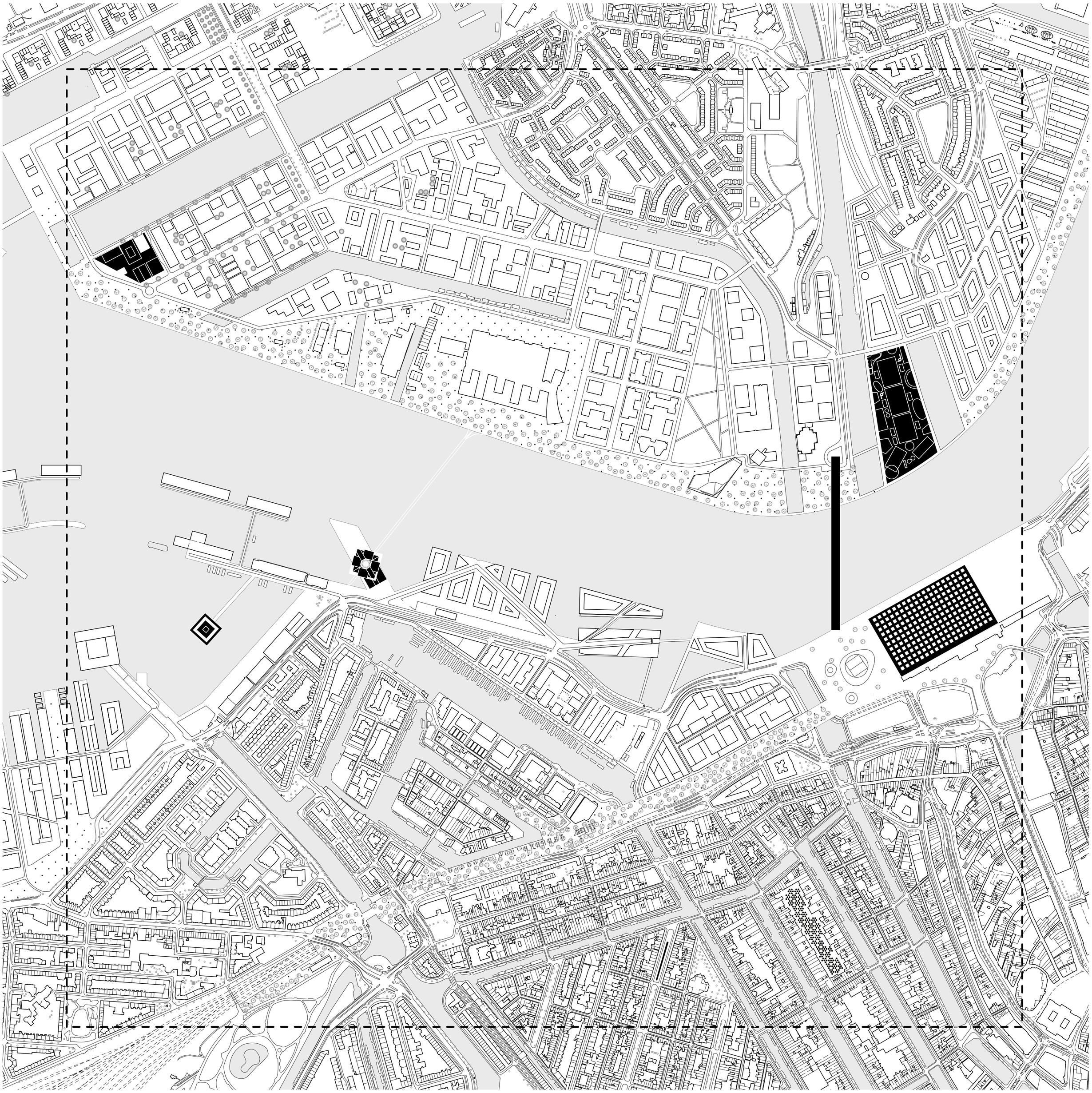
CP **THE URBAN MANUFACTORY**

SEBASTIAAN VAN ARKEL
4161866
DECEMBER 2017



SCALE 1:5000

50m 100m 250m 500m

PLAN **LOCATION**

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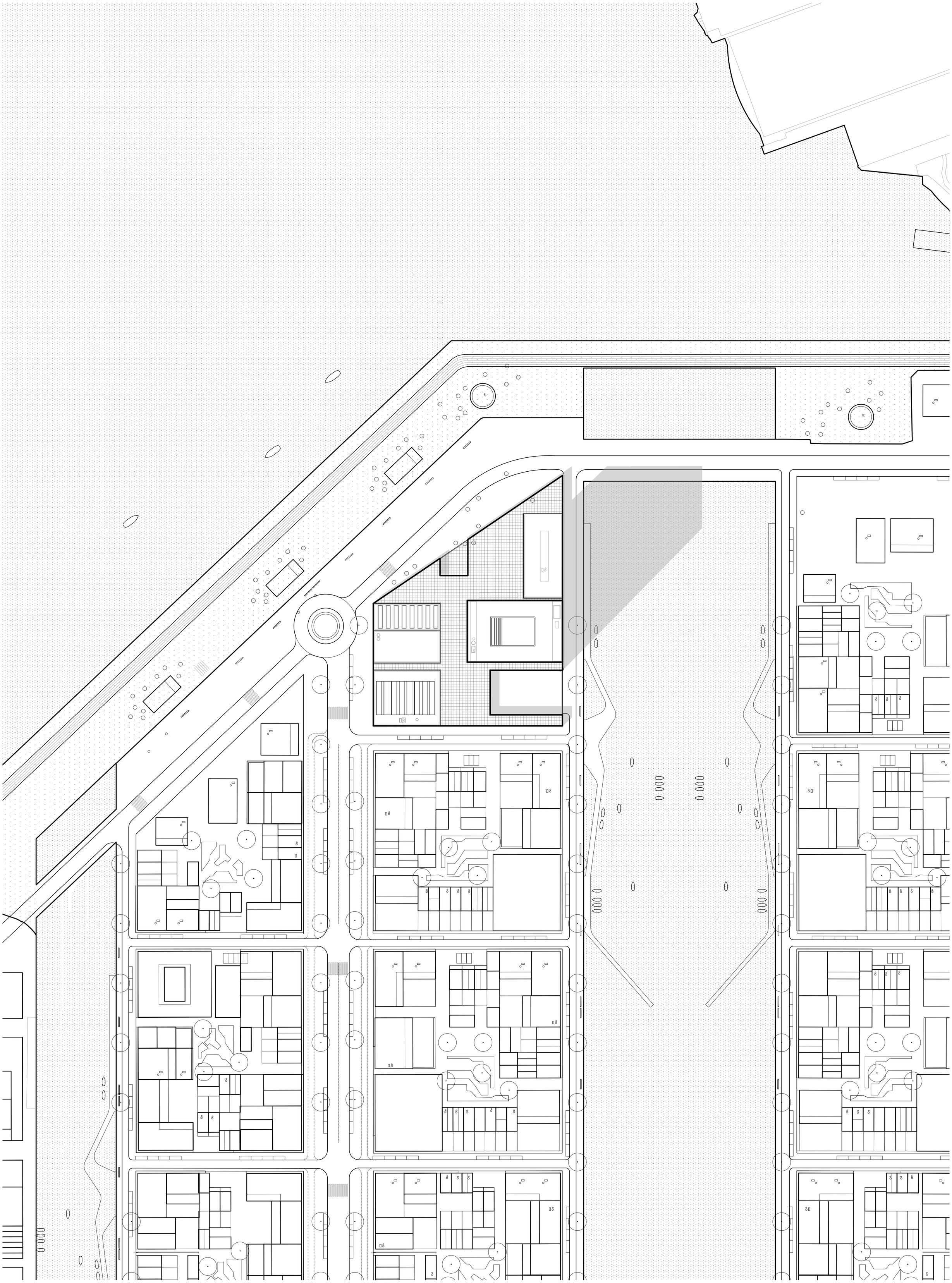

SCALE 1:1000

10m 20m 50m 100m

PLAN **SITE**

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01 After choosing the right floor and right producing company, clients enter the producers' lobby through the elevator from the public ground floor.

02 Clients go to the reception desk for a first intake. Receptionists gives clarity about following procedure, and tell the client where they need to be during the procedure.

03 Before or after consulting the reception desk the client can have a look and get an idea of the producers activities by viewing the showcased items. Here the client can see and feel the products and their materiality. At the same time the client has a constant view on the production floor to get a sense of how products are made. There is a possibility to take place in one of the seating areas and talk to one another about ones wishes concerning the purchasement.

04 When ready, client continues the procedure and gets to speak with the producer at one of the counseling spaces. Here consumer and producer get in physical contact. Producer tells about the possibilities and gets to know what demands the client has. The producer can clarify the production process by easily point out to the production floor in the back were there is an overview over the process.

05 After speaking to the producer, the client continues and signs in, in one of the self learning digital interface booths. Here the consumer can, by means of an easy and for everyone understandable platform do a lot of the custumized design steps by themselves. Valuable costumer information is saved and is also later used by the company to optimize product development.

06 If necessary clients can hang their coat and lock up their belongings before proceeding to the next step in the production process.

07 Clients take the escelator to the physical analysis booths on the mezzanine floor. Here client get physically analyzed. Also this valuable costumer information is saved in a data base and used to optimize the production process.

08 After going through the analysis procedure the client leaves the mezzanine floor by the second escalator. The client leaves the lobby through one of the elevators that brings them back to the ground floor level. At the same time the producion process begins and finished custumized and tailored products are brought to the client home.

09 The production process starts with the supply of raw material coming from the silos in the basement of the building. Raw material in the form of powder or filament is transported through ducts.

10 Parts of the product are manufactured by the additive manufacturing machinery.

11 When ready the machine remove waste material and clean the finished part. Finished parts are then loaded on an Automated Guided Vehicle (AGV).

