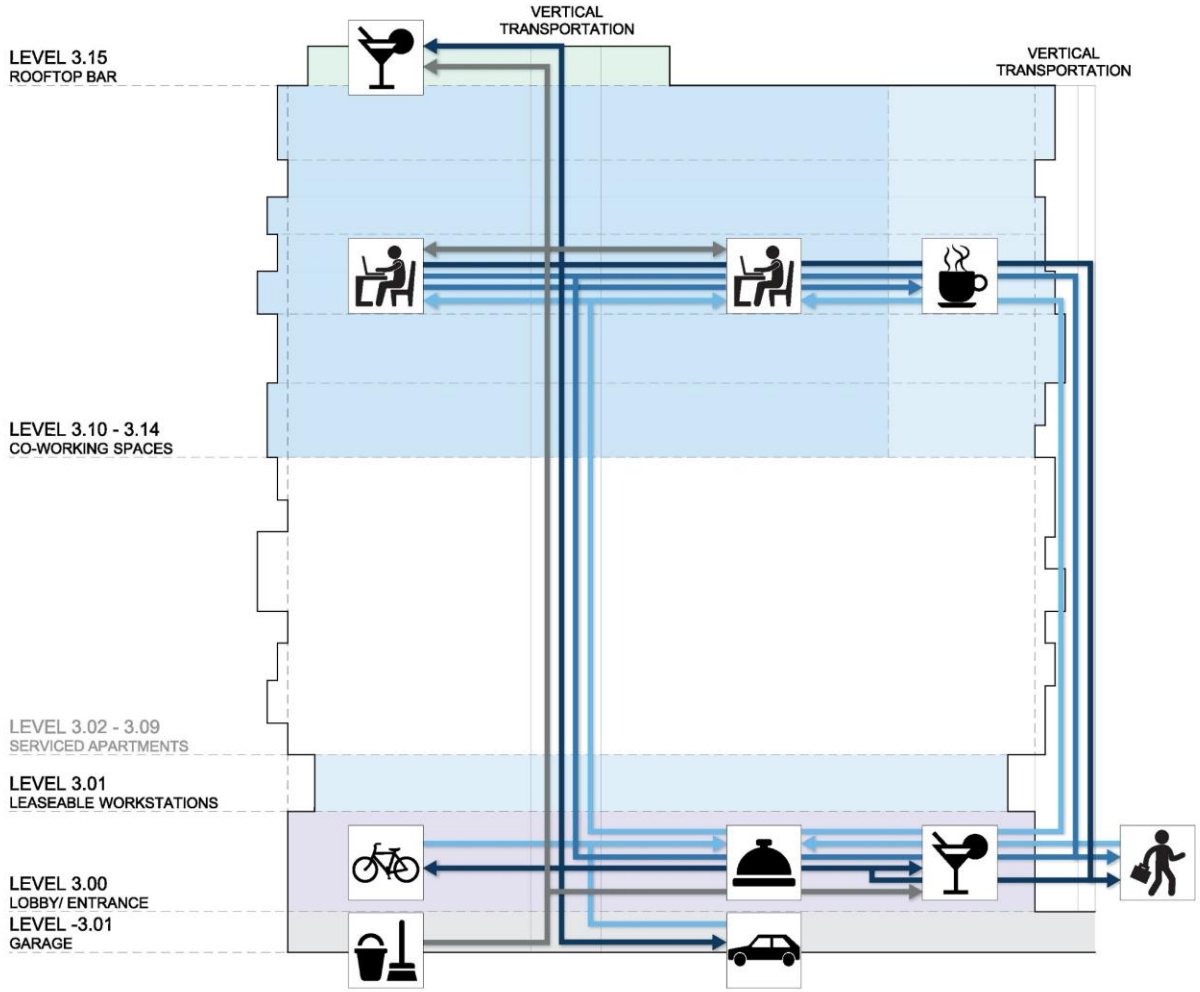
On level -3.01 there are building services facilities as well as storage space for the cleaning staff.
On level 3.00 there is the entrance and the reception/registration as well as the access to the vertical traffic.
On level 3.01 there are further workplaces that can be rented on a flexible basis.
On level 3.15 there is the Rooftop Bar for the workers of the co-working spaces and the visitors of the serviced apartments, which is accessible via an express elevator.

CUBES

FLOW OF GOODS - PERSONNEL FLOW



Concept design report



Movement inside tower 3

level 3.10 - level 3.14

Concept design report:

The concept design report shows on the one hand the dependencies of the individual uses on each other in the overall context of the Schwabencenter, the percentage shares of the areas of a co-working floor including the requirements, as well as the type of movement flows.

- employees
- visitors
- heavy transport of goods
- light transport of goods

Movement inside tower 3:

the movement diagram shows the horizontal and vertical traffic depending on the time of day.

- start of work (7:00-8:00 am)
- break (12:00 - 13:00 pm)
- end of Work (16:00-17:00 pm)
- cleaning staff (19:00 - 6:00 am)

CUBES

THE ENTRANCE

version XXL: Benedikt Kiederle & Laura Molter

S : 1 : 100

version L: Jonathan Pommer & Maximilian Zichner

level 3.00

XXL version:

The ground floor of Tower 3 is part of the representative business section of the Schwabencenter and is therefore connected to the event area. The entrance also serves as a passage to the two inner courtyards and contains the reception with post department. The vertical traffic is accessible from here.
In the northern part there is a spacious waiting area which is directly connected to the bicycle parking, showers and toilets. In the south there is a bar.

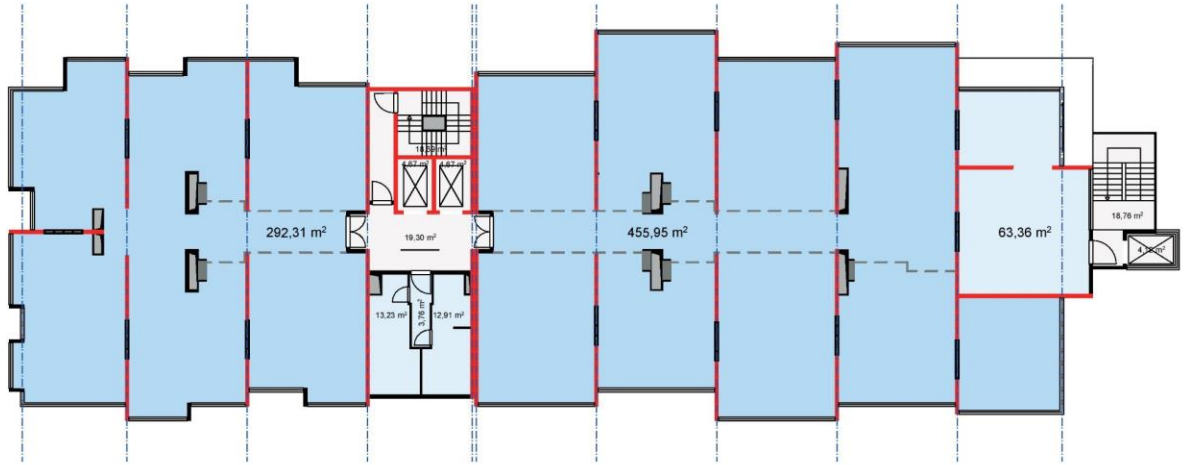
L version:

The entrance to the towers and the mall is covered by a large roof.
The stairwells and elevators in the north and south can be used by everyone.
In the middle there is a large information area, waiting area and also public toilets.

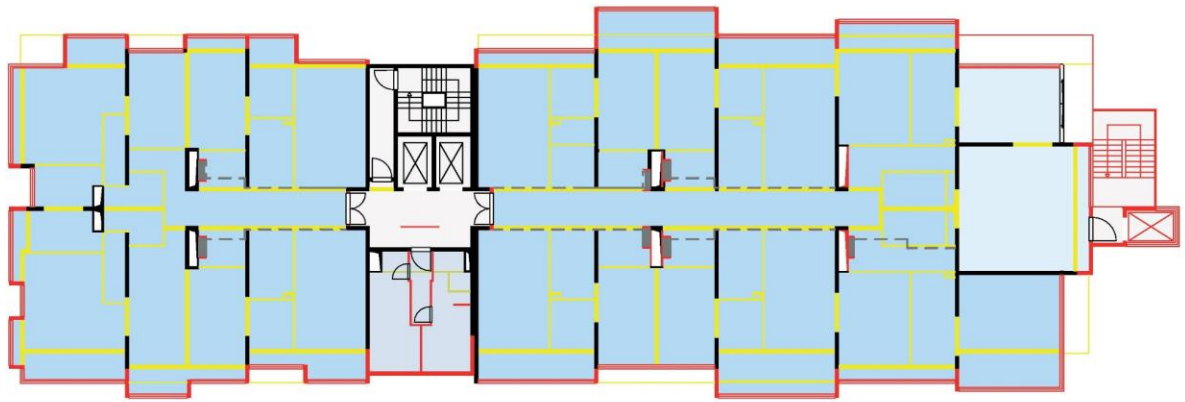
N

CUBES

THE STRUCTURE

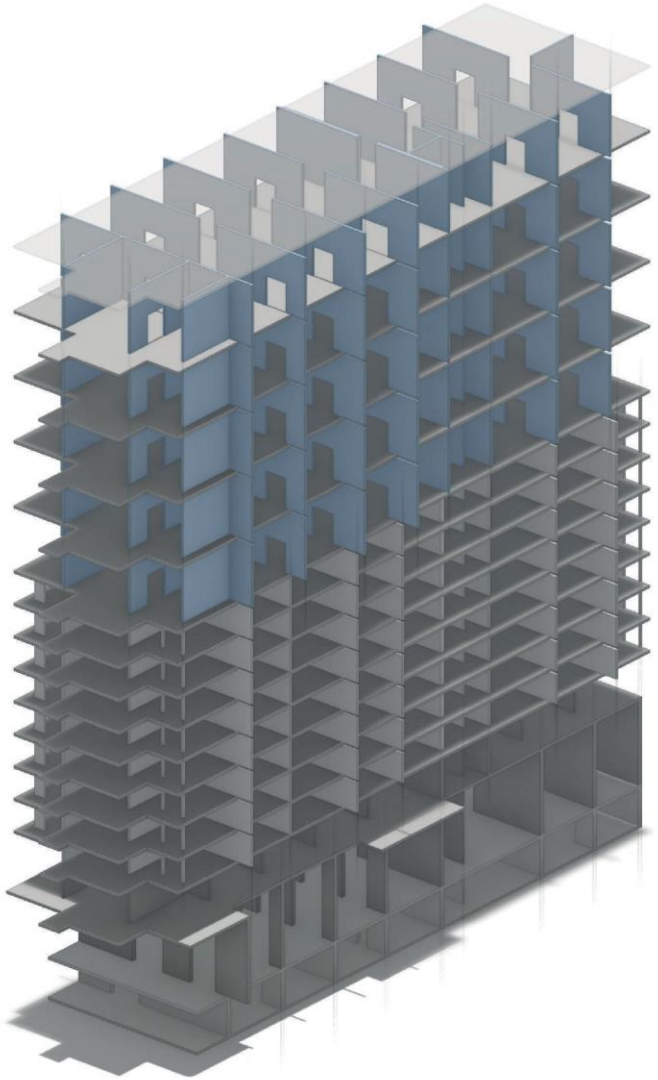


Support structure

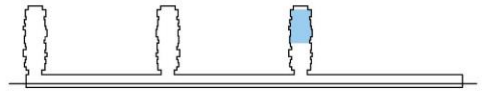


Demolition/ new structure

S : 1 : 100



level 3.10 - level 3.14



Changes to the existing structure:

By removing every second ceiling on the co-working floors, rooms with a clear structural height 5,25m are created.
In order to further ensure the functioning statics, door openings through the load-bearing bulkheads are only 2.5m high.
Furthermore, beams will be installed inside the suspended ceiling to compensate for the removed ceiling panes.
The bulkheads on the southern front of the building and the existing staircase core will be used to stiffen the supporting structure.

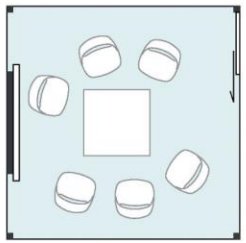
existing wall
new structure
demolition

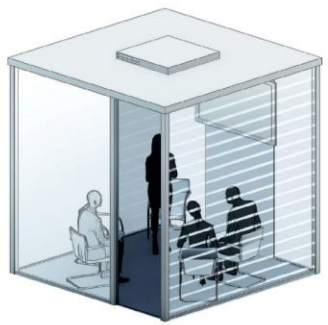
N

CUBES

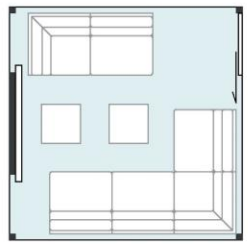
THE CONCEPT - CUBES

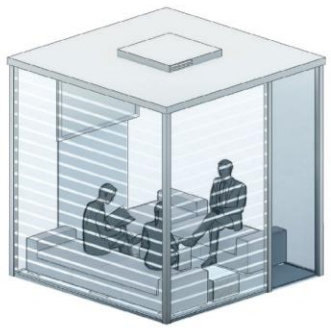
Conference CUBE 3x3



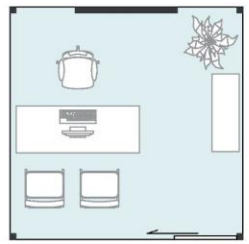


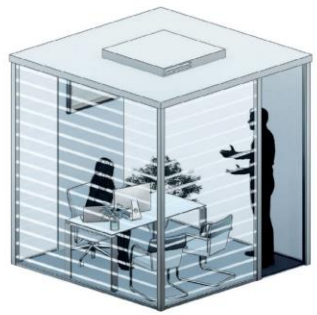
Human Space CUBE 3x3



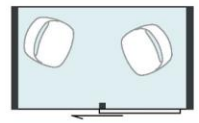


Management CUBE 3x3

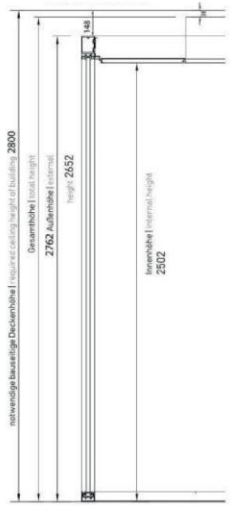




Dialog CUBE 1,3x2,3



source: https://www.steinmetzeinrichtungen.de/raum-in-raum-systeme/



system section

level 3.10 - level 3.14

Concept room in room:

In order to take up the theme of the cubes inside the co-working spaces, a room-within-a-room concept is applied. Here, all rooms - except the server/ storage roome - are formed by cubes (up to 38 dB sound absorption) in the open-plan office.

For the construction of the cubes, no intervention in the existing structure is necessary, as the construction is self-supporting and functions decoupled from the building.

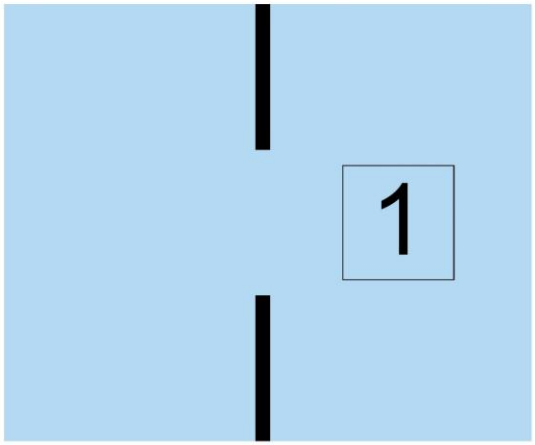
each cube is equipped with an integrated ventilation unit, whereby the cube is ventilated and heated via the room air. the cube only requires power from the socket for this.

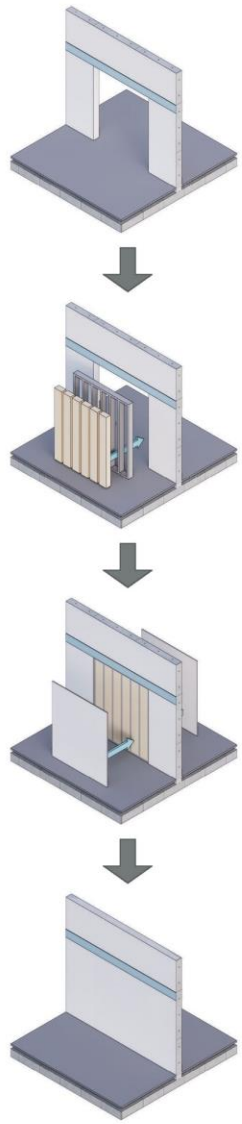
This allows the highest degree of flexibility in use, since cubes can be built, dismantled and rebuilt again and again as needed.

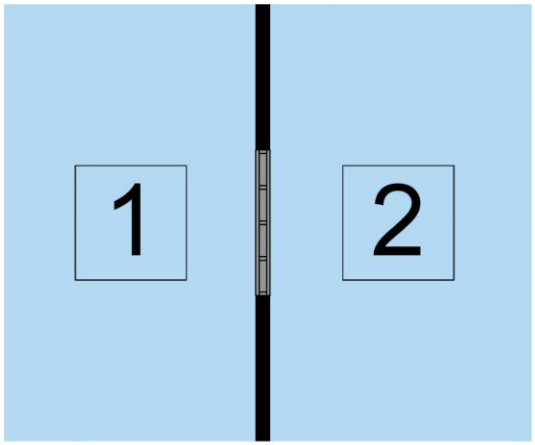
They are freely designable and modular, so that they can be expanded as needed.

CUBES

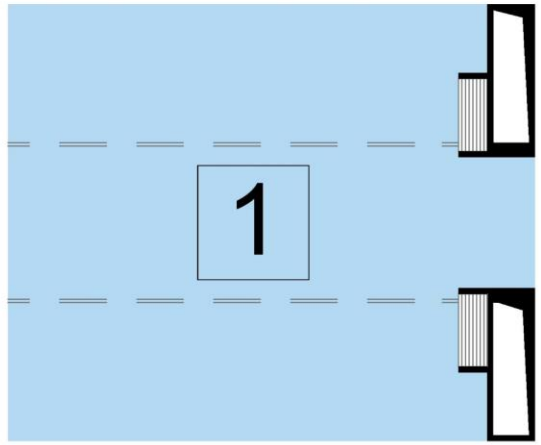
THE CONCEPT - FLEXIBILTY

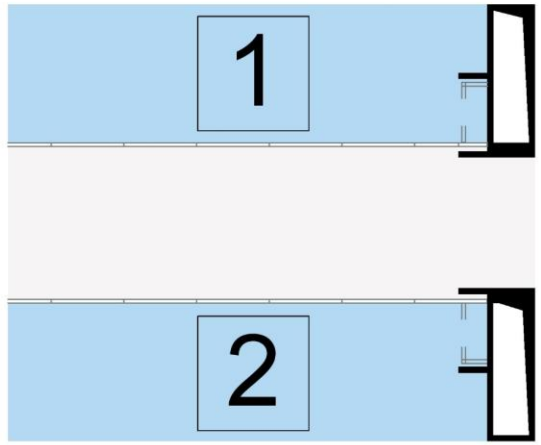




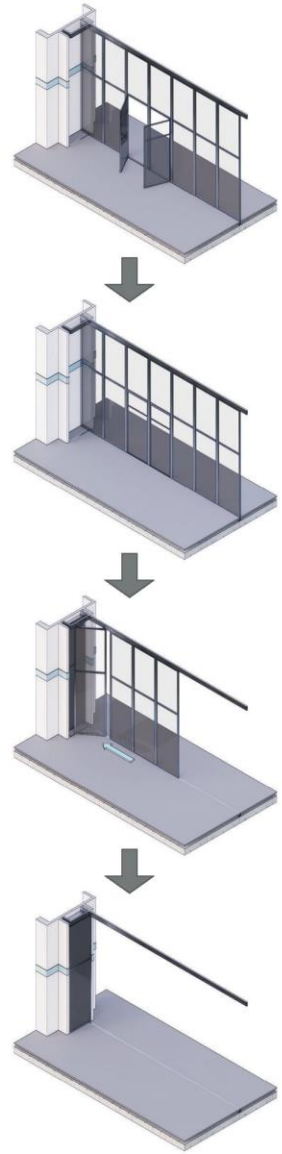


Flexible drywall panels in bulkheads

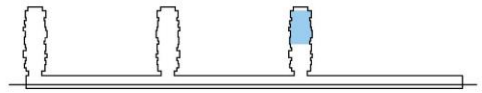




Flexible glass panels



level 3.10 - level 3.14



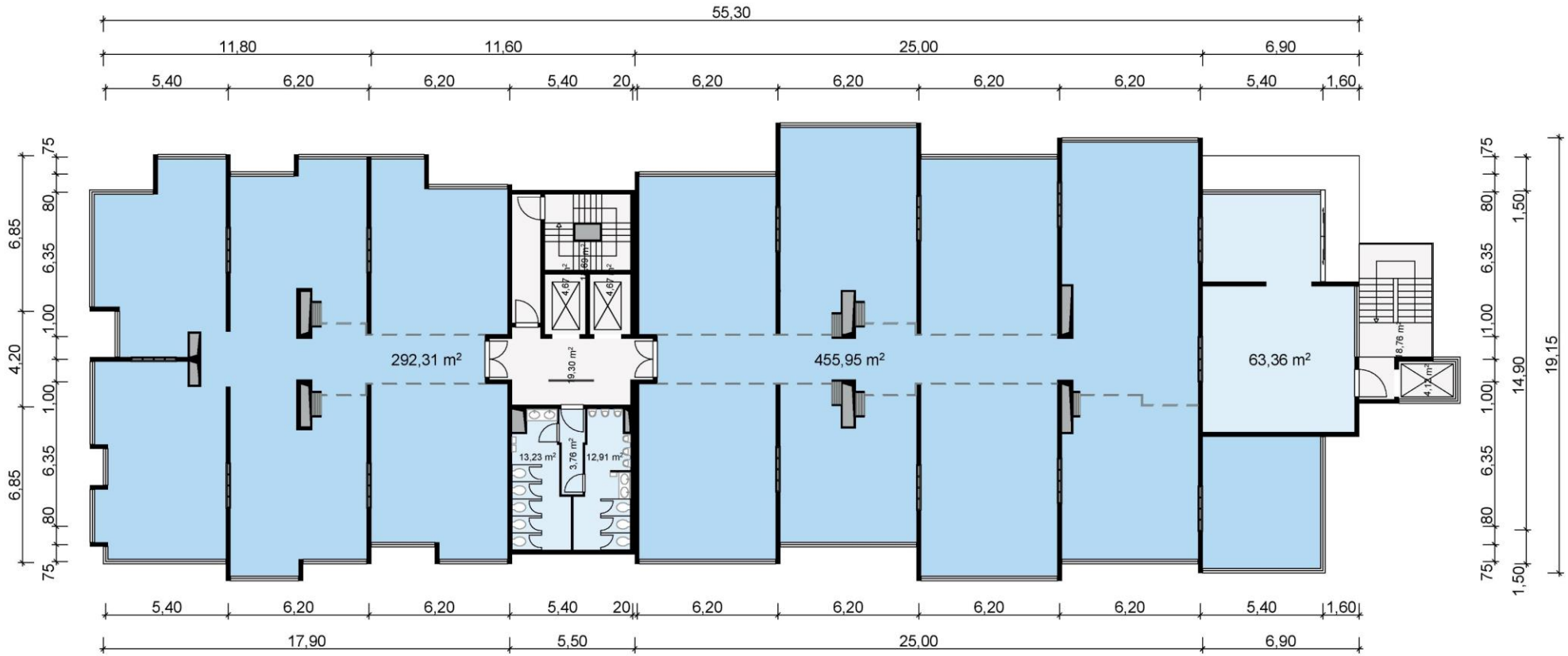
Drywall in bulkheads:
the previously planned recesses in the bulkheads allow the same tenant to operate an office unit over several bulkheads. If the unit is to be divided when the tenant changes, drywall can be inserted and filled with soundproofing within a short period of time.

Flexible glass Panels:
All walls along the corridor were converted to glass panel on rails. These can be opened when two units are connected across the corridor. If the unit is now to be separated, these panels can be slid into the fixtures provided. The individual panels are soundproofed by rubber gaskets and doors are inserted into the panels at the necessary places.

CUBES

S : 1 : 100

THE BASE



S : 1 : 100

level 3.10 - level 3.14

The base floorplan:

With the base floorplan, the support structure is generalized in such a way that the two concepts for flexibility, the drywall in the recesses of the bulkheads and the flexible glass panels, ensure the greatest possible flexibility for the tenants. The aim is to make tenant changes as convenient as possible and to create floor plans with the highest possible quality of stay.

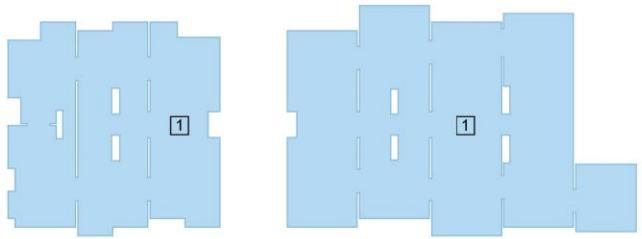
Depending on the type of use, the southern part is used as shared space or lobby. therefore, no glass panel separation is required at this point. The toilets are located centrally on all five floors opposite the existing stairwell.

N

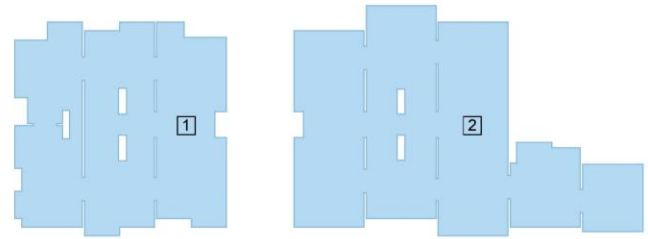
CUBES

THE LEASING OPTIONS

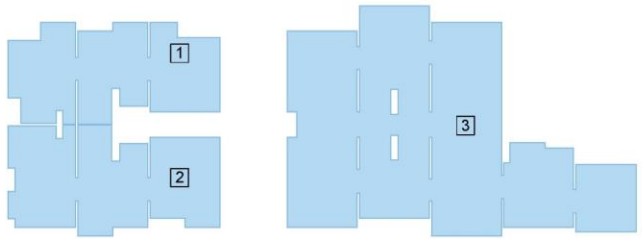
1 on 1



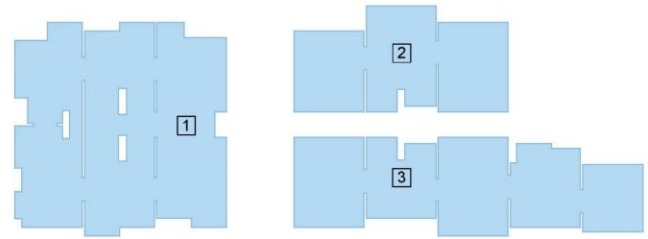
2 on 1



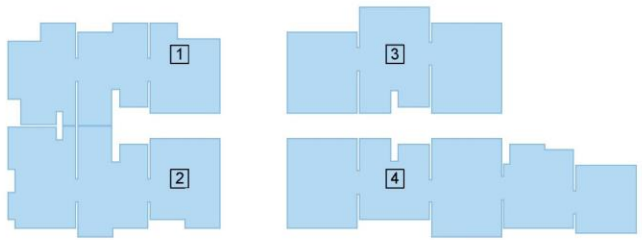
3 on 1



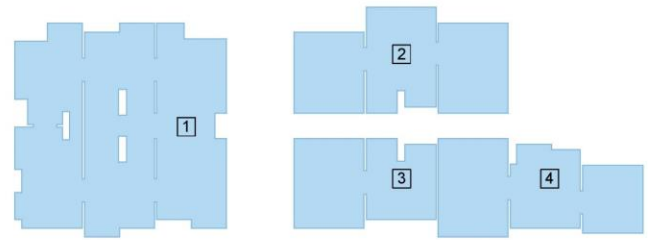
3 on 1



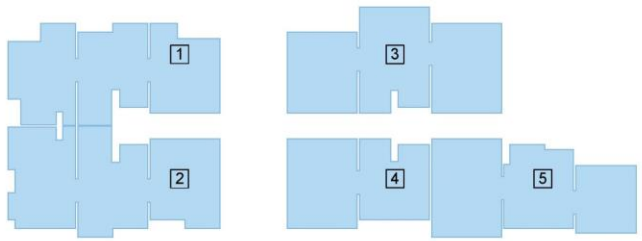
4 on 1



4 on 1



5 on 1



level 3.10 - level 3.14

Leasing Options:
based on the base floor plan using the two flexibility concepts, various leasing options are made possible by connecting or disconnecting units.

1 on 1:
one tenant rents the entire floor.

2 on 1:
two tenants/office units on one floor.

3 on 1:
three tenants/office units on one floor.

