
architect-developer

architect-developer
house on a house
graduation book C
design

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I would like to thank my family for their enduring support over my student and non-student years.

I would like to thank my close and closer friends for care, encouragement, support and thorough talks over my ideas and solutions.

Thank you

content

C

How does a building designed by an architect-developer look like. How is the outcome different from an architect or from the real estate developer? And is it different?

◇ inception of the idea / location idea

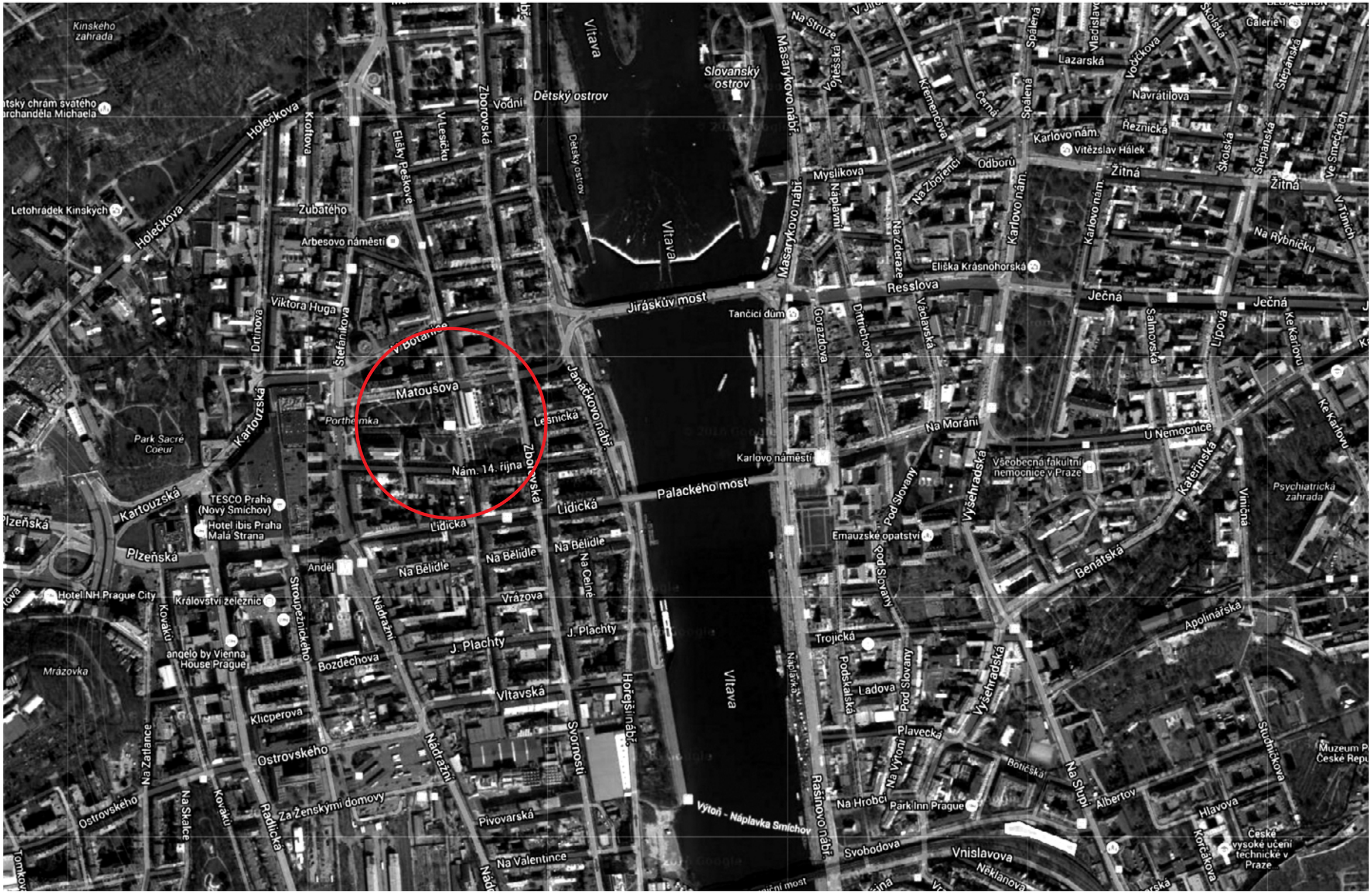
site & market research	feasibility study

◇ site acquisition

function, program, volume

◇ site acquisition

design

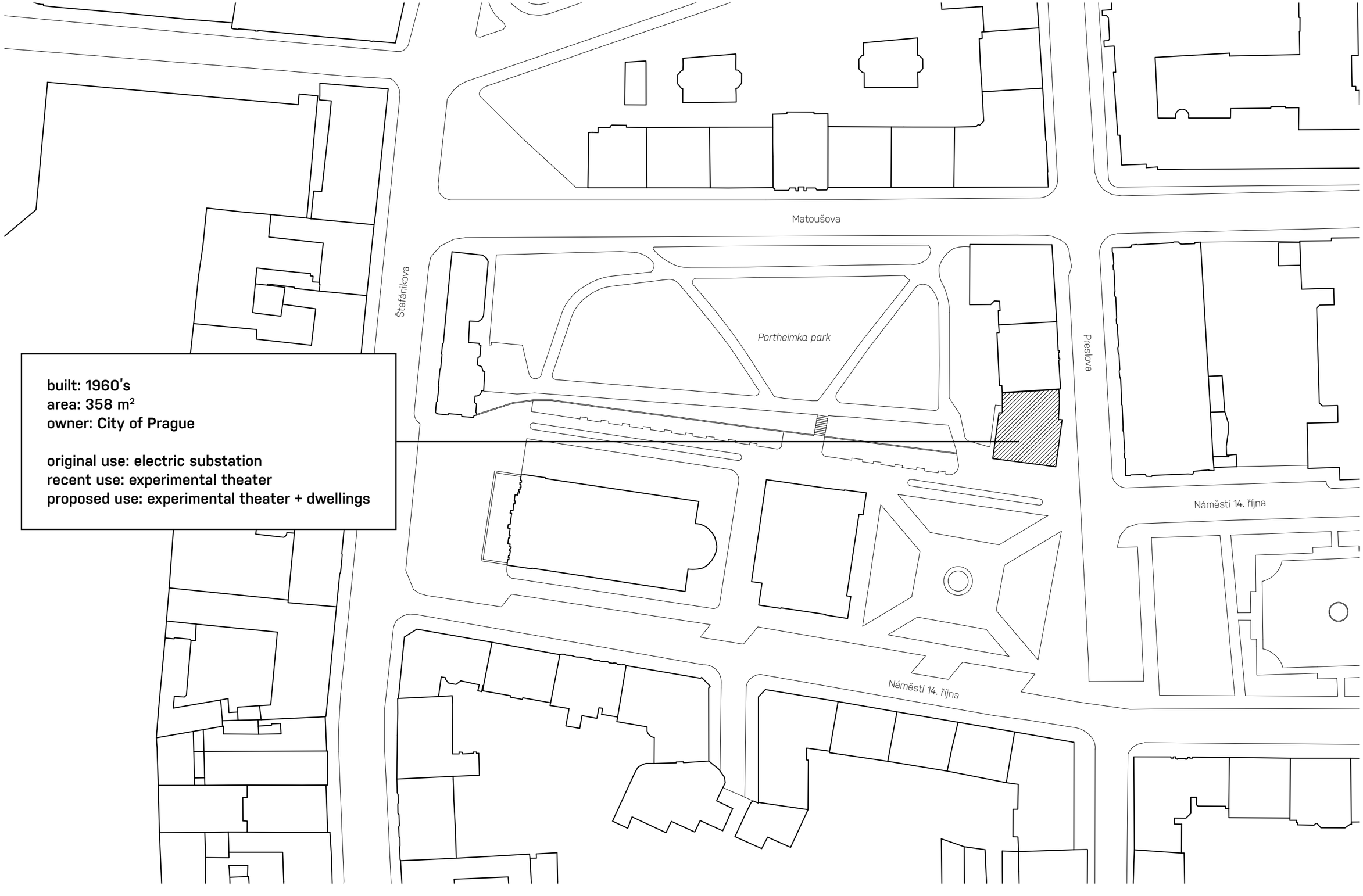


the site: former substation

Náměstí 14. října x Preslova, Praha 5, Smíchov

the site: former substation

Náměstí 14. října x Preslova, Praha 5, Smíchov



built: 1960's
area: 358 m²
owner: City of Prague

original use: electric substation
recent use: experimental theater
proposed use: experimental theater + dwellings

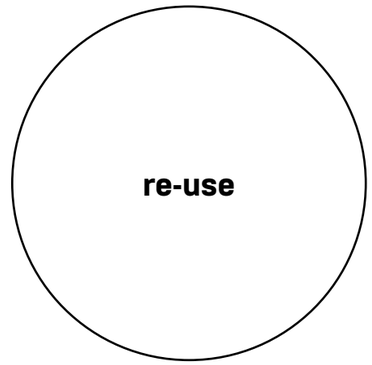
site plan [1 : 1000]


Kozlova Restaurace
MAROL
Popelka21
TESCO

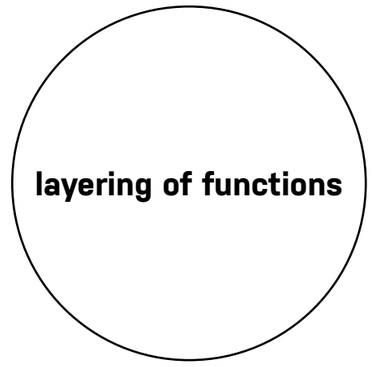

FARM
IN THE CAVE

design principles

1. the societal scale



2. the urban scale



3. the building scale

The starting point of the project is the existing situation and the idea that not every existing building needs to be demolished if it seems that they do not fit the purpose anymore, that they do not meet the functional, material or energy standards of today (Lacaton and Vassal 2012).

Existing buildings have their own qualities, there is hidden atmosphere, time, memories, material and energy in existing buildings.

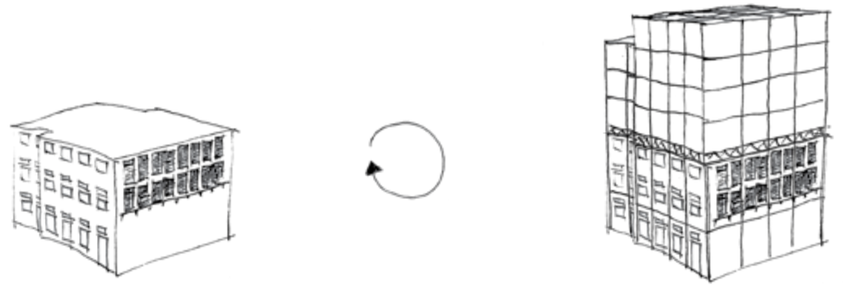
Not every project requires big changes or big interventions. In the case of the existing substation is the tactic of minimizing the intervention and work and maximizing the economy of the renovation. The finishings are refurbished, some openings are closed, some other openings are added to adapt the building for the new usage, the building is insulated to ensure energy efficiency, the windows are replaced. the building is updated to meet the fire regulations and user safety. The aim is to refurbish the building a sustainable way instead of constructing a new sustainable building.

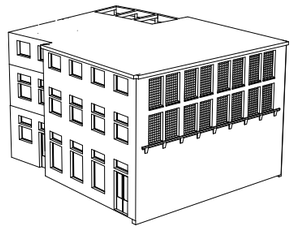
Re-using an existing building means for the city appreciation of the existing built fabric and social and cultural consciousness. By these means the project is economically and environmentally sustainable.

It is not about replacing, but adding - layering of spaces, material and time.

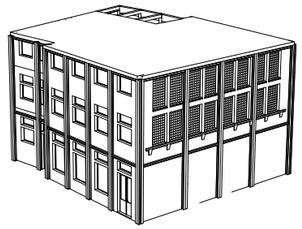
Lacaton & Vassal
Palais de Tokyo
Paris, F

DN2M
Adaptation of a supermarket
into five loft town houses
Winterthur, CH

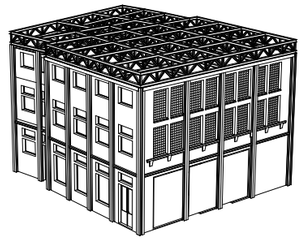




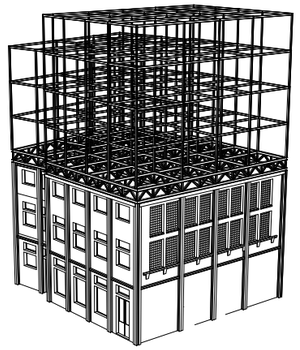
1
present condition



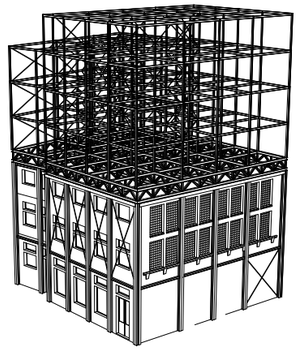
2
steel foundation
steel columns



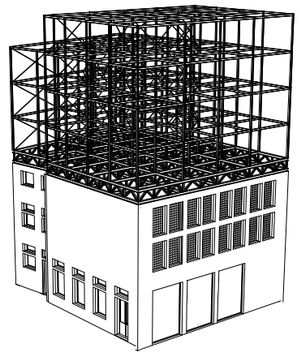
3
lattice trusses bed
above exisiting building



4
steel skeleton structure
for the new addition

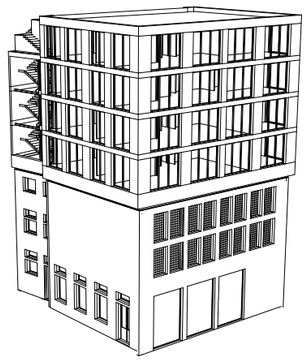


5
spatial reinforcement

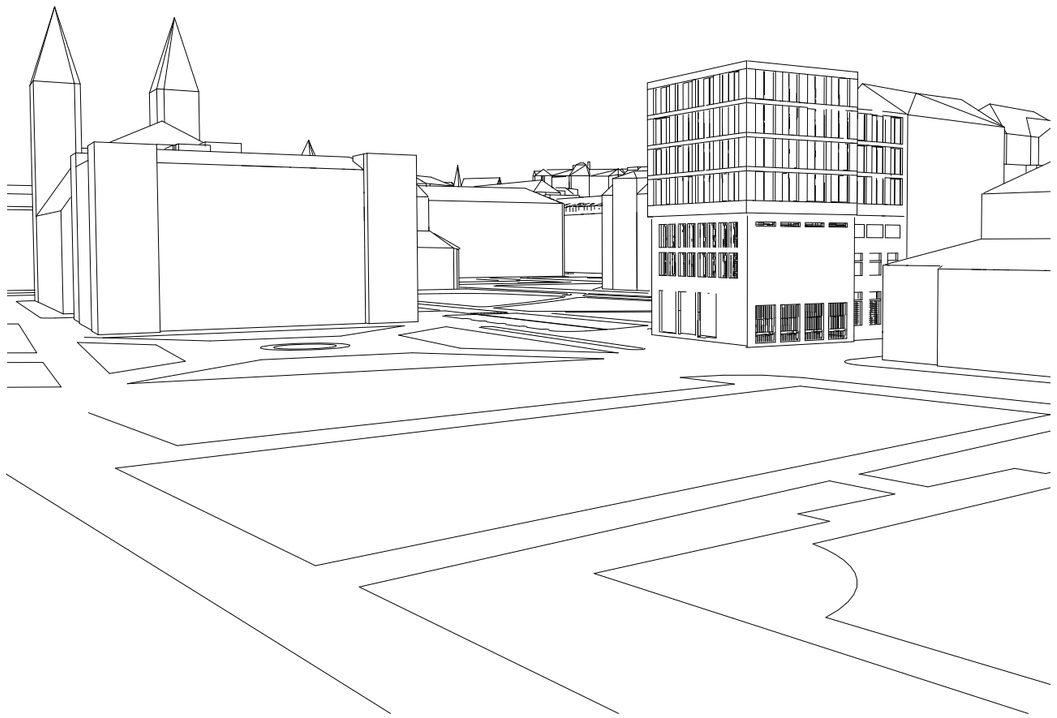


6
thermal insulation and
facade layer over
the existing building

old x new



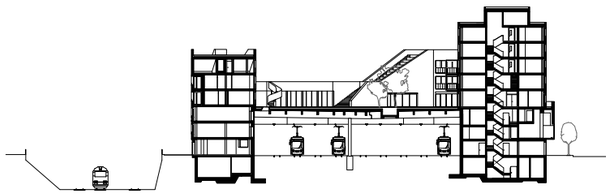
7
thermal insulation and facade layer over the new building addition



old x new

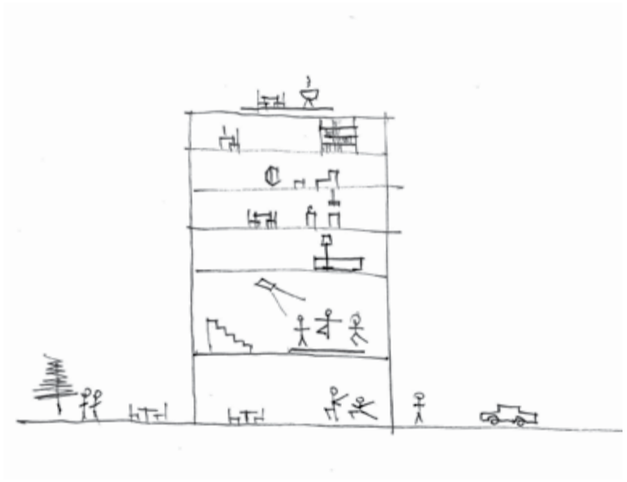
The building has different spatial, material and time layers, its goal is to have different layers of functions as well.

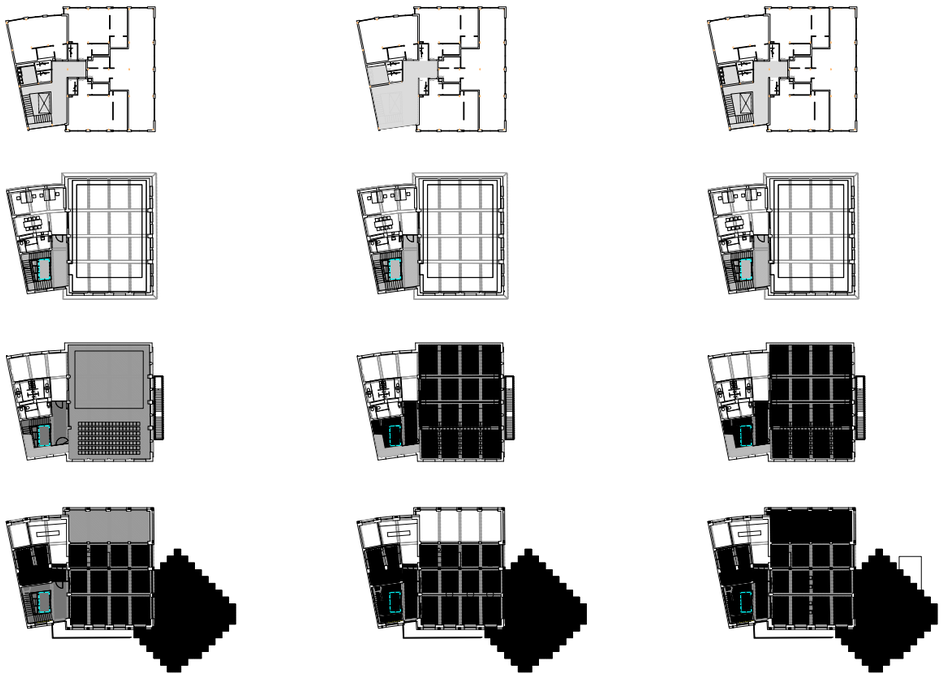
Layering of functions allows to integrate the building into the fabric of the city, the building is alive during the day and becomes a source of new energy for the place (from an empty building to place of activities and dwelling in a pleasant location is a contribution not only to its dwellers and users but to the whole neighborhood).



