

“Allons au fond de l'inconnu pour trouver du nouveau.”
- Charles Baudelaire



Cecilia Chisra Catraru

**Parisian
Atmosphere**

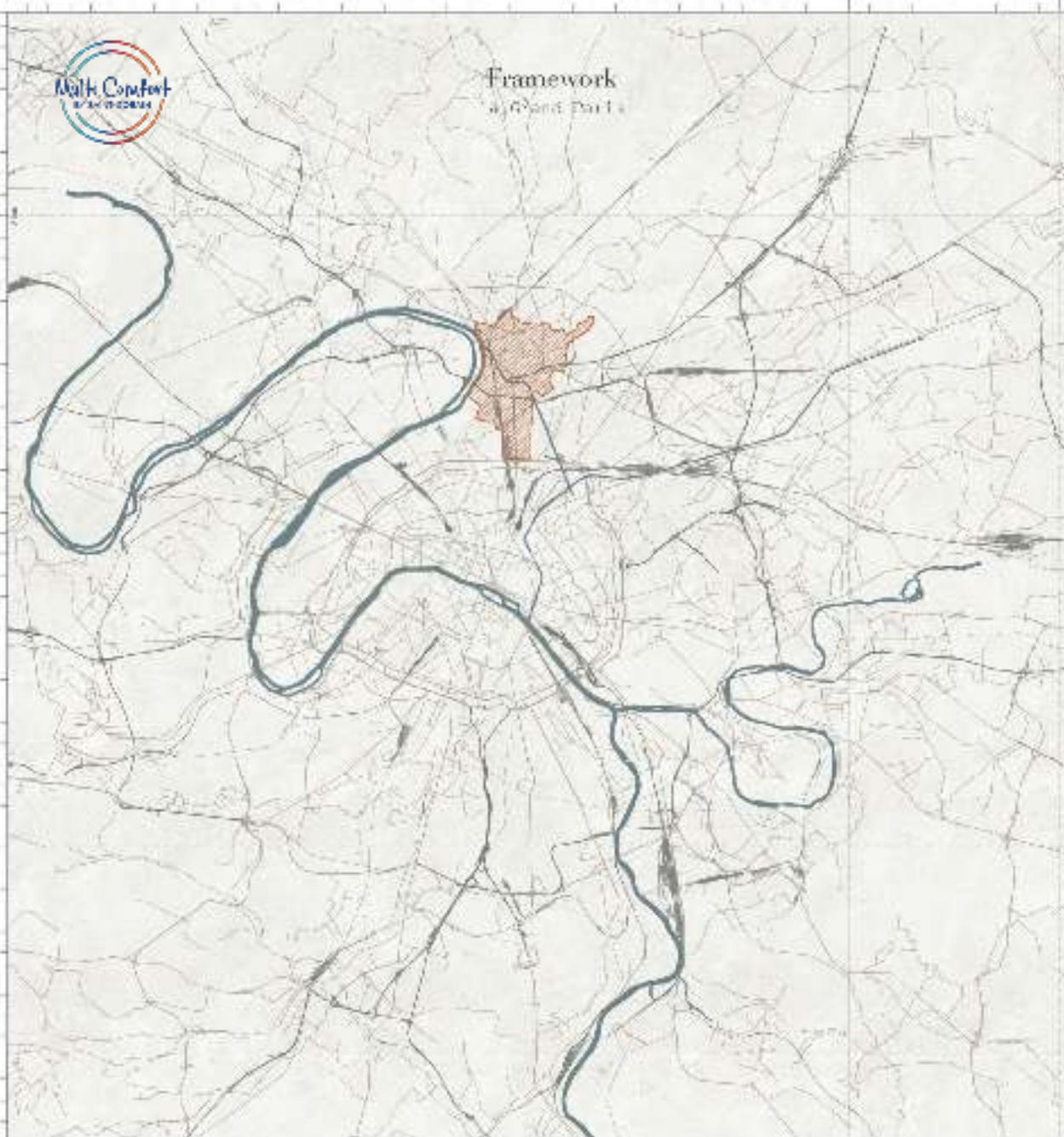
Natalia Benquer Prodromou

Italy

n°15



Framework



Saint-Denis

analysis of the mobility product

URBAN DEVELOPMENT FRAMEWORK

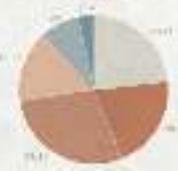
Urban development framework... (text describing the urban structure and mobility goals)

URBAN PLAN

Urban plan... (text describing the urban layout and infrastructure)

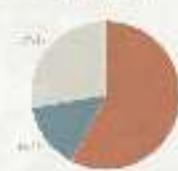


URBAN DEVELOPMENT



- percentage of urban development

URBAN PLAN



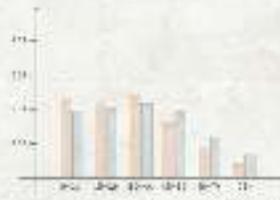
- percentage of urban plan

URBAN DEVELOPMENT SITUATION

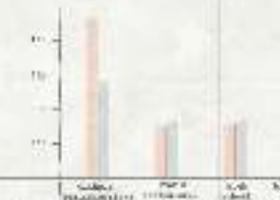


- percentage of urban development situation
- percentage of urban development situation
- percentage of urban development situation

URBAN DEVELOPMENT



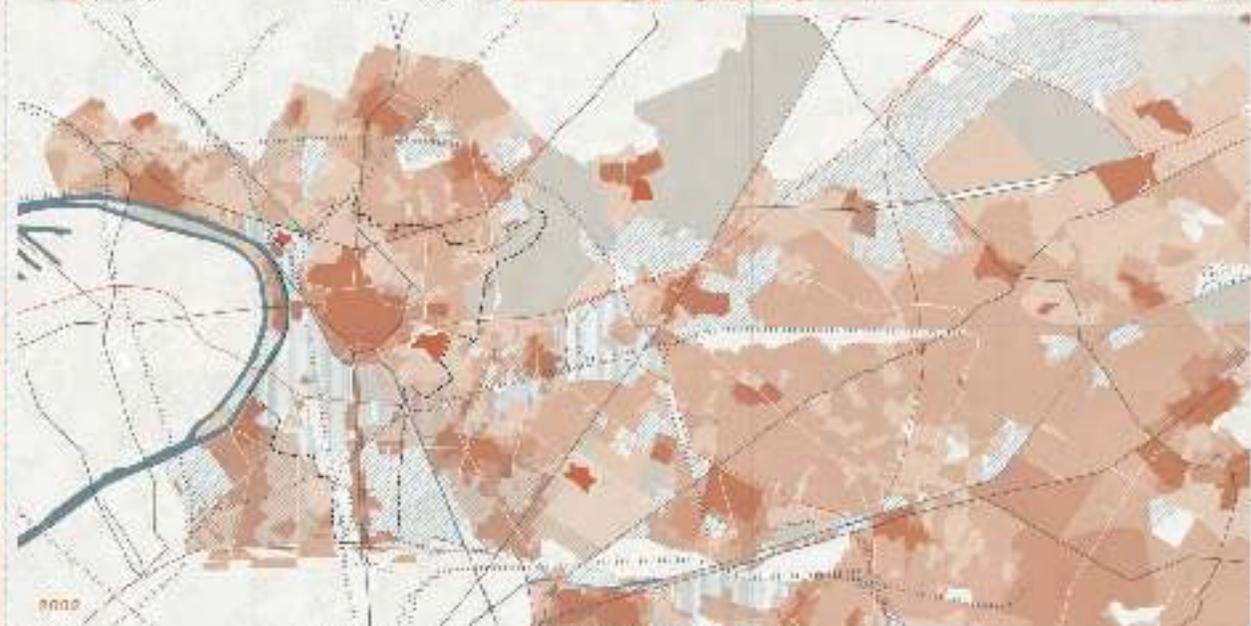
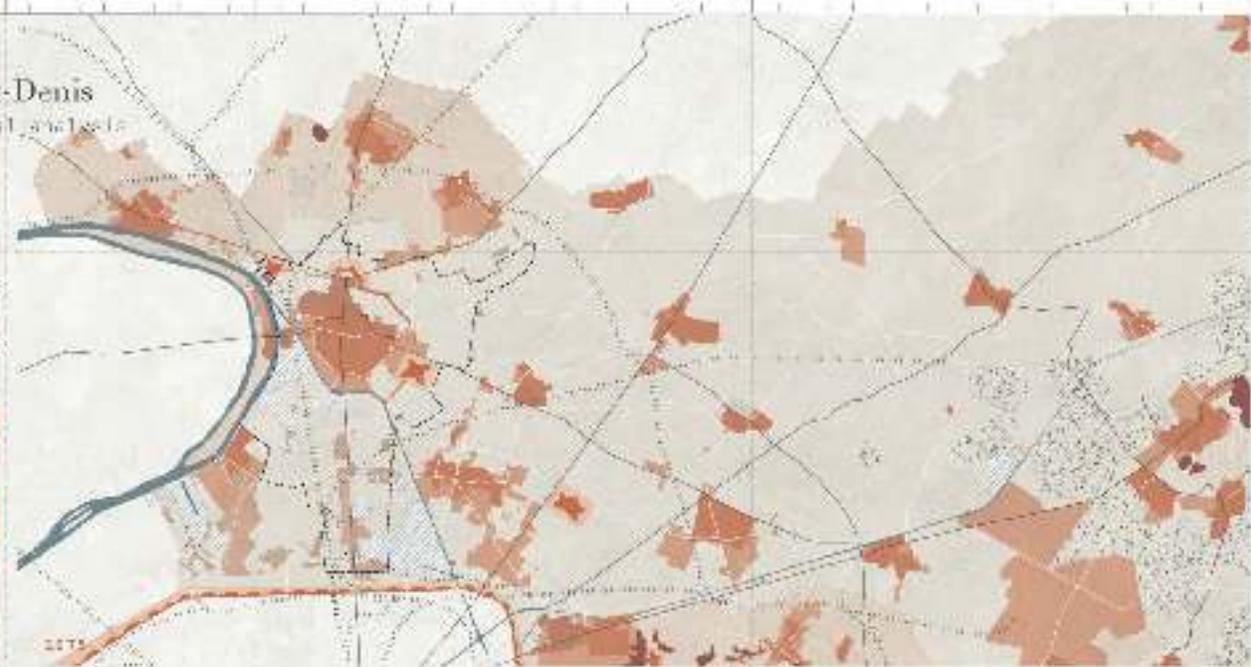
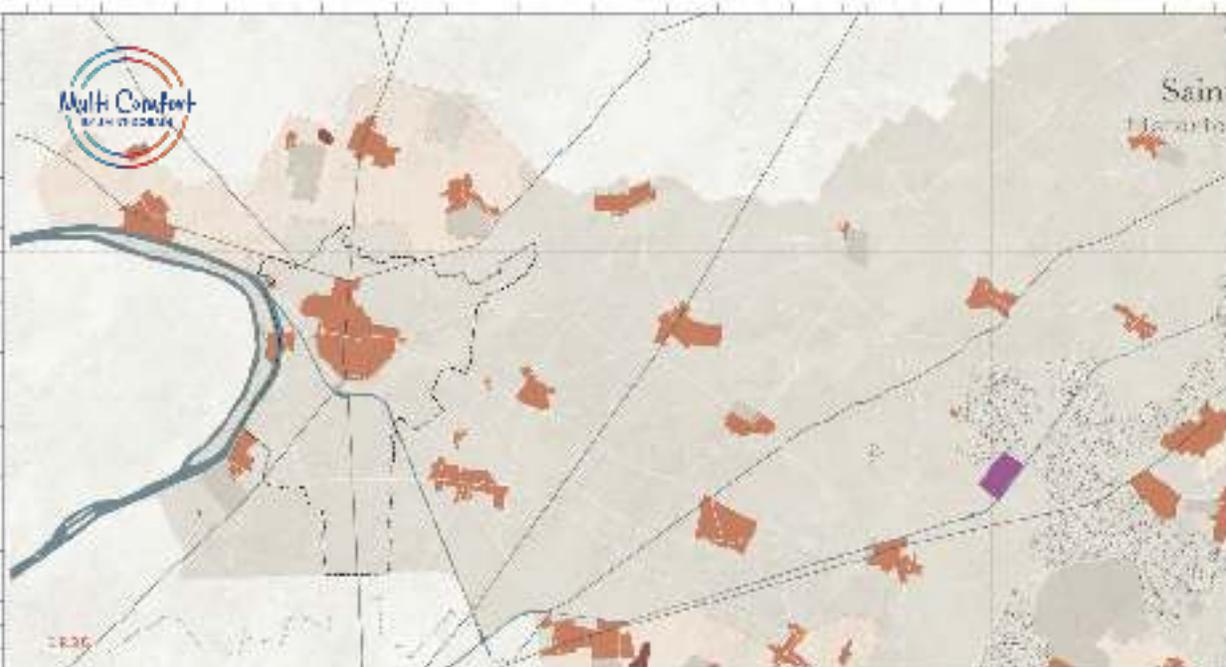
URBAN PLAN