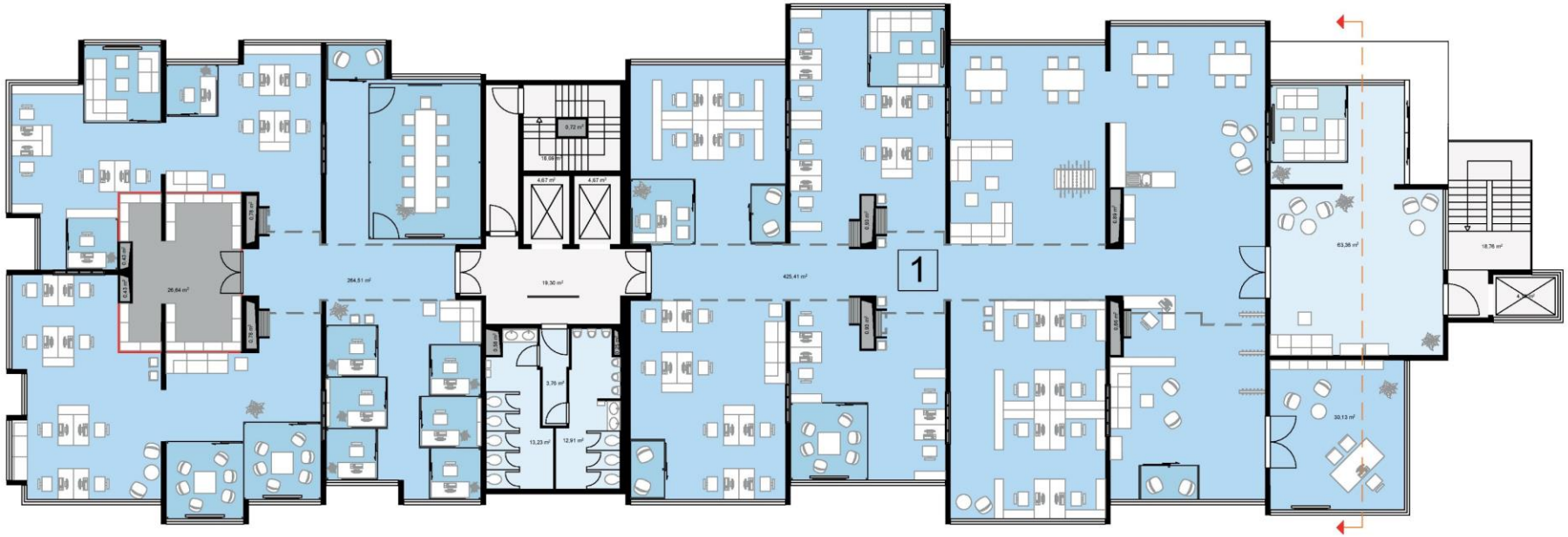
4 on 1:
four tenants/office units on one floor.

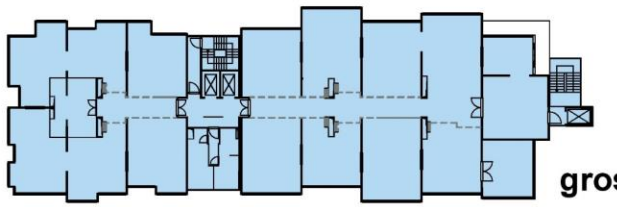
5 on 1:
five tenants/office units on one floor.

N

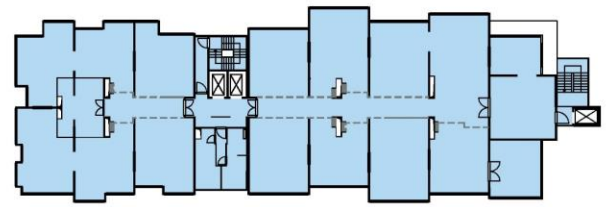
CUBES

THE FLOORPLAN: 1 on 1

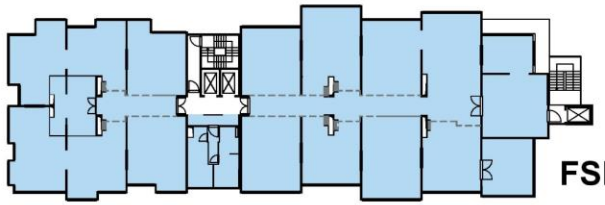




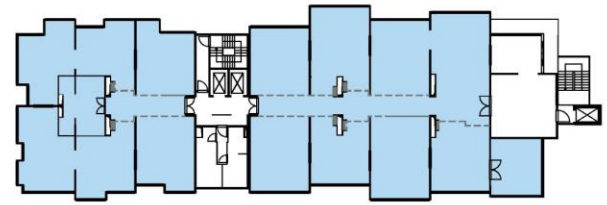
gross floor area



usable floor area



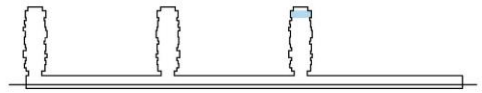
FSI area



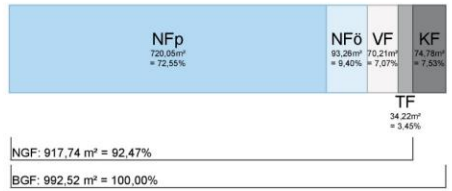
leasable floor area

S : 1 : 100

e.g. level 3.14



Floor area distribution:



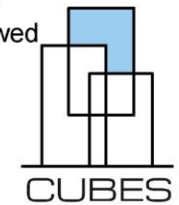
Efficiency:

leasable area / usable area

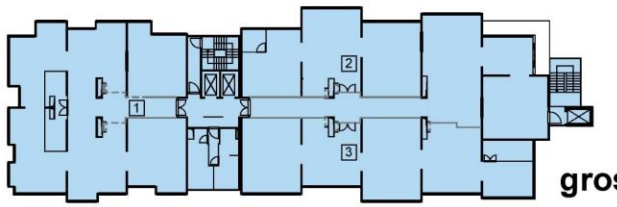
= 746,69 m² / 910,16 m²
= 0,82

1 on 1 Floorplan:

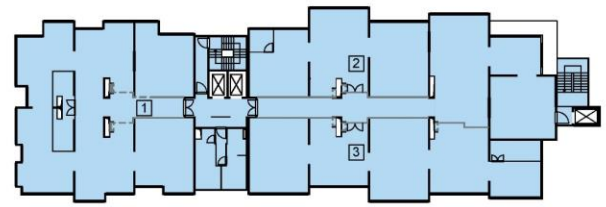
The entire floor is combined into one office unit by opening up all the glass panels, providing 70-80 workstations. The shared space located at the southern staircase is reduced to a smaller lobby. At the middle staircase there is a small corridor so that the toilets are also accessible from the floor above and below.
In the south the is a grant break area, the management office and the reception followed by the workstations.



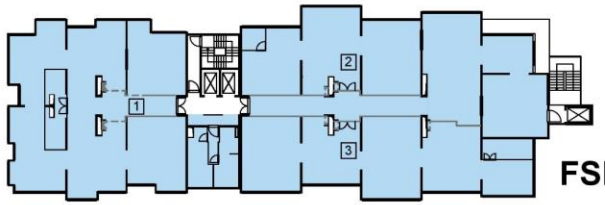
THE FLOORPLAN: 3 on 1



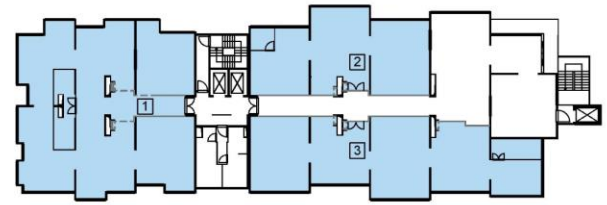
gross floor area



usable floor area



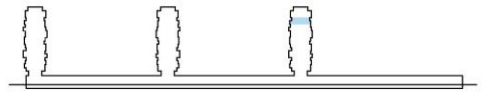
FSI area



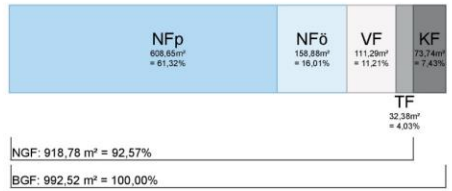
leasable floor area

S : 1 : 100

e.g. level 3.13



Floor area distribution:



Efficiency:

leasable area / usable area

= 641,03 m² / 911,20 m²
= 0,70

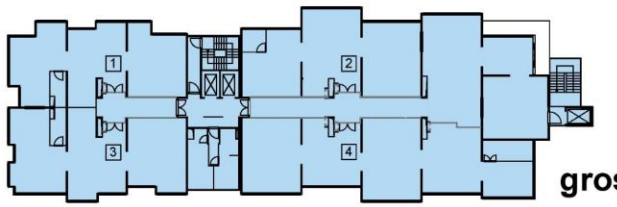
3 on 1 Floorplan:

This 3 on 1 variation shows how the north half of the floor is combined into one leasing unit and connected to the other two offices across the hallway to the shared space to the south. As an example, three office units of different sizes are furnished here. Opposite the existing staircase are the restrooms.

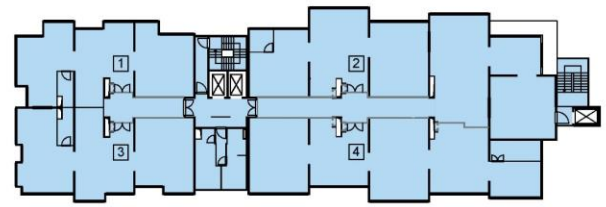
N

CUBES

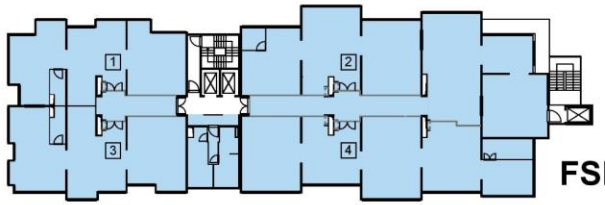
THE FLOORPLAN: 4 on 1



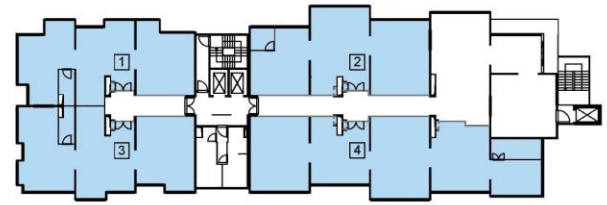
gross floor area



usable floor area



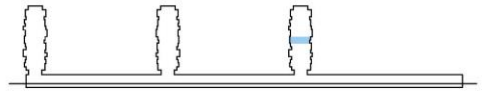
FSI area



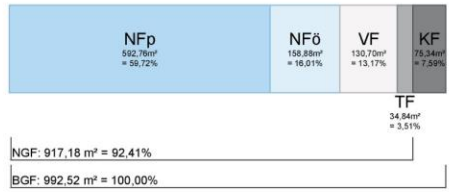
leasable floor area

S : 1 : 100

e.g. level 3.10



Floor area distribution:



Efficiency:

leasable area / usable area

= 620,02m² / 909,60 m²
= 0,68

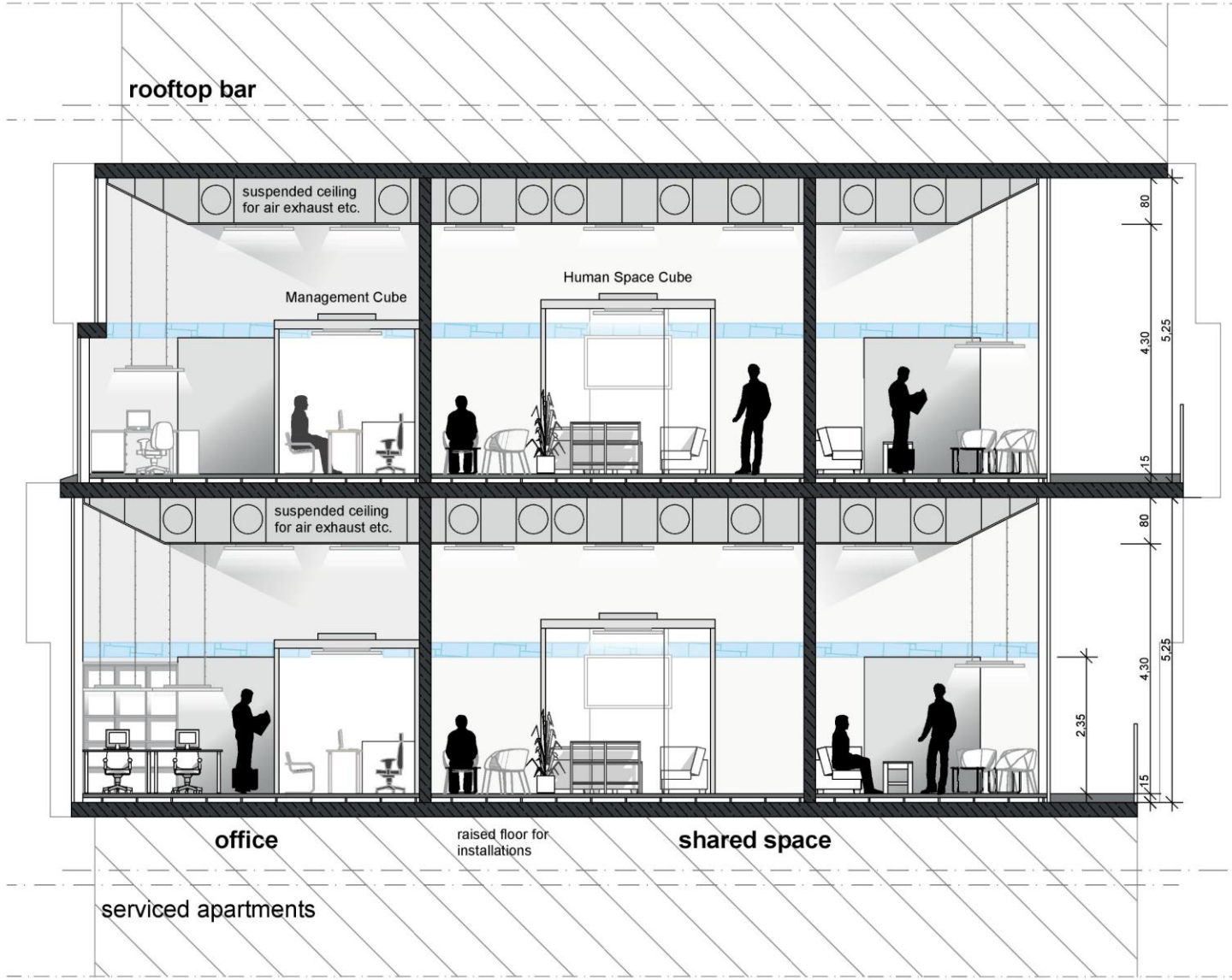
4 on 1:

This floor plan represents four separately leasable units, all connected by the hallway. Analogous to all other leasing options, the shared space for inter-office communication is located at the southern stairwell and the restrooms are located at the existing stairwell.

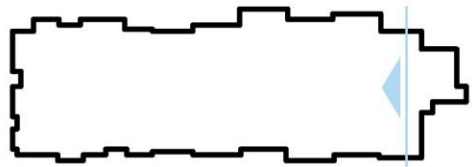
N

CUBES

THE SECTION



S : 1 : 50



level 3.12 - 3.13

Height development:

The suspended ceiling for ventilation and the installation floor create a clear room height of 4.30 m. This allows an interesting play with the heights of the individual CUBES in relation to the room.

Lighting concept:

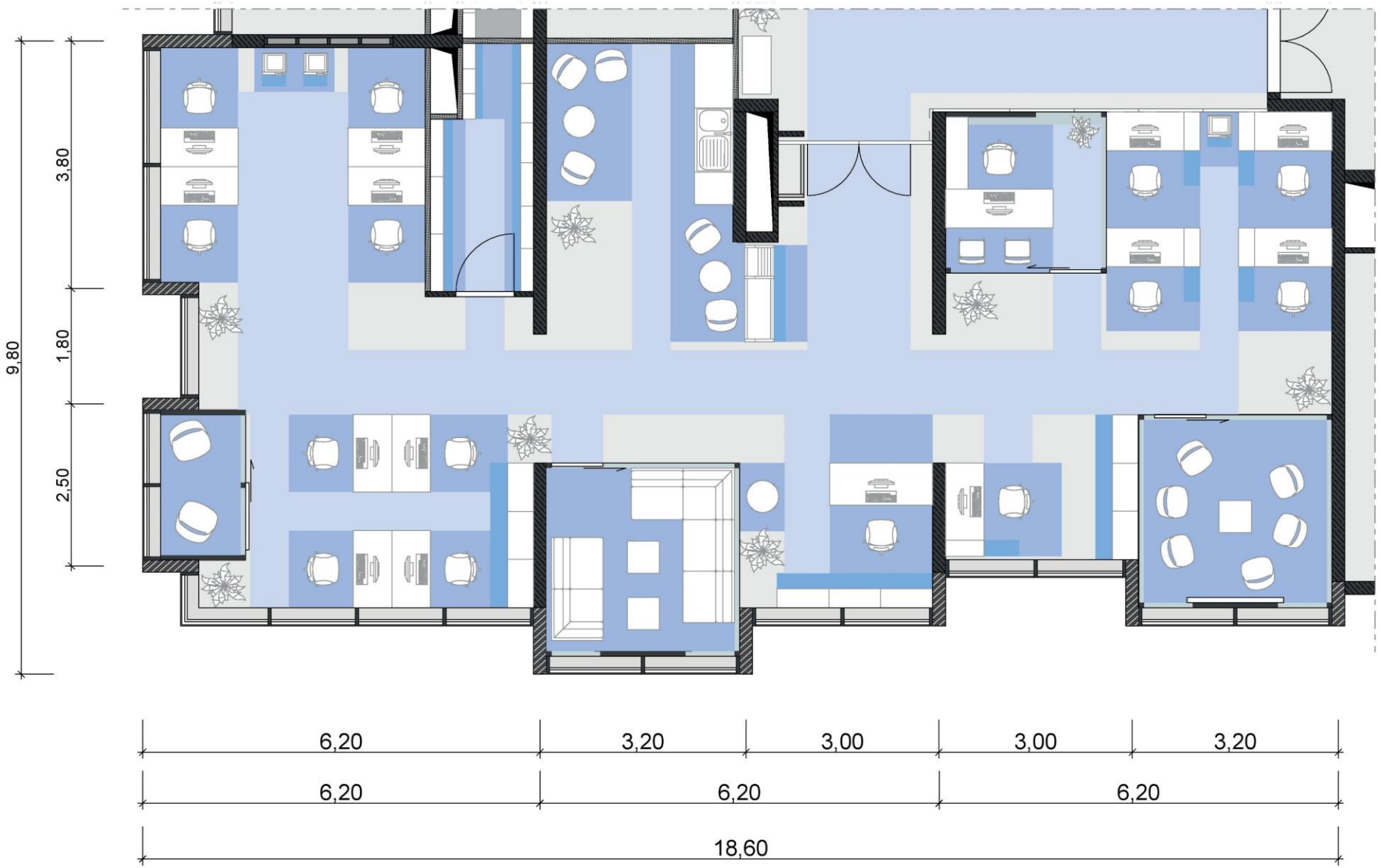
To ensure the necessary lighting of 500 lx, lamps are installed on the suspended ceiling, which passively illuminate the office space. The workstations are directly illuminated with lower hanging lamps. The CUBES have built-in lighting units.

Design concept for the old ceilings:

Since it is not possible to separate the ceiling panels cleanly and perfectly flush from the walls, these demolition edges are staged and thus homage is paid to the old ceilings.

CUBES

THE CLEARANCES: e.g. 4 on 1 - Pos 3



e.g. level 3.10

Clearance Areas:

This floor plan shows for an exemplary furnishing of the position 3 of a 4 on 1 renting the distance area proof.
In order to use the office space as efficiently as possible, a straight-line routing is chosen.
When positioning the desks, care was taken to ensure that desks are only positioned with the transverse side facing the window, if possible, in order to avoid glare effects caused by direct sunlight.

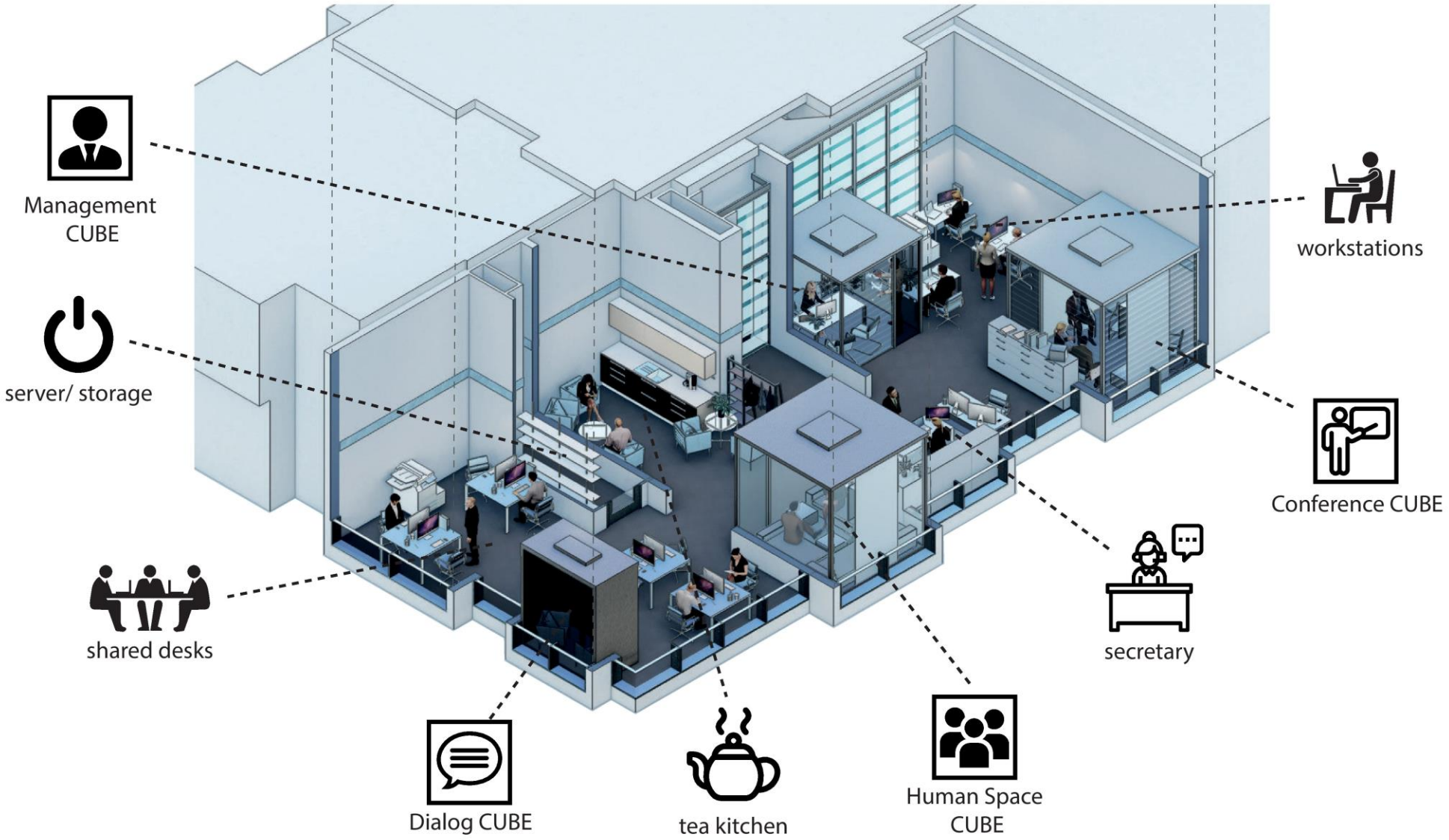
- Movement area
- Functional area
- Traffic area

N

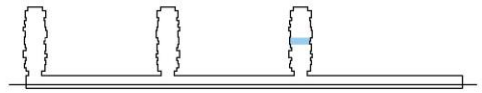
CUBES

S : 1 : 50

THE PROGRAM: e.g. 4 on 1 - Pos 3



e.g. level 3.10



The program:

The program is scalable regardless of the size of the office unit and is demonstrated here using position 3 of a 4 on 1 leasing option.In each office unit, there is a wardrobe near the entrance, a secretary's office, a kitchenette with a lounge and break area, at least one Human Space CUBE, one Conference CUBE, one Management CUBE (in larger floor plan variants such as 1 on 1 or 2 on 1, this can also be used as a single workstation) and one Dialog CUBE. Workspaces can be differentiated into single workstations or shared desks, with each workspace having a copier. A server and storage room is provided for servers and storage.

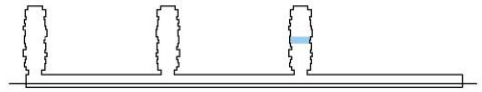
Spacial Impressions:

The images from (left to right, top to bottom) show the entrance area with secretary's office, the kitchenette with lounge, the CUBES in context to the workstations and the shared desks.

CUBES

SPACIAL IMPRESSIONS: e.g. 4 on 1 - Pos 3

e.g. level 3.10



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Spacial Impressions:

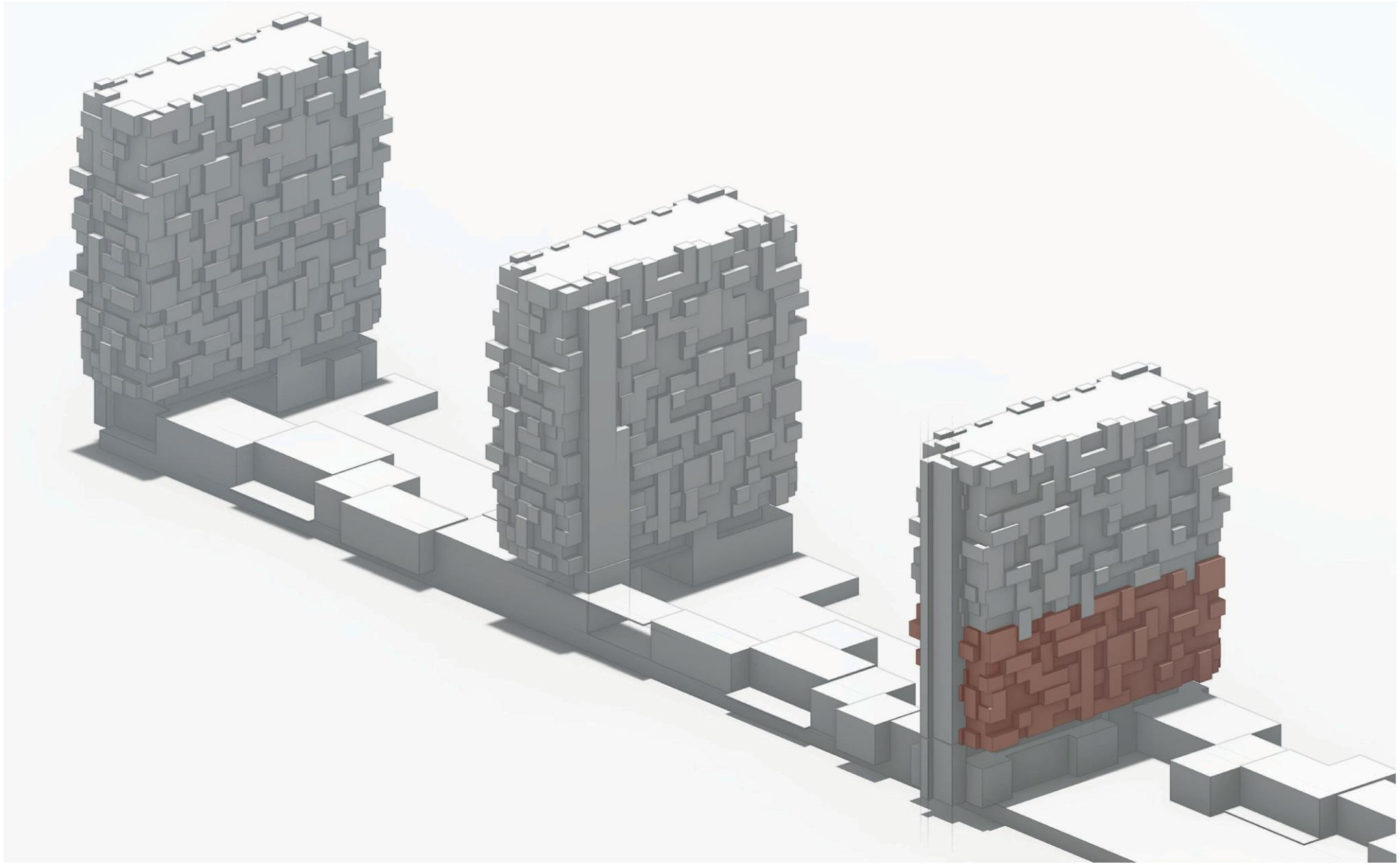
The images from (left to right, top to bottom) show the entrance area with secretary's office, the kitchenette with lounge, the CUBES in context to the workstations and the shared desks.

CUBES

Serviced Apartments @ CUBES

by Maximilian Zichner - 5.1 integrative Design - wise 2020/21

LOCATION ON SITE



level 3.02 - level 3.09

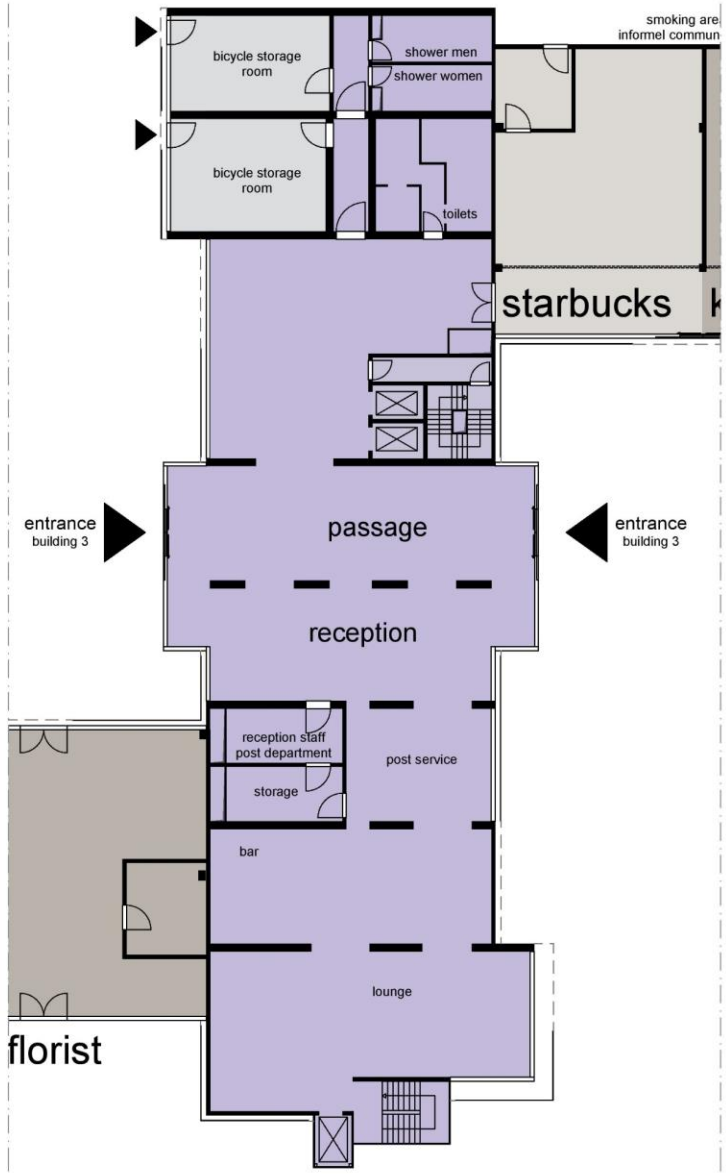
SERVICED APARTMENTS:
The serviced apartments are located in the lower part of the right tower on levels 3.02-3.09.
Above are the co-working-spaces located.
Together, these two units form a kind of business tower.

