



# 100-STEP-CITY

Xinyuan Zhang

P5 Presentation -8th July 2020



HOME
BODY
&
EPIDEMICS

- Making every excuses *not to leave the apartment*
- Knowing every deliveryman around
- No hiking/nature kills
- Do nothing = Happy weekends
- *Compulsive Isolation/Lockdown*
- .....



23-08-2019



18-09-2019



08-10-2019

Screenshot - Pedometer Rankings - Wechat



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# Nielsen: Homebody Economy Gains Steam amid Epidemic

COJETEURCLOSETFASHION

FASHIONSHARE 71

# WE'RE CALLING IT: HOMEBODY STYLE IS THE NEXT BIG THING

Cozy and chic at all times.

By: [Jodi Taylor](#)  
Photography: [Paige Carter](#)

We've got a whole new style," it's quite literally and loungewear.

Not sure where to even indulge in a self-care lo

sporteluxeWELLNESSLIFESTYLEFASHIONBEAUTYFITNESS

# New Research Shows That Being A Homebody Is Better For The Environment

You officially have permission to stay in and binge-watch Netflix.

SHARE IT

While I'm *technically* 26, it's safe to say I have the lifestyle of a 40-year-old. While I'm a night owl, I'm not a nighters in my late teens/early twenties, my idea of a 'wild night' is now staying out until 11pm with friends and having a few drinks, I would much rather be eating pizza in my cosy living room. I'm a total homebody, and I know I'm not alone. I know people identifying as 'introverts' and I know about the newsletter called the Girls Night Out.

COSNEWSMUSICFILMTVREVIEWSFEATURESPODCASTSSTAFF LISTSWELLNESSHEAVYCOS LIVEVIDEOS

EXCLUSIVE FEATURESANNIVERSARIES, COVER STORIES, EDITORIALS, INTERVIEWS, LISTS, AND COMPREHENSIVE RANKINGS

# The Art of Being a Homebody: An Interview with Marissa Nadler

The Boston-based musician gives a tour of her home and misunderstood identity

BY [NINA CORCORAN](#) ON MAY 18, 2016, 6:00PM

0 COMMENTS



POPULAR

TODAYWEEKMONTH

1Man Arrested for Camping at Walt Disney World's Abandoned Discovery Island

2Drive-In Concerts Are Now a Thing in Denmark

3Kevin Smith Hoping to Reboot Clerks: The Animated Series At Hulu [Exclusive]

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Homebody in Cherry Creek North. Photo Courtesy of Rebecca Stumpfl

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# Go Now: Homebody Design

Score chic, hard-to-find accessories and furniture from around the world at this new Cherry Creek North boutique.

BY [KATHRYN O'SHEA-EVANS](#) • 5280 HOME APRIL/MAY 2018

# The homebody economy explained

How women who stay in became a force to be reckoned with

By Kaitlyn Tiffany | [@kait\\_tiffany](#) | [kaitlyn.tiffany@vox.com](#)

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The Goods BY VOX

Hillary Benton is hatching a plan to stay in because she's a homebody.

"Starting a new lifestyle blog called Diet Coke and the Homebody, she and her husband share secrets on how to minimize your time and maximize your comfort. The 30-year-old Brooklyn-based marketing professional is a self-proclaimed homebody.

# 'The homebody economy': Consumers prepare for another four to six more months of coronavirus impact

By [Mary Ellen Shoup](#) 23-Apr-2020 - Last updated on 23-Apr-2020 at 14:57 GMT

8

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# The Guardian

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## HOMEBOODY: Books, magazines, resources to help you curate your home

Premium content  
Millicent McKay (millicentmckay@journalpioneer.com)  
Published: Aug 02, 2019 at 1:22 p.m.

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1

CARSON ARTHUR: Knowing when it's time to say goodbye to your tree

9 views

VoxCORONAVIRUSOPEN SOURCEDRECODETHE GOODSFUTURE PERFECTTHE HIGHLIGHTMORE

SHARE

# The homebody economy comes for New Year's Eve

How brands are capitalizing on your lack of plans.

By E.J. Dickson | Dec 26, 2018, 4:50pm EST



MOST READ

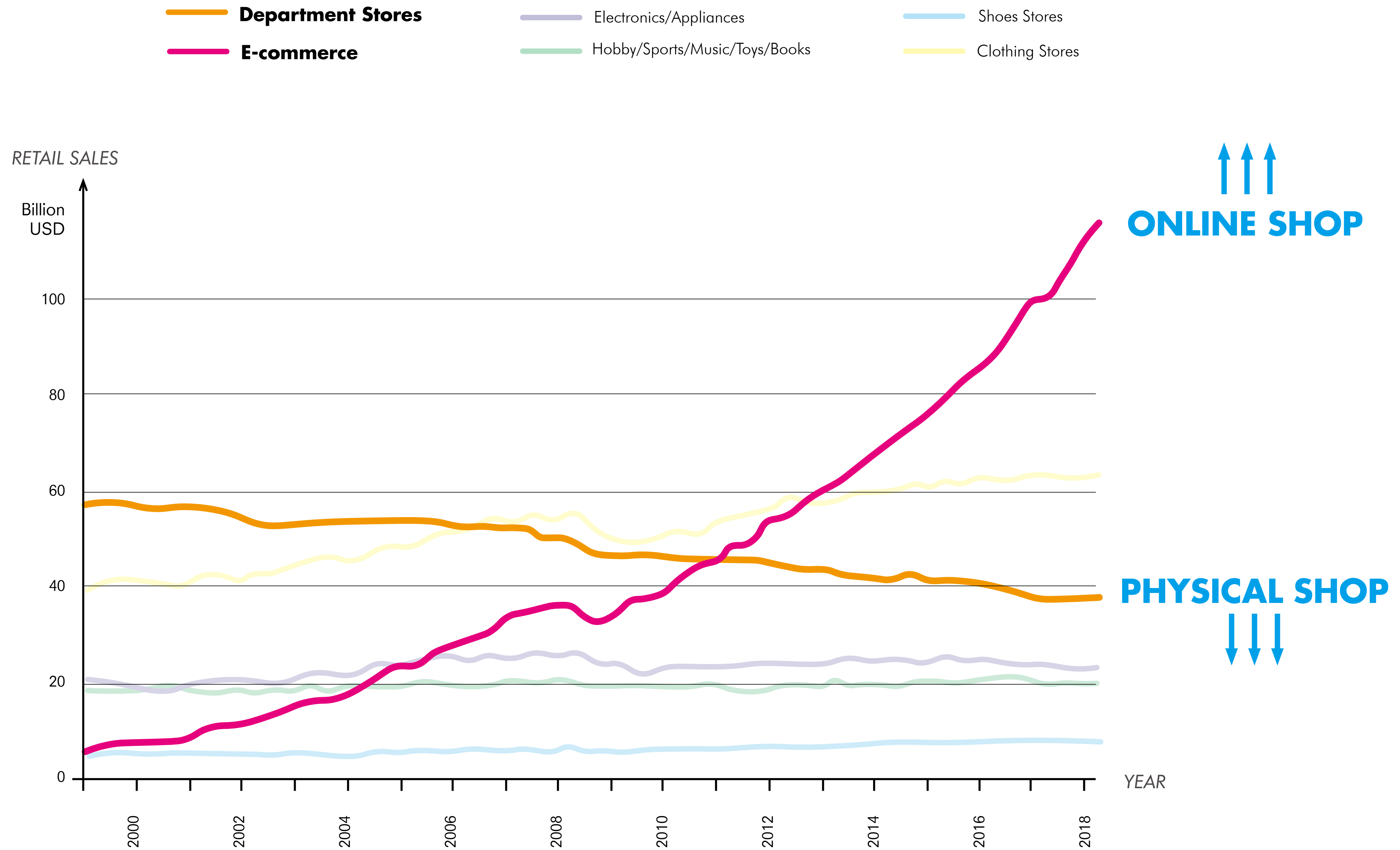






**KING AT HOME !**



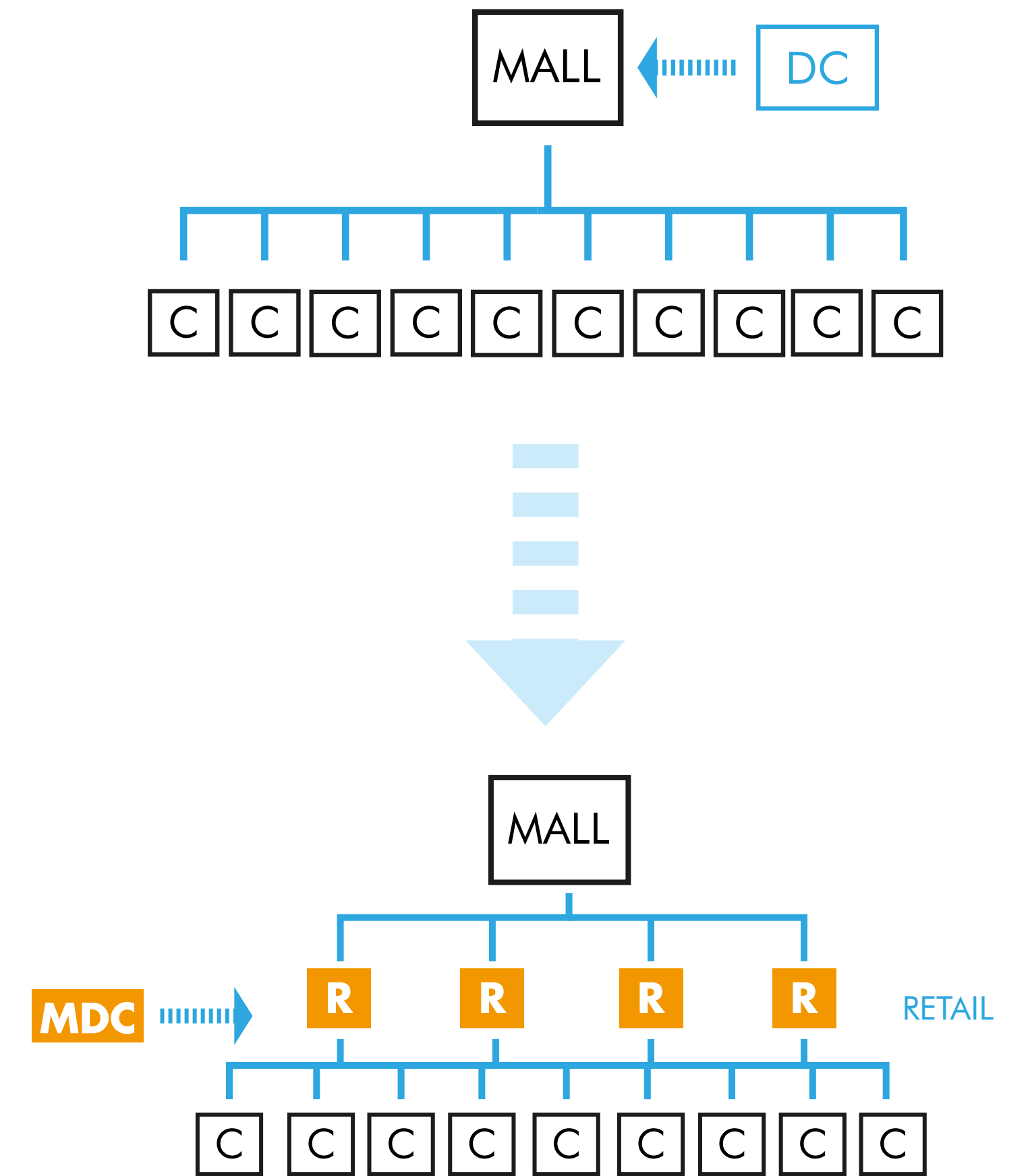
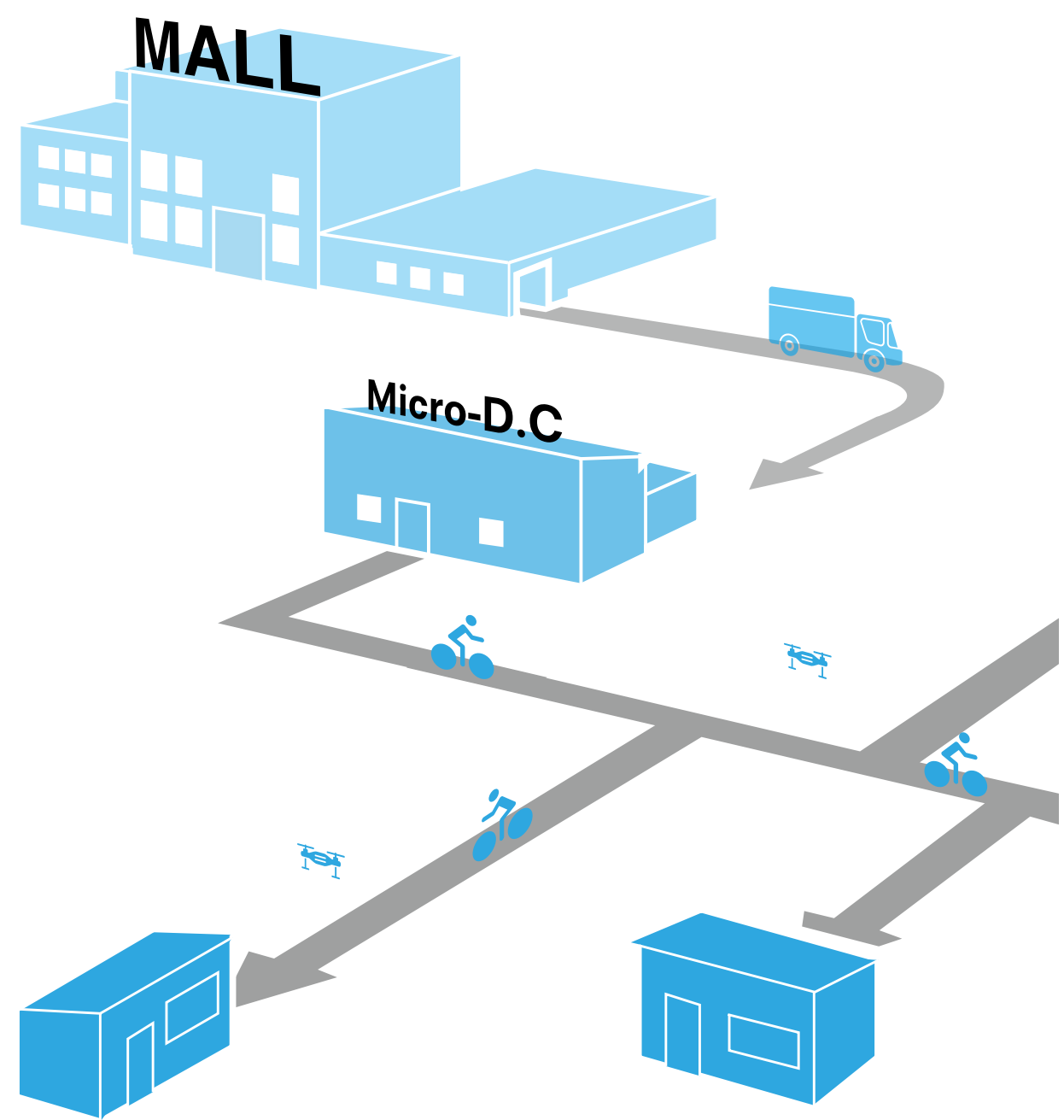
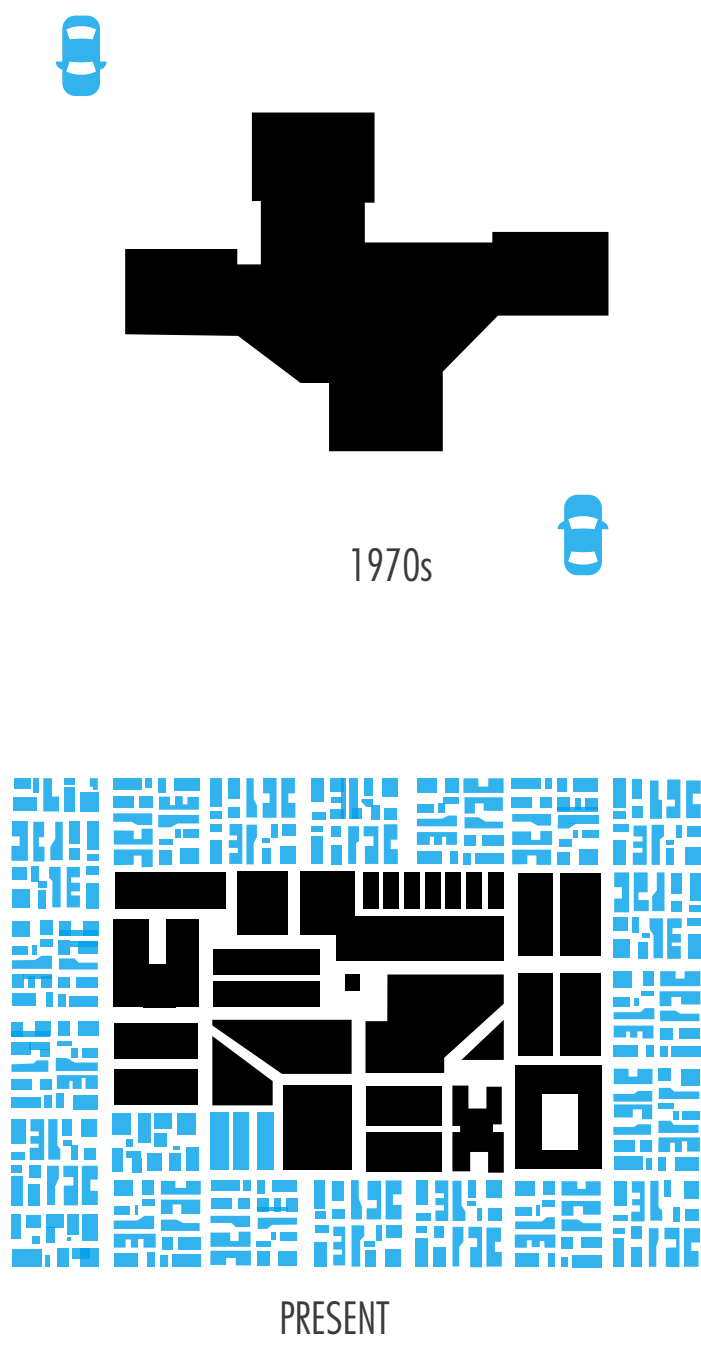


Source: US Commerce Department



CONSUMPTION PATTERN & LOGISTICS CHAIN

Big Volumes broken down  
Cars → Drones





A map of the United States with numerous colored dots (orange, blue, black, pink, purple) scattered across the landmass, representing the locations of dead malls. The dots are most densely clustered in the Northeast and Midwest regions.

**[HTTP://WWW.DEADMALLS.COM/](http://www.deadmalls.com/)**

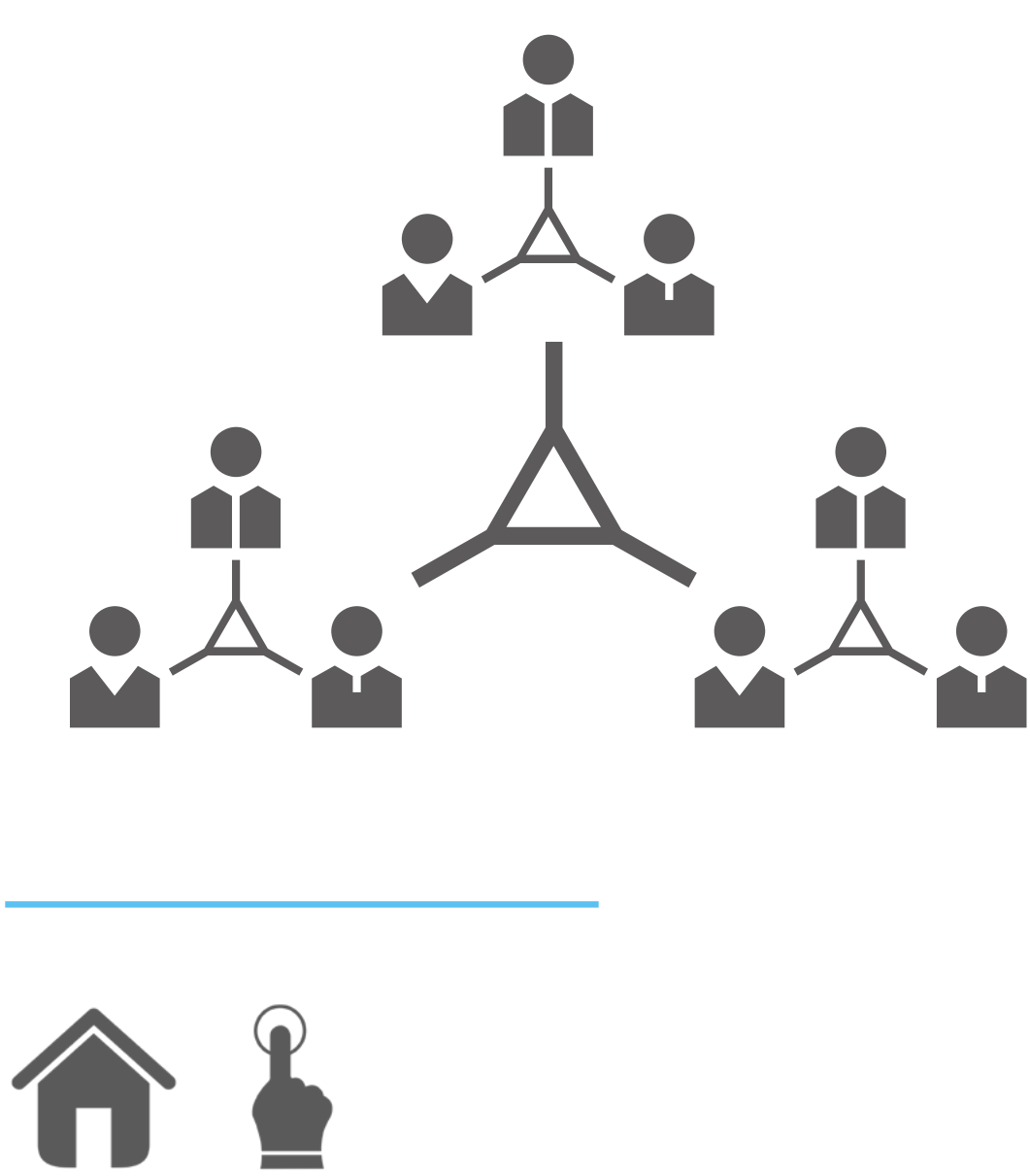


**"I BELIEVE THAT CREATIVITY WILL BE THE  
CURRENCY OF THE 21ST CENTURY."**

– Gerald Gordon,  
Ph.D., President/CEO, Fairfax County (Virginia) Economic Development Authority

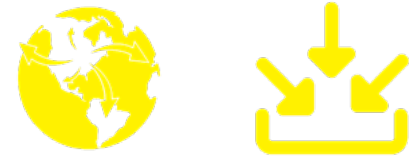
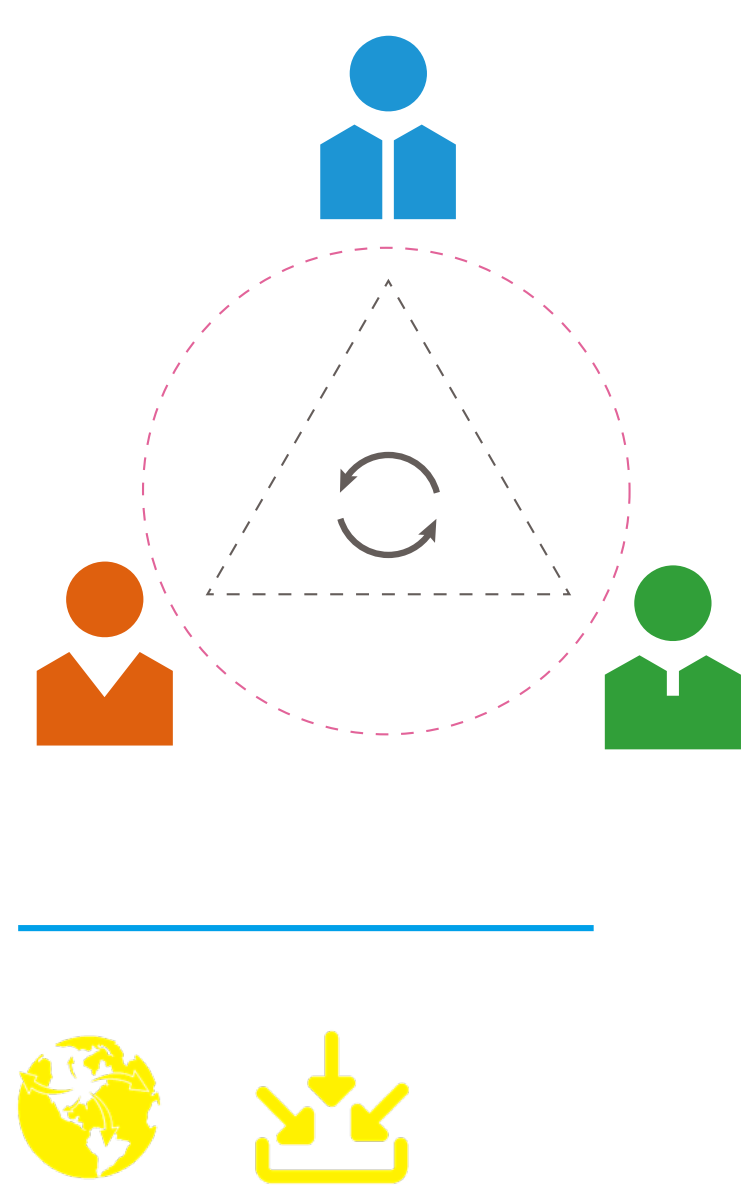


CREATIVE INDUSTRIES



Traditional Industry

Big company  
Independent Area  
Domestic bussiness



Creative Industry

More small business and **freelancers**;  
**Co-creation** for consumer and producer;  
**Crossover** among different fields;  
More **international** bussiness



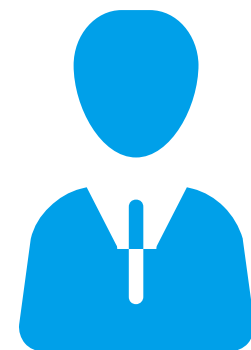
## CREATIVE INDUSTRIES IN NETHERLANDS



**Globally**  
**Top 10**



**Annual turnover of Dutch creative industries**  
**7.1 Billion Euros**



**172,000 Employees**  
**66% Self-employed**

## DUTCH CREATIVE HUBS



### **Amsterdam:**

the most important hub, a creative melting pot

### **Delft:**

hosting the largest and oldest [academic](#) programs

### **Rotterdam:**

the city of [architecture](#)