Müller Siegrist
Wohn- und Gewerbesiedlung Kalkbreite
Zürich, CH

Archizoom
No-Stop City

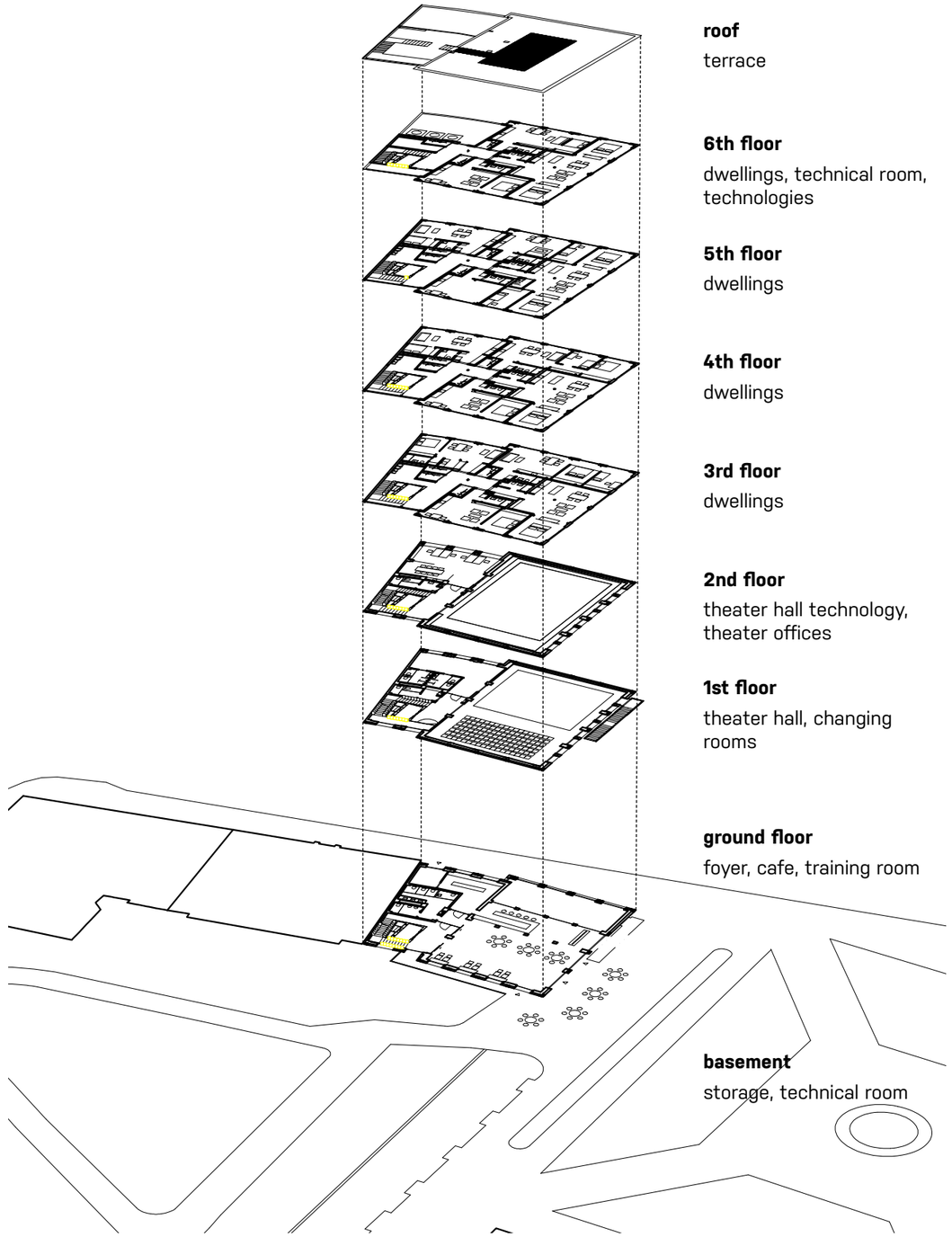




regular day / evening **performance night** **workshop / festival**

public private

mix of private and public scenarios



roof
terrace

6th floor
dwellings, technical room, technologies

5th floor
dwellings

4th floor
dwellings

3rd floor
dwellings

2nd floor
theater hall technology, theater offices

1st floor
theater hall, changing rooms

ground floor
foyer, cafe, training room

basement
storage, technical room

building organization

layering of functions

roof

6

5

4

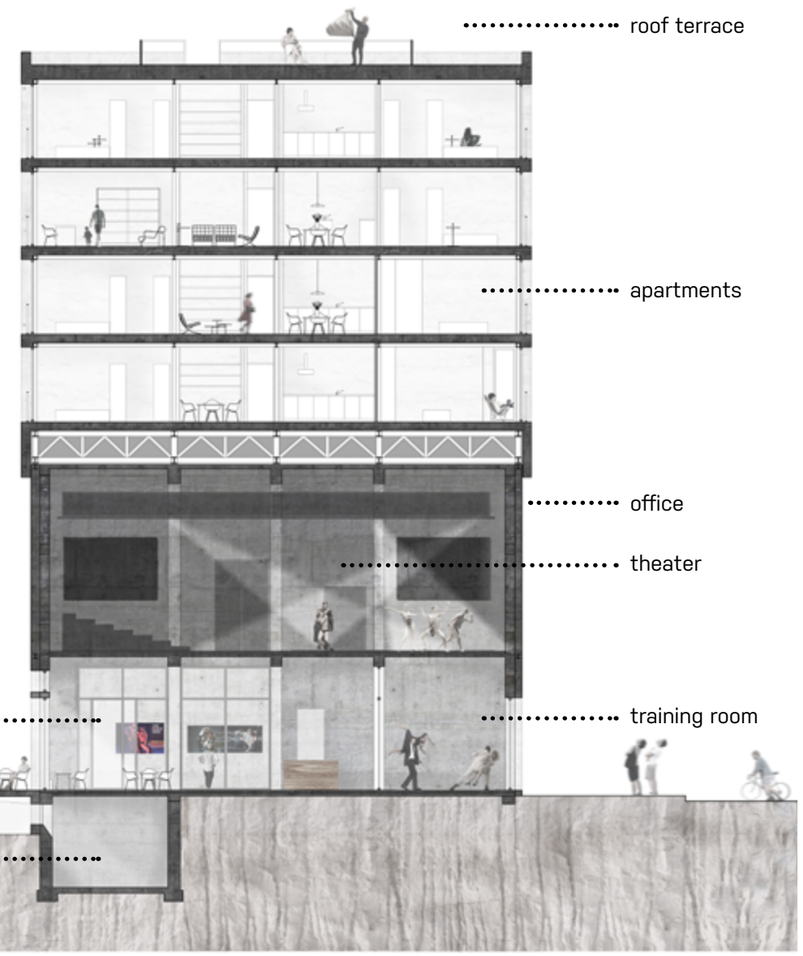
3

2

1

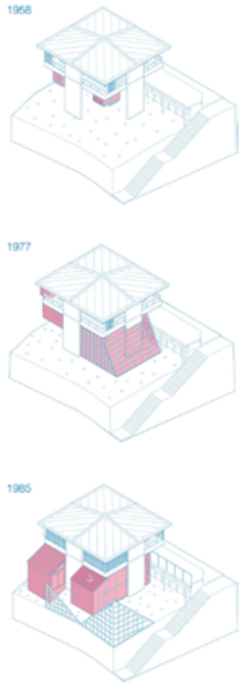
0

-1

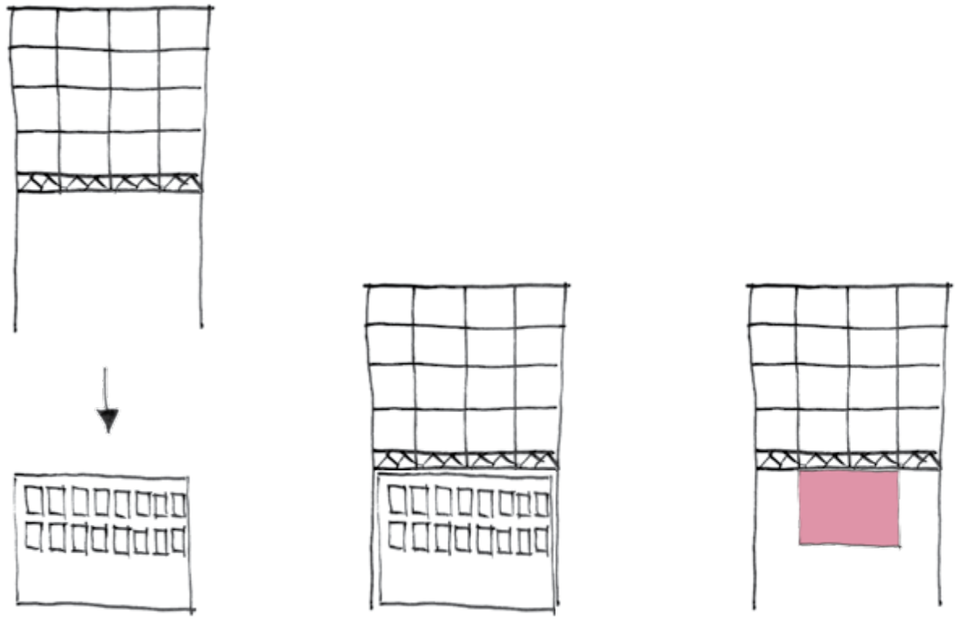


The two structures are independent on each other, they can live two separate lives, they can grow almost independently. A idea of incrementality is given to the steel additional structure as to the newer structure. If once the existing structure becomes too obsolete, it can be demolished without being in conflict with the structure above. As by the organic growth, the principle of Metabolism, elements can grow from underneath the steel structure.

Kiyonori Kikutake
Sky House
Tokyo, JPN



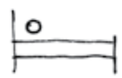
Kiyonori Kikutake
Sky House
growth diagram

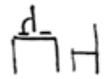


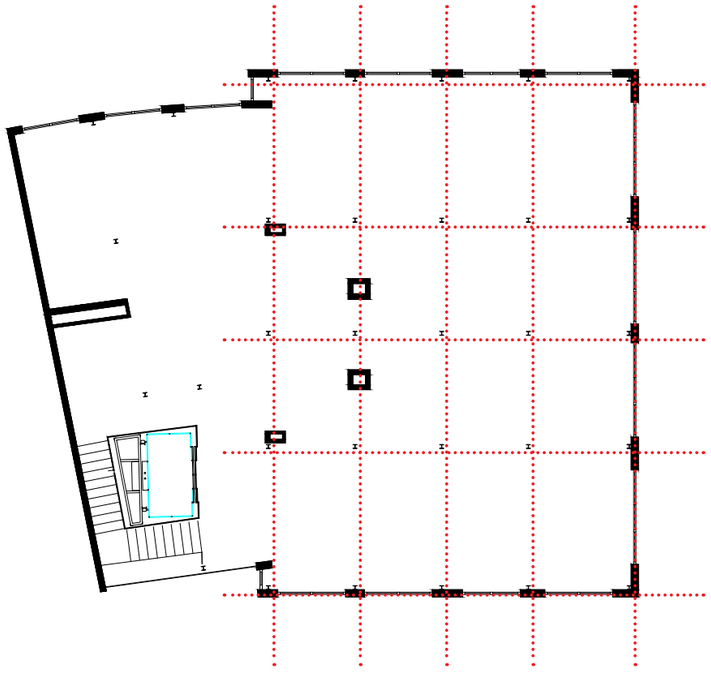
The steel frame of the new additional structure filled in with light weight partitions can be adapted to any use according to the needs during the time, the generous height of the ceilings helps such adaptation.

The free plan organization is a tool to ensure the building is flexible in time and can react to the needs of the real estate market and be adapted to a different use and be re-used over and over again.

Baumschlager Eberle
Solids IJburg
Amsterdam, NL



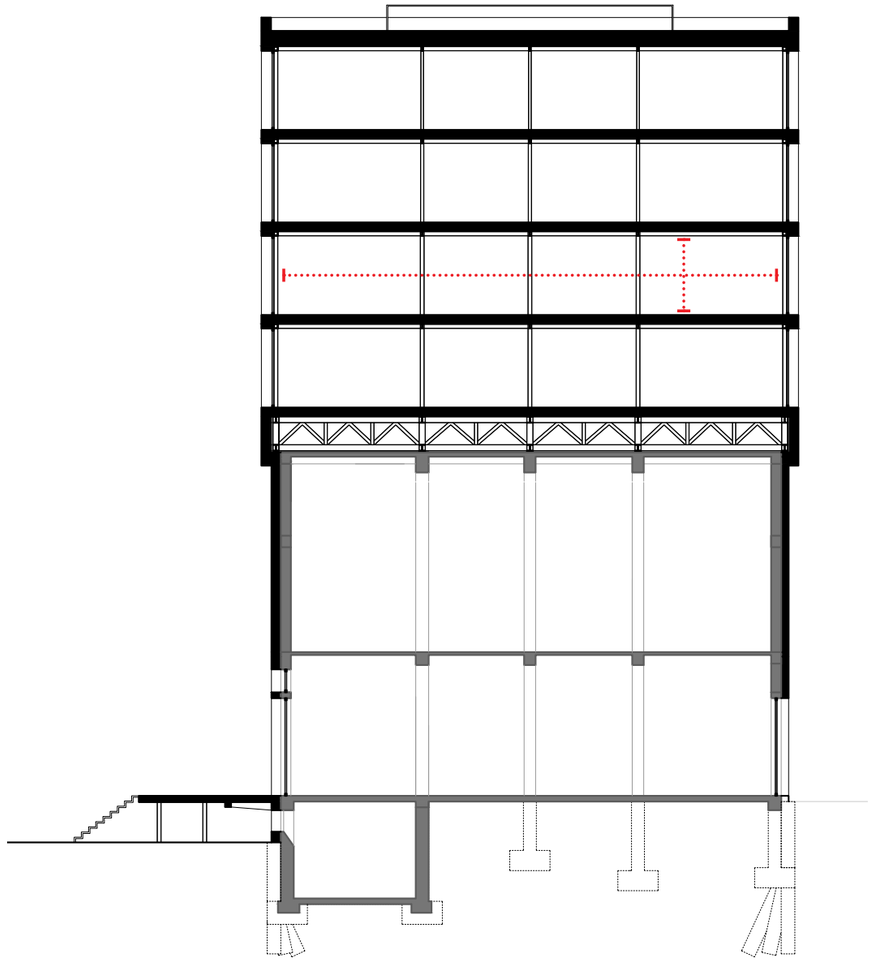




the only fixed elements:
steel skeleton structure
stairs and elevator
vertical installation shafts

the rest of the floorplan can be adapted to a desired function

floorplan



dimensions:
open plan
ceiling height of 3 m

structure with open plan and high ceiling height can attract more different functions and users

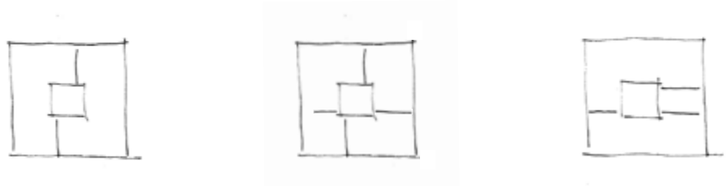
section

Just as the function of the building can be adapted can the spaces be adapted around the vertical shafts and installation cores (example of dwelling typologies).

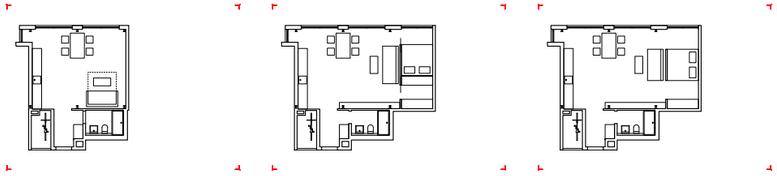
The free plan organization is a tool to ensure the building is flexible in time and can react to the needs of the real estate market and be adapted to a different typologies and be re-used over and over again.

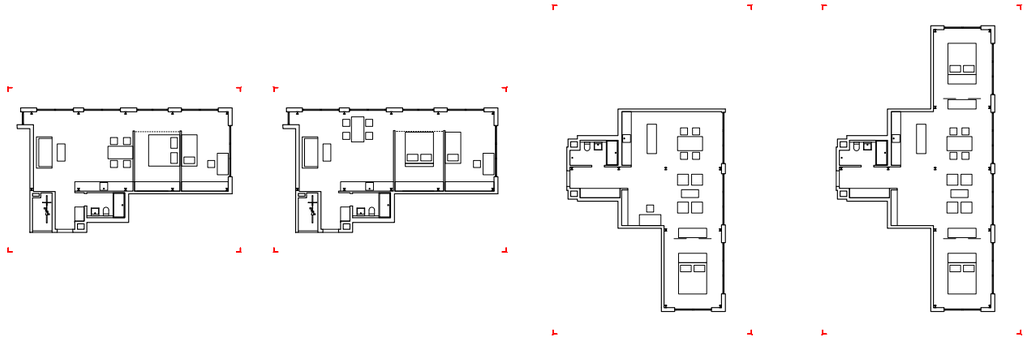
In the case of dwellings the typologies can be adjusted and optimized for the each dweller on demand. The apartments are offers by square meters with the elementary connection to infrastructure, which has its defined location. The rest can be left open or can be equipped with partitions.