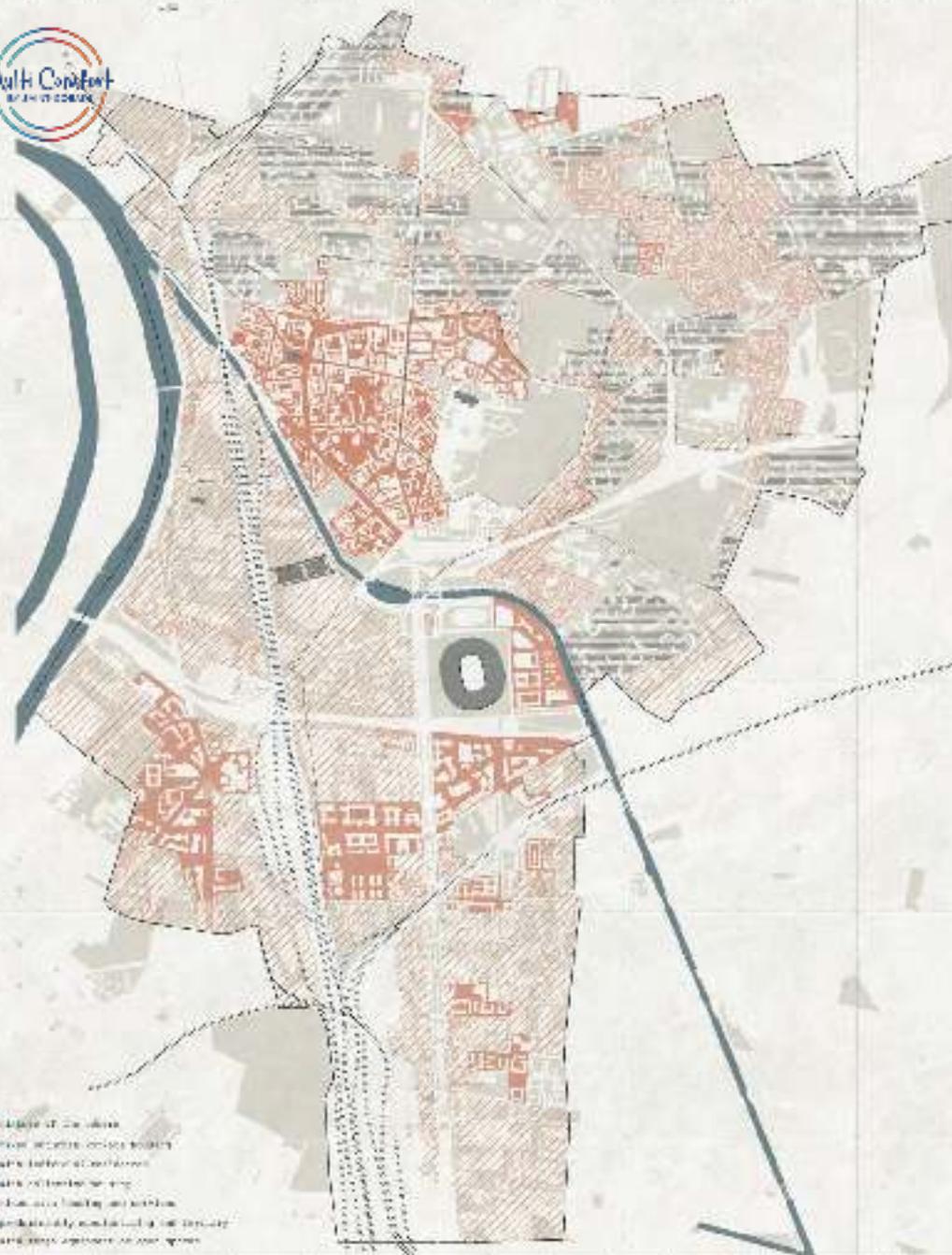
Saint-Denis

The actual analysis



- Urban
- Urban core
- Urban extension
- Urban periphery
- Urban fringe
- Urban edge
- Urban core
- Urban extension
- Urban periphery
- Urban fringe
- Urban edge
- Urban core
- Urban extension
- Urban periphery
- Urban fringe
- Urban edge

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- Urban extension
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- Urban edge

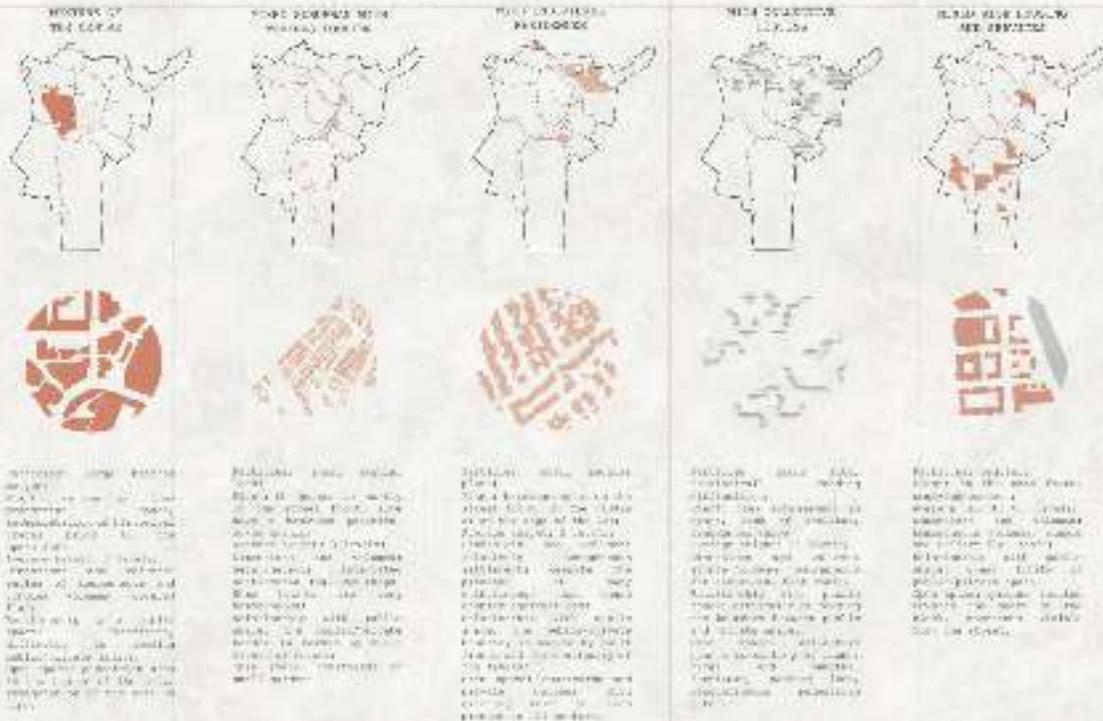


Saint-Denis

analysis of the urban structure

SCHEMES OF URBAN STRUCTURE

in different





Saint-Denis

2017



WHAT IS A BICO?

A BICO (Bassin de Collecte des Imperméables) is a small-scale, decentralized wastewater treatment system designed to collect and treat rainwater runoff from impermeable surfaces (roofs, paved areas) in urban areas. It typically consists of a collection network leading to a treatment tank where the water is filtered and then infiltrated into the ground.

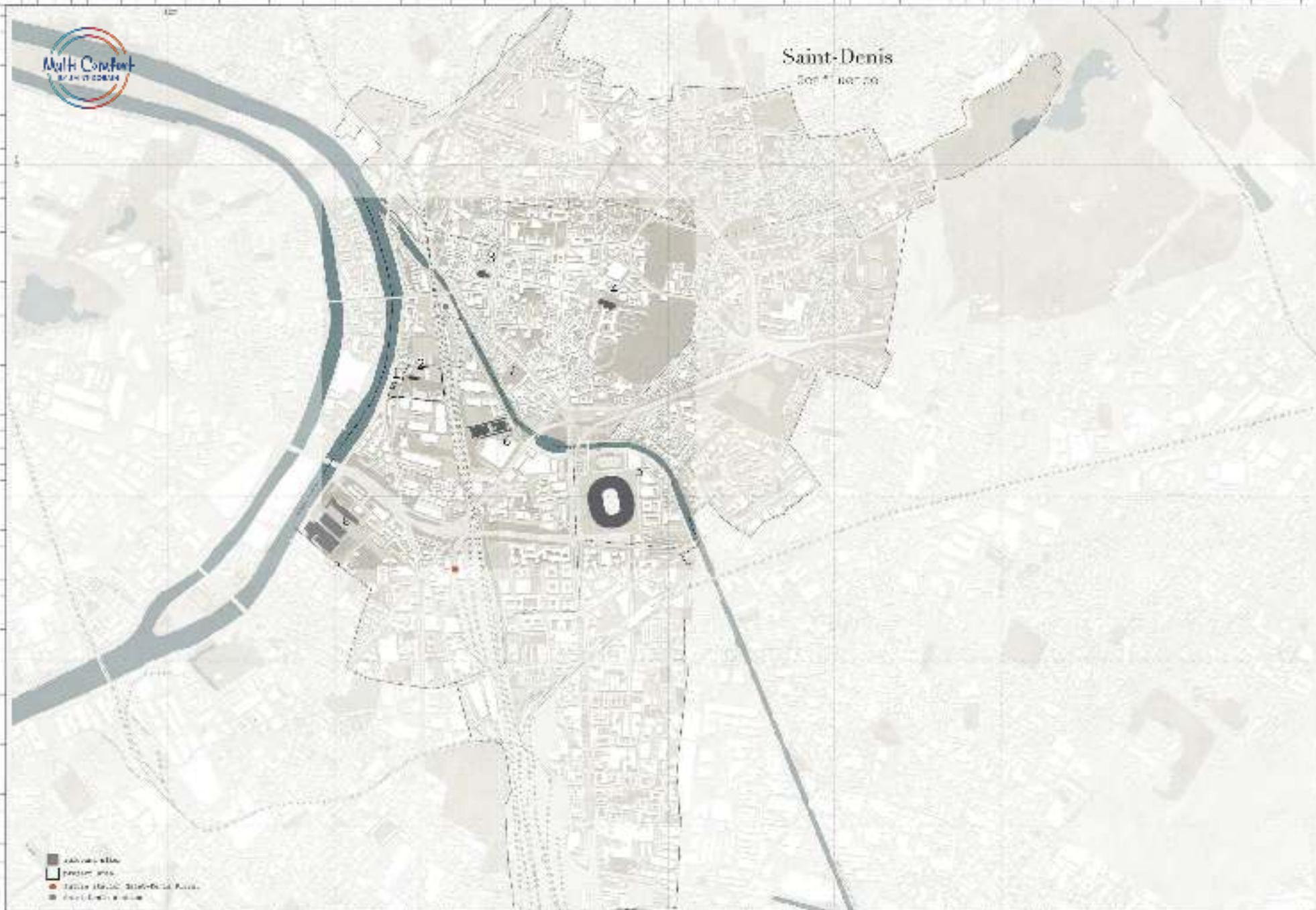
- project area
- area of public utility
- 100% covered
- 50% covered
- 25% covered
- 0% covered





Saint-Denis

SEPTEMBER 2014



- Legend:
- Historic Area
- Urban Area
- Public Space
- Public Space



1. BLOOM COURT



2. COURT WALKWAYS



3. TRINITY OF SAINT-DENIS DE LA CHAPELLE



4. BAZILICA TRANSOXYANE OF SAINT-DENIS



5. HOTEL DE VILLE



6. THE HOTEL DE VILLE



7. PLACE BLAISE DES PASSEURS



8. THE HOTEL DE VILLE



Saint-Denis ANALYSIS

- ### URBAN INFRASTRUCTURE
- Highway
 - Main road
 - Local road
 - Waterway
 - Greenway
 - Public space

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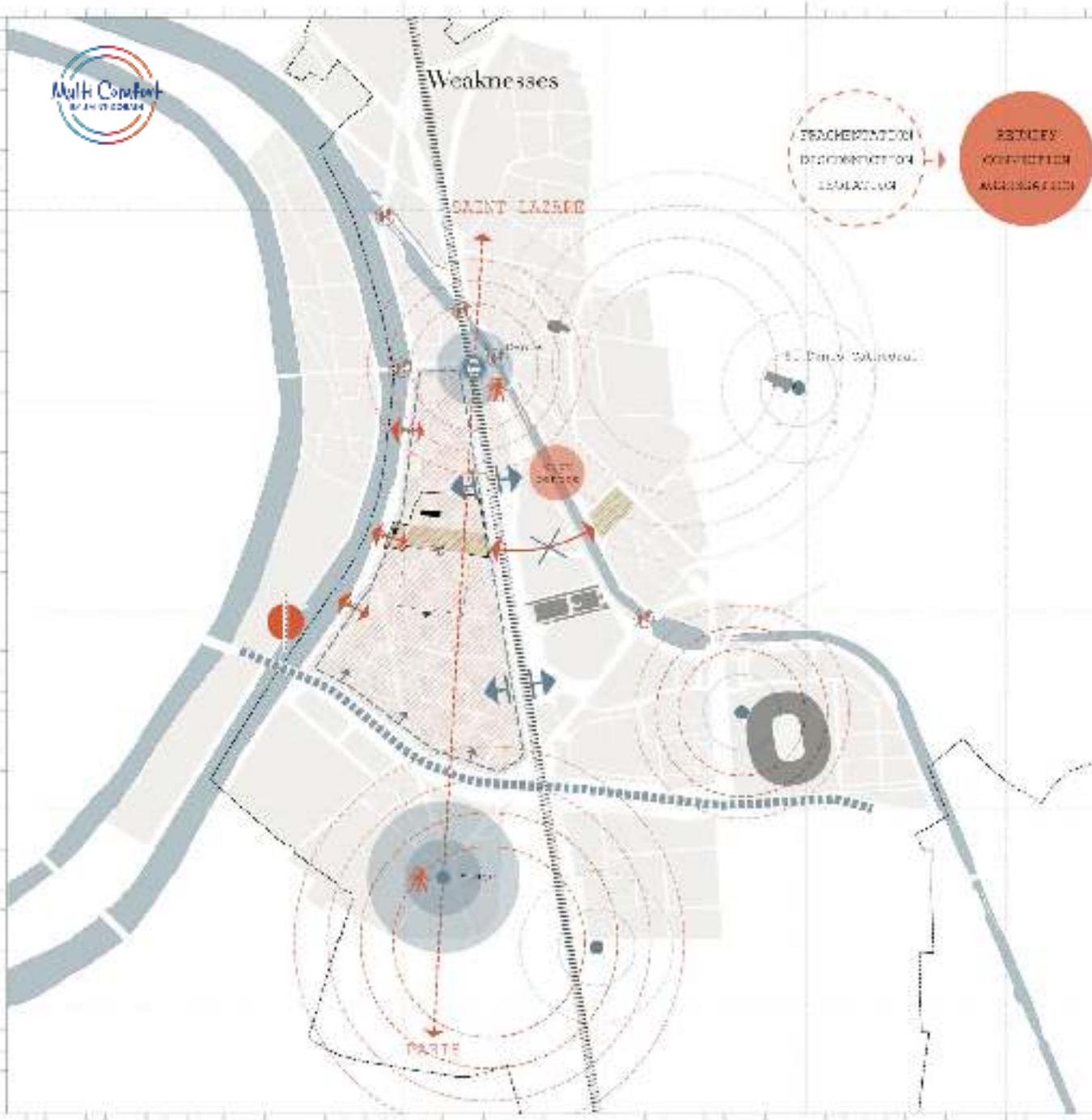
URBAN INFRASTRUCTURE