### **Arnhem:**

fashion biennale and known for [fashion](#) designers

### **Utrecht:**

hosting the [Gaming](#) Institute

### **Eindhoven:**

the [technological](#) heart of the nation





ZIGGO DOME

Bijlmer ArenA Station

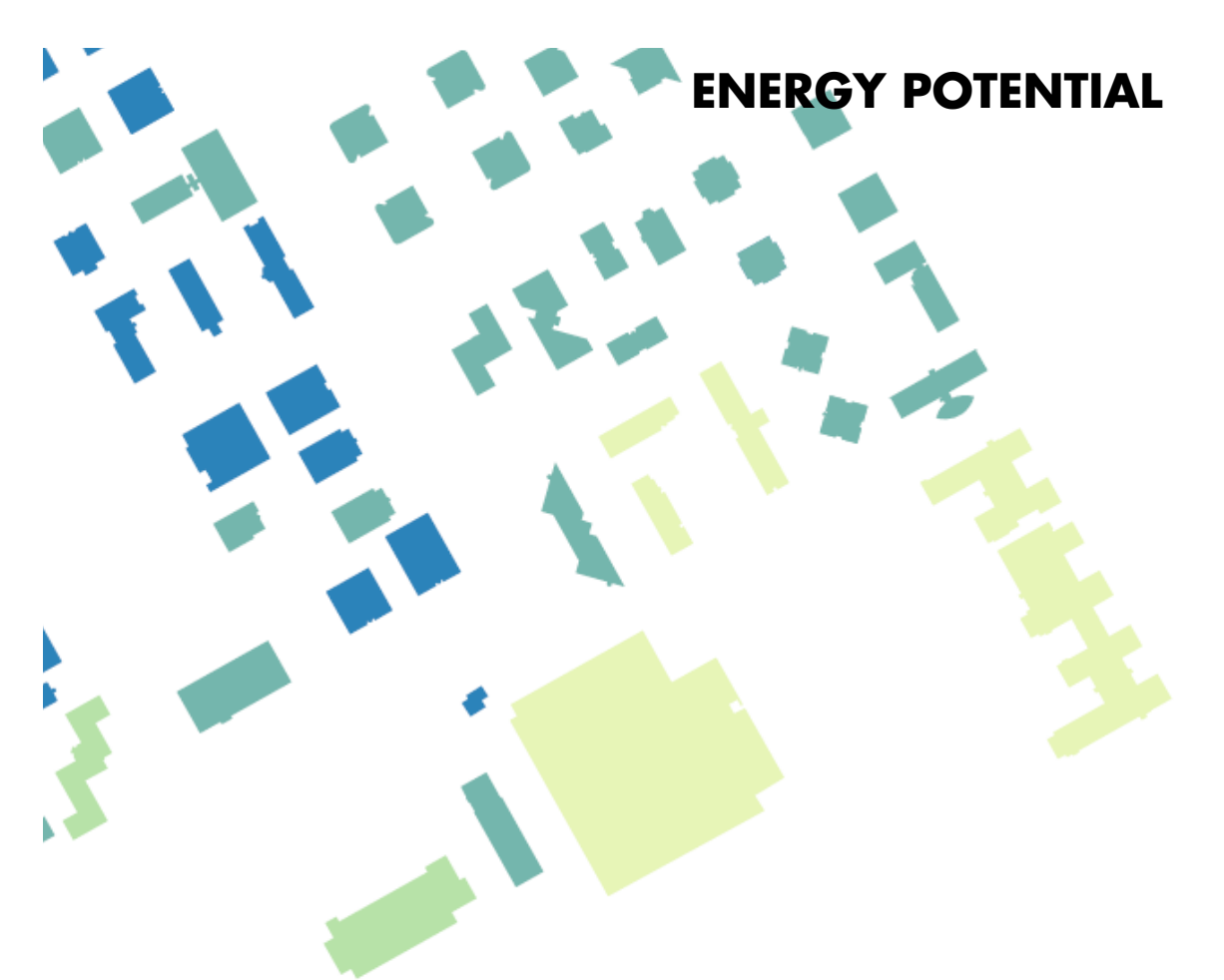
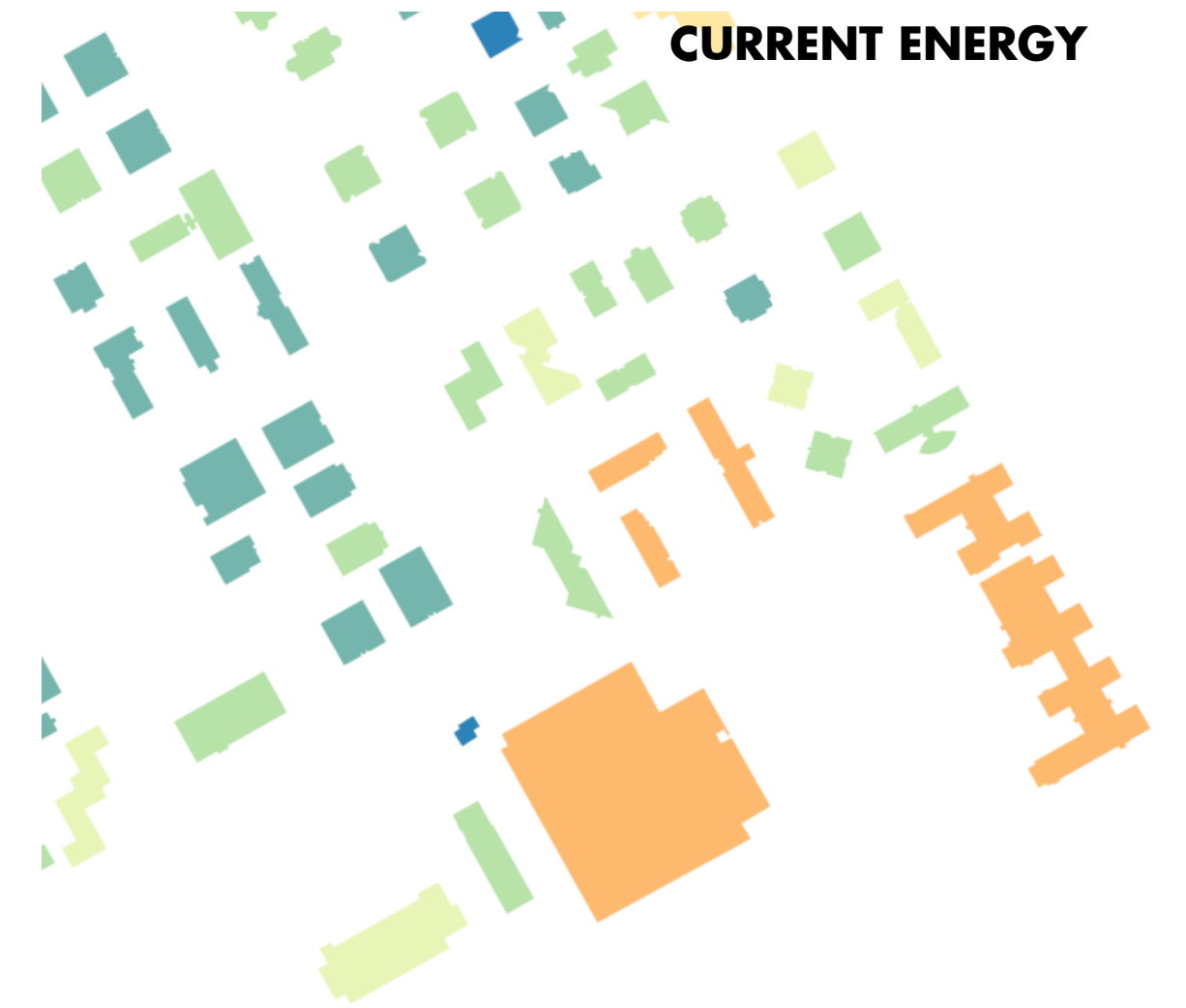
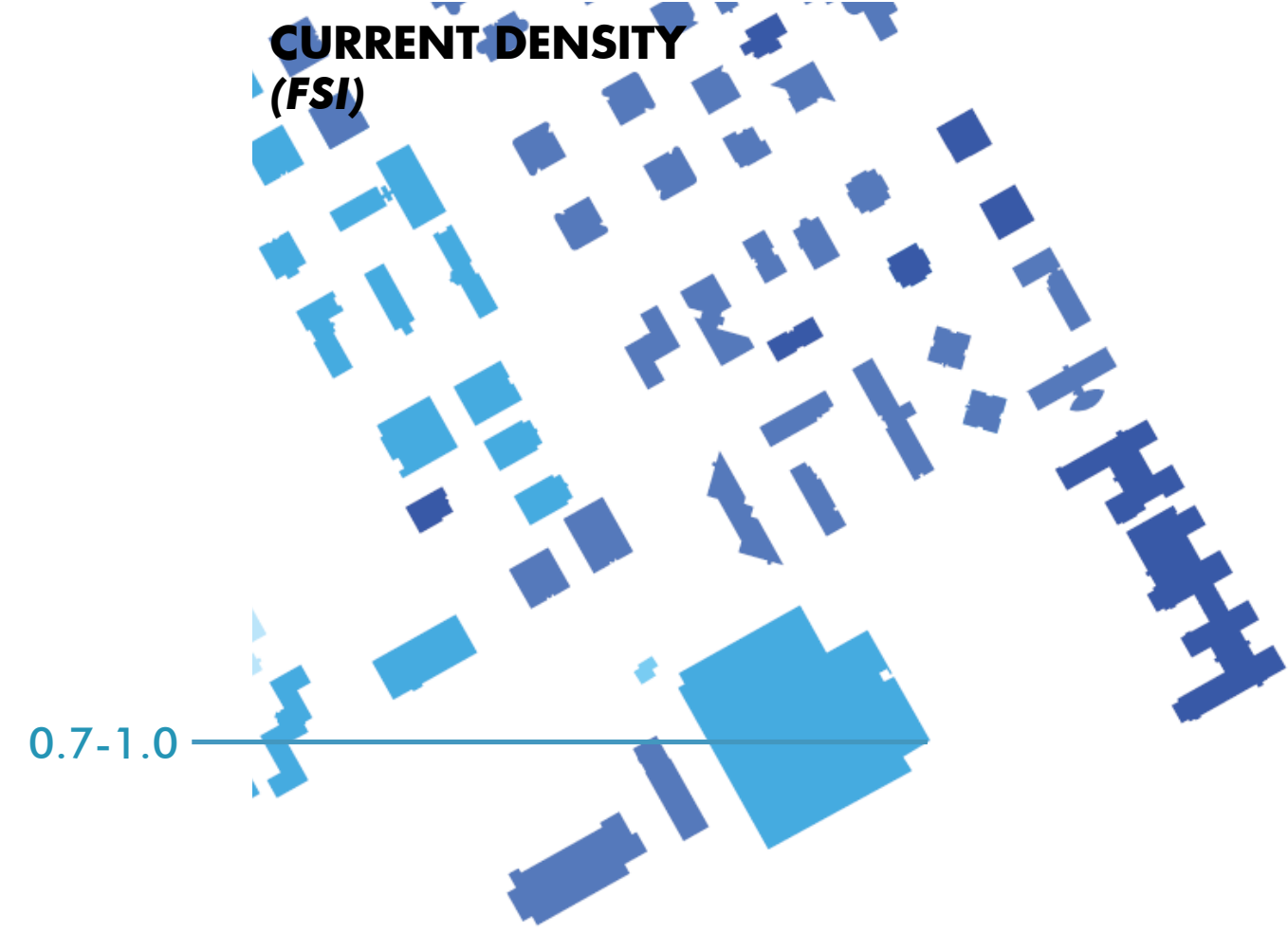
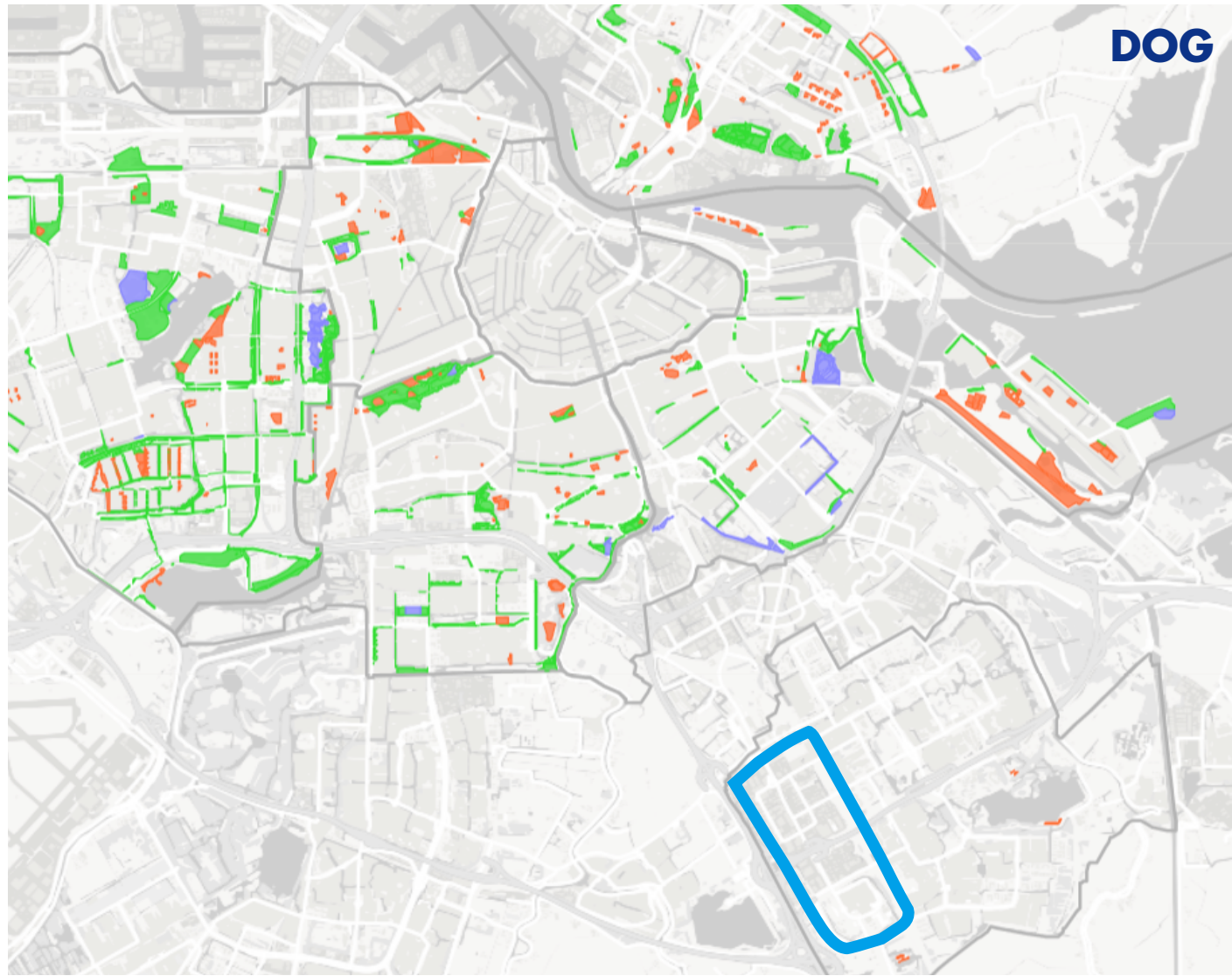
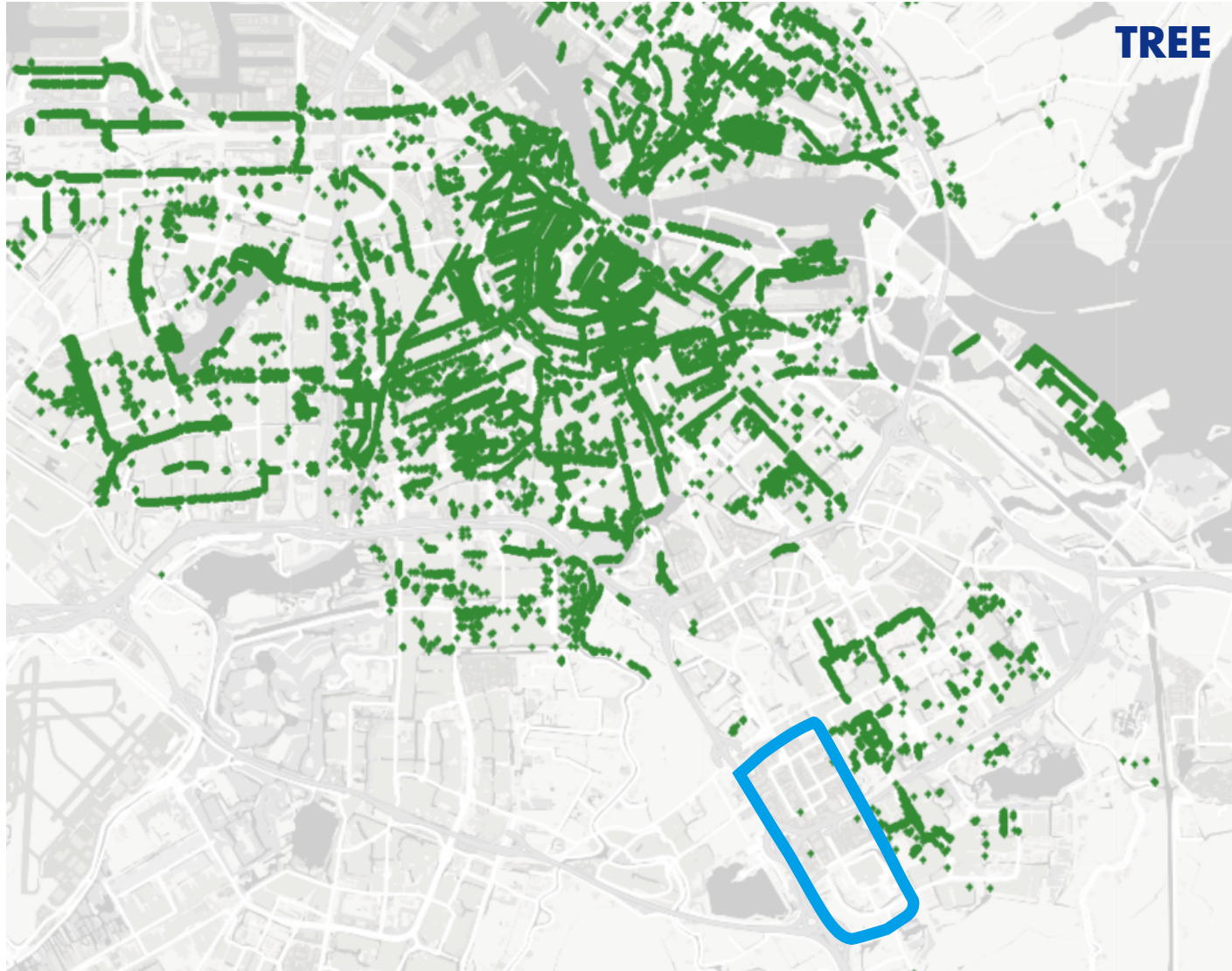
SPOT-AMSTERDAM

IKEA

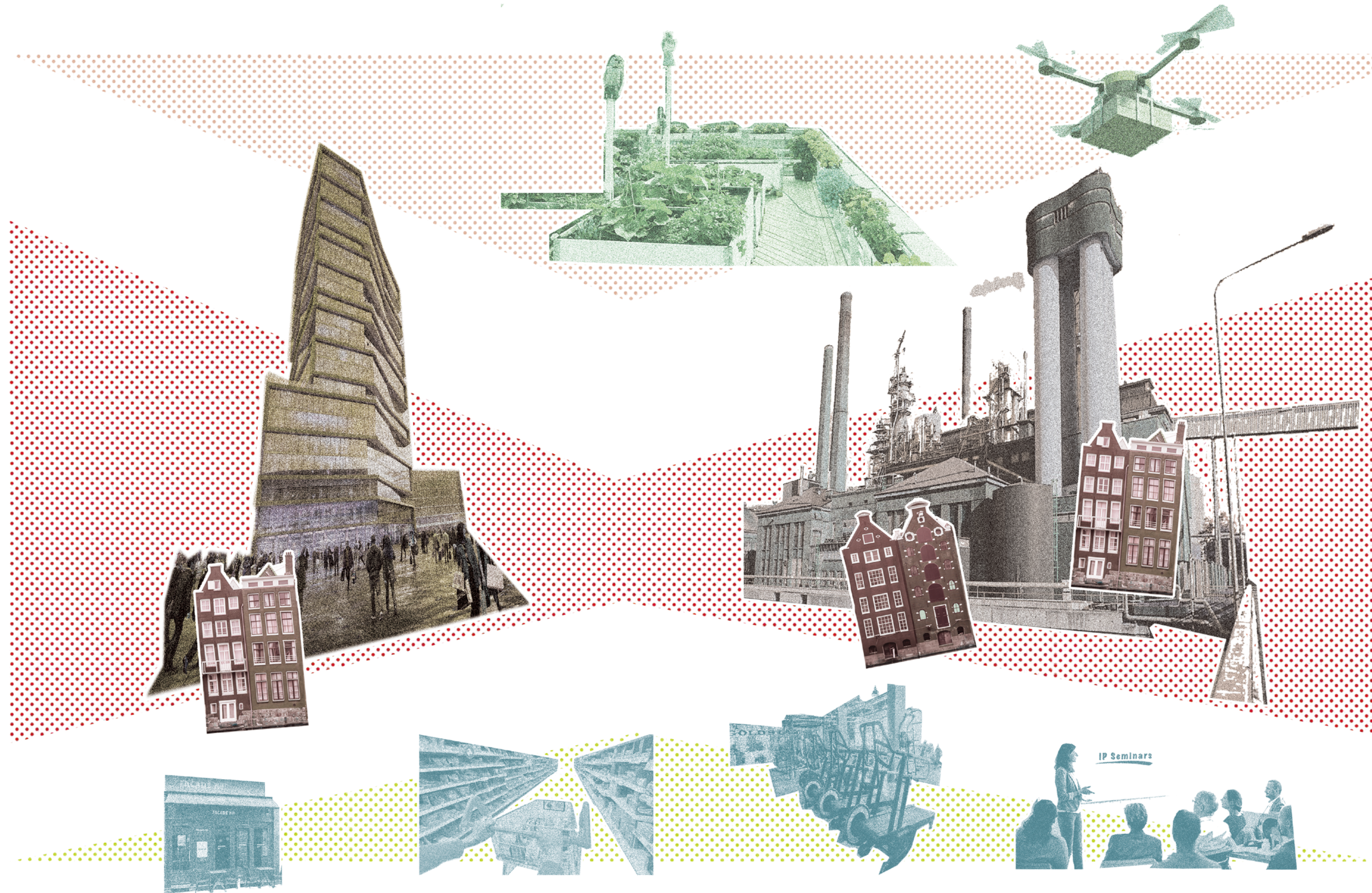
**SITE**

AMC









How to design a haven for the homebodies or the freelancers in a productive scenario?





**MID-RANGE**

**SOCIAL  
HOUSING**

**PUBLIC**



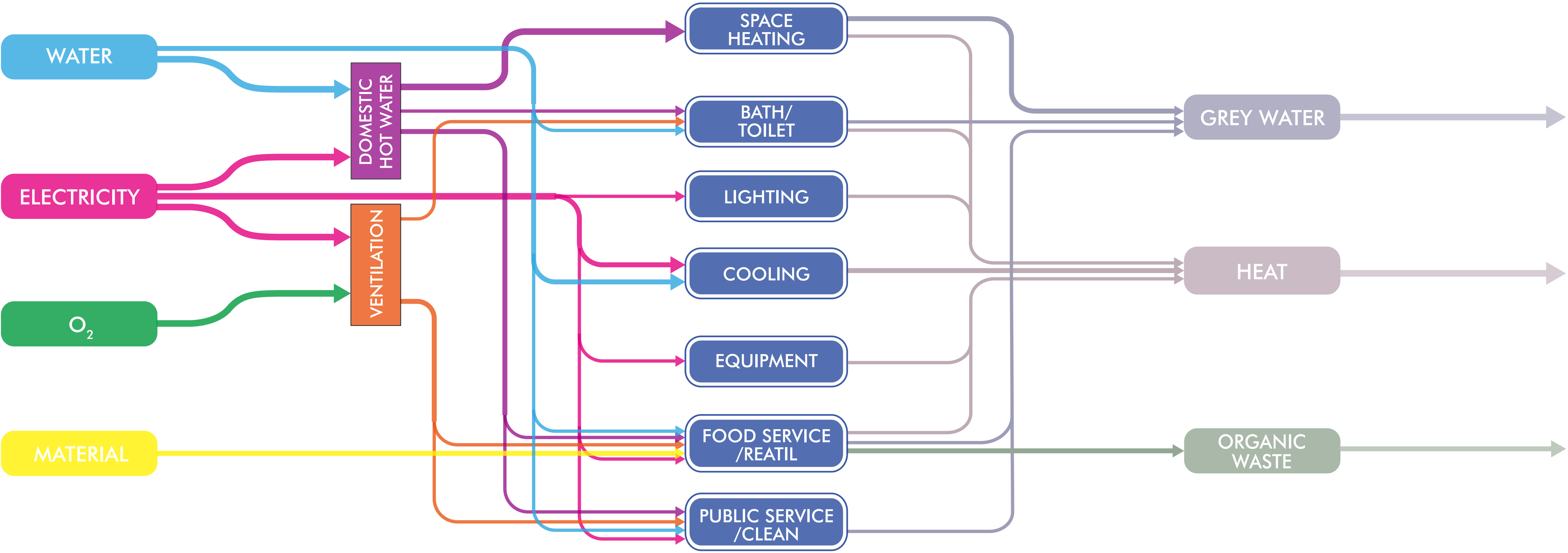




**ENERGY RESEARCH**



CURRENT FLOW



CURRENT ENERGY CONSUMPTION - CALCULATION



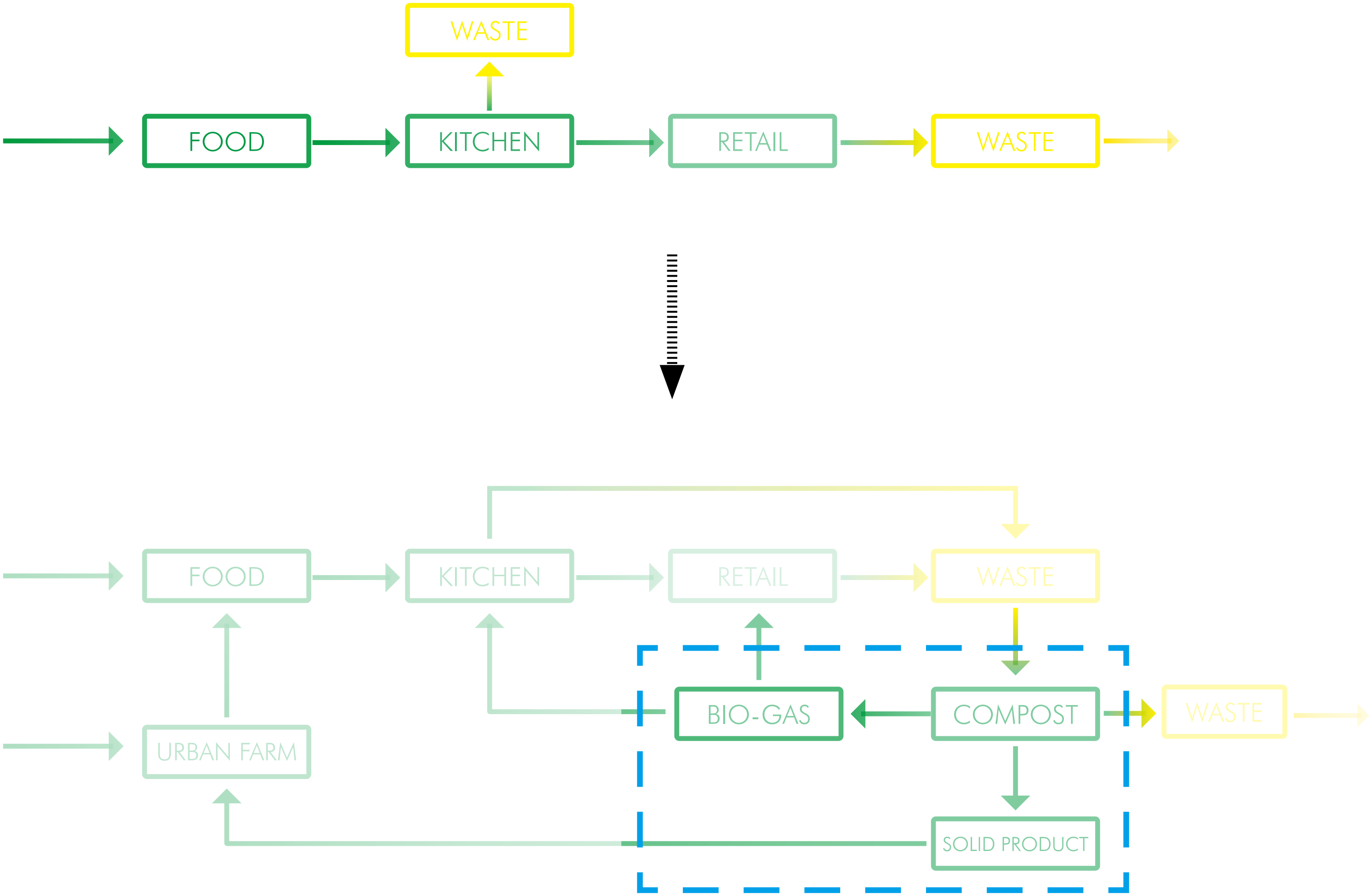


**OPTIMIZE & SYNERGIZE OF FLOWS**



ANAEROBIC DIGESTION -NUMBERS & INSTALLATIONS

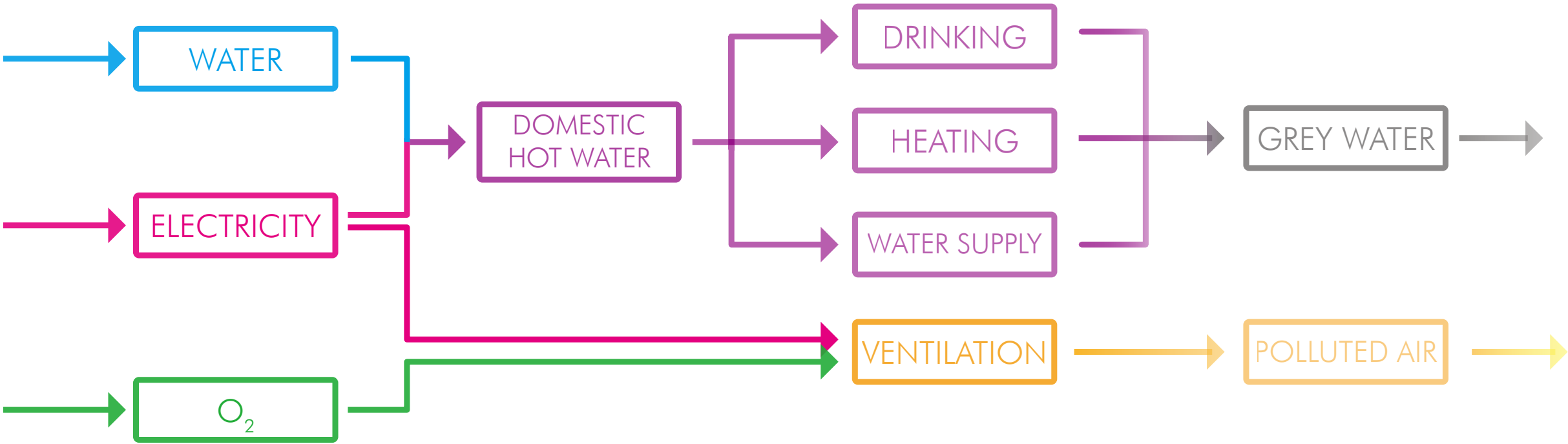
- 1000 kg Organic Waste = **160** NM<sup>3</sup> Biogas + 370 kg Compost
- 1 kg Organic Waste = **1.125** kwh





THERMAL - OPTIMIZATION OF FLOW

NUMBERS & INSTALLATIONS



MVHR (MECHANICAL VENTILATION WITH HEAT RECOVERY)

- Saving 38% on heating & ventilation energy

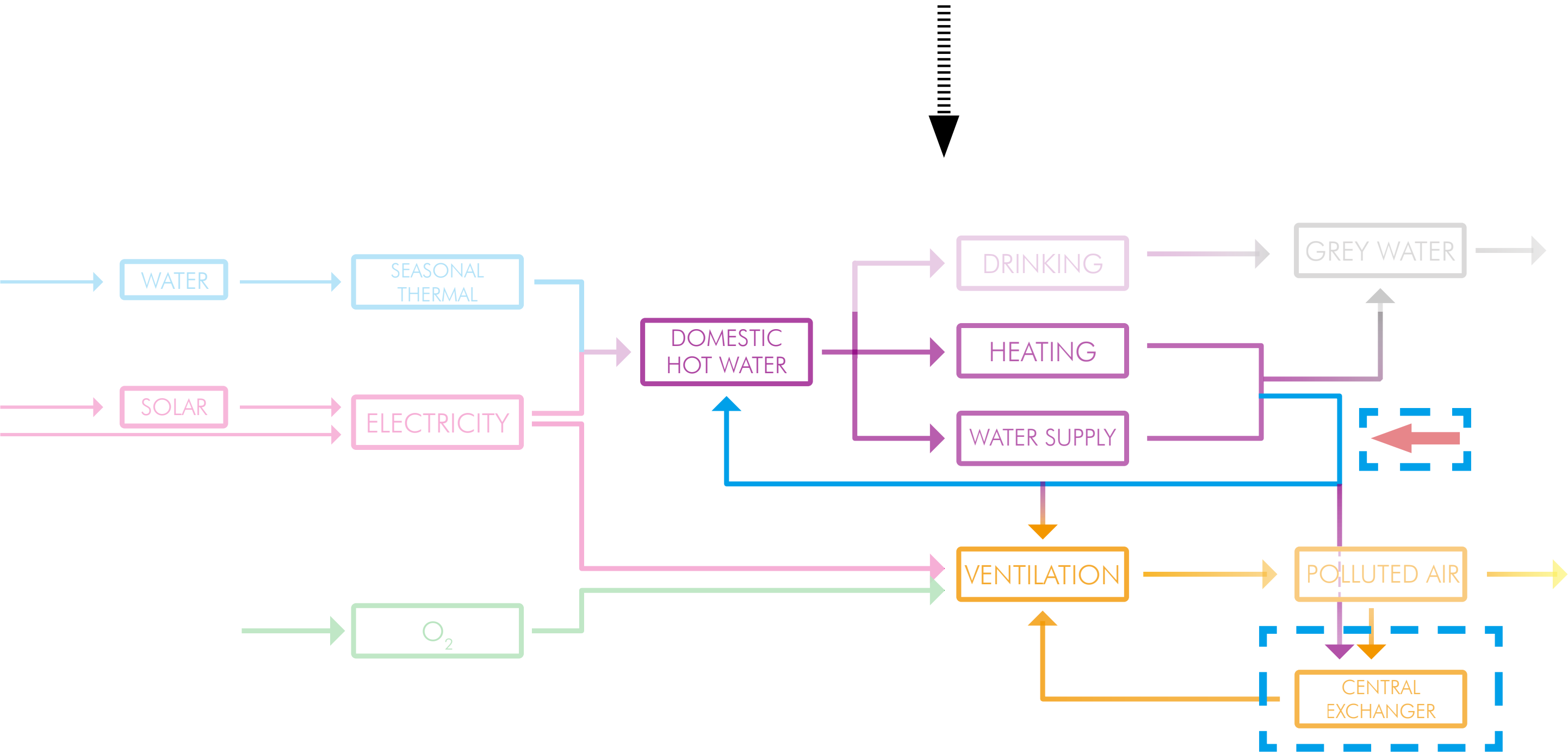
DRAIN-WATER HEAT RECOVERY

10 min shower, 5L/min

- Summer (213 days/year) 0.4kwh/shower
- Winter (152 days/year) 1.1kwh/shower

SEASONAL THERMAL STORAGE WITH SOLAR HEATING

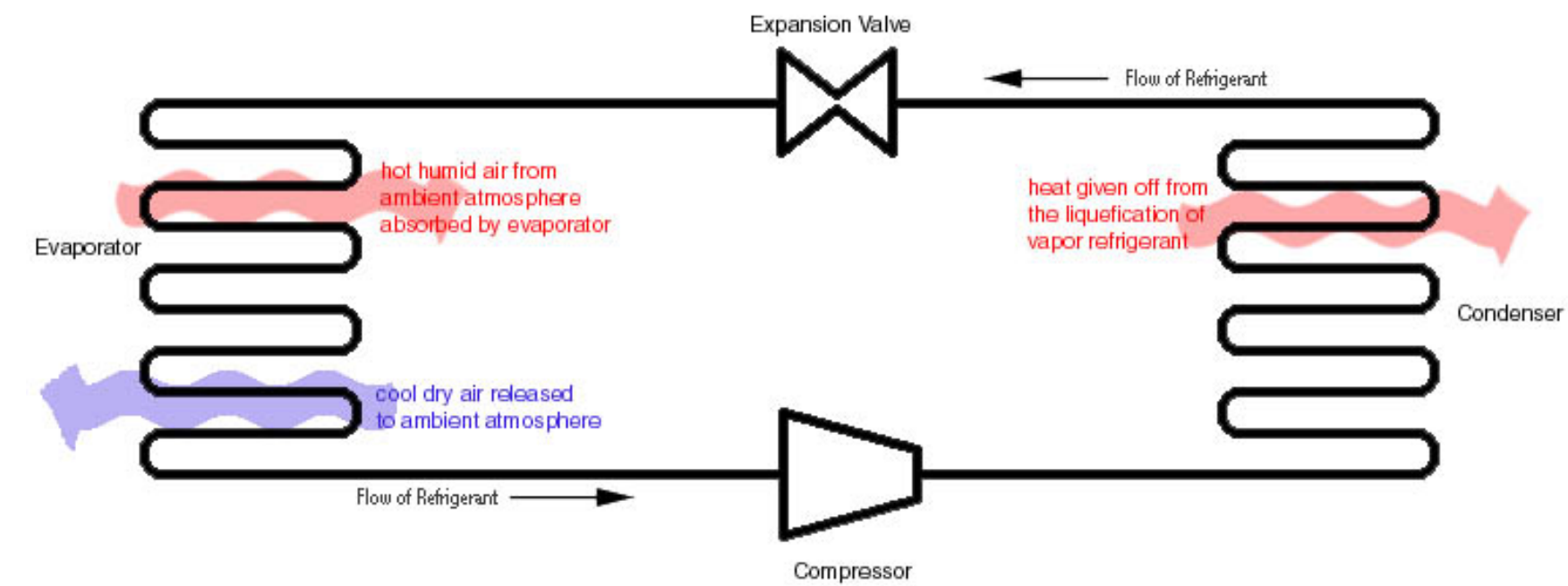
- The combination of central solar heating plants with seasonal heat storage enables high solar fractions of 50% and more