On level 3.15 is a rooftop bar, which is developed with an express lift, starting in the mall, an having only two stops in each use of the tower.

On level 3.01 there are further workplaces that can be rented on a flexible basis.

CUBES

THE ENTRANCE



version XXL: Benedikt Kiederle & Laura Molter

version L: Jonathan Pommer & Maximilian Zichner

level 3.00

XXL version:

The ground floor of Tower 3 is part of the representative business section of the Schwabencenter and is therefore connected to the event area. The entrance also serves as a passage to the two inner courtyards and contains the reception with post department.
The vertical traffic is accessible from here.
In the northern part there is a spacious waiting area which is directly connected to the bicycle parking, showers and toilets. In the south there is a bar.

L version:

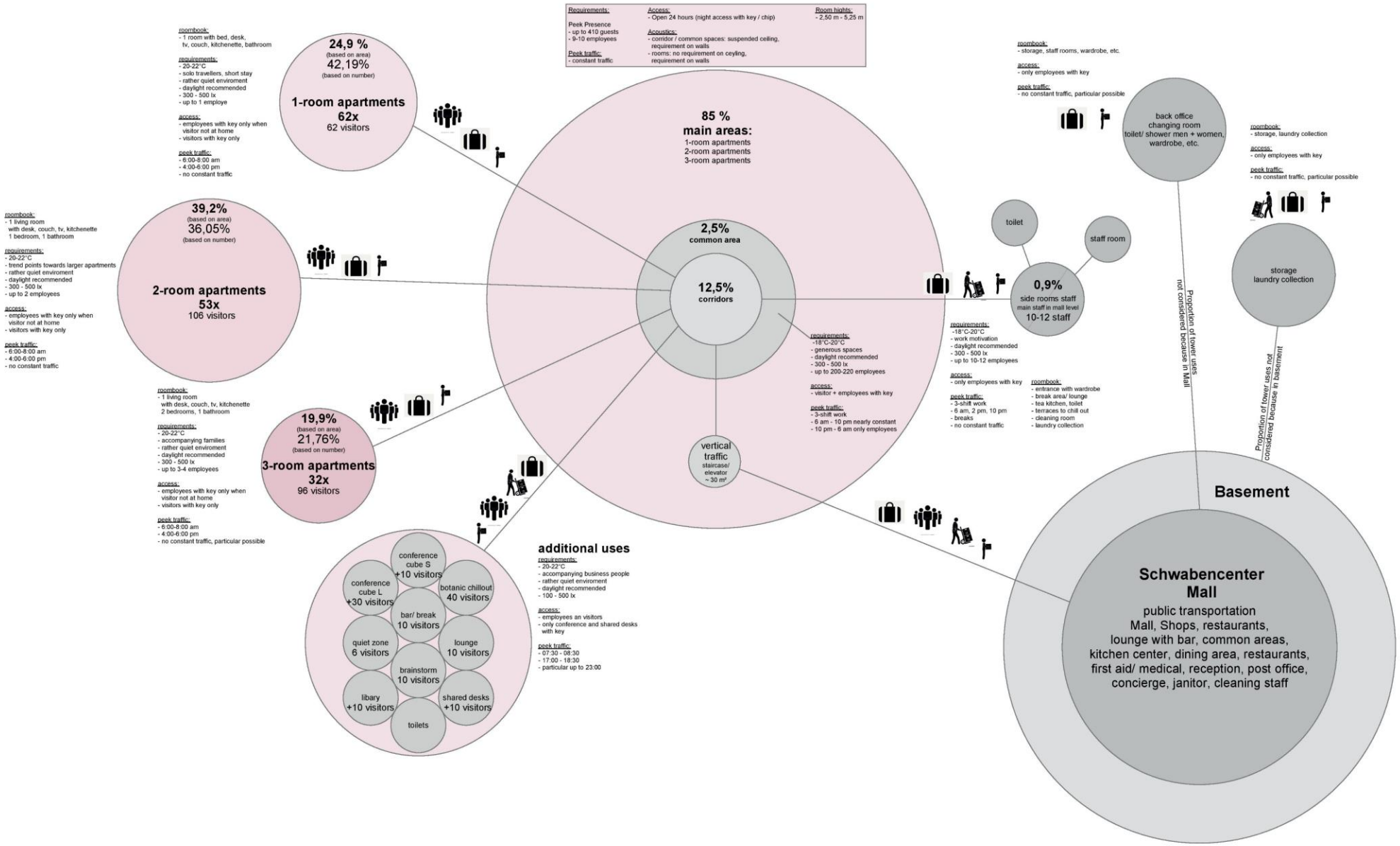
The entrance to the towers and the mall is covered by a large roof.
The stairwells and elevators in the north and south can be used by everyone.
In the middle there is a large information area, waiting area and also public toilets.

N

CUBES

S : 1 : 200

FLOW OF GOODS



level 3.02 - level 3.09

Visitors are welcomed in the mall so that they can access the apartments without barriers.
Staff and side rooms are located in the basement, the mall and in the tower.
Staff offices are located in the north of the mall under the right tower
Additional services like conference rooms and a libary are intended to increase communication between guests and short-term visitors.

- personnel flow: employees
- personnel flow: visitors
- flow of goods: heavy transport
- flow of goods: light transport

CUBES

ROOMBOOK

level 3.02 - level 3.09

room	area type	number	size	total size	roomheight	people	people total	direct	indirect	using time	Peek-Traffic	using time	lightning	temperature	condition	air voulme	air volume total	drinkingwater energy demand	drinkingwater toal	electric energy demand	electric total	heat energy demand	heat total
		in Stück	in m2	in m2	in m	in units	in units	room	room	time	time	in hours	in lx	in °C	in n-1/h	in m3/h*m2	in m3	in kWh/user*d	in kWh/d	kWh/user*d	in kWh/d	kWh/user*d	in kWh/d
1-room-apartment	**NF-P**	**62**	**20**	**1240**	**2,45**	**1**	**62**			**17:00 - 08:00**	**/**		**200**			**/**	**41.230,00**	**1,90**	**117,80**	**5,54**	**343,48**	**10,61**	**657,82**
Wohnen	NF-P	62	15	930	2,45	/	/	bath	/	/	/	14	/	21		3	39.060,00	/	/	/	/	/	/
Bad	NF-P	62	5	310	2,45	/	/	living, floor	/	/	/	1	/	24		7	2.170,00	/	/	/	/	/	/
2-room-apartment	**NF-P**	**53**	**35**	**1855**	**2,45**	**2**	**106**	**bath, sleeping, flor**		**17:00 - 08:00**	**/**		**200**			**/**	**34.582,50**	**1,90**	**201,40**	**5,54**	**587,24**	**10,61**	**1124,66**
living	NF-P	53	20	1060	2,45	/	/	bath, sleeping, floor	/	/	/	6	/	21		3	19.080,00	/	/	/	/	/	/
sleeping	NF-P	53	10	530	2,45	/	/	living	bath	/	/	8	/	21		3	12.720,00	/	/	/	/	/	/
bath	NF-P	53	5	265	2,45	/	/	living	sleeping	/	/	1,5	/	24		7	2.782,50	/	/	/	/	/	/
3-room-apartment	**NF-P**	**32**	**55**	**1760**	**2,45**	**3**	**96**			**17:00 - 08:00**	**/**		**200**			**/**	**36.112,00**	**1,90**	**182,40**	**5,54**	**531,84**	**10,61**	**1018,56**
living	NF-P	32	25	800	2,45	/	/	bath, sleeping, child, floor		/	/	5,5	/	21		3	13.200,00	/	/	/	/	/	/
sleeping	NF-P	32	10	320	2,45	/	/	living	bath, child	/	/	8	/	21		3	7.680,00	/	/	/	/	/	/
child	NF-P	32	10	320	2,45	/	/	living	bath, sleeping	/	/	14	/	21		3	13.440,00	/	/	/	/	/	/
bath	NF-P	32	4	128	2,45	/	/	living	sleeping, child	/	/	2	/	24		7	1.792,00	/	/	/	/	/	/
libary	**NF-P**	**1**	**26**	**26**	**2,45**	**10**	**10**	**floor**	**stairs, lift, apartment, storage**	**17:00 - 23:00**	**17:00 - 23:00**	**6**	**500**	**21**		**3**	**468,00**	**0,00**	**0,00**	**5,54**	**55,4**	**10,61**	**106,1**
quiet zone	**NF-P**	**1**	**24**	**24**	**2,45**	**10**	**6**	**floor**	**stairs, lift, apartment, storage**	**17:00 - 23:00**	**17:00 - 23:00**	**6**	**100**	**21**		**3**	**432,00**	**0,00**	**0,00**	**5,54**	**33,24**	**10,61**	**63,66**
bar/ break	**NF-Ö**	**1**	**32**	**32**	**2,45**	**10**	**10**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 23:00**	**07:30- 18:30**	**15**	**100**	**21**		**18**	**8.640,00**	**1,90**	**19,00**	**5,54**	**55,4**	**10,61**	**106,1**
conference s	**NF-Ö**	**1**	**20**	**20**	**5,20**	**12**	**12**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 18:00**	**07:30- 18:30**	**10**	**500**	**21**		**8**	**1.600,00**	**0,00**	**0,00**	**5,54**	**66,48**	**10,61**	**127,32**
conference l	**NF-Ö**	**1**	**64**	**64**	**5,20**	**38**	**38**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 18:00**	**07:30- 18:30**	**10**	**500**	**21**		**8**	**5.120,00**	**0,00**	**0,00**	**5,54**	**210,52**	**10,61**	**403,18**
shared desks xl	**NF-Ö**	**1**	**64**	**64**	**2,45**	**6**	**6**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 18:00**	**07:30- 18:30**	**10**	**500**	**21**		**8**	**5.120,00**	**0,00**	**0,00**	**5,54**	**33,24**	**10,61**	**63,66**
shared desks s	**NF-Ö**	**1**	**23**	**23**	**2,45**	**3**	**3**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 18:00**	**07:30- 18:30**	**10**	**500**	**21**		**8**	**1.840,00**	**0,00**	**0,00**	**5,54**	**16,62**	**10,61**	**31,83**
botanic chillout 1	**NF-Ö**	**4**	**22**	**88**	**5,20**	**4**	**16**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 23:00**	**17:00 - 23:00**	**15**	**100**	**21**		**1,5**	**495,00**	**0,00**	**0,00**	**5,54**	**88,64**	**10,61**	**169,76**
botanic chillout 2	**NF-Ö**	**1**	**25**	**25**	**5,20**	**2**	**2**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 18:00**	**17:00 - 23:00**	**10**	**100**	**21**		**1,5**	**375,00**	**0,00**	**0,00**	**5,54**	**11,08**	**10,61**	**21,22**
Lounge	**NF-Ö**	**1**	**26**	**26**	**5,20**	**10**	**10**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 23:00**	**07:30- 18:30**	**15**	**100**	**21**		**18**	**7.020,00**	**1,90**	**19,00**	**5,54**	**55,4**	**10,61**	**106,1**
brainstorm	**NF-Ö**	**1**	**24**	**24**	**2,45**	**6**	**6**	**floor**	**stairs, lift, apartment, storage**	**08:00 - 18:00**	**07:30- 18:30**	**10**	**500**	**21**		**8**	**1.920,00**	**0,00**	**0,00**	**5,54**	**33,24**	**10,61**	**63,66**
staff	**NF-P**				**2,45 - 3,00**	**9**	**9**									**/**	**878,00**	**1,90**	**17,10**		**149,58**		**286,47**
staff room	NF-P	1	25	25	2,45	/	9	Personalküche, Flur, Personal WC	floor, lift, apartments	00:00 - 24:00	/	2	300	21		3	150,00	/	/	5,54	49,86	10,61	95,49
kitchen staff	NF-P	1	10	10	2,45	/	9	Personalraum	toilet staff, floor	00:00 - 24:00	/	2	100	21		7	140,00	/	/	5,54	49,86	10,61	95,49
toilet staff	NF-P	1	3,5	3,5	2,45	/	9	Personalraum, Flur	office	00:00 - 24:00	/	24	300	24		7	588,00	/	/	5,54	49,86	10,61	95,49
office mall	NF-P	1	30	30	3,00	/	3	floor, staircase, lift	storage, staff	06:00 - 20:00	/	10	500	21		6	1.800,00	/	/	5,54	16,62	10,61	31,83
storage (mall)	NF-P	1	20	20	3,00	/	1	floor, staircase, lift	apartments, conf., libary, office	00:00 - 24:00	/	24	300	19		1,5	720,00	/	/	5,54	5,54	10,61	10,61
storage laundry (BM)	NF-P	1	20	20	3,00	/	1	floor, staircase, lift	spartments, office	06:00 - 12:00	/	24	300	19		1,5	720,00	/	/	5,54	5,54	10,61	10,61
devwlopment	**VF**				**mind. 2,45**		ausgenommen										**36.840,00**	**in kwh/m2**		**in kWh/day**		**in kWh/day**	
staircase 1	VF	8	18,7	149,6	mind 2,45	/	418	floor, lift	apartments, technic	00:00 - 24:00	06:30 - 08:00 / 16:00 - 18:00	2	100	19		1,5	448,80	0,00	0,00	0,8	334,4	2	836
staircase 2	VF	8	16,3	130,4	mind 2,45	/	418	floor, lift	apartments, technic	00:00 - 24:00	06:30 - 08:00 / 16:00 - 18:00	2	100	19		1,5	391,20	0,00	0,00	0,8	334,4	2	836
floor	VF	8	125	1000	mind 2,45	/	418	staircase, lift, apart., staff, technic	storage, office	00:00 - 24:00	06:30 - 08:00 / 16:00 - 18:00	24	100	21		1,5	36.000,00	0,00	0,00	0,8	334,4	2	836
lift	VF	8	13,47	107,76	mind 2,45	/	418	floor, staircase	apartments, technic	00:00 - 24:00	06:30 - 08:00 / 16:00 - 18:00	24	100	/		/	/	0,00	0,00	1,5	627	2	836
toilet public	**NF-Ö**	**2**	**19**	**38**	**2,45**	8	16	**floor**	**TRH, Aufzug, zusätzl Nutzen, Lager**	**08:00 - 23:00**	**07:30- 18:30**	**15**	**100**	**21**		**18**	**5.130,00**	**1,90**	**30,40**	**5,54**	**88,64**	**10,61**	**169,76**
technic space	**TF**	**8**	9,02	72,16				**floor, lift, staircase**	**apartments**														
			total:	**6783,42**		**people total:**	**424**									**air volume total:**	**180.752,50**	**total:**	**556,70**	**total:**	**2238,16**	**total:**	**4286,44**
																		energy demand total	**7081,30**				

ventilation space				
volume flow	=	180.752,50 =	**8,37**	**m2**
air speed		6,0 m/s * 3600		

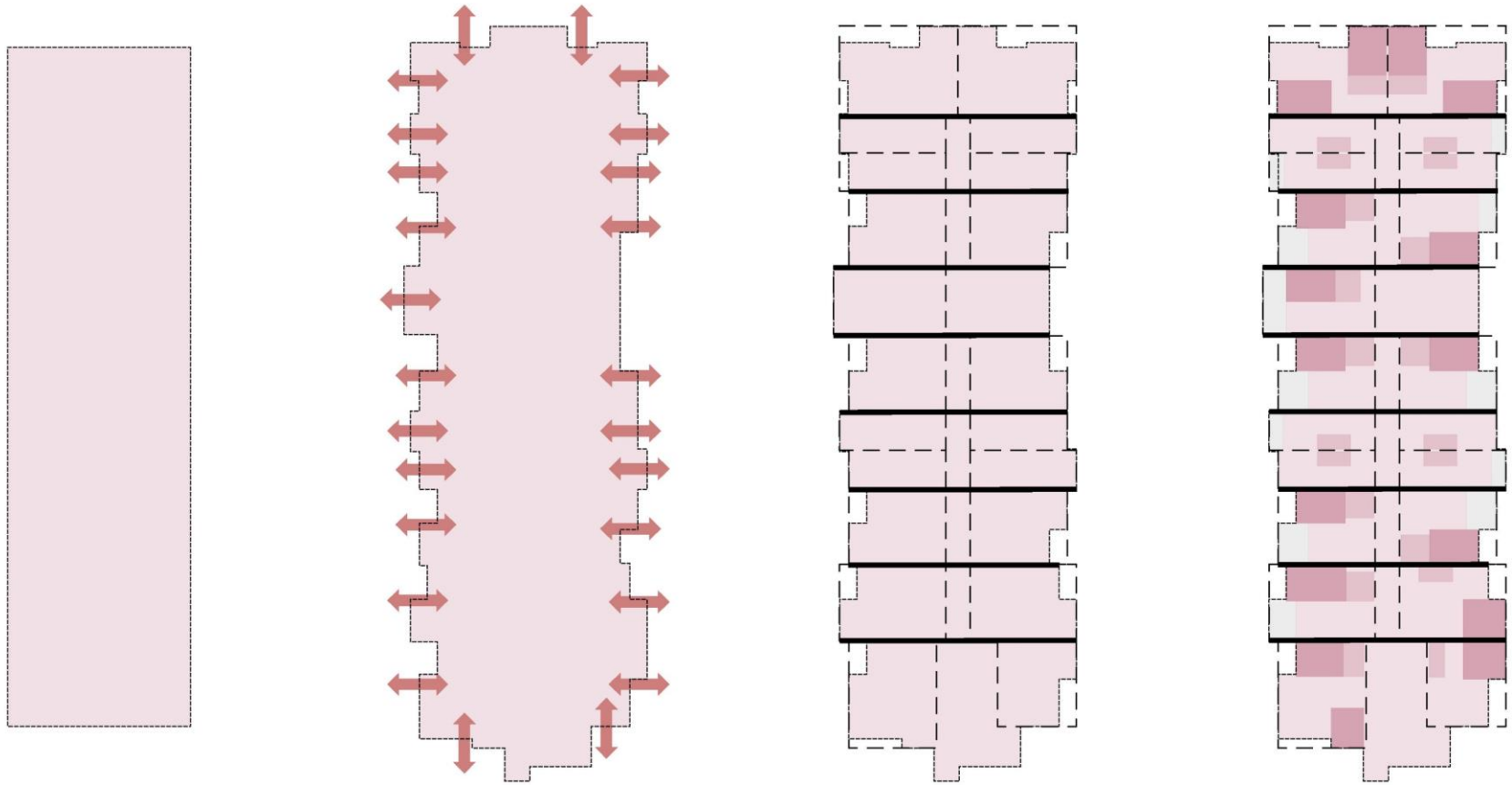
area distribution		
		%
gross floor area	1018,66	
number of floors	8,00	
gross floor area total	**8149,28**	**100,00**
net floor area	**6783,42**	**83,24**
construction Space	**1365,86**	**16,76**

area types		
		%
net floor area	**6783,42**	**100,00**
net floor area private	**4943,50**	**72,88**
net floor area public	**404,00**	**5,96**
traffic area	**1387,76**	**20,46**
technical area	**72,16**	**1,06**

leasability		
		%
net floor area	**6783,42**	**100,00**
leasable area	**5026,00**	**74,09**
non leasable area	**1757,42**	**25,91**

CUBES

THE CONCEPT



excisting morph + 'cubes' facade + units changeable in static grid = 'cubes' in 'cubes'

level 3.02 - level 3.09

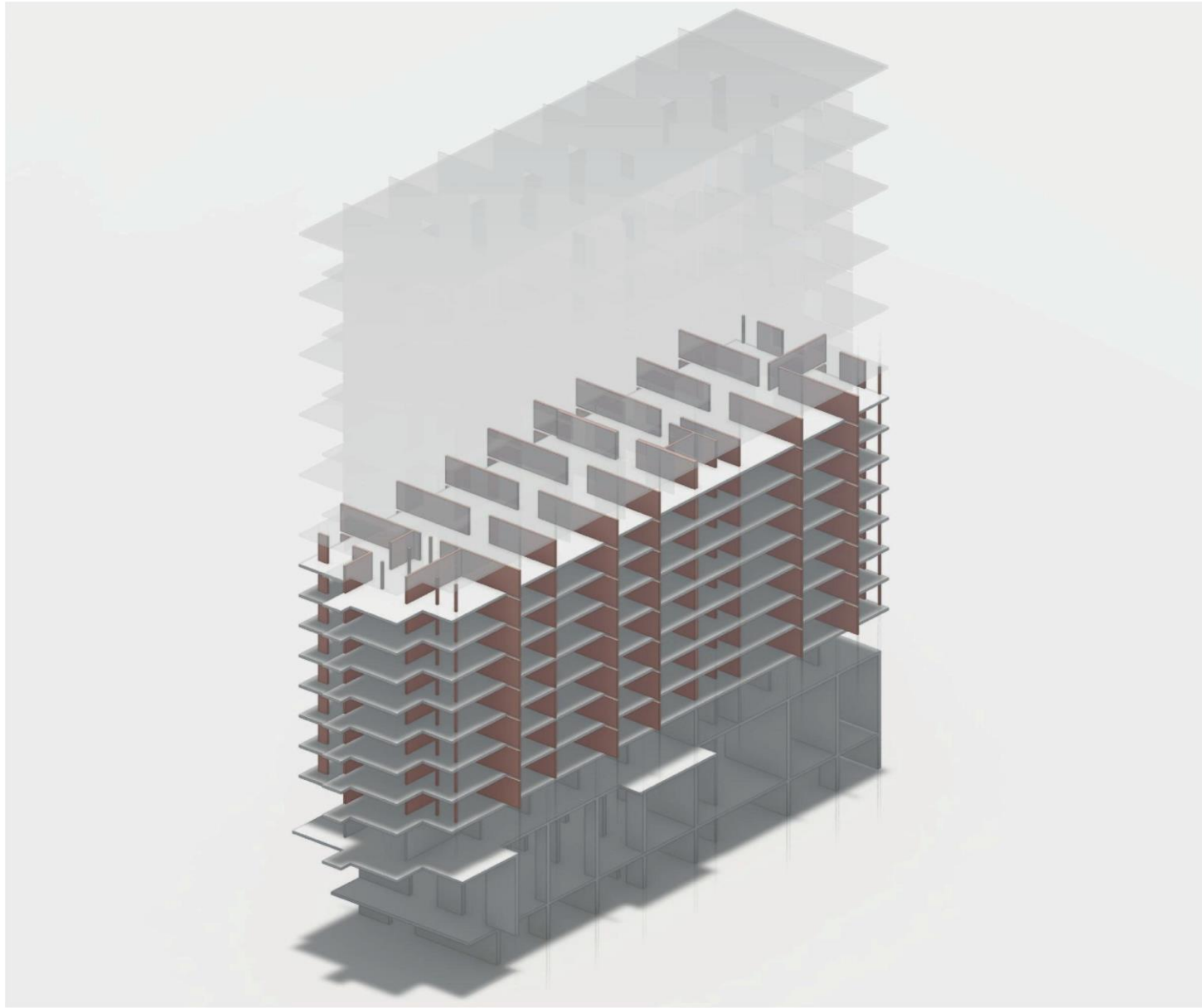
The previously straight structure is broken up by the 'cubes'. Furthermore, this structure should also be adopted in the apartments. Bathrooms and bedrooms should be built as slightly separated 'cubes'. To break up the length of the corridor and create an entrance zone to the flats, the entrances are set back as cubes.
An additional core with stairs and lift in the south relieves the existing staircase at peak times. This complies with current escape route and fire protection regulations.
Further cubes for different uses are also created in the following.

N

CUBES

S : 1 : 500

THE STRUCTURE

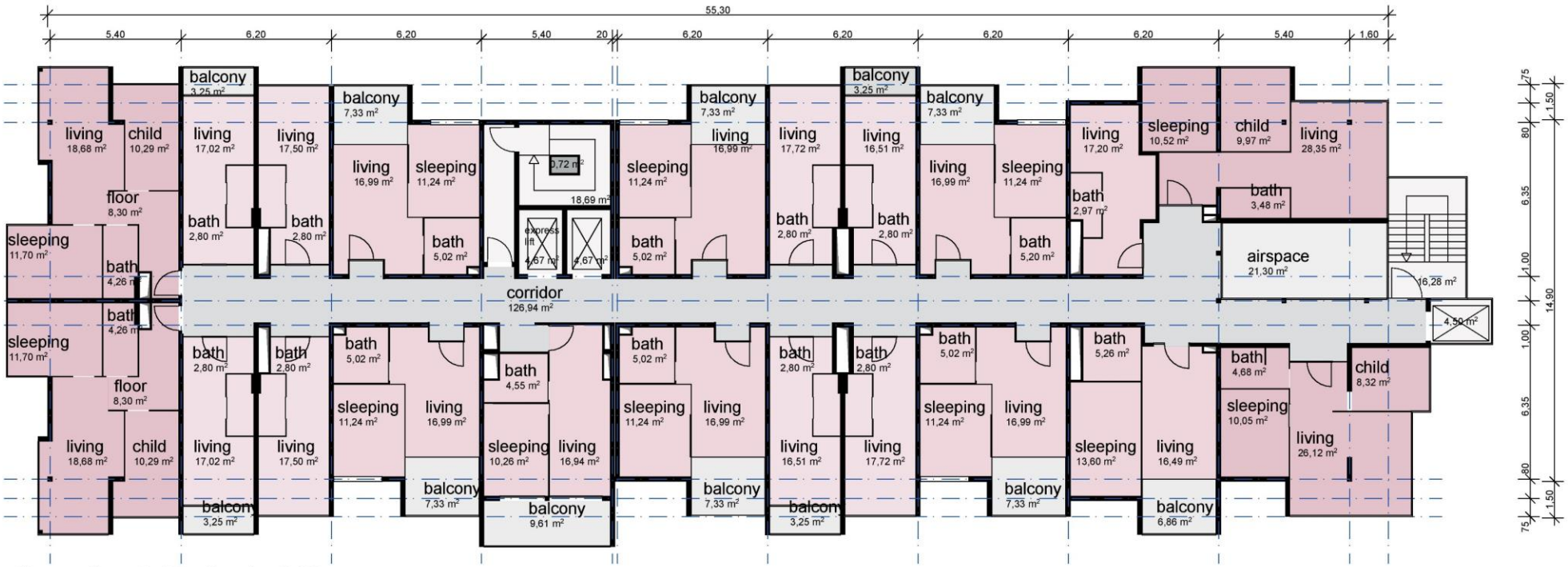


level 3.02 - level 3.09

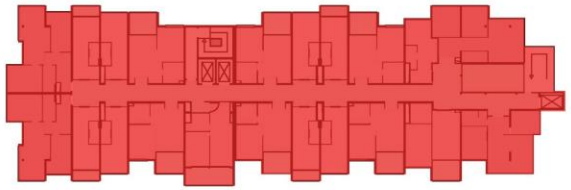
Most of the static grid is preserved.
The apartments will be in-stalled in the spaces between the bulkheads.
For some other uses, ceilings have to be removed so that a bigger room height is created.
The bulkheads on the southern front of the building and the existing core will be used to stiffen the supporting structure.