12 If possible new parts are directly fabricated on the product. If not, finished parts are temporary stored in the live storage.

13 Parts are temporary stored in the live storage which is an Automated Storage and Retrieval System (ASRS). Parts are stored until they can further processed on the production floor.

14 Parts stored in the live storage can be viewed from the public zone and from the exterior through the completely glass facade by the public as an etalage.

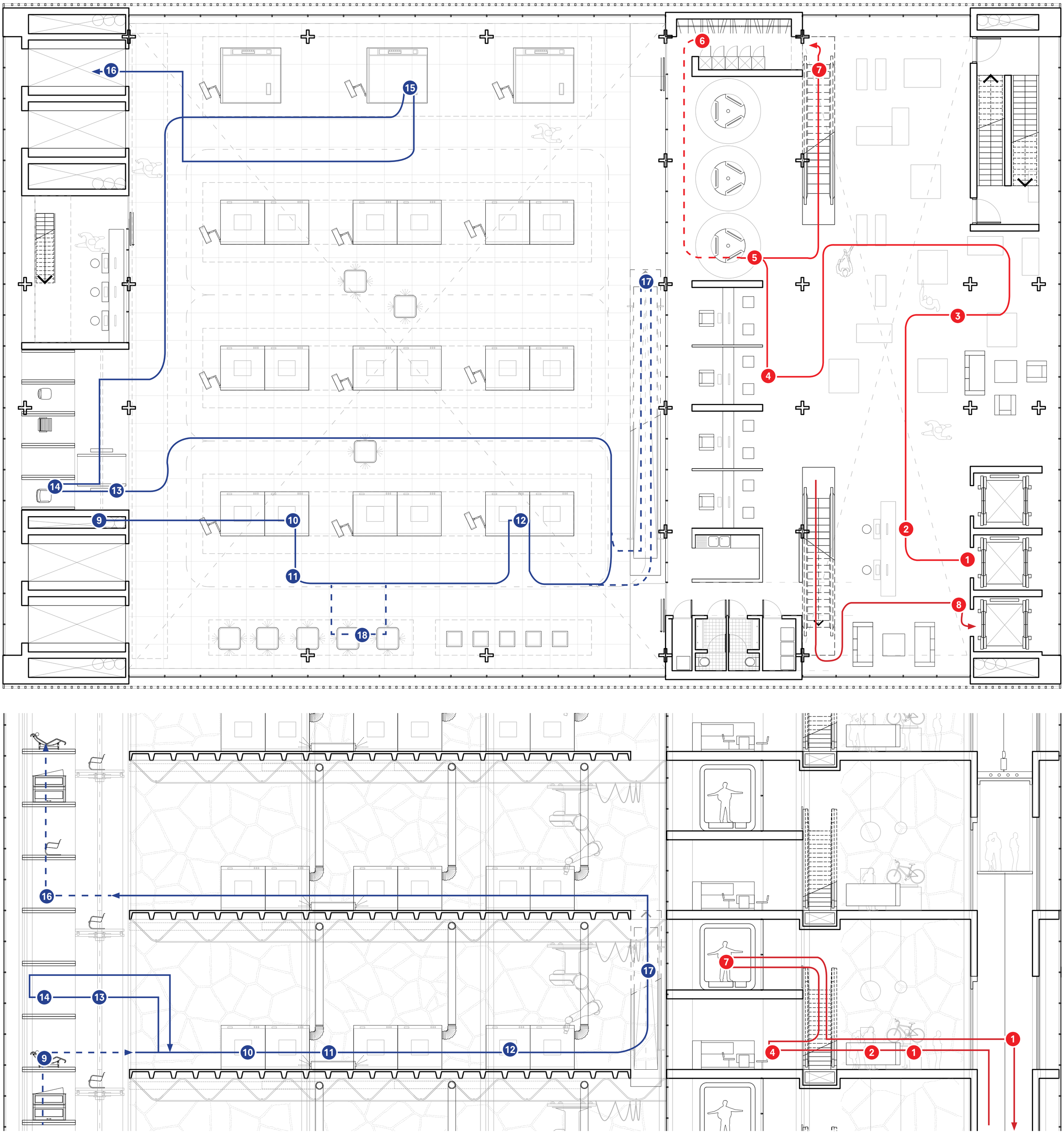
15 Next to 3D printers that can process a wide range of materials there are (according to the producing company) also CNC machine that can layered manufacture wood.

16 Finished parts and products are after the printing process is finished transported to assembly floor, packaging- and quality control floor and transport floor. These are located in the bottom and top of the building, depending on the mode of transport (through air or over land).

17 If needed producing companies can extend their production capacity by linking 2 or more production floors by means of a vertical conveyor.

18 AGV's that run on electricity can be charged and stored in the designated areas at the side of the production floor. Here also the ranks can be stored that are fixed on the AGV to move parts and products.

LOGISTICAL CORE | **PRODUCTION FLOOR** | **COUNSELING ZONE** | **SHOWCASE** | **ACCESSIBILITY**



SCALE 1:100

1m 2m 5m 10m

FRAGMENT **TOWER**

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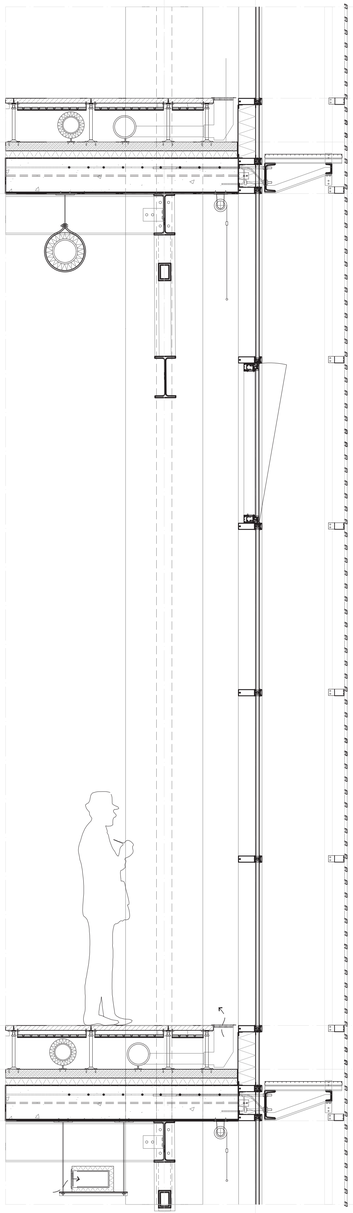