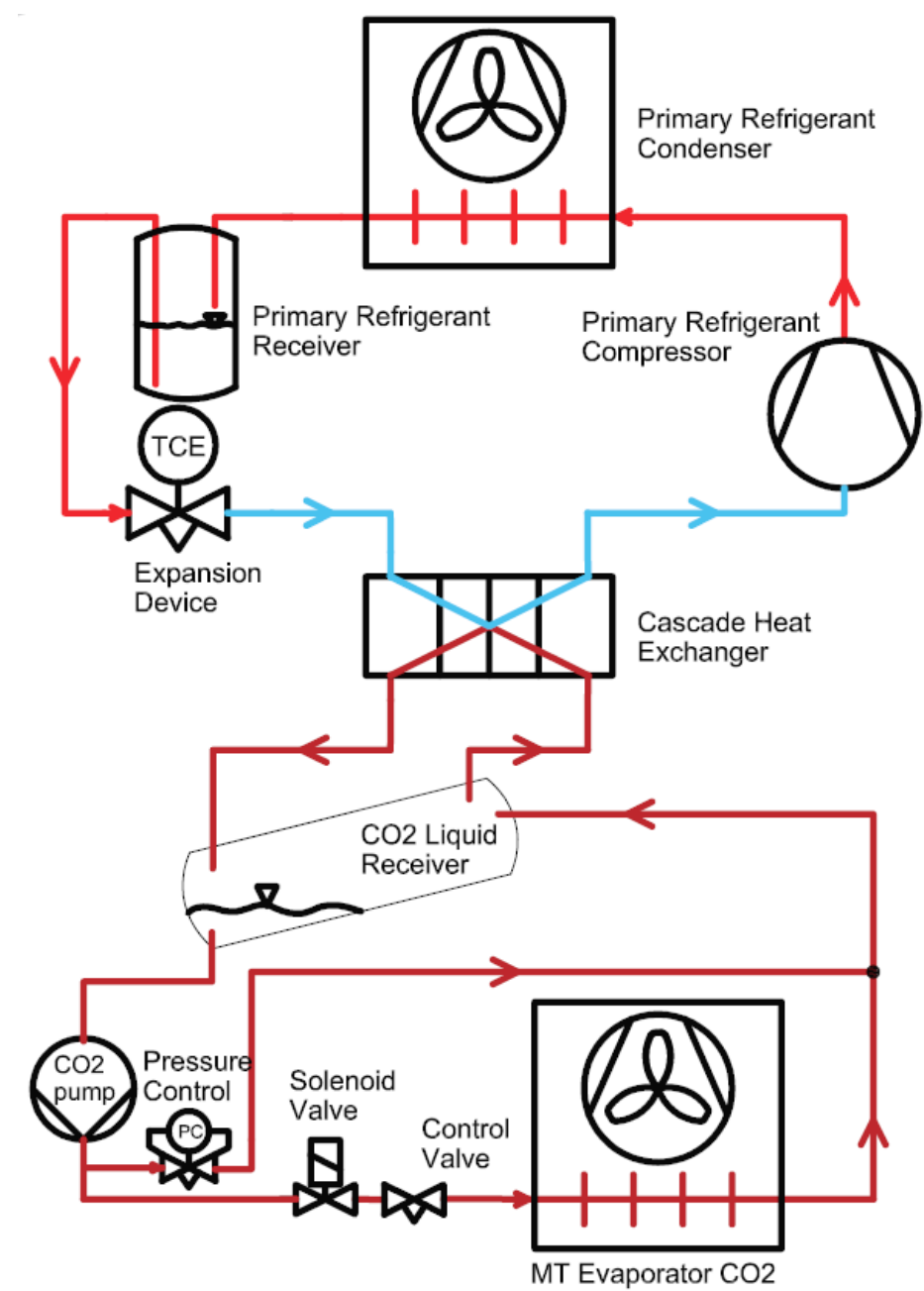
COOLING & CO2

CO2 REFRIGERATION SYSTEMS

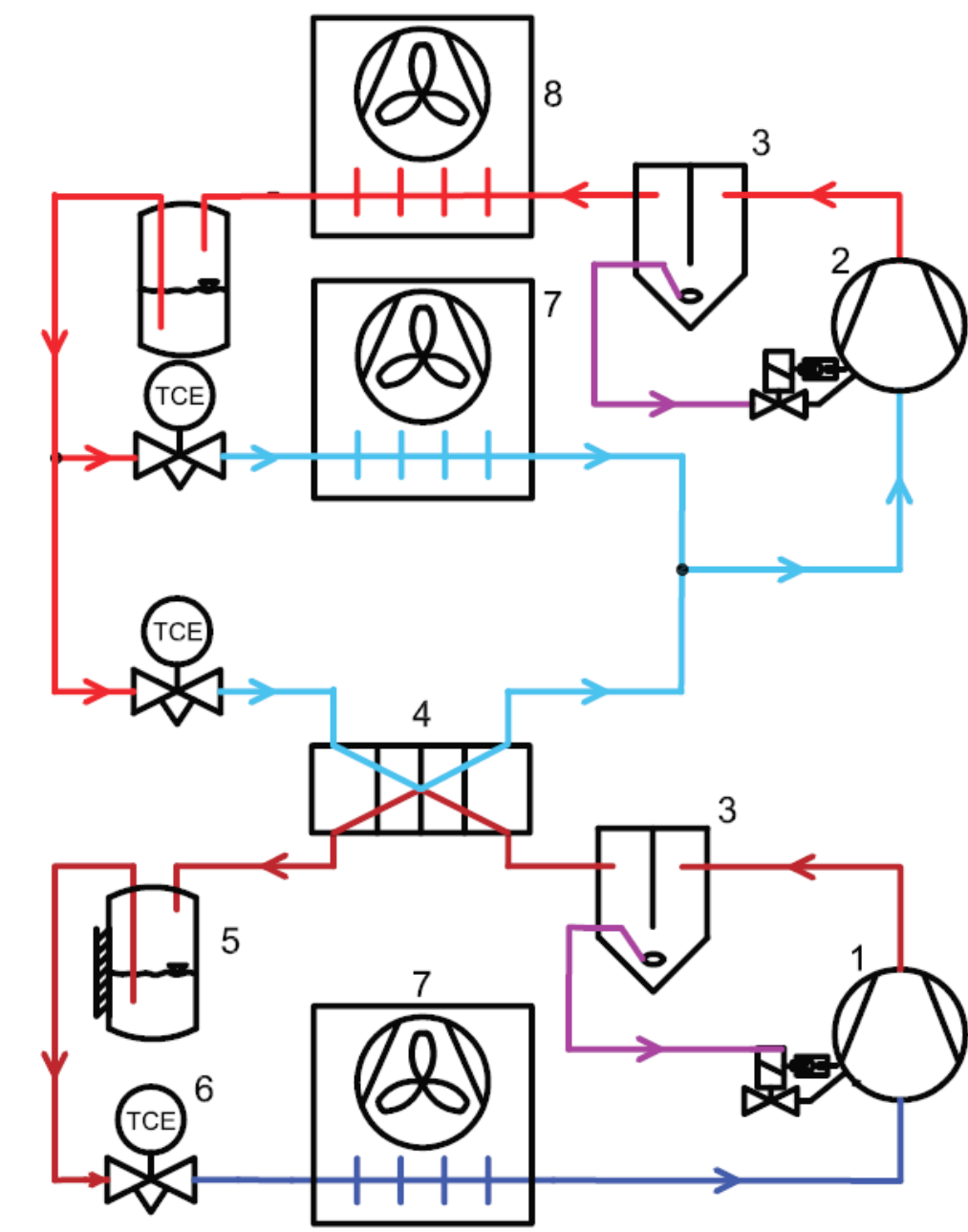
- Saving 22% on energy consumption
- A pre-heating water loop could be added



Typical compression refrigeration system



Typical pump secondary system



Typical retail cascade system



## COOLING & CO2

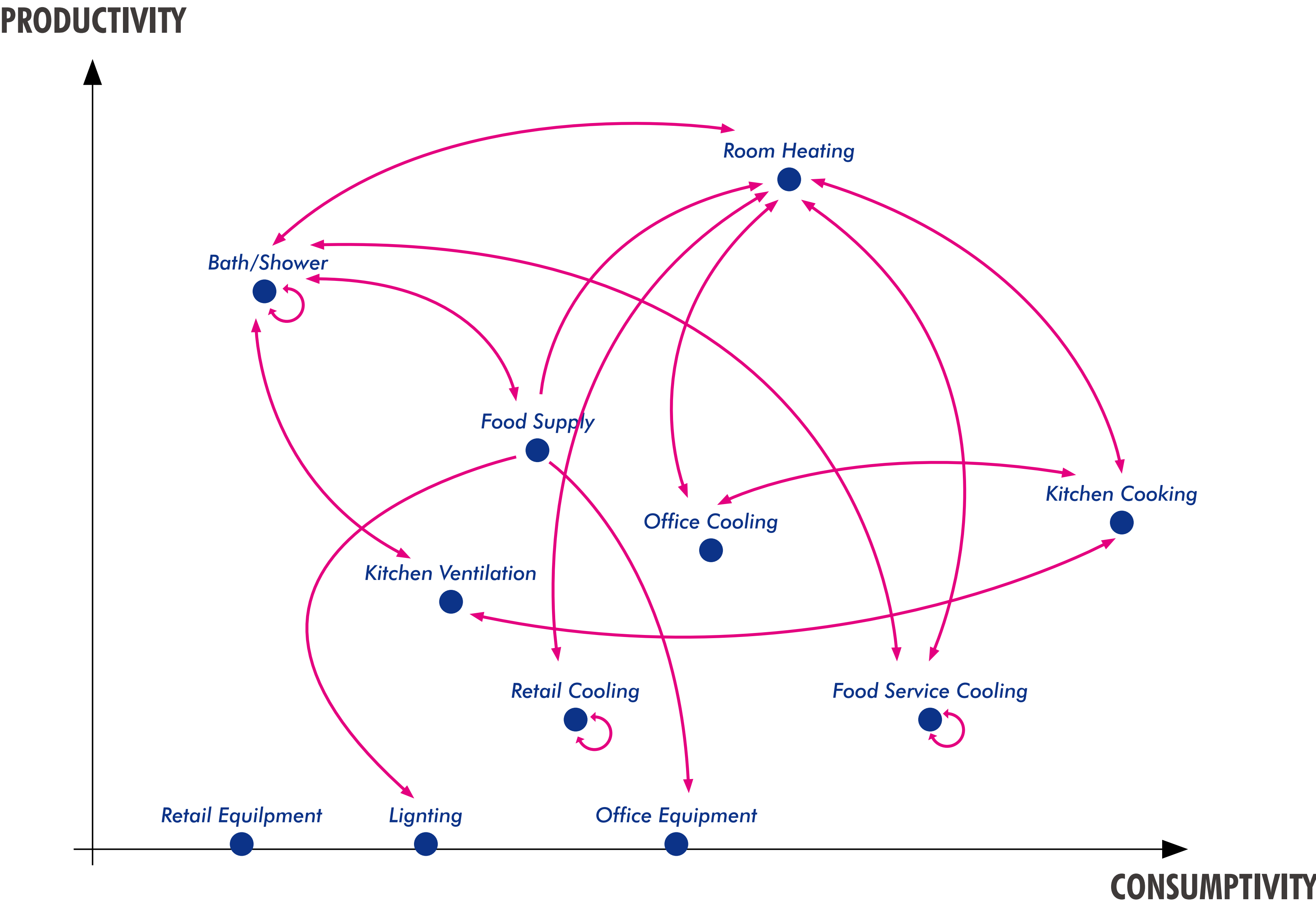
### CO2 REFRIGERATION SYSTEMS

- Saving 22% on energy consumption
- A pre-heating water loop could be added





PROGRAMS & FLOW



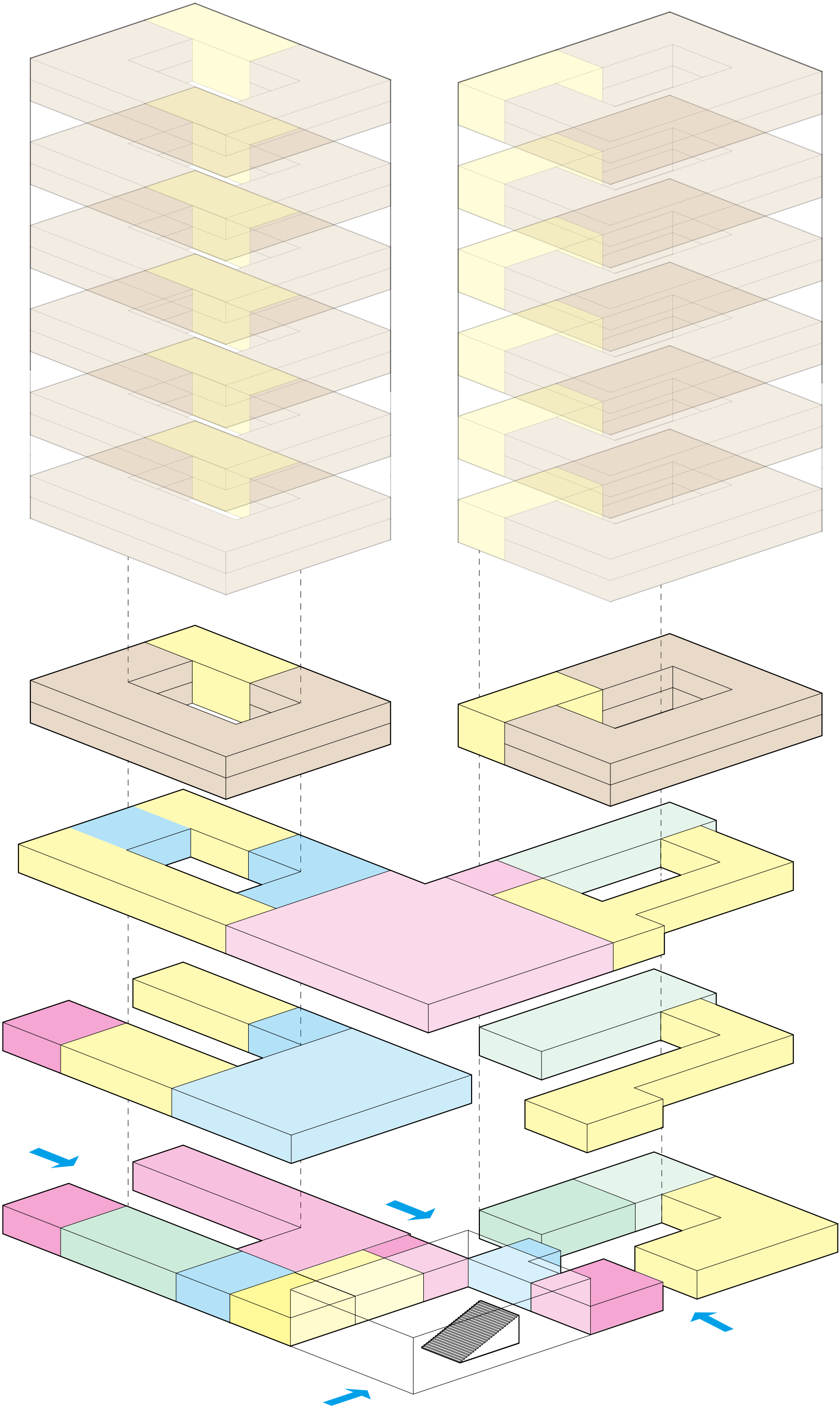


PROGRAM

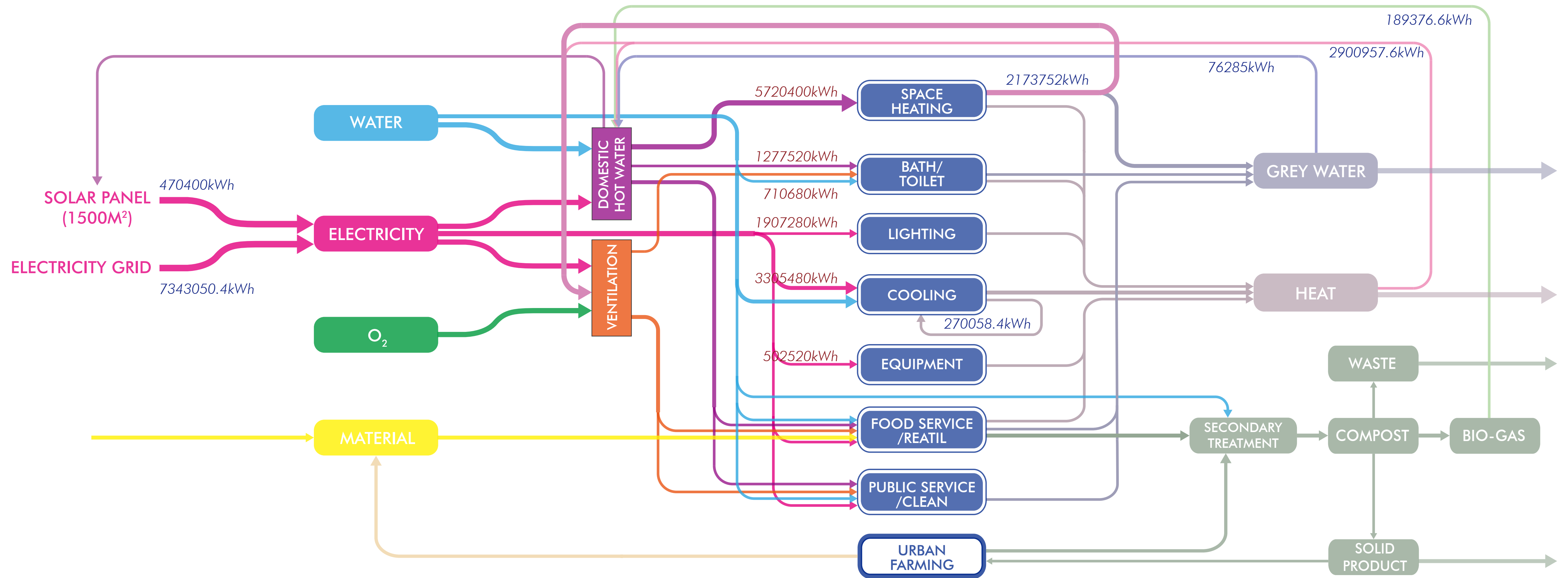
- Dwelling
- Office-related
- Education-related
- Leisure/Service-related
- Energy-related

TOWER

	Dwelling/Office/Disposal-collect/Cafe	
2F	3D Printer-Farm/Lecture Hall/Office/Datacenter/Gym/Laundry	
1F	Cafe/3D Printer-Farm/Lecture Hall/Library/Office/Datacenter	
0F	Cafe/Supermarket/Archive/Disposal-collect/Datacenter/ Office/Lecture Hall/Event Zone/Free Zone	







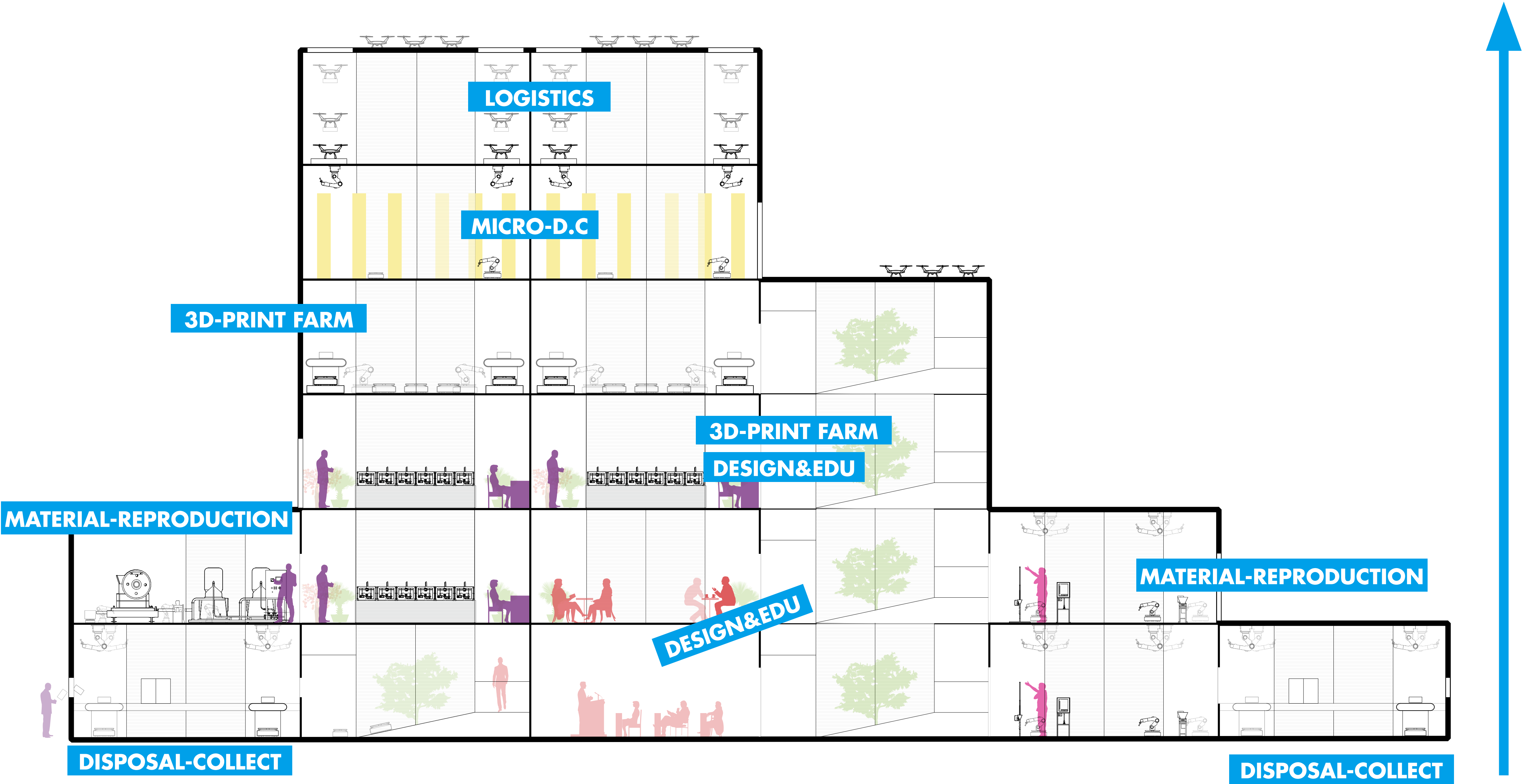
GRID (7343050.4) = Current (13423880) \*54% !!!



## **MATERIAL FLOWS & DISPOSAL CHAIN**

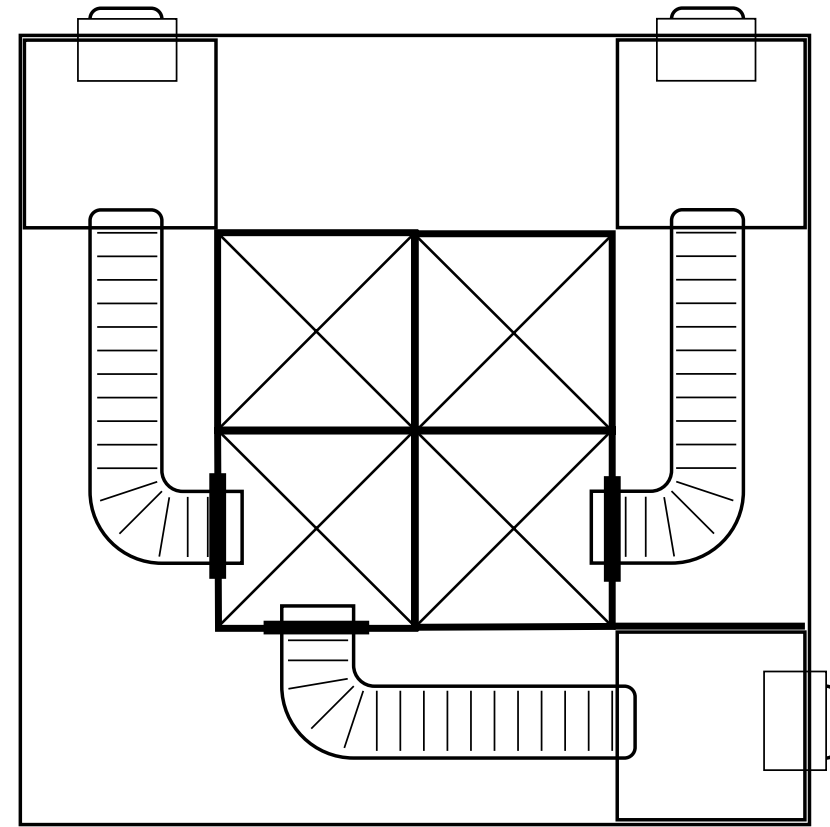


DISPOSAL CHAIN

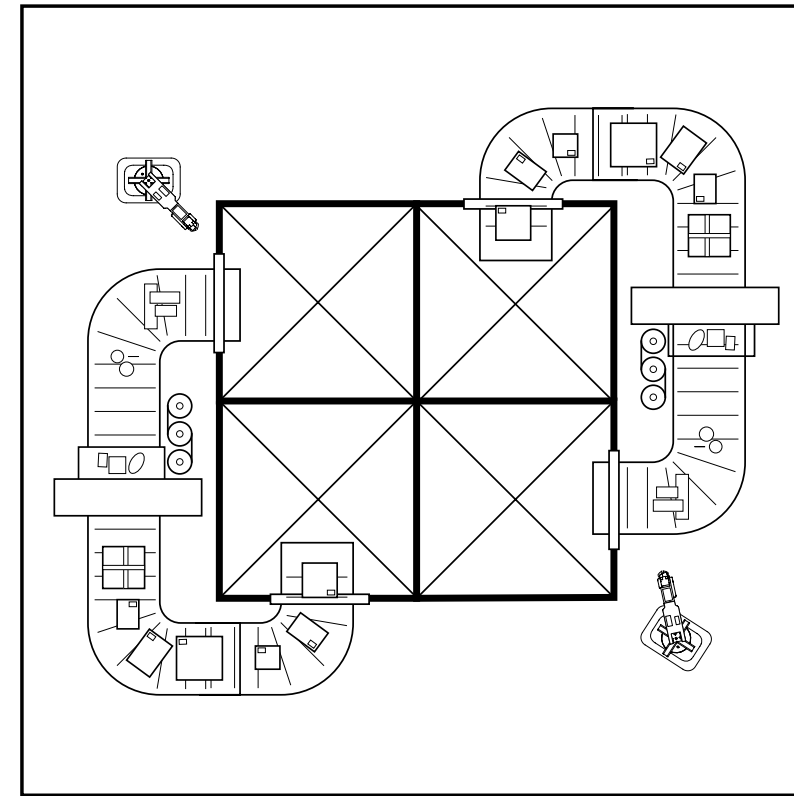




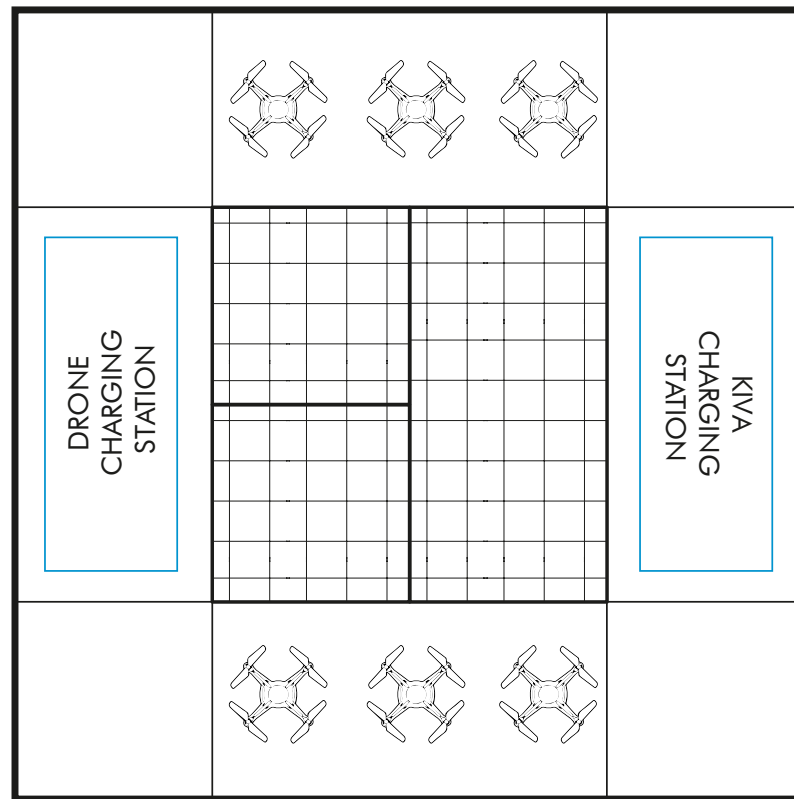
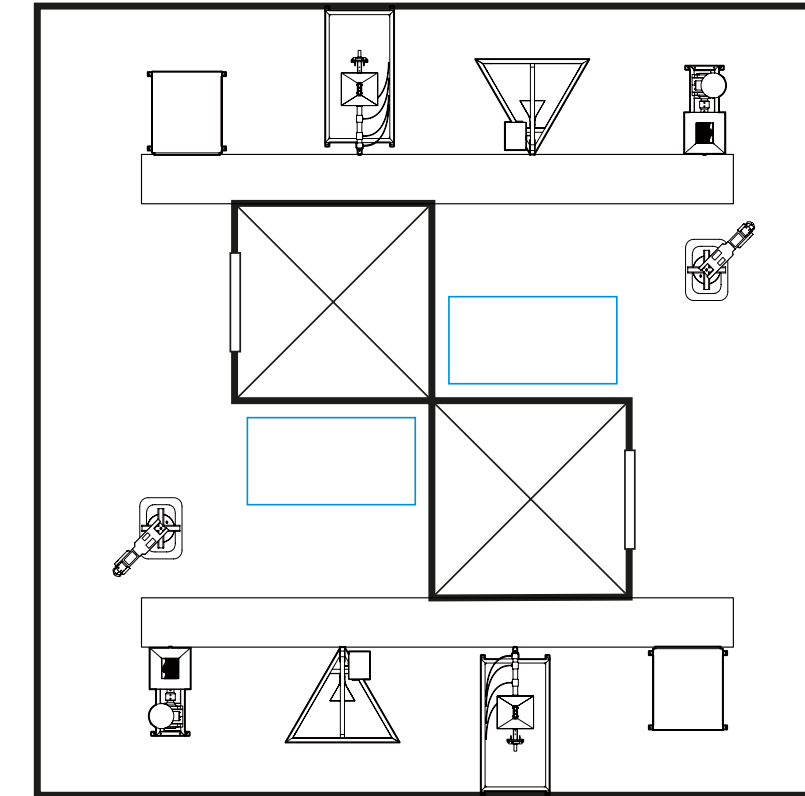
## DISPOSAL-COLLECTION