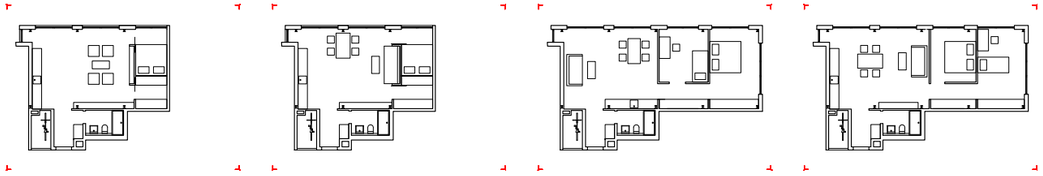
Deadline
Bender
Berlin, D

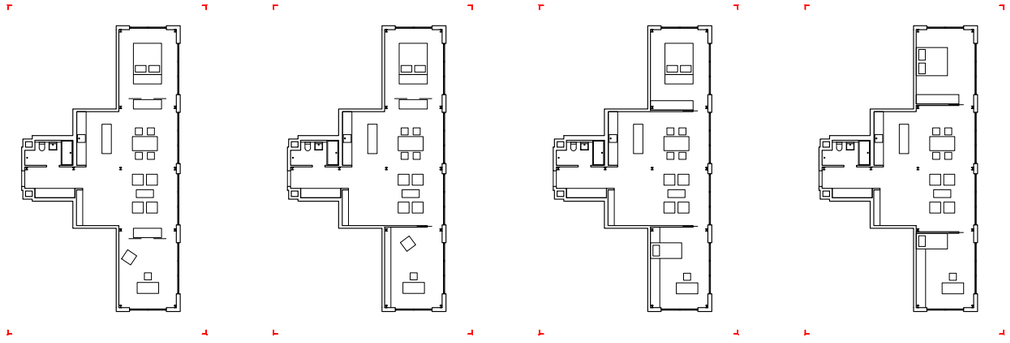


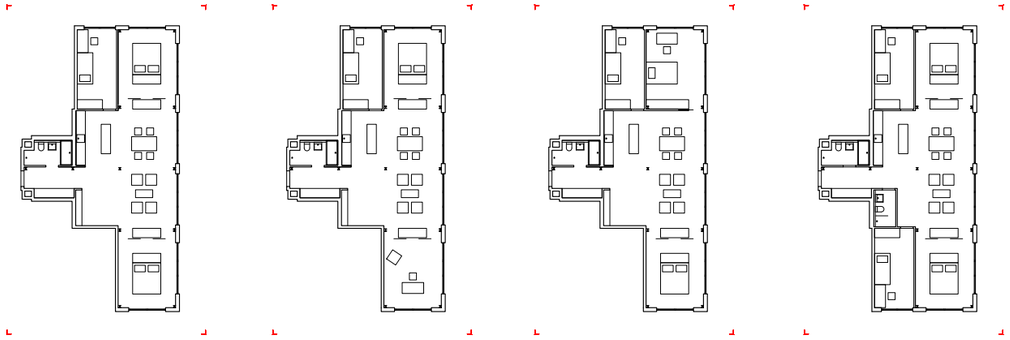
31+

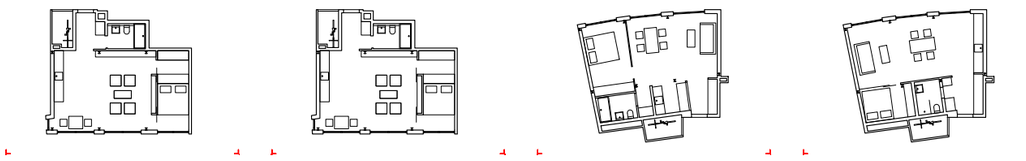


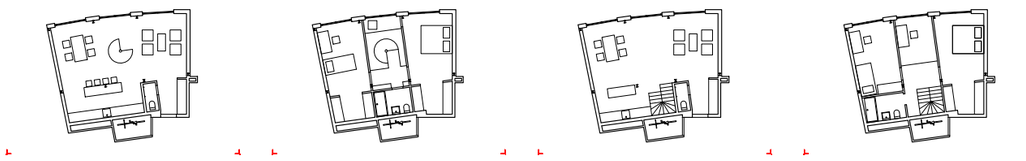








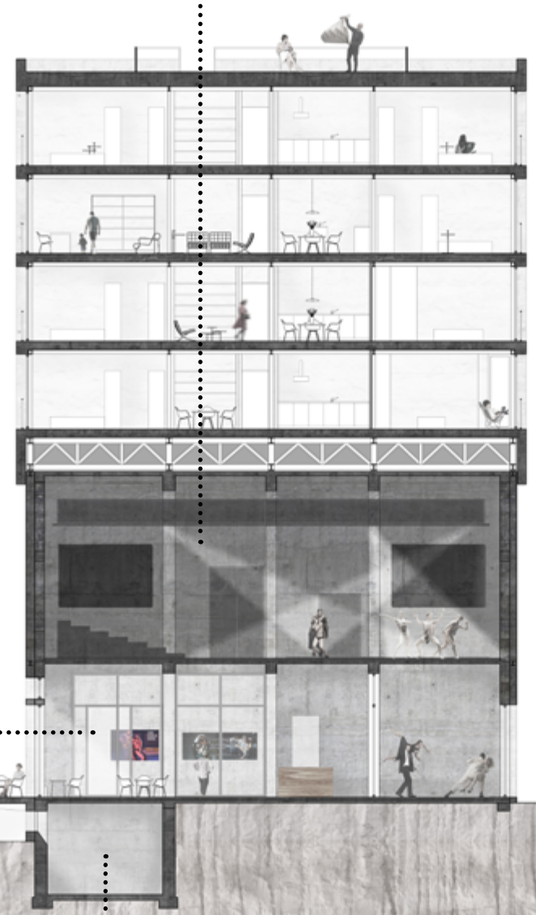




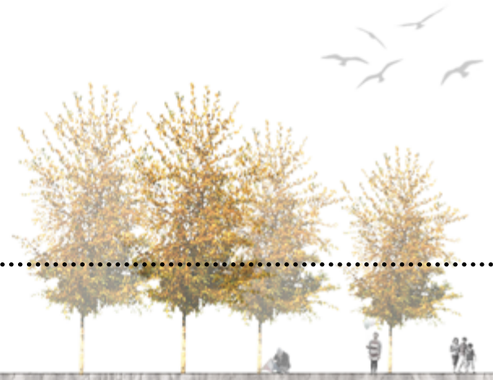
apartment variations

renovation of the substation principles

theater
. space is stripped to the original state
. ceiling and walls are left
in exposed concrete
. wooden floor [stage] is renovated
. heraklith acoustic panels are added to
the walls
. black curtains along the walls as second
acoustic layer and day light protection
. from ceiling a technical ramp is
suspended for sound and light technique
. added exterior thermal insulation
. glass block windows are renovated and
kept in original place



cafe and foyer
. connection between street, interior and
the park is created by large windows
. space is stripped to the original state
. floor, ceiling and walls are left
in exposed concrete
. added exterior thermal insulation
. new aluminum windows



basement
. jet grouting foundation reinforcement

the user scale

building principles

<u>adaptability</u>
the shutters allow to control and adapt to different conditions of privacy level, light intensity and sun shading

<u>permeability</u>
the facade allows for different types of permeability, from the completely enclosed facade itself, closed shutters, half-open shutters to opened shutters

<u>harmony</u>
the grid of the windows reflects the idea of vertical (and horizontal) alignment of windows, the new addition aligns with the windows of the existing substation to create a harmonious connection

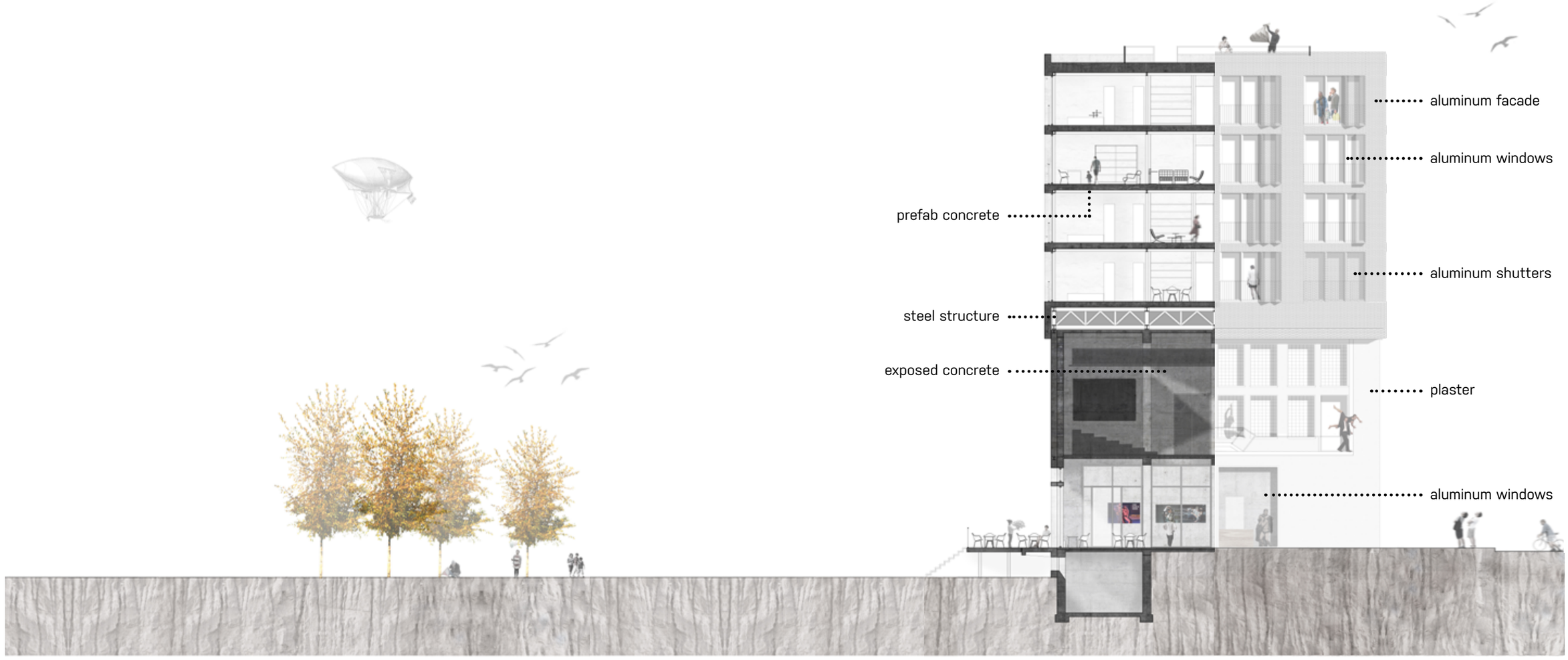
<u>repetition</u>
the harmony is also achieved by window size repetition, only three sizes of windows help to unify and integrate the building and also reduce the production costs

<u>diversity</u>
to clearly define the old from the new the two volumes are clearly rendered in different facade materials

new addition: **perforated corrugated aluminum sheets**

existing building: **plaster**

material	durability [years]
reinforced concrete structure [existing building]	over 100
steel structure [new addition]	over 100
prefabricated concrete slabs	over 100
poured hard concrete floor	40
perforated corrugated aluminum facade	50
aluminum windows	50
plaster	max. 30

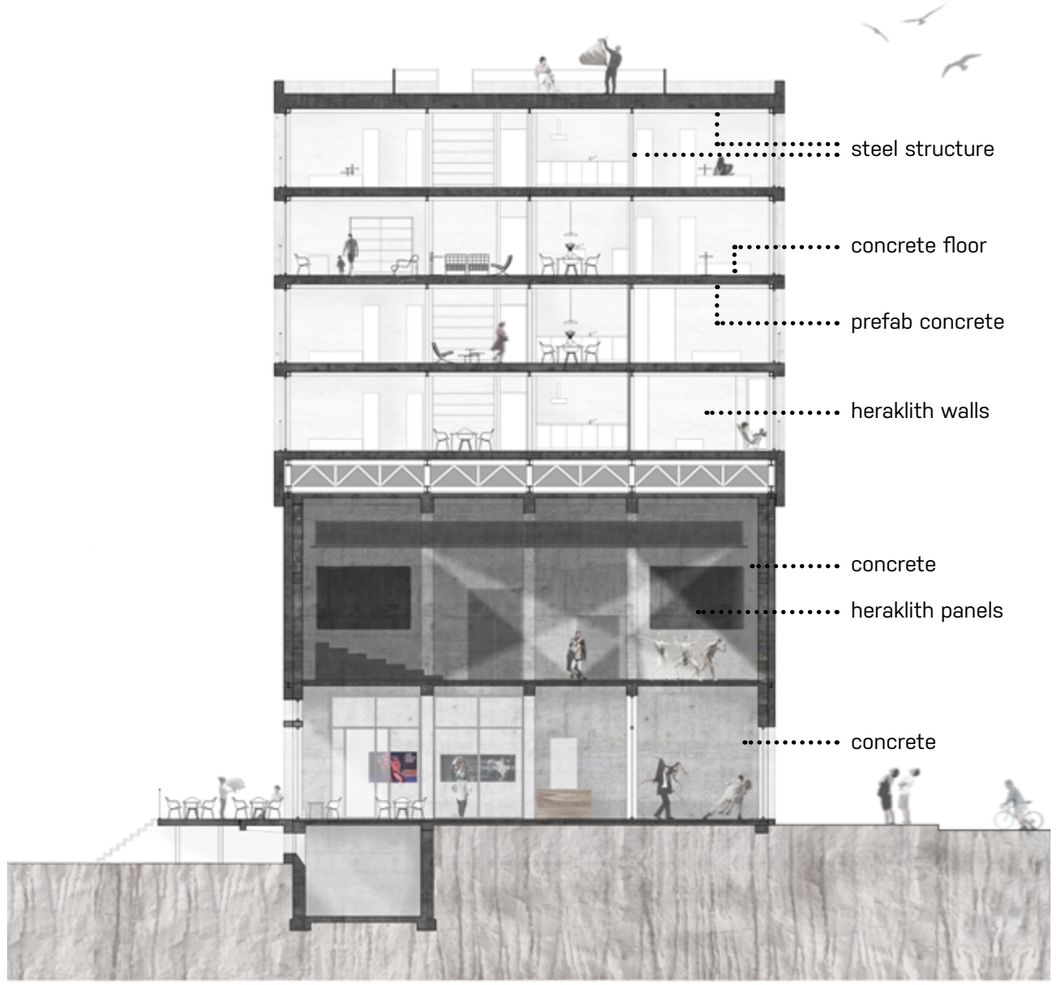


Exposed materials are a consequence of the refurbishment approach. As little as possible interventions are applied to maximize the economy of the building and also maintain its original character.

In the dwelling within the building addition the load bearing steel structure and prefabricated concrete ceiling panels are also left exposed firstly for economical reasons, secondly to express the purity of the building.

Atelier KAVA
Adaptation of a factory to a theater
Praha, CZ

hausschild-siegel architect
urbana villor
Malmö, SWE



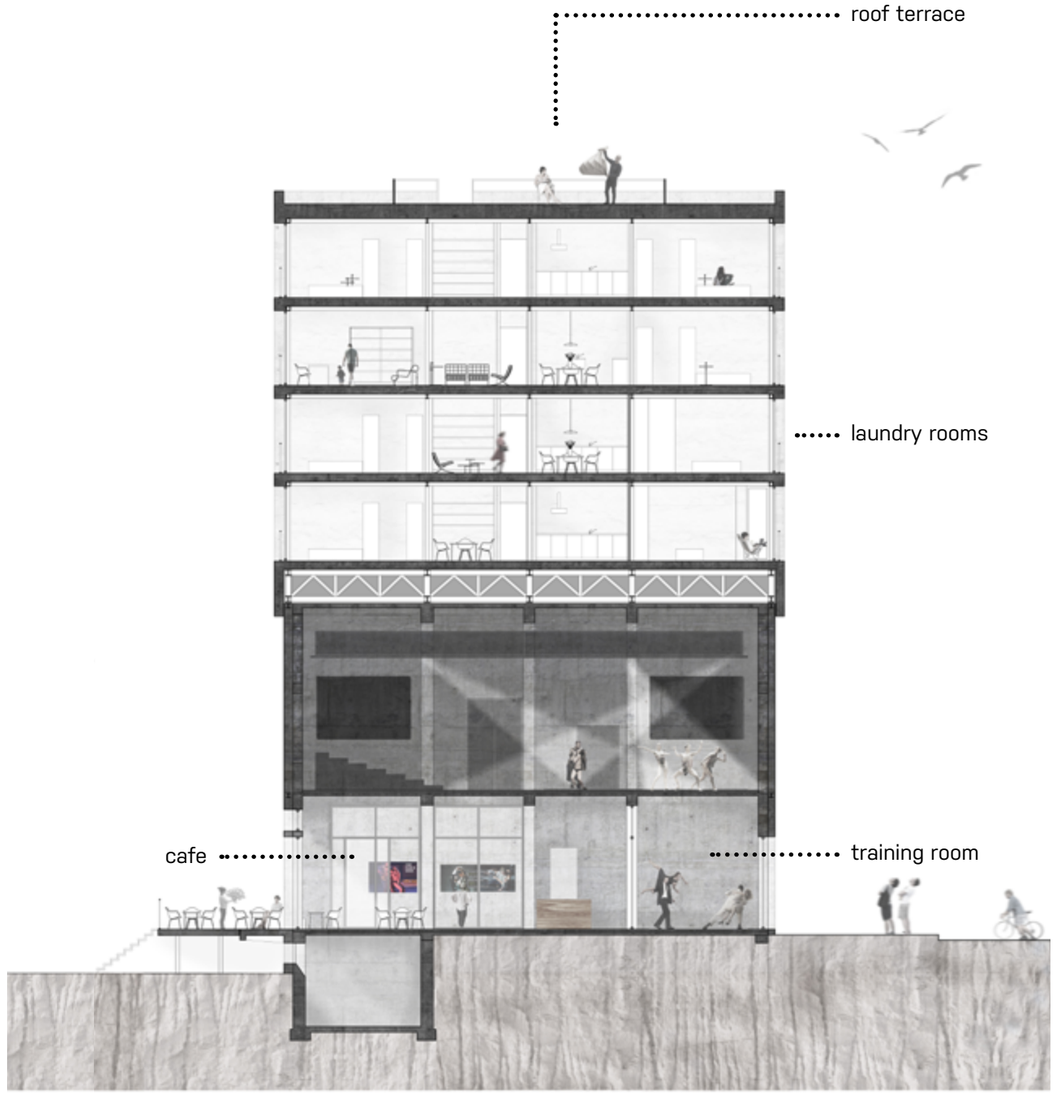
To enhance the community life within the building and its attractivity within the desired target group the roof is used as a common roof terrace. During all kind of gatherings, parties or barbeques anyone can enjoy the view over the city.

The common laundry rooms created on each floor provide large enough rooms for laundering with sufficient technical equipment. A feature which increases the comfort of doing the laundry. No one needs to waste the space in the apartments with a washing machine nor needs to be bothered by hanging clothes.

As last the cafe in the foyer can serve the dwellers for another type of gatherings as well as the training room which the dwellers can use for private collective meetings.

hausschild-siegel architect
urbana villor
Malmö, SWE

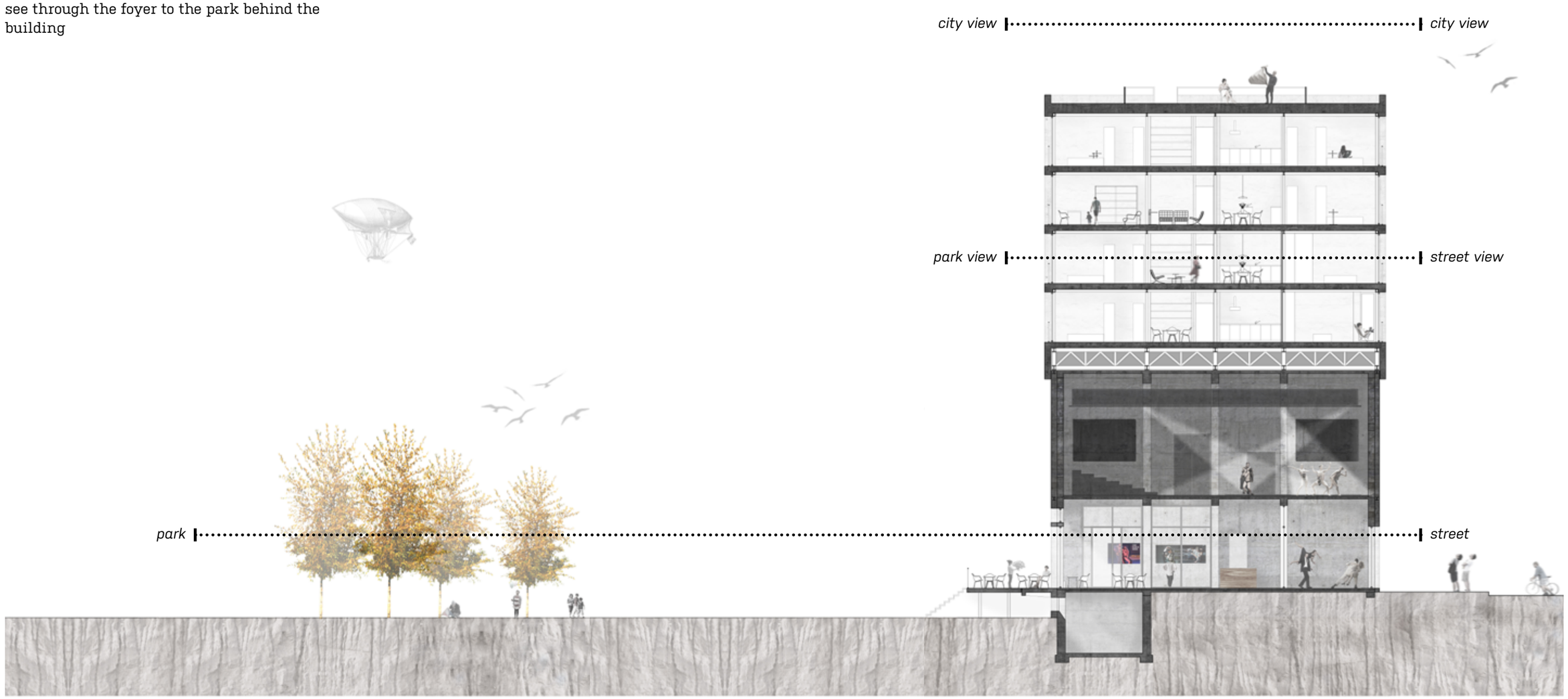
Duplex Architekten
Mehr als Zohnen
Zürich, CH



Three height levels offer three different connections to the city structure, three different views offer three different experiences

The openness of the building at the street level encourages for interactions between the exterior and interior; the passerby can observe the actors practicing [if desirable] and see through the foyer to the park behind the building

The guest in the cafe can start to experience the theater atmosphere; the guest can be the spectator: all actions from the street, training room or the park can be witnessed from the interior space and vice versa: the guest can also turn in to an actor for the passersby.



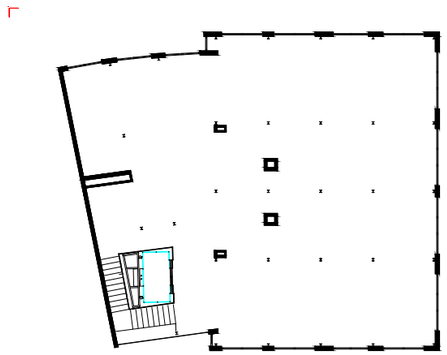
The life at the street level. Dusk before the performance.

The exposed load bearing structure creates a surplus in the possibility of appropriation of single dwellings. The materials can be left exposed or can be adapted to dwellers needs.