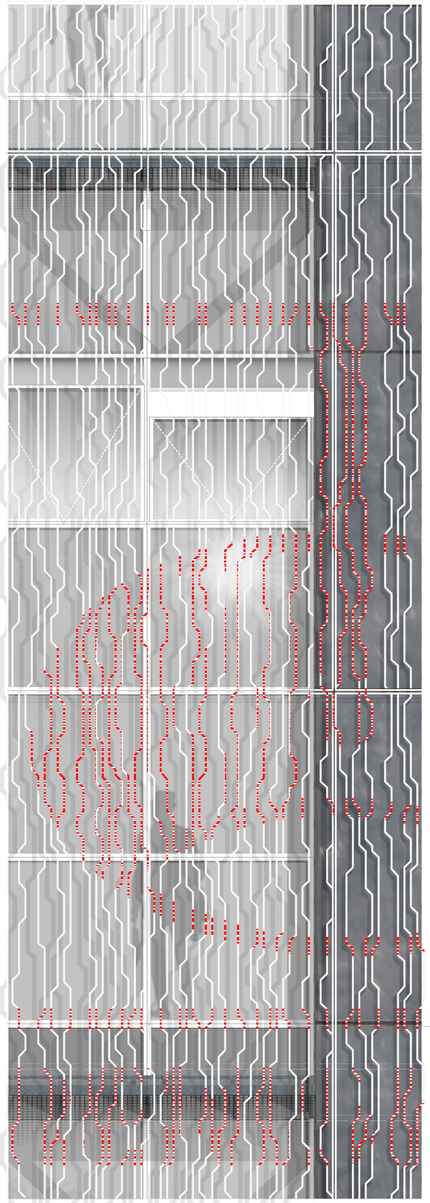

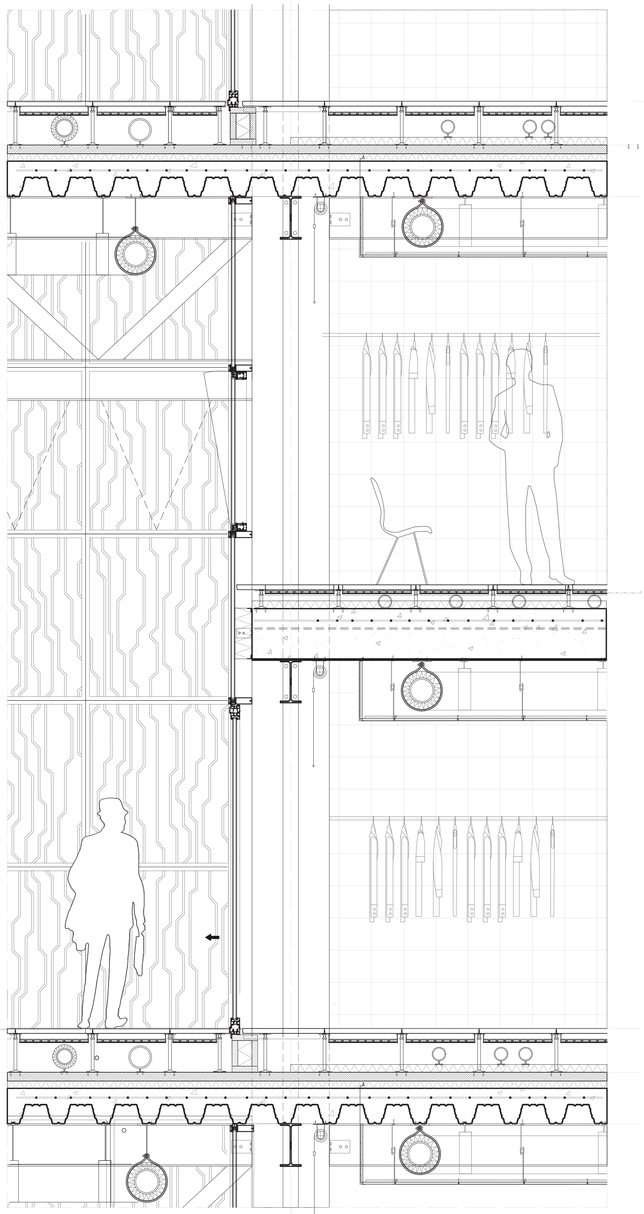

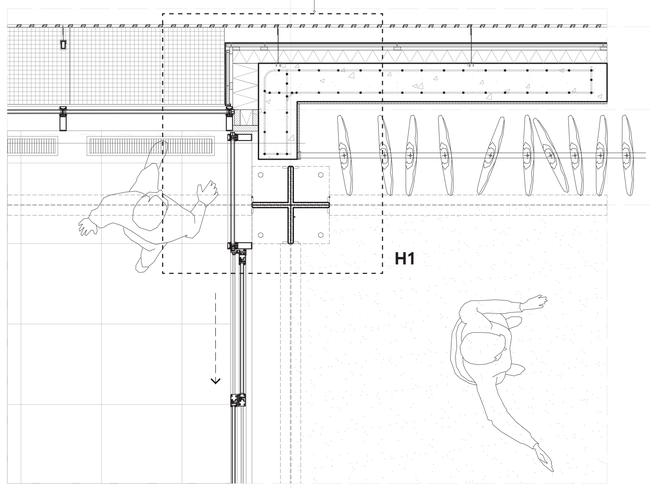

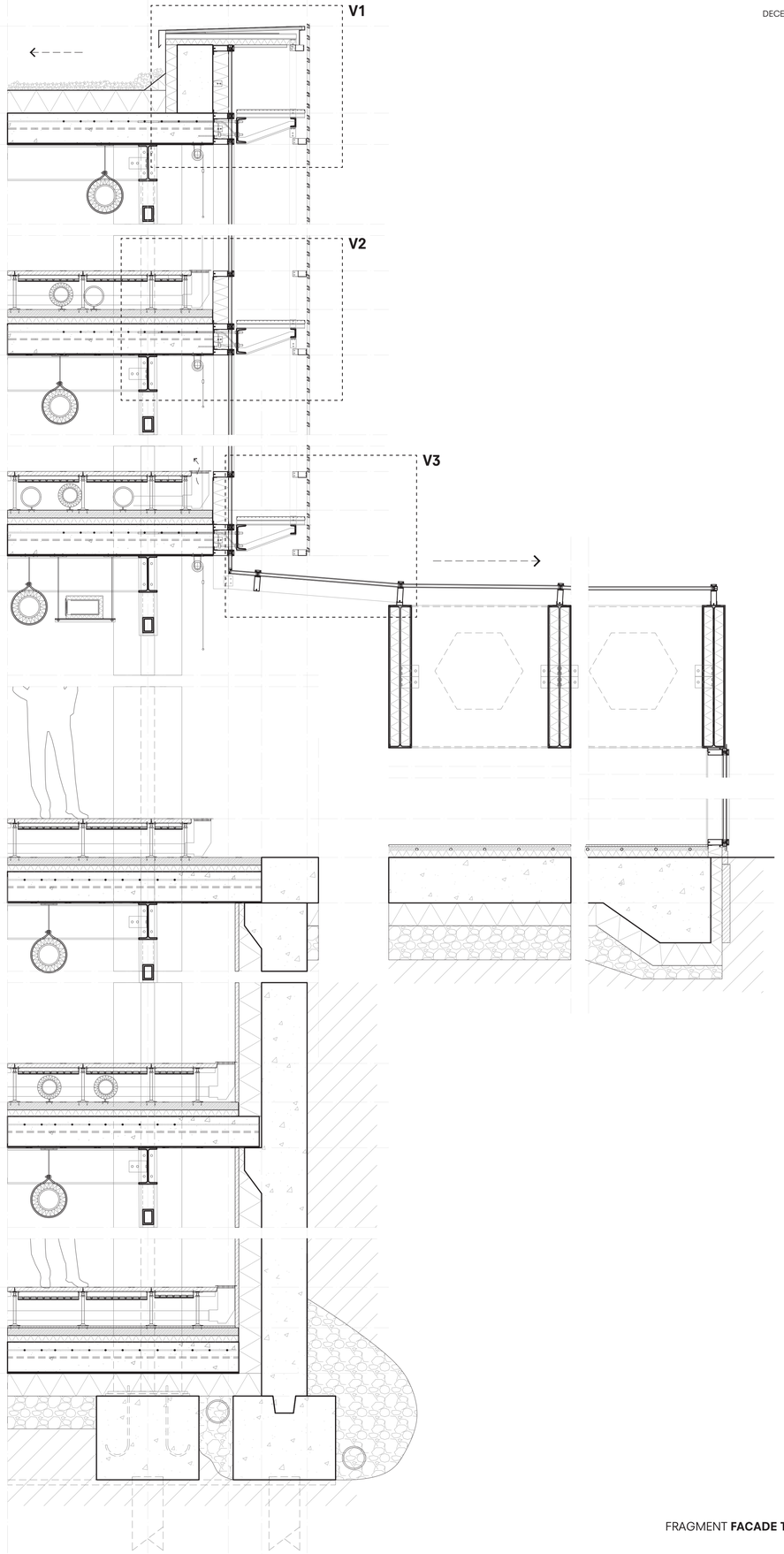

SCALE 1:5

5cm 10cm 25cm 50cm