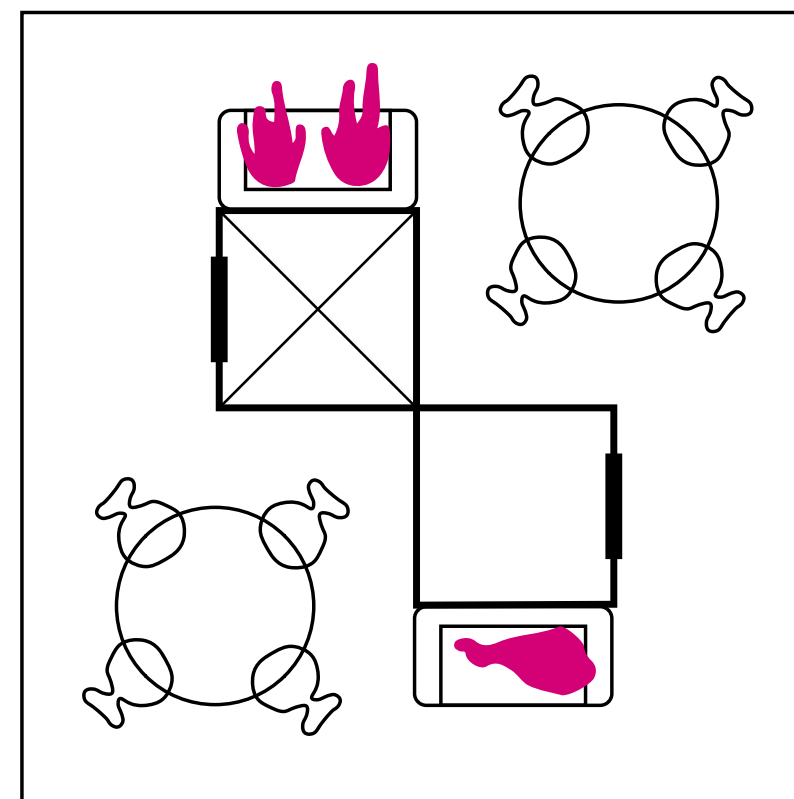
## MATERIAL-REPRODUCTION



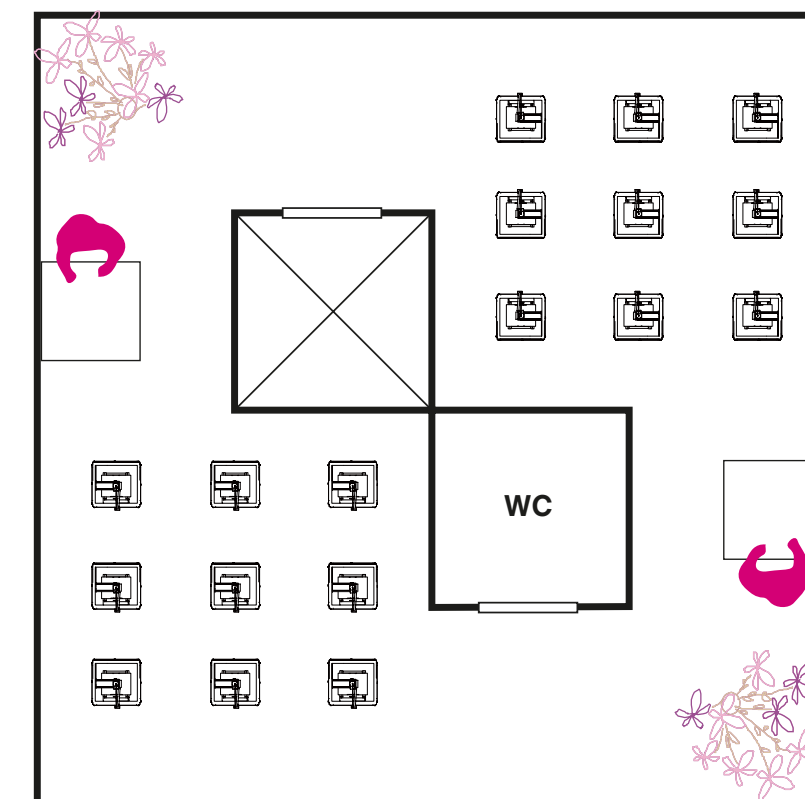
## MATERIAL-REPRODUCTION



## MICRO-D.C

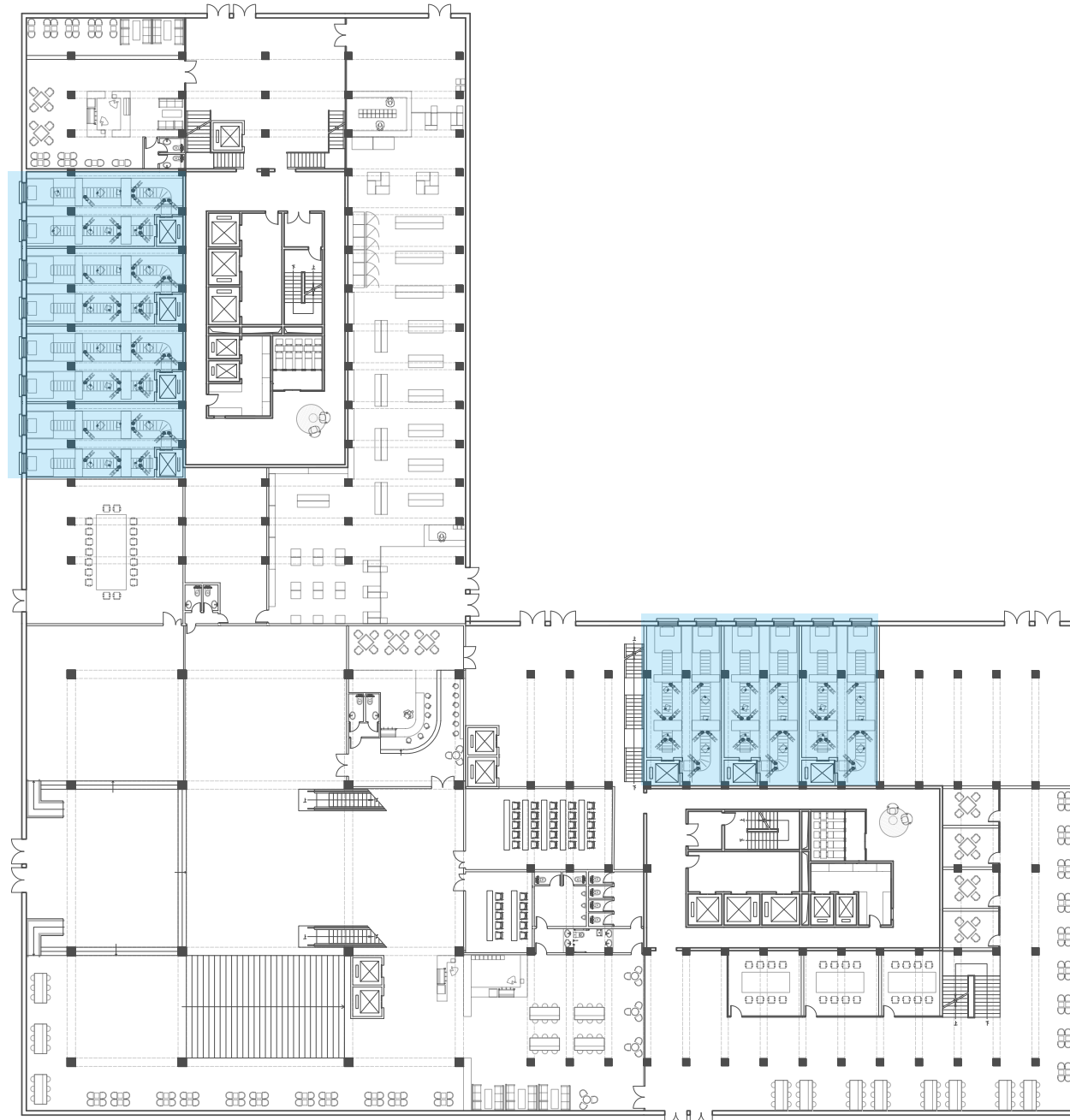


## DESIGN&EDU

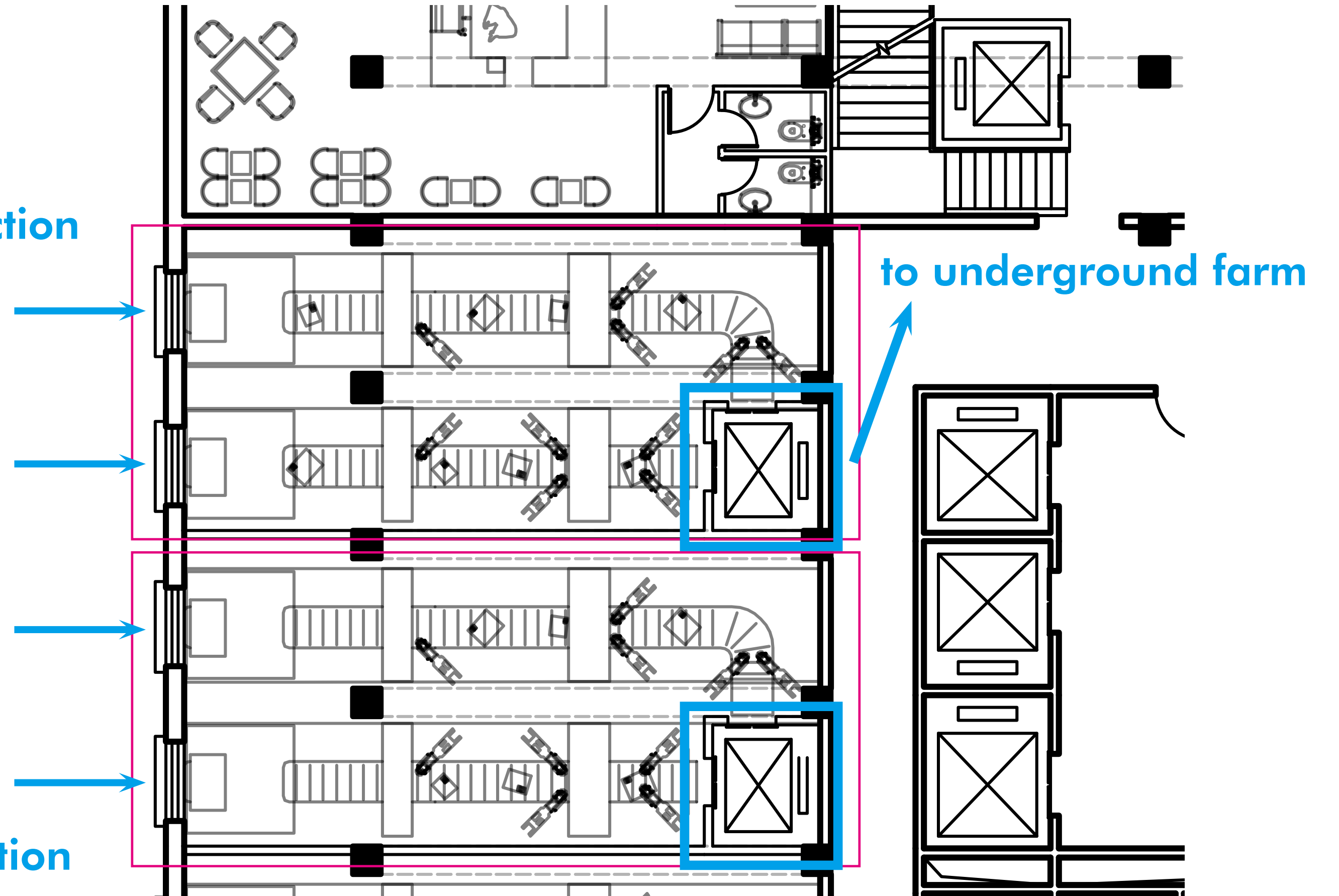


## 3D-PRINT FARM





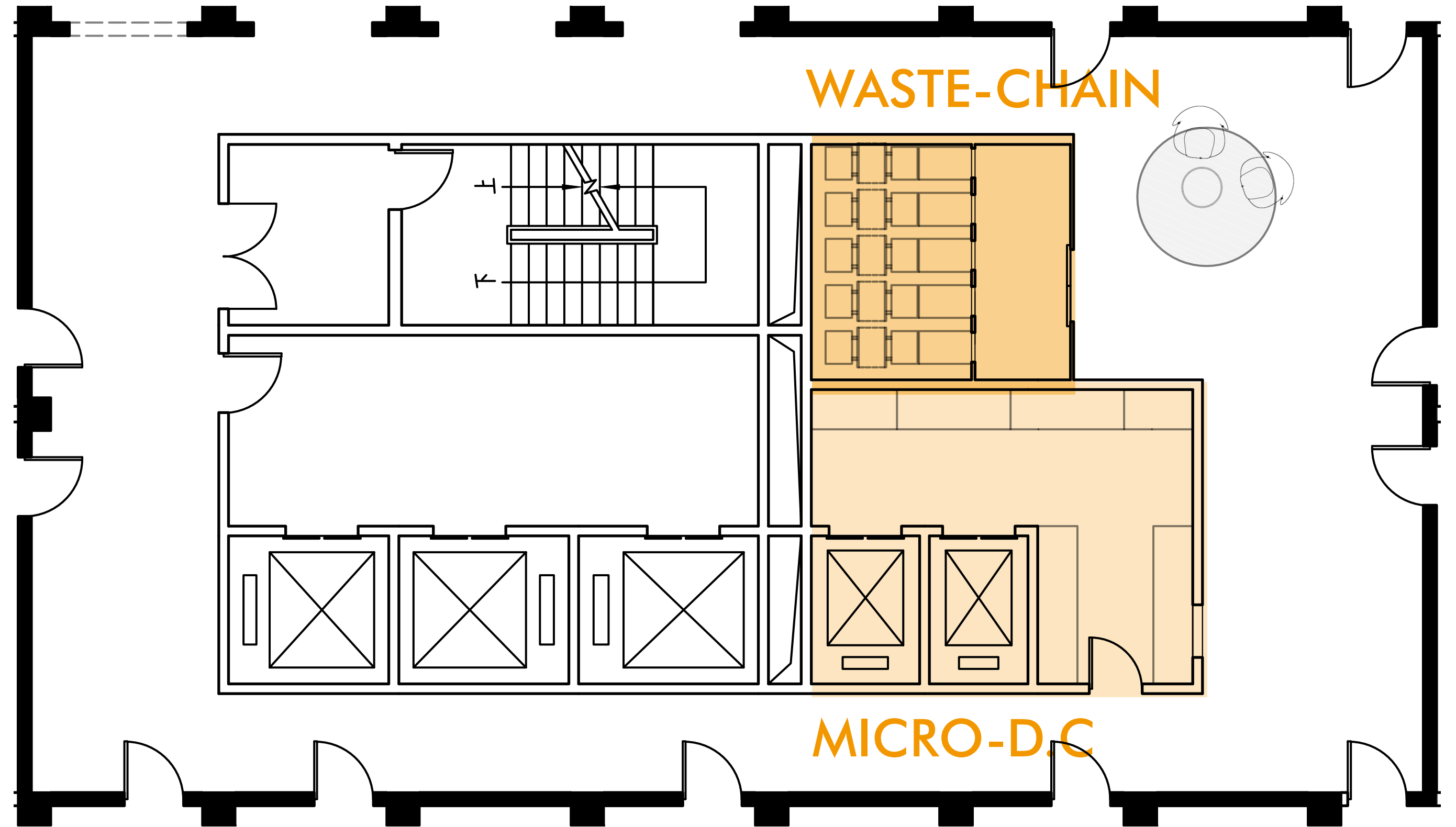
Plastic Collection





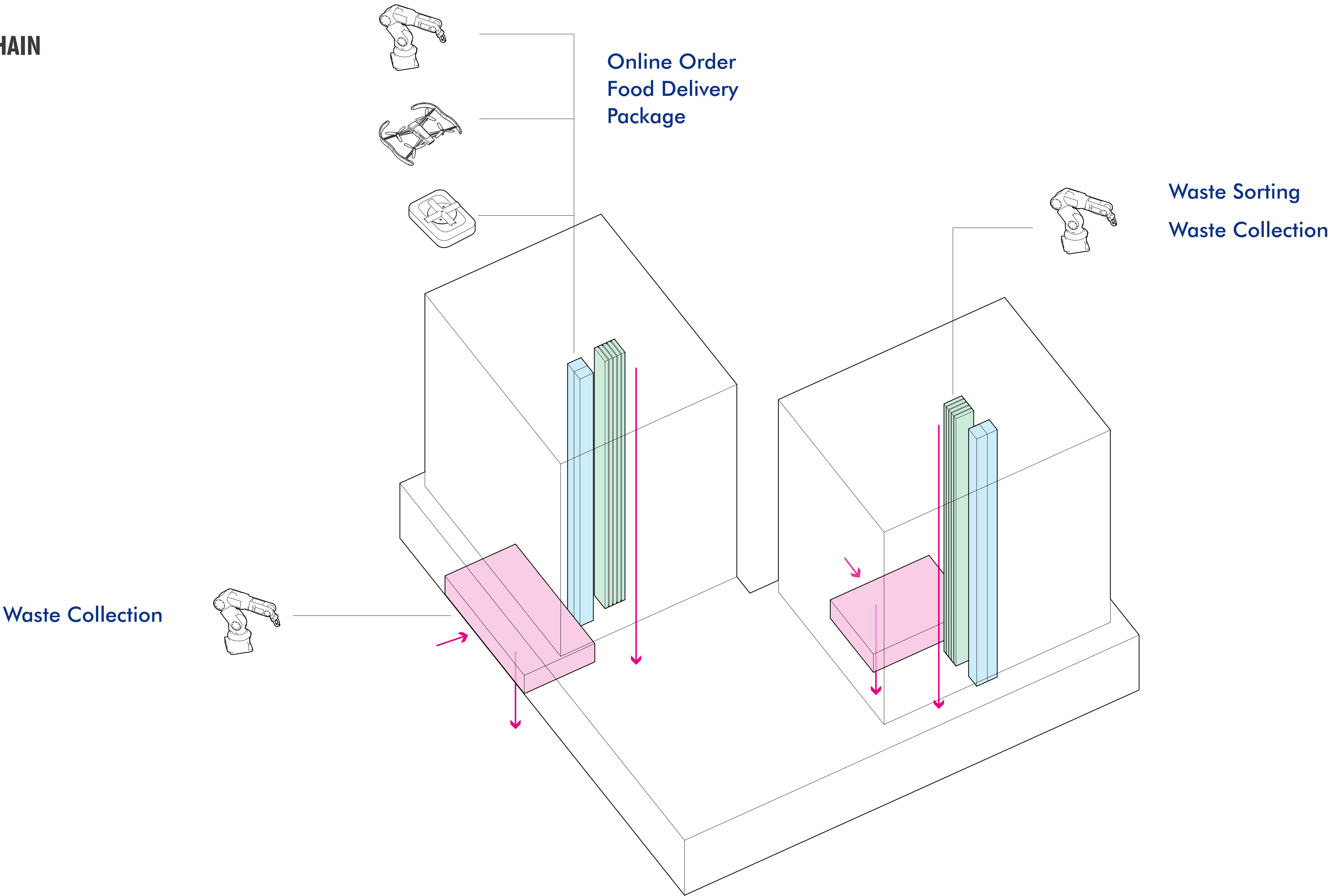








DISPOSAL CHAIN





**DWELLING**





VENTILATION

LIGHT

LIGHT

LIGHT

TEMPERATURE

LIGHT

SHOPPING

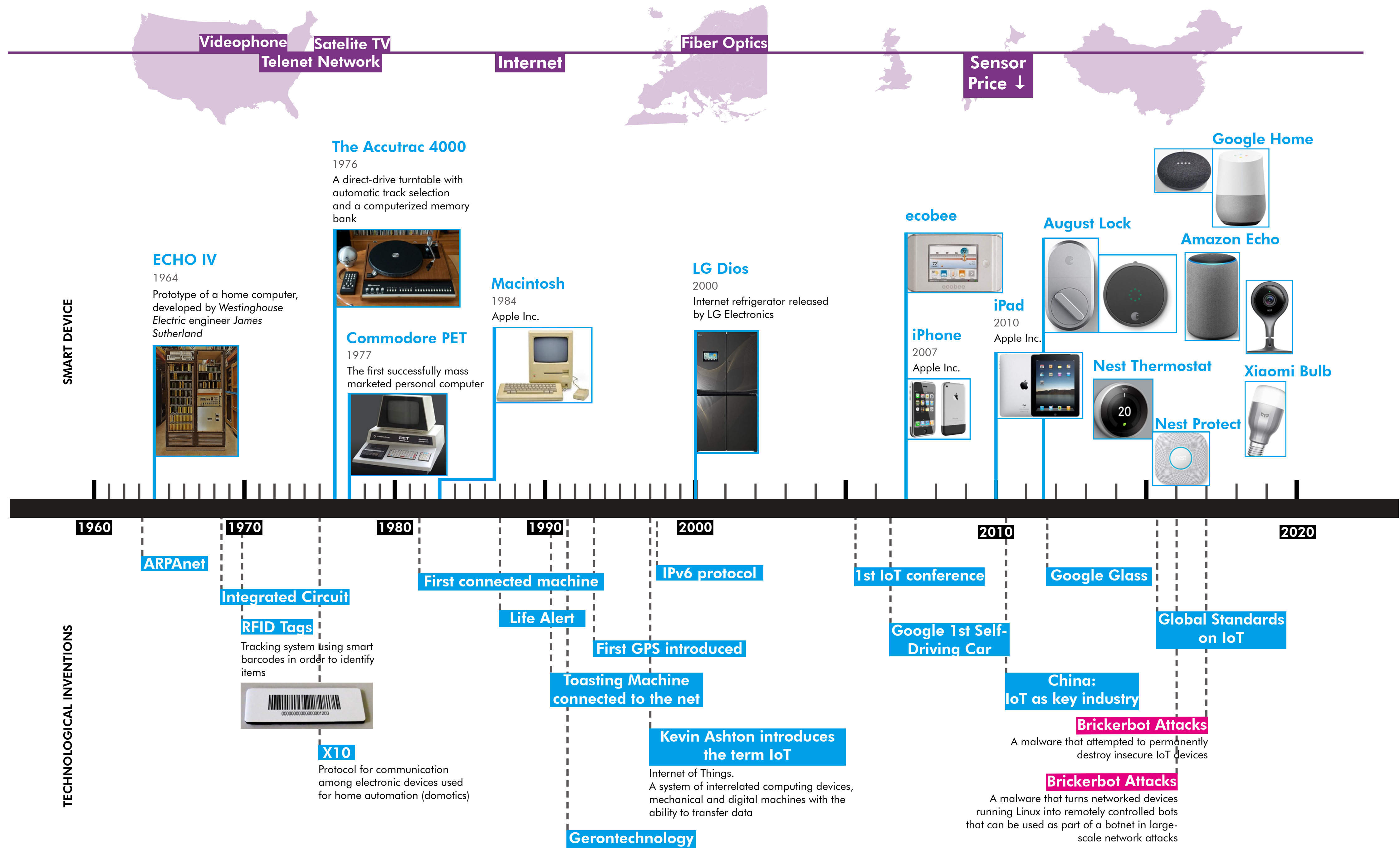
ENTERTAINMENT

SOUND

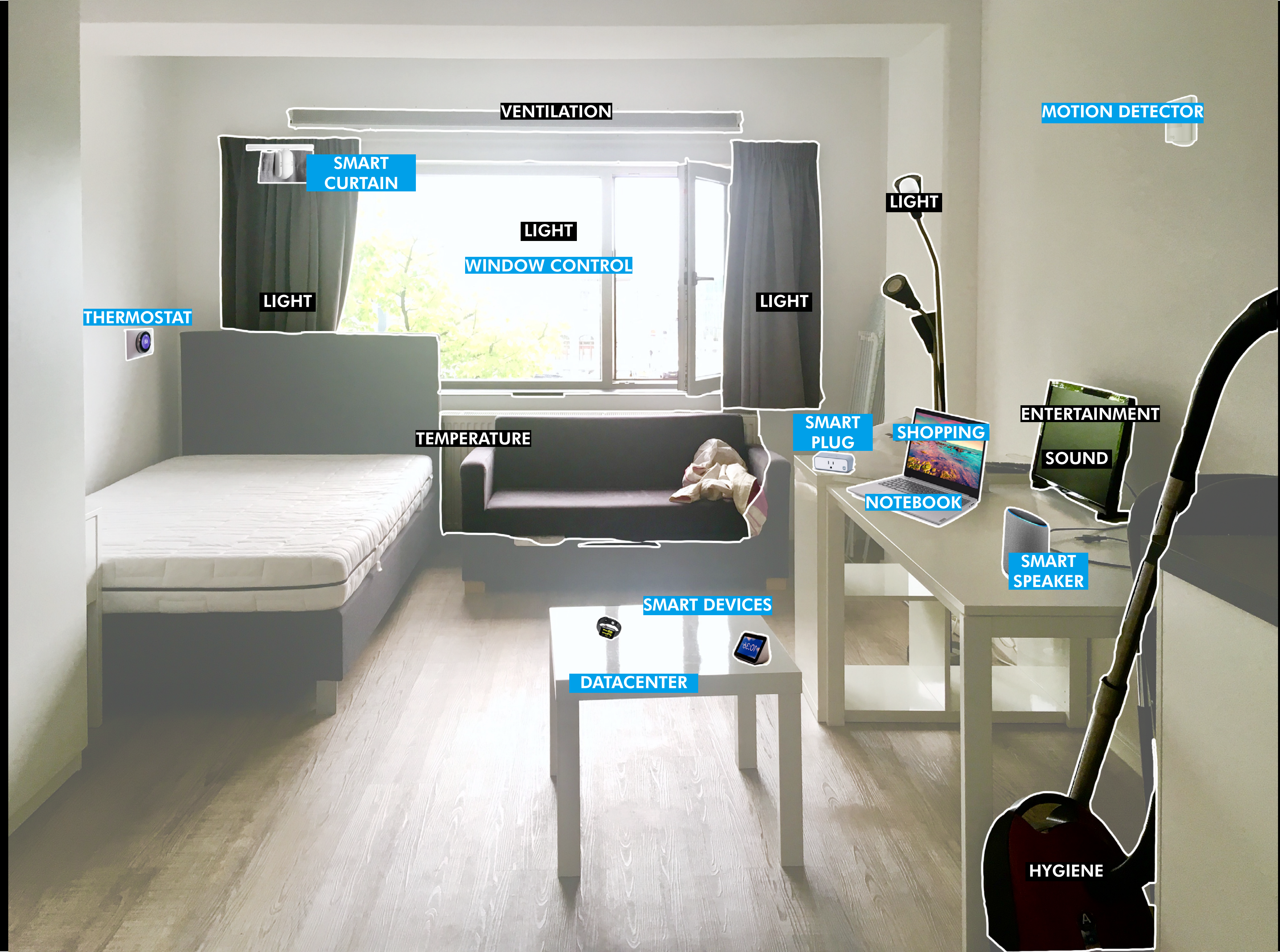
NOTEBOOK

HYGIENE



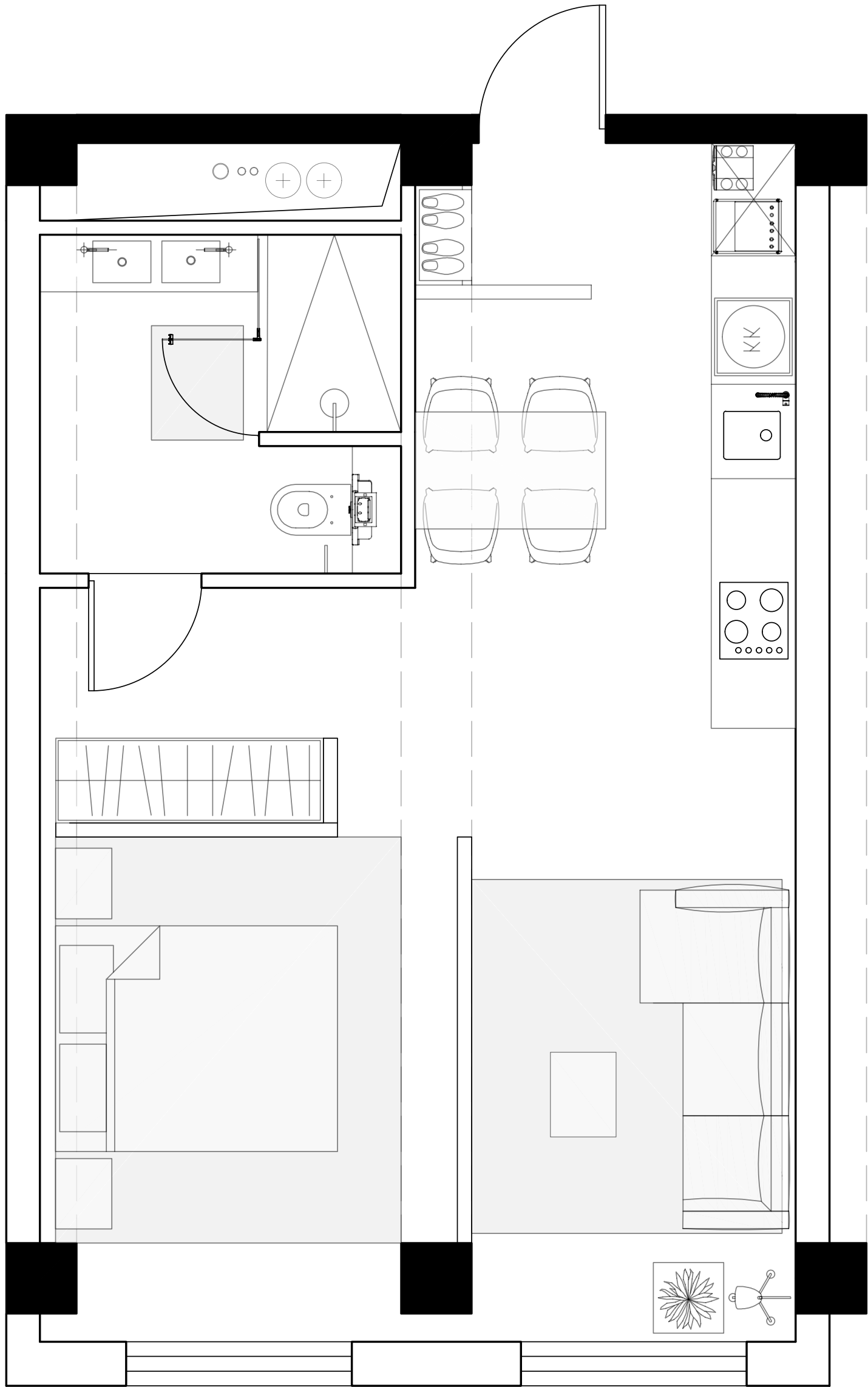






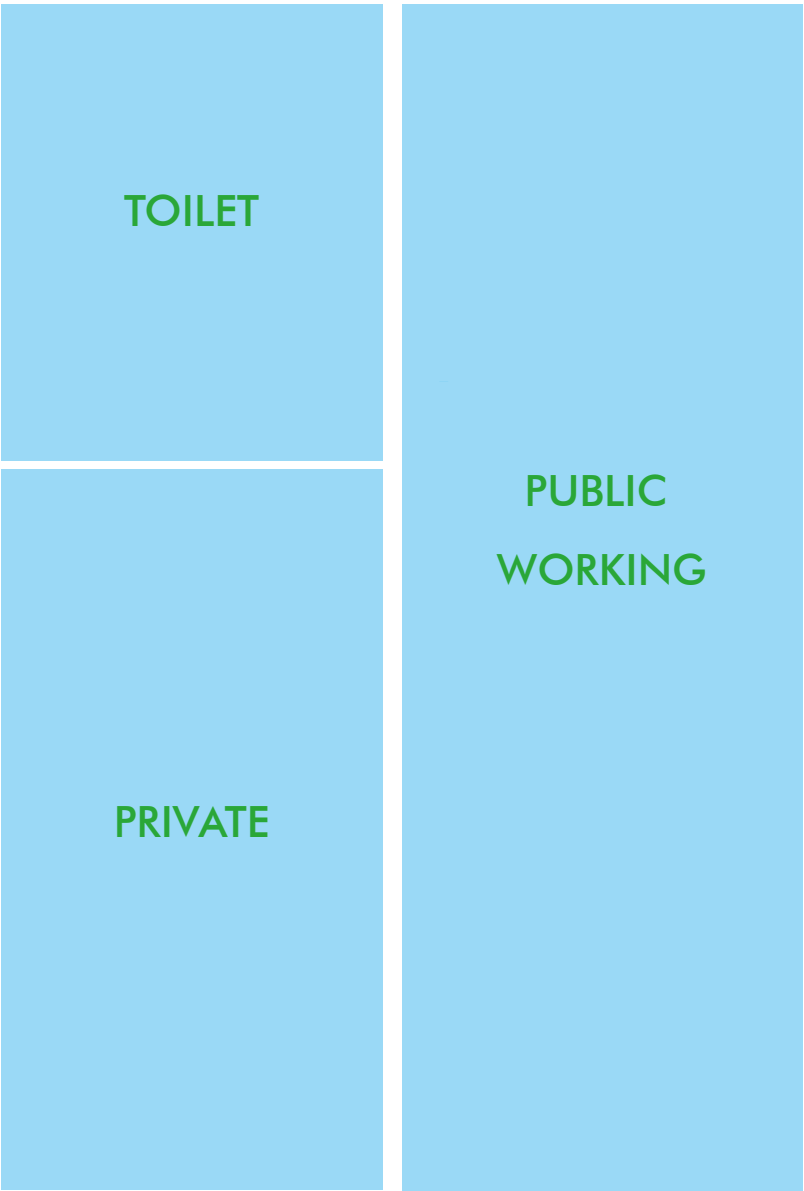


UNIT



1A LAYOUT  
40.84 M2

EAT-IN KITCHEN  
BATHROOM:6.12 M2

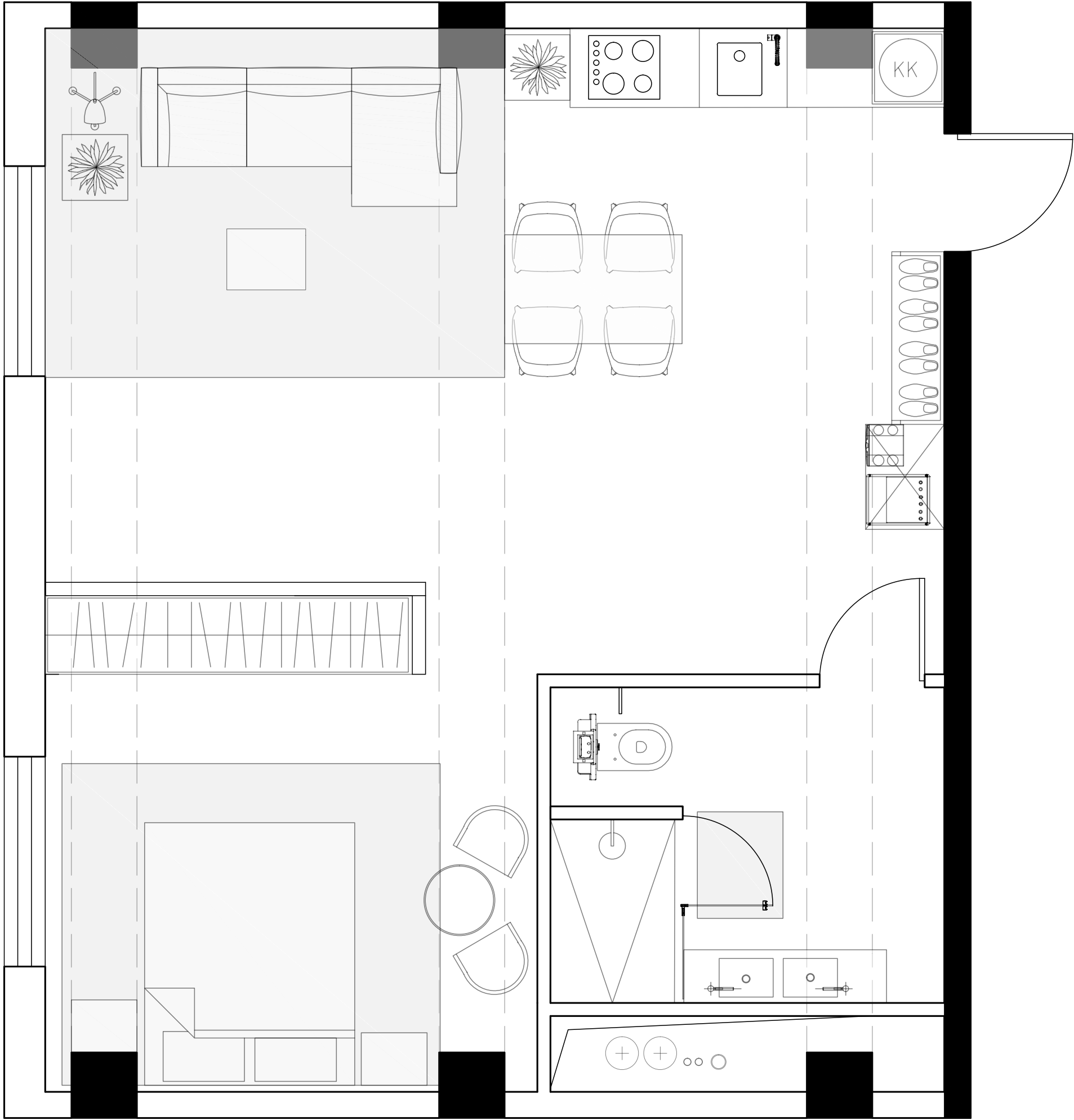