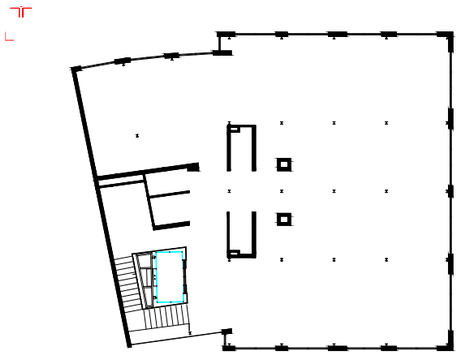
DN2M
Adaptation of a supermarket
into five loft town houses
Winterthur, CH
house 1

DN2M
Adaptation of a supermarket
into five loft town houses
Winterthur, CH
house 2


dwelling's
organization

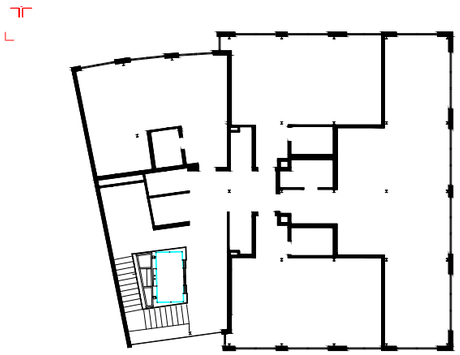


vertical shafts



+ storage & common areas

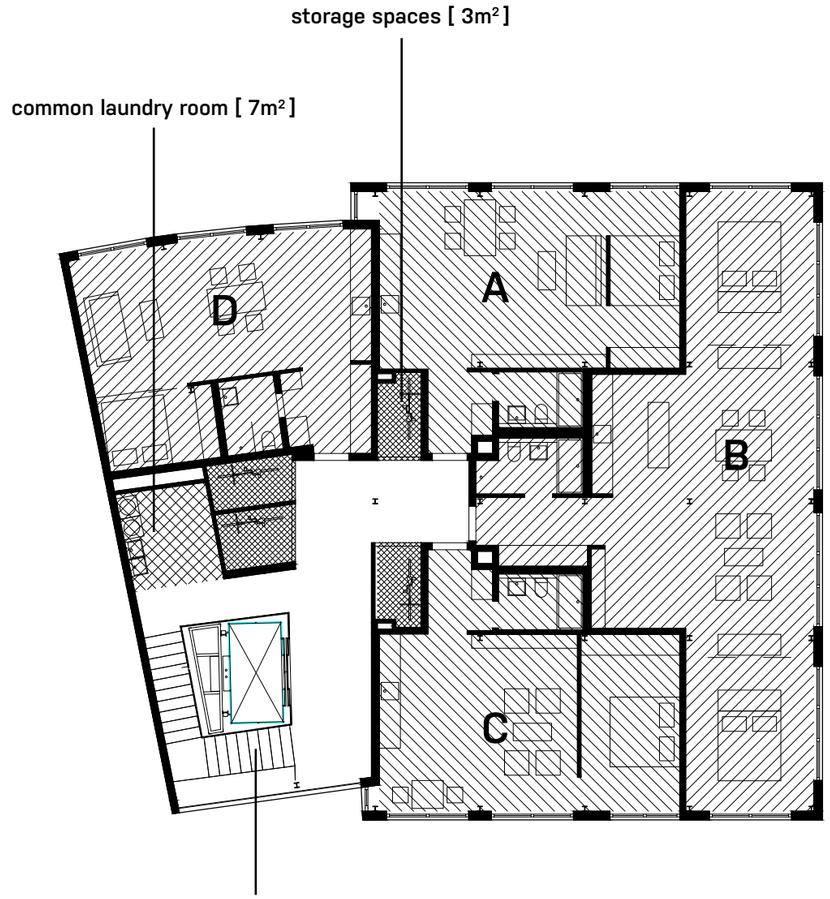
+ apartment cores



+ apartment partitions

dwelling's organization

+ interior elements



stairs + existing industrial elevator in existing position
maintaining the character of the building
elevator = easy access for dwellers (bikes, strollers, skis)

apartments floor areas variability

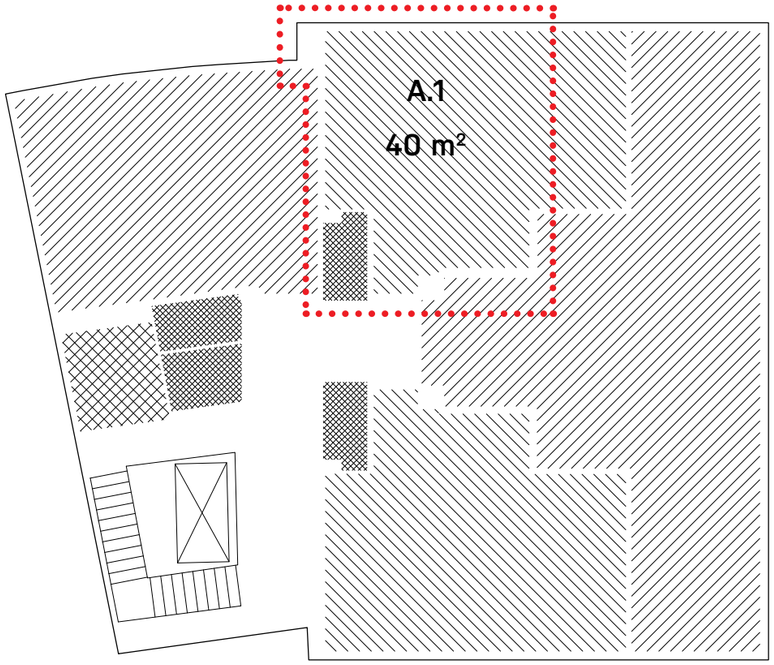
A: 40, 52, 76 m²
B: 76, 96, 110 m²
C: 41, 52, 76 m²
D: 51, 102 m²

apartments 3. floor - 5. floor [3 x 266 m²]	798 m²
apartments 6. floor	213 m²
storage spaces [15 x 3 m²]	45 m²
common areas [3 x 7 m²]	27 m²
total usable floor area	**1038 m²**

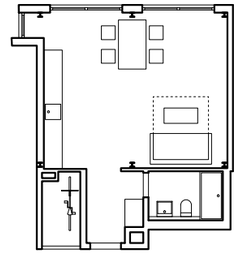
dwelling's organization


apartments
catalogue

apartment A.1



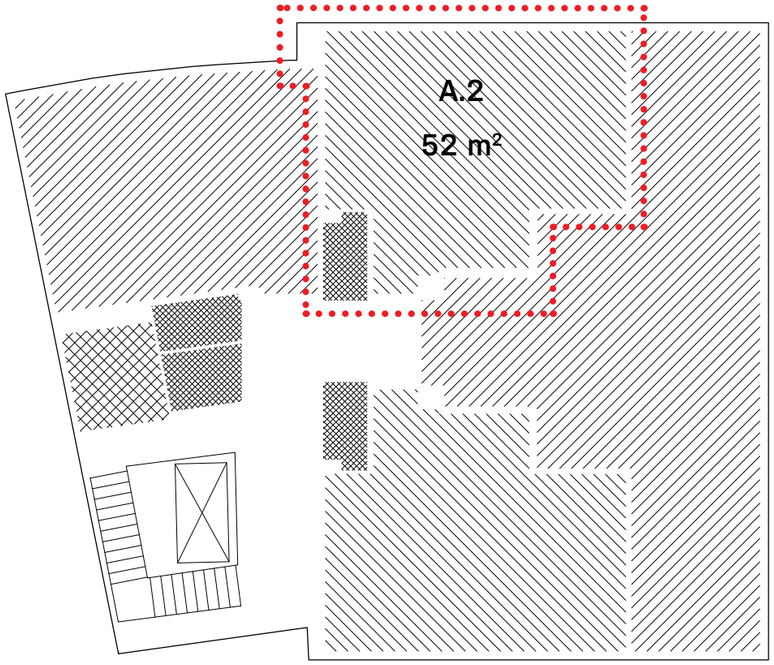
m²:	40
room:	1
bathroom:	1
floor:	3 4 5 6
light:	N E



A.1.1

1 : 200

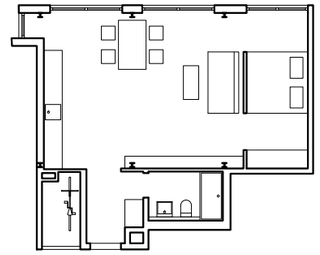
apartment A.2



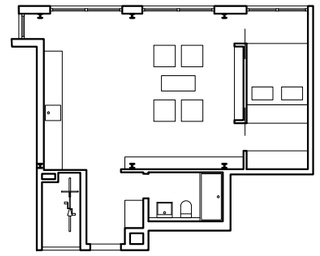
m²: 52
room: 2
bathroom: 1
floor: 3 4 5 6
light: N E

A.2.1

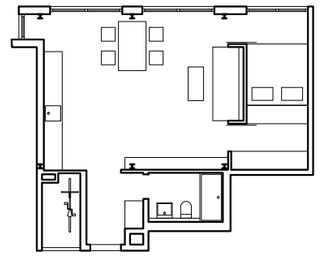
A.2.2



A.2.3

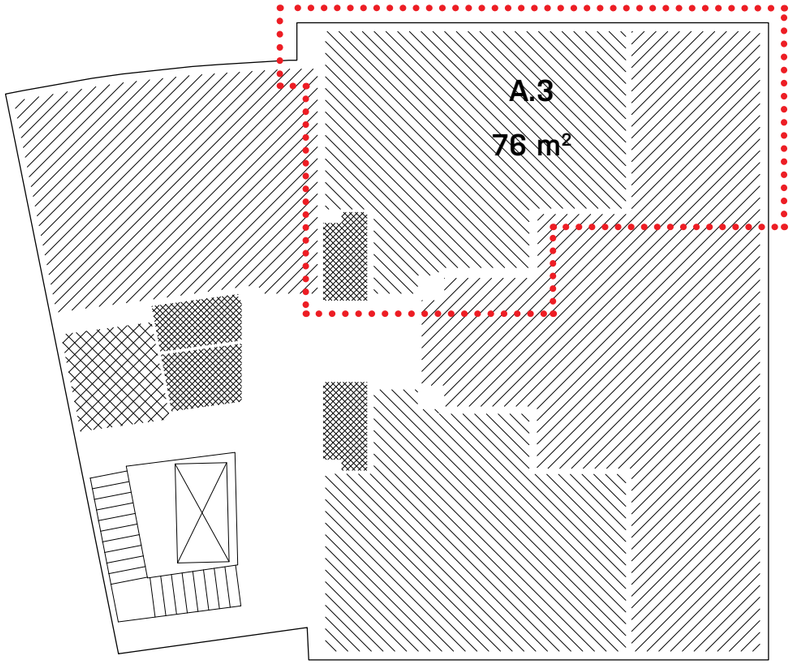


A.2.4



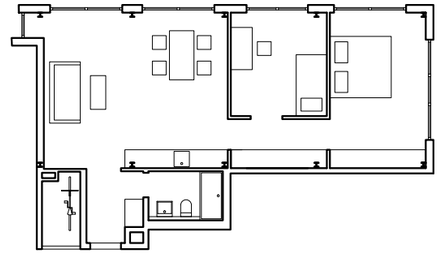
1 : 200

apartment A.3

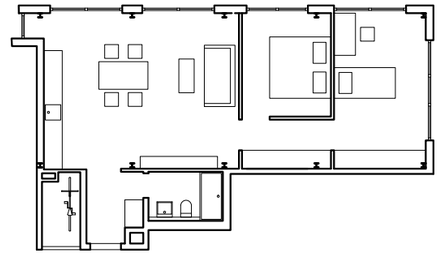


m²:	76
room:	3
bathroom:	1
floor:	3 4 5 6
light:	N E S

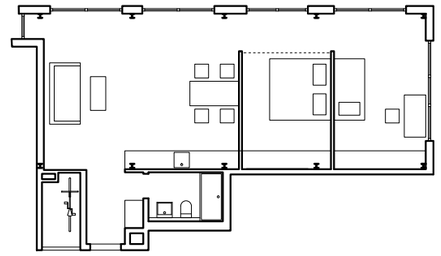
A.3.1



A.3.2



A.3.3



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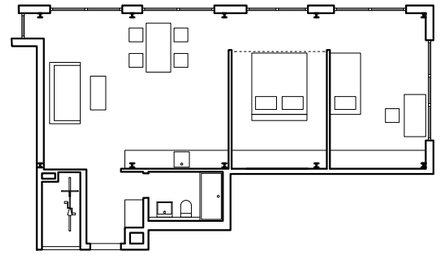
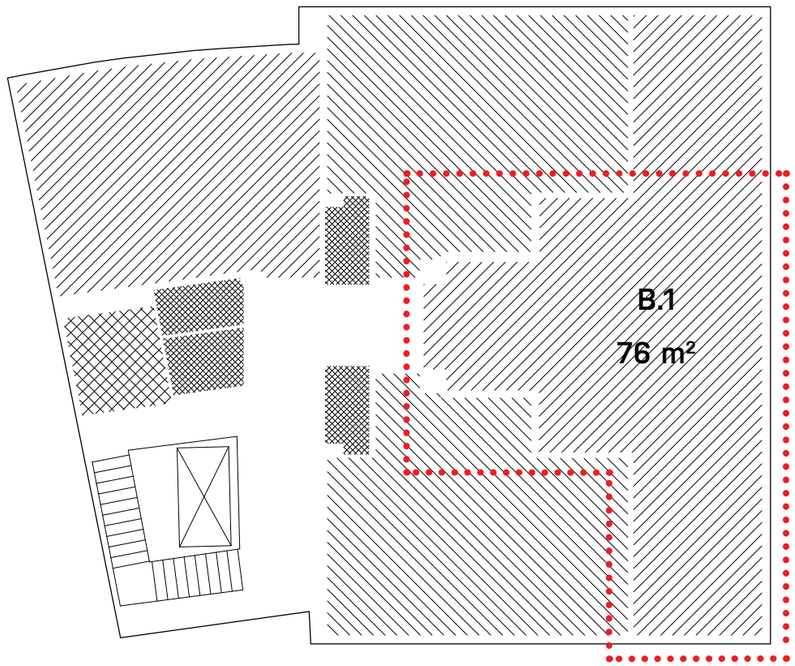
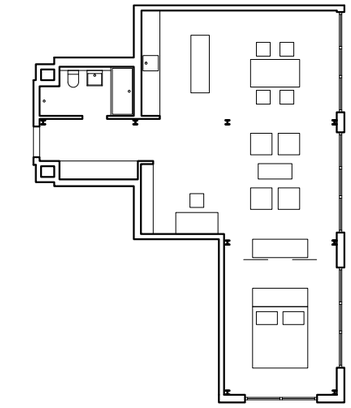