CUBES

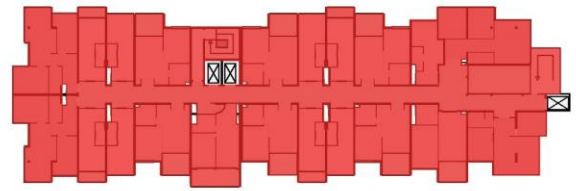
V1 MAXIMUM VERSION



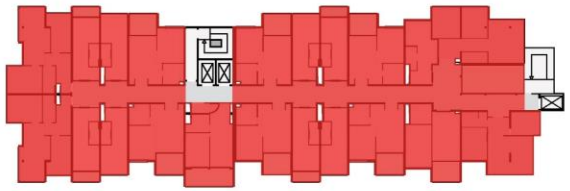
floorplan 3.09 S : 1 : 200



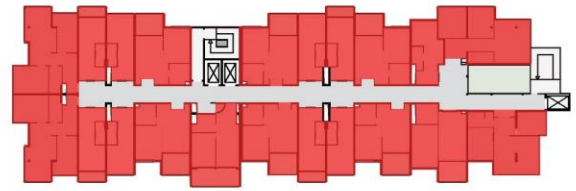
gross Floor Area



usable Area



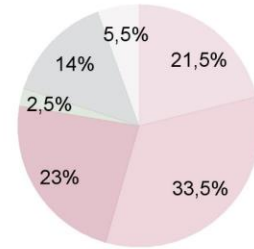
FSI Area



leasable Area

S : 1 : 500

level 3.09



standard modules	
1-room apartments	187 m²
2-room apartments	298 m²
3-room apartments	206 m²
botanic chillout airspace	21 m²
floor	127 m²
elevation	49 m²

area type		area balance		37 / 418 visitors
80 %	NF-P	100 %	BGF	1 / 9 staff
2 %	NF-Ö	87 %	NGF	
17 %	VF	13 %	KF	
1 %	TF			

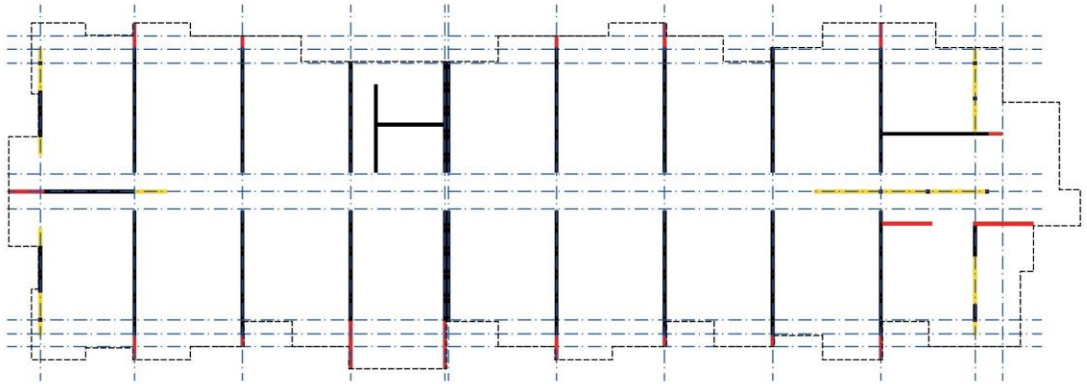
gross floor area	1.018,84 m²
usable area	994,34 m²
FSI area	941,20 m²
leasable area	807,38 m²

effeciency = leasable area / usable area
= 0,81

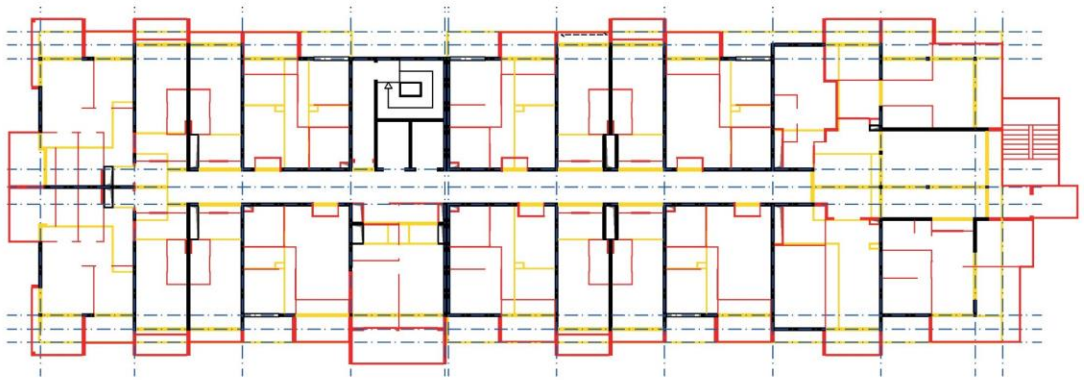
N

CUBES

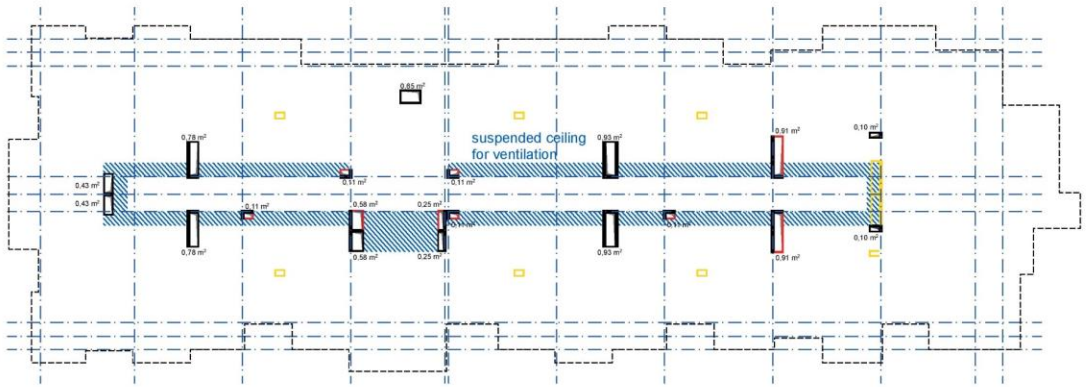
TECHNIC



static structure



demolition/
new structure



installation shafts

level 3.09

To redesign the facade, the existing balconies are demolished and new prefabricated modules are placed on the facade. The module depths have a grid of 75 cm.

Due to the low room height of the apartments, most of the technical equipment should be placed on the corridor wall or facade. For this Suspended ceilings should be used.

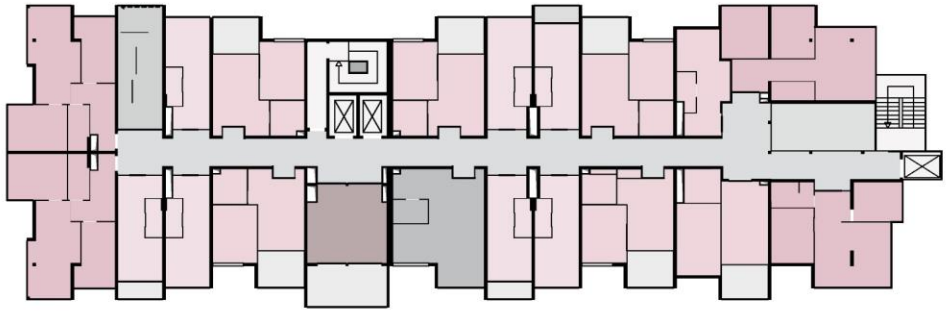
Existing
Demolition
New
suspended ceiling
shafts

N

CUBES

S : 1 : 500

VERSIONS

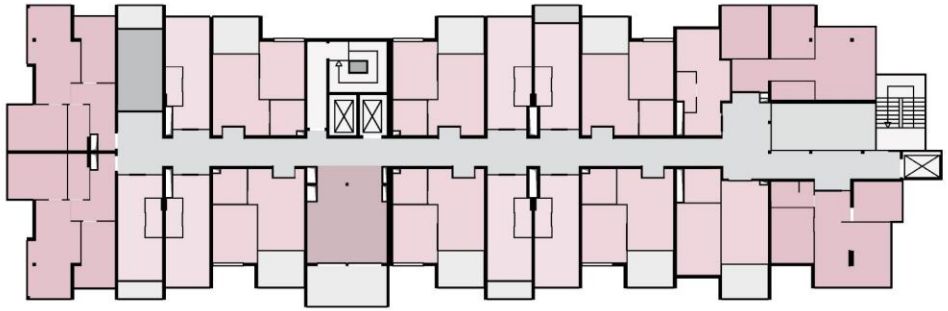


level 3.02

extra modules
botanic chillout
staff
libary
quiet zone

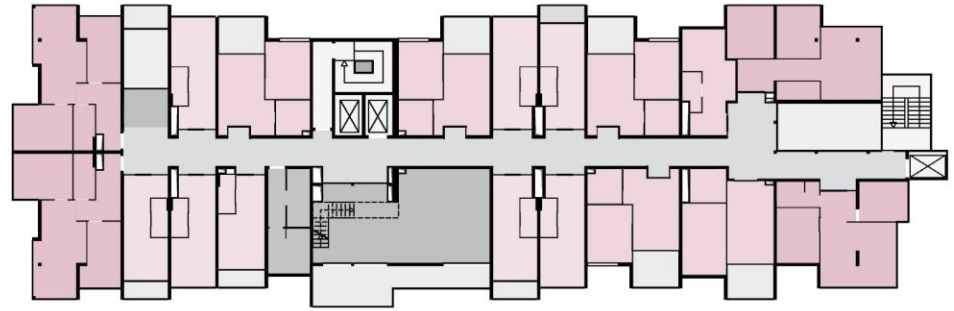
level 3.03

extra modules
botanic chillout airspace
shared desks
toilets



level 3.04

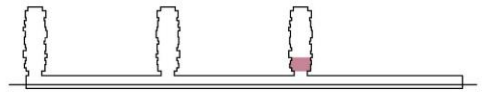
extra modules
botanic chillout
brainstorming
conference S
bar / break



level 3.05

extra modules
botanic chillout airspace
brainstorming
conference airspace
conference S + L
toilets

level 3.02 - level 3.05



The other uses are tailored to the expected users and can also be also used by people from the co-working spaces.
Botanic chillout spaces on each floor should light up the corridor and create relaxing green spaces for users.
The mix of uses is intended to increase user interaction.

level 3.02 - 3.05

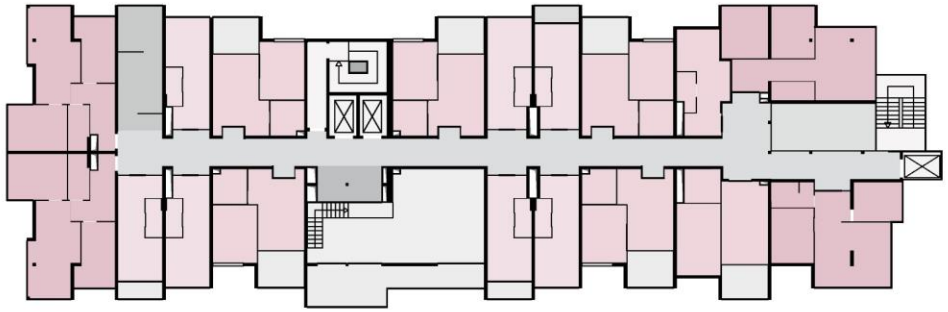
Conference rooms are open to the public and can be booked.
The same applies to brain-storming areas and shared desks.
The library, relaxation rooms and break rooms can be used by everyone.
Sanitary rooms are easy to reach.

N

CUBES

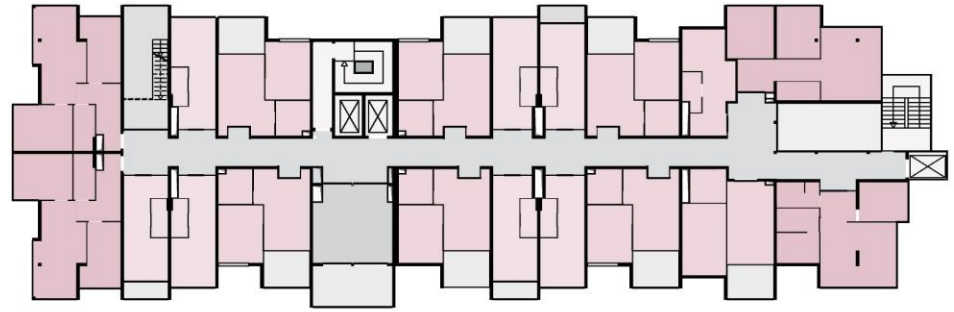
S : 1 : 200

VERSIONS



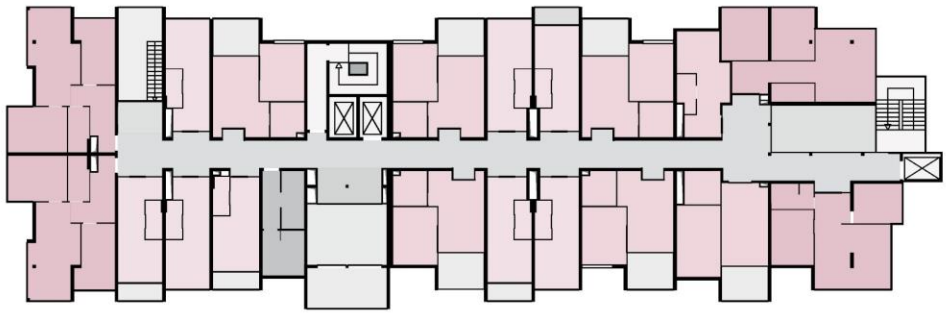
level 3.06

extra modules
botanic chillout
brainstorming
conference airspace
conference L



level 3.07

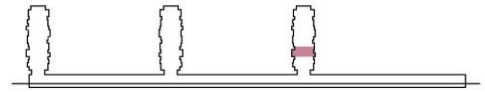
extra modules
botanic chillout airspace
botanic chillout
lounge



level 3.08

extra modules
botanic chillout airspace
botanic chillout
lounge airspace
lounge
toilets

level 3.06 - level 3.08



The other uses are tailored to the expected users and can also be also used by people from the co-working spaces.
Botanic chillout spaces on each floor should light up the corridor and create relaxing green spaces for users.
The mix of uses is intended to increase user interaction.

level 3.06 - 3.08

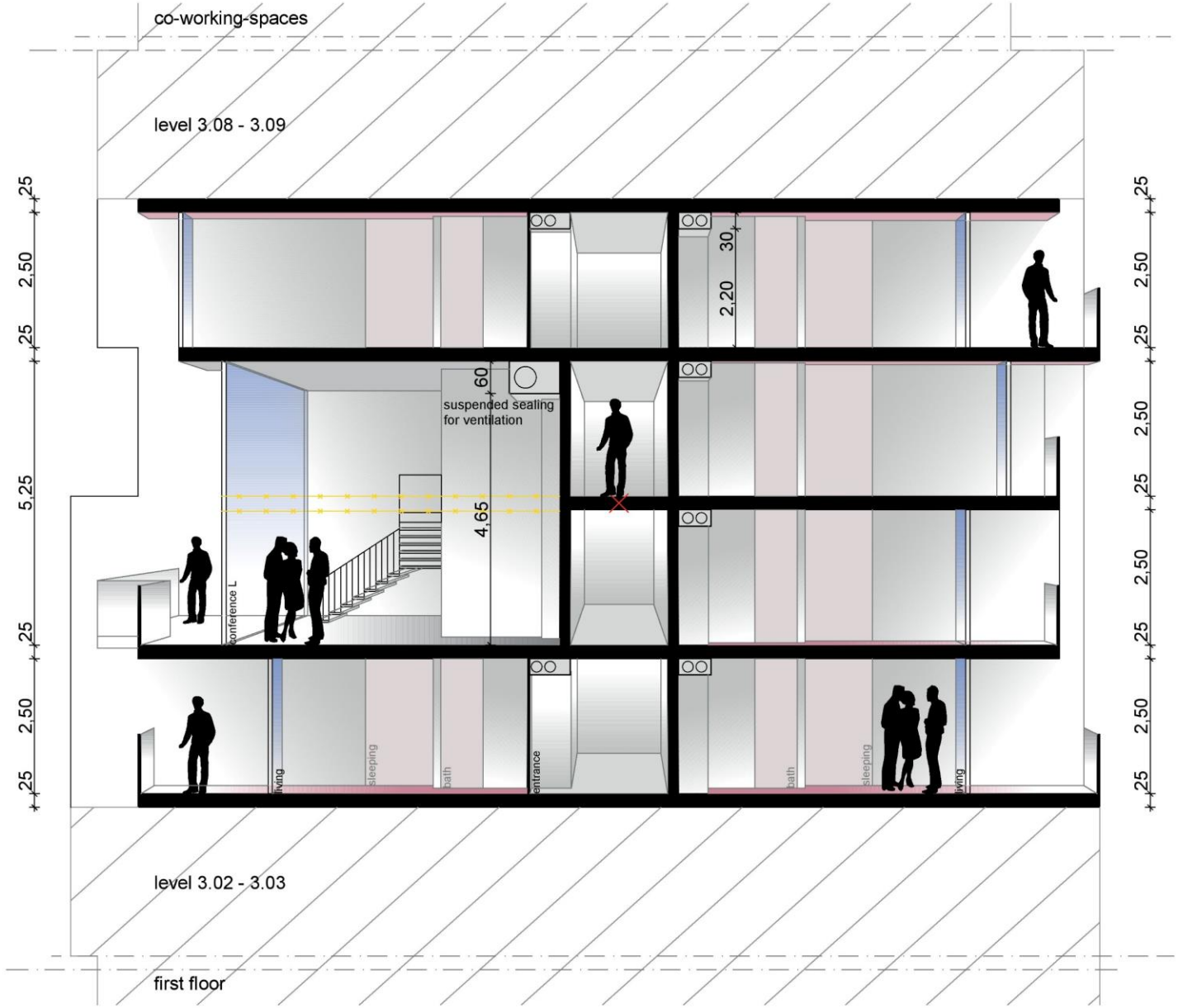
Conference rooms are open to the public and can be booked.
The same applies to brain-storming areas.
The different lounges can be used by everyone.
Sanitary rooms are easy to reach.

N

CUBES

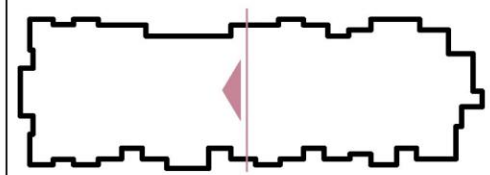
S : 1 : 200

THE SECTION



level 3.04 - level 3.07

Due to the low room height of the apartments, most of the technical equipment should be placed on the corridor wall or facade.
Balconies and apartments of different depths enhance the effect of the 'cubes'.
The facades of the living rooms are glazed to ensure maximum incidence of light.

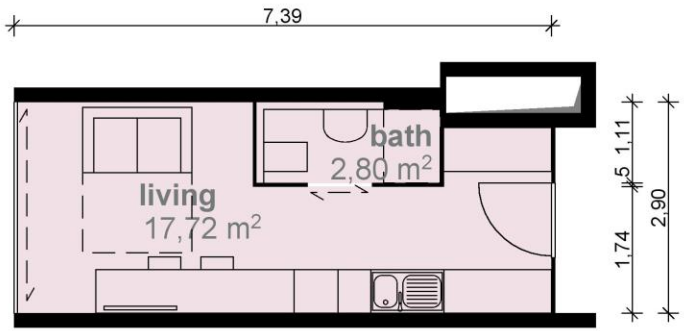


CUBES

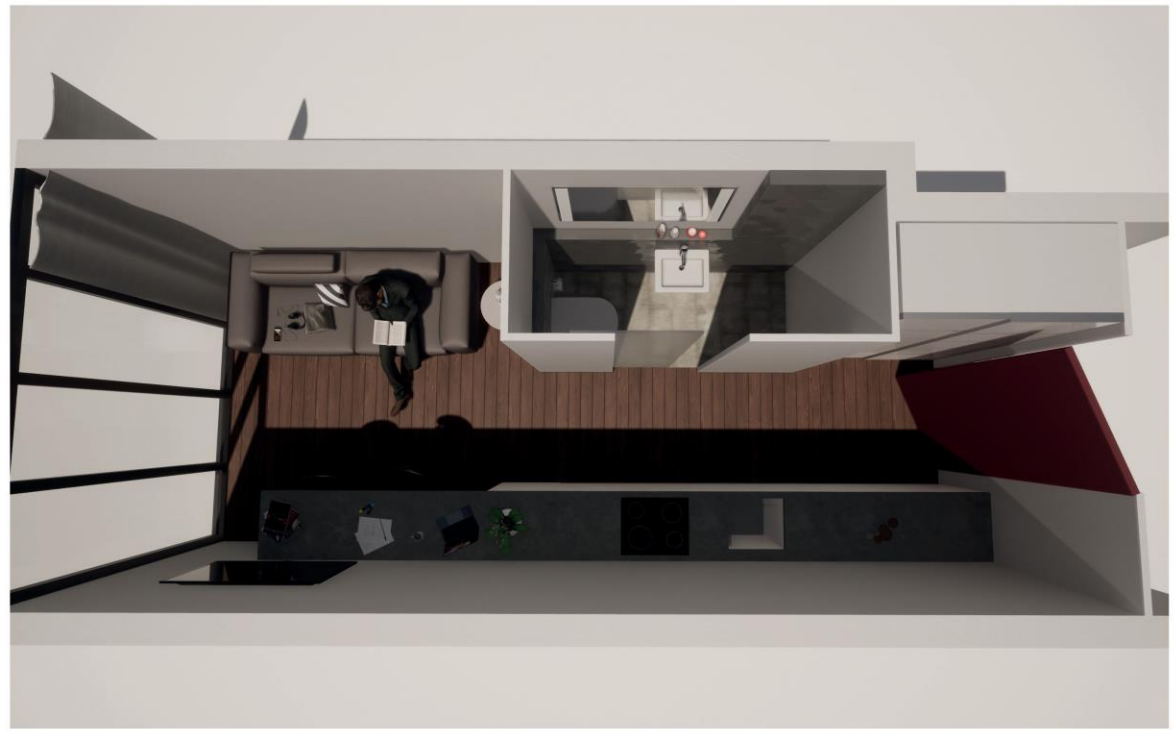
S : 1 : 200

STANDARD MODULES 1-ROOM APARTMENT

level 3.02 - level 3.09

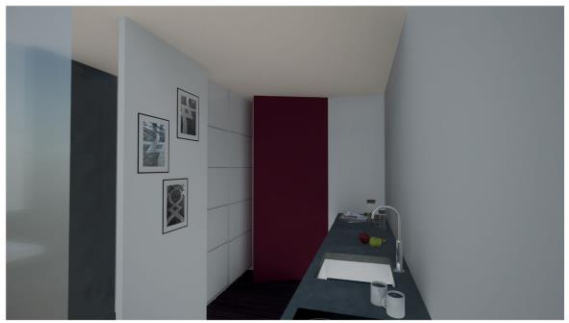


1-room apartment
20 m²



1-room apartments
have a small wardrobe and a separate bathroom. Storage facilities, kitchen and living wall are arranged lengthwise along the partition wall to save space.

The standard modules of the 1-room and 2-room apartments can be exchanged between the bulkheads and can vary in length and size.
The 3-room apartments are permanently located on the north and south facades.
In reference to the proximity to the textile quarter, curtains are additionally installed, which also contribute to the room acoustics.



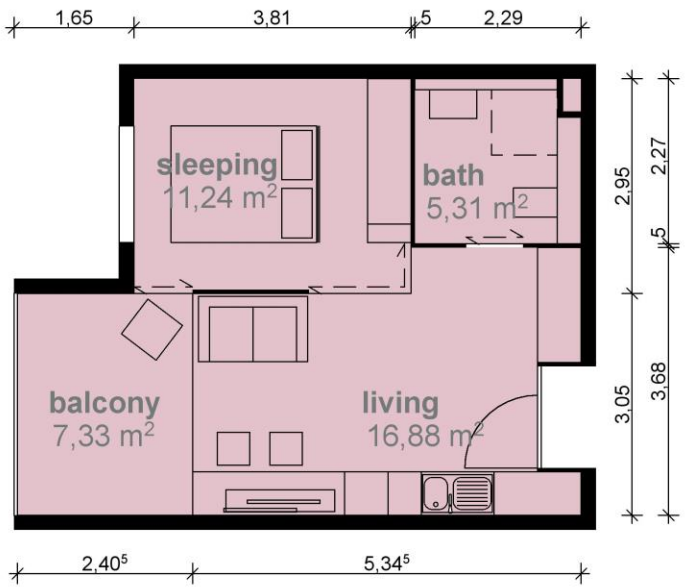
N

CUBES

S : 1 : 100

STANDARD MODULES 2-ROOM APARTMENT

level 3.02 - level 3.09



2-room apartment
35 m²

2-room apartments
have an additional separate bedroom and a larger living area, as these are intended for longer stays for 2 people. In recent years, the demand for these has increased.

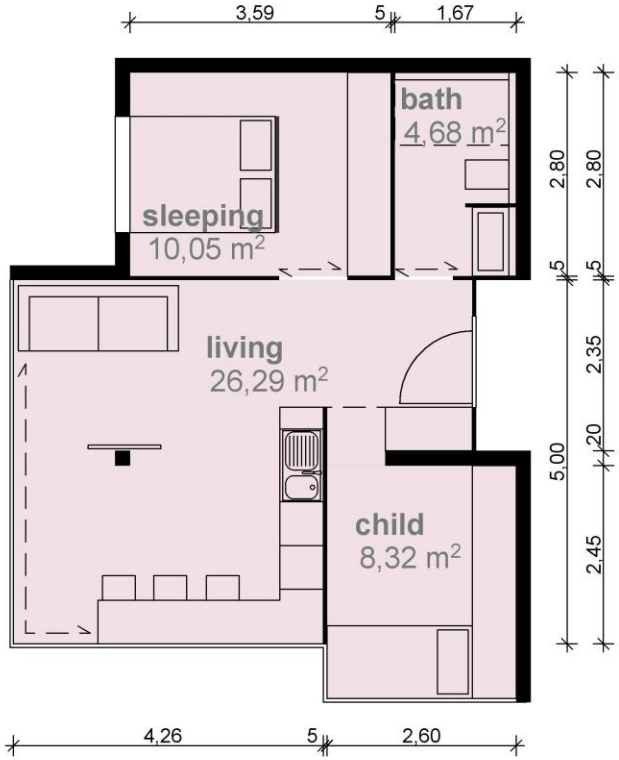
The standard modules of the 1-room and 2-room apartments can be exchanged between the bulkheads and can vary in length and size.
The 3-room apartments are permanently located on the north and south facades.
In reference to the proximity to the textile quarter, curtains are additionally installed, which also contribute to the room acoustics.

N

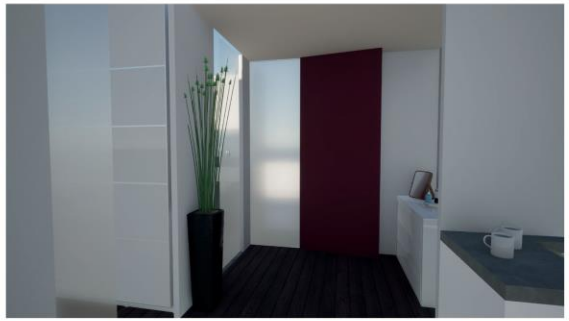
CUBES

S : 1 : 100

STANDARD MODULES 3-ROOM APARTMENT



3-room apartment
55 m²



level 3.02 - level 3.09

3-room apartments
are suitable for families with one child to ensure suitable accommodation for this clientele as well. There are numerous facilities for children in the surrounding area.

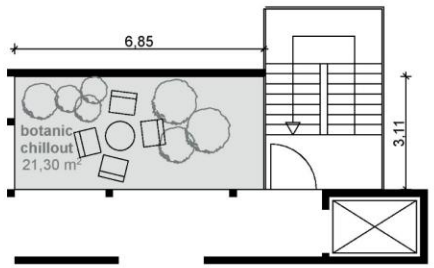
The standard modules of the 1-room and 2-room apartments can be exchanged between the bulkheads and can vary in length and size.
The 3-room apartments are permanently located on the north and south facades.
In reference to the proximity to the textile quarter, curtains are additionally installed, which also contribute to the room acoustics.

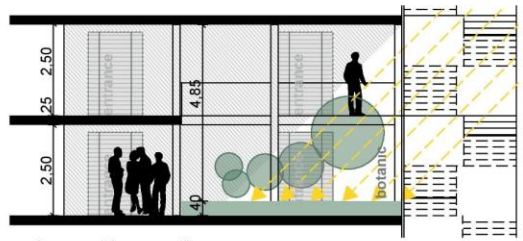
N

CUBES

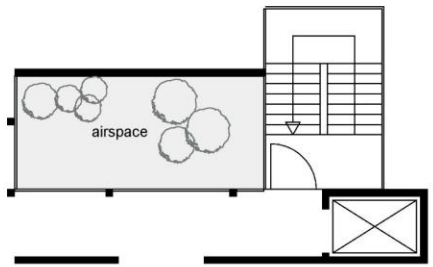
S : 1 : 100

EXTRA MODULES - GREEN CHILLOUT

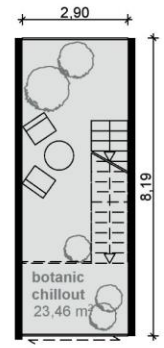


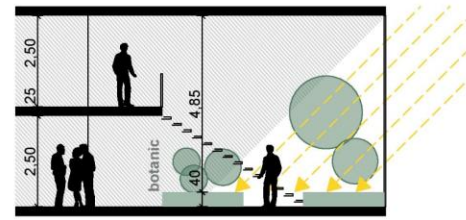


schematic section

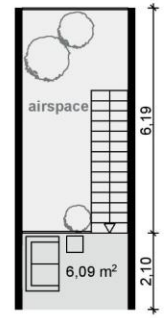


botanic chillout
30 m²





schematic section



botanic chillout
21 m²

level 3.02 - level 3.09

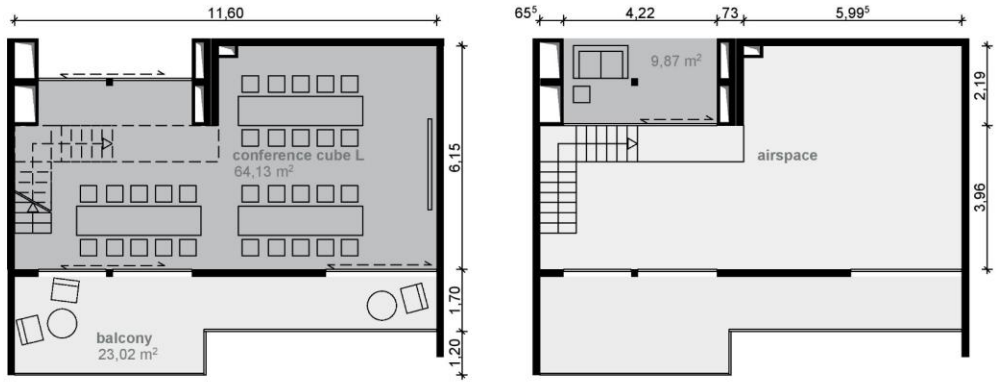
The exterior space in the interior space. Green spaces bring clean air, relaxation and light into the space through their 2-storey design. They serve as meeting points and internal access between the floors.
There are 2 different types of green spaces. Each floor has at least one green space. This creates a continuous additional development possibility.