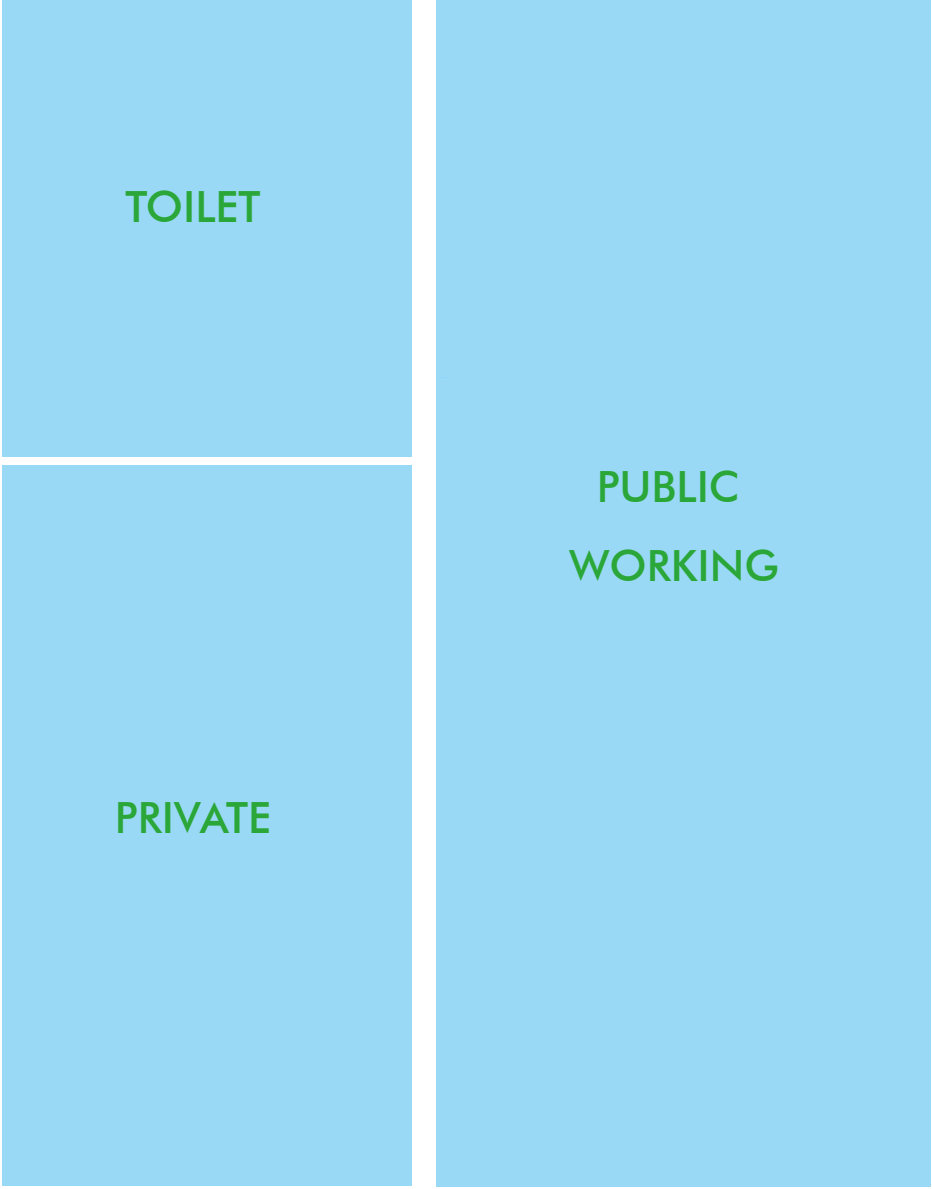


UNIT



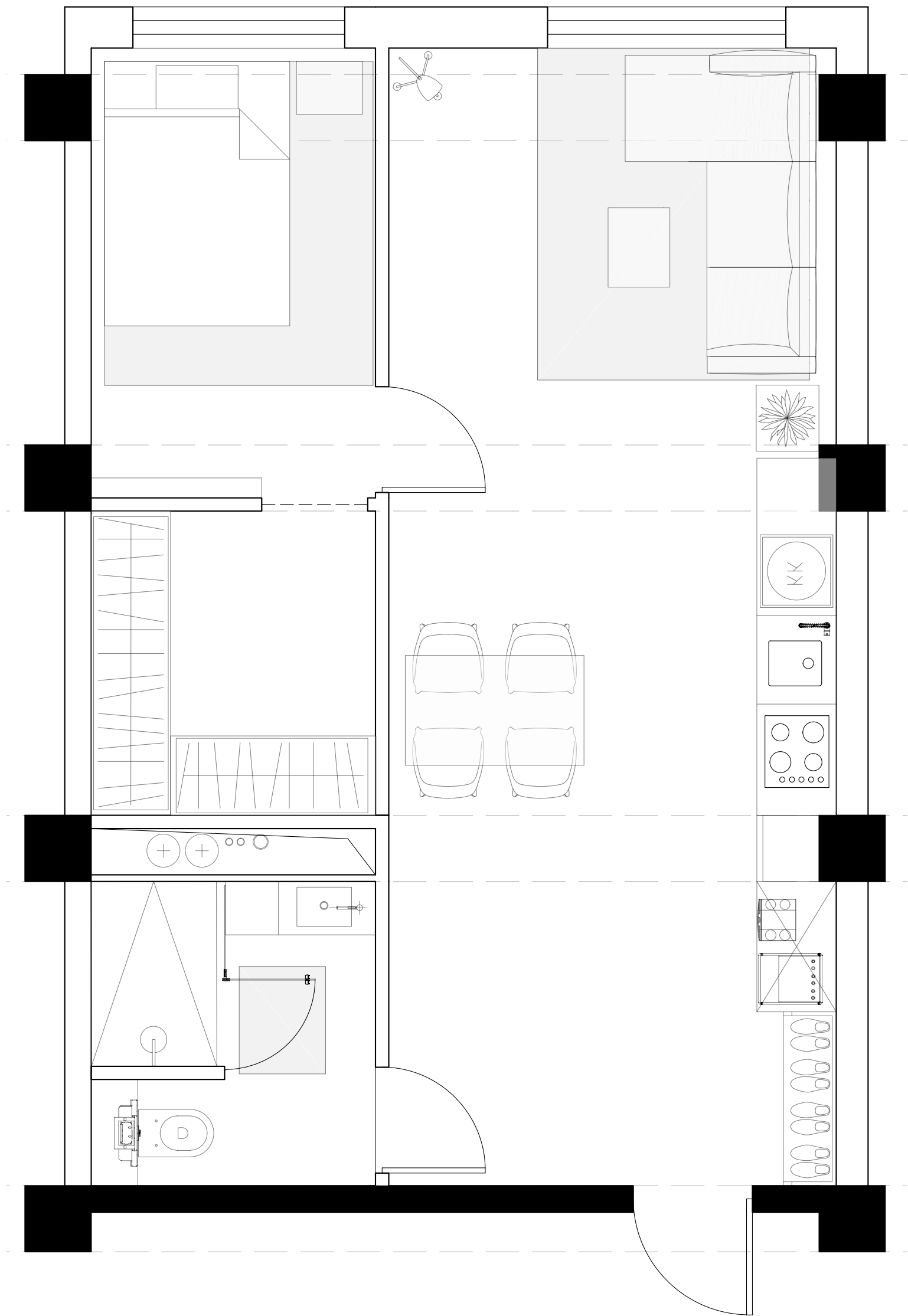
1B LAYOUT  
50.89 M2

EAT-IN KITCHEN  
BATHROOM:6.12 M2





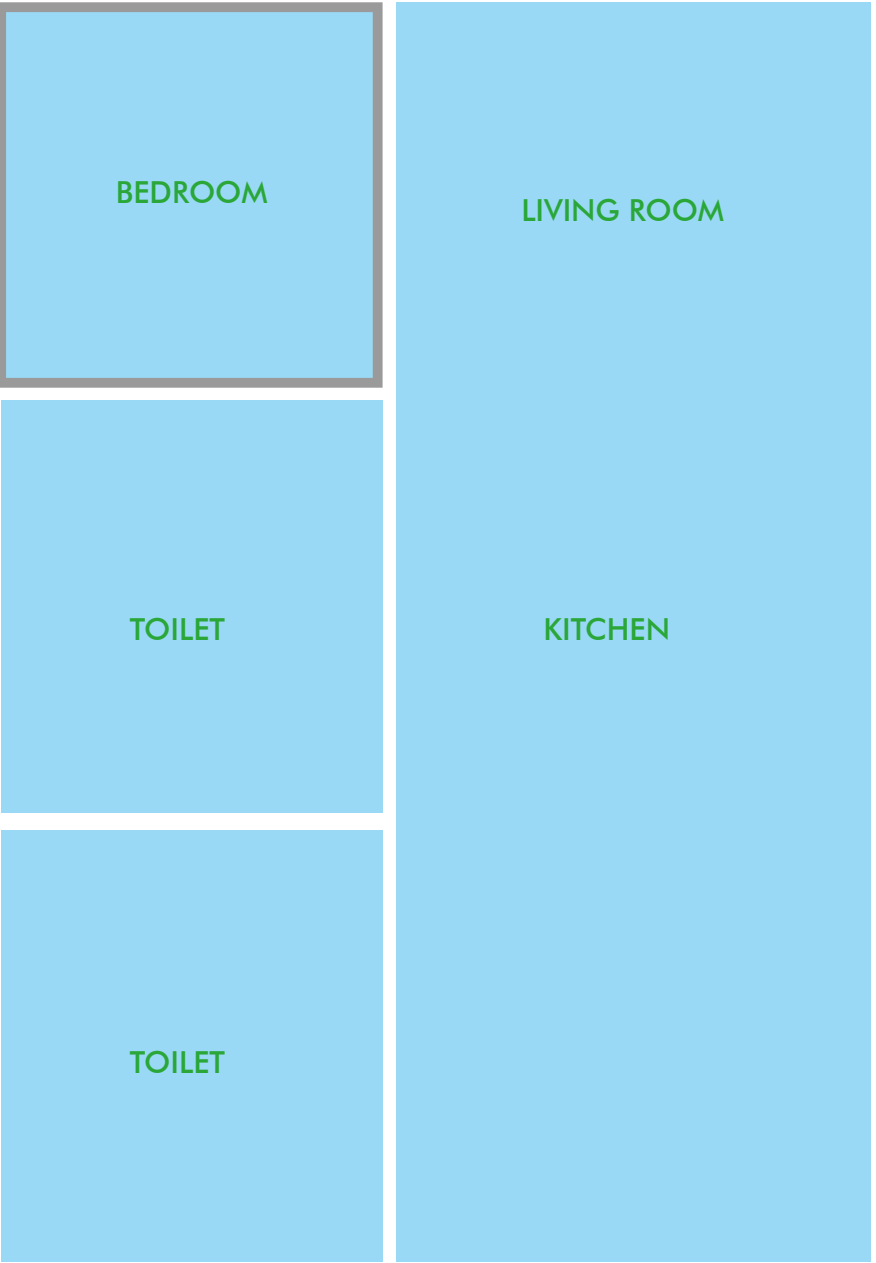
UNIT



2 LAYOUT  
45.38 M2

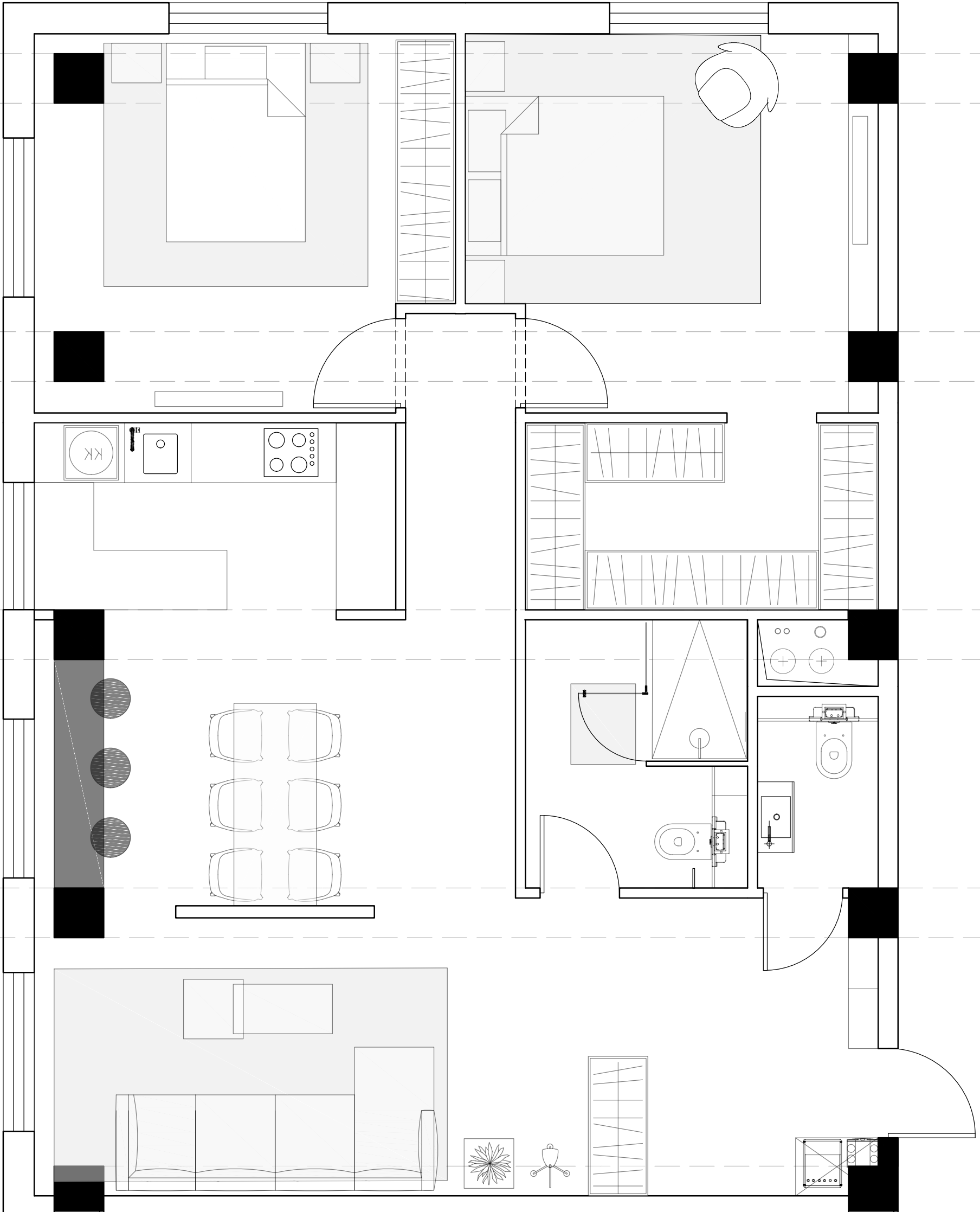
EAT-IN KITCHEN

- KITCHEN 8.61m<sup>2</sup>
- LIVING ROOM 15.45 m<sup>2</sup>
- BATHROOM 6.12 m<sup>2</sup>
- BEDROOM 6.12 m<sup>2</sup>
- WALK-IN CLOSET 4.8 m<sup>2</sup>





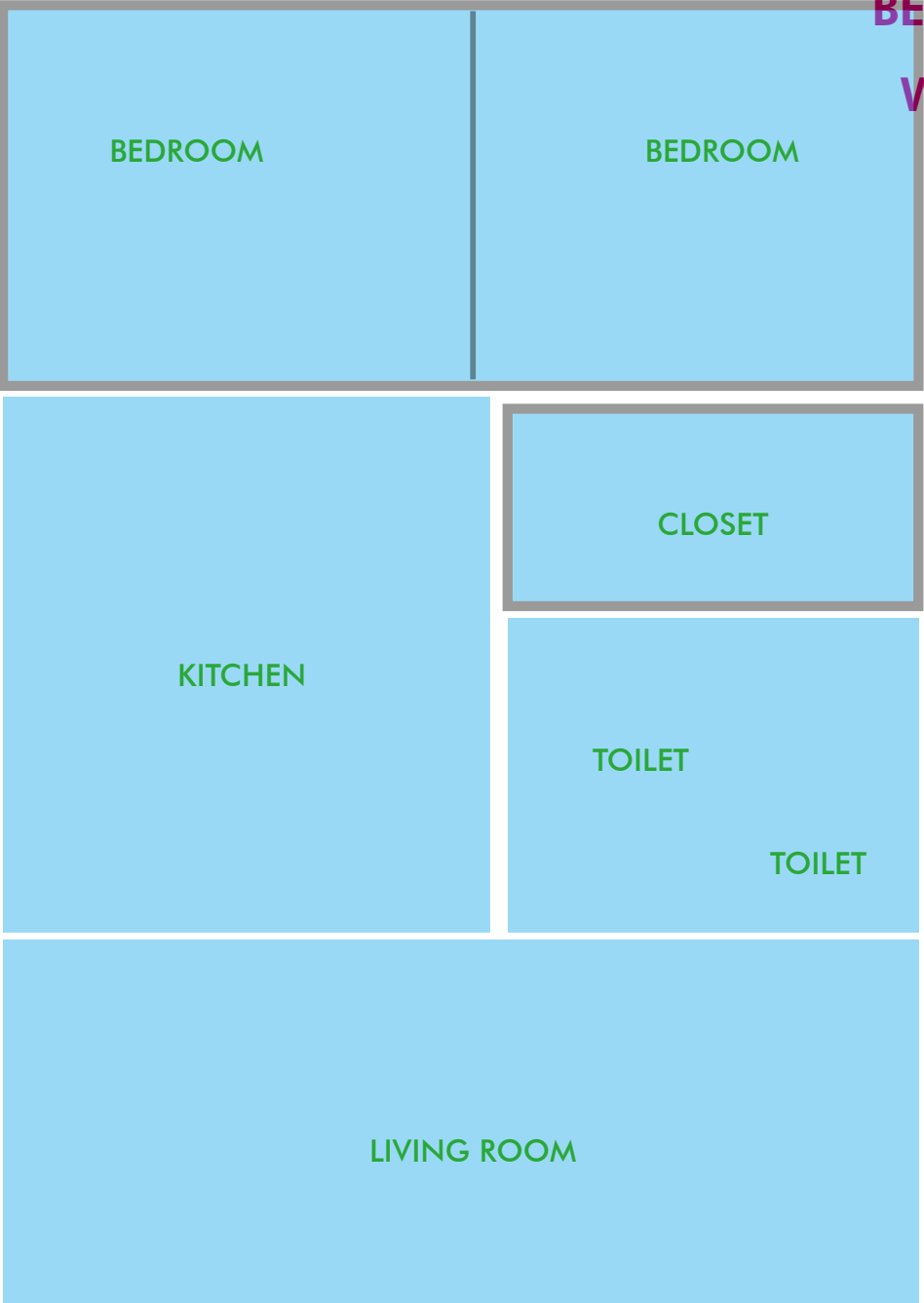
UNIT



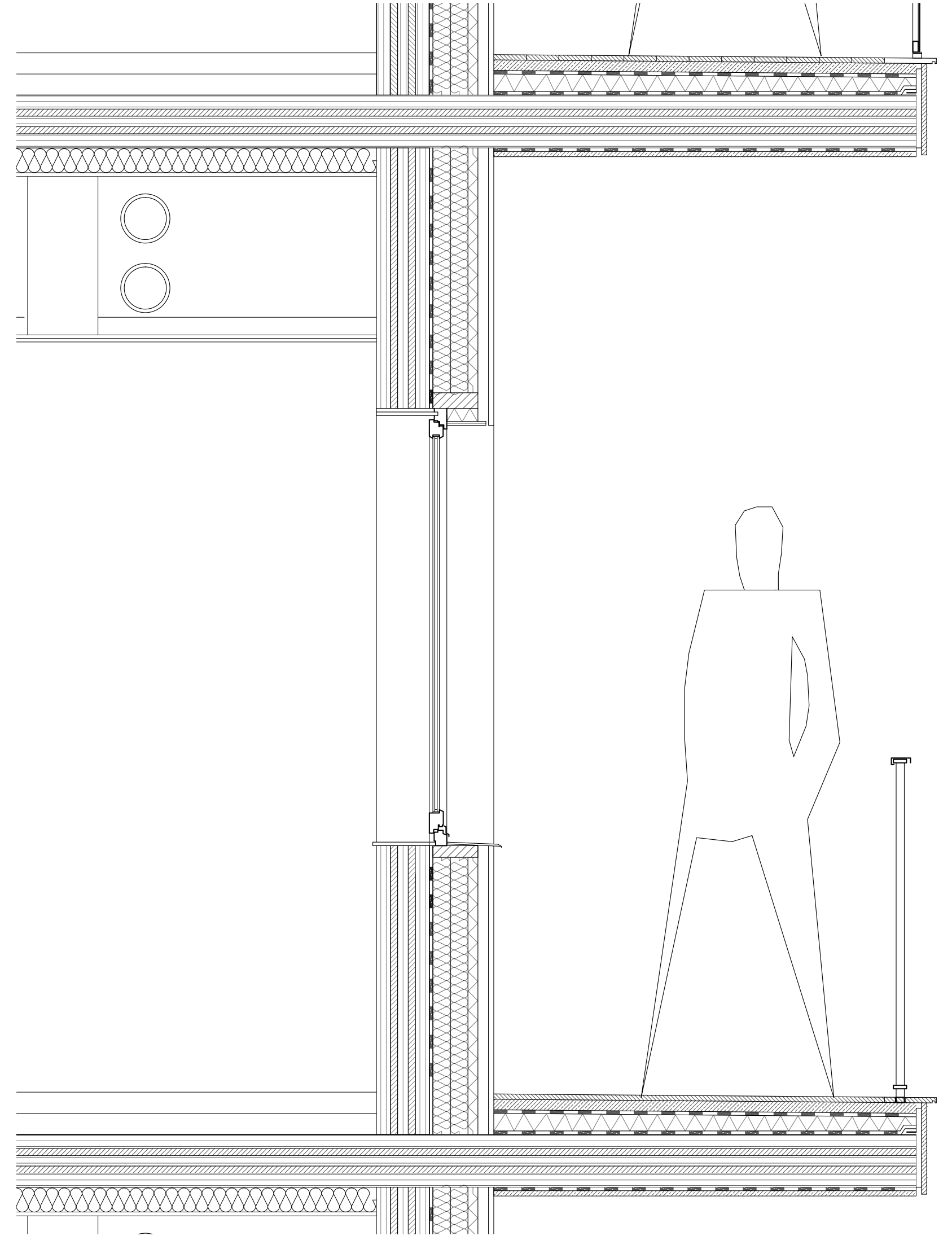
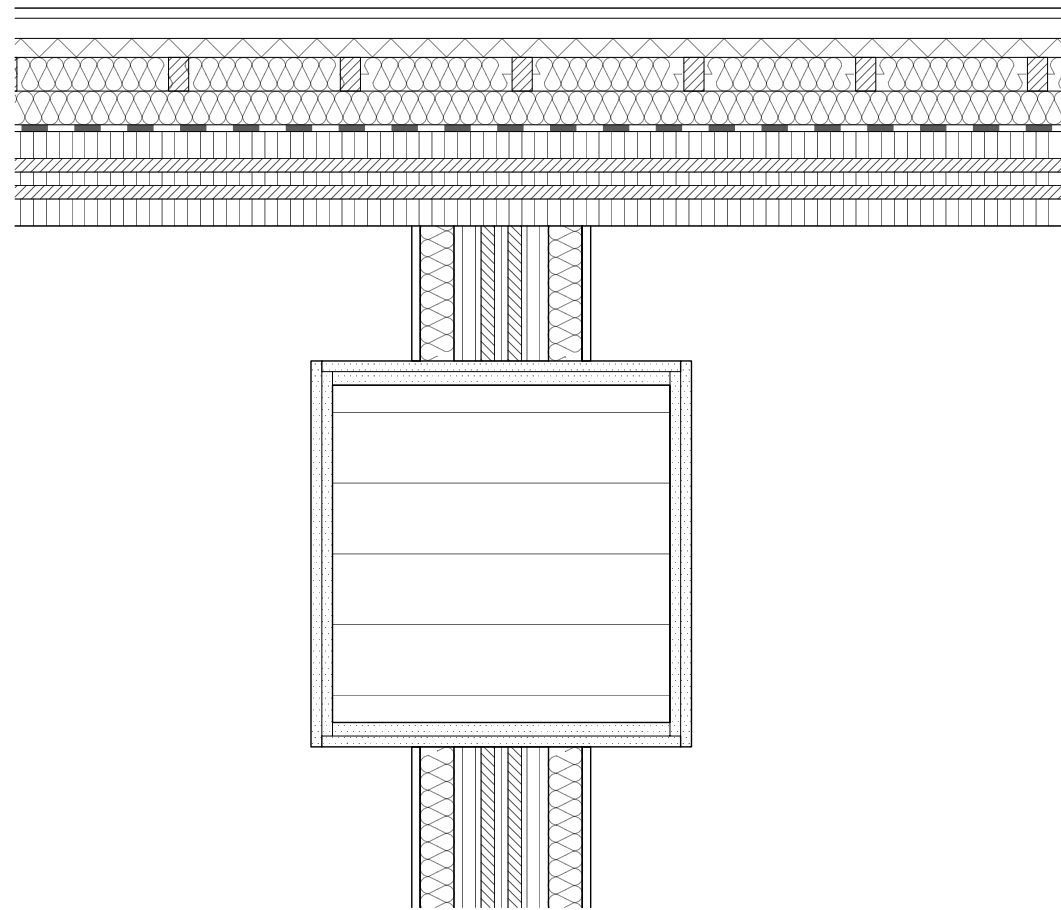
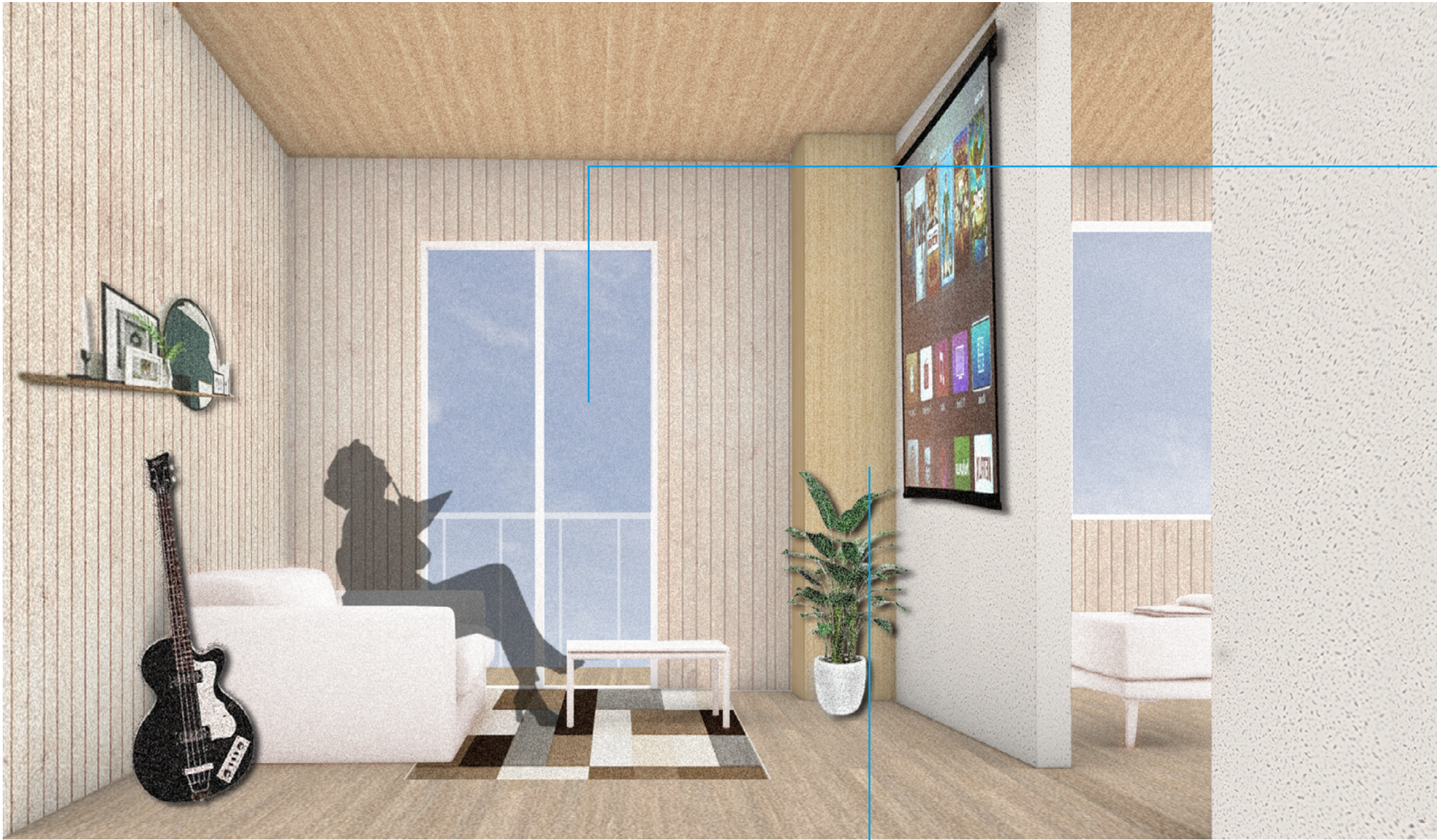
3 LAYOUT  
89 M2

EAT-IN KITCHEN

- KITCHEN 20.3m<sup>2</sup>
- LIVING ROOM 23.9 m<sup>2</sup>
- BATHROOM 2.7+6.54 m<sup>2</sup>
- BEDROOM 11.5+12.8 m<sup>2</sup>
- WALK-IN CLOSET 6.7 m<sup>2</sup>