1 : 200

apartment B.1



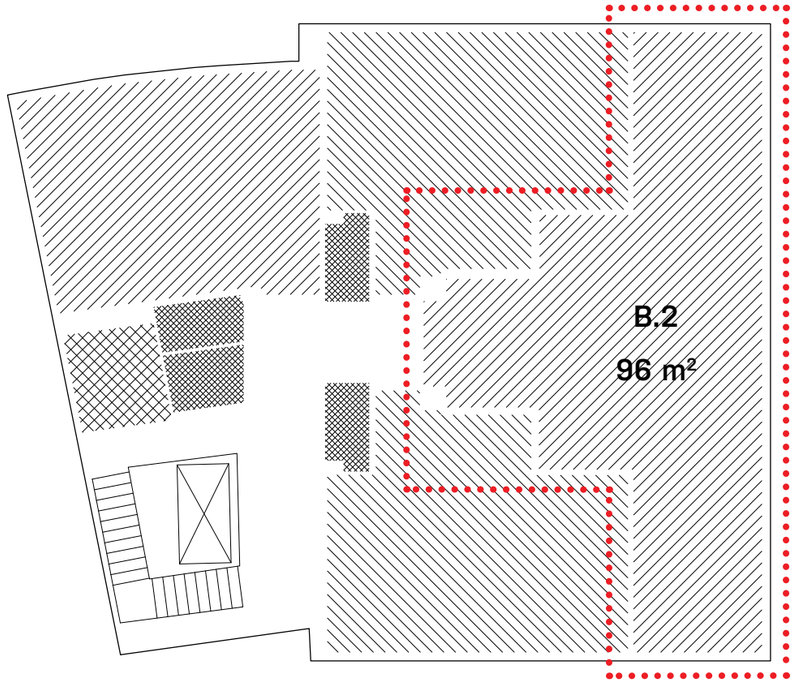


B.1.1

m²: 76
room: 2
bathroom: 1
floor: 3 4 5 6
light: S W

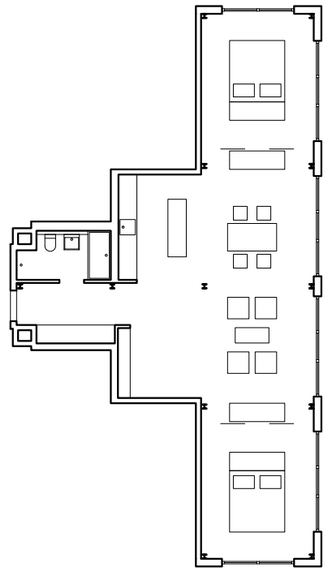
1 : 200

apartment B.2

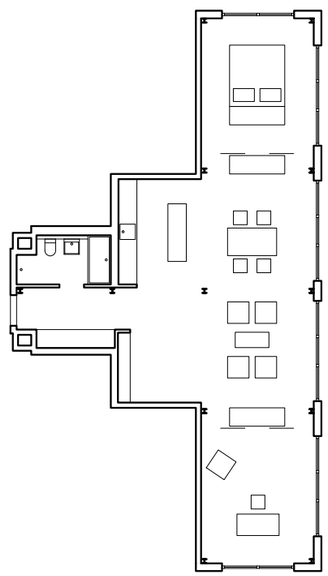


m²:	96
room:	3
bathroom:	1
floor:	3 4 5 6
light:	E S W

B.2.1

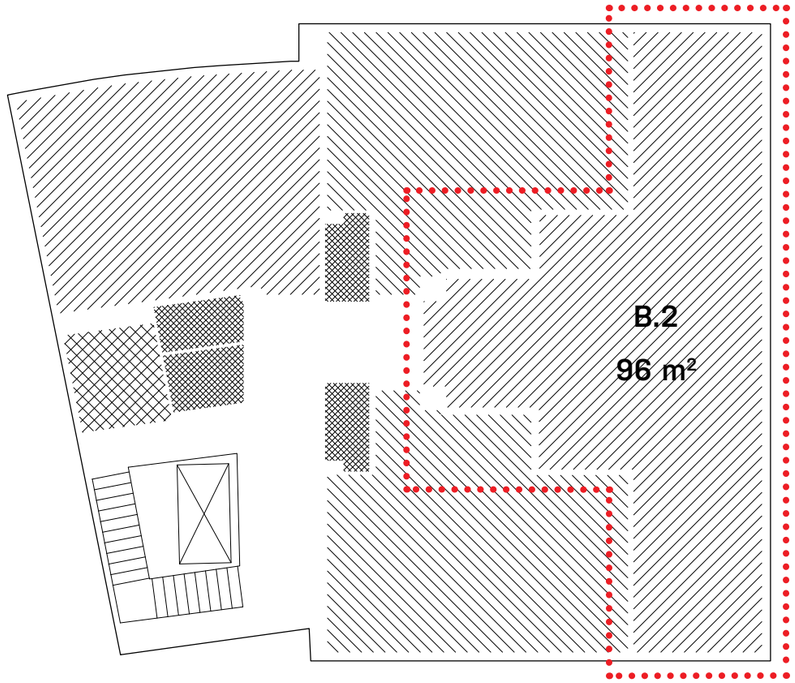


B.2.2



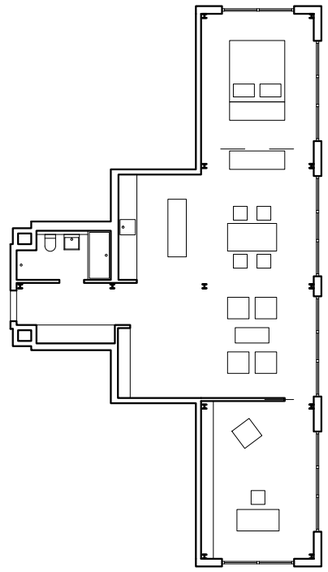
1 : 200

apartment B.2

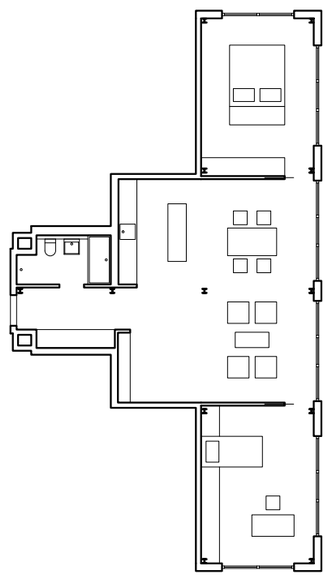


m²:	96
room:	3
bathroom:	1
floor:	3 4 5 6
light:	E S W

B.2.3

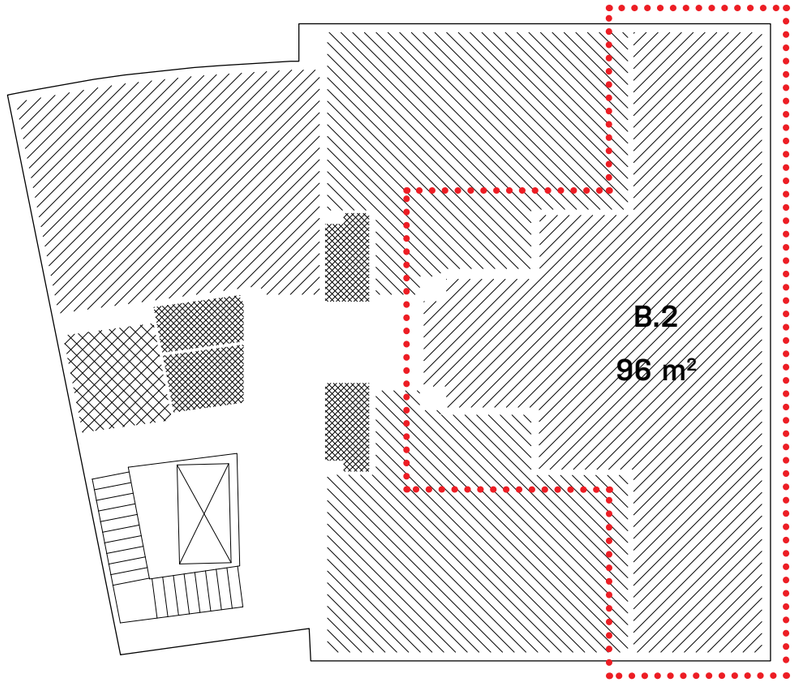


B.2.4



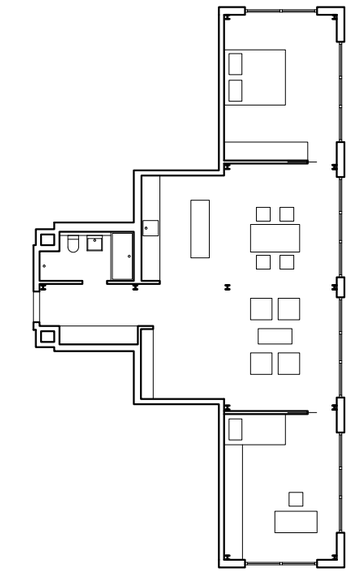
1 : 200

apartment B.2



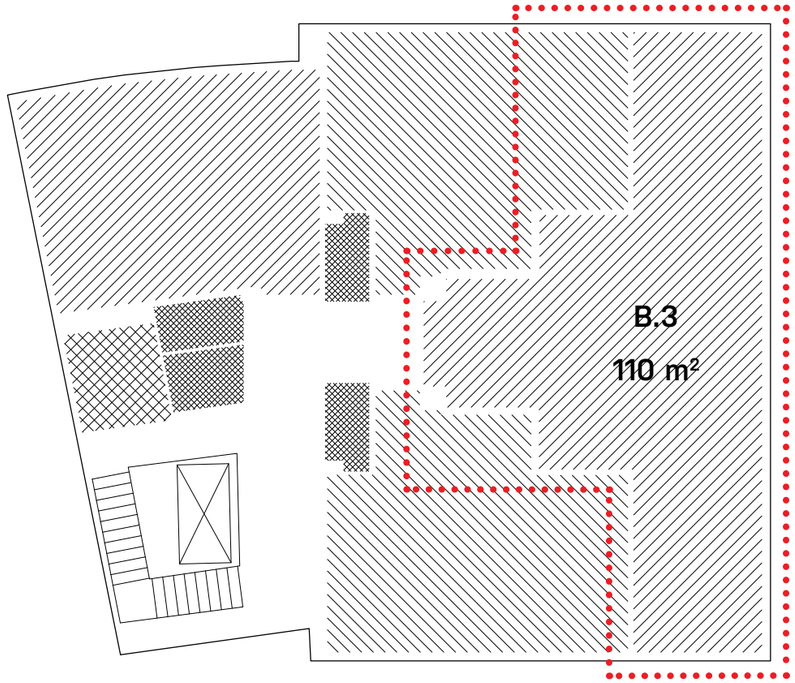
m²:	96
room:	3
bathroom:	1
floor:	3 4 5 6
light:	E S W

B.2.5



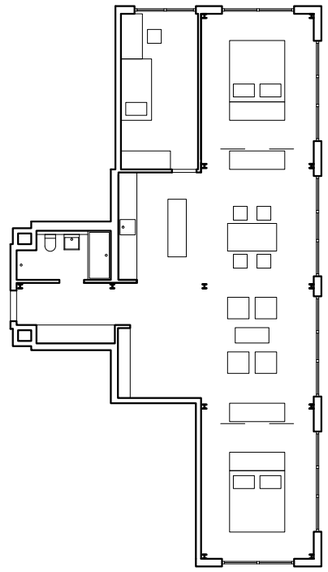
1 : 200

apartment B.3

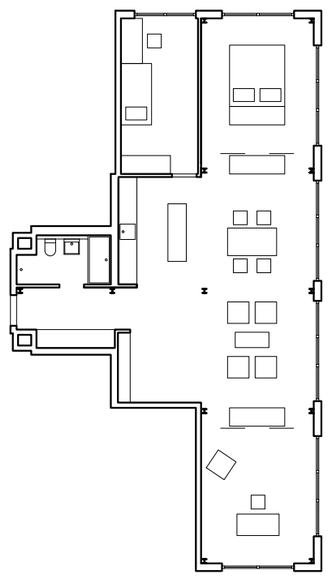


m²:	110
room:	4
bathroom:	1
floor:	3 4 5 6
light:	E S W

B.3.1

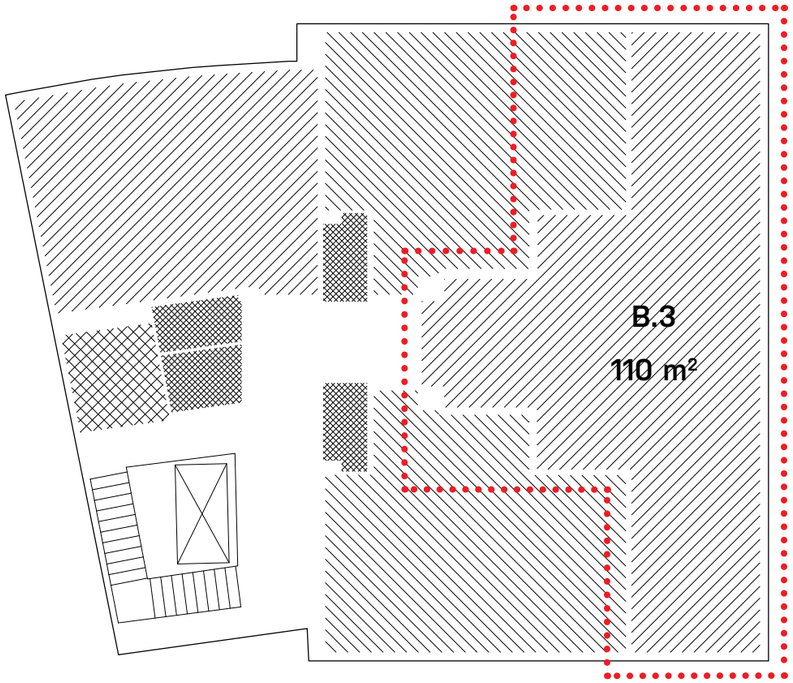


B.3.2



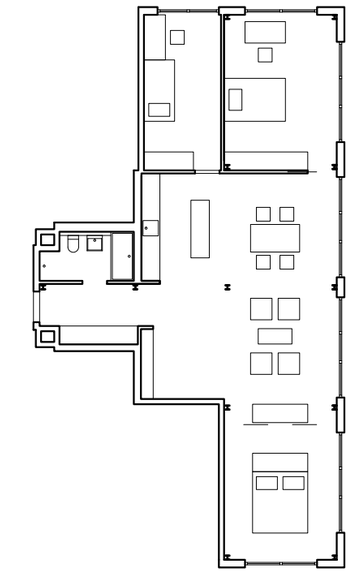
1 : 200

apartment B.3



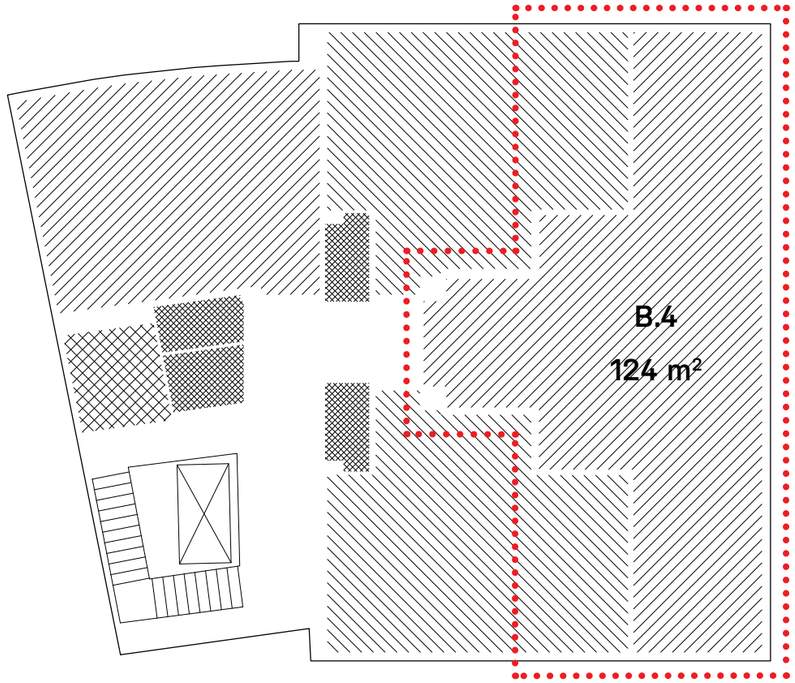
m²:	110
room:	4
bathroom:	1
floor:	3 4 5 6
light:	E S W

B.3.3



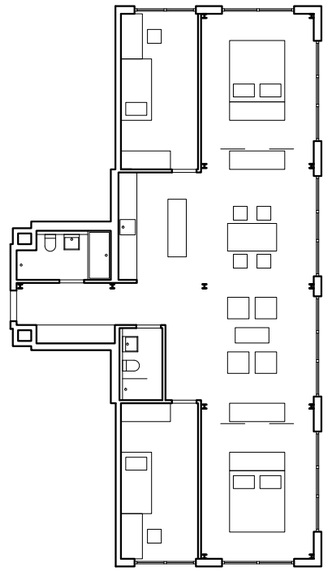
1 : 200

apartment B.4

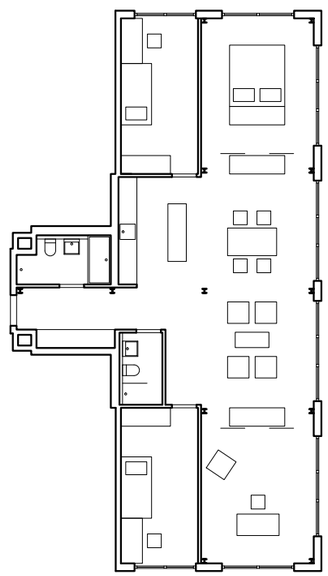


m²:	124
room:	5
bathroom:	2
floor:	3 4 5 6
light:	E S W

B.4.1

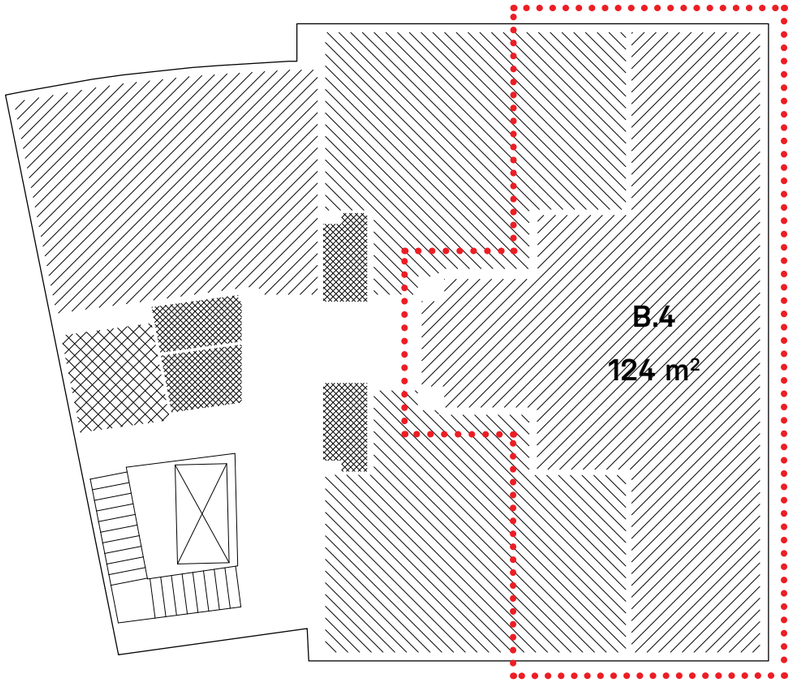


B.4.2



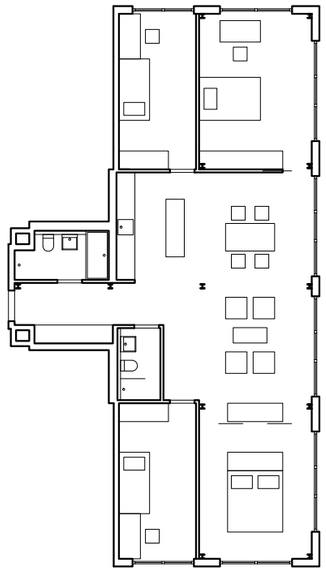
1 : 200

apartment B.4



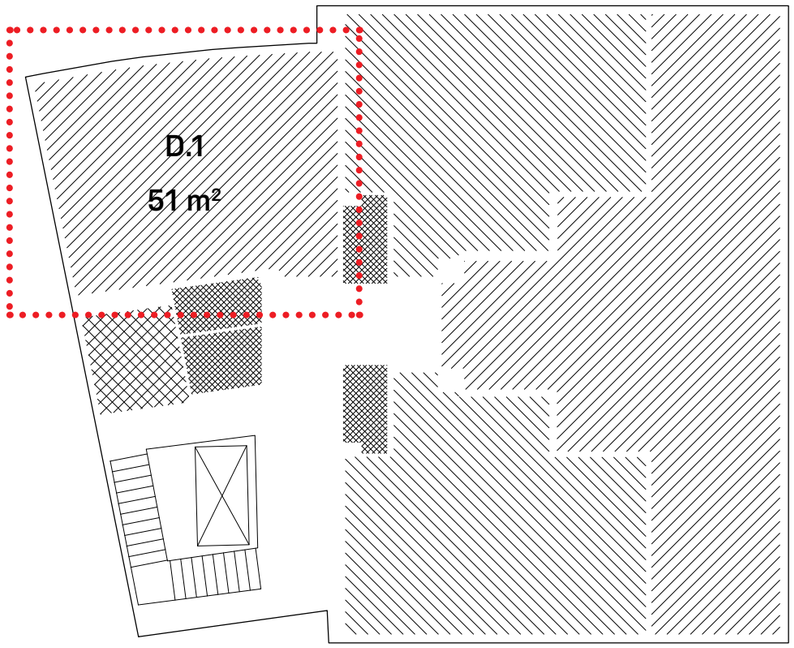
m²:	124
room:	5
bathroom:	2
floor:	3 4 5 6
light:	E S W

B.4.3



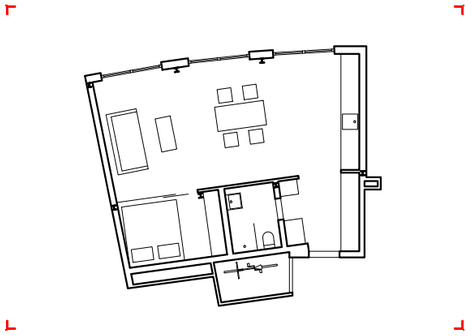
1 : 200

apartment D.1



m²: 51
room: 2
bathroom: 1
floor: 3 4 5
light: E

D.1.1

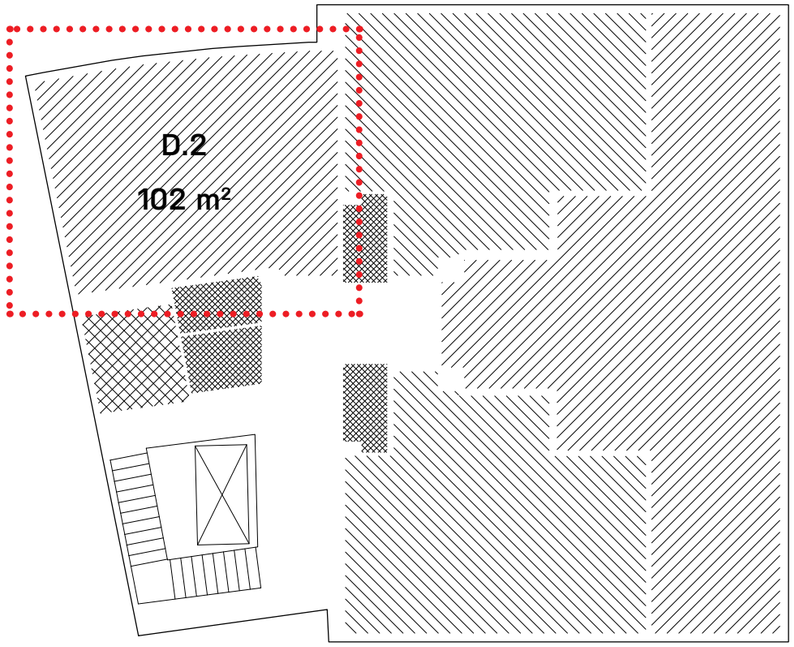


D.1.2

1 : 200

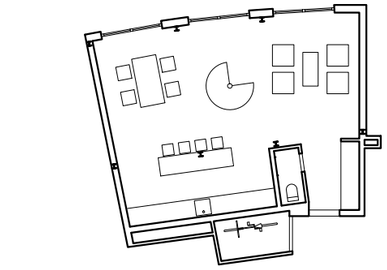
apartment D.2

duplex



m²: 51
room: 3 / 4
bathroom: 2
floor: 3 4 / 4 5
light: E

1 : 200

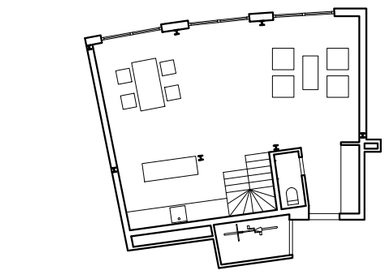


D.2.1

lower floor

D.2.1

upper floor



D.2.2

lower floor

D.2.2

upper floor


project files

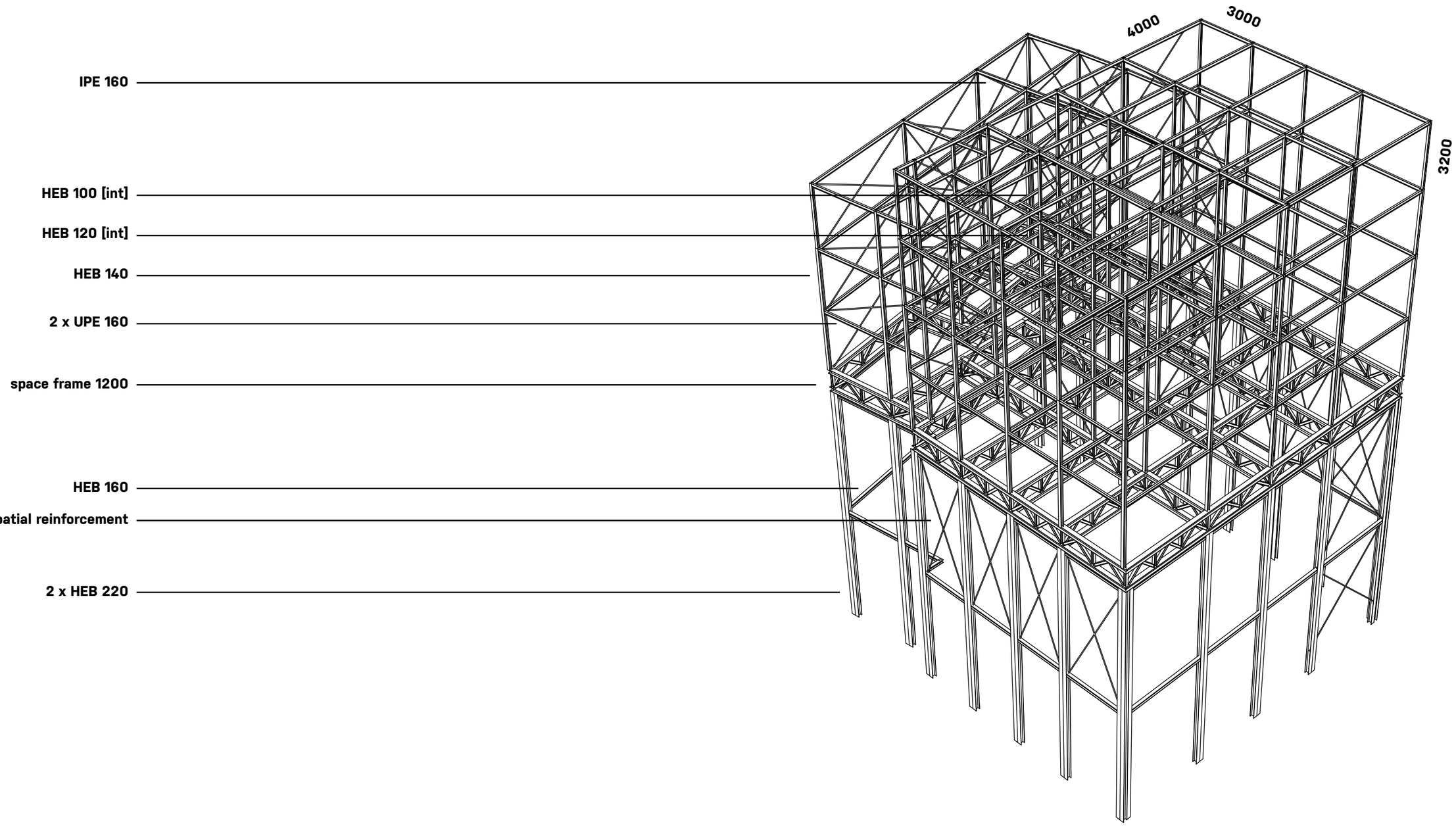
site plan [1 : 500]