N

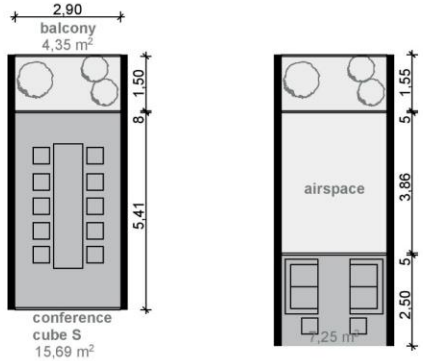
CUBES

S : 1 : 200

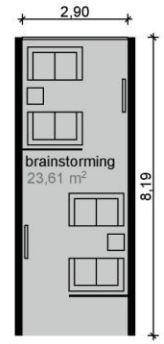
EXTRA MODULES



conference cube L
76 m²

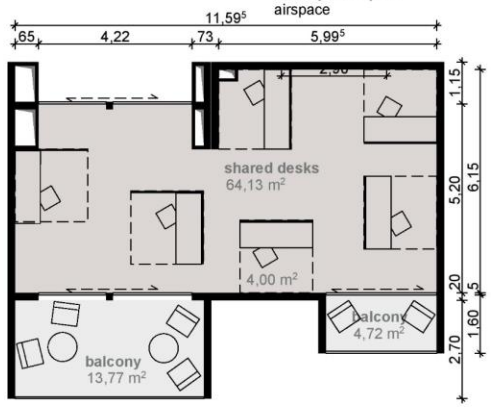


conference cube S
18 m²

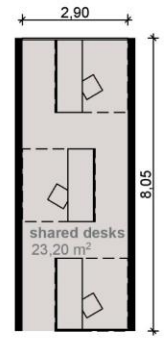


brainstorm
24 m²

concept floorplan
airspace



shared desks
33 m²



shared desks
23 m²

S : 1 : 200

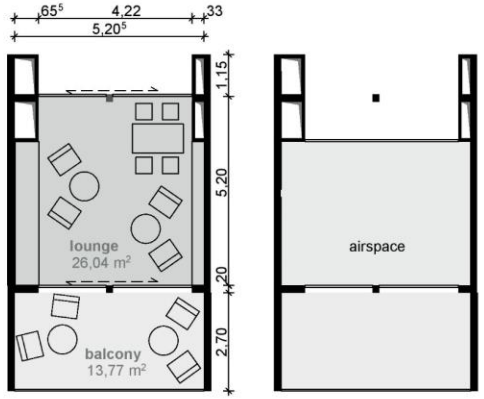
level 3.02 - level 3.09

The various additional uses allow a modern organisation of the working day. The link with the co-working spaces above ensures short distances and increases the attractiveness of the location - also for external guests. This creates a home office option that guarantees privacy and sustainability. Recreational uses such as a library, lounge and bar are also provided. The extra module can be also exchanged between the bulkheads. Some modules operate over two floors. In this way, they contribute to visitor interaction.

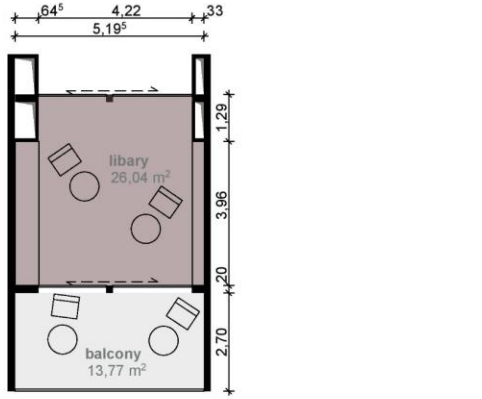
N

CUBES

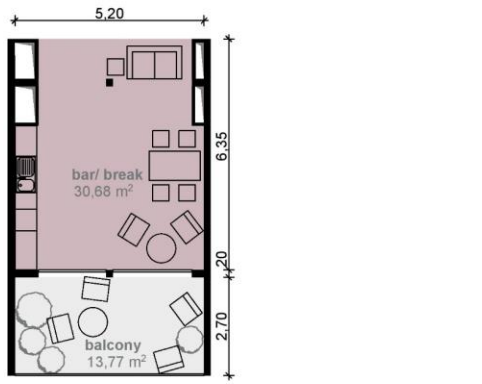
EXTRA MODULES



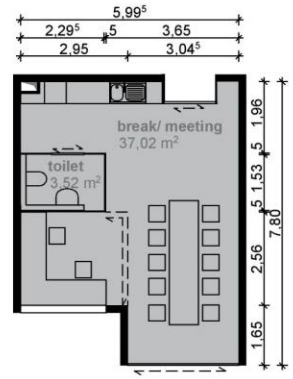
lounge
33 m²



libary
33 m²

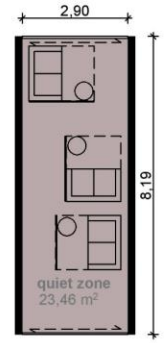


bar/ break
38 m²

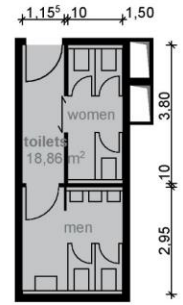


staff
41 m²

concept floorplan
staff



quiet zone
24 m²



toilet
19 m²

level 3.02 - level 3.09

The various additional uses allow a modern organisation of the working day. The link with the co-working spaces above ensures short distances and increases the attractiveness of the location - also for external guests. This creates a home office option that guarantees privacy and sustainability. Recreational uses such as a library, lounge and bar are also provided.
The extra module can be also exchanged between the bulkheads. Some modules operate over two floors. In this way, they contribute to visitor interaction.

N

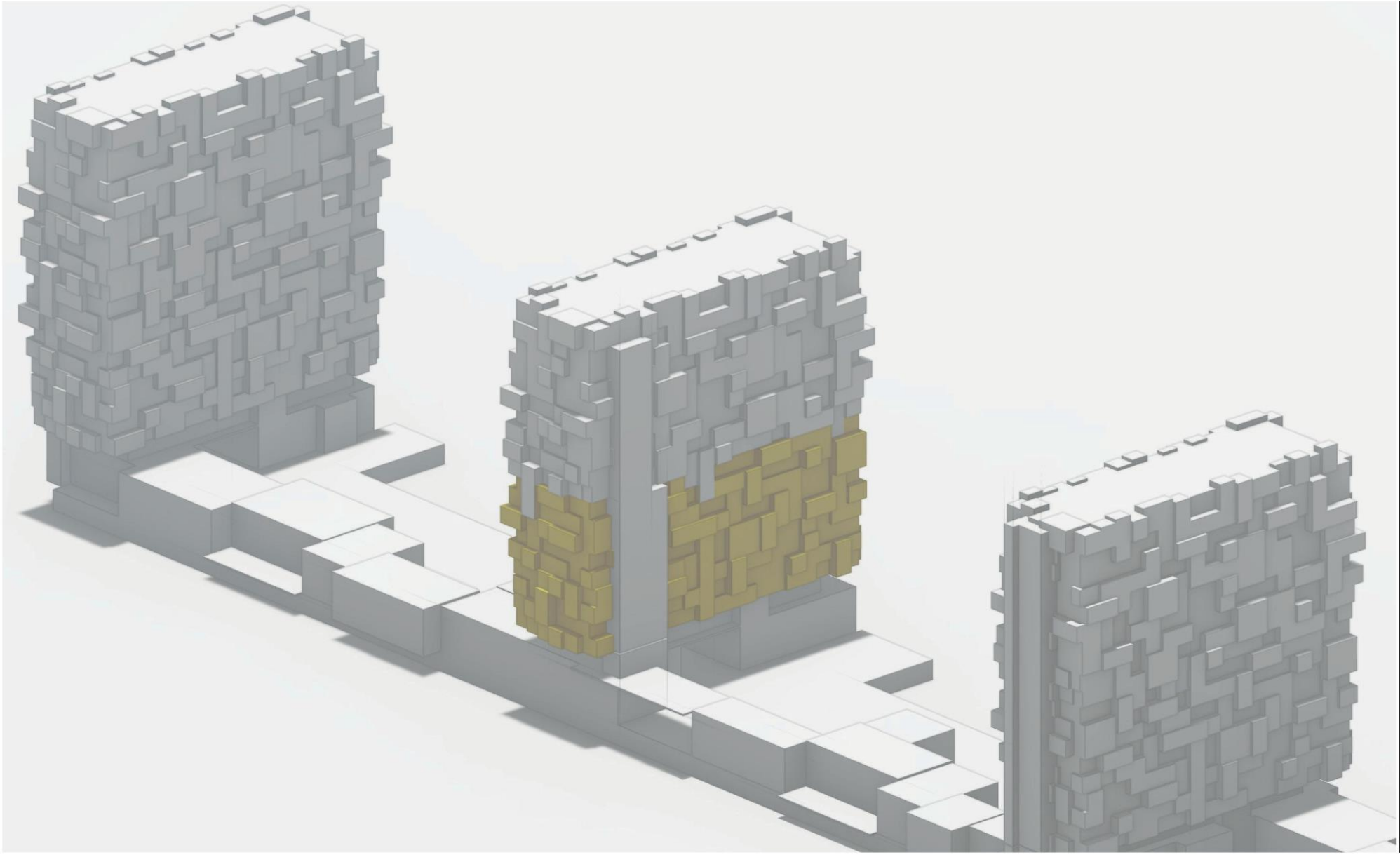
CUBES

S : 1 : 200

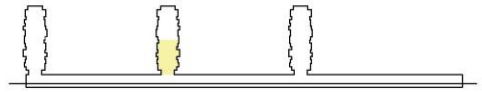
Age Appropriate Living & Assisted Living @ CUBES

CUBES by Max Jonathan Pommer - 5.1 integrative Design - wise 2020/21

LOCATION ON SITE



level 2.01 - level 2.10



The age-appropriate and assited-livng spaces are located in the lower part of the middle tower on levels 2.01 to 2.10, directly below the general living space.

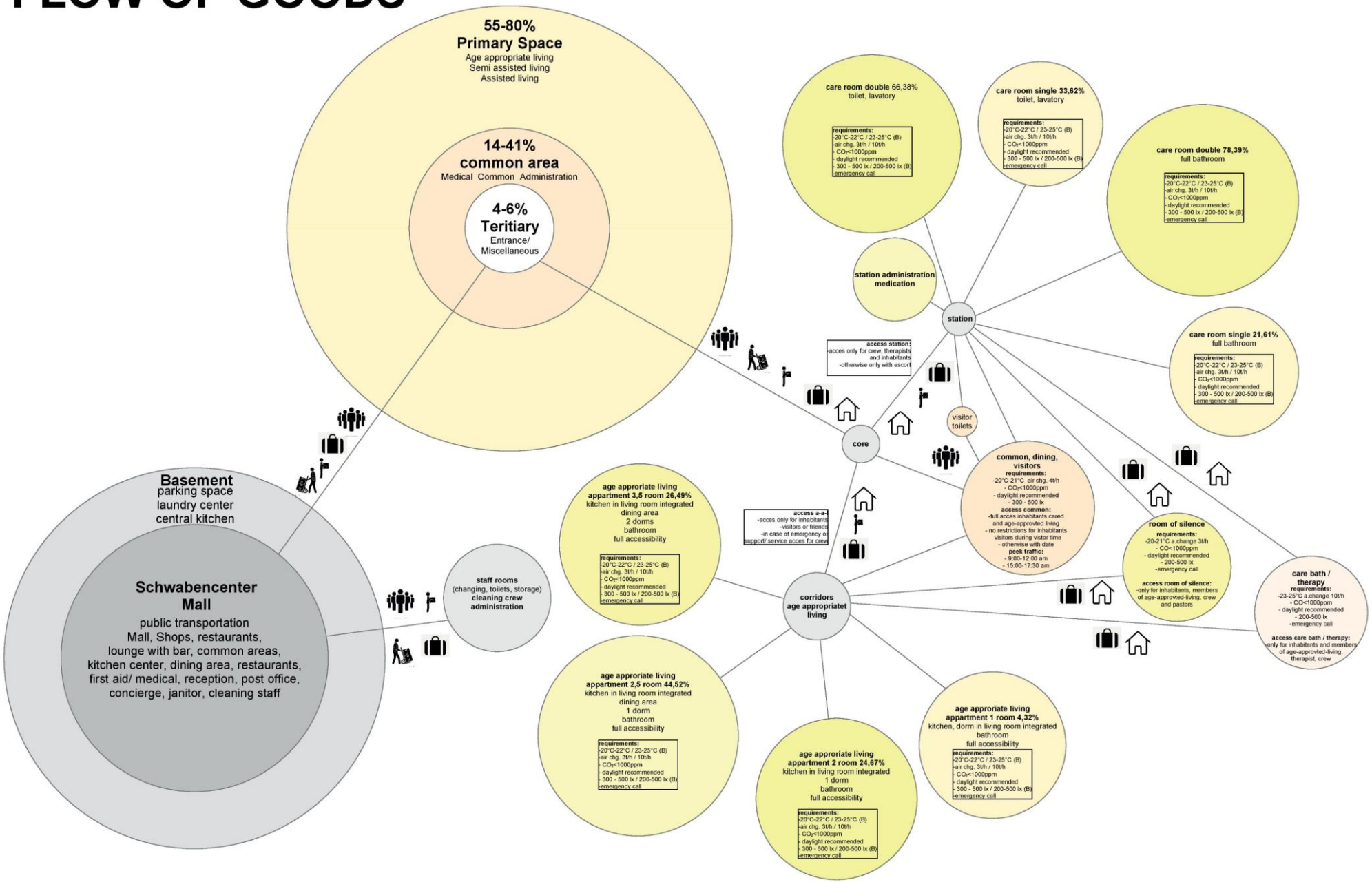
In the underground parking level are storage spaces for inhabitants, storage for the assisted living and the central kitchen located.

Entrance, staff rooms and office spaces are located in the mall level.

In the first level are common spaces and resting spaces for the staff.

CUBES

FLOW OF GOODS



level 2.01 - level 2.10

ELEVATOR CAPACITIES

AGE APPRORIATE LIVING

persons	206
rush hour	9:00-12:00 / 15:00-18:00
ELEVATOR	
capacity:	8 pers / elevator (3x)
speed:	2,5m/sek
height:	65m
affordable time:	52 sec. / incl. buffer 90 sec
capacity/hour:	320 pers/h x 3 = 960 pers/h
ELEVATOR	
capacity:	13 pers / elevator (1x)
speed:	1,5m/sek
height:	65m
affordable time:	88 sec. / incl. buffer 120 sec
capacity/hour:	390 pers/h

Persons

Assisted Living	- 76 inhabitans - 20 staff
Age Appropriate Living	- 105 inhabitans - 5 staff
Total	- 181 inhabitans - 25 staff

personnel flow: inhabitants

personnel flow: employees

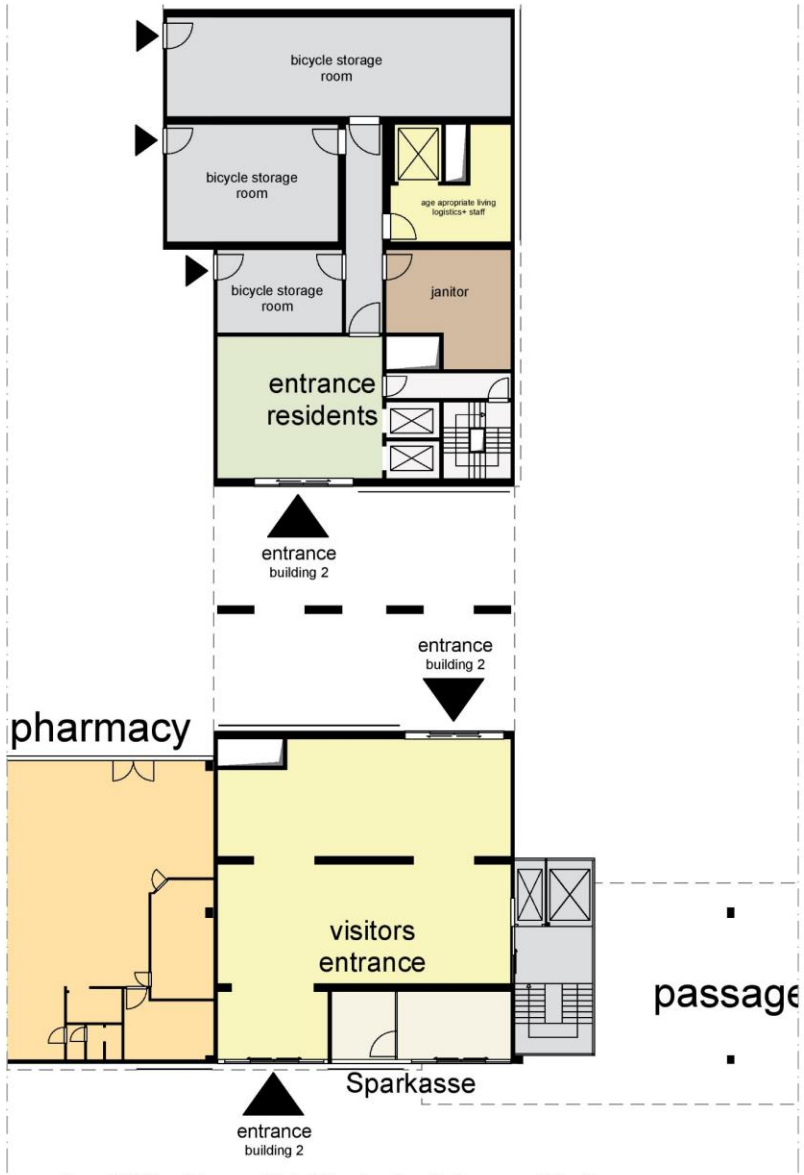
personnel flow: visitors

flow of goods: heavy transport

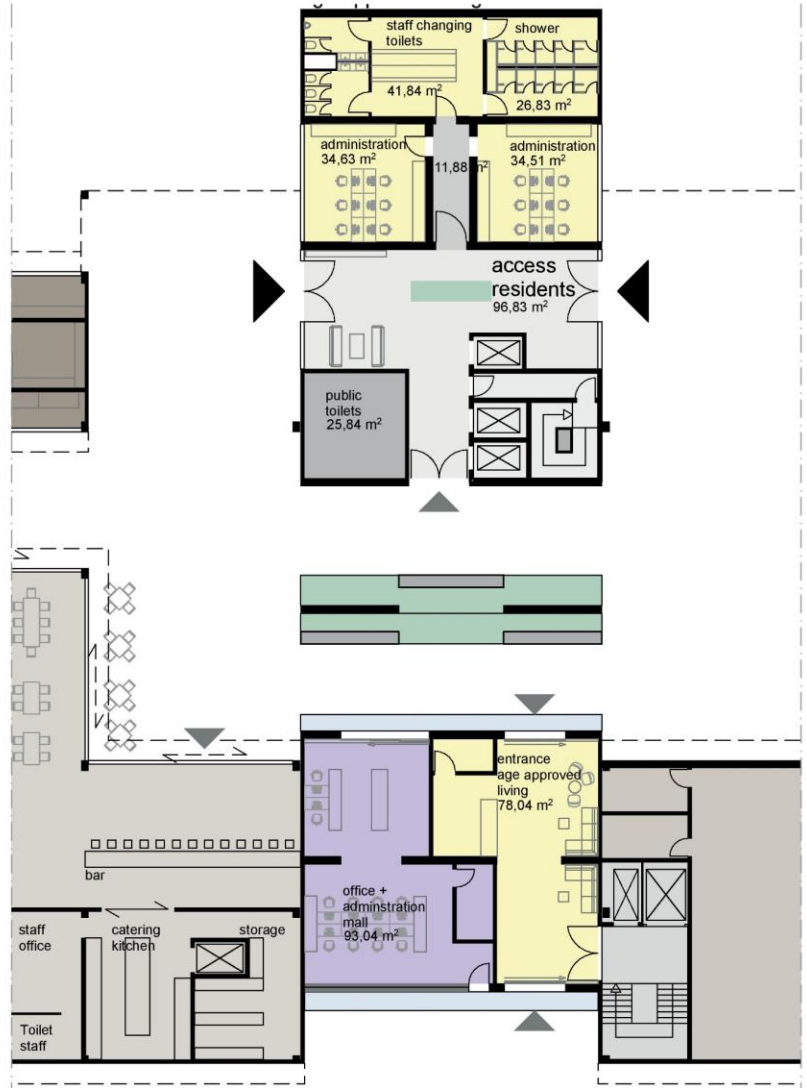
flow of goods: light transport

CUBES

THE ENTRANCE



version XXL: Benedikt Kiederle & Laura Molter



version L: Jonathan Pommer & Maximilian Zichner

S : 1 : 100

level 2.00

L VERSION

The main entrance (public entrance) is in the southern part located. It includes concierge service and waiting areas.
In the northern part is the discreet entrance located.
Near this entrance are rooms for the staff and the administration placed.

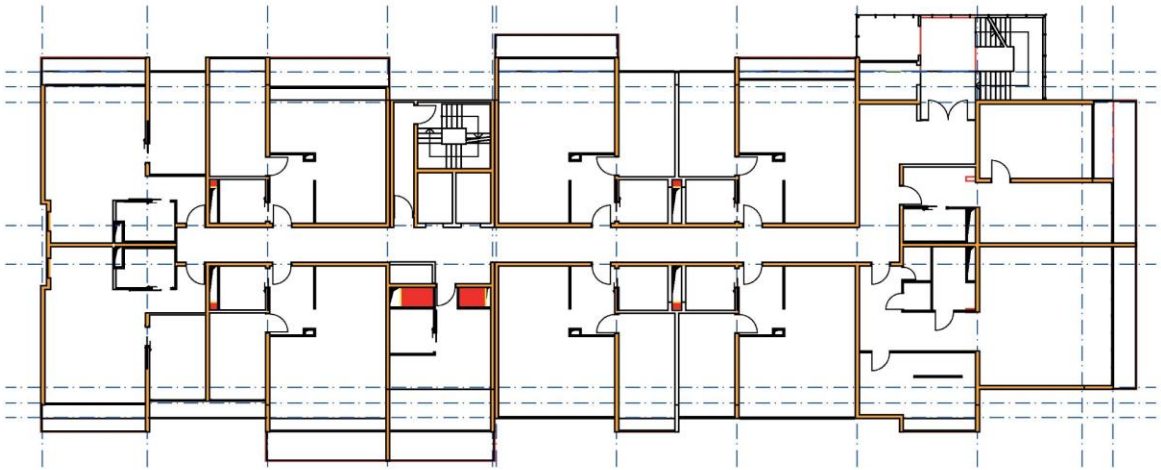
XXL VERSION

The main entrance (public entrance) is in the southern part located. This Part includes waiting areas waiting areas.
In the northern part are rooms for the staff.

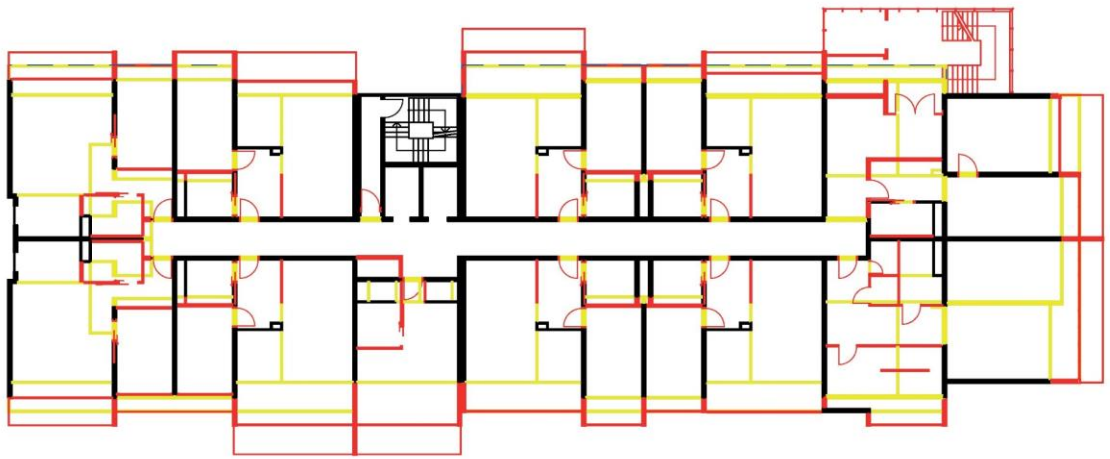
N

CUBES

THE STRUCTURE - age appropriate living

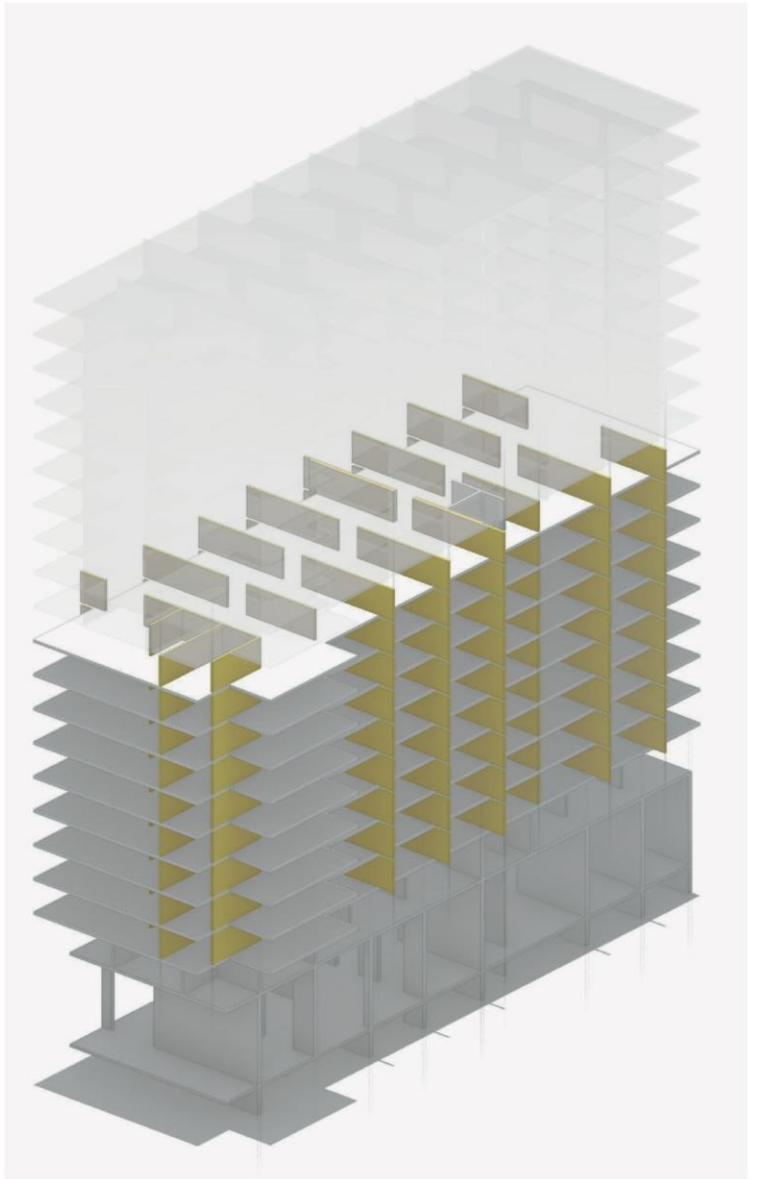


support structure / shafts / new shafts



demolition/ new structure

S : 1 : 100



level 2.02 - level 2.10

The load-bearing structure of the existing building is used as a basic grid for the cubes.

The corridor walls will be partially relocated, while the rectangular ones will remain in the existing structure as a stiffening slab.

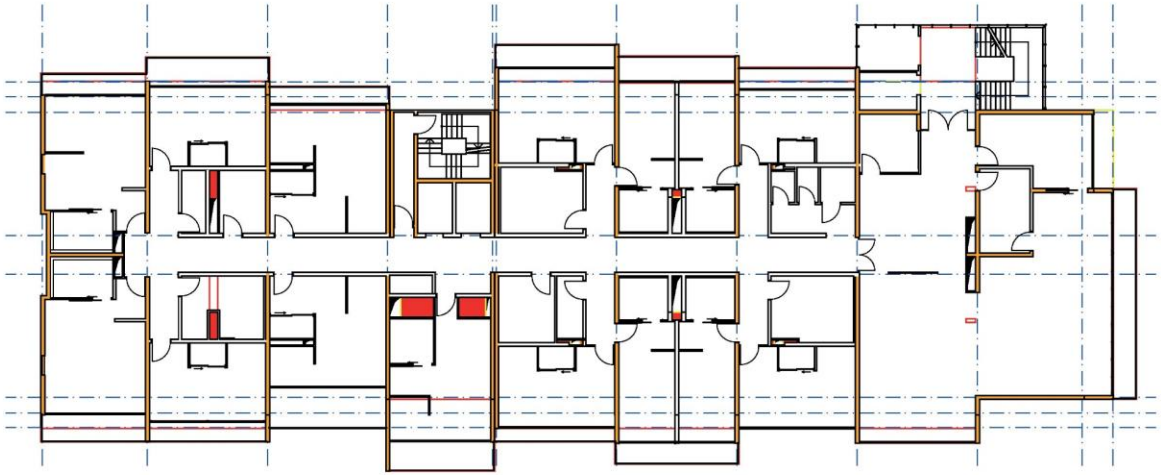
The bulkheads on the southern front of the building and the existing staircase core will be used to stiffen the supporting structure.

A core will be attached to the existing building in the south-east.