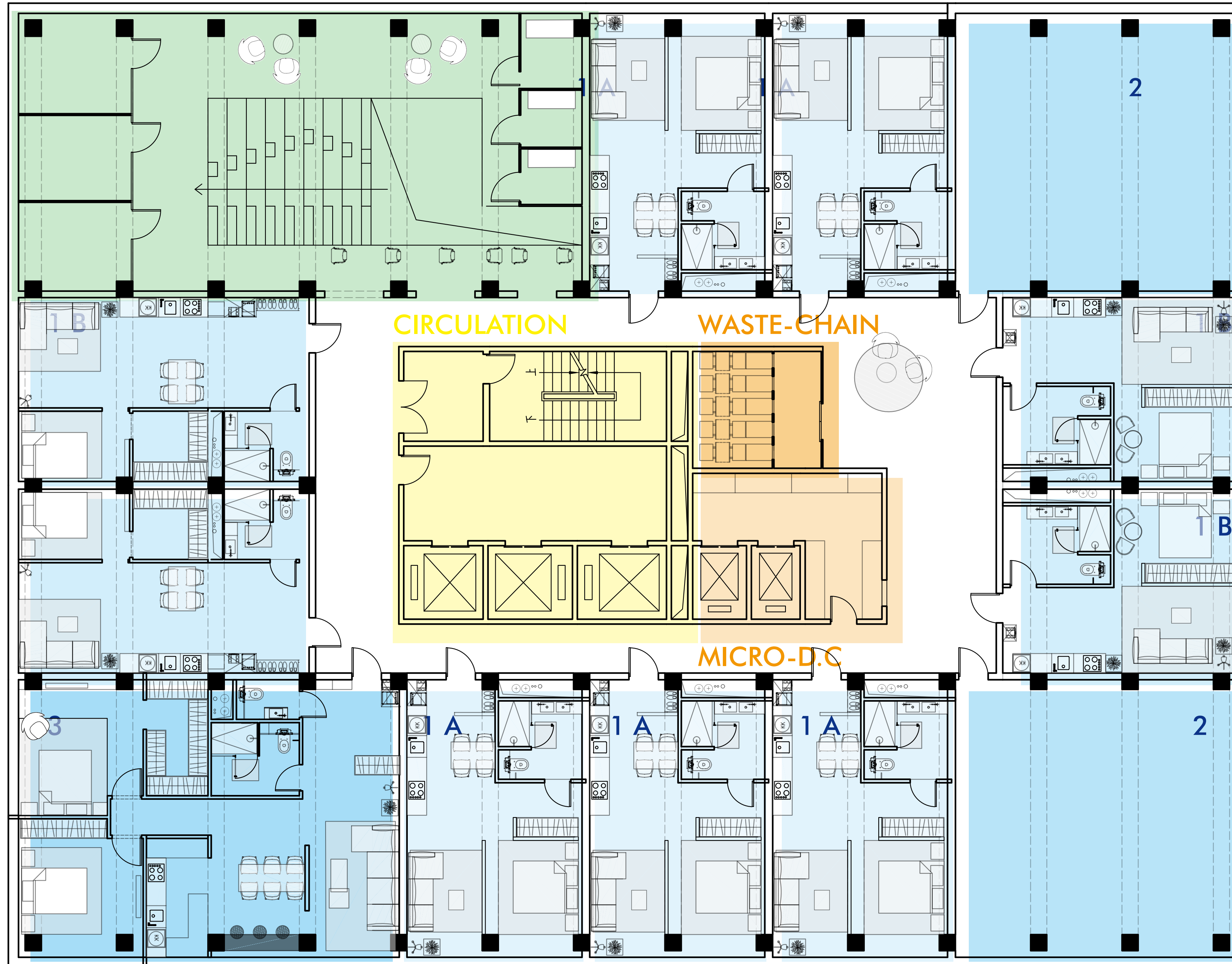


















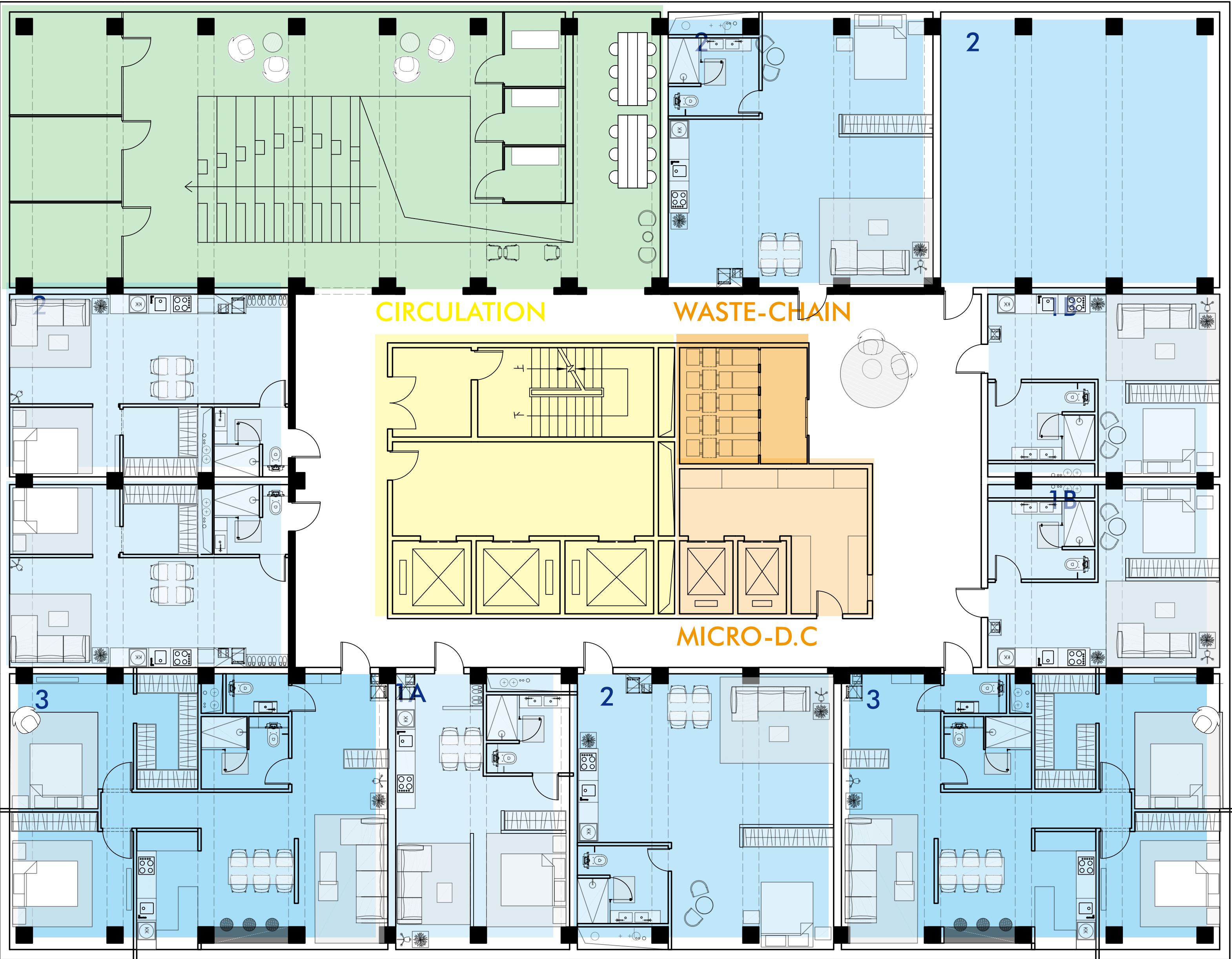




APARTMENT TYPE 1A	40.84m <sup>2</sup>	STUDIO	5
APARTMENT TYPE 1B	50.89m <sup>2</sup>	STUDIO	4
APARTMENT TYPE 2	45.38m <sup>2</sup>	1BEDROOM+1WC	2
APARTMENT TYPE 3	89m <sup>2</sup>	2BEDROOM+2WC	1
			12

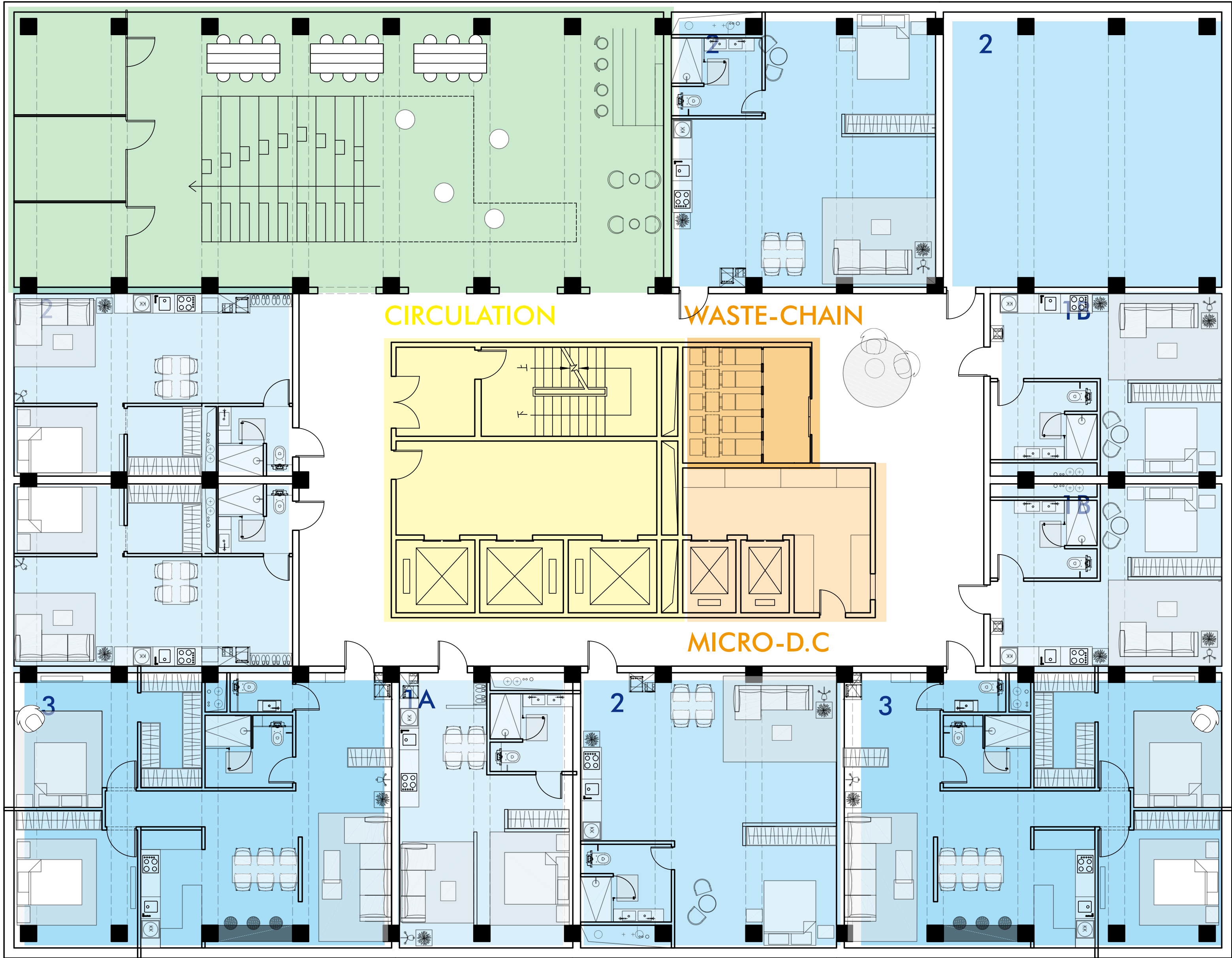


FREE ZONE (ATRIUM)





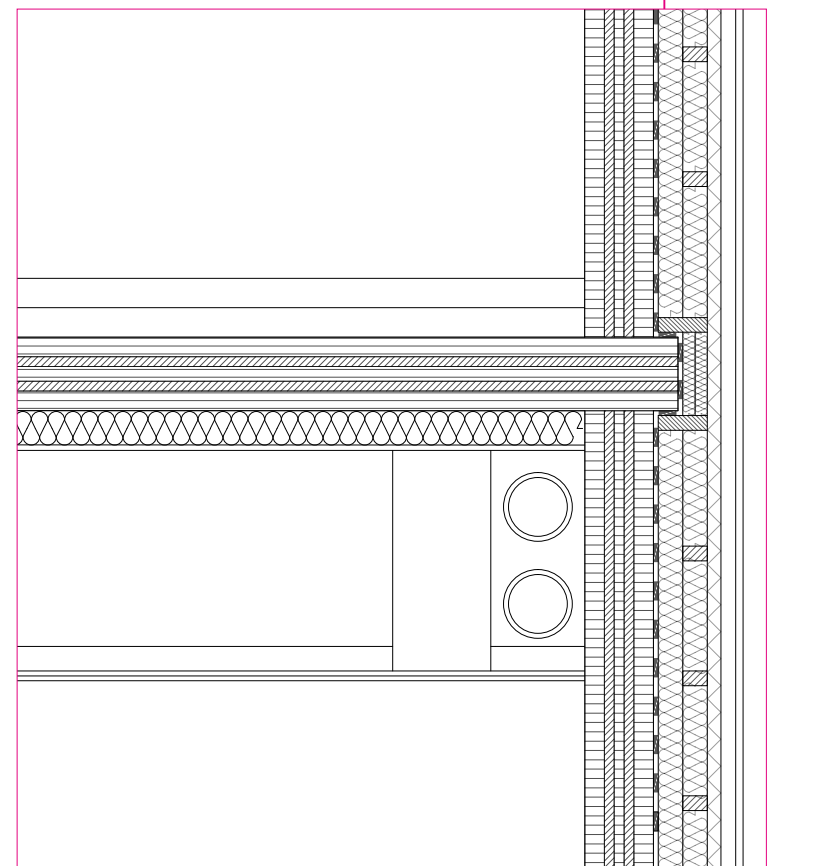
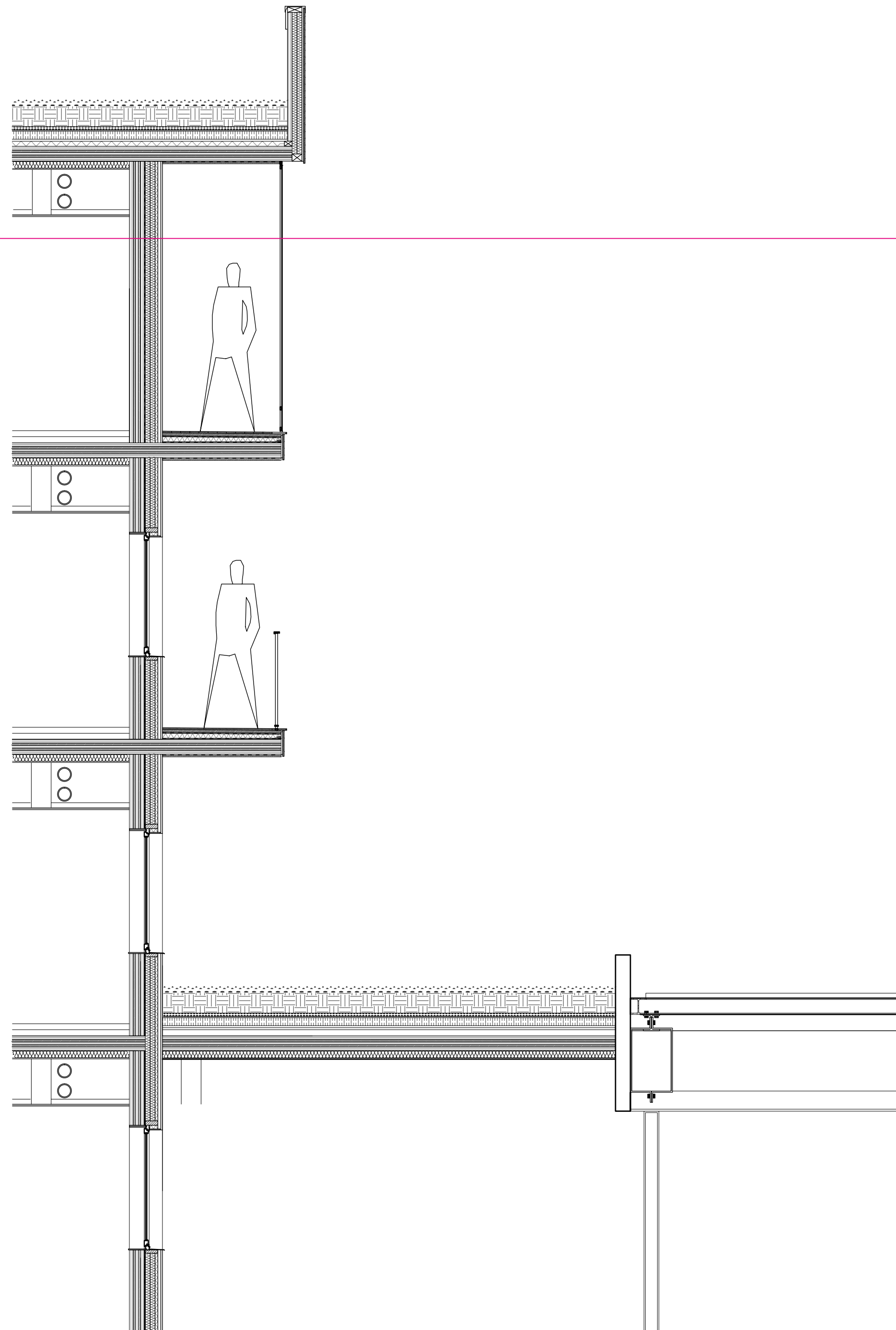
FREE ZONE (ATRIUM)



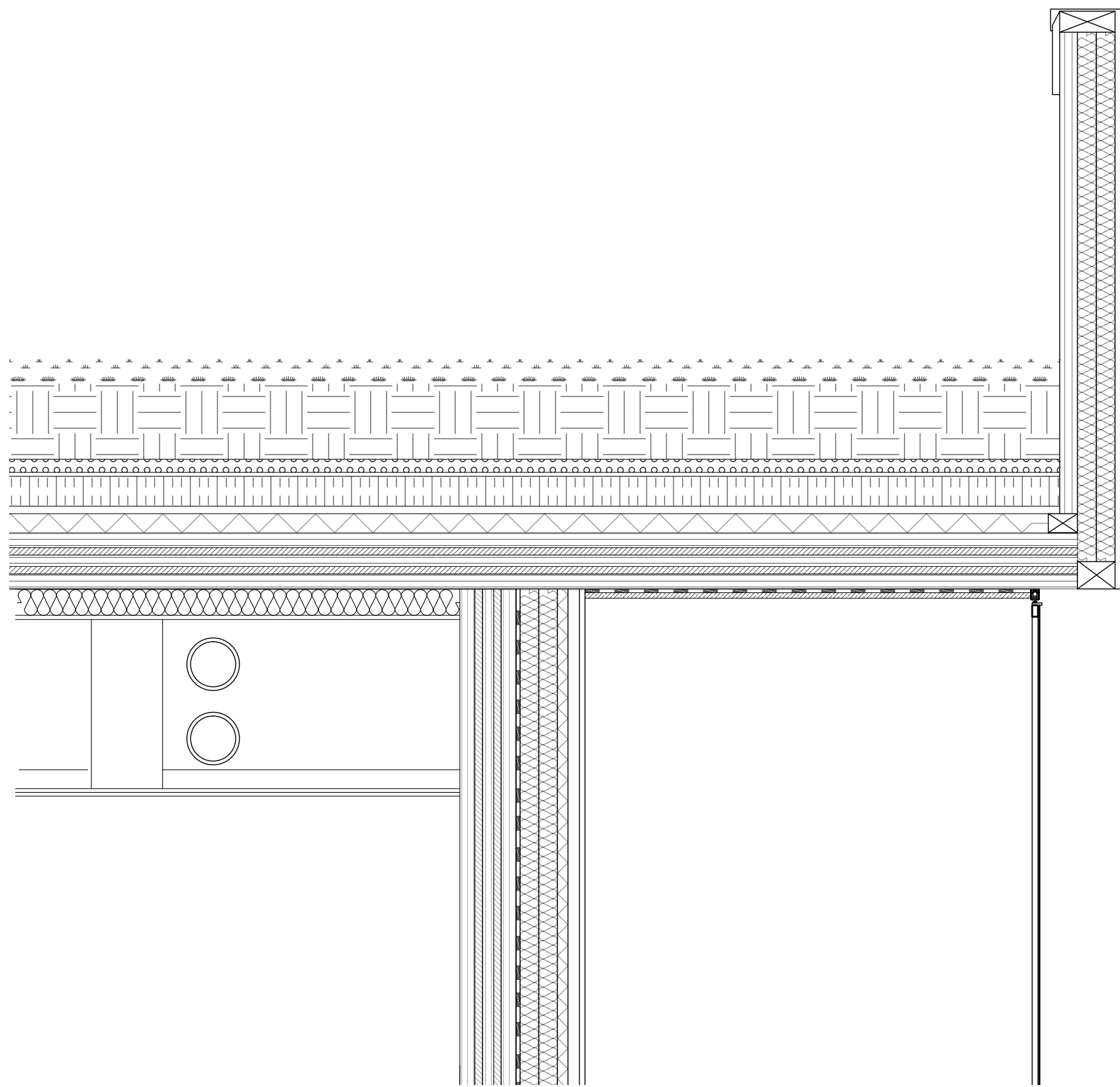
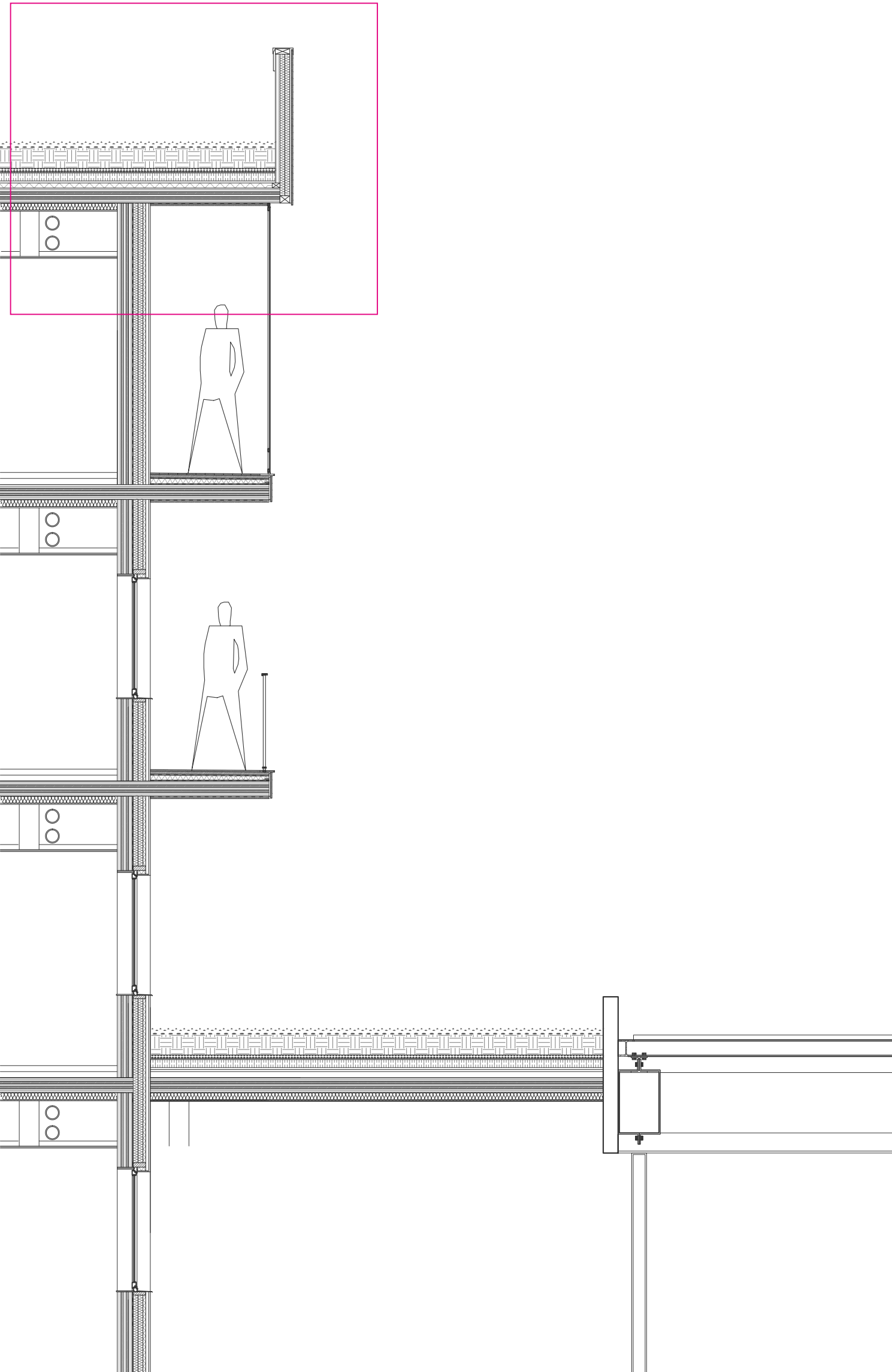


APARTMENT TYPE 1A	40.84m <sup>2</sup>	STUDIO	1
APARTMENT TYPE 1B	50.89m <sup>2</sup>	STUDIO	2
APARTMENT TYPE 2	45.38m <sup>2</sup>	1BEDROOM+1WC	5
APARTMENT TYPE 3	89m <sup>2</sup>	2BEDROOM+2WC	2
			10



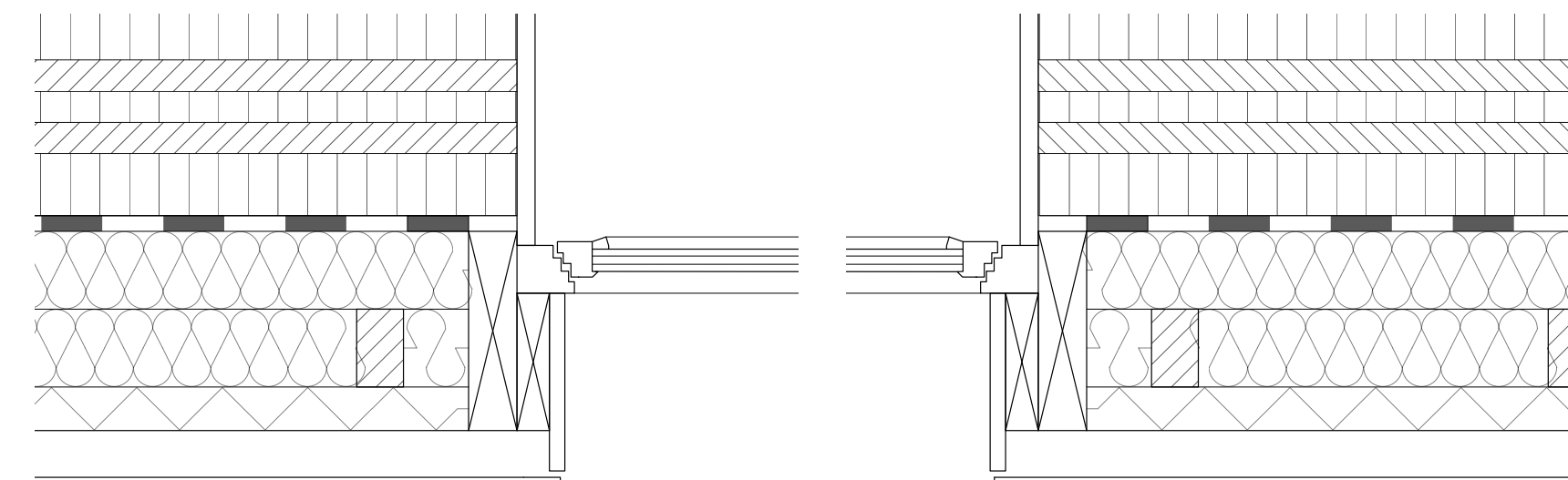
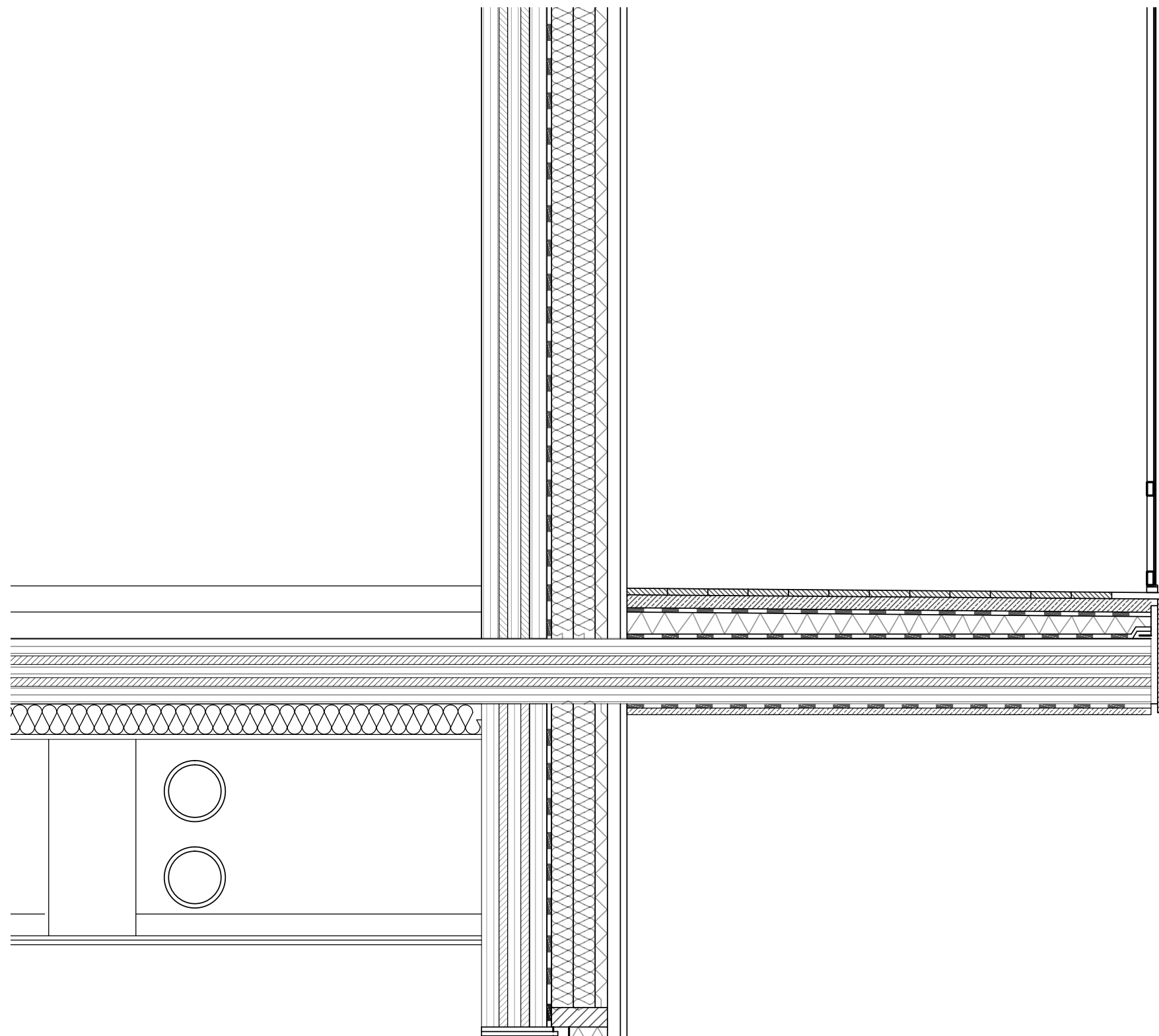
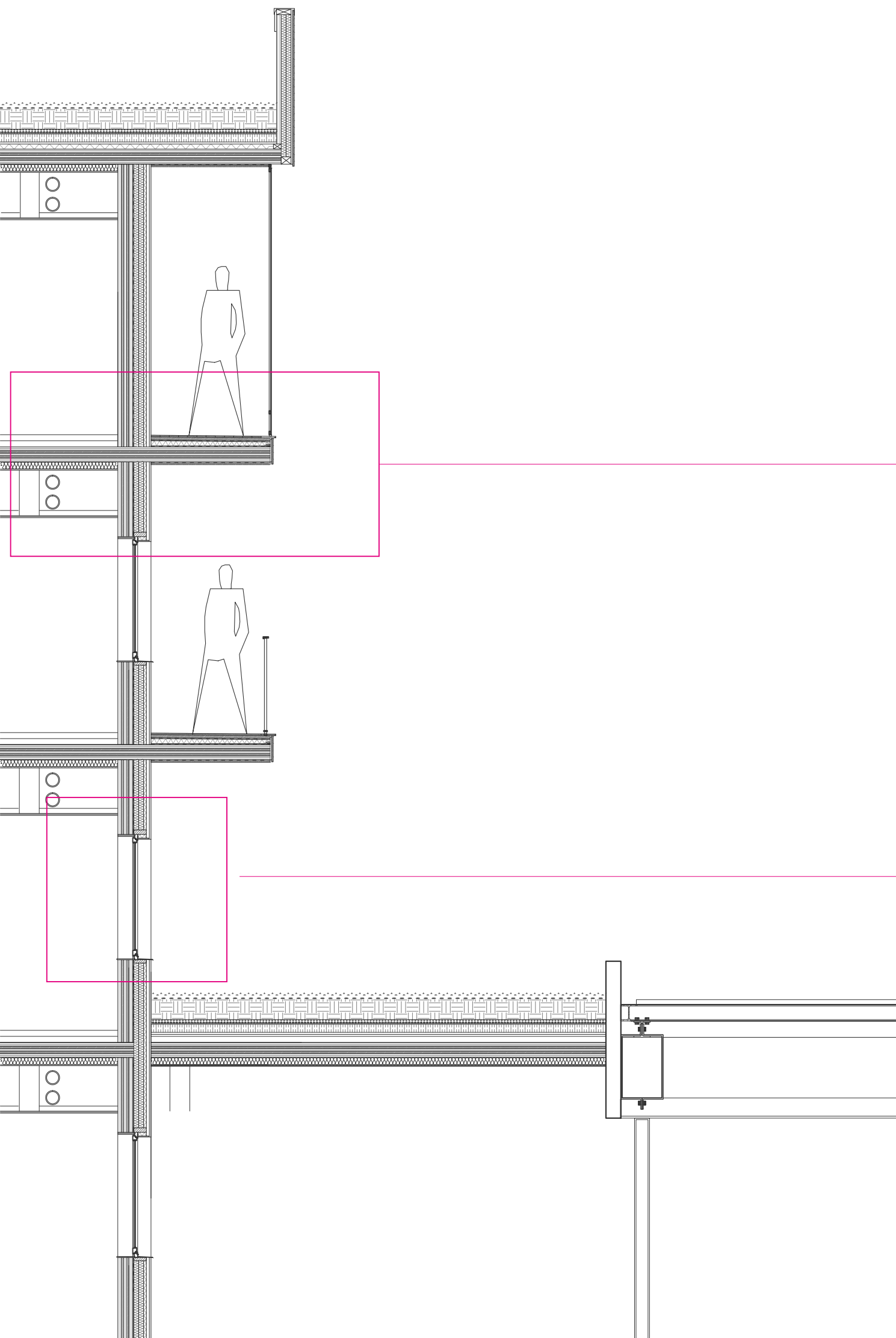