elevation east

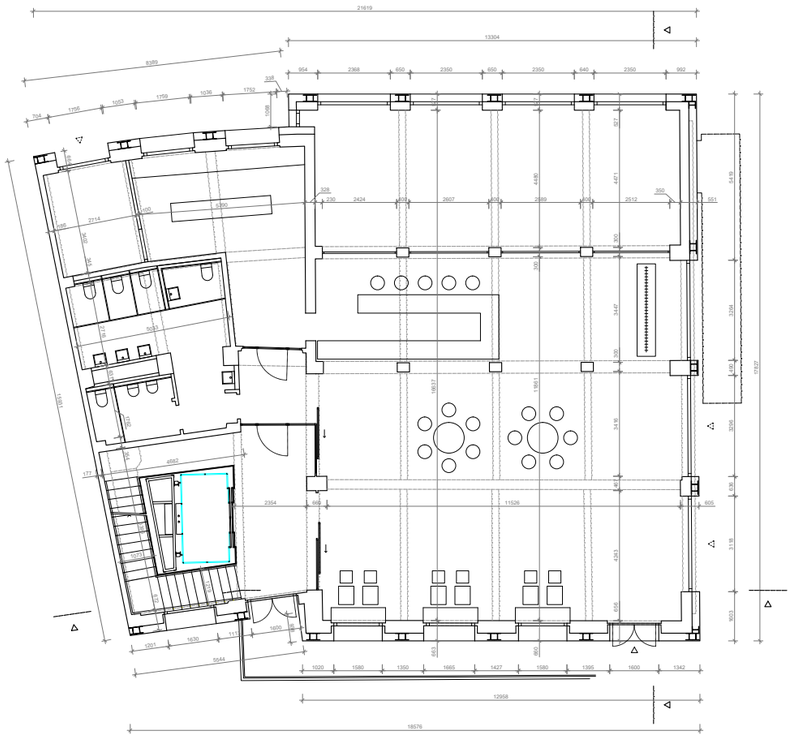
elevation south

elevation west

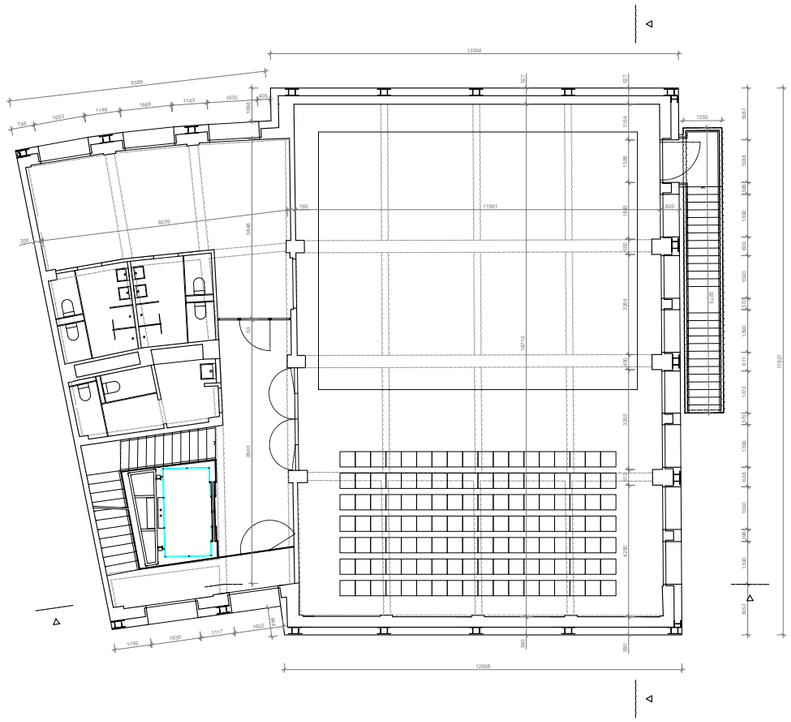
cross section



steel structure



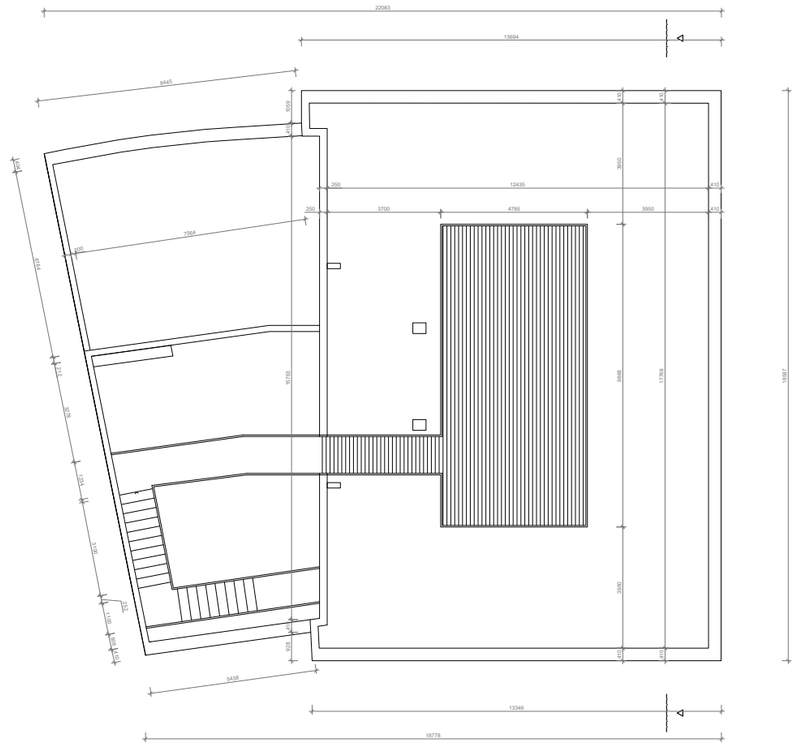
ground floor [1 : 200]



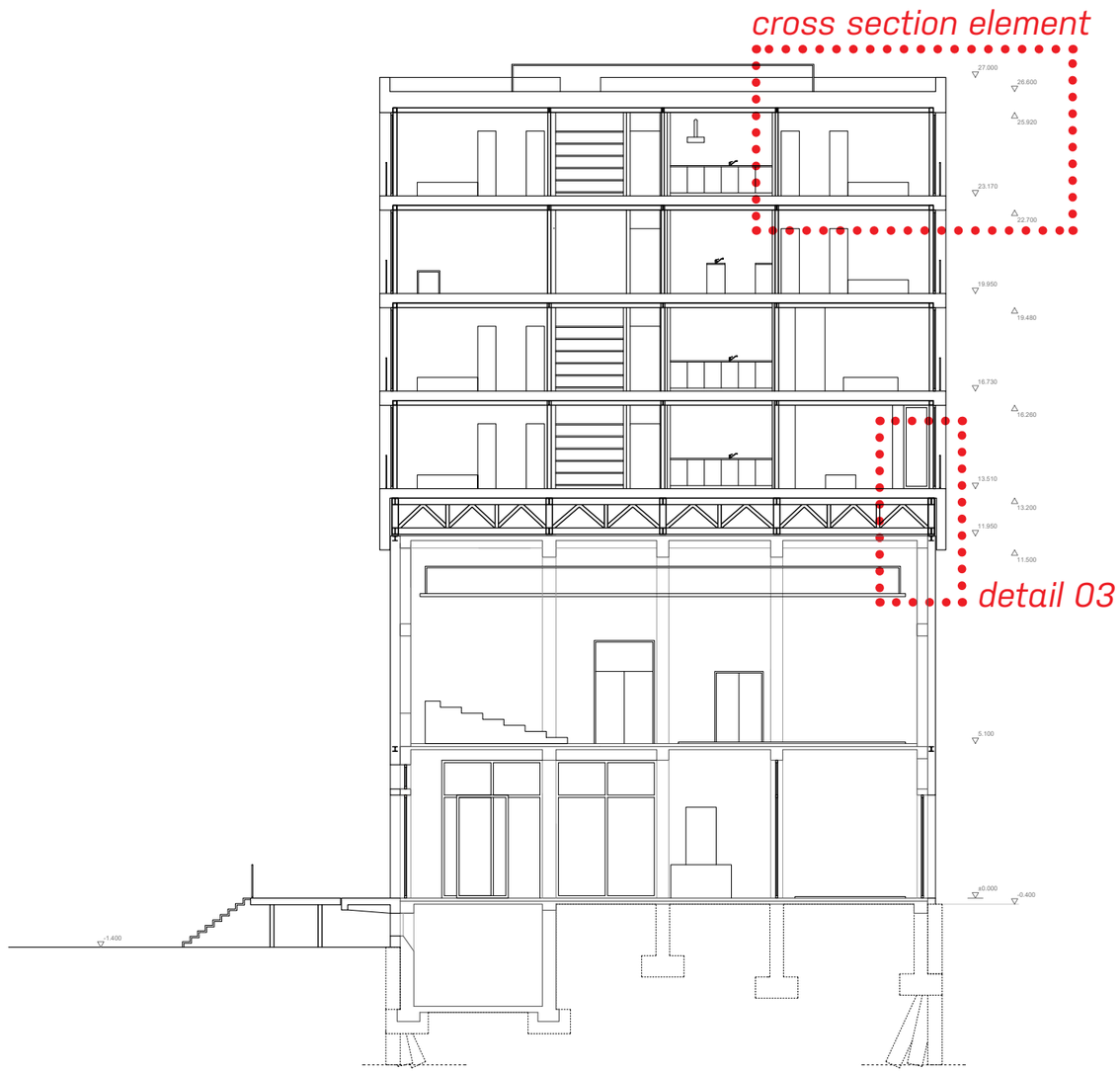
1. floor [1 : 200]

floor plan element

3. - 5. floor [1 : 200]



roof [1 : 200]



section [1 : 200]

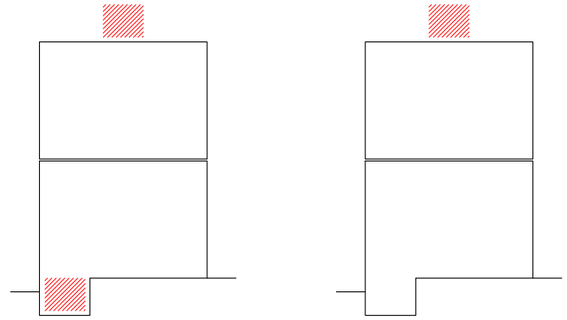

climate
&
technology

engine rooms

based on a purpose the engine rooms are located in the basement and on the roof of the building

heating

air heat pumps are located on the roof as a source for the heating and warm water

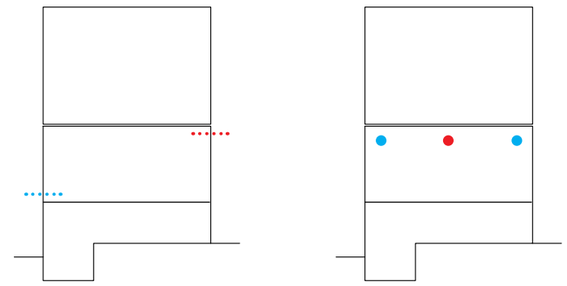


natural ventilation

the fresh air is let in the build from the western [park] side and is let out under the ceiling on the east side

mechanical ventilation

to ensure the comfort during the theater performances the fresh air is brought in along the walls and used air is collected in the middle of the theater hall

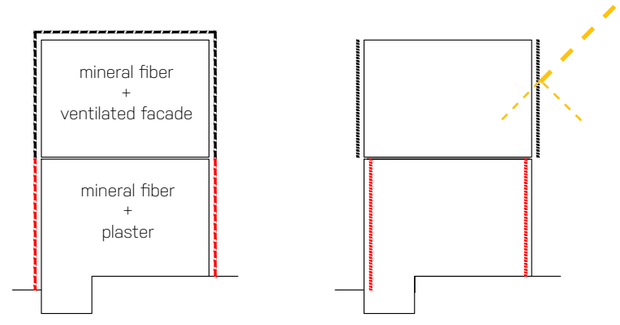


thermal insulation

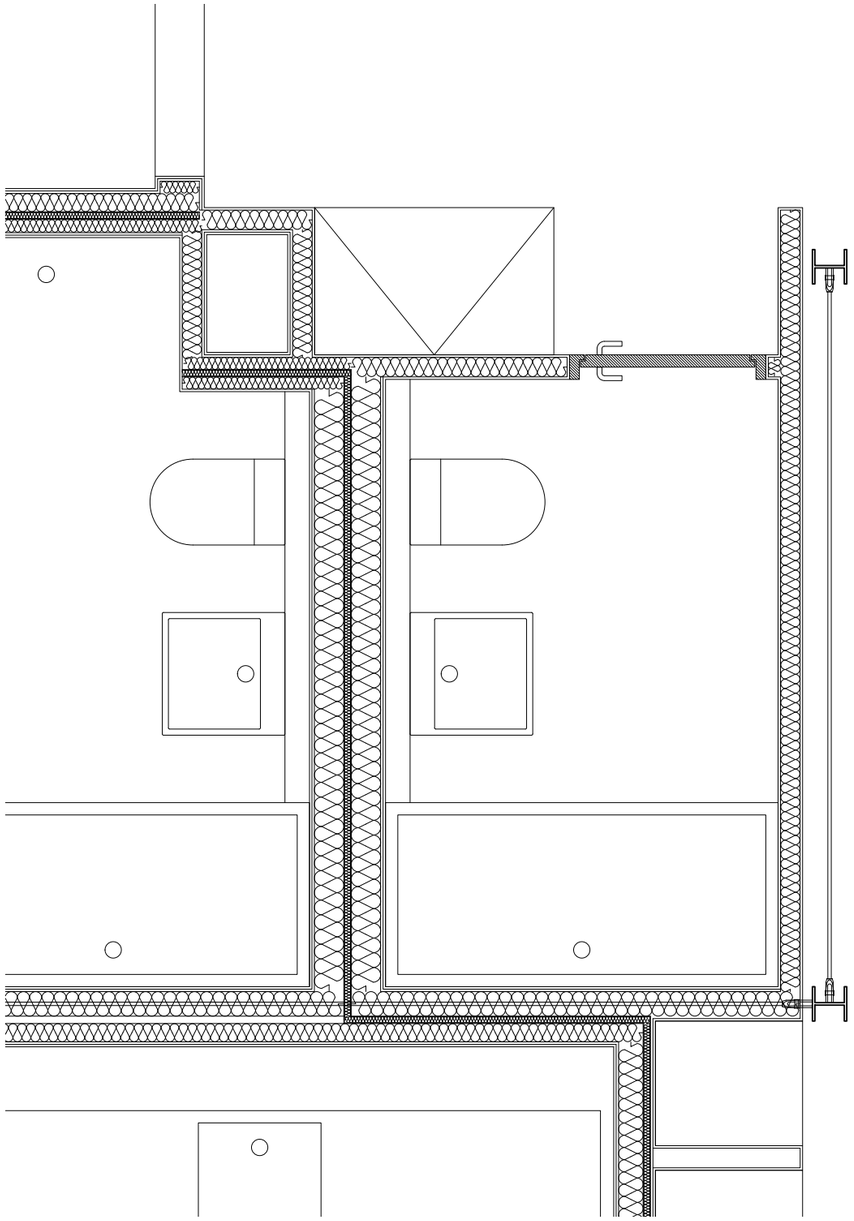
the building is insulated with mineral fiber from the exterior to allow for the building to "breath"

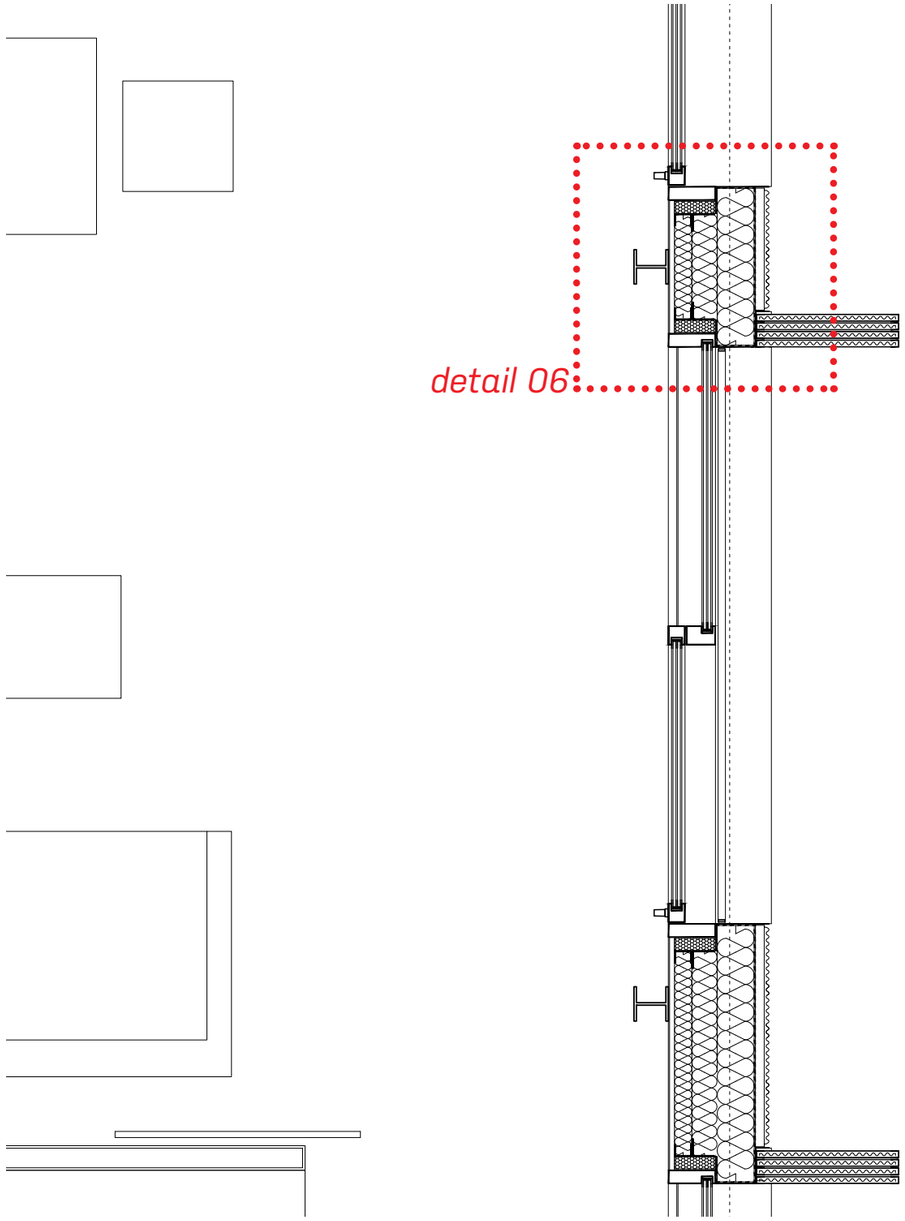
sun shading

the corrugated perforated aluminum facade of the addition together with the window shutters creates a buffer zone for the sun rays, the existing part of the building is protected from the sun with interior heavy curtains which serve also as an acoustic insulation