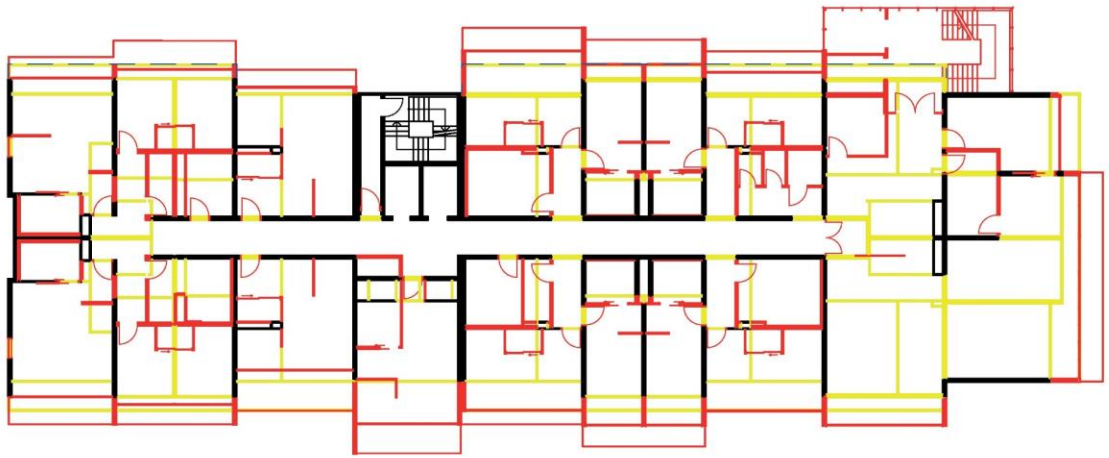
N

CUBES

THE STRUCTURE - assisted living - side rooms

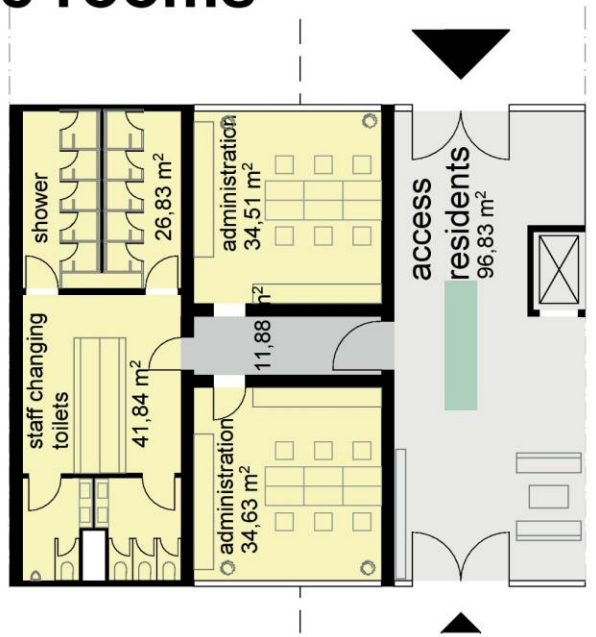


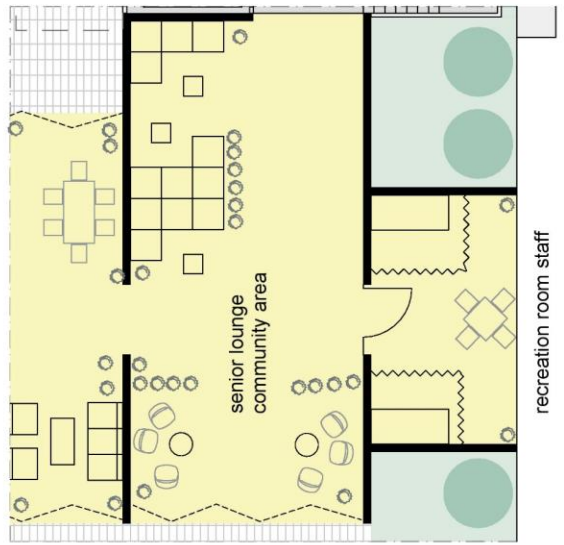
support structure / shafts



demolition/ new structure

S : 1 : 100





level 2.02 - level 2.10

SIDE ROOMS LEVEL 2.00 / 2.01

In the north of the central tower there are dressing rooms for the staff, as well as the administration of the assisted living and the administration of the age appropriate living.

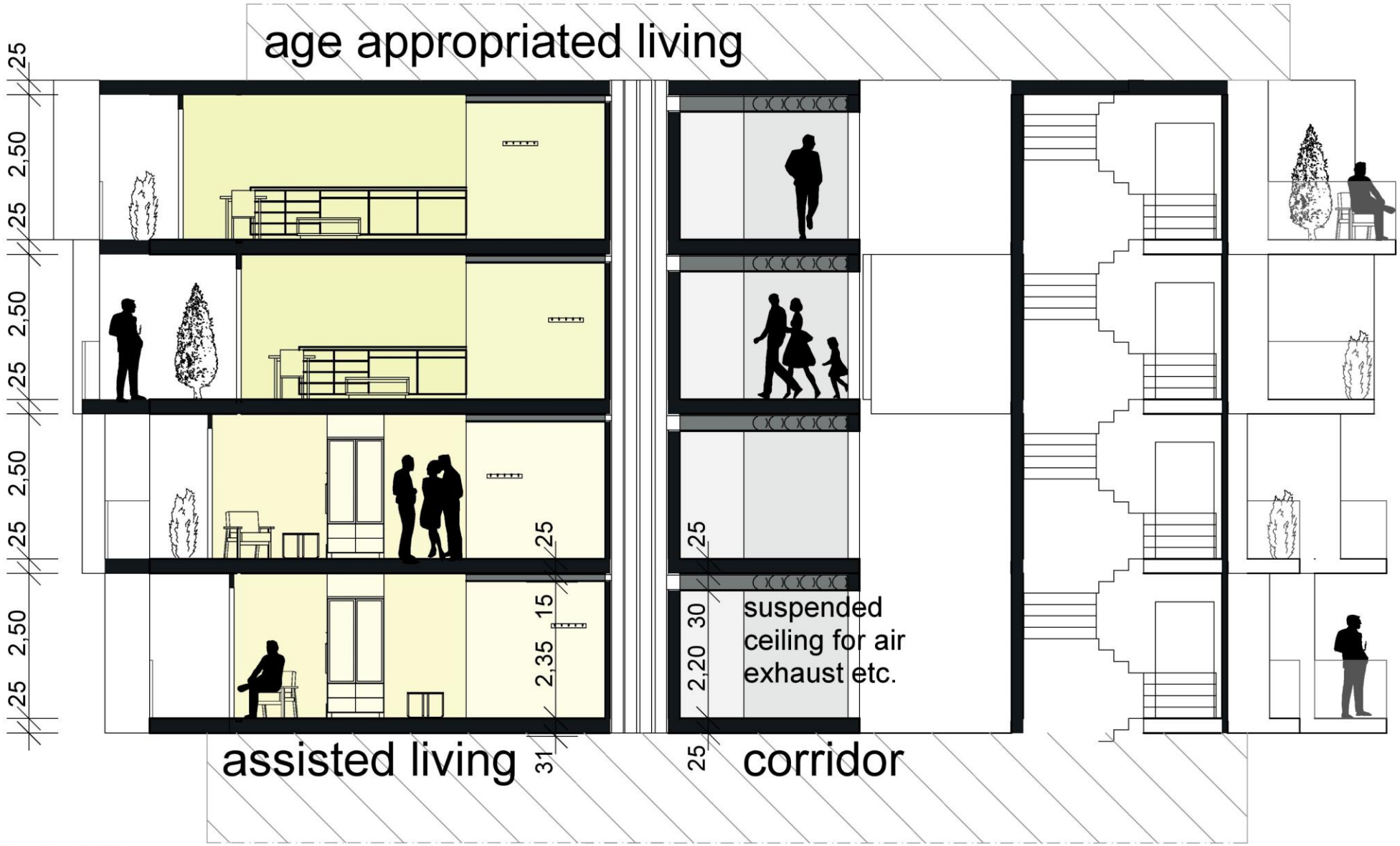
On the upper floor of the mall there are rest rooms for the staff, as well as communal areas for retirement home and assisted living.

In addition, there is a central kitchen in the underground parking garage, which delivers directly to the wards/units, as well as a laundry service center. All side rooms are directly connected to the floors by the elevators, thus enabling short distances.

N

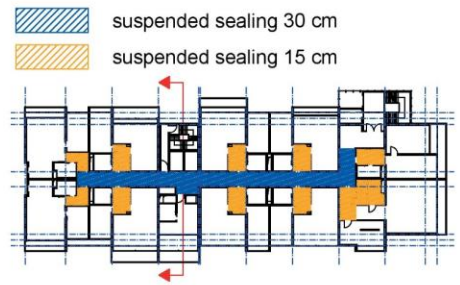
CUBES

THE SECTION

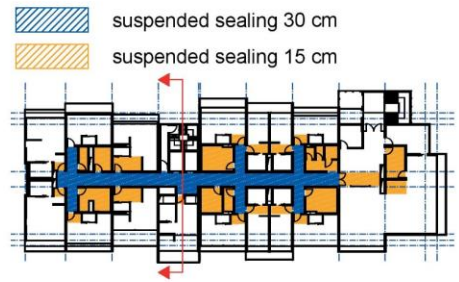


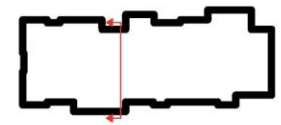
level 2.04 - level 2.07

suspended sealing area
age appropriate living



suspended sealing area
assisted living



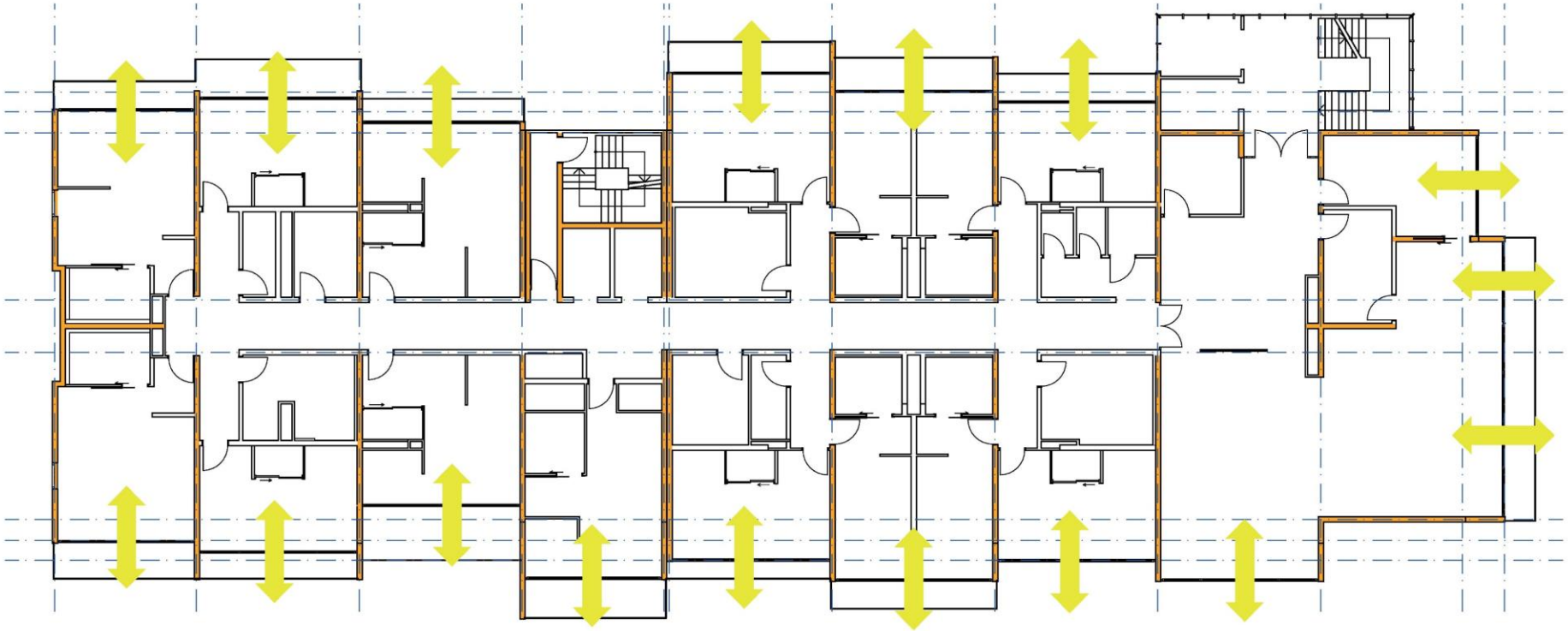


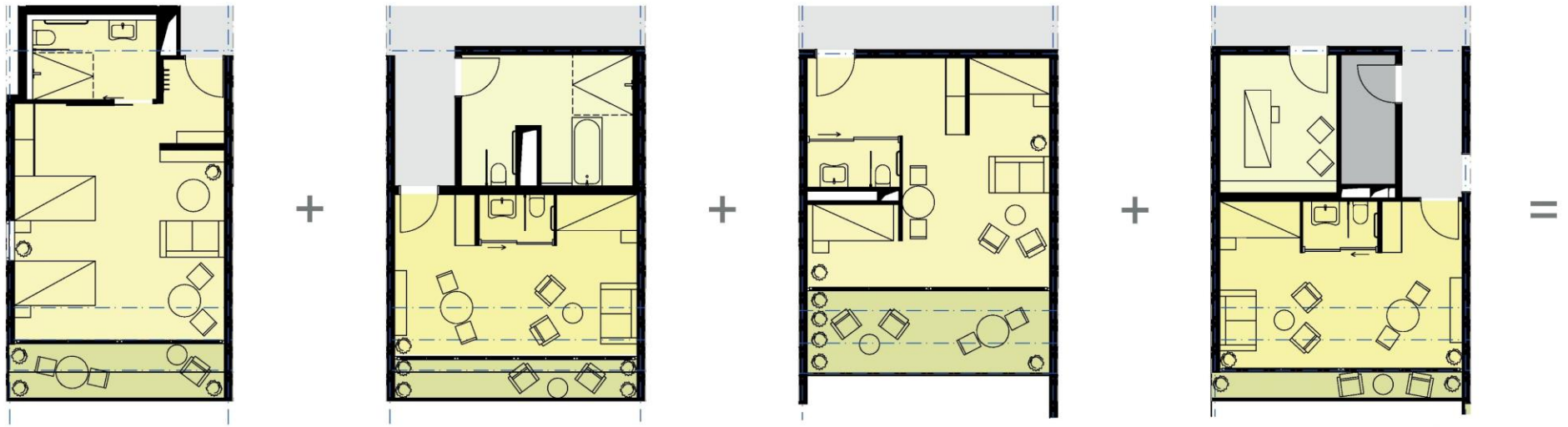
N

CUBES

S : 1 : 200

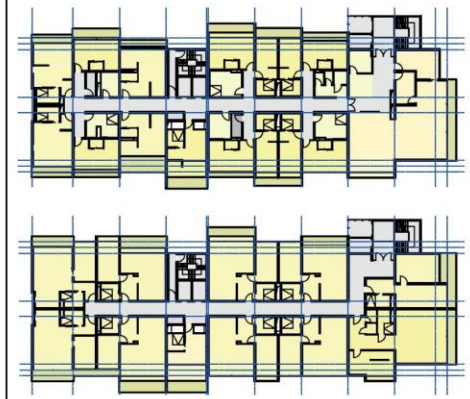
THE CONCEPT





level 2.02 - level 2.10

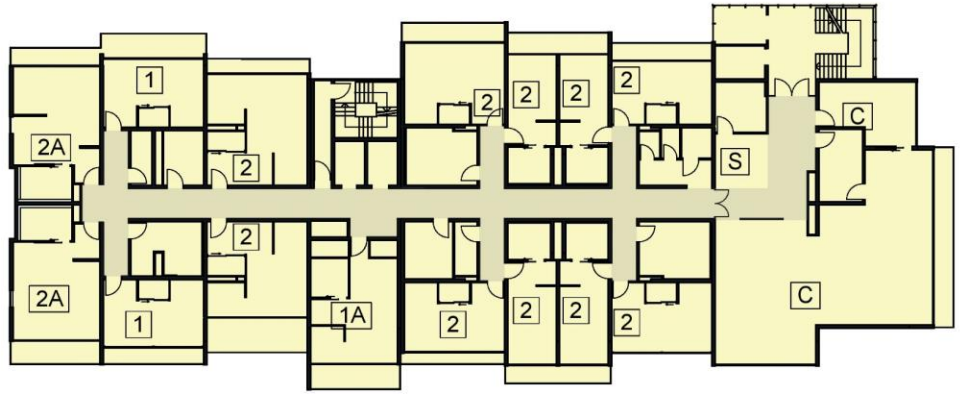
The load-bearing structure of the existing building is used as a basic grid for the cubes.
Only the width is fixed.
The cubes are stretchable and the installation depth is variable.
This way different hallway widths and various apartment / room sizes can be realized.



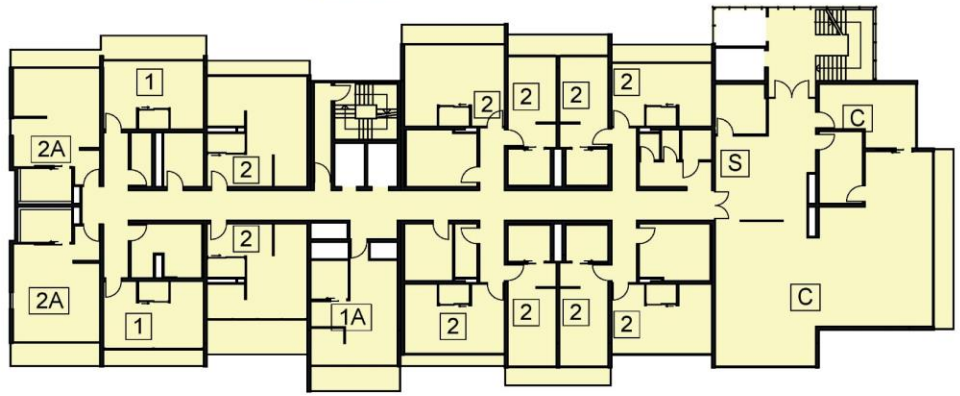
N

CUBES

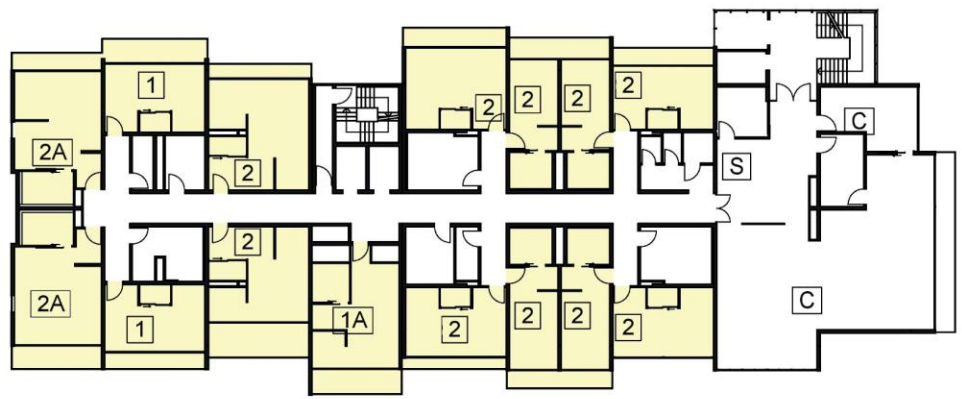
AREA DISTRIBUTION: ASSISTED LIVING



gross floor area



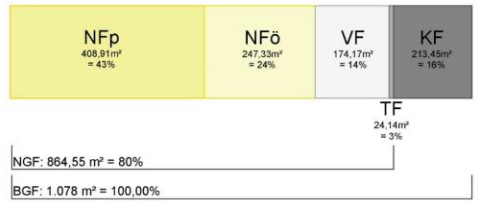
usable floor area



leasable floor area

S : 1 : 200

level 2.02 - level 2.05



floor area distribution

efficiency:

leasable area / usable area

= 864,91 m² / 408,91 m²

= 0,55

requirements common space:

21°C - 23°C
300 - 500 lx
5 m³/h*m²
8:00 -18:00

access:

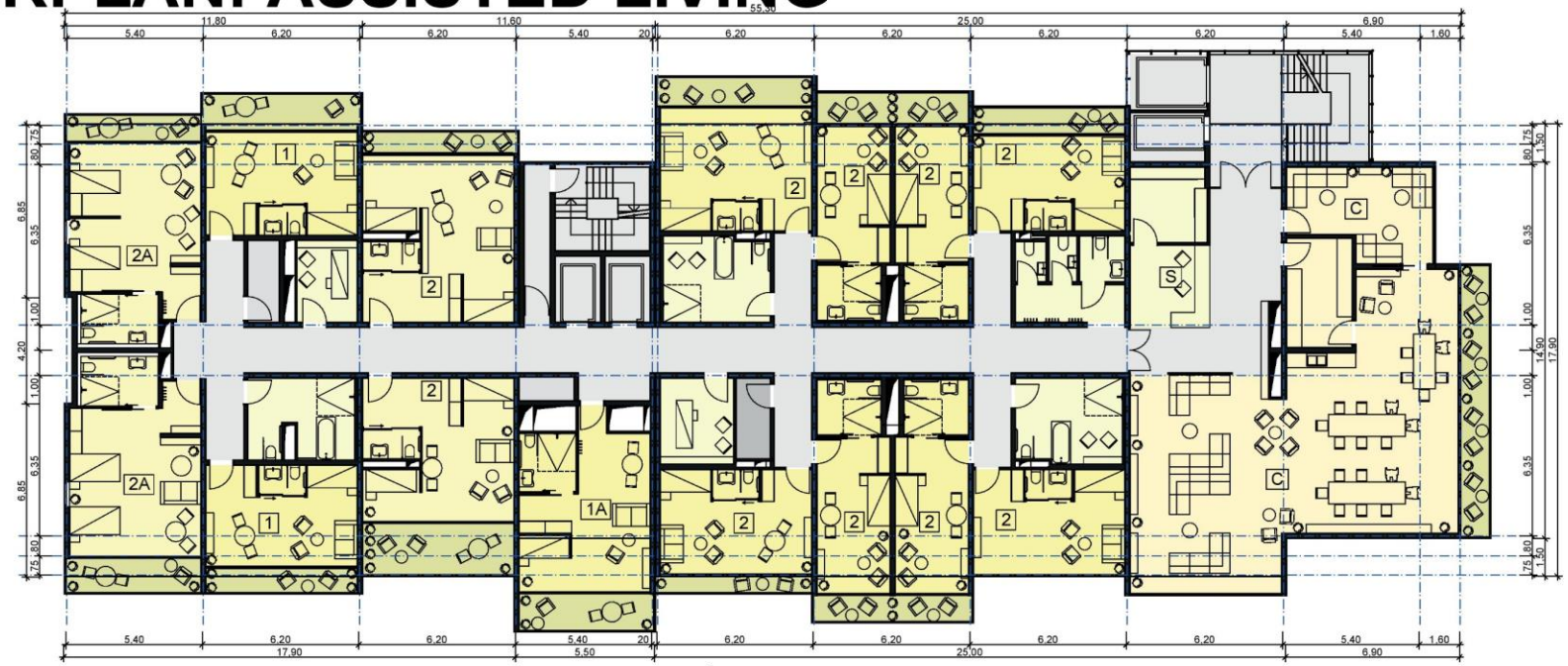
no restrictions for employees
in case of emergency
visitors during opening hours

otherwise with key only or with support

N

CUBES

FLOORPLAN: ASSISTED LIVING



S : 1 : 100

level 2.02 - level 2.05

floor area distribution

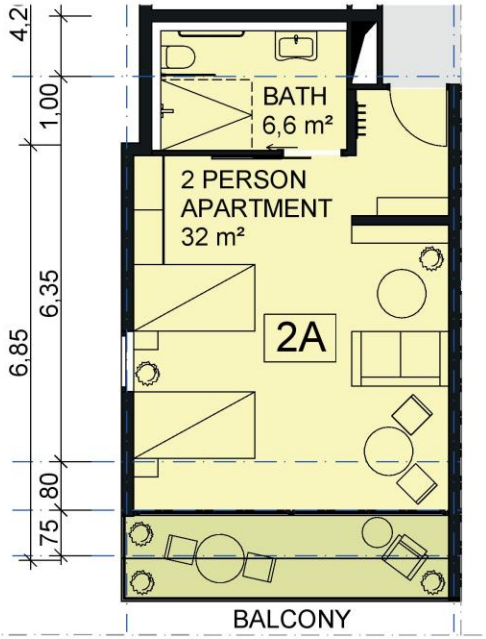
There are 4 different types units:
-Single room with bathroom
-Single room with sanitary box
-Double room with bathroom
-Double room with sanitary box

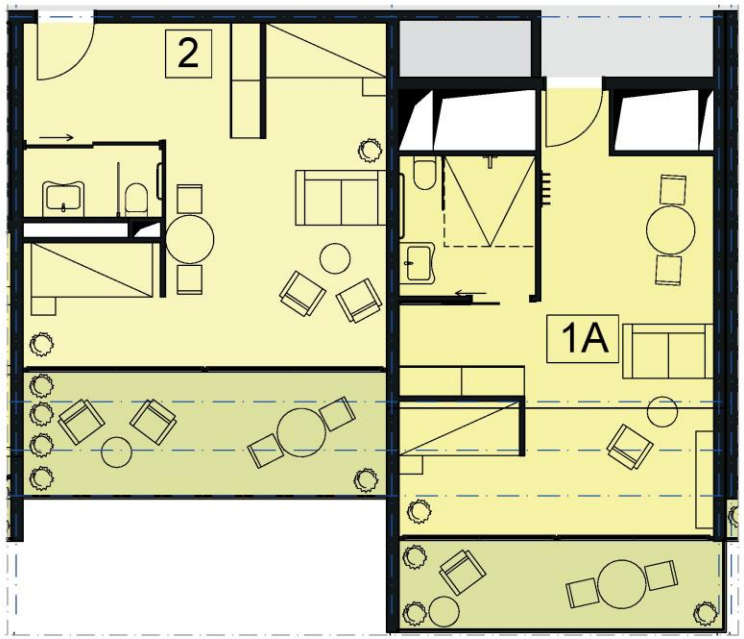
In addition, there are therapy rooms, ward bathrooms, a room of silence, a community area and a dining room, as well as ancillary spaces, for storage and a reheating kitchen.