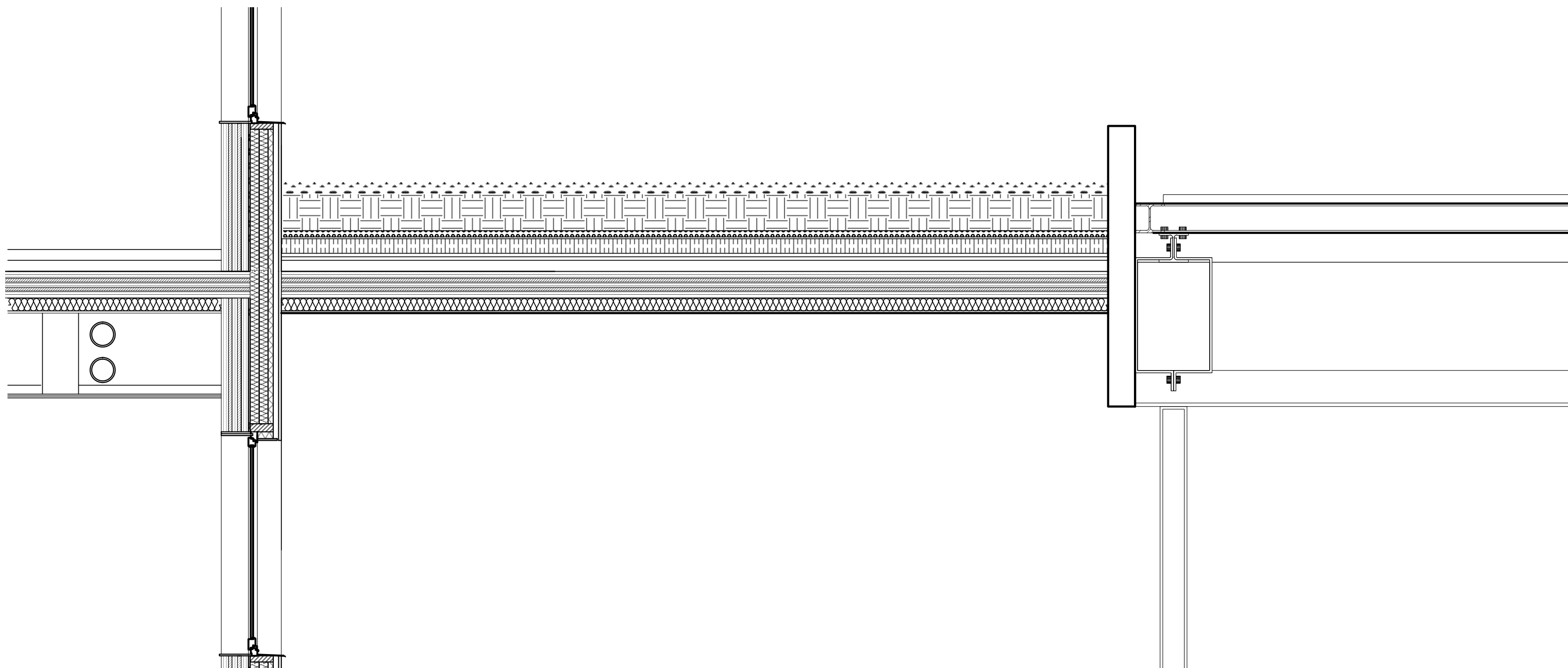
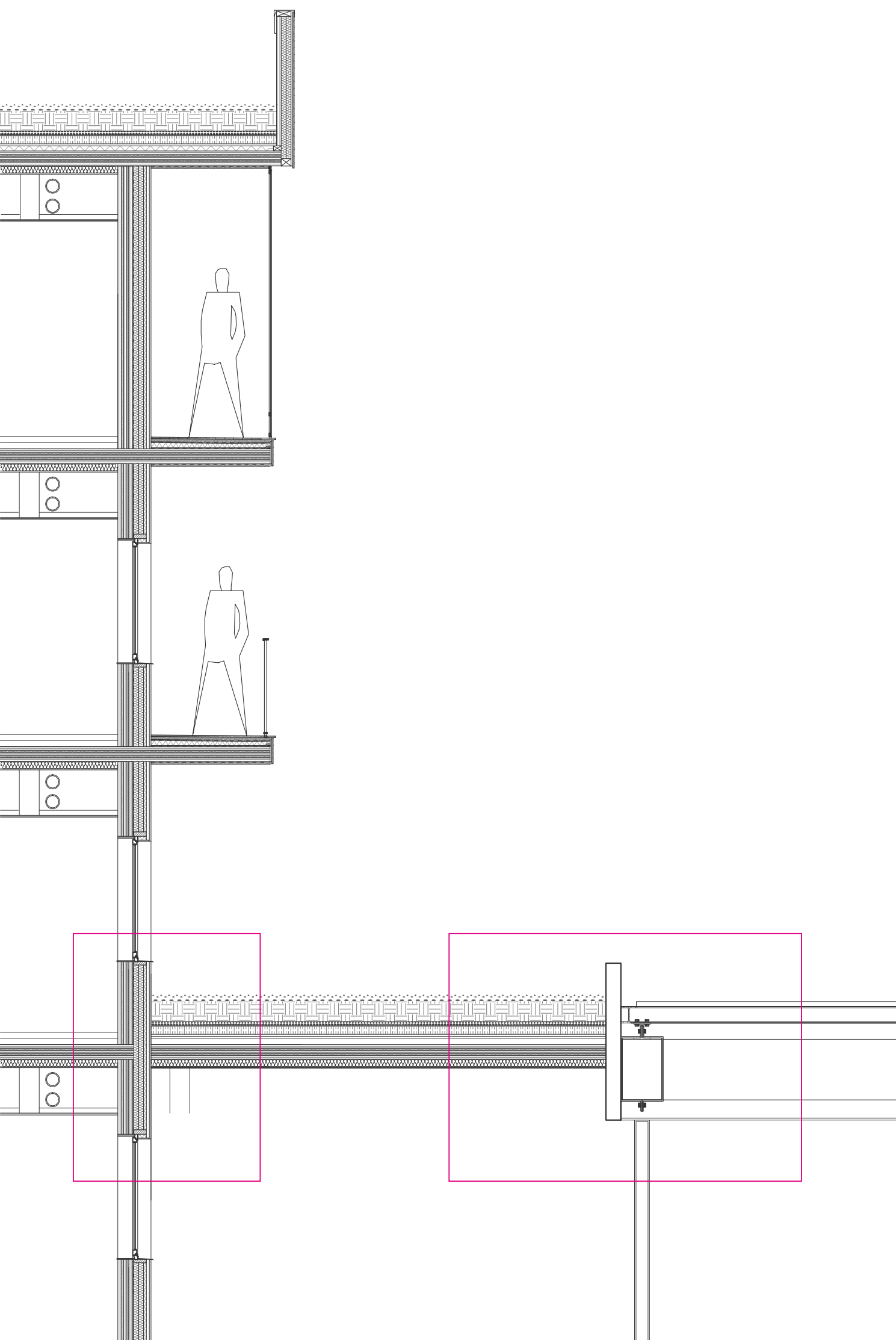


LAWN GRASS  
MESH REINFORCED SOIL  
CHEMICALLY STABILIZED SOIL  
DRAINAGE MAT  
POLYSTYRENE FOAM  
REFINED ASPHALT WATERPROOFING  
ROOF DECK

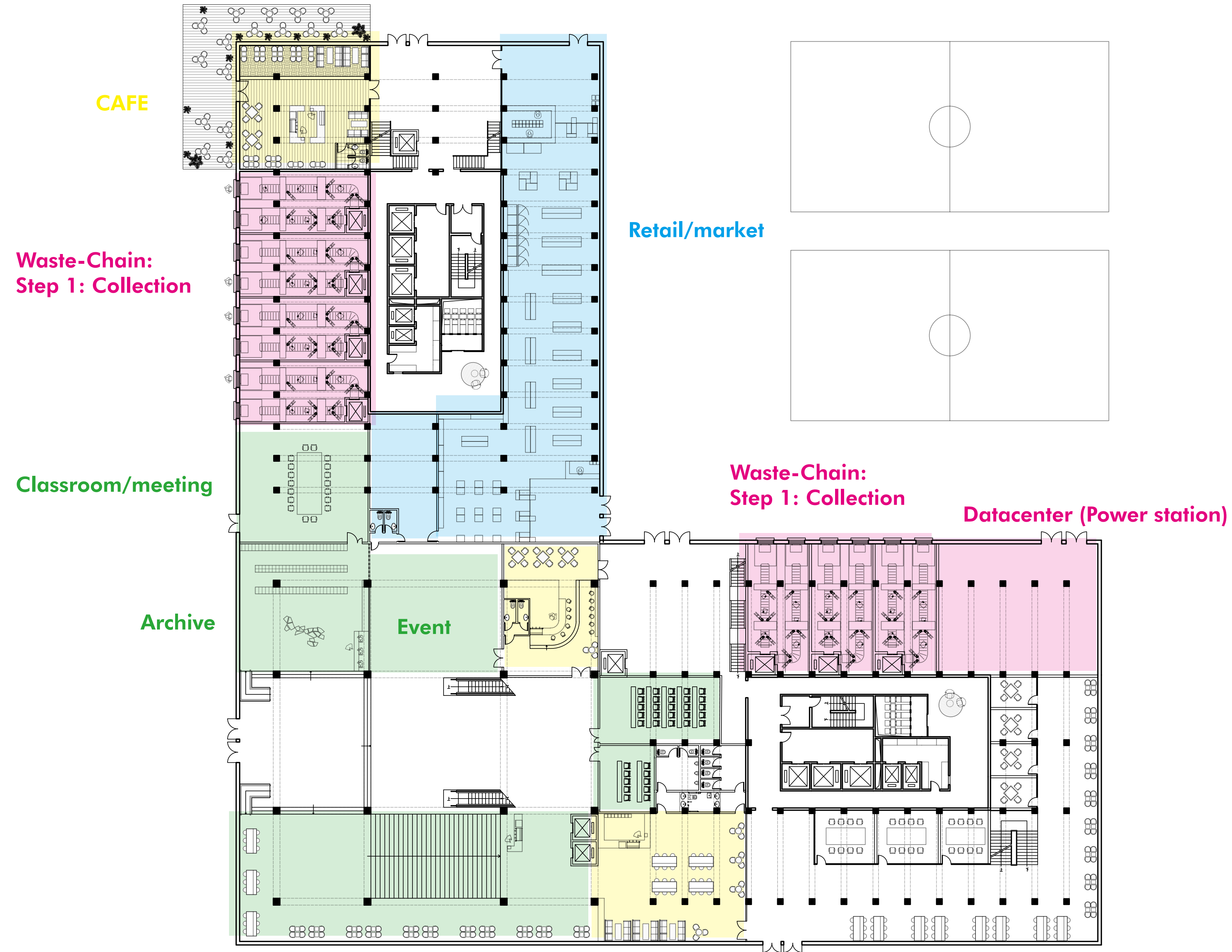




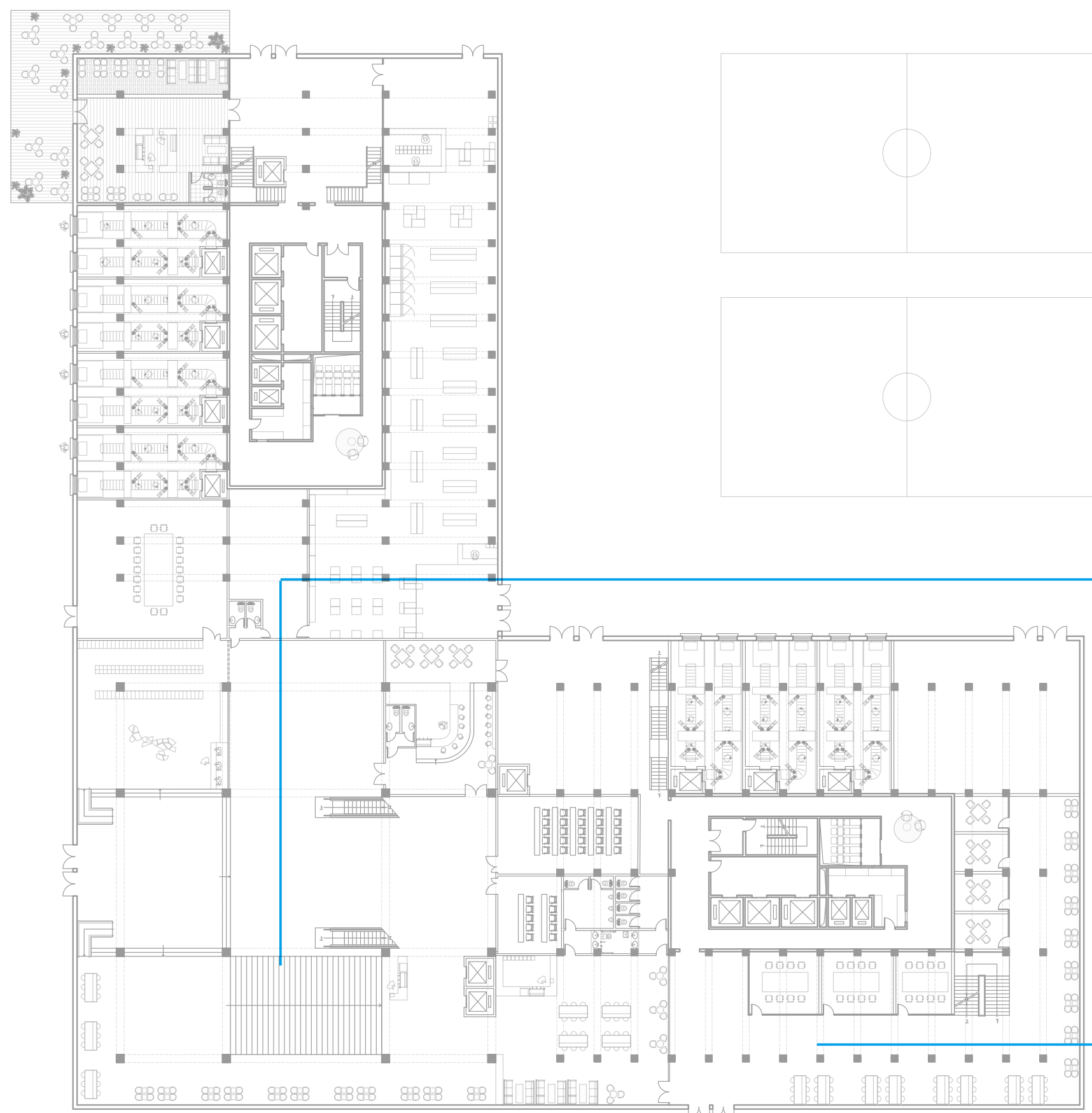




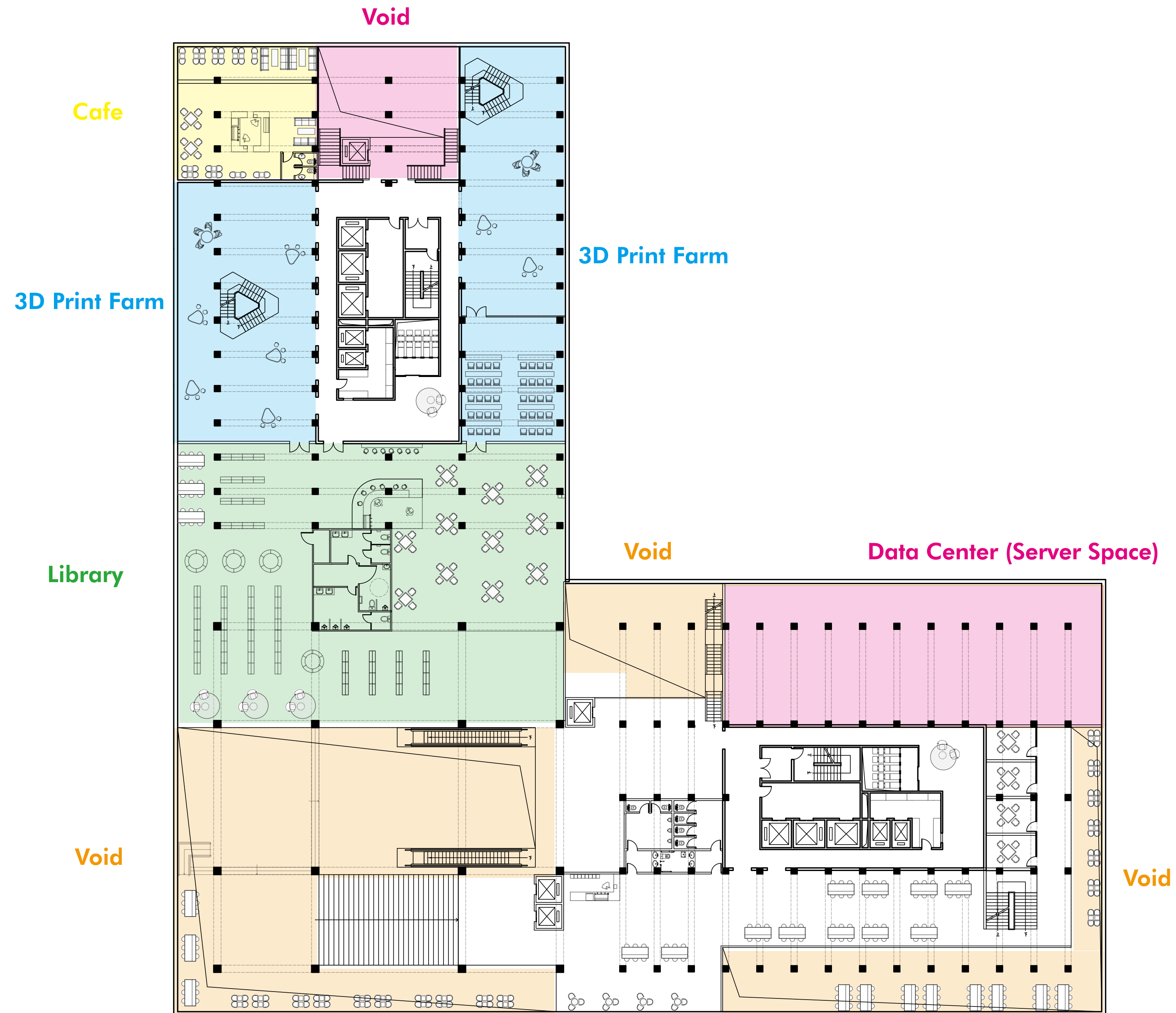






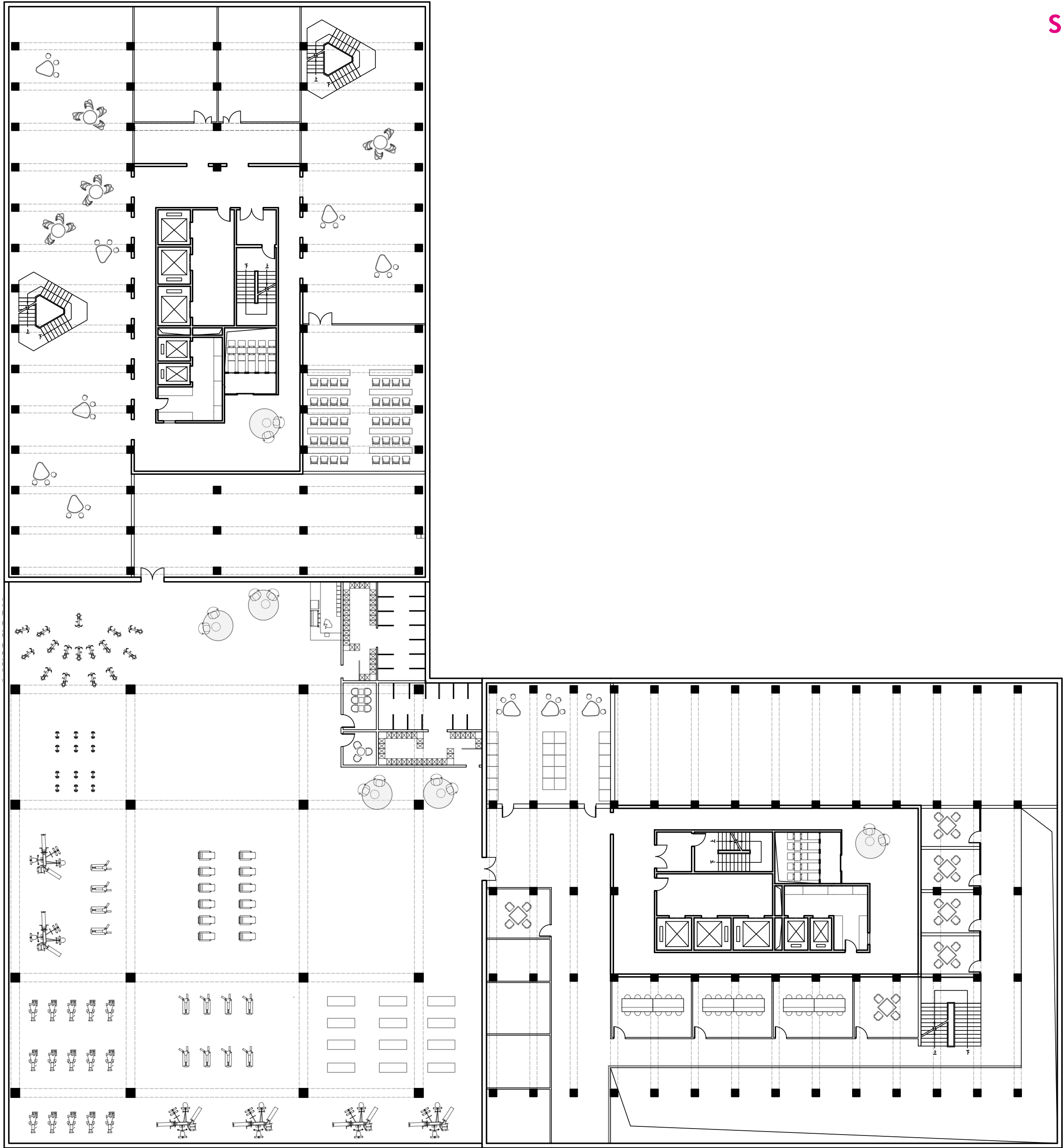




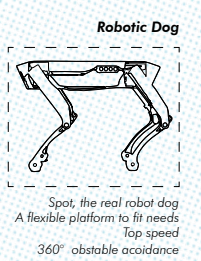
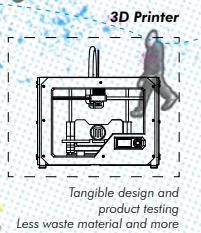
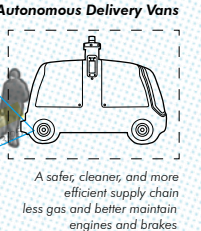
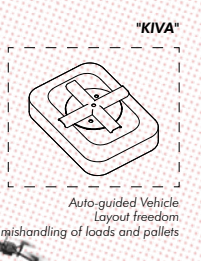
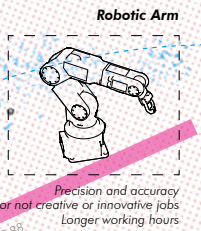
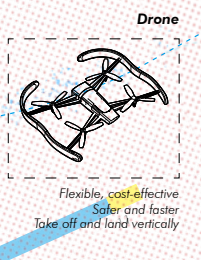
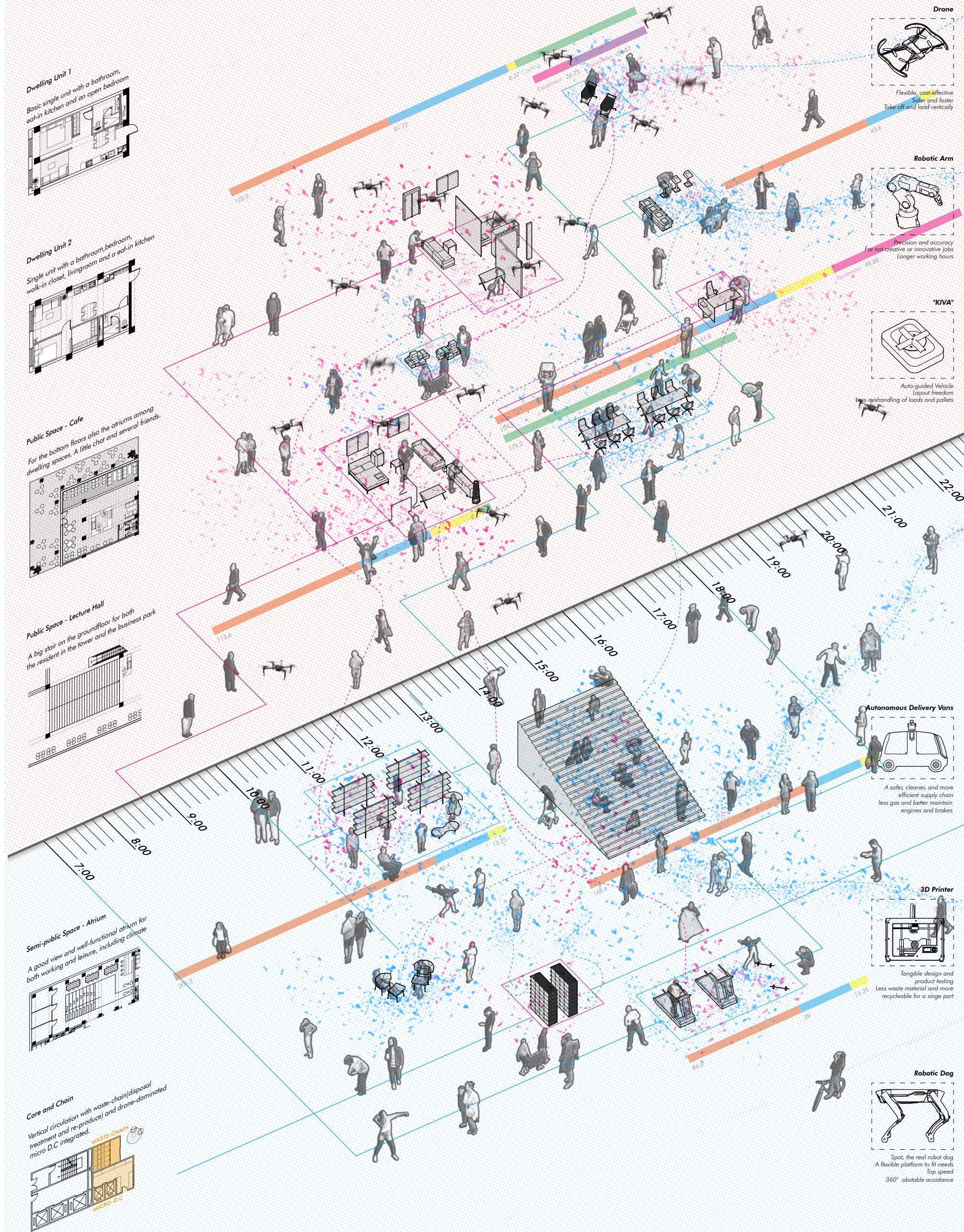
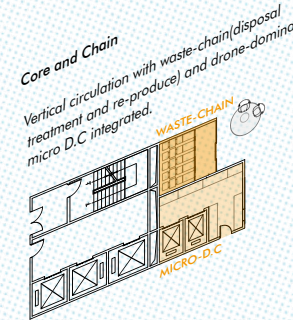
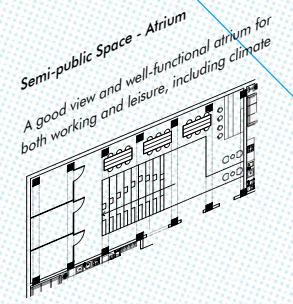
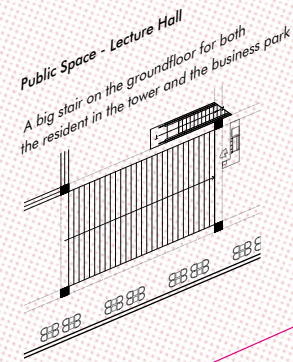
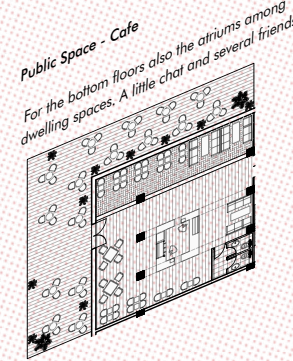
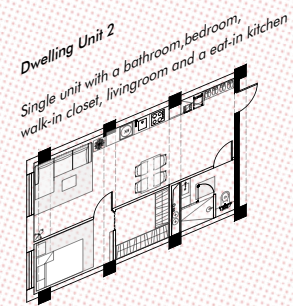
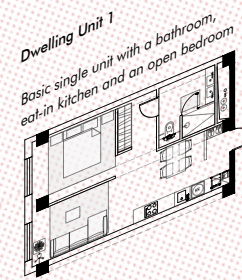




Second Floor Plan



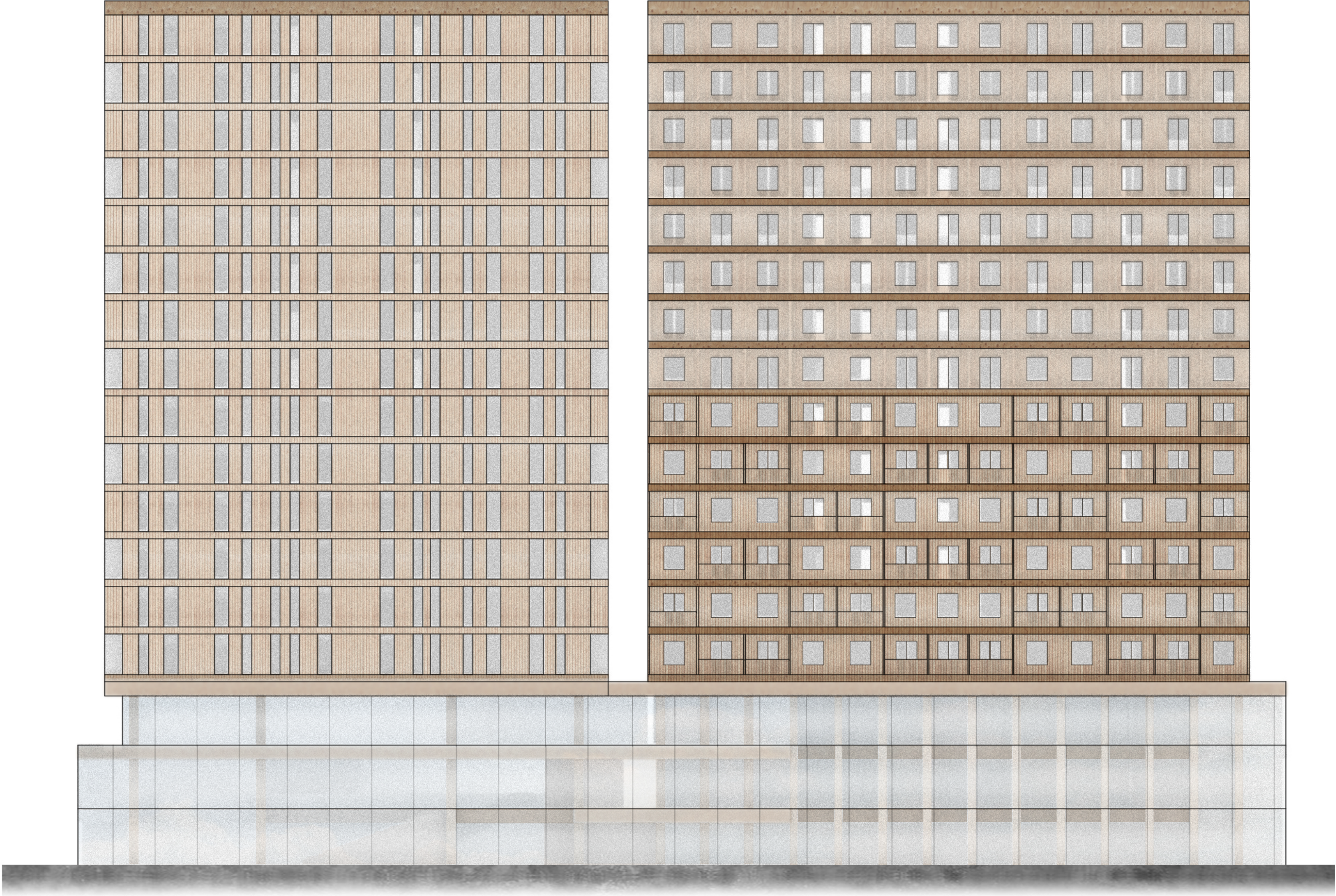






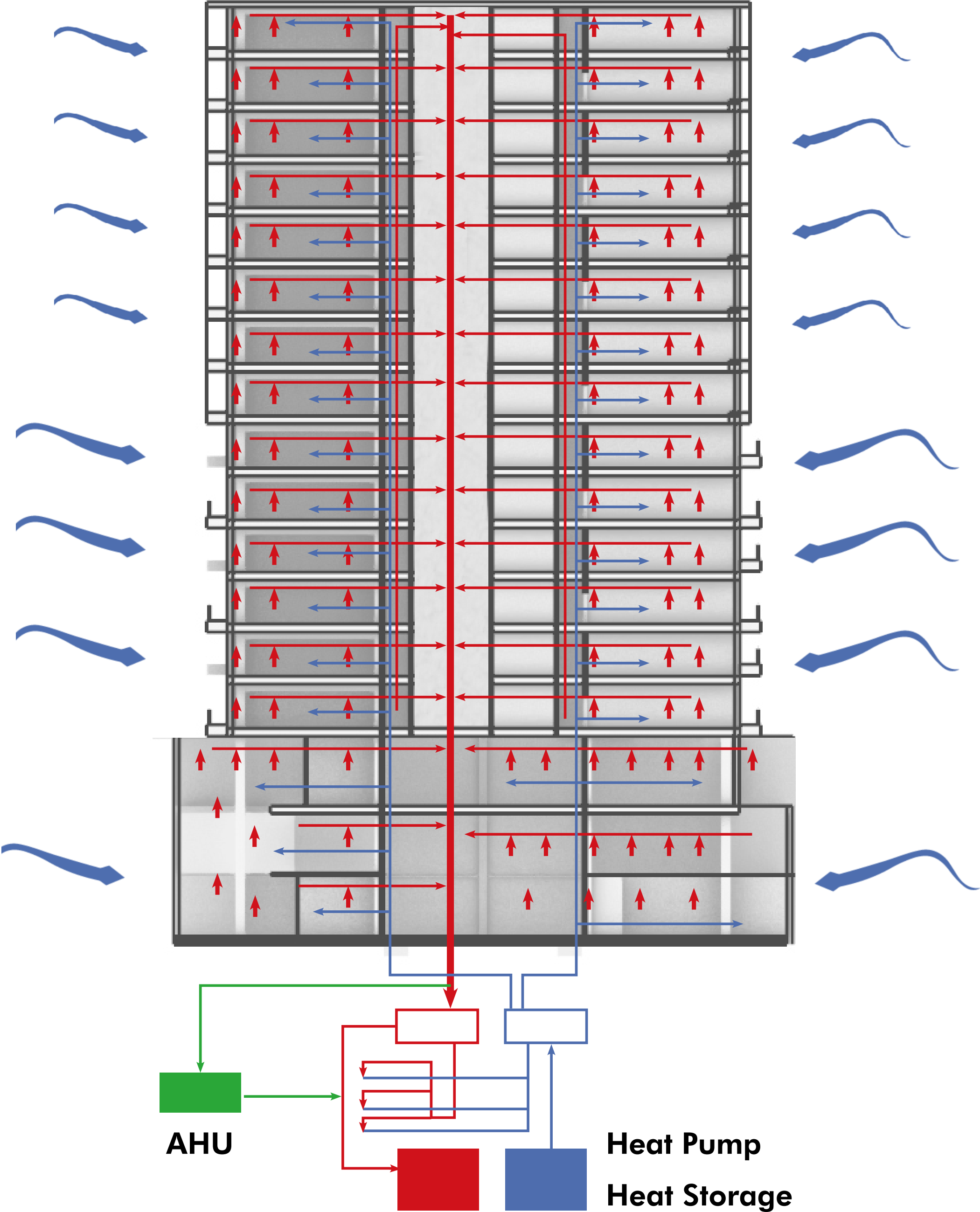
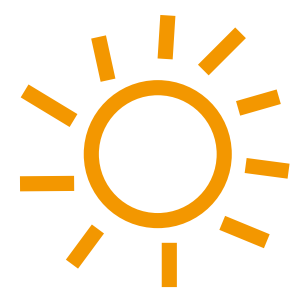