- ### URBAN INFRASTRUCTURE
- Highway
 - Main road
 - Local road
 - Waterway
 - Greenway
 - Public space

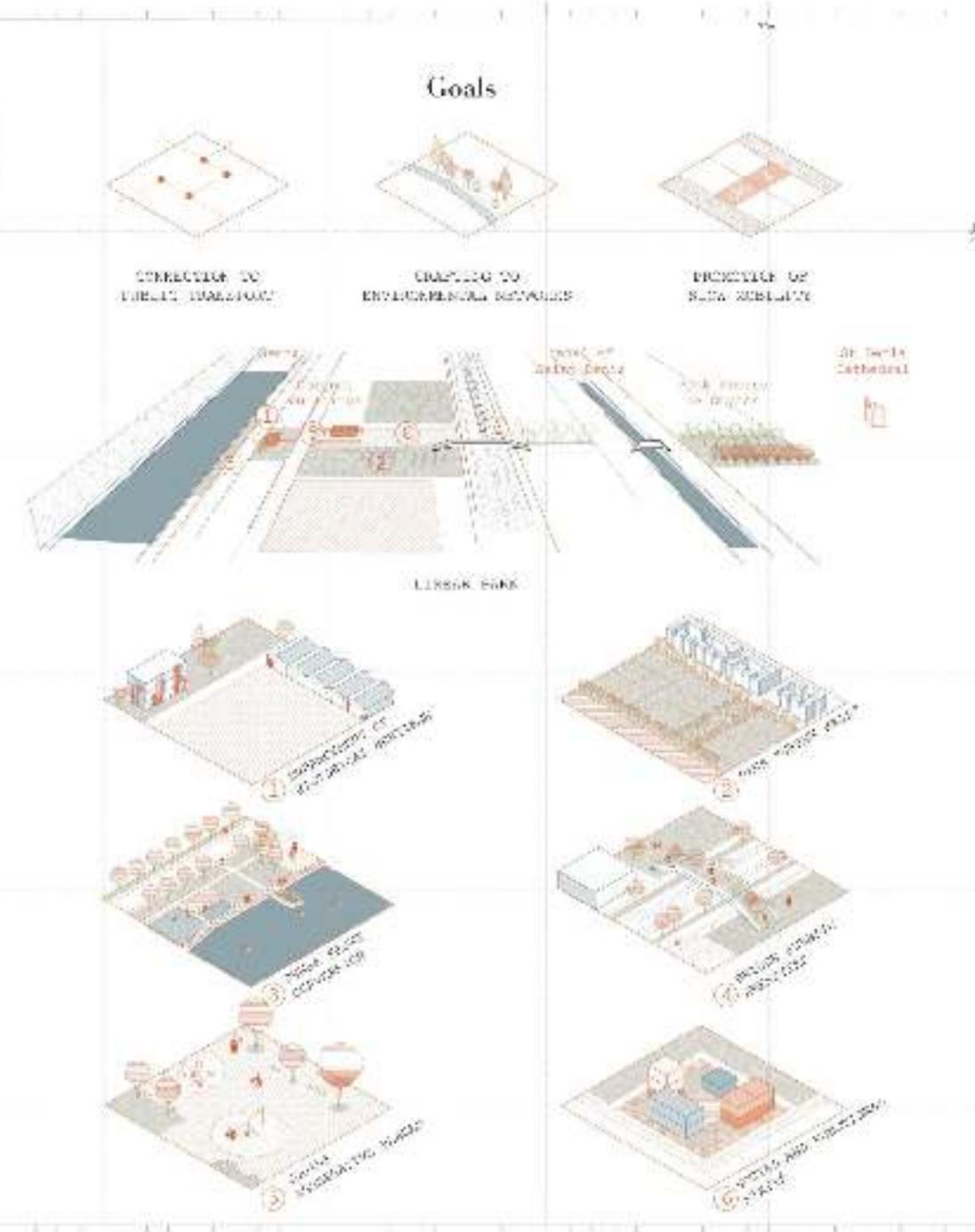
- ### URBAN INFRASTRUCTURE
- Highway
 - Main road
 - Local road
 - Waterway
 - Greenway
 - Public space



Weaknesses



Goals



Current state project area

①
HISTORIC COLLEGE



②
BARRACKS COLONY



③
SECONDARY SCHOOL



④
RIP CHARTER SCHOOLS



Functional distribution

17 zones

①
OFFICE



PARK OFFICE OFFICE PARK OFFICE

②
BASES OF THE LINE



INDUSTRIAL BASES OF THE LINE

③
BRIDGE

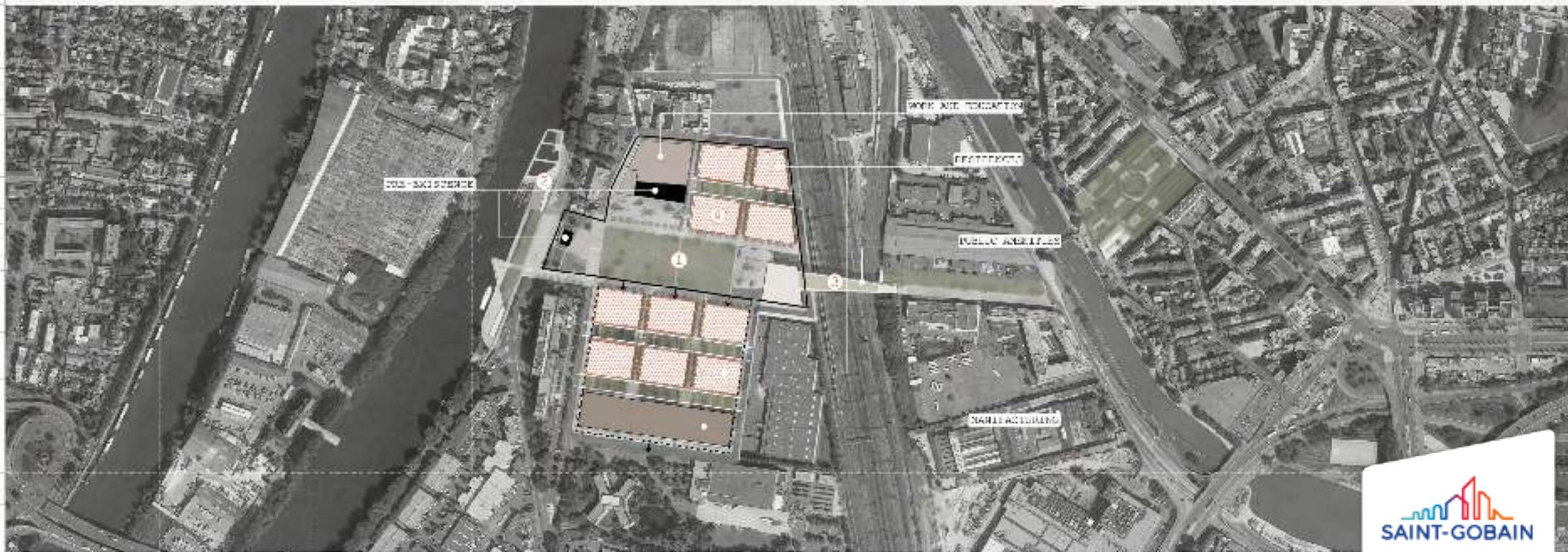


BRIDGE OVER THE RIVER

④
RESIDENTS



RESIDENTIAL BUILDINGS



Urban site design

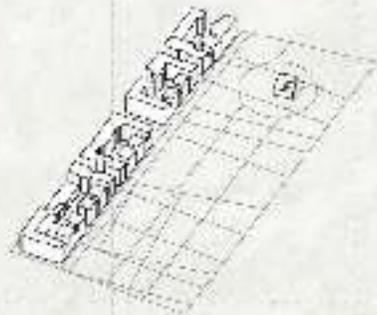
2020/20

BRACE
400' x 300' x 10'
DENSE, PLANNED, MIXED
2000 - 2002

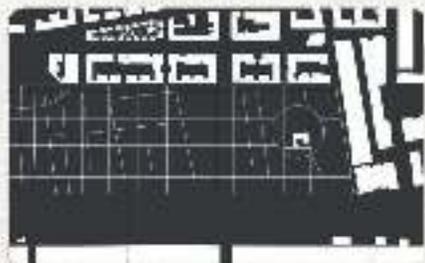
ARCHITECTONIC/ANALYTIC



SUCCESSIVE



DENSITY



DAVE
200' x 150' x 10'
DENSE, PLANNED, MIXED
2000 - 2002

ARCHITECTONIC/ANALYTIC



SUCCESSIVE



DENSITY

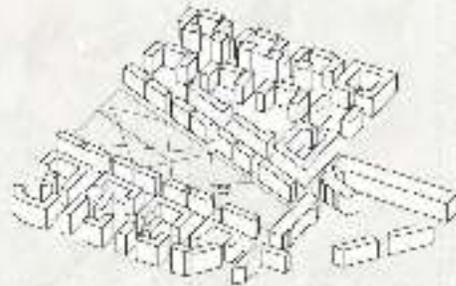


OLIVER
300' x 200' x 10'
DENSE, PLANNED, MIXED
2000 - 2002

ARCHITECTONIC/ANALYTIC



SUCCESSIVE



DENSITY

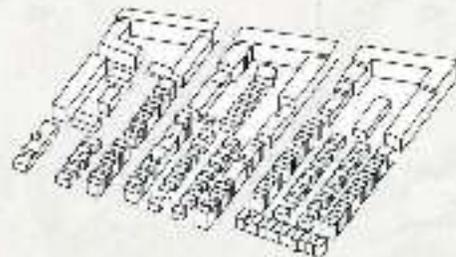


FOSTERBANK
100' x 100' x 10'
DENSE, PLANNED, MIXED
2000 - 2002

ARCHITECTONIC/ANALYTIC



SUCCESSIVE

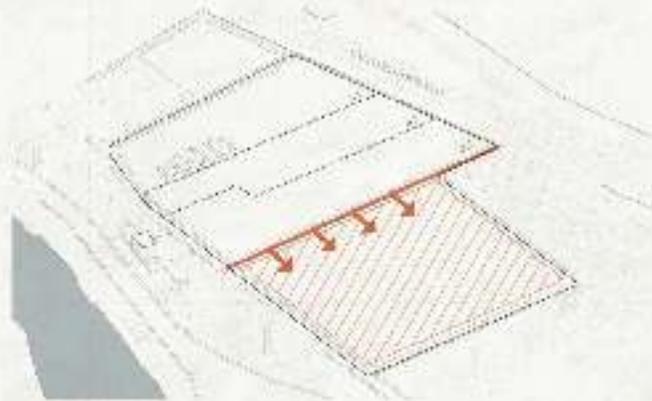


DENSITY



Guidelines

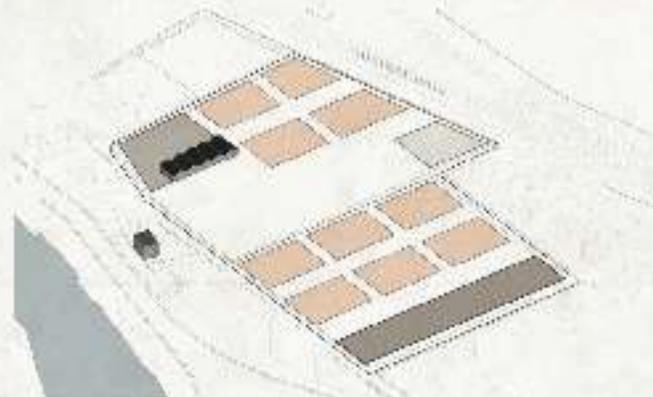
EXTENSION OF THE PROJECT AREA



1.000 1000
 1.000 1000
 1.000 1000
 1.000 1000

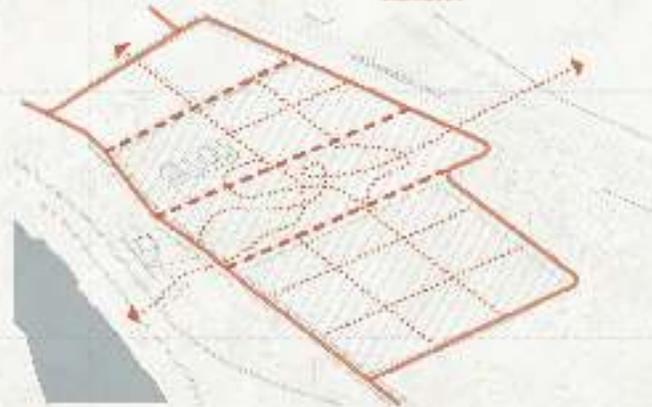
2.000 2000
 2.000 2000
 2.000 2000
 2.000 2000