N

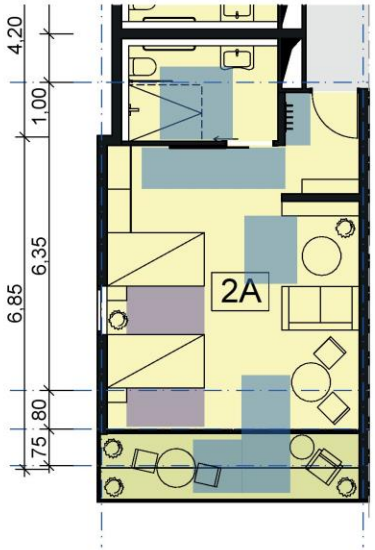
CUBES

DETAIL: ASSISTED LIVING

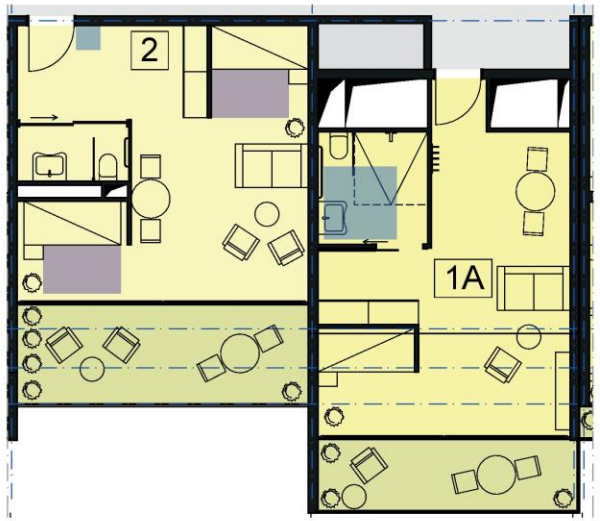




CLEARANCE AREA



CLEARANCE AREA

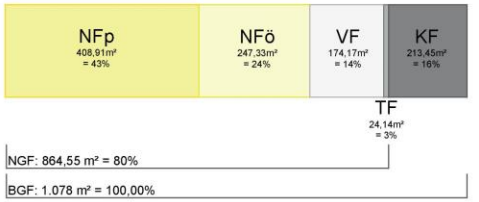


S : 1 : 100

area necessary for caring
moving area disabled

area necessary for caring
moving area disabled

level 2.02 - level 2.05



level facts

apartments

4 x 2 person apartments
4 x 1 person apartments

inhabitants per Level **19 Persons**
staff **4 persons**

requirements

bath	**living**
22°C - 25°C	21°C - 23°C
200 - 500 lx	300 - 500 lx
7 m³/h*m²	4 m³/h*m²

persons in total assisted living

inhabitants

19 per lev. x 4 levels
76 inhabitants asstisted living

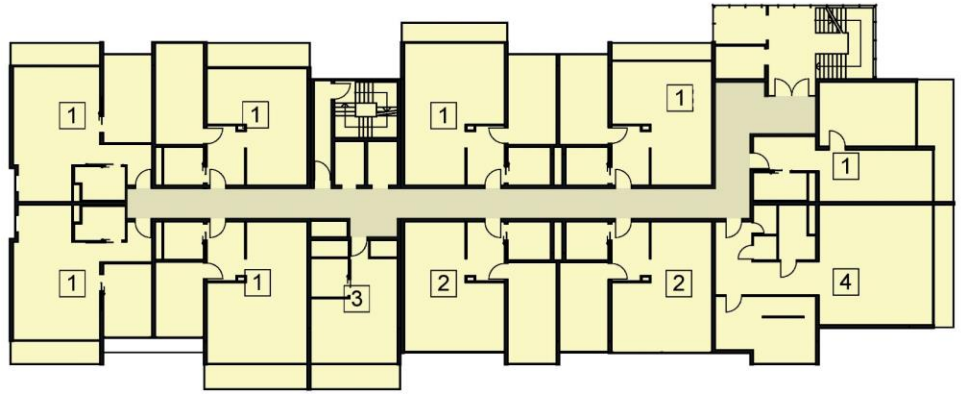
staff

4 persons per lev. x 4 levels
16 persons + 4 pers administration

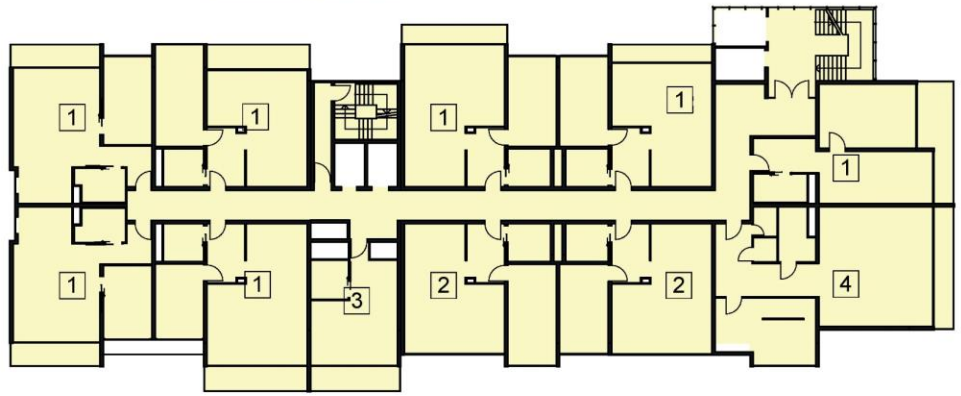
N

CUBES

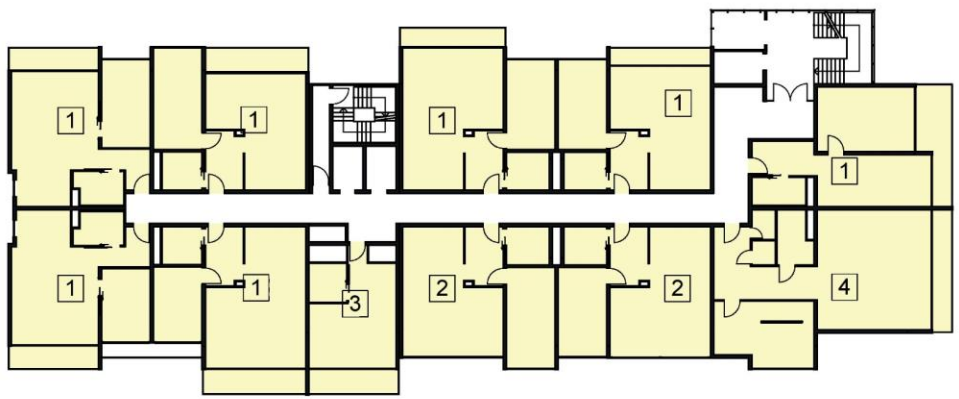
AREA DISTRIBUTION: AGE APPROPRIATE LIVING



gross floor area



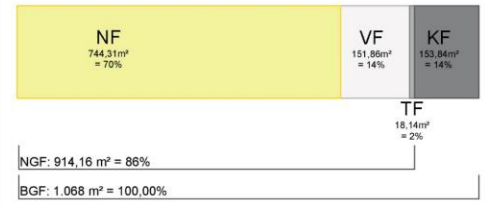
usable floor area



leasable floor area

S : 1 : 200

level 2.06 - level 2.10



floor area distribution

efficiency:

leasable area / usable area

= 744,31 m² / 914,16 m²

= 0,81

community space:

located in the first level of the mall
access for inhabitans of assisted living and inhabitants of age appropriate living

access:

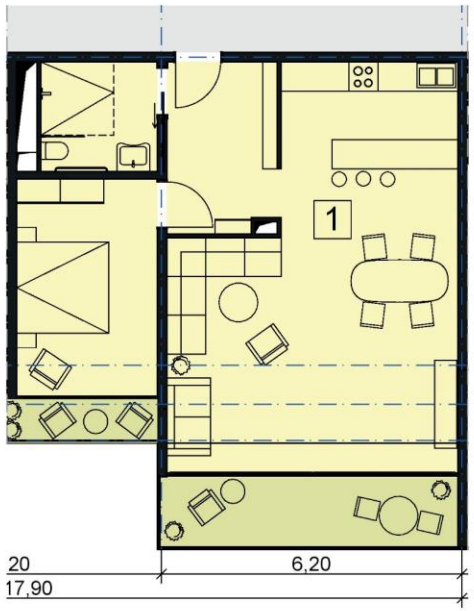
no restrictions for employees
in case of emergency
visitors during opening hours

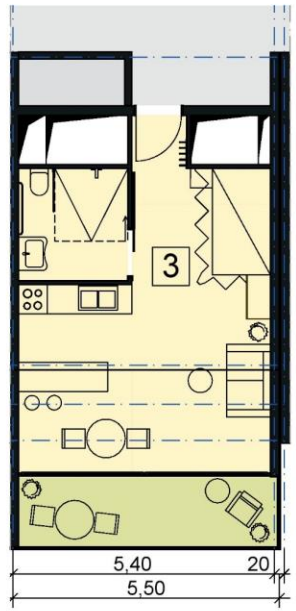
otherwise with key only or with support

N

CUBES

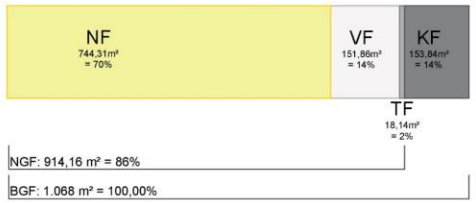
FLOORPLAN: AGE APPROPRIATE LIVING





S : 1 : 100

level 2.06 - level 2.10



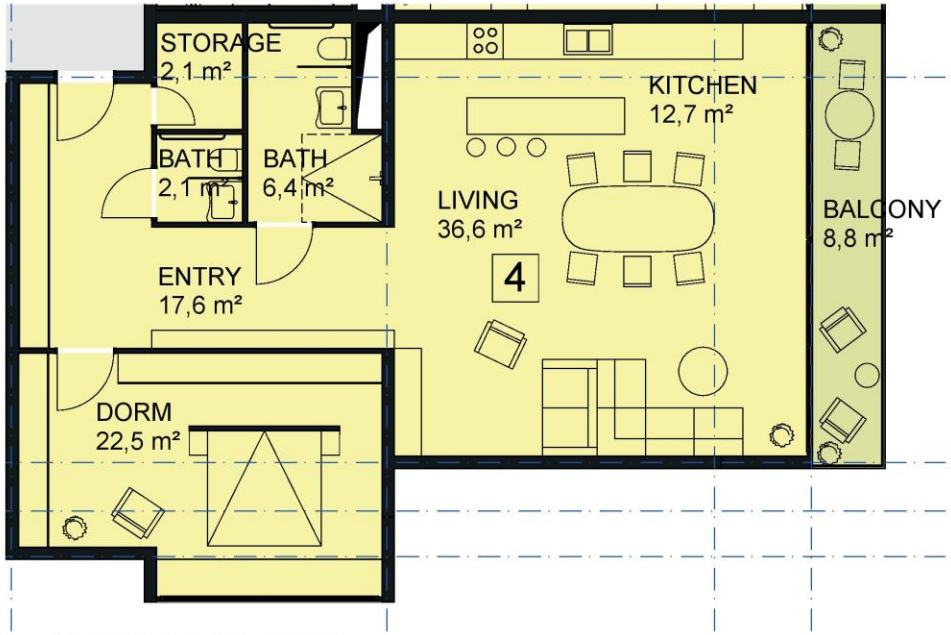
floor area distribution

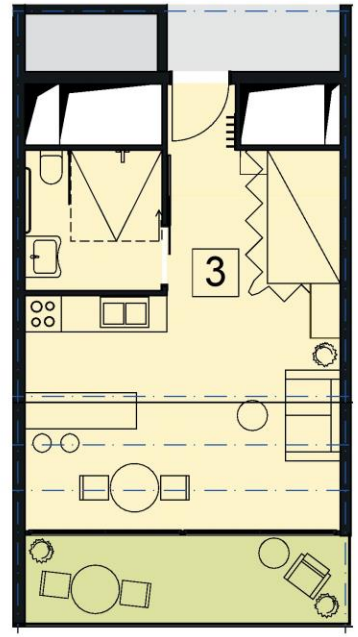
There are 4 different types of apartments:
-single apartment with balcony
30 - 40 m² (3)
-double apartment without balcony
60-75 m² (2)
-double apartment with balcony
70-80 m² (1)
-double apartment with balcony, guest bathroom and storage room
85-95 m² (4)

N

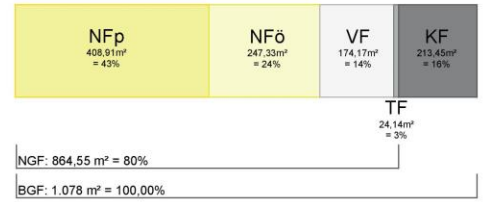
CUBES

DETAIL: AGE APPROPRIATE LIVING





level 2.06 - level 2.10



level facts

apartments

7 x 2 person apartments typ 1
2 x 2 person apartments typ 2
1 x 1 person apartment typ 3
1 x 2 person apartment typ 4

inhabitants per Level **21 persons**
staff (admin + concierge) **1 person**

requirements

bath	**living**
22°C - 25°C	21°C - 23°C
200 - 500 lx	300 - 500 lx
7 m³/h*m²	4 m³/h*m²

persons in total assisted living

inhabitants

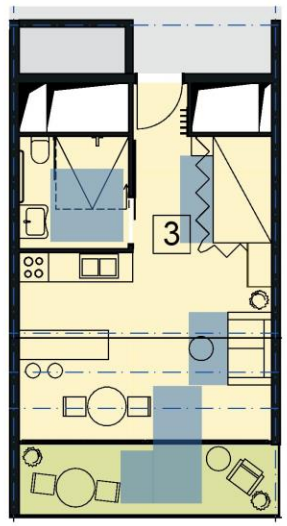
21per lev. x 5 levels
105 inhabitants age appropriate living

staff

1 persons per lev. x 5 levels
5 persons

CUBES

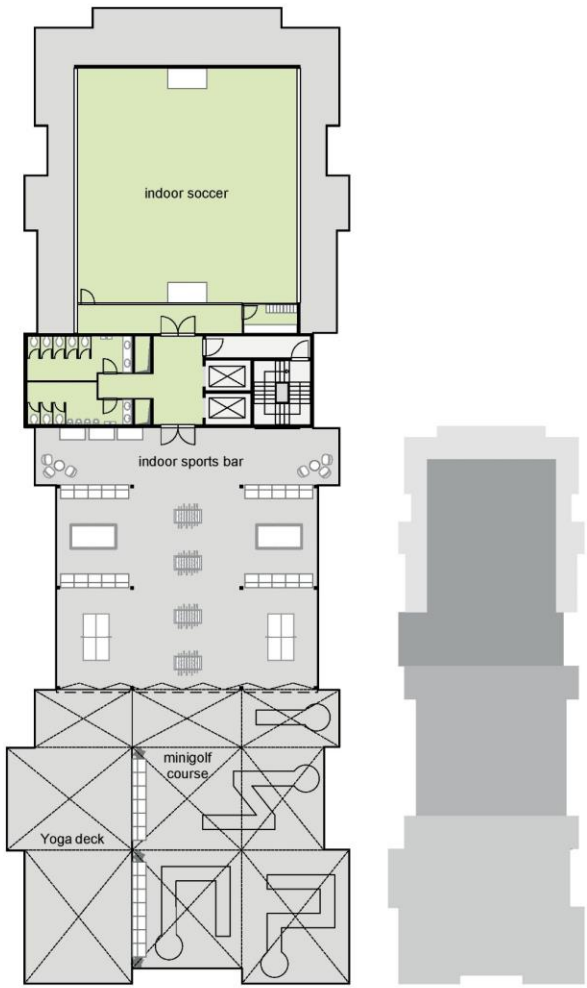
CLEARANCE AREA



S : 1 : 100

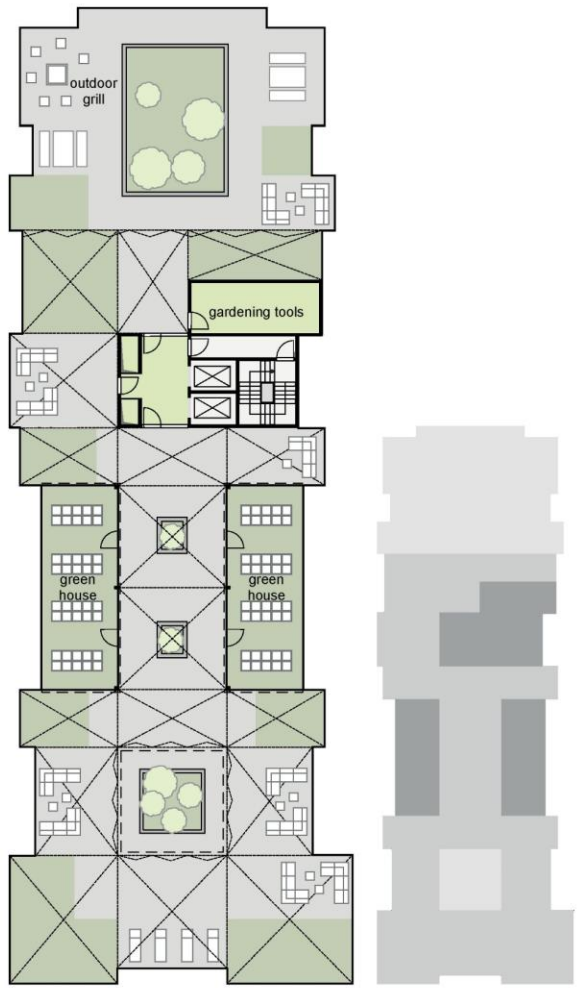
moving area disabled

THE ROOFTOPS

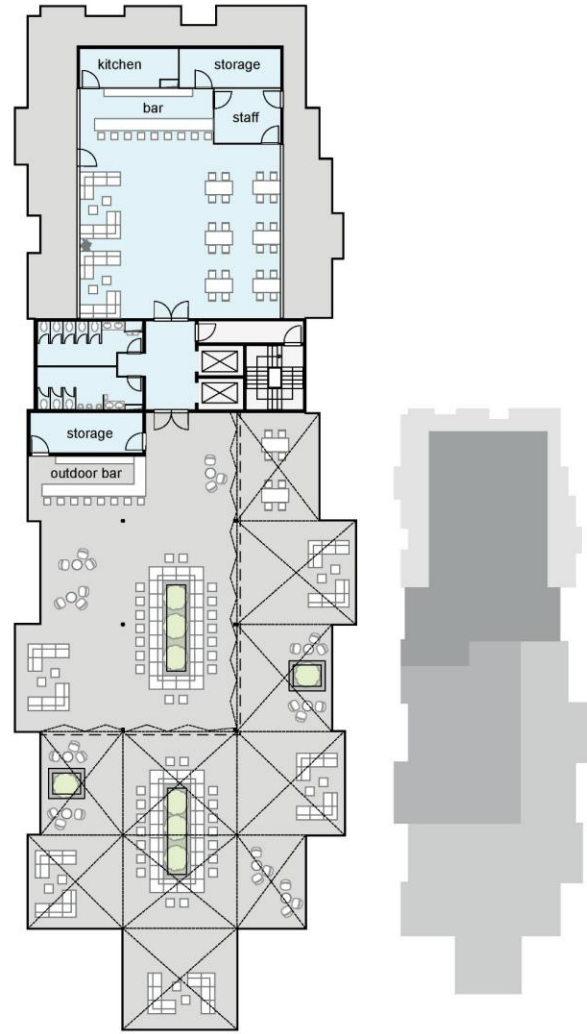


Level 1.20: sport, outdoorsport, sportsbar

S : 1 : 100



Level 2.20: roof garden



Level 3.15: rooftop bar

level 1.20 - 2.20 - 3.15

Level 1.20:
On Level 1.20 there are several sports facilities for students and young families, such as indoor soccer, a mini-golf course, table tennis, etc.

Level 2.20:
On level 2.20, in addition to the roof gardens on levels 1.01 - 3.01, there are further roof gardens for residents.

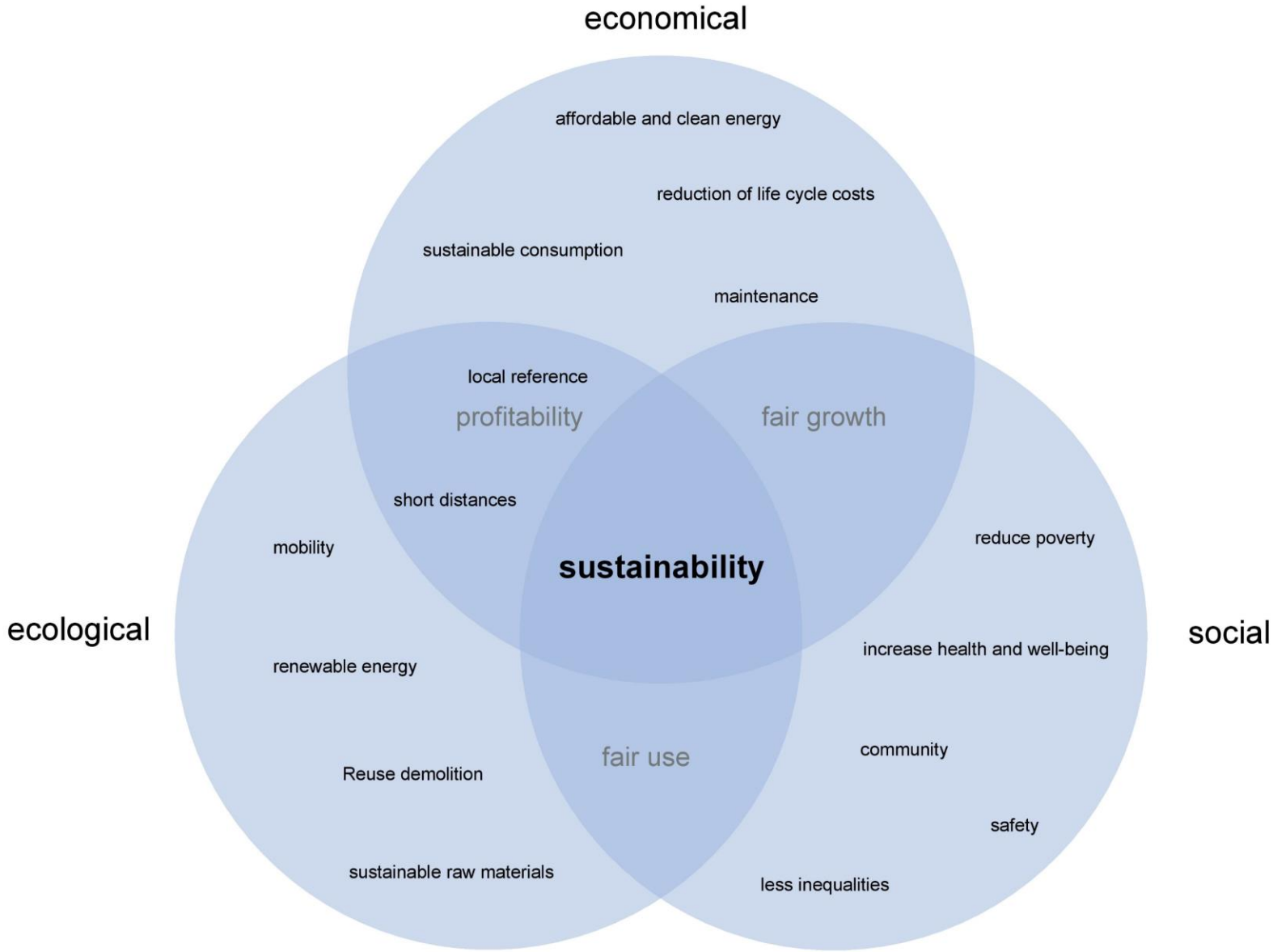
Level 3.15:
On level 3.15 there is a rooftop bar for visitors to the serviced apartments and employees of the offices on the co-working floors, as well as for external guests.

fixed roofing, inside heat transfer shell
fixed roofing, outside heat transfer shell
variable canopy
without canopy

N

CUBES

SUSTAINABILITY CONCEPT



COMBINE SYSTEMS

The design of both variants, as well as the different benefits, was developed on the basis of the sustainability concept.

Sustainability also plays a major role in the building technology and the planning of the details.

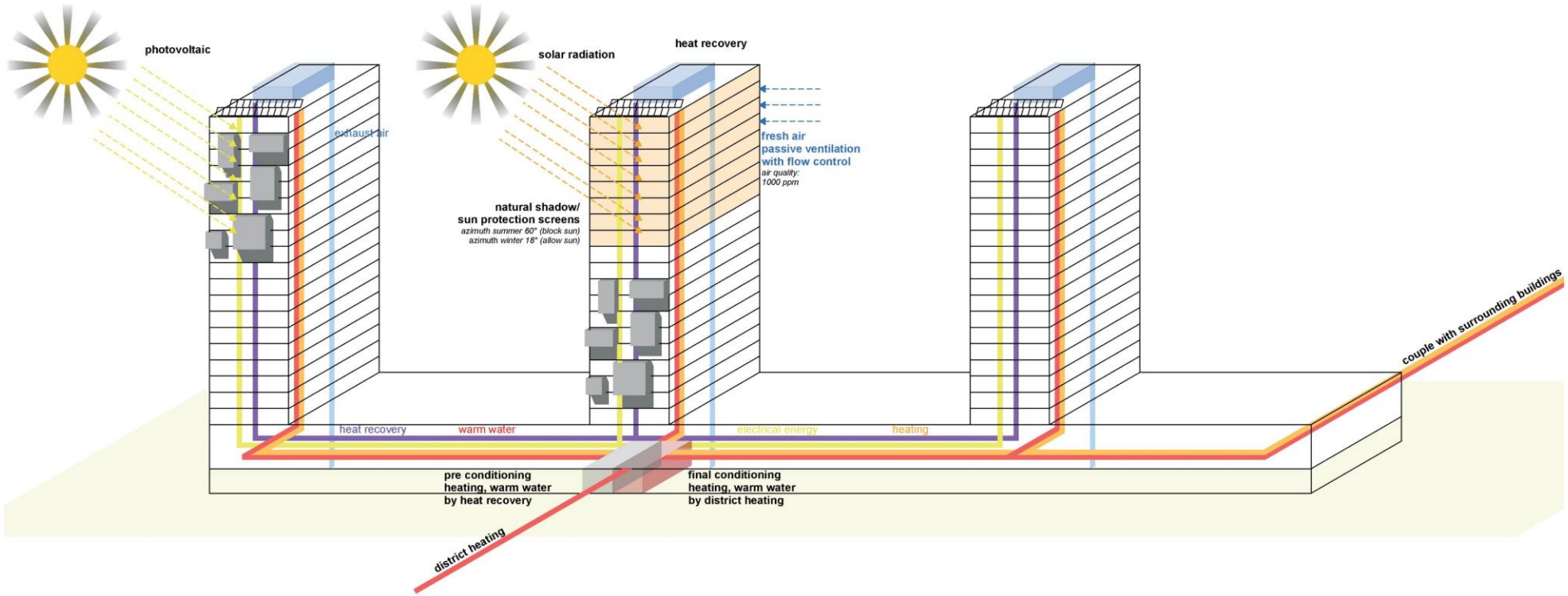
Above all, the social aspect was a leading factor in the planning of the mall variants and the associated outdoor facilities.

In order to achieve the desired sustainability, not only the architectural means but also the compliance and follow-up of the users and visitors are of high importance.

The aim of our architecture is to create the best possible basis for this and to keep the emission of grey energy as low as possible by intervening in the existing building as little as possible.

CUBES

ENERGETIC CONCEPT



COMBINE SYSTEMS

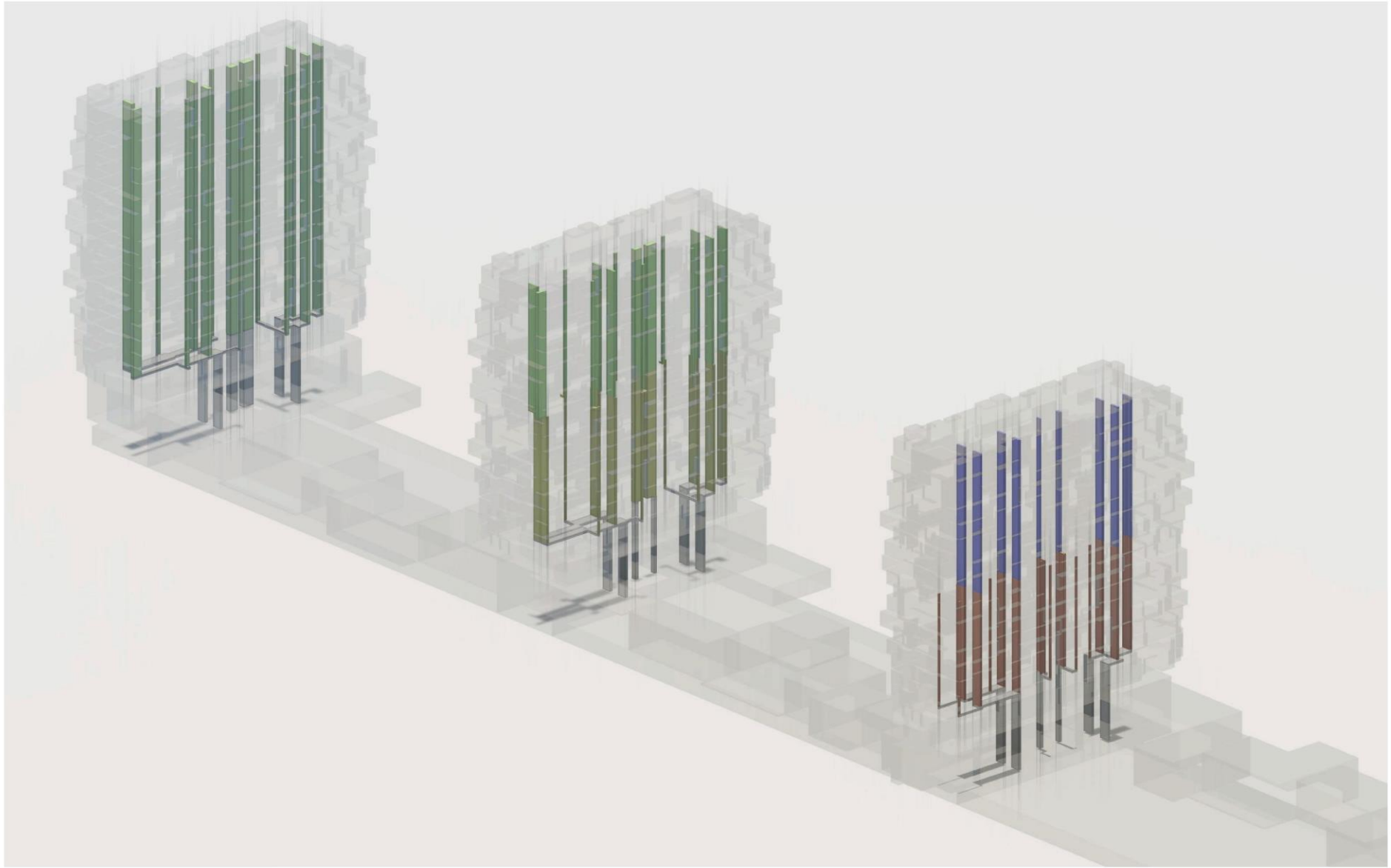
The goal is to reduce one's own energy demand as much as possible through solar and heat recovery. Reheating is provided by district heating. It is important that the general conditions with regard to air quality and comfort are met.

For this purpose, fresh air is supplied to the units via an air vent and the rooms are heated via underfloor heating. The exhaust air is collected and routed via the roof. The remaining energy is recovered from this via heat recovery and then used to precondition the heating circuit and hot water.

In order to have control over the solar energy, the Cubes are equipped with façades with integrated sun protection, which are controlled depending on the position of the sun, but can also be individually adjusted at any time.