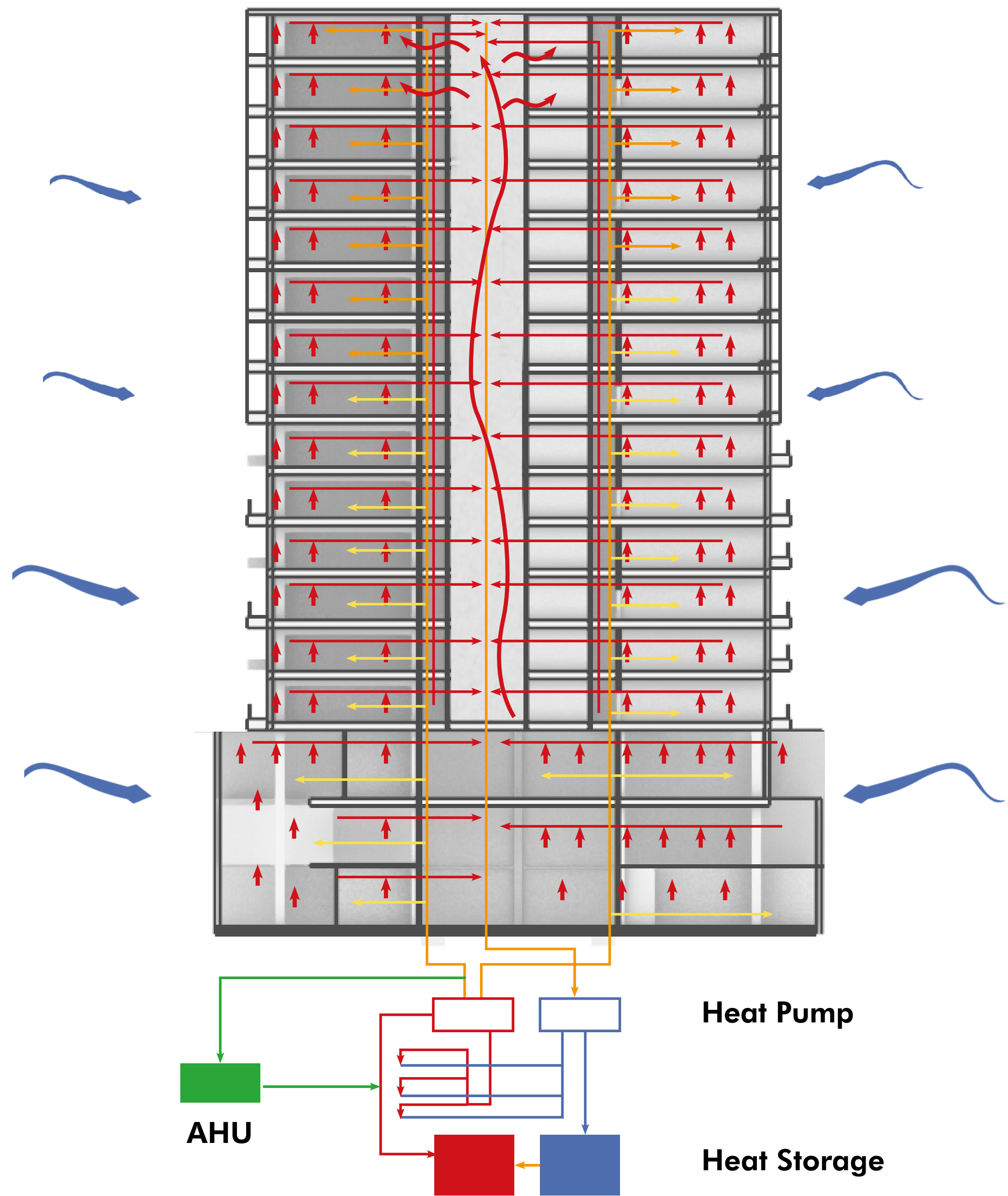
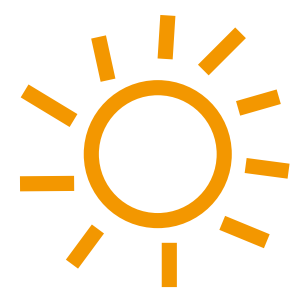


CLIMATE DIAGRAM-SUMMER



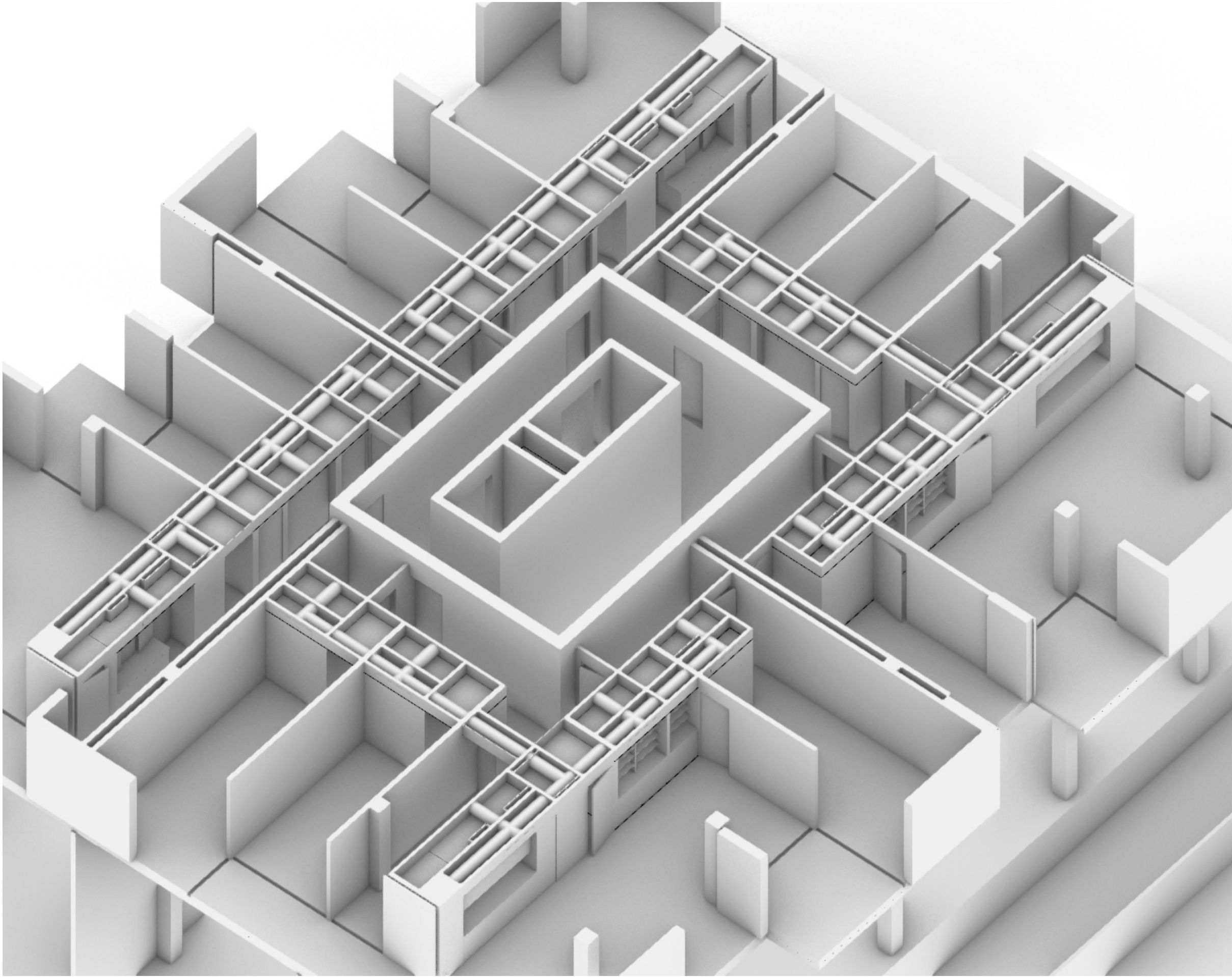


CLIMATE DIAGRAM-WINTER



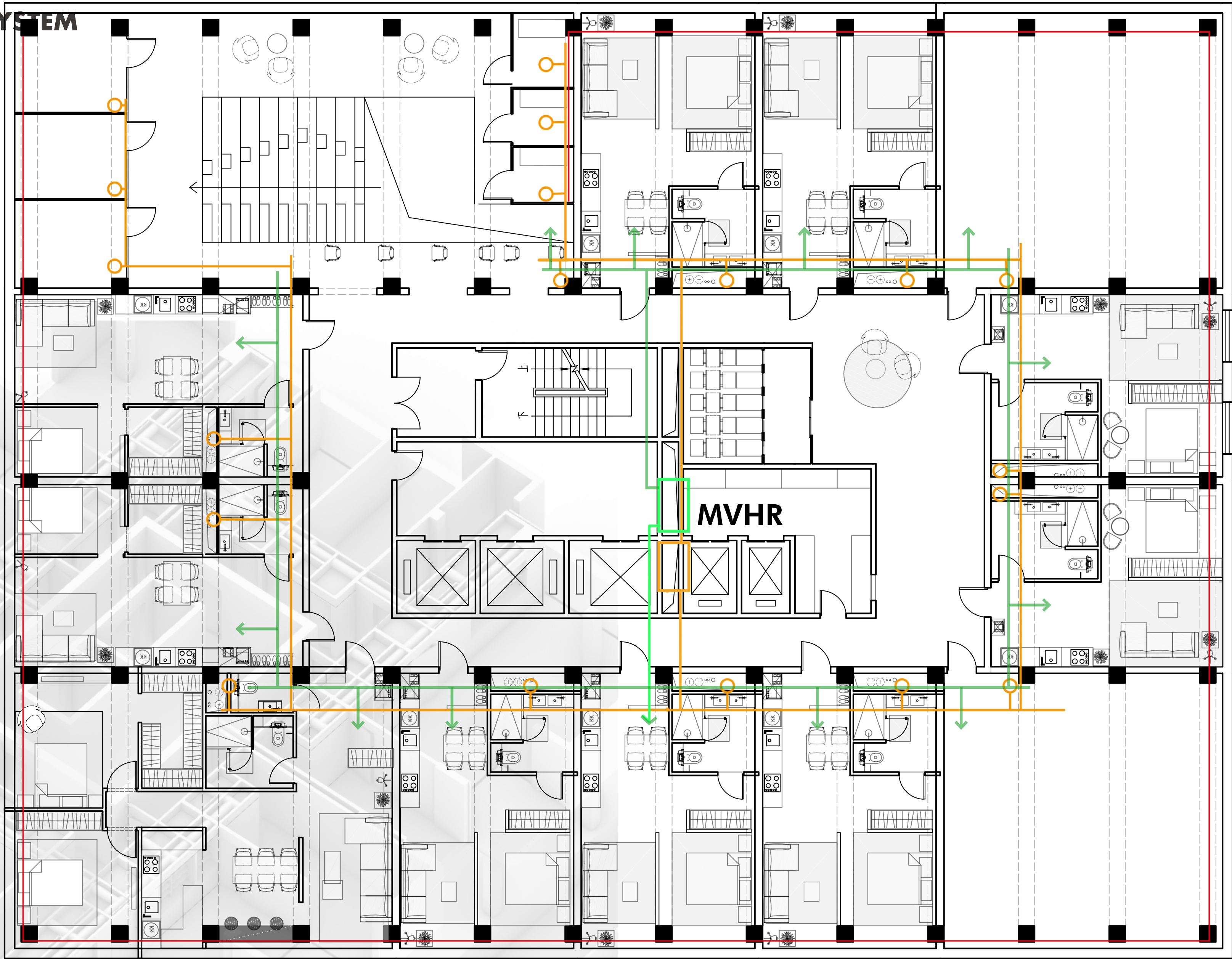


**ENERGY RELATED SYSTEM**





ENERGY RELATED SYSTEM



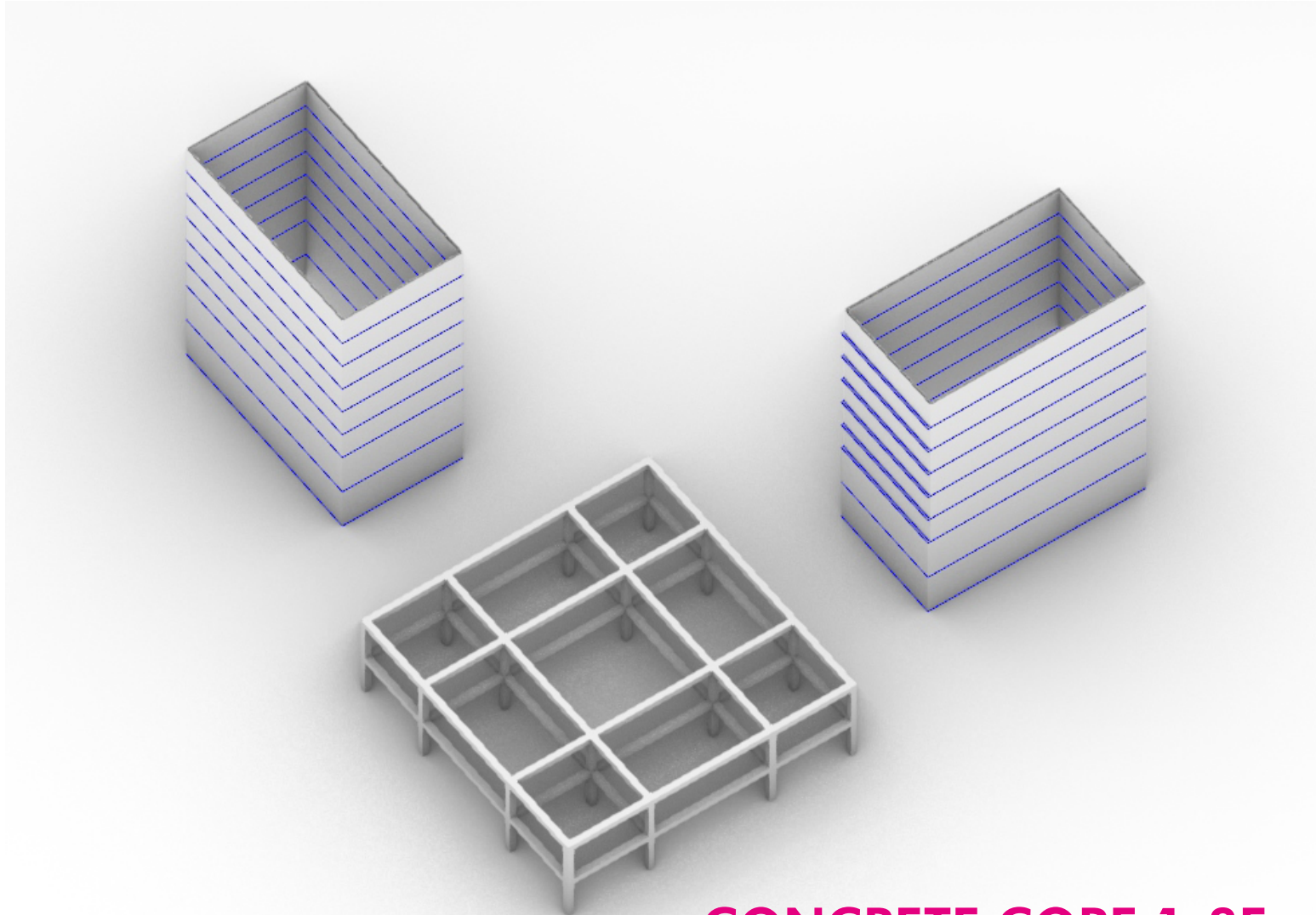
- Heating
- Extract Air
- Supply Air



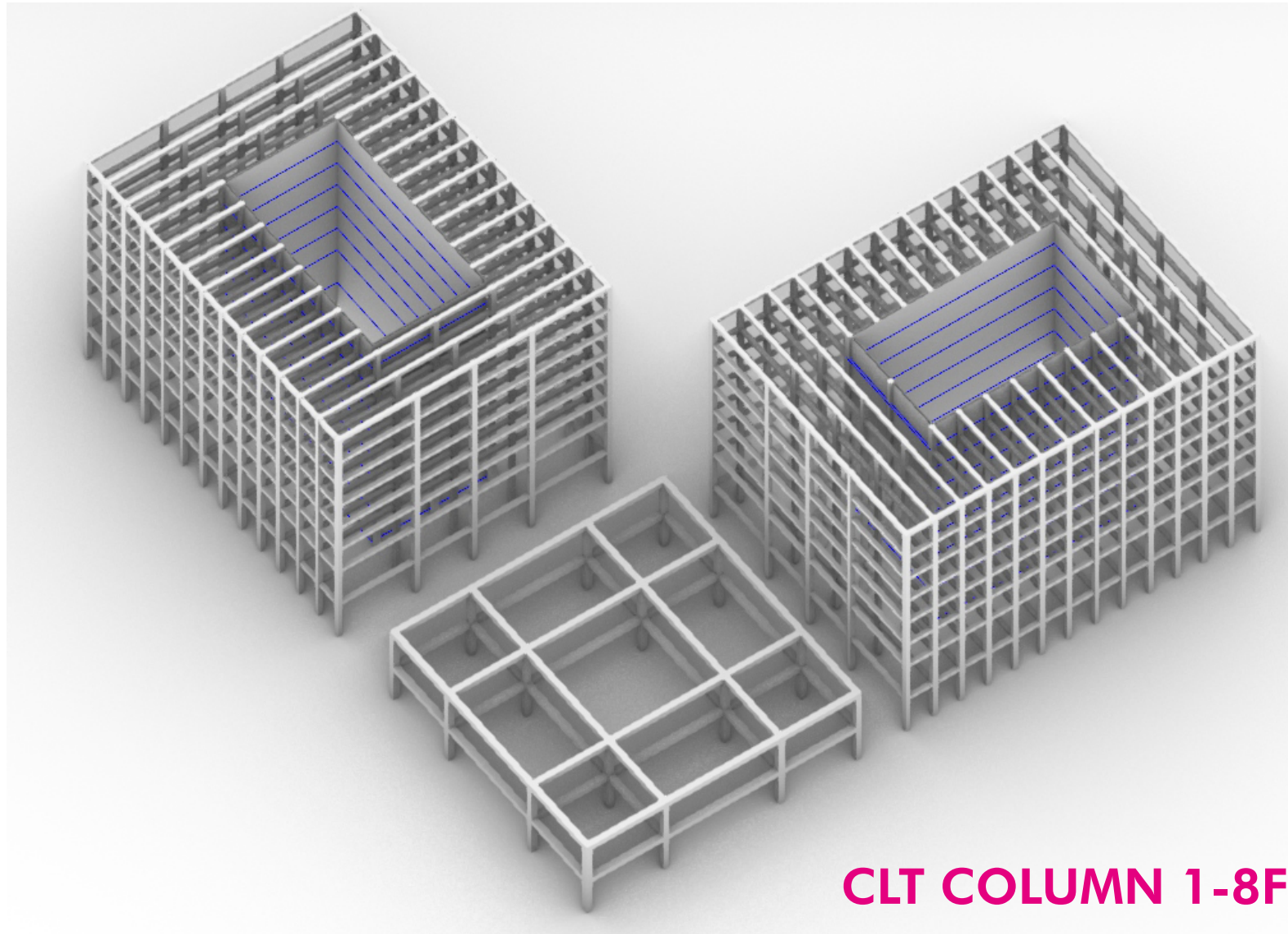
STRUCTURE SYSTEM



STEEL COLUMN & BEAM



CONCRETE CORE 1-8F



CLT COLUMN 1-8F



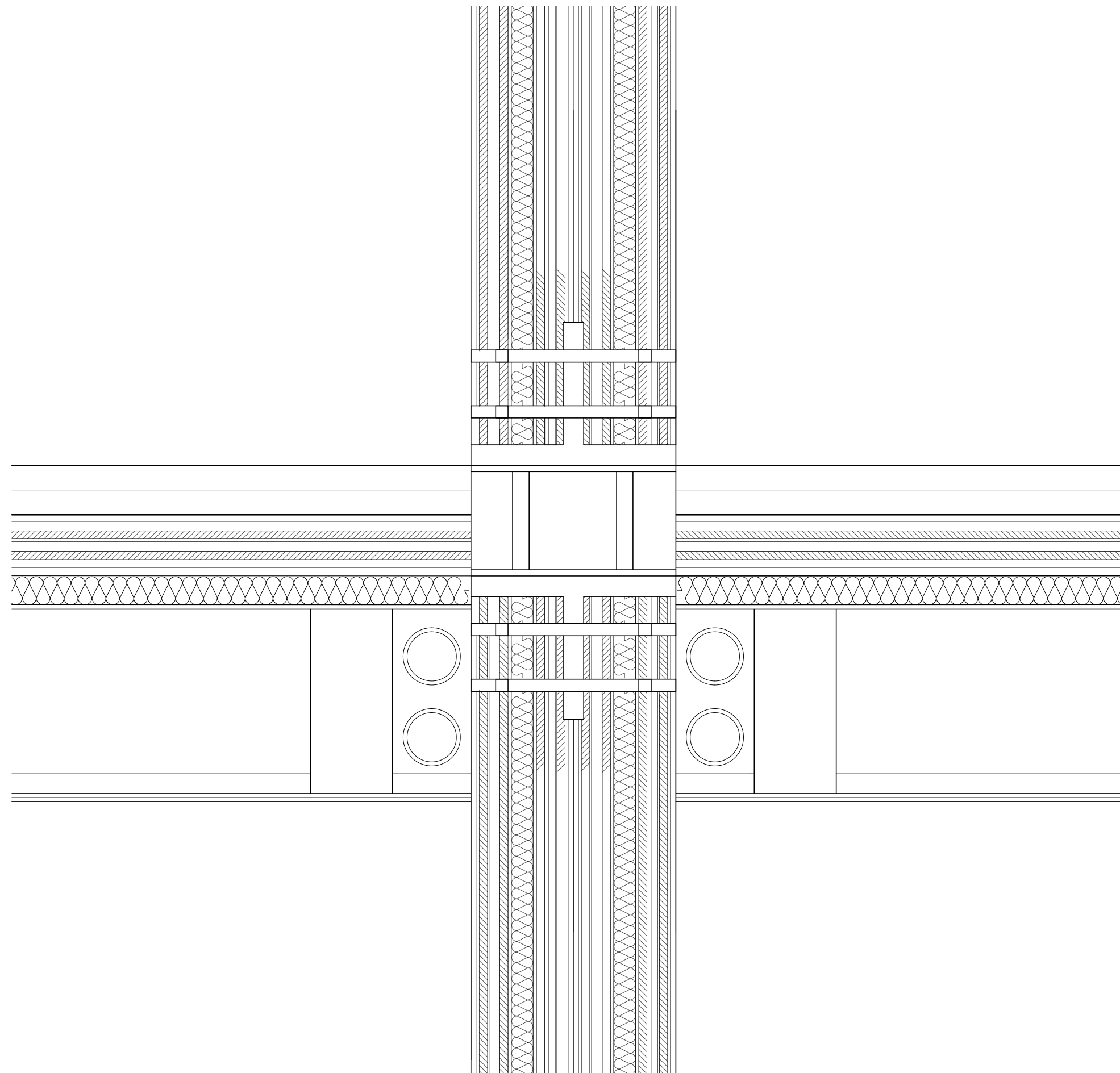
CLT COLUMN & BEAM



PLASTERBOARD 60  
BALLASTING BONDED TRICKLE PROTECTION 60  
CLT TIMBER 120  
MINERAL WOOL 70

INDEPENDENT CEILING JOINTS

SOUND ABSORBER 100  
2 LAYERS OF 15MM SOUNDBLOCK PLASTERBOARD

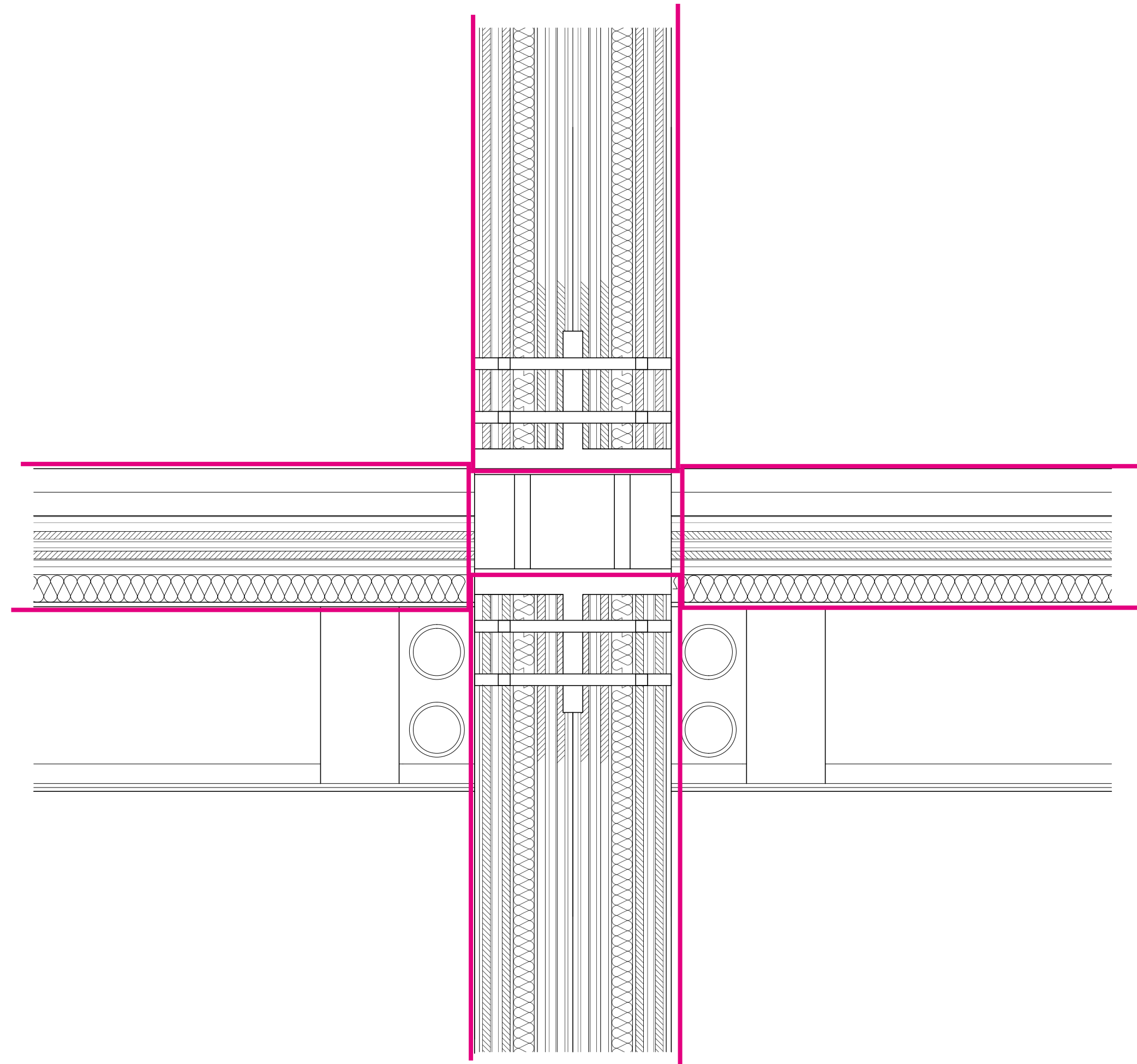




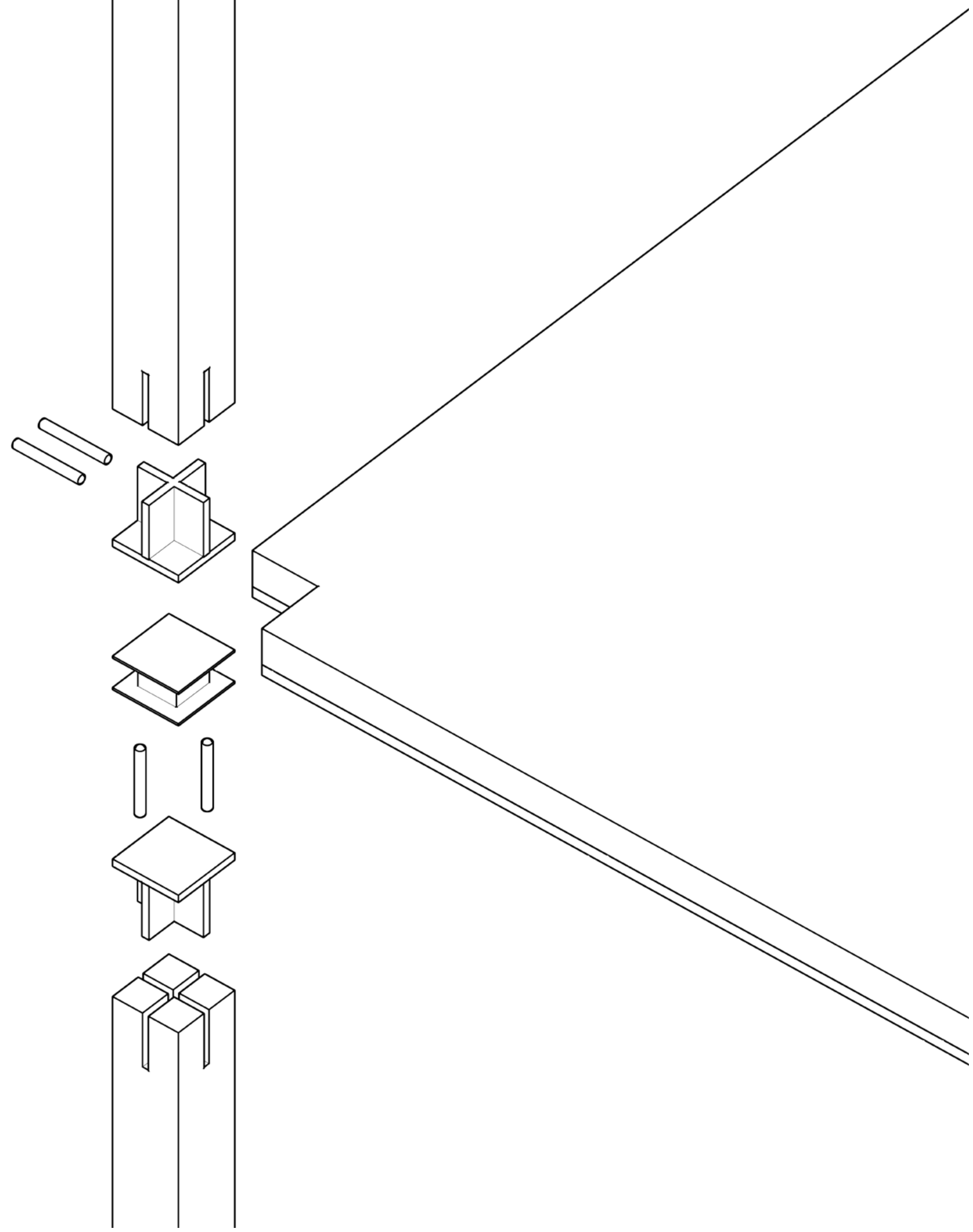
PLASTERBOARD 60  
BALLASTING BONDED TRICKLE PROTECTION 60  
CLT TIMBER 120  
MINERAL WOOL 70

INDEPENDENT CEILING JOINTS

SOUND ABSORBER 100  
2 LAYERS OF 15MM SOUNDBLOCK PLASTERBOARD









MATERIAL INDEX



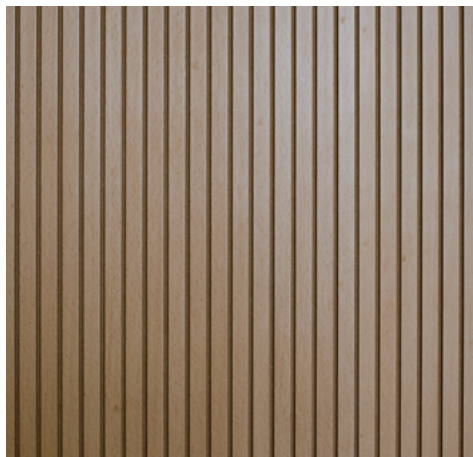
STRUCTURE CLADDING  
*Plywood cladding*



MULLION  
*Laminated veneer lumber (LVL)*



INTERIOR CLADDING  
*Untreated western red cedar*



FACADE CLADDING  
*Thin wood panel*



CEILING  
*Glued laminated timber*



STRUCTURE  
*CLT (Cross-laminated timber)*



**Q&A**

**THANK YOU!**