FUNCTIONAL DIVISION



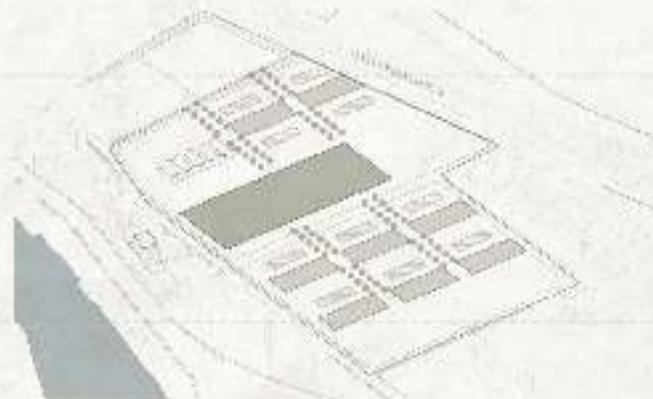
- INDUSTRIAL ZONE
- MIXED USE
- RESIDENTIAL
- PUBLIC OPEN SPACE

VIABILITY



- ROAD NETWORK
- ROAD NETWORK EXPANSION
- VIABILITY

LAND USES



- PUBLIC OPEN SPACE
- COMMERCIAL LAND USE
- MIXED USE
- INDUSTRIAL

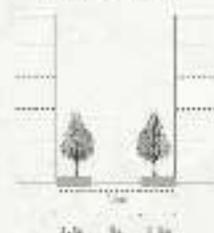
TACT



STATIC GREEN SPACE

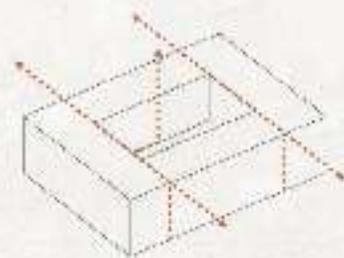


GREEN CORRIDORS

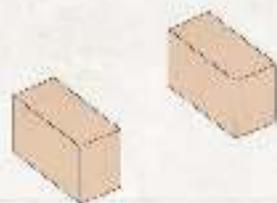


The urban block

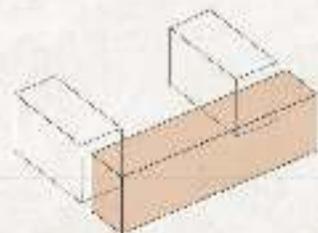
FROM THE CLOSED BLOCK TO THE OPEN BLOCK



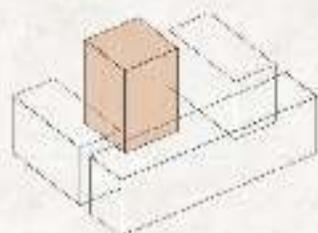
THE OPEN BLOCK
 REORGANIZATION OF THE BLOCK TO ADAPT TO THE LOCALITY'S CHARACTERISTICS



THE OPEN BLOCK
 THE OPEN BLOCK FOR A MORE OPEN AND FLEXIBLE USE OF THE BLOCK, WITH A MORE DIVERSE PROGRAM

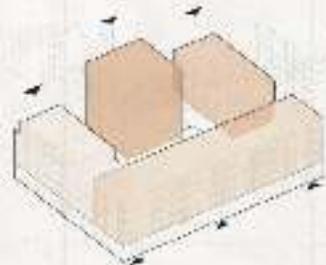


THE TOWER
 THE HIGH BUILDING CAN BE USED TO MARK THE CENTER OF THE BLOCK, TO BE USED AS A LANDMARK

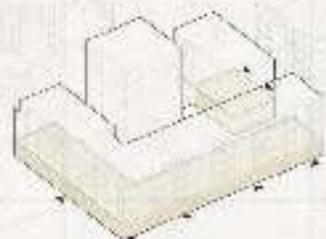


THE TOWER
 A CENTRAL TOWER CAN BE USED TO MARK THE CENTER OF THE BLOCK, TO BE USED AS A LANDMARK

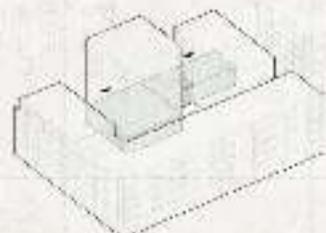
FUNCTIONAL SPECIFICATIONS



THE TOWER AND TOWER
 THE TWO TOWERS OF THE RESIDENTIAL BUILDING CAN BE USED FOR WATER-RELATED ACTIVITIES, AS WELL AS FOR OTHER ACTIVITIES



THE TOWER AND TOWER
 THE TOWER AND TOWER CAN BE USED FOR WATER-RELATED ACTIVITIES, AS WELL AS FOR OTHER ACTIVITIES

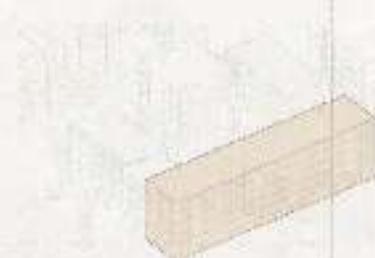


THE TOWER
 DEVELOPE THE TOWER THE CENTER OF THE BLOCK, TO BE USED AS A LANDMARK

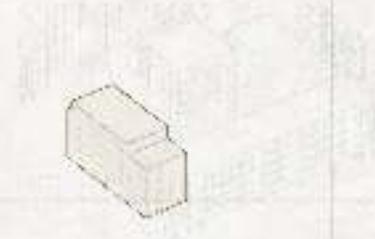


THE TOWER
 DEVELOPE THE TOWER THE CENTER OF THE BLOCK, TO BE USED AS A LANDMARK

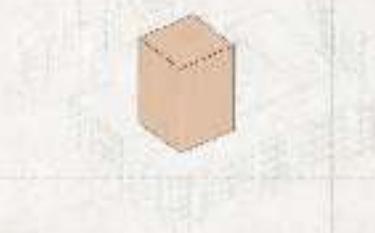
URBAN MIX



RESIDENTIAL ACTIVITIES IN THE CENTER OF THE BLOCK
 4 STOREYS
 20 APARTMENTS



RESIDENTIAL ACTIVITIES IN THE CENTER OF THE BLOCK
 4 STOREYS
 20 APARTMENTS

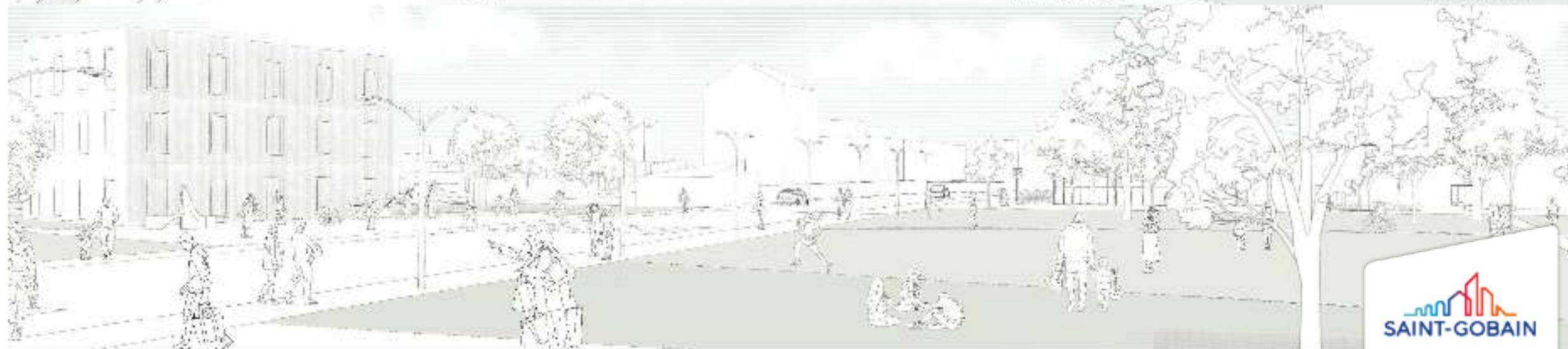
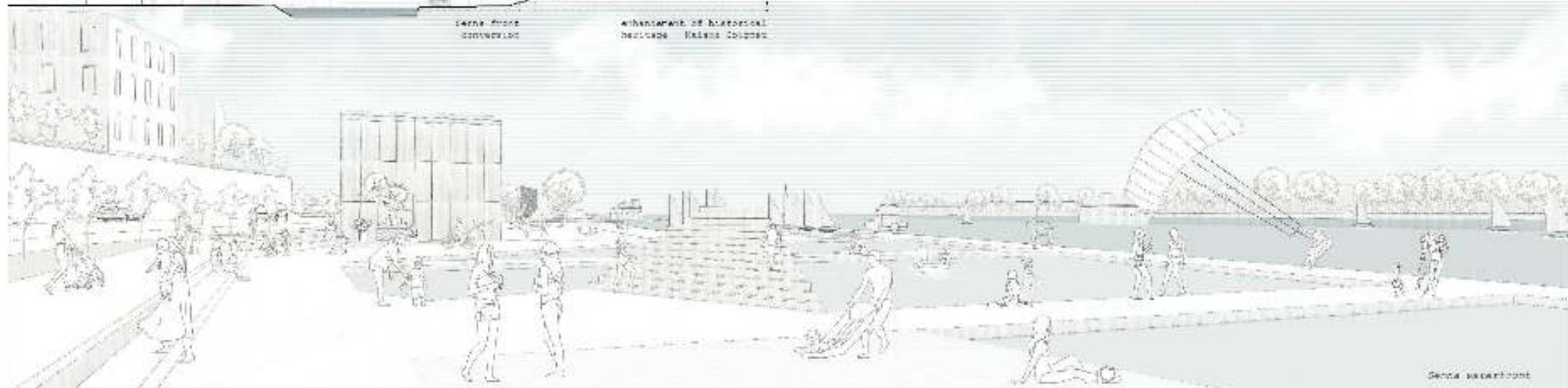