FRAGMENT **FACADE TOWER**

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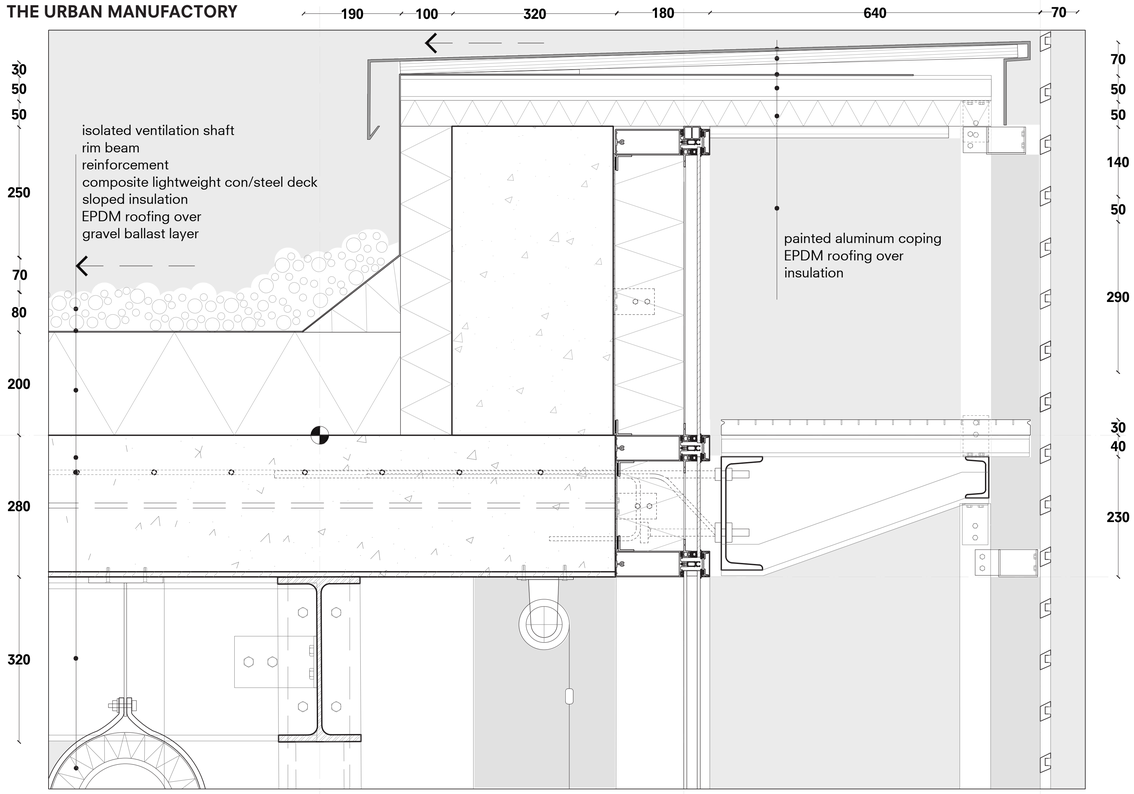
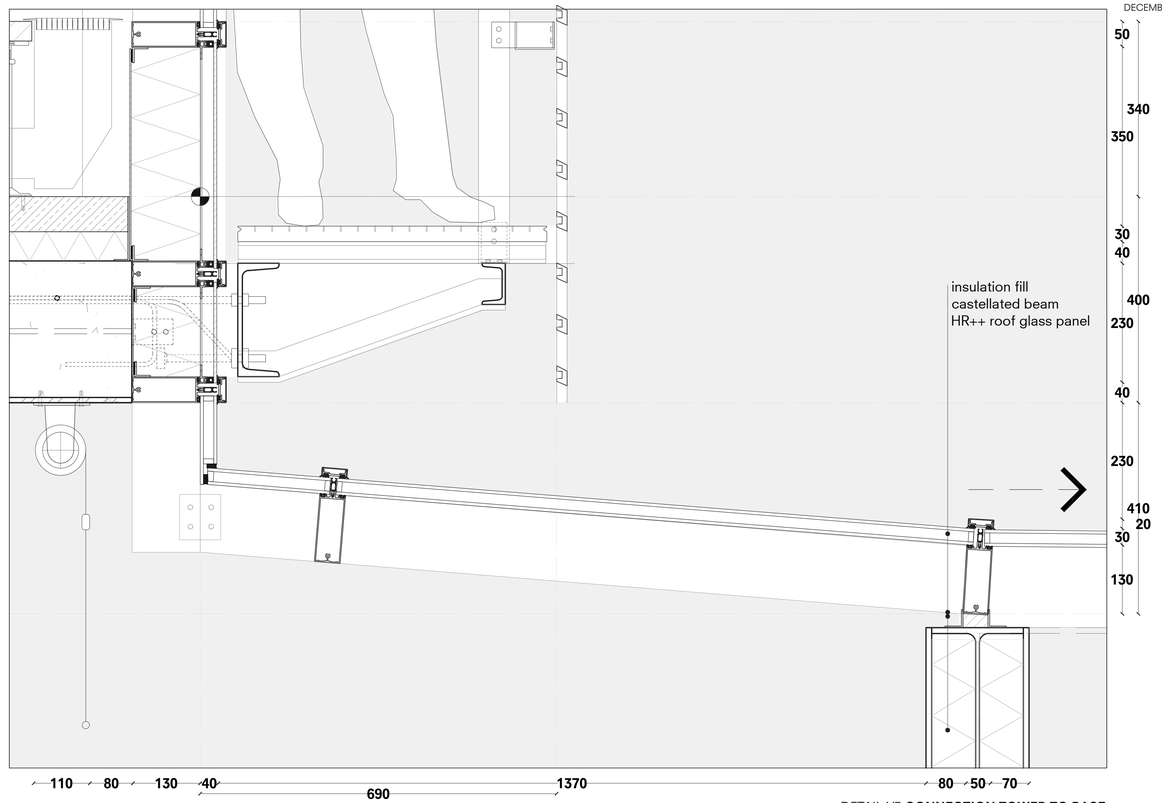
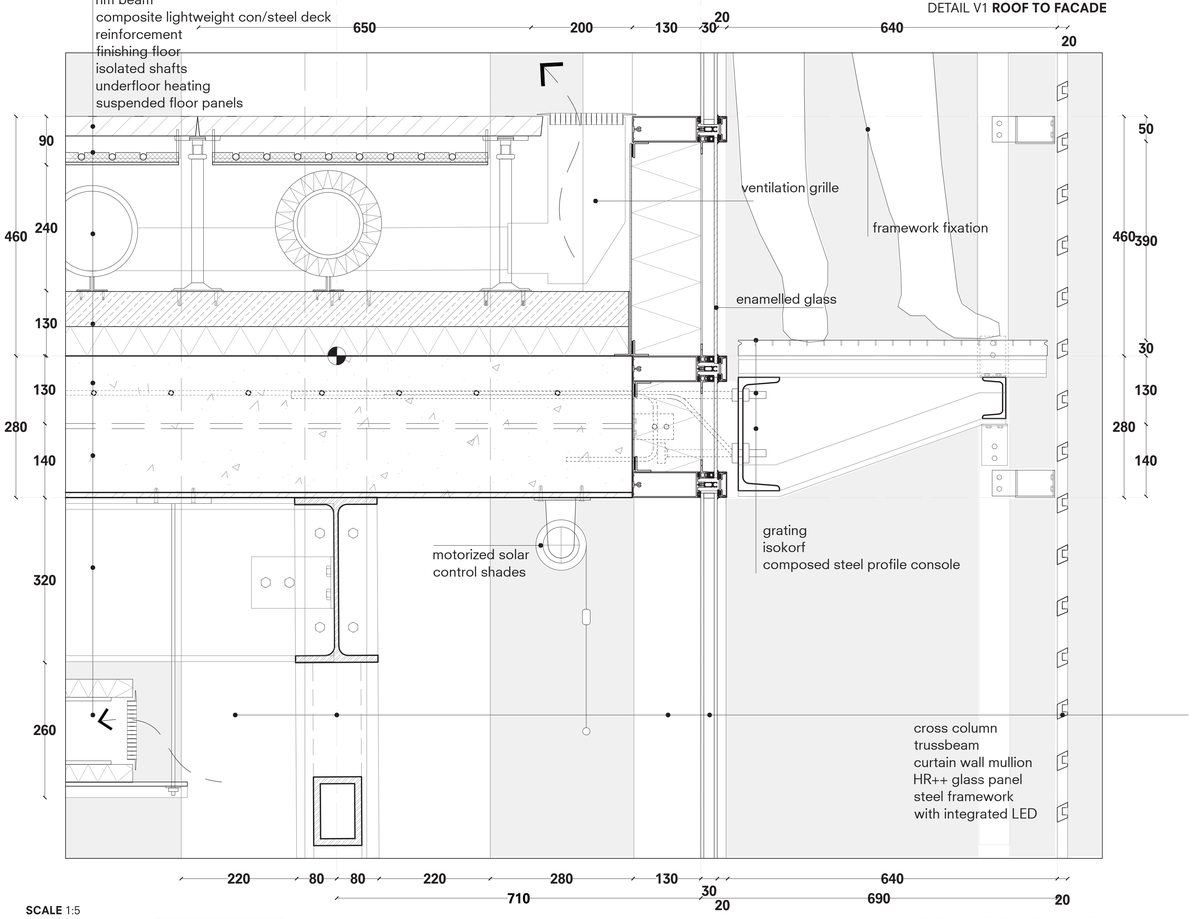