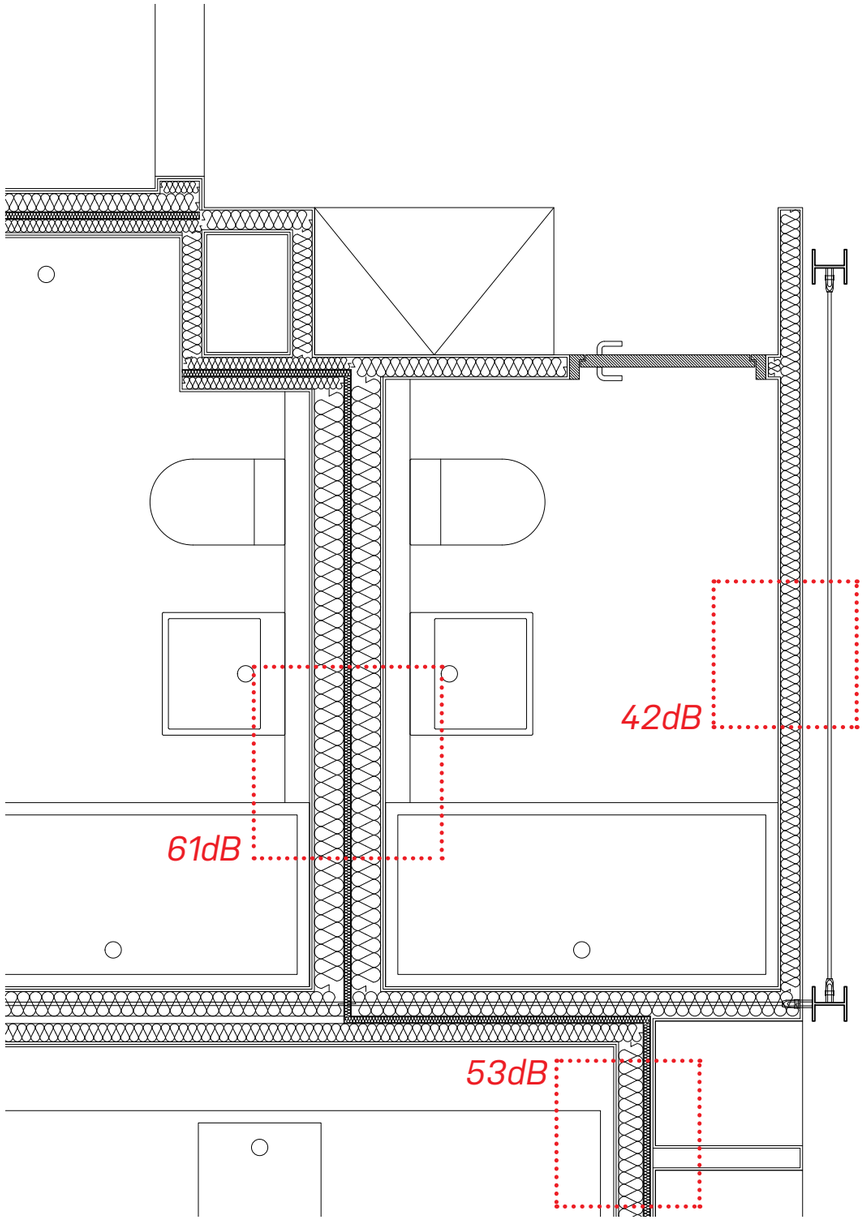

details





floor plan element [1:20]

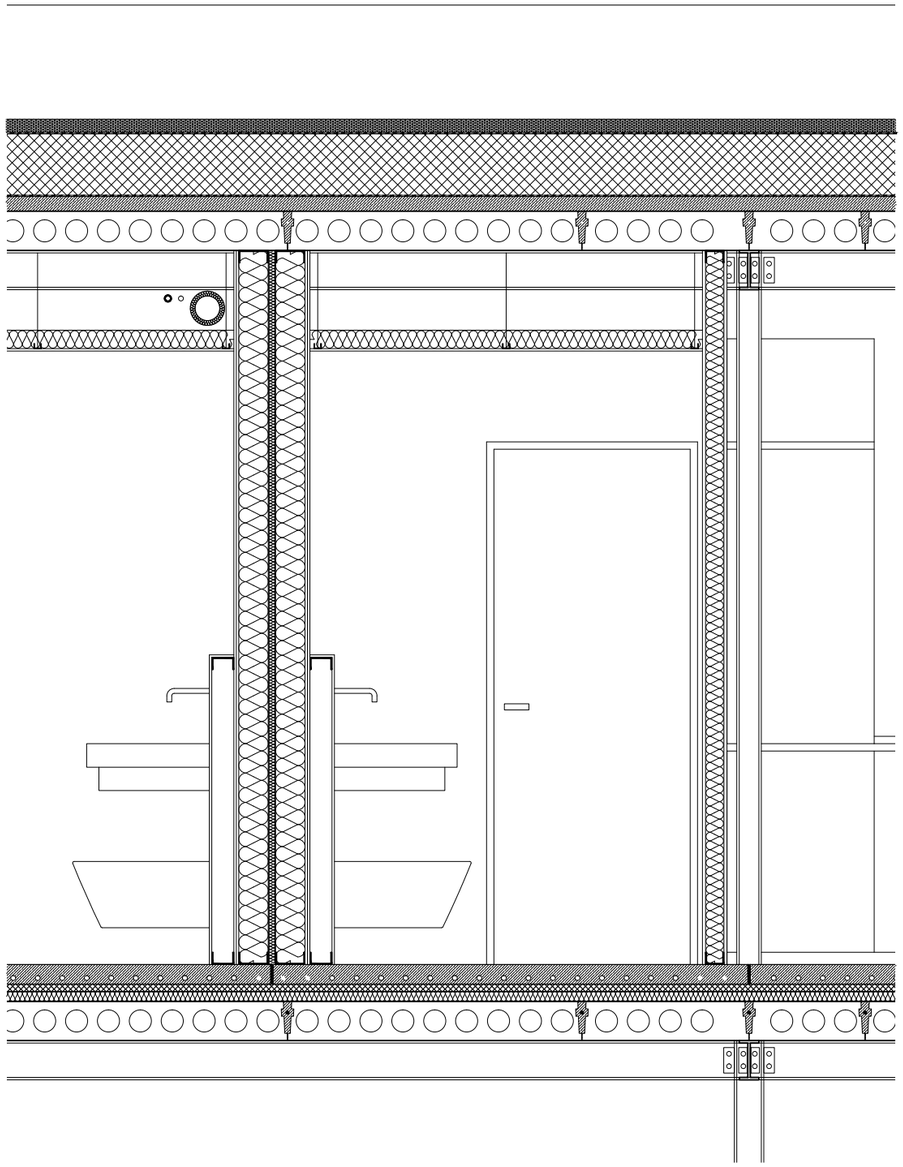
0 1 2 m

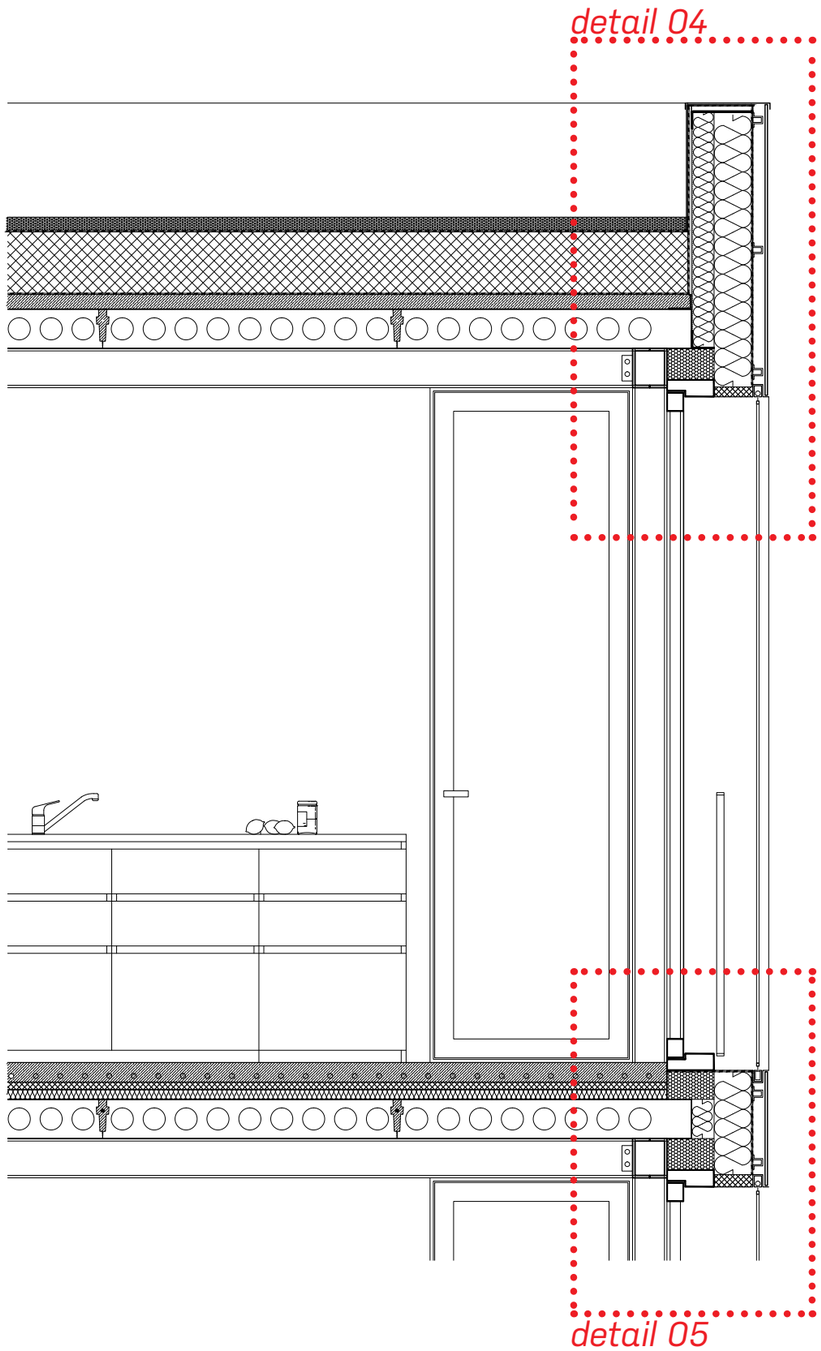


floor plan element [1:20]

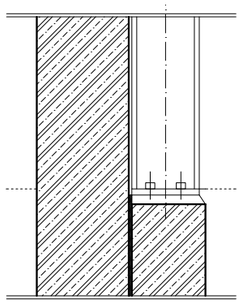
partition in apartment 42dB	**width [mm]**	**CZK/m2**	**€/m2**
fermacell board	10		
aluminium profiles + insulation + acoustic insulation	130		
fermacell board	10		
		973	**36**

acoustic partition between apartments 53dB	**width [mm]**	**CZK/m2**	**€/m2**
heraklith board	10		
fermacell board	10		
aluminium profiles + insulation + acoustic insulation	130		
fermacell board	10		
heraklith board	10		
		1115	**41**
plaster	5	110	4
underlayer with weave net	5	180	7
aerated concrete acoustic Ytong blocks	200	580	21
underlayer with weave net	5	180	7
plaster	5	110	4
		1160	**43**
plaster	5	110	4
underlayer with weave net	5	180	7
acoustic ceramic bricks Heluz	115	710	26
underlayer with weave net	5	180	7
plaster	5	110	4
		1290	**48**

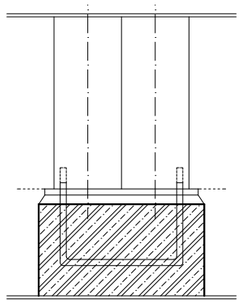




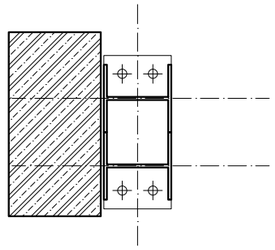
cross section element [1:20]



01.B: cross section A

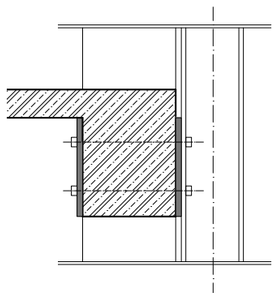


01.C: cross section B

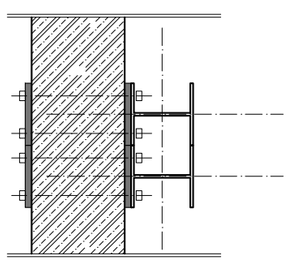


01.A: horizontal section

detail 01: steel column foundation [1:20]

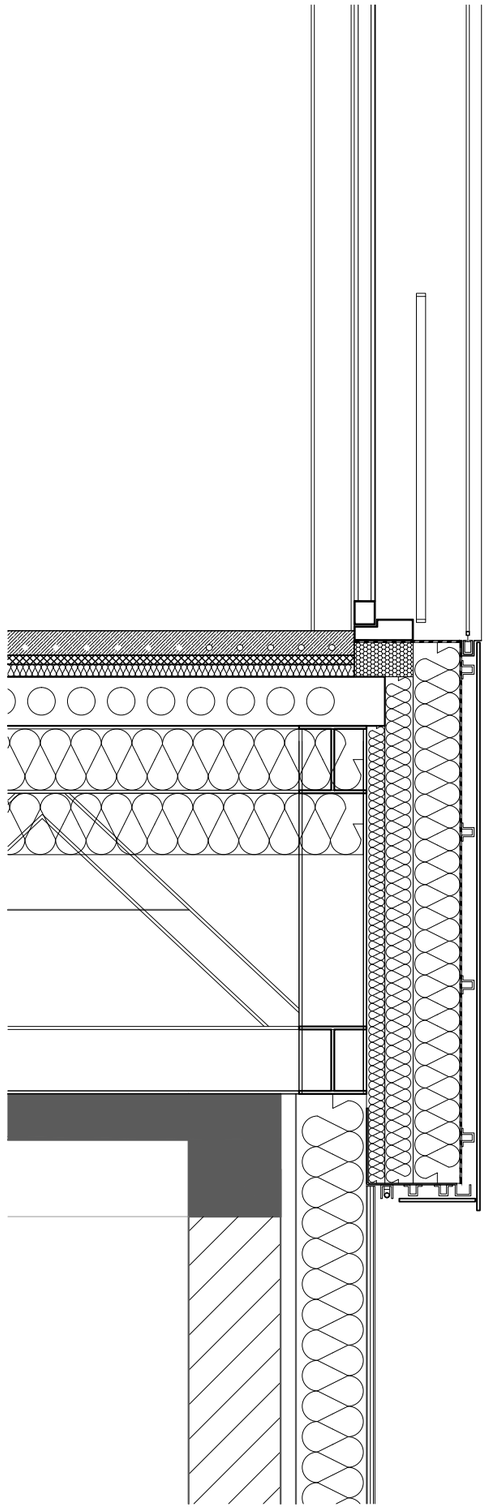


02.B: cross section

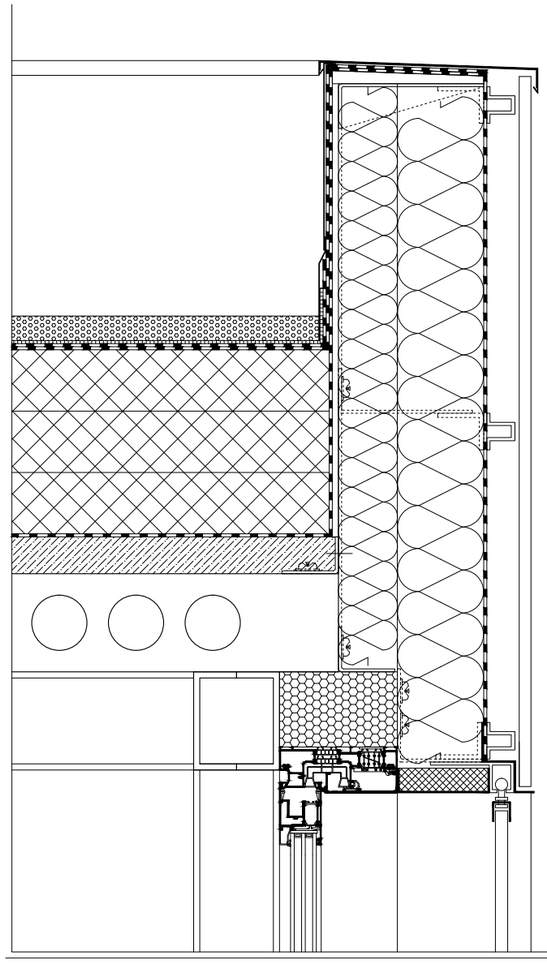


02.A: horizontal section

detail 02: steel column + concrete ring beam [1:20]



detail 03: old x new [1:20]



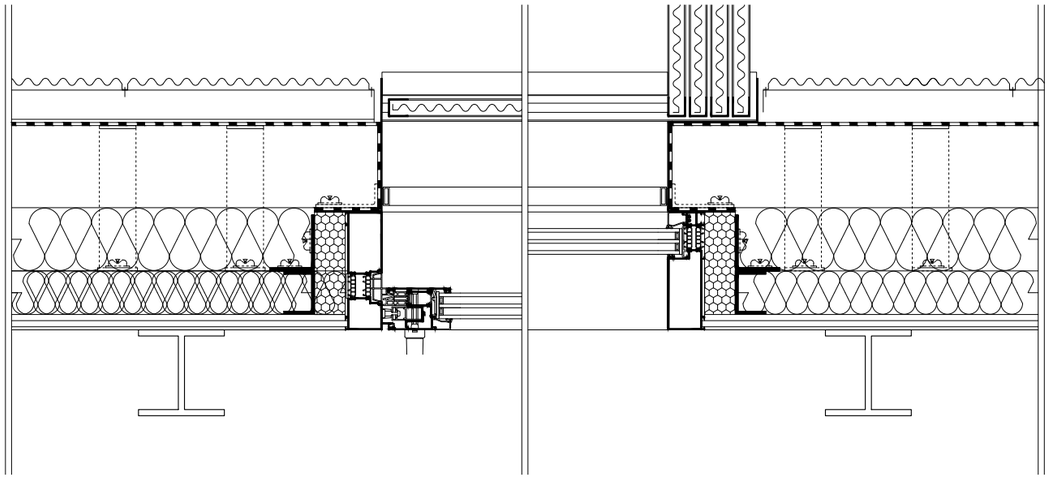
roof	width [mm]	CZK/m2	€/m2
IPE 160	160		
prefab concrete ceiling panel Spiroll 160 mm	160	1050	39
concrete in slope	60	315	12
vapourbarier bitumen	5	275	10
thermal insulation styrofoam EPS 150	250	575	21
waterinsulation PVC 1,5 + 2x geotextile 300g/m2	15	850	31
ballast	55	185	7
		3250	**120**

detail 04: attic [1:10]

ceiling	width [mm]	CZK/m2	€/m2
prefab concrete ceiling panel Spiroll 160 mm	160	1050	39
impact sound insulation EPS T4000	50	145	5
floor heating system panel	30-50	280	10
final exposed concrete floor	60-80	1250	46
		2725	**101**
trapezoidal profiled sheet + concrete	160	1460	54
impact sound insulation EPS T4000	50	145	5
floor heating system panel	30-50	280	10
final exposed concrete floor	60-80	1950	72
		3835	**142**

detail 05: window lintel + window sill [1:10]