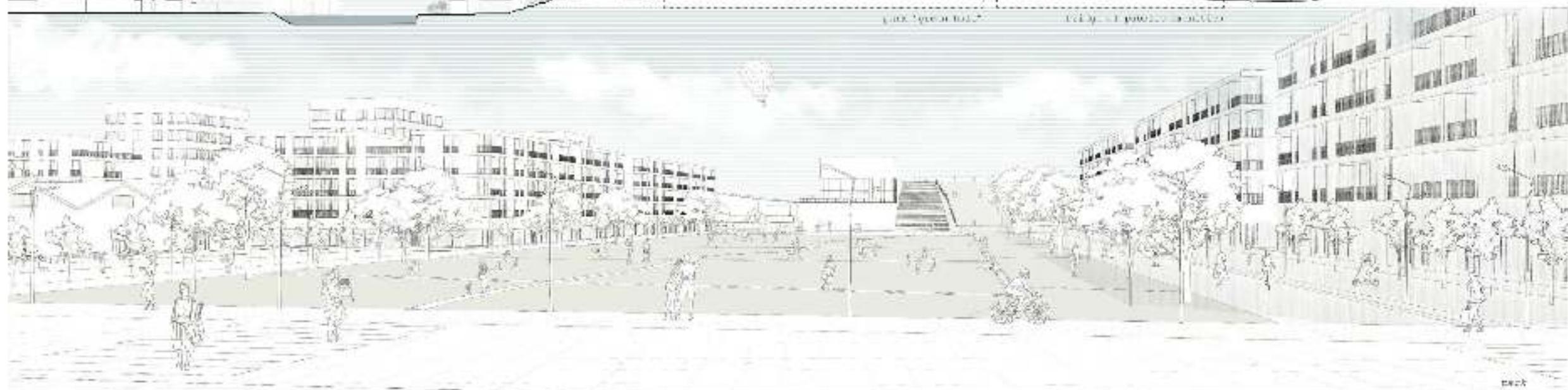
RESIDENTIAL ACTIVITIES IN THE CENTER OF THE BLOCK
 4 STOREYS
 20 APARTMENTS



RESIDENTIAL ACTIVITIES IN THE CENTER OF THE BLOCK
 4 STOREYS
 20 APARTMENTS



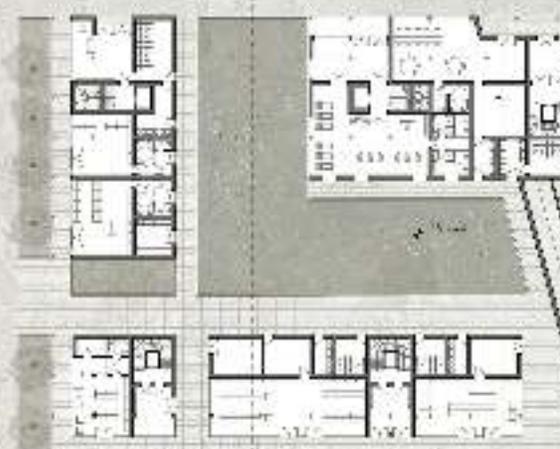
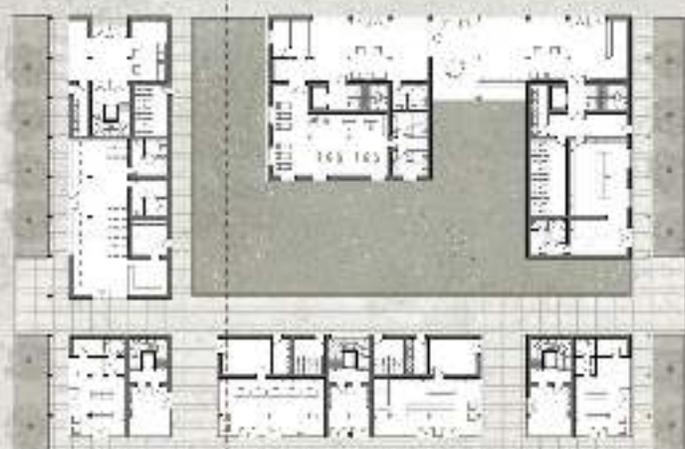
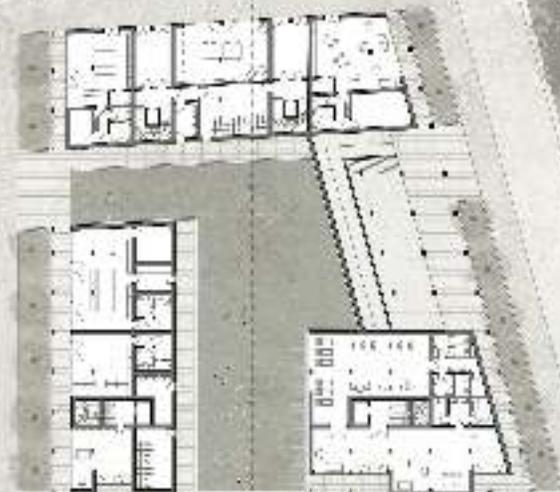
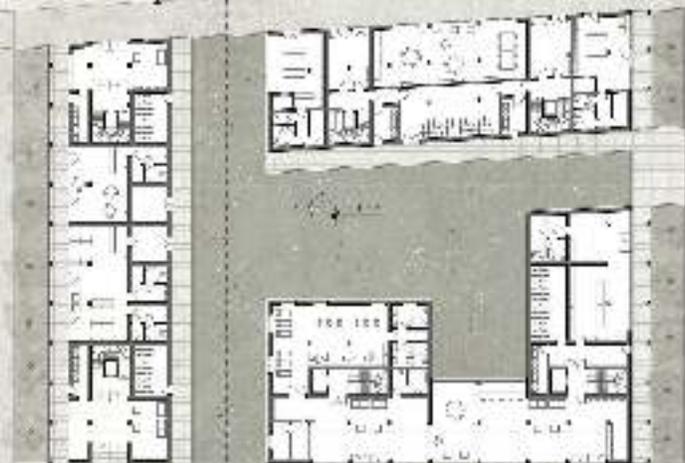
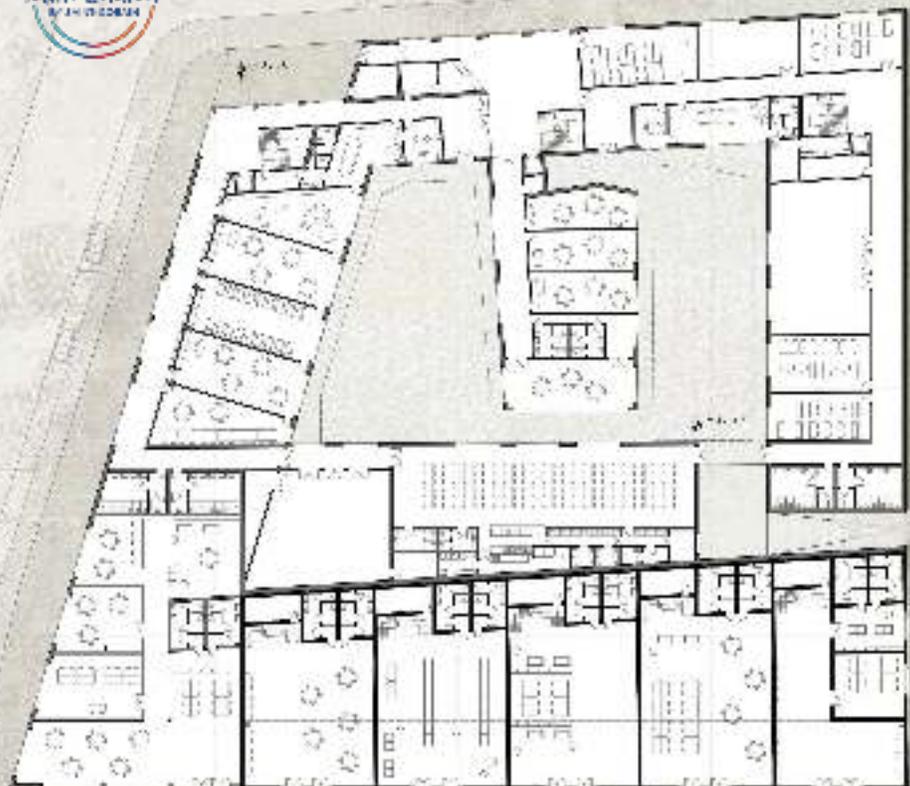




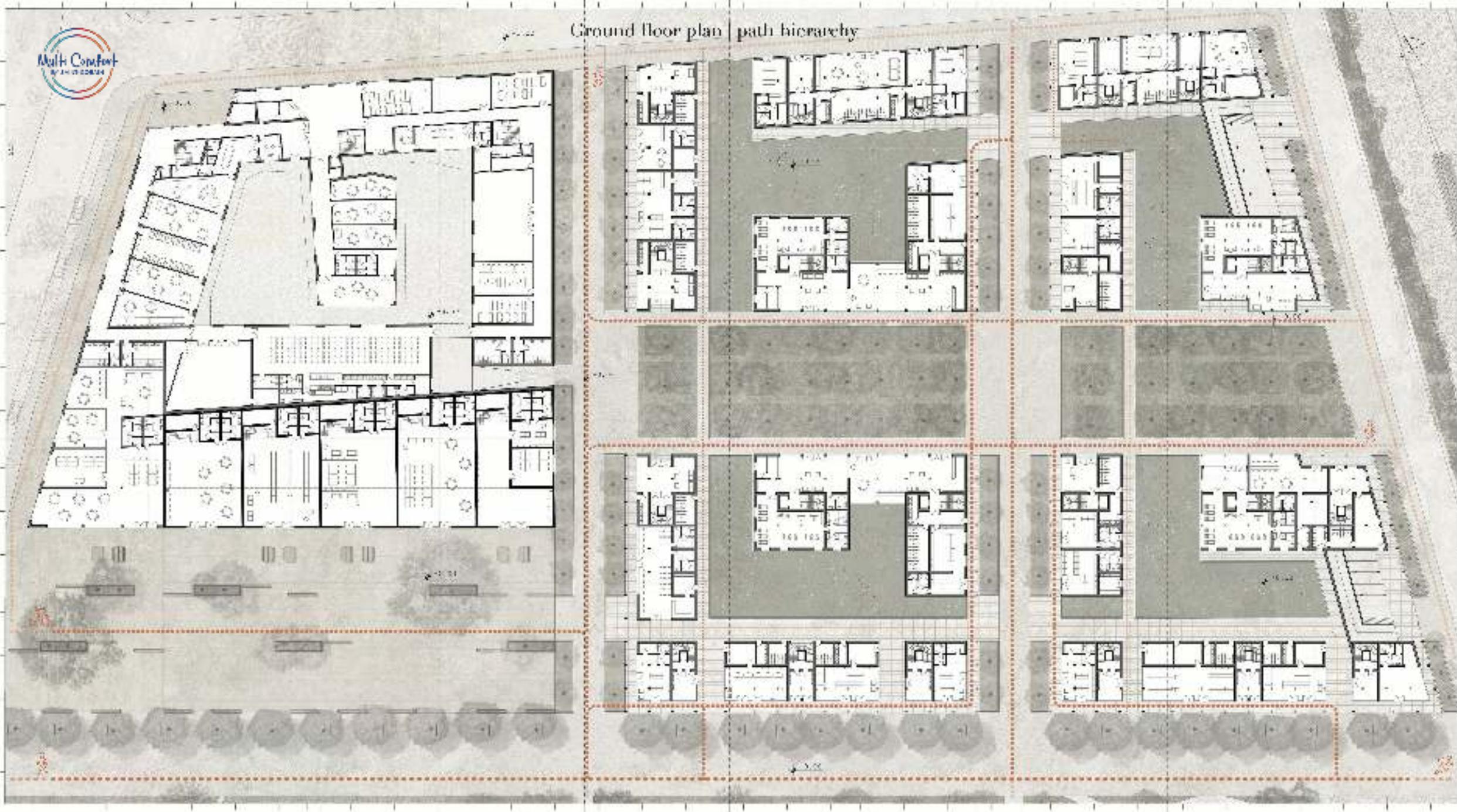
Masterplan



Ground floor plan | access to the site

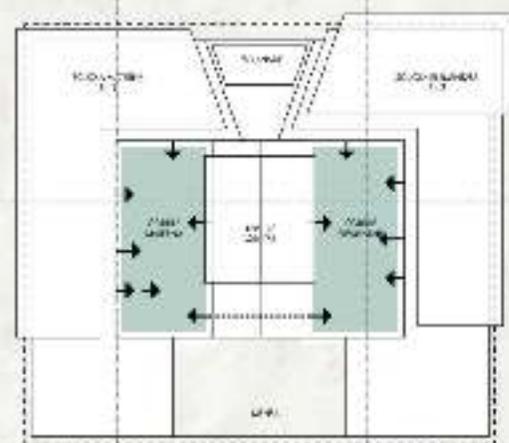
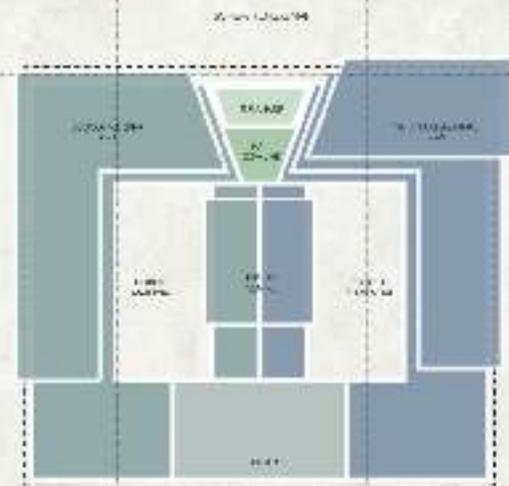
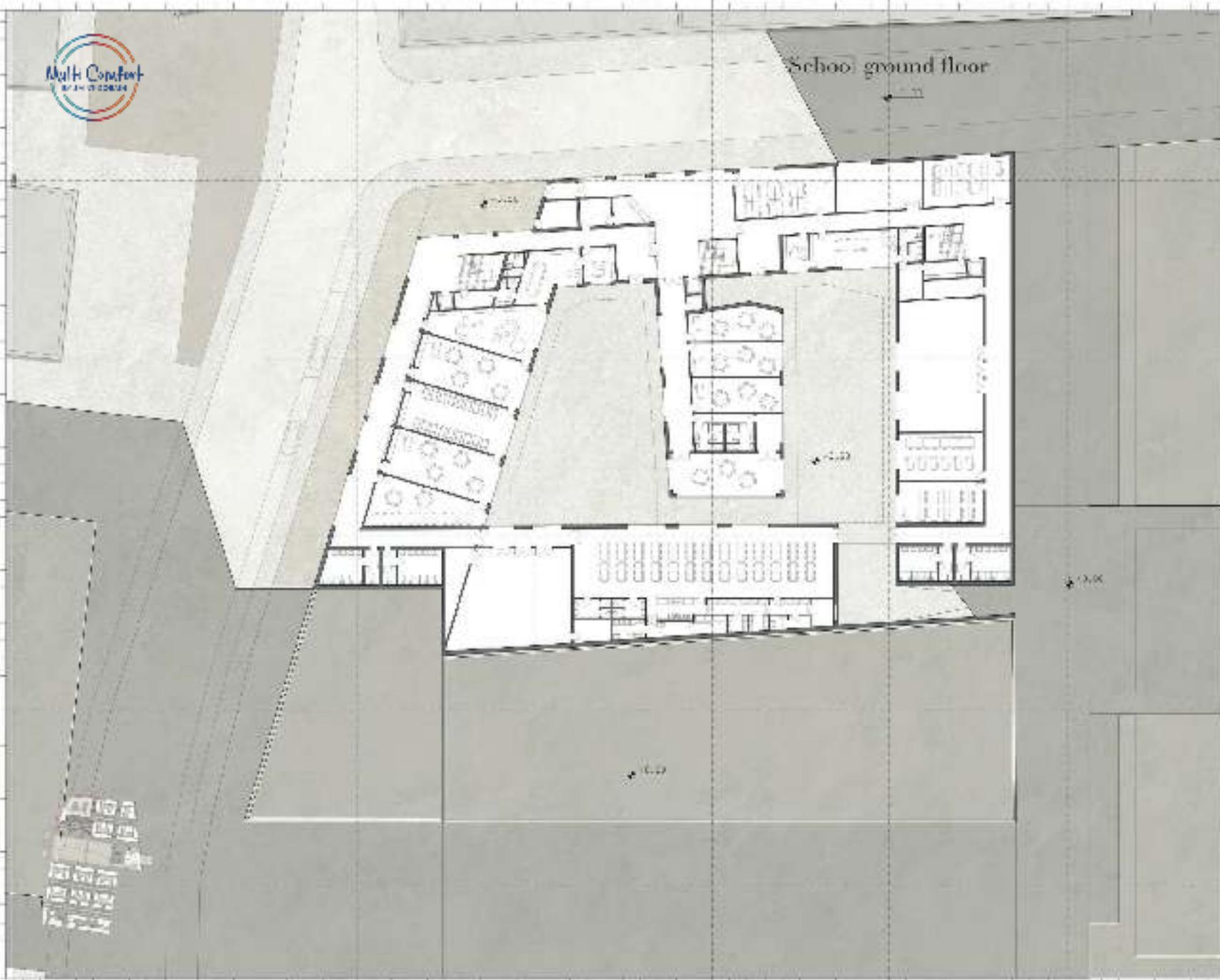