DETAIL V1 **ROOF TO FACADE**

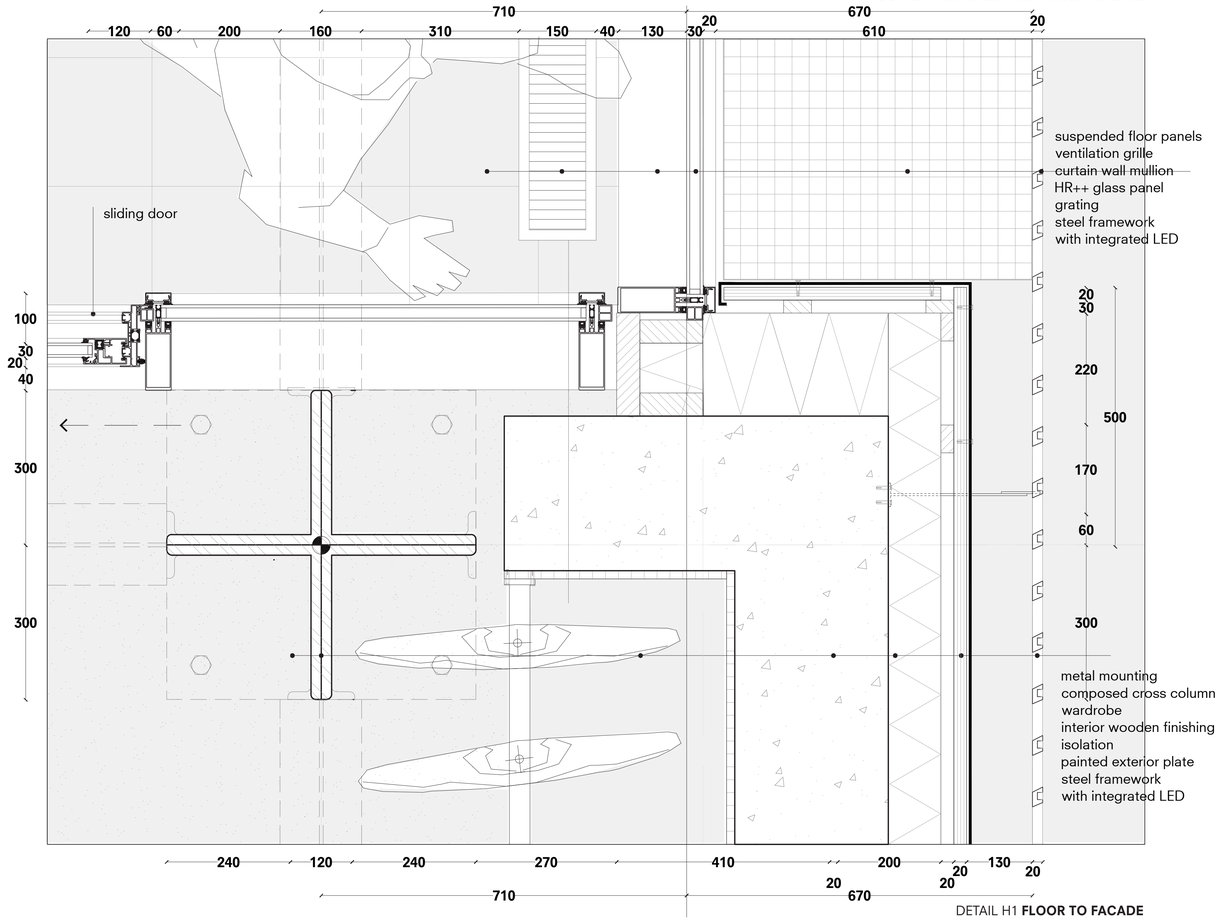


DETAIL V3 **CONNECTION TOWER TO BASE**



DETAIL V2 **FLOOR TO FACADE**

SCALE 1:5
5cm 10cm 25cm 50cm



DETAIL H1 **FLOOR TO FACADE**

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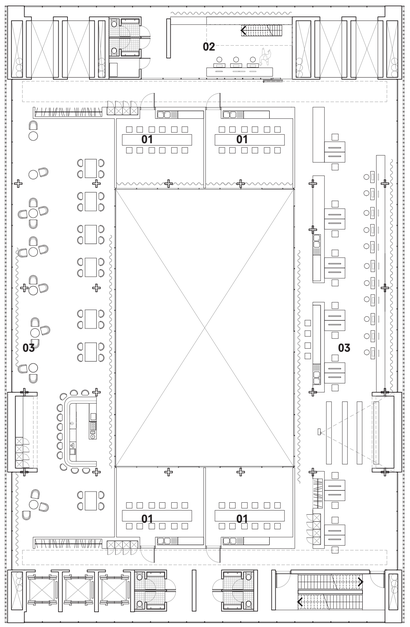
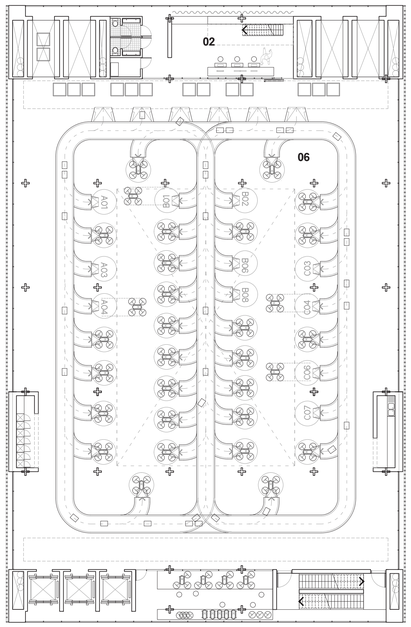
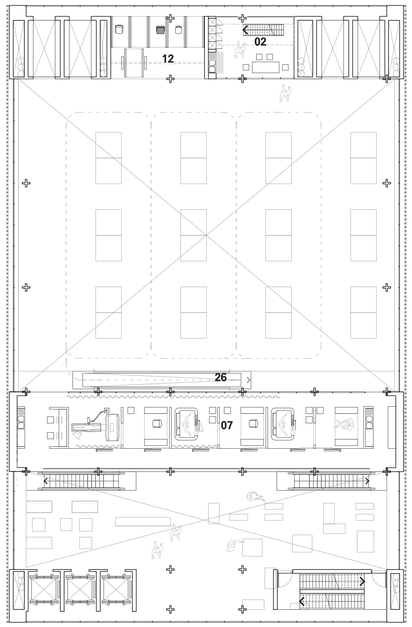


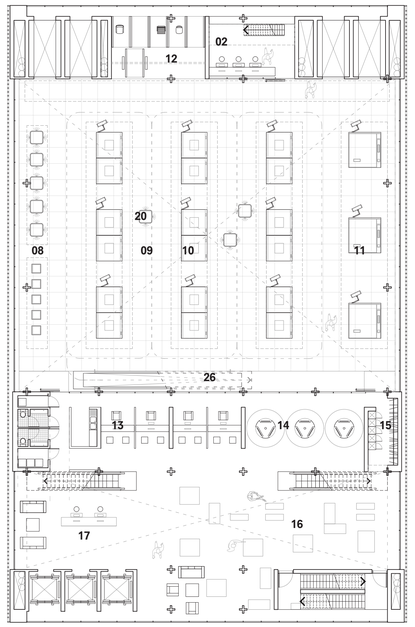
PLAN **AIR CONTROL ROOM TOWER**



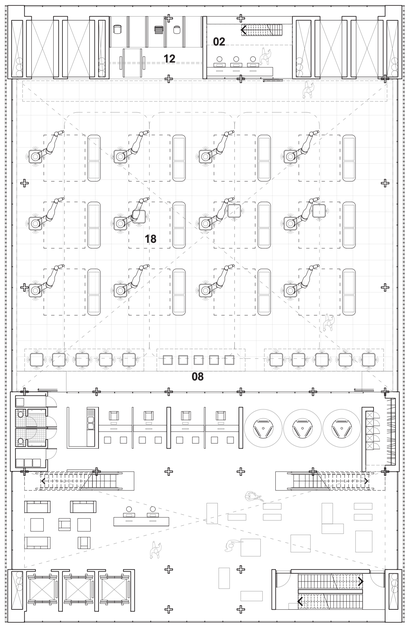
PLAN **AIR TRANSPORT HUB TOWER**



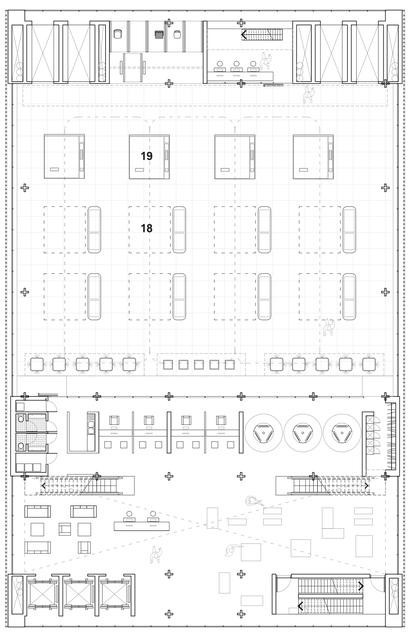
PLAN **MEZZANINE PRODUCTION FLOOR TOWER**



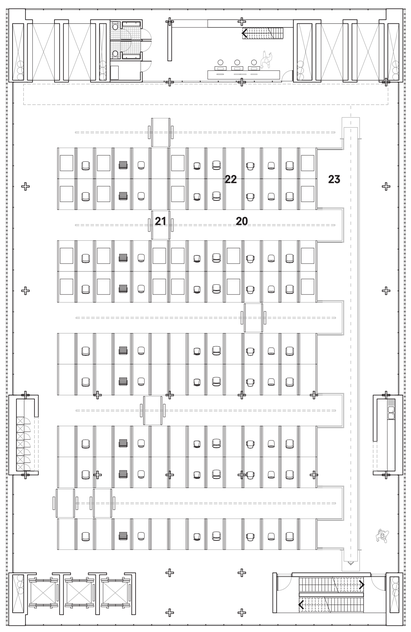
PLAN **PRODUCTION FLOOR TOWER**



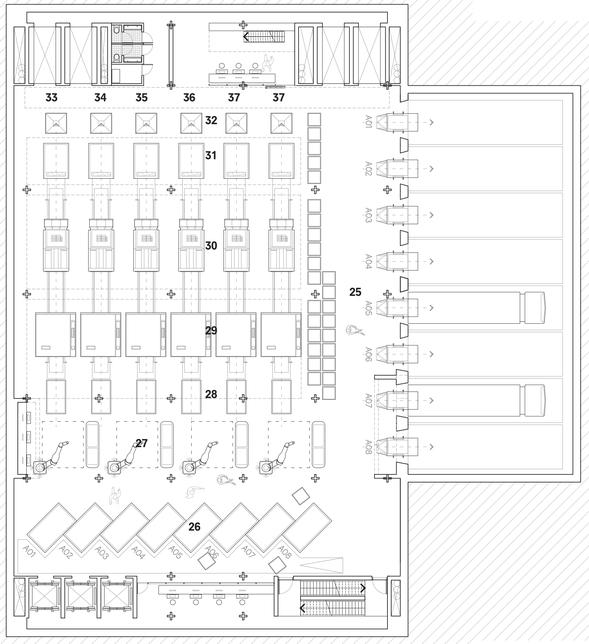
PLAN **UPPER ASSEMBLY FLOOR TOWER**



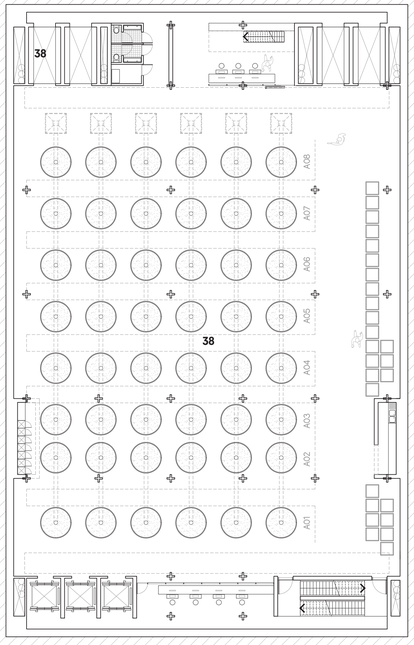
PLAN **UPPER PACKAGING FLOOR TOWER**



PLAN **UPPER STORAGE FLOOR TOWER**



PLAN **MATERIAL RECOVERY CENTER BASEMENT TOWER**



PLAN **SILOS BASEMENT TOWER**

01 conference room
02 conference room
03 control room
04 air control centre
05 sky bar
06 drone loading bay
07 analysis room
08 AVG charging area
09 AVG line
10 AM machine
11 CNC machines
12 live storage
13 counseling room
14 interface
15 wardrobe
16 showcase
17 assembly robot
18 packaging robot
19 quality control
20 automated storage and retrieval
21 stacker machine
22 storage racks
23 distribution conveyor
24 automated guided vehicle (AGV)
25 off loading bay
26 collecting area
27 dissambling machines
28 seperation material types
29 cleaning and drying
30 shredding and filtering
31 extruding and spooling (filament) or milling (powder)
32 storing in silos
33 metal conveyor
34 glass conveyor
35 polymer conveyor
36 bioplastic conveyor
38 silos
39 goods lift
40 floor to floor conveyor