CUBES

THE SHAFTS



SHAFT - CONCEPT

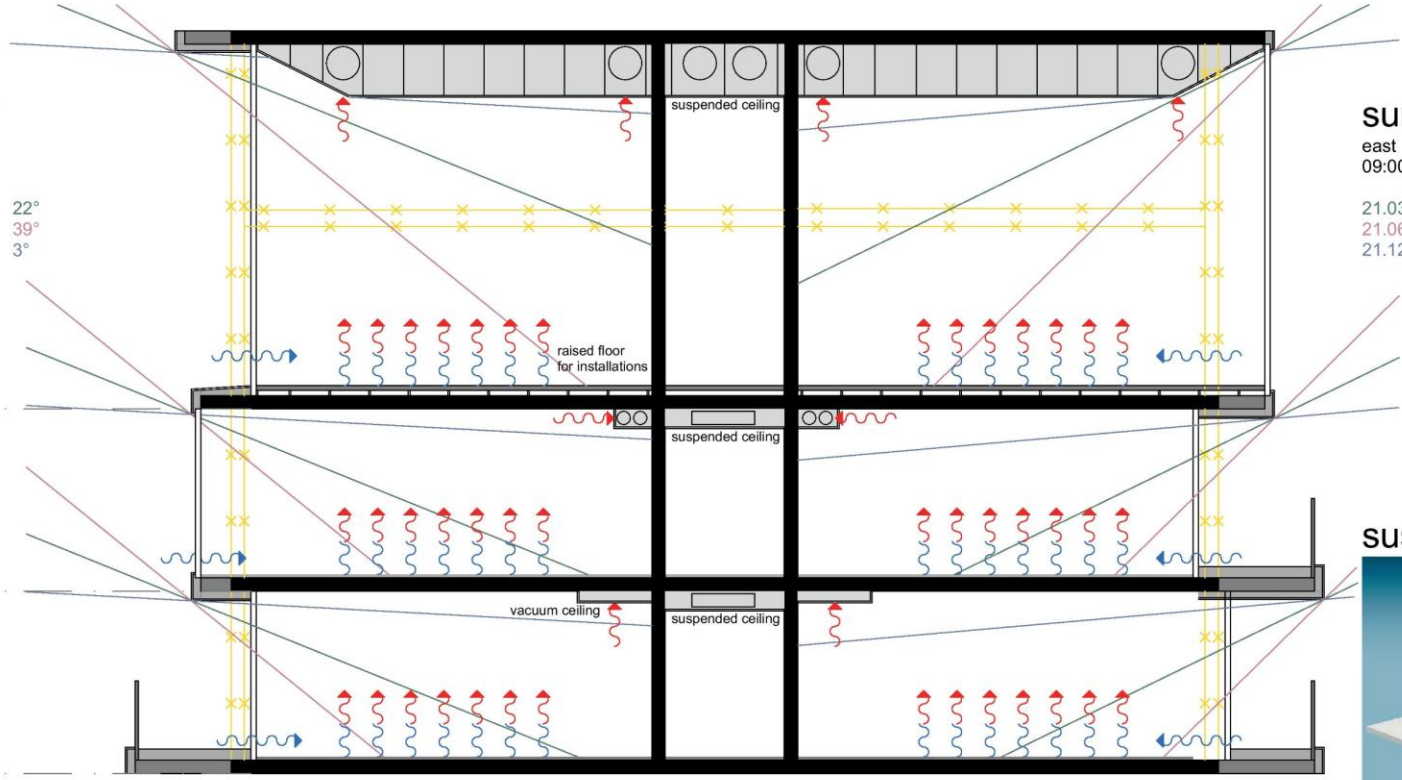
In order to keep the encroachment on the existing building as small as possible, the shafts will be retained as far as possible and put to a new use. However, shafts for ventilation ducts must be enlarged.

Due to their height, the mezzanine floor and the mall serve to move the ducting. The shaft routing was coordinated between the coexisting uses.

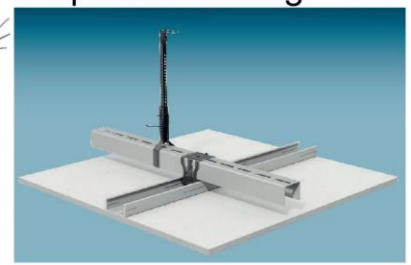
- GENERAL LIVING
- STUDENTS LIVING
- AGE APPROPRIATE LIVING
- CO-WORKING SPACES
- SERVICED APARTMENTS

CUBES

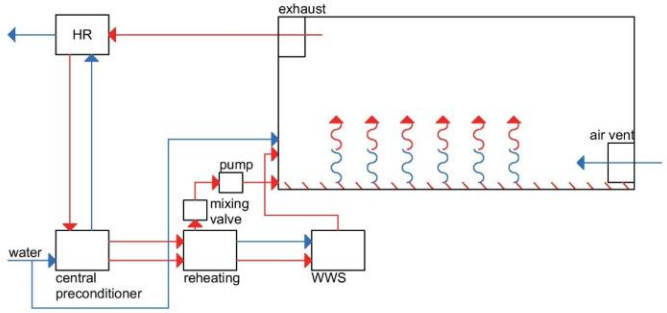
THE BUILDING SERVICES



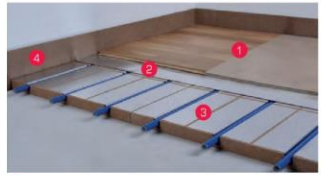
suspended ceiling



schematic

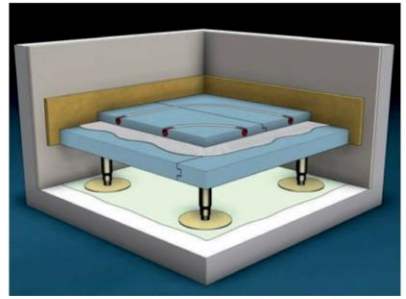


floor construction v1/2



1	parquet // laminate	> 15 mm | ≥ 8 mm
2	CompactFloor DIRECT 1.5	1,5 mm
3	GreenLine system plate + heating pipe MVR	30 mm
4	edge insulation strip	
	Total structure height	≥ 47 | 40 mm

floor construction v3



DIFFERENT VERSIONS

V1:
Air vent in the façade, Heating through underfloor heating, Exhaust air through negative pressure ceilings, Exhaust air collection in the corridor area,
Reduction of the slope height in the units
Application: age-appropriate living and housing

V2:
Air vent in the façade, Heating through underfloor heating, Exhaust air through suspended ceilings, Exhaust air collection in the corridor area,
Suspensions only on the corridor walls
Application: age-appropriate living and housing

V3:
Air outlet in the facade, Heating through underfloor heating, Exhaust air through suspended ceilings, Exhaust air collection in the corridor area,
Larger dimensions due to more air requirement
Application: Office space

CUBES

S : 1 : 200

DETAIL: FACADE / ROOF

1
Fall protection:

150 mm	steel T-profile
3x12 mm	VSG with 2x PVB in clamping profile

2
Floor structure: roof garden:

40 mm	tile flooring
35 mm	split bed
15 mm	buildprotection and drainage mat
10 mm	upper layer of sealing
10 mm	second layer of sealing
200 mm	insulation WLS 030
3 mm	primer, sealing
200 mm	existing reinforced concrete ceiling
10 mm	ceiling plaster

3
suspended ceiling:
system: Fa. Knauf

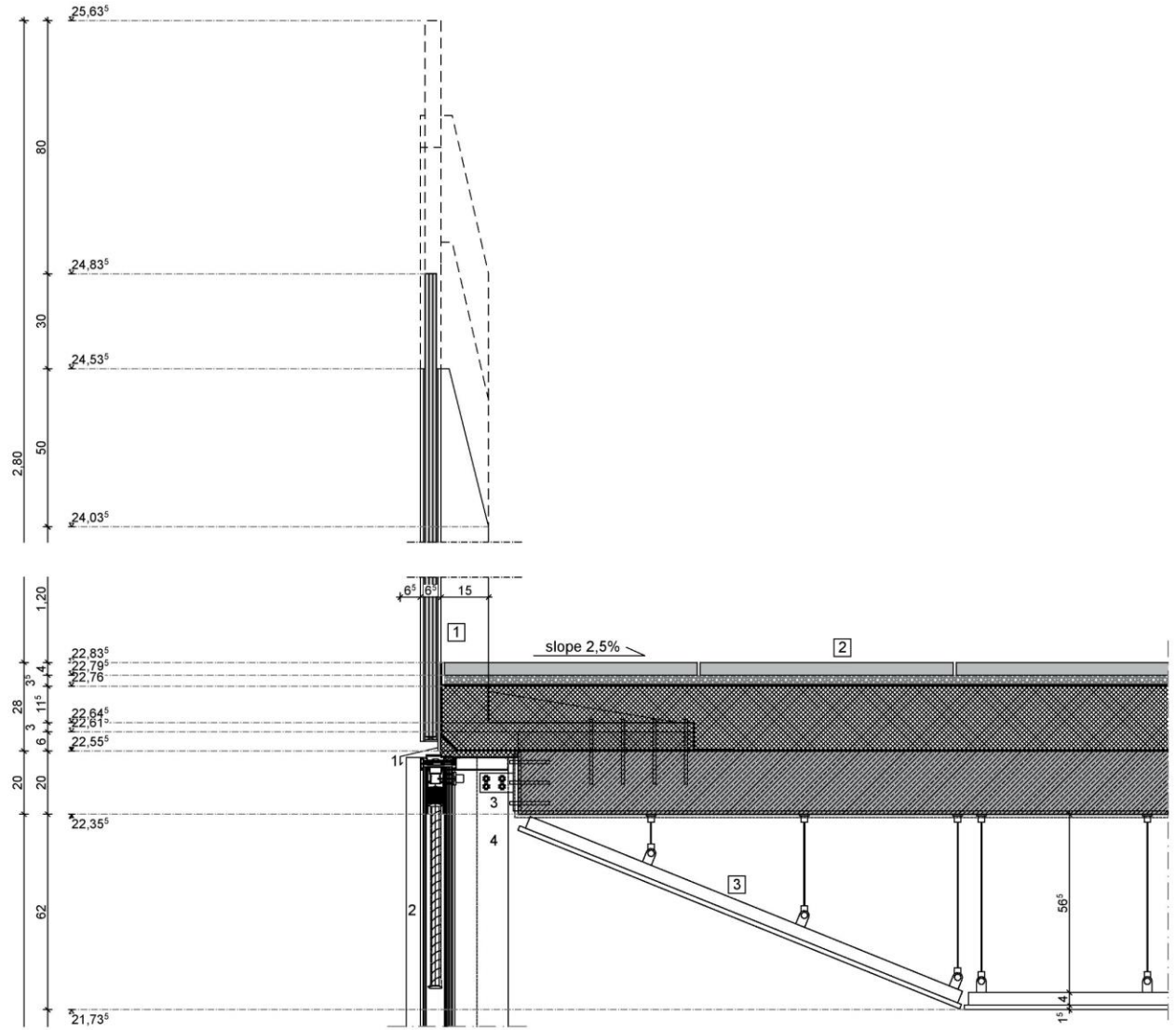
800 mm	suspension Knauf suspension system
30 mm	suspension construction Metal rail
12.5 mm	plasterboard acoustic panel

1
Cover plate
connection to steel profile fall protection
protrusion min. 30 mm
fastening to steel T-profile
emergency drainage via joints glazing

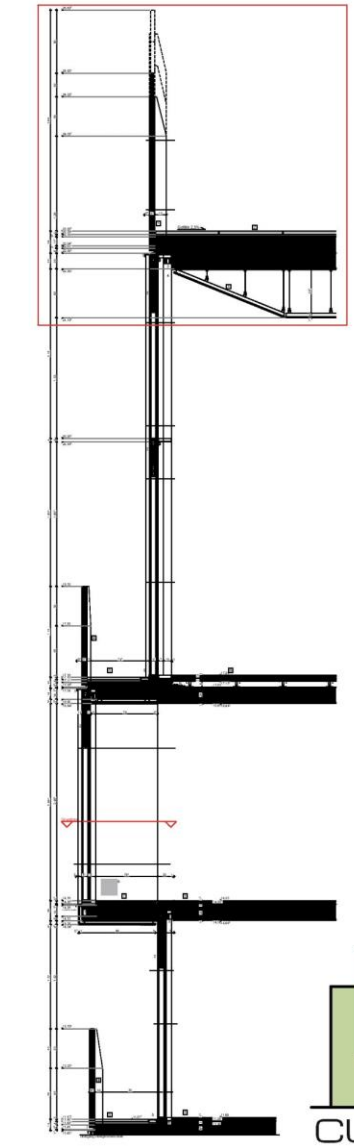
2
Element facade Fa. Glass Seele
product: ISO shade
with integrated shade

3
Steel tongs around profile facade
fastening with steel plate and
connection iron (glued in) in
existing reinforced concrete ceiling

4
Profile widening element facade



complete section



S : 1 : 5

DETAIL: CUBE

4
Fall protection:

50 mm	steel T-profile
3x12 mm	VSG with 2x PVB in clamping profile

5
Floor structure: roof garden:

30 mm	slab decking
40 mm	split bed
15 mm	buildprotection and drainage mat
10 mm	top layer sealing
10 mm	second layer sealing
60 mm	insulation WLS 030
3 mm	primer, sealing
15 mm	board cement-bonded
140 mm	IPE steel beam insulated WLS 030 vapor barrier
30 mm	substructure
2x12,5 mm	plasterboard

6
Floor structure: Co-Working:

10 mm	floor covering
60 mm	cavity floor system Knauf GIFAfloor FHBplus climate
80 mm	elevation, adjustable in height
200 mm	existing reinforced concrete ceiling
10 mm	ceiling plaster

7
Floor structure cantilever:

15 mm	floor covering
1.5 mm	CompactFloor DIRECT 1.5
30 mm	GreenLine system slab + heating pipe MVR
15 mm	slab cement-bonded
140 mm	IPE steel beam insulated WLS 030
60 mm	insulation WLS 030 wind & driving rain seal diffusion open
30 mm	rear ventilation / substructure
15 mm	facade panel fiber cement

8
Floor structure:

15 mm	floor covering
1.5 mm	CompactFloor DIRECT 1.5
30 mm	GreenLine system slab + heating pipe MVR
200 mm	existing reinforced concrete ceiling
10 mm	ceiling plaster

1
Cover plate
connection to steel profile fall protection
protrusion min. 30 mm
fastening to steel T-profile
emergency drainage via joints glazing

2
Element facade Fa. Glass Seele
product: ISO shade
with integrated shade

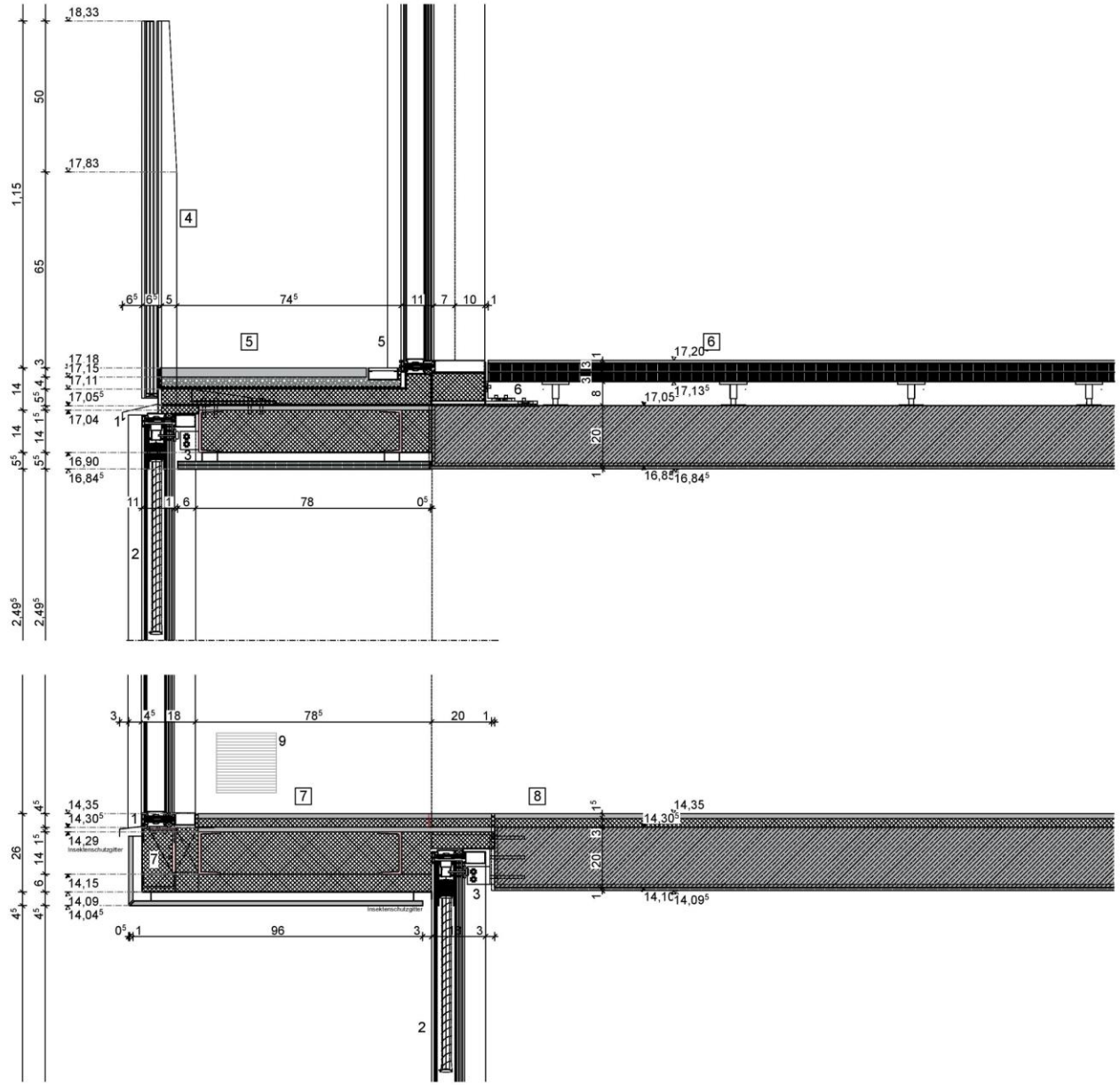
3
Steel tongs around profile facade
fastening with steel plate and
connection iron (glued in) in
existing reinforced concrete ceiling

5
Flat channel 100/40 mm
channel body open on one side
in split bed

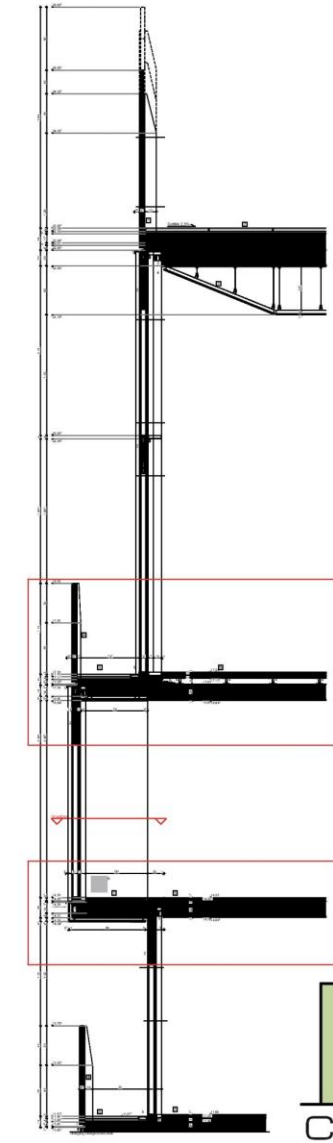
6
Assembly and adjustment system
element facade, adjustable

7
Lower support element facade
steel construction over steel sheet to
C-beam in ceiling construction
connected

9
Air vent
under ventilated facade



complete section



CUBES

S : 1 : 5

DETAIL: FLOORPLAN CUBE

9
Floor structure cantilever:

2x12,5mm	plasterboard
30 mm	substructure
	vapor barrier
140 mm	IPE steel beam insulated WLS 030
60 mm	insulation WLS 030
	wind & driving rain seal
	diffusion open
50 mm	rear ventilation / substructure
15 mm	facade panel fiber cement

10
Floor structure cantilever:

200 mm	existing reinforced concrete wall
140 mm	insulation WLS 030
	wind & driving rain seal
	diffusion open
30 mm	rear ventilation / substructure
15 mm	facade panel fiber cement

2
Element facade Fa. Glass Seele
product: ISO shade
with integrated shade

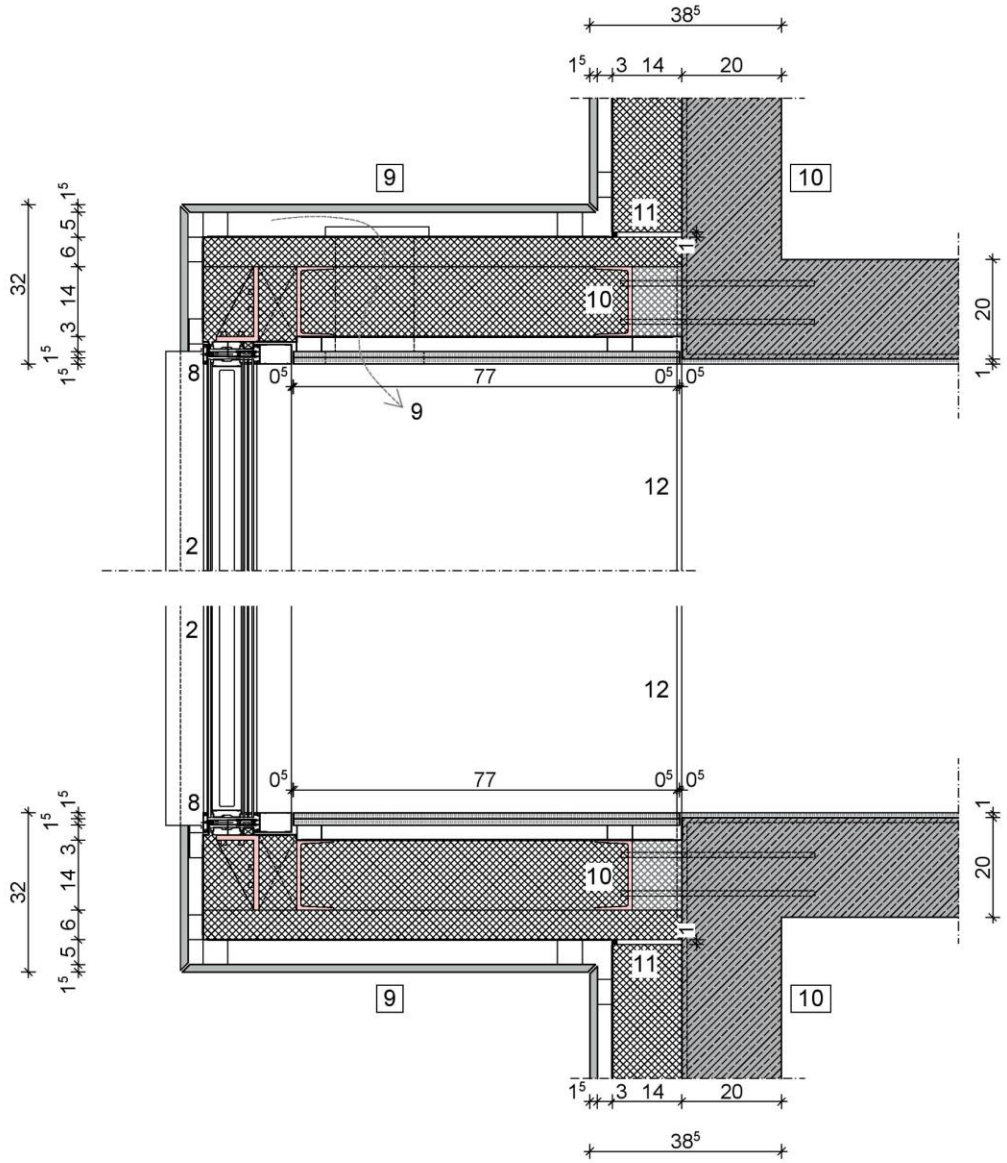
8
Cover plate reveal
coating according to RAL

9
Air vent
under ventilated facade

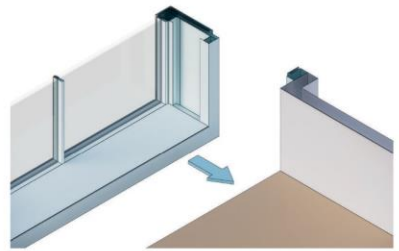
10
Connection to existing wall
U-profile to Isokorb in reinforced concrete wall

11
Facade expansion joint

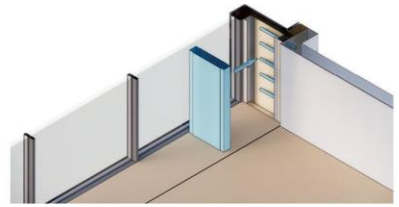
12
Floor expansion joint



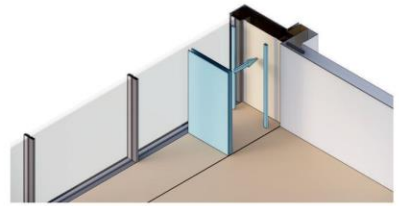
assembly:



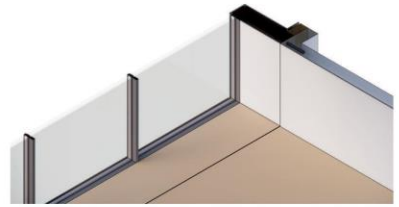
step 1



step 2

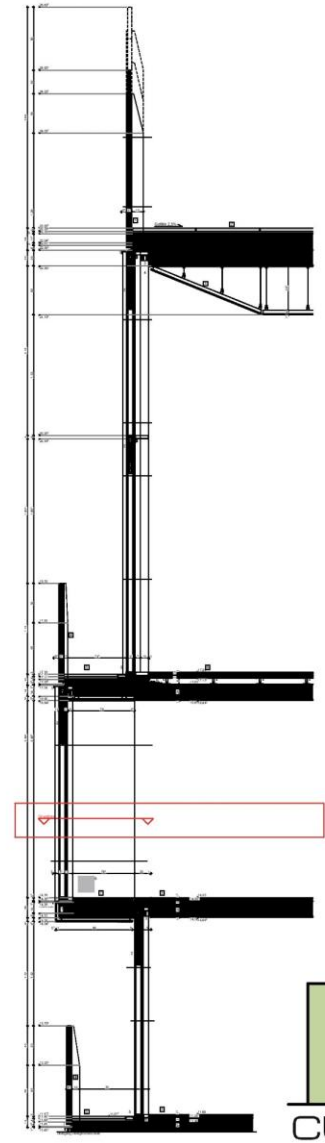


step 3



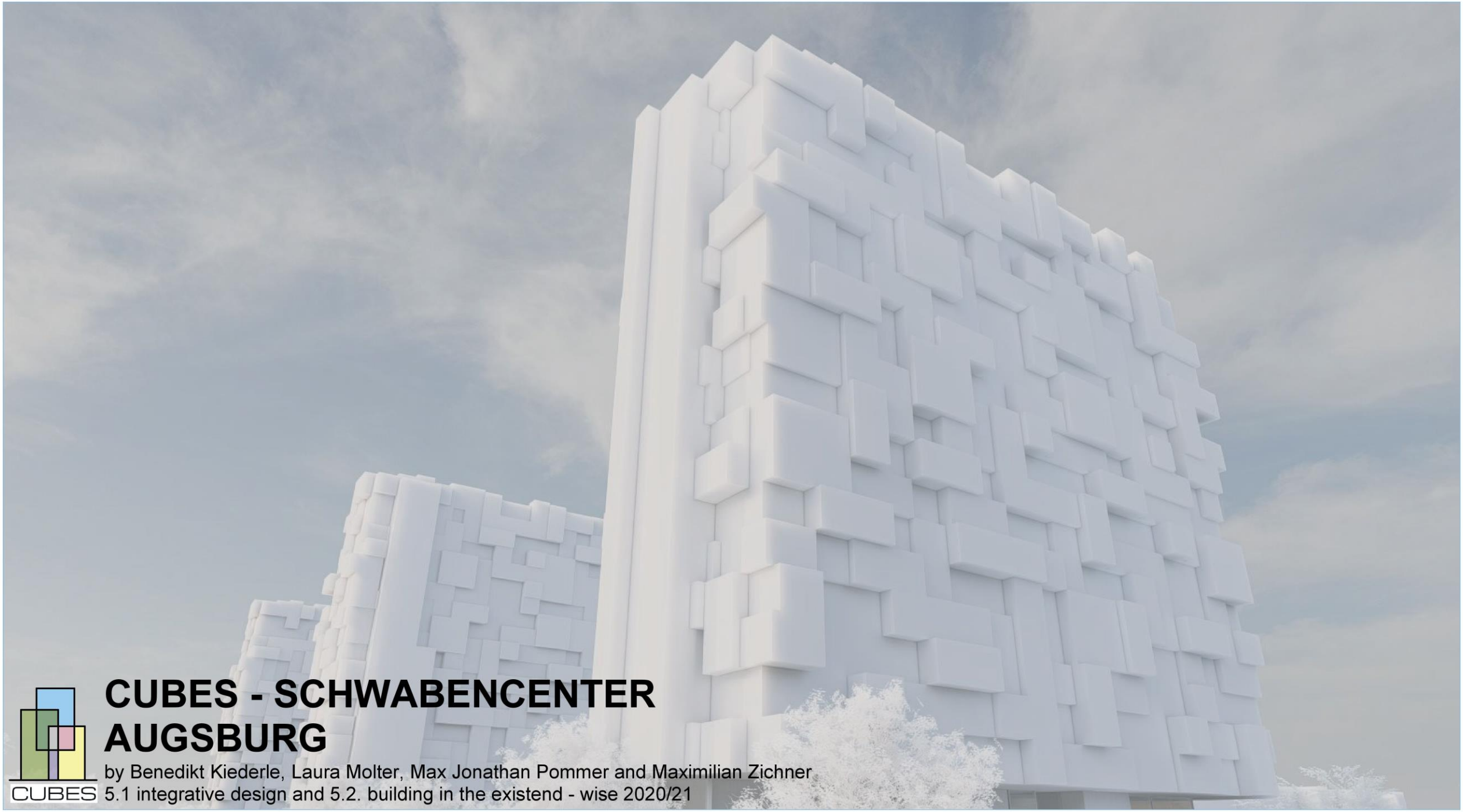
final state

complete section



CUBES

S : 1 : 5



CUBES - SCHWABENCENTER AUGSBURG

by Benedikt Kiederle, Laura Molter, Max Jonathan Pommer and Maximilian Zichner

5.1 integrative design and 5.2. building in the existend - wise 2020/21