Ground floor plan path hierarchy

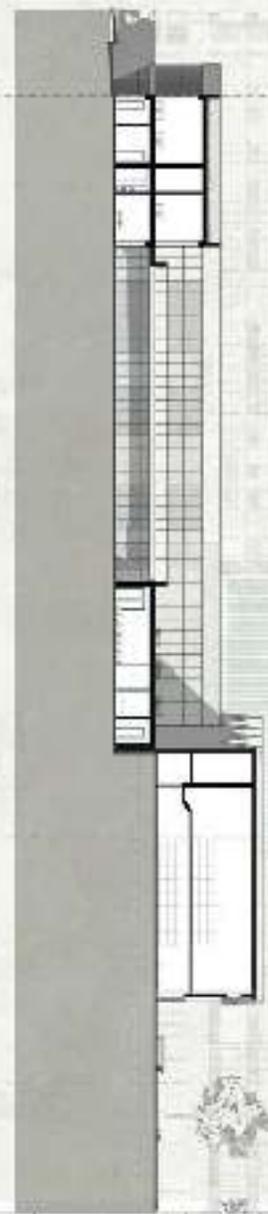
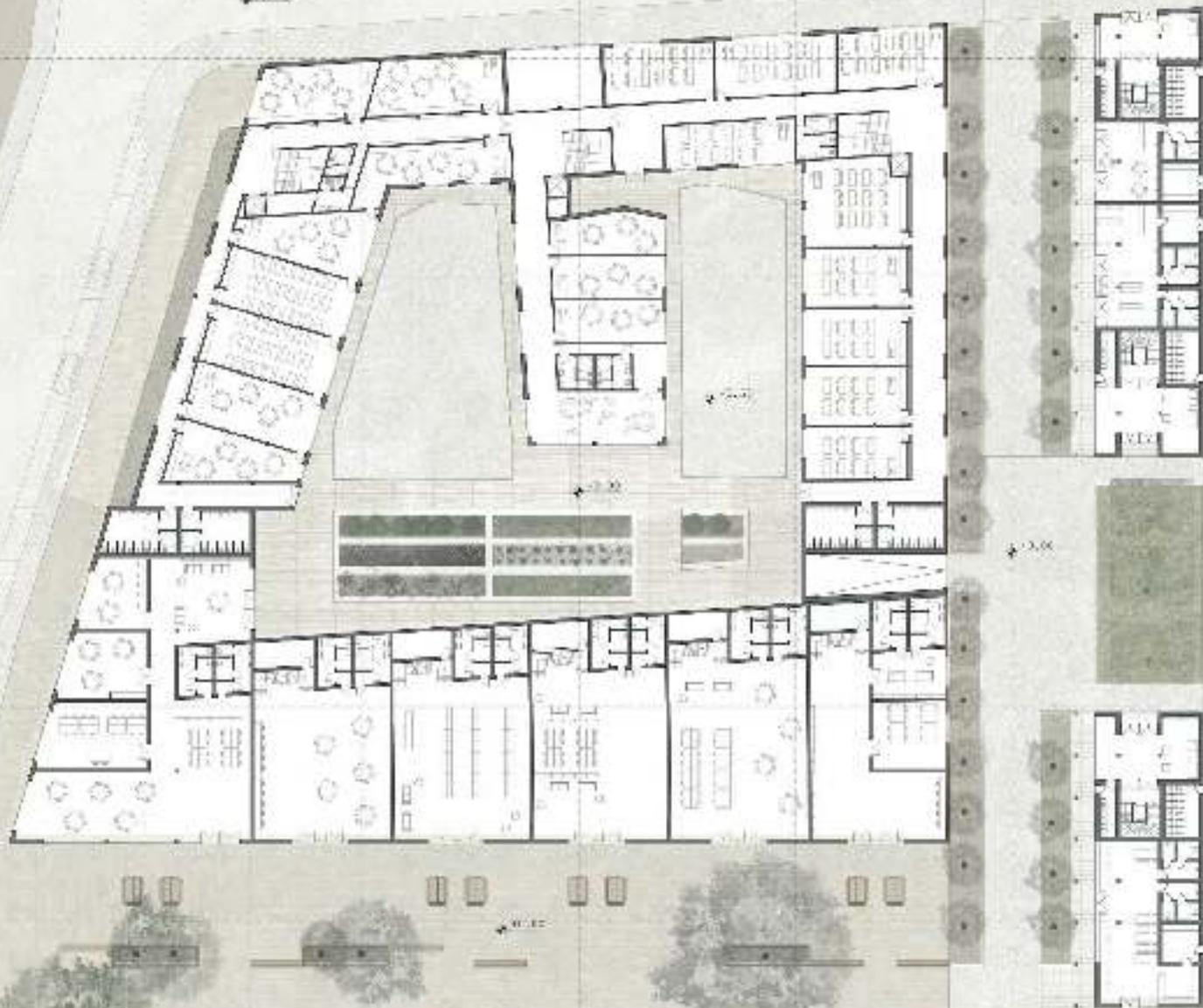




School ground floor



School first floor

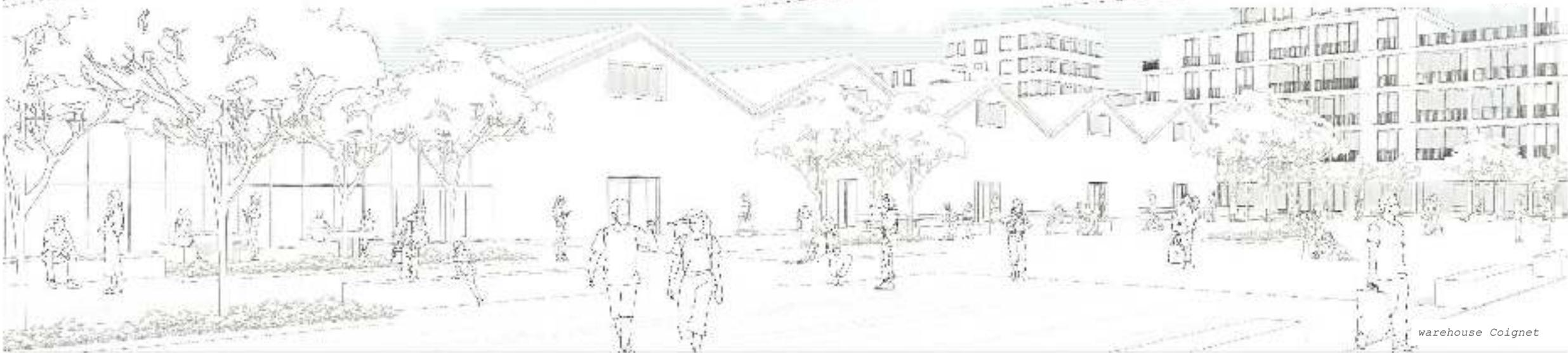




SECTIONAL VIEW OF THE BUILDING
WITH THE EXISTING SCHOOL



school



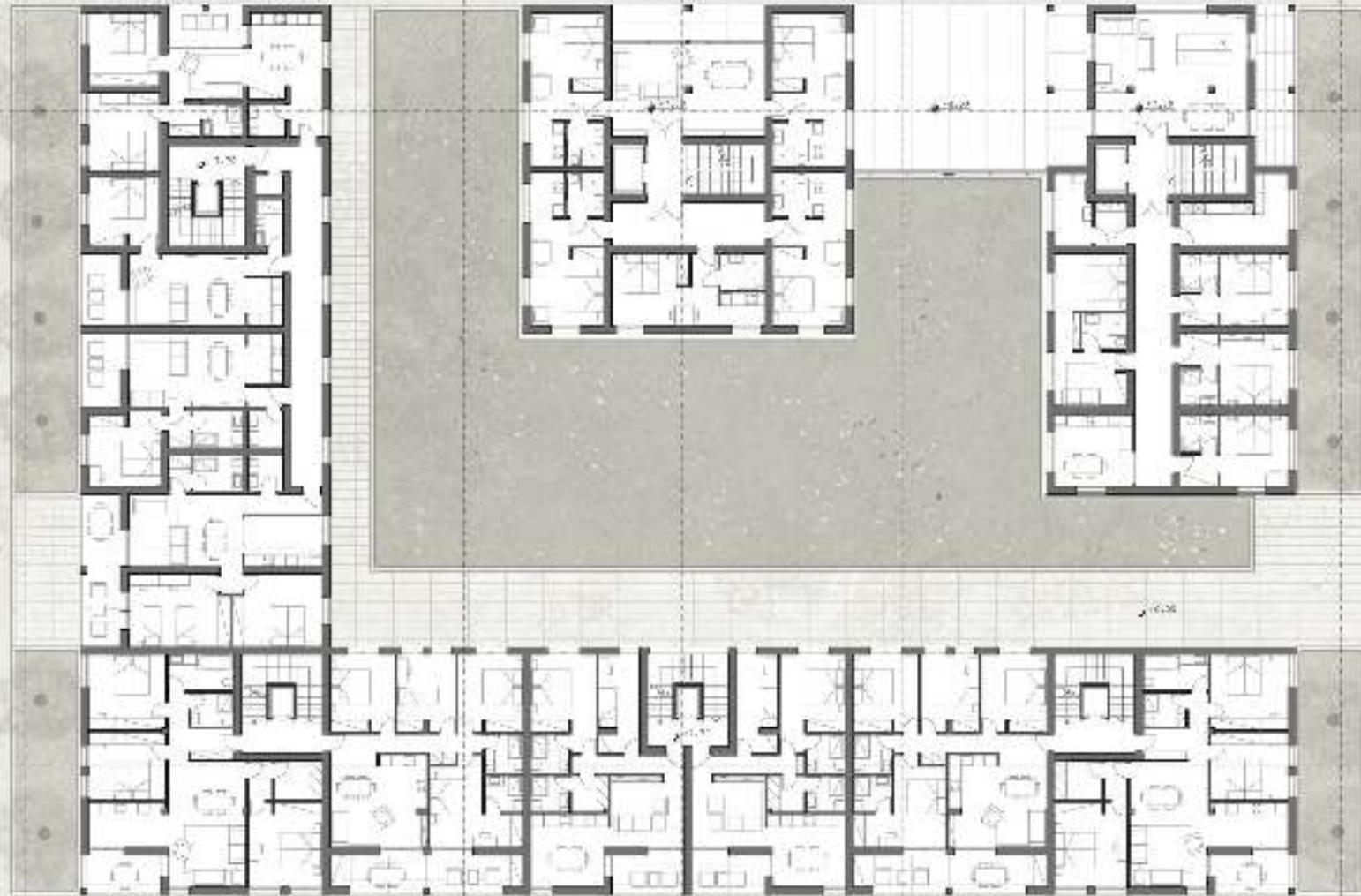
warehouse Coignet

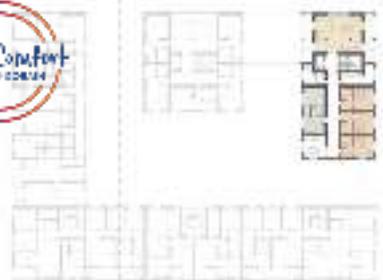
Ground floor plan



- 1. Reception area
- 2. Office
- 3. Meeting room
- 4. Storage
- 5. Conference room
- 6. Break room