SCALE 1:200
2m 4m 10m 20m
90°

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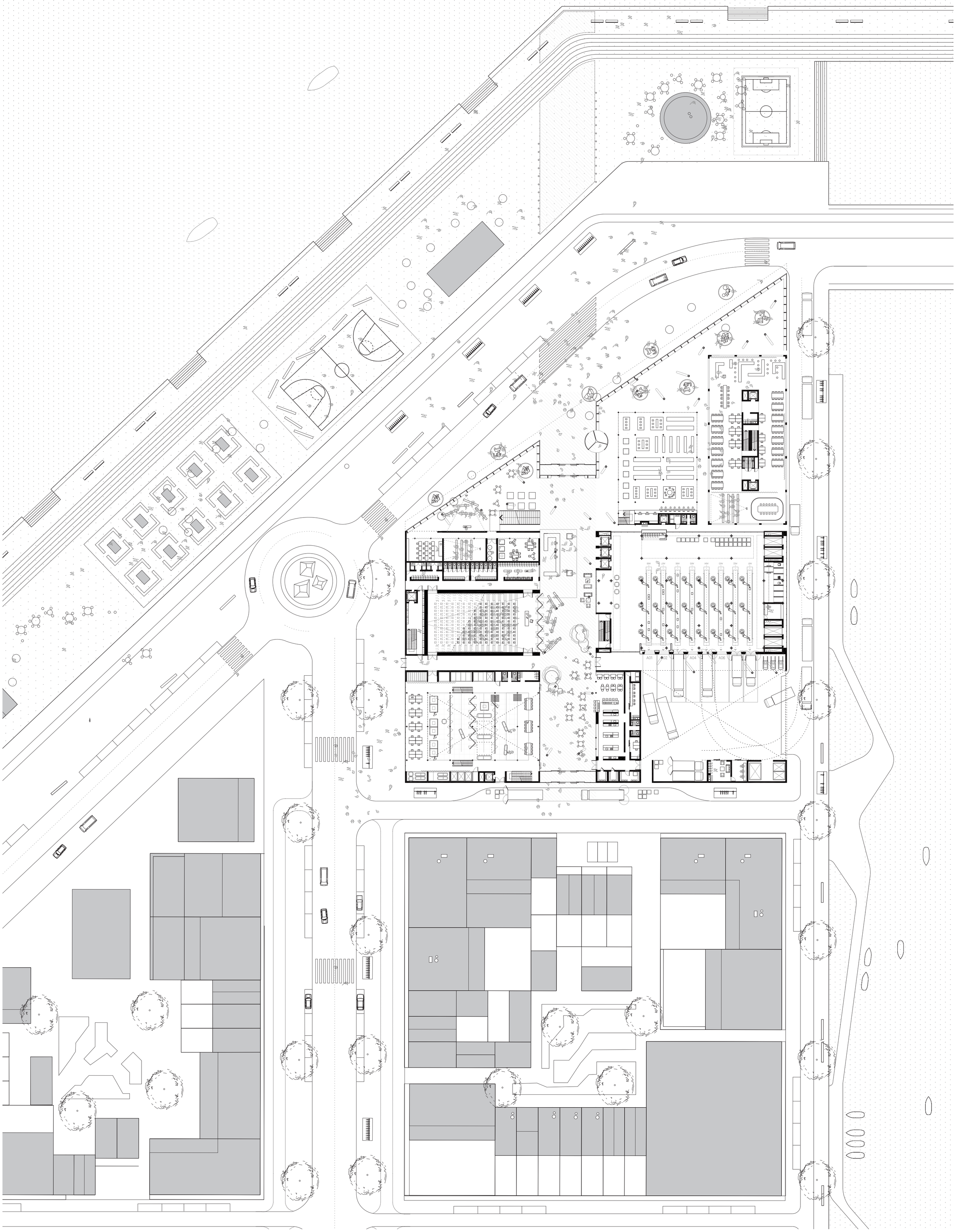

SCALE 1:500

5m 10m 25m 50m

PLAN **URBAN IMPLEMENTATION**

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01 main entrance
02 reception & security
03 store
04 toilets
05 kitchenette
06 staff room
07 co-working spaces
08 meeting room
09 presentation space
10 office
11 exposition space
12 education & knowledge centre
13 workshop space
14 material storage
15 classroom
16 wardrobe
17 storage
18 auditorium
19 storage
20 meeting space
21 working space
22 machine development
23 waste containers
24 refrigeratior
25 kitchen
26 rinse kitchen
27 bar
28 truck charging station
29 control room
30 loading bay
31 AGV charging station
32 sorting space
33 goods elevator
34 live storage
35 loading conveyor
36 counter
37 waiting area
38 goods entrance
39 public lecture space
40 technical room
41 research collection showcase

EL 0

A01 A02 A04 A06 A08 A07 A06 A05 A04 A03 A02 A01

SCALE 1:200
2m 4m 10m 20m

PLAN **GROUND FLOOR BASE**

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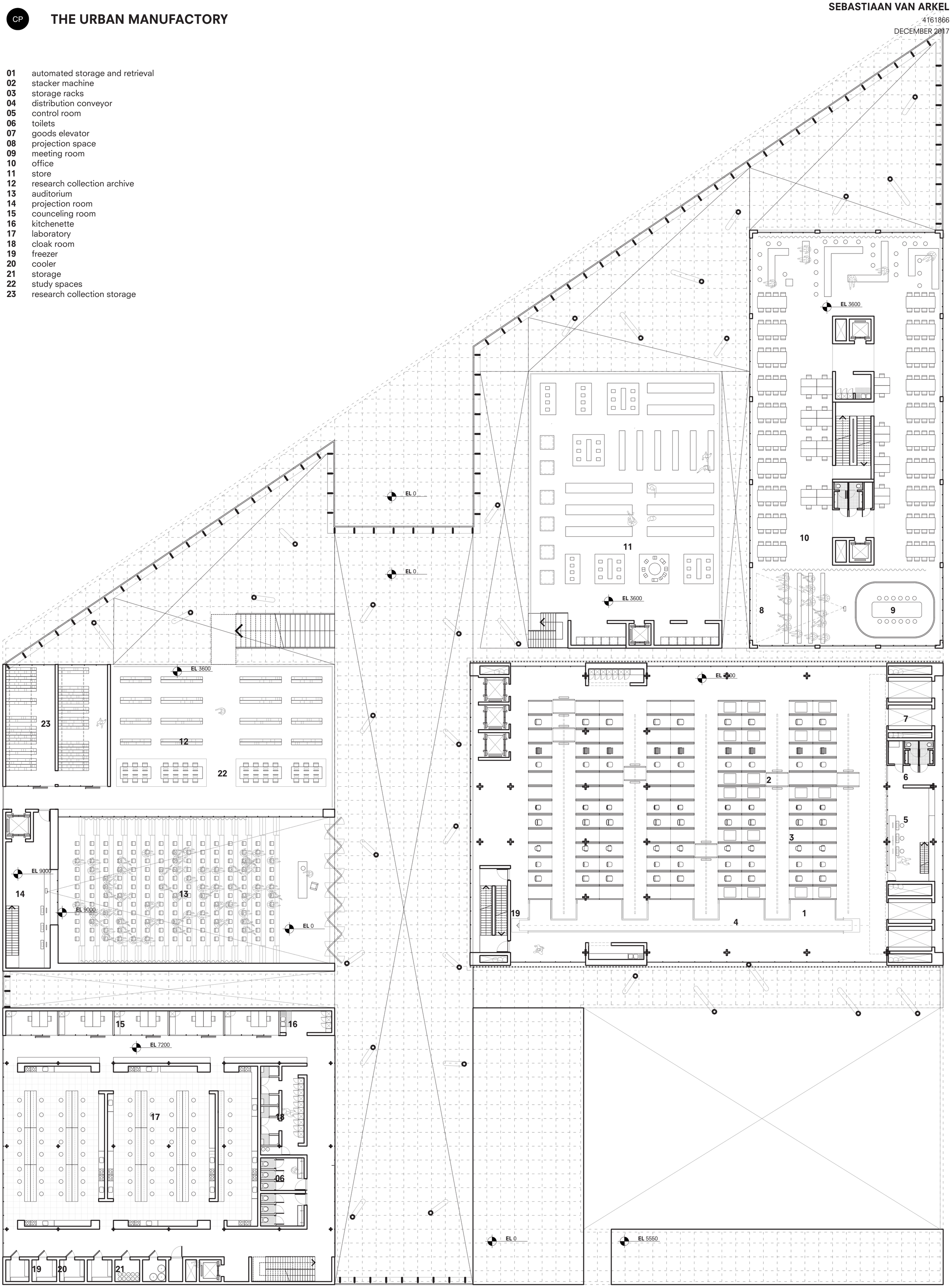
THE URBAN MANUFACTORY

01 automated storage and retrieval
02 stacker machine
03 storage racks
04 distribution conveyor
05 control room
06 toilets
07 goods elevator
08 projection space
09 meeting room
10 office
11 store
12 research collection archive
13 auditorium
14 projection room
15 counceling room
16 kitchenette
17 laboratory
18 cloak room
19 freezer
20 cooler
21 storage
22 study spaces
23 research collection storage