EXT



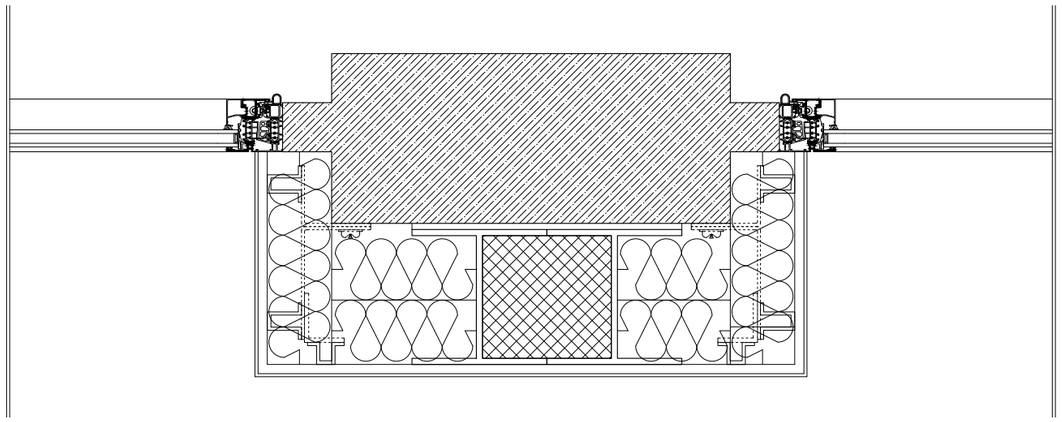
INT

façade new	**width [mm]**	**CZK/m2**	**€/m2**
plaster	5	110	4
underlayer with weave net	5	180	7
Fermacell board with aluminium profiles 2x10 mm	20	755	28
thermal insulation mineral fibre	250	345	13
windstop - dekten fassade		175	6
façade grid	50	*1170*	*43*
perforated corrugated aluminium	20	480	18
scaffolding		120	4
		3335	**124**
fundermax board		1800	67
glassfibre concrete polycon board		1500	56
cement fibre board		460	17
polycarbonate		300	11

aluminium HS windows	**width [mm]**	**CZK/m2**	**€/m2**
fixed parts		**8000**	**296**
sliding parts		**12000**	**444**
sun shading	**width [mm]**	**CZK/m2**	**€/m2**
roller blinds		1200	44
vertical louvers		1650	61
perforated corrugated aluminium shutters		2100	78
railing		**CZK/m**	**€/m**
railing		2000	74

detail 06: window jambs new building [1:5]

EXT



INT

façade existing ground floor	**width [mm]**	**CZK/m2**	**€/m2**
plaster	5	110	4
underlayer with weave net	5	180	7
existing concrete	300		
thermal insulation mineral fibre rigid, glued	230	620	23
cement fibre boards	15	460	17
plaster exterior	5	220	8
scaffolding		90	3
		1680	**62**

façade existing upper floor	**width [mm]**	**CZK/m2**	**€/m2**
plaster	5	110	4
underlayer with weave net	5	180	7
existing concrete	300		
thermal insulation mineral fibre rigid, glued	230	620	23
underlayer with weave net	5	180	7
plaster exterior	5	220	8
scaffolding		90	3
		1400	**52**

detail 07: window jambs existing building [1:5]


budget

In the detail chapter the prices for each single construction were specified. The decisions of used materials is based on their durability, economy, aesthetic and contextual values.

		m2	**CZK**	**€**
facades		117	390195	14452
glass fix		51	510000	18889
glass openable		42	588000	21778
window shutters		51	107100	3967
floor		340	926500	34315
partitions between apartments		65	72475	2684
partitions bathroom		14	13622	505
partitions in apartment		30	29190	1081
roof 1/4		85	276250	10231
TOTAL			2913332	107901
	15%		**3350332**	124086
technologies			2913332	107901
	15%		**3350332**	124086
steel strucure			**2327000**	86185
TOTAL			**9027664**	**334358**

price / floor

BILANČNÍ TABULKA
EXPLORE LAB 22, TU DELFT

NÁZEV PROJEKTU: substation - a-d FINAL **SKUPINA:** dwell **DATUM:** 8.12.2016

SOUHRNNÁ KARTA

Poznámky k vyplňování tabulky:
Červeně označená pole jsou určená k vepsání modelovaných hodnot. Některé z těchto hodnot jsou předvyplněné, budou ovšem předmětem individuálních konzultací.
Výměry podlaží jednotlivých budov vepisujte do příslušných listů této tabulky.
Zkratky:
HPP – hrubá podlažní plocha, půdorysná plocha podlaží včetně plochy zdí
ČPP – čistá podlažní plocha
p.a. – (per annum) = ročně

new

OBJEKT	STAVEBNÍ NÁKLADY										
	dwelling		new steel structure		public function [renovation]		co-working/open space		commercial [renovation]		
		jednotkové náklady Kč/m² HPP		*jednotkové náklady Kč/m² HPP*		*jednotkové náklady Kč/m² HPP*		*jednotkové náklady Kč/m² HPP*		*jednotkové náklady Kč/m² HPP*	
		27 000		6 212 000		18 000		25 000		18 000	
	plocha m² HPP	*náklady Kč*	*plocha m² HPP*	*náklady Kč*	*plocha m² HPP*	*náklady Kč*	*plocha m² HPP*	*náklady Kč*	*plocha m² HPP*	*náklady Kč*	***stavební náklady celkem Kč***
A	340	9 180 000	0	0	0	0	0	0	0	0	**9 180 000**
B	340	9 180 000	0	0	0	0	0	0	0	0	**9 180 000**
C	340	9 180 000	0	0	0	0	0	0	0	0	**9 180 000**
D	280	7 560 000	0	0	340	6 120 000	0	0	0	0	**13 680 000**
E	0	0	1	6 212 000	170	3 060 000	0	0	340	6 120 000	**15 392 000**
F	0	0	0	0	0	0	0	0	0	0	**0**
G	0	0	0	0	0	0	0	0	0	0	**0**
H	0	0	0	0	0	0	0	0	0	0	**0**
I	0	0	0	0	0	0	0	0	0	0	**0**
J	0	0	0	0	0	0	0	0	0	0	**0**
K	0	0	0	0	0	0	0	0	0	0	**0**
L	0	0	0	0	0	0	0	0	0	0	**0**
M	0	0	0	0	0	0	0	0	0	0	**0**
N	0	0	0	0	0	0	0	0	0	0	**0**
O	0	0	0	0	0	0	0	0	0	0	**0**
P	0	0	0	0	0	0	0	0	0	0	**0**
Q	0	0	0	0	0	0	0	0	0	0	**0**
R	0	0	0	0	0	0	0	0	0	0	**0**
S	0	0	0	0	0	0	0	0	0	0	**0**
T	0	0	0	0	0	0	0	0	0	0	**0**
U	0	0	0	0	0	0	0	0	0	0	**0**
V	0	0	0	0	0	0	0	0	0	0	**0**
W	0	0	0	0	0	0	0	0	0	0	**0**
X	0	0	0	0	0	0	0	0	0	0	**0**
Y	0	0	0	0	0	0	0	0	0	0	**0**
Z	0	0	0	0	0	0	0	0	0	0	**0**
celkem	**1 300**	**35 100 000**	**1**	**6 212 000**	**510**	**9 180 000**	**0**	**0**	**340**	**6 120 000**	**56 612 000**

1.

OBJEKT	PRODEJ		
	dwelling		
	koeficient ČPP/HPP		
	0,8		
	m² užitné plochy	*výnosy z prodeje Kč/m² ČPP*	*Kč*
A	272	90 000	24 480 000
B	272	90 000	24 480 000
C	272	90 000	24 480 000
D	224	90 000	20 160 000
E	0	90 000	0
F	0	90 000	0
G	0	90 000	0
H	0	90 000	0
I	0	90 000	0
J	0	90 000	0
K	0	90 000	0
L	0	90 000	0
M	0	90 000	0
N	0	90 000	0
O	0	90 000	0
P	0	90 000	0
Q	0	90 000	0
R	0	90 000	0
S	0	90 000	0
T	0	90 000	0
U	0	90 000	0
V	0	90 000	0
W	0	90 000	0
X	0	90 000	0
Y	0	90 000	0
Z	0	90 000	0
celkem	**1 040**		**93 600 000**

3.

2.

NÁKLADY – VENKOVNÍ ÚPRAVY											
	komunikace		chodníky		parkovací stání (návštěvníci)		parková zeleň		ostatní zeleň		náklady venkovních úprav celkem
		jednotkové náklady Kč/m² HPP		*jednotkové náklady Kč/m² HPP*		*jednotkové náklady Kč/m² HPP*		*jednotkové náklady Kč/m² HPP*		*jednotkové náklady Kč/m² HPP*	
		3 500		3 500		1 800		0		200	
	plocha m²	*náklady Kč*	*plocha m²*	*náklady Kč*	*plocha m²*	*náklady Kč*	*plocha m²*	*náklady Kč*	*plocha m²*	*náklady Kč*	*Kč*
	0	**0**	500	**1 750 000**	0	**0**	0	**0**	500	**100 000**	**1 850 000**

SOFT COST											
	právní služby		projektové práce		prodej+marketing		project management		developer		soft cost celkem
		% z nákladů		*% z nákladů*	*% z prodejní ceny*	*% z ročního nájmu*		*% z nákladů*		*% z nákladů*	
		0,50%		4,50%	3,00%	15,00%		2,00%		20,00%	
		náklady Kč		*náklady Kč*	*náklady Kč*	*náklady Kč*		*náklady Kč*		*náklady Kč*	
		292 310		**2 630 790**	**2 808 000**	**137 700**		**1 169 240**		**11 692 400**	**18 730 440**

2 945 700

CENA POZEMKU				
	pořizovací cena pozemku		kontrola:	
		náklady (z cenové mapy) Kč/m² pozemku	pořizovací nákladyu vztaženy k výši celkových nákladů %	
		0	*0,00%*	
	plocha m²	*náklady Kč*		
	358	**0**		**0**

5.

FINANČNÍ NÁKLADY					
	ekvita (vlastní zdroje)		cizí peníze		finanční náklady
		ekvita *% z nákladů*		cena peněz %	
		25,00%		*2,00%*	
		ekvita Kč	*cizí peníze Kč*	*cena peněz Kč*	
		19 298 110	**57 894 330**	**5 534 192**	**5 534 192**

NÁKLADY CELKEM		**82 726 632**
VÝNOSY CELKEM		**101 250 000**
ZISK	**absolutní – rozdíl mezi výnosy a náklady**	**18 523 368**
	relativní - % z ekvity	**95,99%**
	kontrola: zisk vyjádřený jako podíl z výnosů	**18,29%**

6.

cost estimates

VÝNOSY														
PRONÁJEM														
garage			public function			co-working/open space			commercial					
plocha stání m2 HPP/stání			*koeficient ČPP/HPP*			*koeficient ČPP/HPP*			*koeficient ČPP/HPP*				*yield %*	
30			0,95			0,8			0,9				12,00%	
počet stání	*výnosy z pronájmu Kč/stání p.a.*	*Kč*	*m² užitné plochy*	*výnosy z pronájmu Kč/m² p.a.*	*Kč*	*m² užitné plochy*	*výnosy z pronájmu Kč/m² p.a.*	*Kč*	*m² užitné plochy*	*výnosy z pronájmu Kč/m² p.a.*	*Kč*	*výnosy z pronájmu Kč p.a.*	*výnosy z pronájmu celkem Kč*	***výnosy celkem Kč***
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**24 480 000**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**24 480 000**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**24 480 000**
0	30 000	0	323	0	0	0	4 000	0	0	3 000	0	0	0	**20 160 000**
0	30 000	0	162	0	0	0	4 000	0	306	3 000	918 000	918 000	7 650 000	**7 650 000**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0	30 000	0	0	0	0	0	4 000	0	0	3 000	0	0	0	**0**
0		**0**	**485**		**0**	**0**		**0**	**306**		**918 000**	**918 000**	**7 650 000**	**101 250 000**

4.

1: 4 floors of dwelling

2: 1040 m² usable floor area

3: market selling price: 90 000,- / m²

4: participation on the rent

5: plot / building provided by the municipality

6: 18 % revenue

The costs of the building were being estimated during the design process. At this stage of the design a detail budget is required to be able to continue to the next stage, which is either design adjustments or beginning of the contracting followed by the construction.

detailed budget

Položkový rozpočet

S:	2016_69	SÚ bytu Veletržní
O:	01	Byt
R:	01	SÚ

P.č.	Číslo položky	Název položky	MJ	množství	cena / MJ	Celkem
Díl:	3	Svislé a kompletní konstrukce				20 739,10
1	319201311R00	Vyrovnání povrchu zdiva maltou tl.do 3 cm	m2	12,00000	153,50	1 842,00
2	342111322RT4	Příčka SDVK tl.100 mm,ocel.kce,oplášť 12,5+12,5 mm, izolace miner.tl. 60 mm, objem. hmotnost 50 kg/m3	m2	3,70000	973,00	3 600,10
		Zvuková izolace 52 dB.				
		Příčka koupelna X hostovský pokoj				
		1,7*3-0,7*2		3,70000		
3	342255024R00	Příčky z desek Ytong tl. 10 cm	m2	14,05000	541,00	7 601,05
		2*0,8		1,60000		
		1,7*3-0,7*2		3,70000		
		1,5*3		4,50000		
		1,8*3-0,7*2		4,00000		
		0,5*0,5		0,25000		
4	342255026R00	Příčky z desek Ytong tl. 12,5 cm	m2	1,60000	638,00	1 020,80
		2*0,8		1,60000		
5	346275113R00	Přizdívky z desek Ytong tl. 100 mm	m2	6,30000	643,00	4 050,90
		1,6*3		4,80000		
		0,5*3		1,50000		
6	346275116R00	Přizdívky z desek Ytong tl. 200 mm	m2	1,50000	955,00	1 432,50
		ytong : 1*1,5		1,50000		
7	317940911RAA	Osazení válcovaných profilů dodatečně, vysekání drážky, dodávka profilů	t	0,02500	47 670,00	1 191,75
		překlad příček : 0,025		0,02500		
Díl:	6	Úpravy povrchu, podlahy				36 849,63
8	601011141RT1	Štuk na stropech Cemix 033 ručně, tloušťka vrstvy 2 mm	m2	69,85000	146,50	10 233,03
		Včetně pomocného lešení.				
		strop všude : 69,85		69,85000		
9	602011141RT1	Štuk na stěnách vnitřní Cemix 033, ručně, tloušťka vrstvy 2 mm	m2	213,00000	99,20	21 129,60
		vyspravka jádrové vrstvy na stav. zdivu :				
		4,85*3		14,55000		
		12,75*3-2,4*1,5		34,65000		
		17,75*3-(2,3*1,5+5*0,8*2)		41,80000		
		17,1*3-(2,3*1,5+2*0,8*2)		44,65000		
		chodba všude : 17,9*3+(6*0,8*2)		63,30000		
		komora : 4,15*3+(1*0,8*2)		14,05000		
10	602021145RT3	Stěrka stěn váp.sádrová Baumit FinoBello, ručně, tloušťka vrstvy 3 mm	m2	37,20000	147,50	5 487,00
		koupelna : 8*3-(2*0,8*2)		20,80000		
		WC : 4*3-(1*0,8*2)		10,40000		
		projekce obývací pokoj : 3*2		6,00000		
Díl:	61	Upravy povrchů vnitřní				67 697,25
11	611421221R00	Oprava váp.omítek stropů do 10% plochy - hladkých	m2	69,85000	68,30	4 770,76
		Včetně pomocného pracovního lešení o výšce podlahy do 1900 mm a pro zatížení do 1,5 kPa.				
		Položka pořadí 8 : 69.85000		69,85000		
12	612401191RT2	Omítka malých ploch vnitřních stěn do 0,09 m2, s použitím suché maltové směsi	kus	12,00000	116,00	1 392,00
13	612401291RT2	Omítka malých ploch vnitřních stěn do 0,25 m2, s použitím suché maltové směsi	kus	6,00000	175,50	1 053,00
14	612403382R00	Hrubá výplň rýh ve stěnách do 5x5 cm maltou ze SMS	m	55,00000	51,10	2 810,50

conclusion

With my project I intend to illustrate the possible contribution of the agency of the architect-developer to the built environment. A way how to connect the essentials of the building industry. Real estate development and architecture.

The design is a result of a complex process which I have tried to make as real as possible. The presence of the architect in the building process since the initial phase uncovered one significant aspect. The project definition and the project design can intertwine and influence and define each other. That happens thanks to the presence of all professionals who have a word to say in the building process. I have focused on the architect as being the manager of the whole building process and discussing with different professionals from the building industry about the possibilities of the overall design.

The presence of the architect in the initial process brings another layer to the decision making process and the decisions taken are not only pragmatic or technical. Aesthetic, spatial, contextual, social or cultural values become another rationale for the actions which are taken.

At the end the initial phase of the project the project brief is not just a raw volumetric study and a spreadsheet with program and floor area per floor. Because all decisions were made while all agencies, all professionals, all agencies were involved the project brief can be more complex. The design phase as discussed by theory did not start from a scratch but already had a clear vision and path which was known will fit the urban context, the given space and the present building.

As an example can serve the decision that it was not specified how many apartments of which size and which floor area is needed. The designed typology was confronted with the market requirements and the outcome is a solution of putting together the structural possibilities, demands and my opinion what is the best for the given situation and the future dwellers. The stairs and the industrial elevator was maintained even though it is on the facade side (where more dwellings could have been) and not inside (where it is usually placed) . The hallway and common spaces get a natural lighting while the required floor area for apartments was kept. A adaptive typology was created which can better react to dwellers' demands as well as the market situation.

Also the challenge of dealing with an existing building which can not carry more then one and half of new floor has been managed and the exiting building has been maintained and refurbished effectively to serve the new great purpose for the experimental theater group.

The design decisions of the architect in such process are not only influenced by aesthetics or legal requirements (which in reality are embedded in architectural profession, not so much in the education) but also by the financial aspects and responsibilities which are the result of the architect being in charge of the whole process. More responsibilities on architect's shoulders, I believe, goes hand in hand with rational reasonable and inhabitable designs.

If the architect-developer designs the building with the notion that it is necessary to find customers for the building on the market the emphasis could be put more on the user and the spaces within the building which the user of the building inhabits while working, sleeping or just coming for a coffee rather than just a facade as it is very common in real estate development (not saying that the skin of the building and the language it speaks towards the city is not important). The facade as the shiny selling jewel, what happens behind the facade is minor.

By having the financial responsibility it may influence the whole team as well as the project in term of effectiveness, management, design.

The overall goal should not be only reducing costs as it was the practice of real estate developers during the past financial crisis, but it is important to figure out new techniques how to build the same amounts that people need (Lacaton & Vassal 2015) and try to do maximum with the given budget.

The budget of the project does not always need to be a limit and a reason fro shrinkage but a potential for new solutions and techniques. For the architect-developer being the initiator of projects and being the project definer there is a possibility to grasp the project's fundamentals and decide on which parts of the project the emphasis should be put, whether financial, functional or aesthetic. Economy is not the goal of the project, but a tool how to accomplish intentions and the generosity that a project must provide (Lacaton & Vassal 2015).

Architect(-developer) with a deeper knowledge about the construction processes, management and commercial aspects of the building can come up with the new solutions. Collaborating together with other professionals and creating a team which can the architect manage and can create a higher quality result projects which can have a potential influence to change the perception the real estate market.

The architect does not necessarily need to be a developer but the overall knowledge of the process and schemes I think is crucial. To learn how to collaborate between professions, to understand the practical issues of the building processes and learn how to run an architecture business should be already part of the education process so that the professions can come together closer in early stages and create an understanding for each other.

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