Typical floor plan

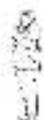




22,000 mq. 22,000 mq.
AC SERRA 20000



22,000 mq. 22,000 mq.
AC SERRA 20000



45,000 mq. 45,000 mq.
AC SERRA 20000

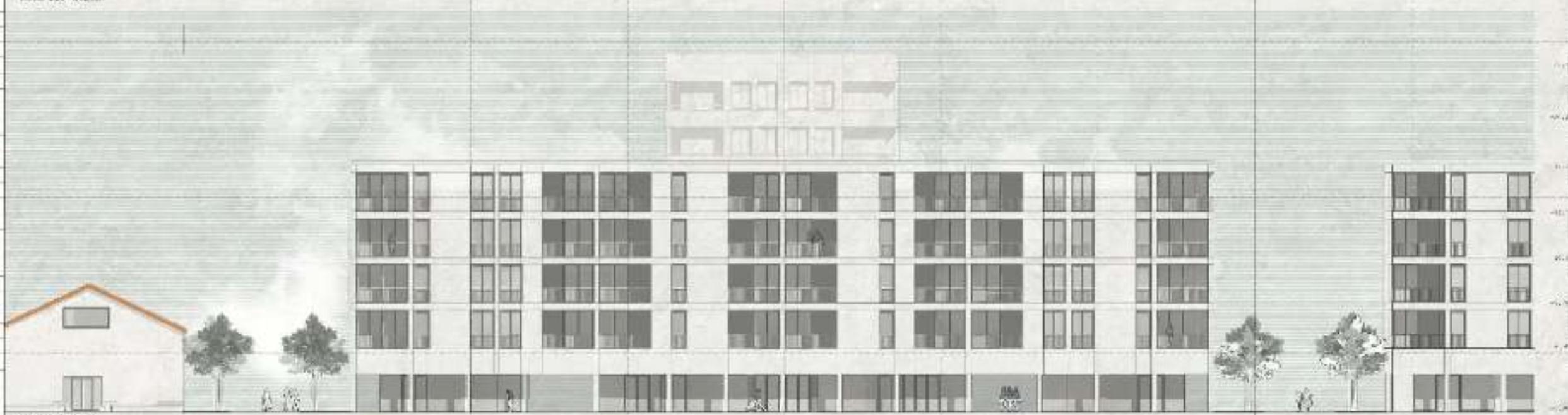


45,000 mq. 45,000 mq.
AC SERRA 20000

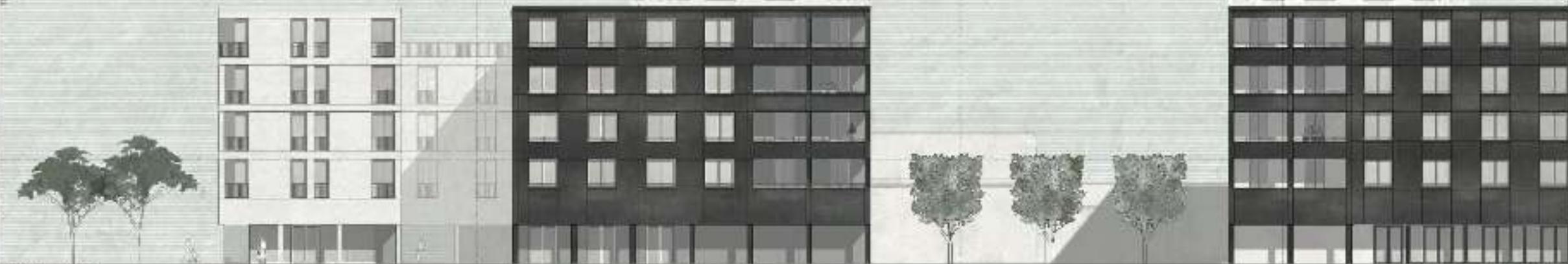




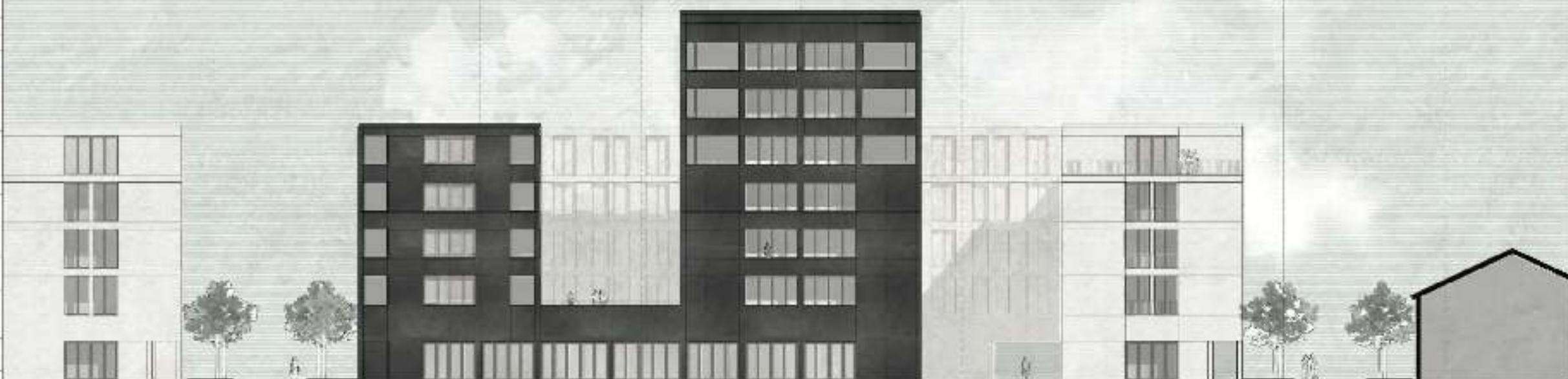
west elevation



east elevation



east elevation

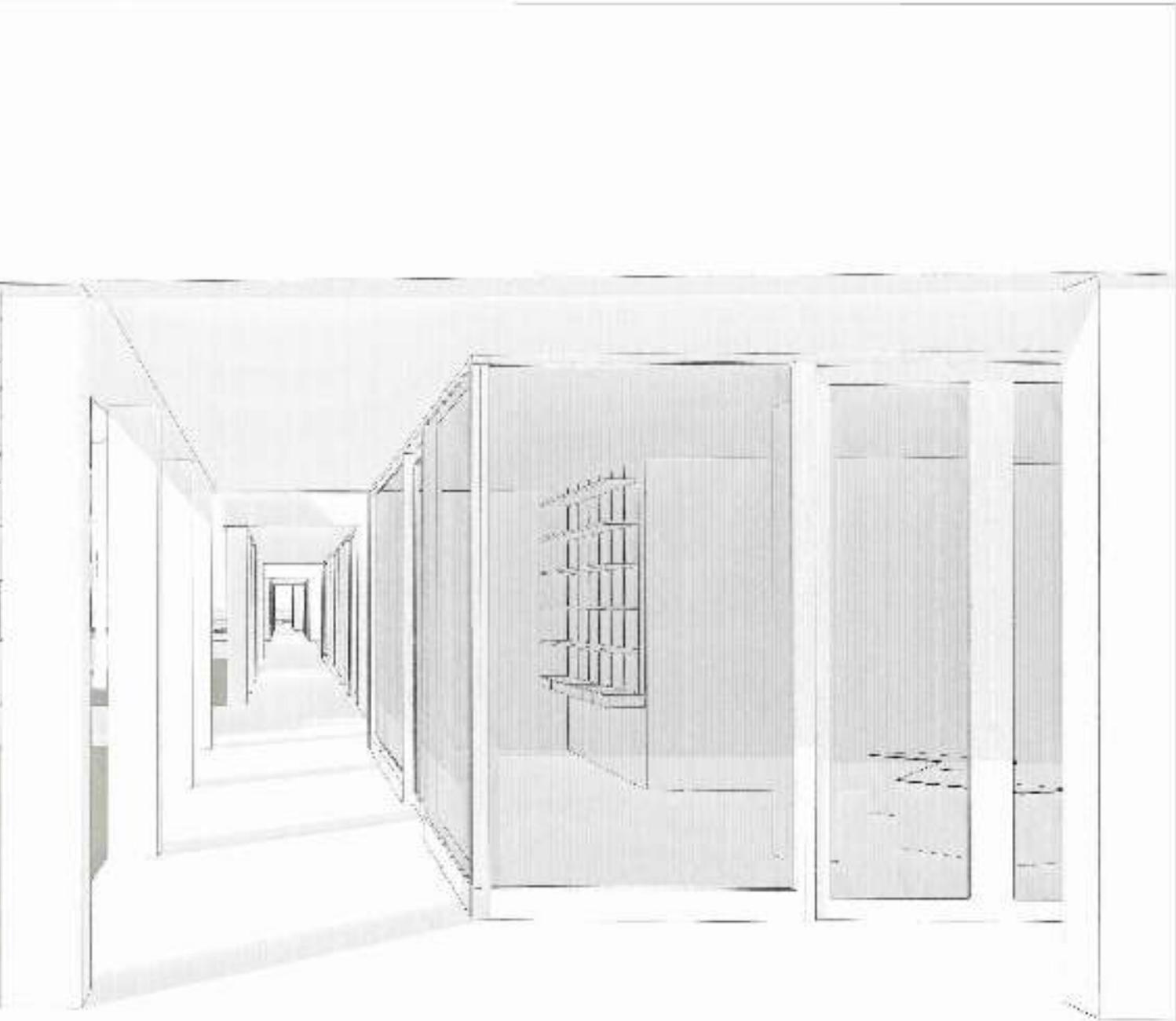


west elevation









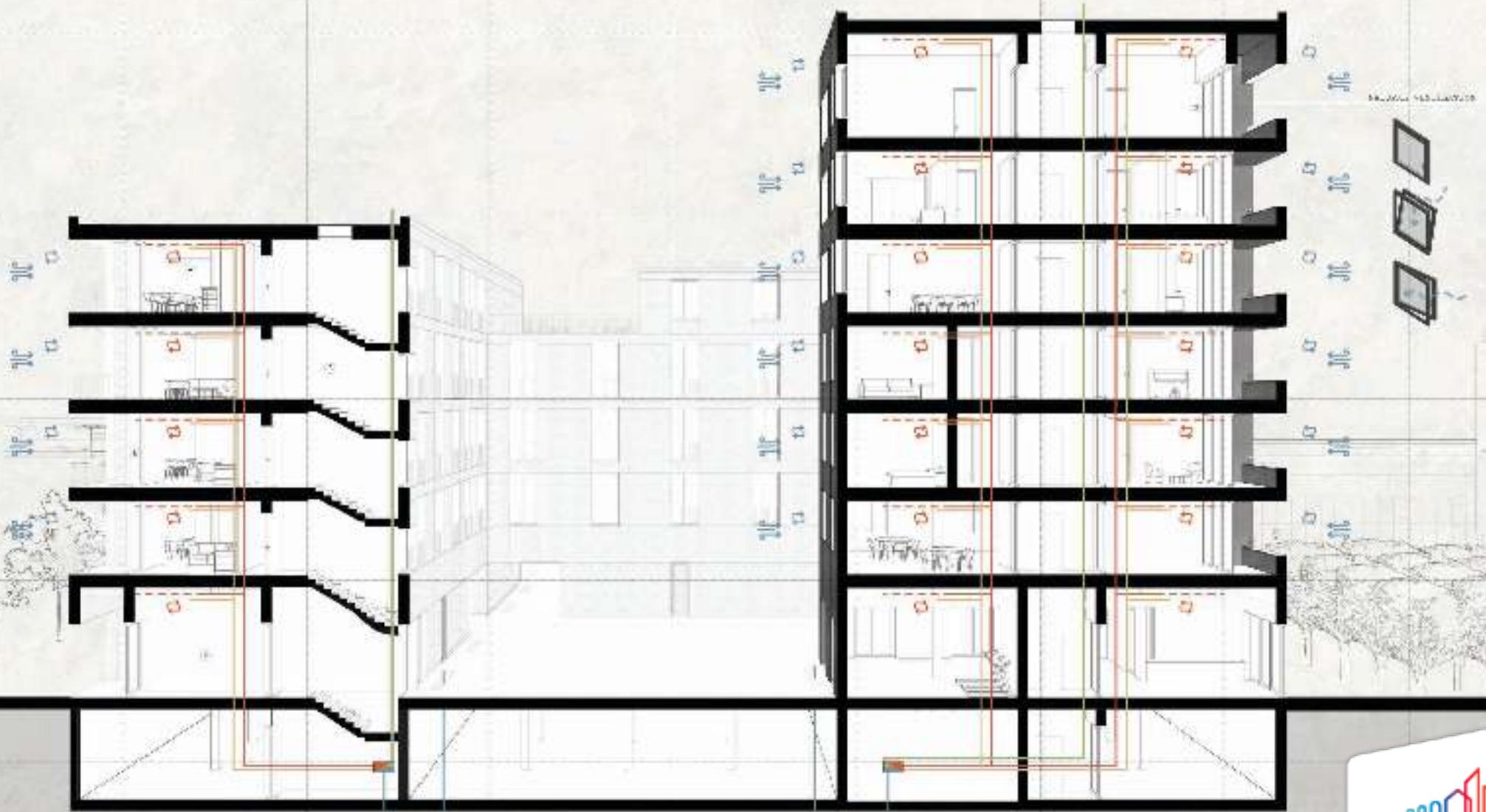




VENTILATION AND THERMAL STRATEGY

- 1. FRESH AIR INTRODUCTION FOR COMFORT TO STUDENT
 - 2. FRESH AIR INTRODUCTION TO PROMOTE HEALTHY VENTILATION:
 - 100% fresh air for 24/7 work situation
 - Daily open windows as
 - 3. EXTENDED WORKING HOURS FOR 24/7 THROUGH OPEN EXTENDED HOURS
 - 4. FLEXIBILITY OF STUDY OFFICE (ADAPTATION BY RECONFIGURING LOCALIZED ZONES) LOCALIZED ZONES
 - 5. TOXICITY AS A GENERAL AIR ISSUE
 - 6. TOXIC GASES ASBESTOS, CO2, FORMALDEHYDE, LIQUID AMMONIA, H2S, SO2, ...
- ADDITIONAL: HEAT AND VENTILATION LOSS, UNDESIRABLE COMFORT, TOXICITY
- TOXIC GASES ASBESTOS, CO2, FORMALDEHYDE, LIQUID AMMONIA, H2S, SO2, ...
- TOXIC GASES ASBESTOS, CO2, FORMALDEHYDE, LIQUID AMMONIA, H2S, SO2, ...