SCALE 1:200
2m 4m 10m 20m

PLAN **FIRST FLOOR BASE**

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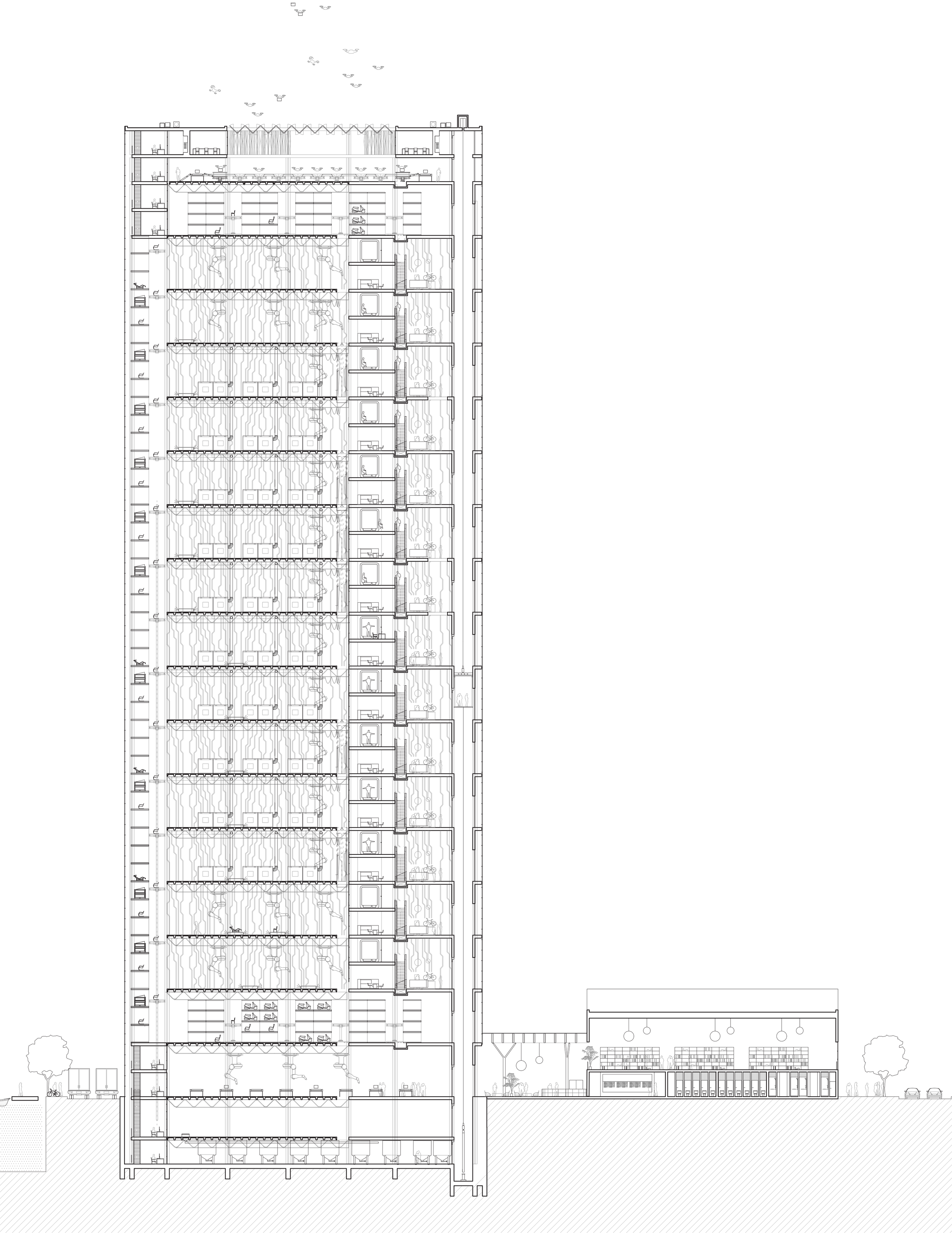

SCALE 1:300

2m 4m 10m 20m

SECTION AA

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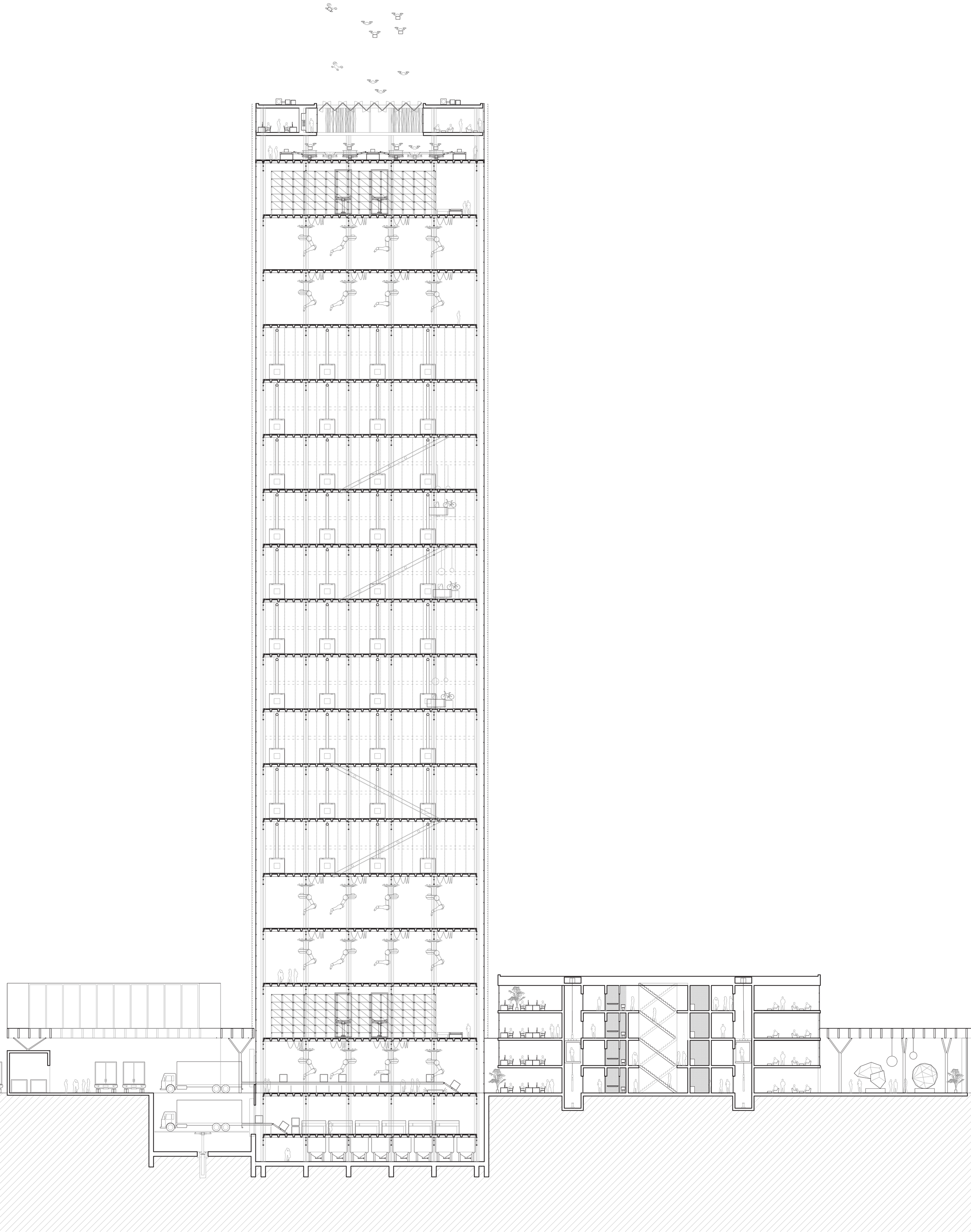

SCALE 1:300

2m 4m 10m 20m

SECTION BB

CP

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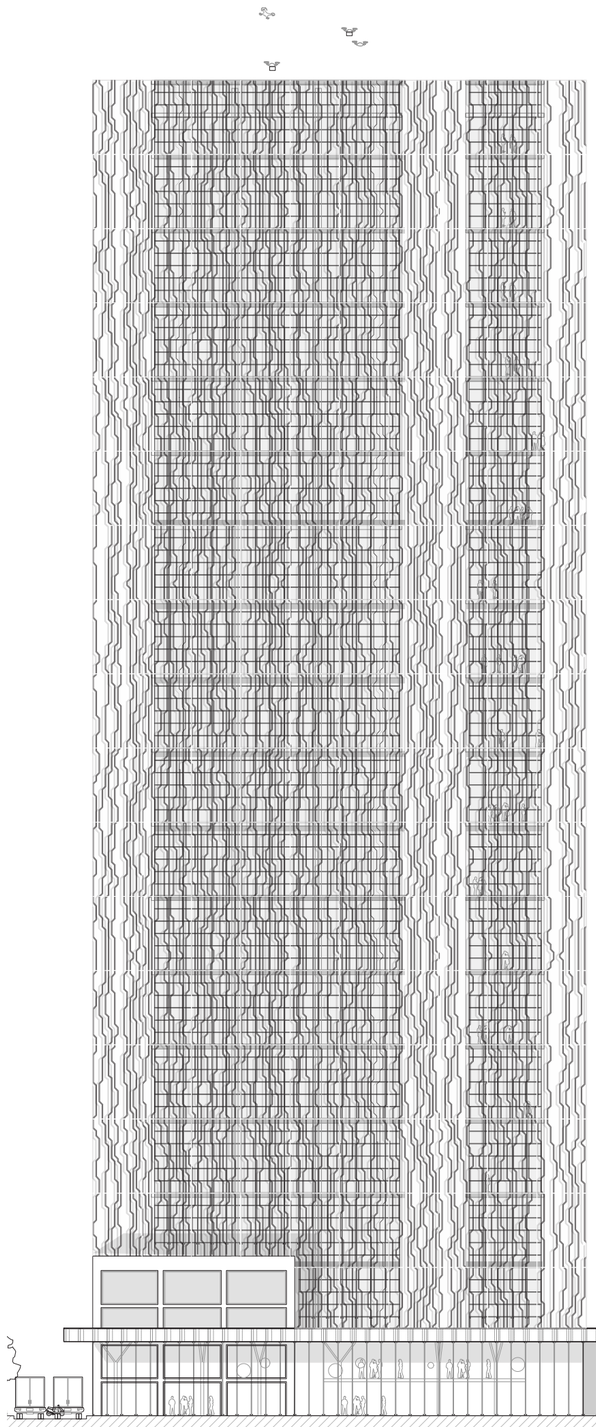
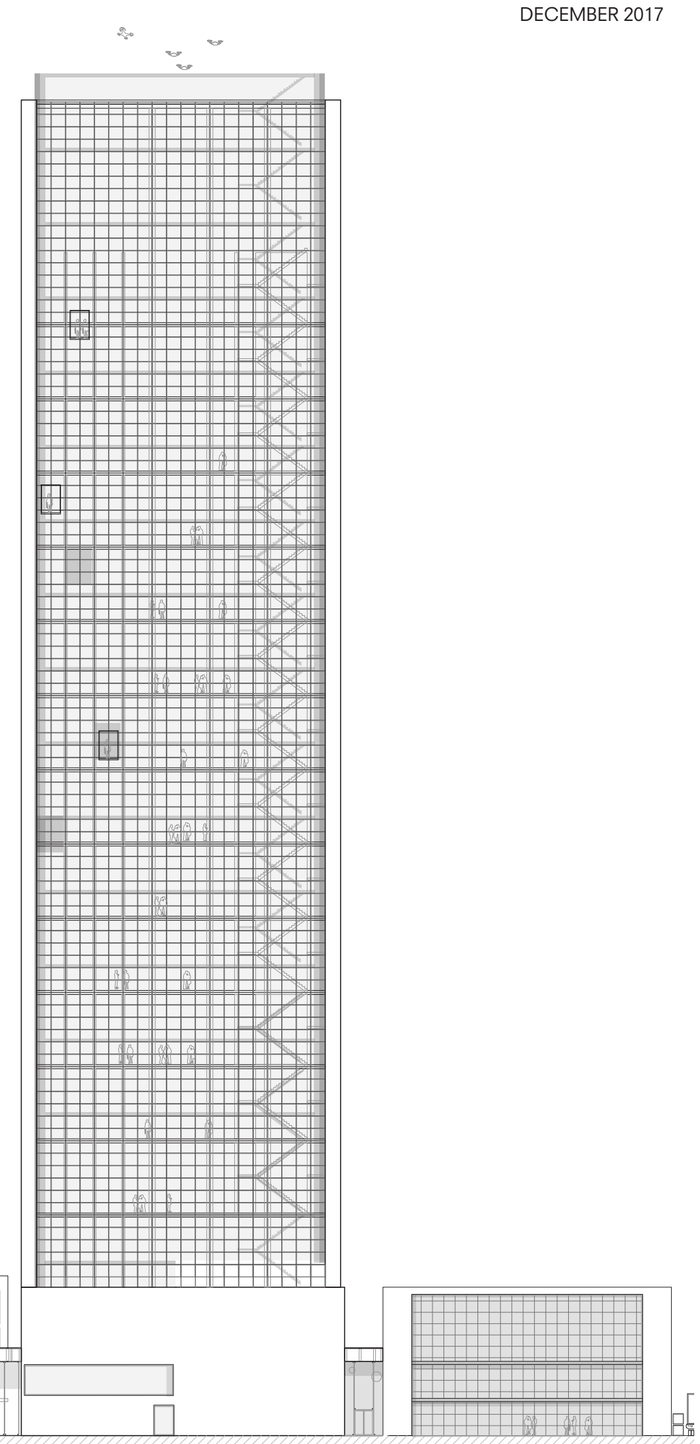
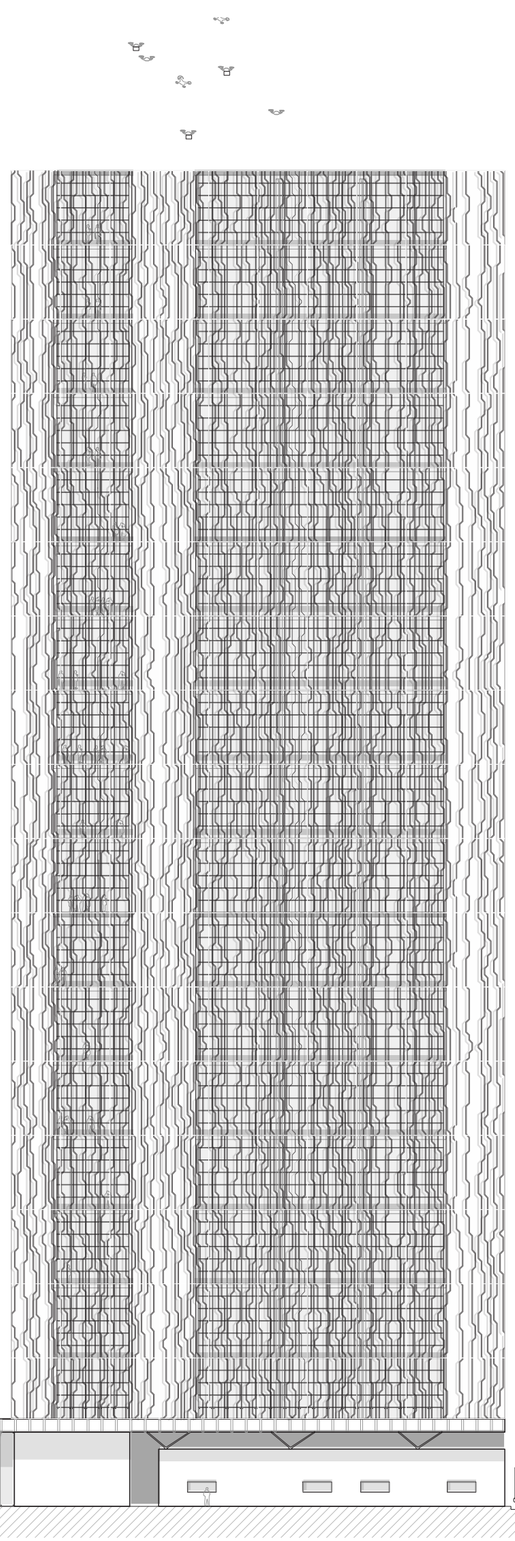


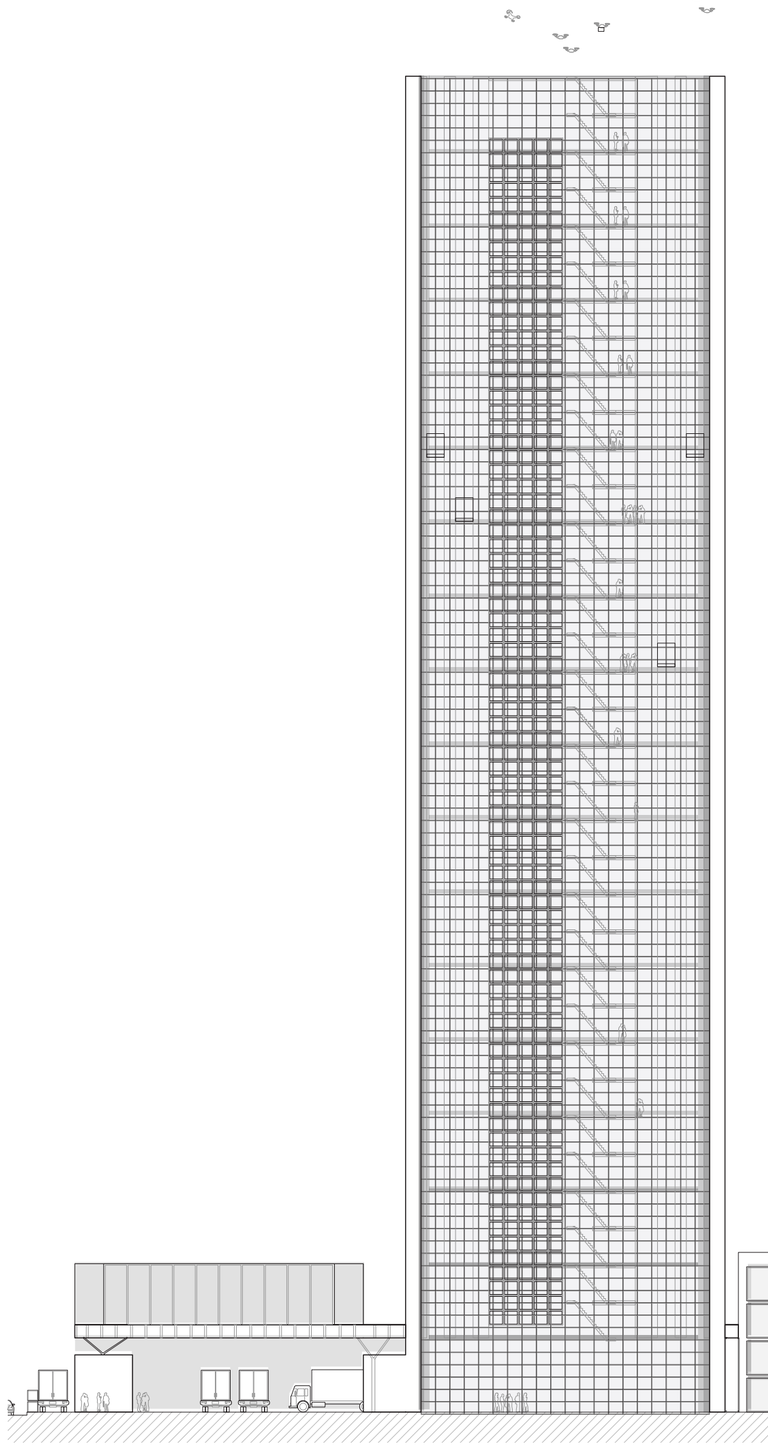
FACADE **NORTHWEST**



FACADE **NORTHEAST**



FACADE **SOUTHEAST**



FACADE **SOUTHWEST**

SCALE 1:500

5m 10m 25m 50m

FUTURE URBAN MANUFACTORY FACADE

THE URBAN MANUFACTORY

FROM THE POST-INDUSTRIAL CITY TO THE PRODUCTIVE CITY

SEBASTIAAN VAN ARKEL

THE URBAN MANUFACTORY

FROM THE POST-INDUSTRIAL CITY TO THE PRODUCTIVE CITY

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