- HEAT LOSS
- FRESH AIR SUPPLY
- RETURN AIR
- EXHAUST AIR



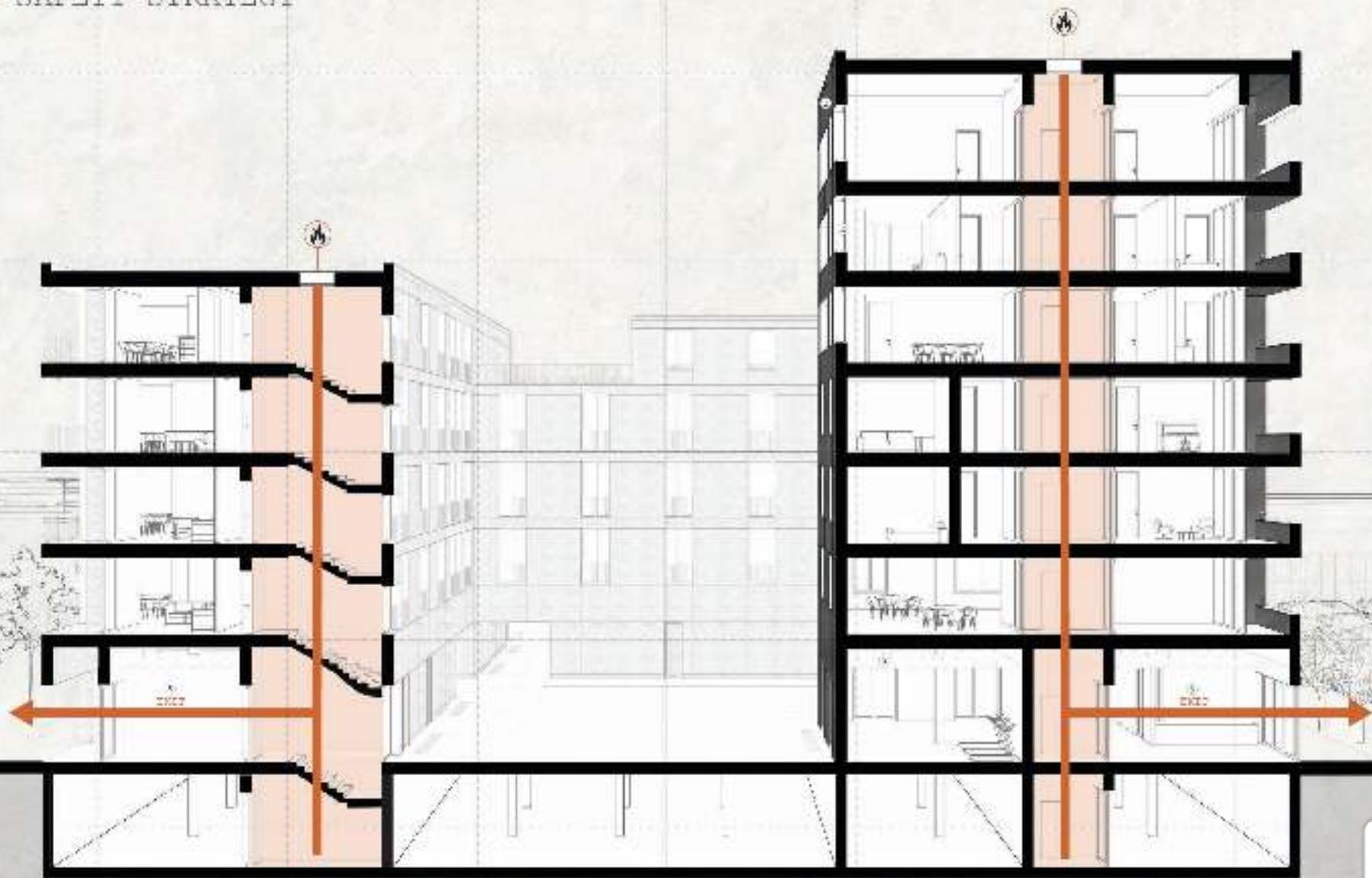


ACOUSTIC COMFORT STRATEGY

FIRE SAFETY STRATEGY

ACROSS THE ENTIRE BUILDING, THE FOLLOWING STRATEGIES ARE APPLIED:

- 1) EXISTING EXTERIOR WALLS TO BE MAINTAINED
- 2) EXISTING EXTERIOR WALLS TO BE MAINTAINED
- 3) EXISTING EXTERIOR WALLS TO BE MAINTAINED
- 4) EXISTING EXTERIOR WALLS TO BE MAINTAINED
- 5) EXISTING EXTERIOR WALLS TO BE MAINTAINED
- 6) EXISTING EXTERIOR WALLS TO BE MAINTAINED
- 7) EXISTING EXTERIOR WALLS TO BE MAINTAINED





NATURAL DAY LIGHT STRATEGY USE OF NATURAL ENERGY SOURCES

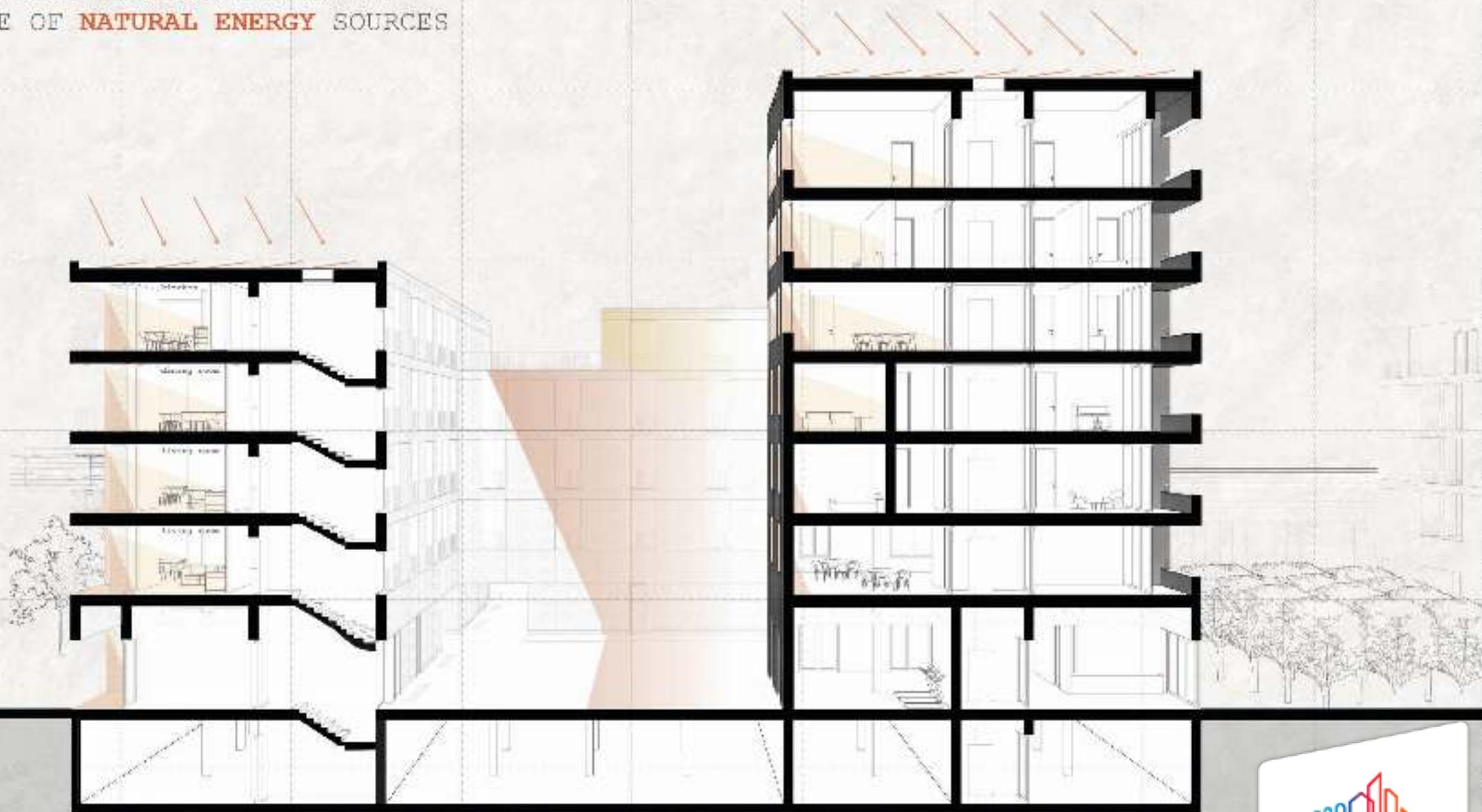
CONCEPT: MAXIMIZE THE LIMITED
SPACE AVAILABLE FOR THE STRATEGY
OF ADDITIONAL LIGHT

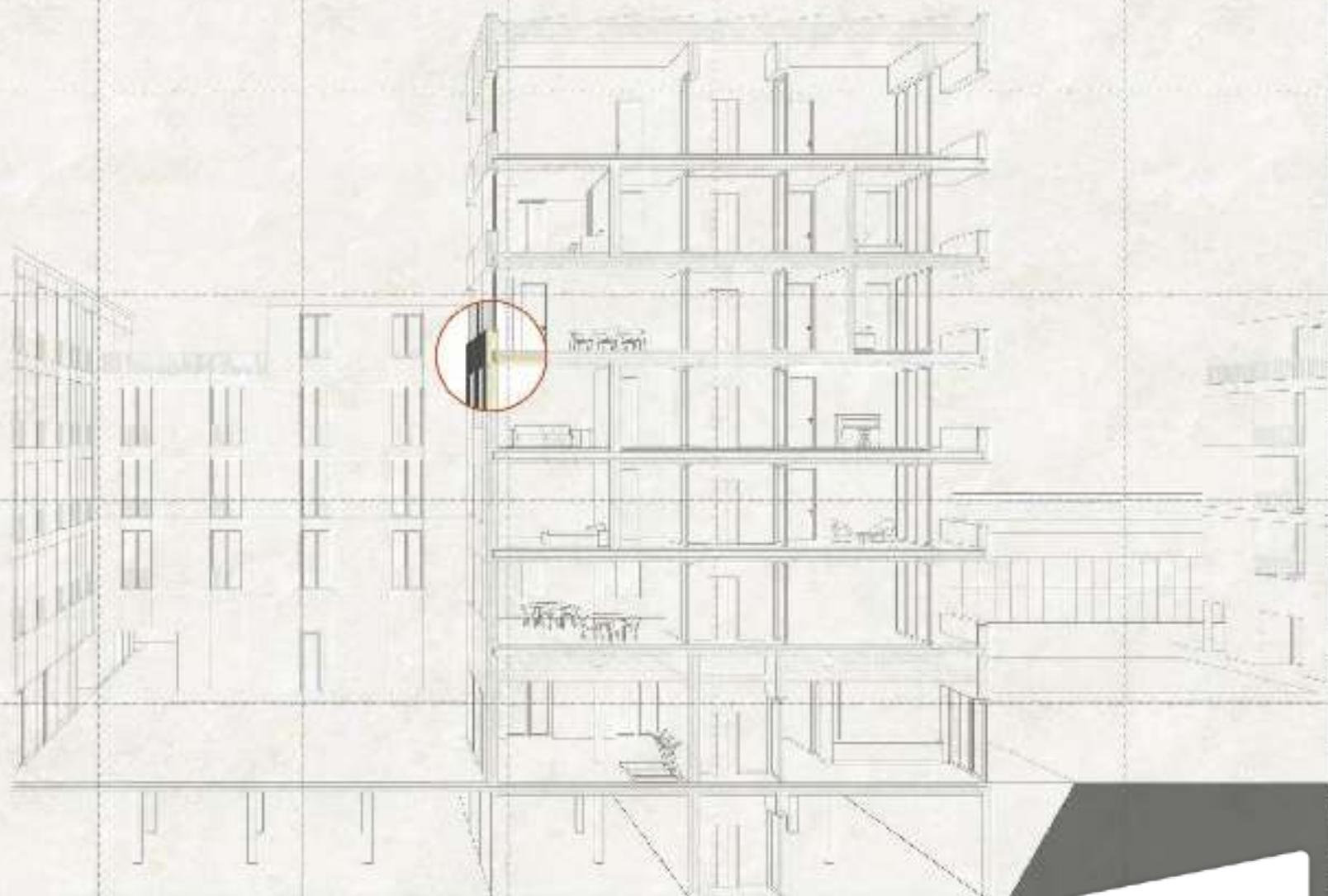
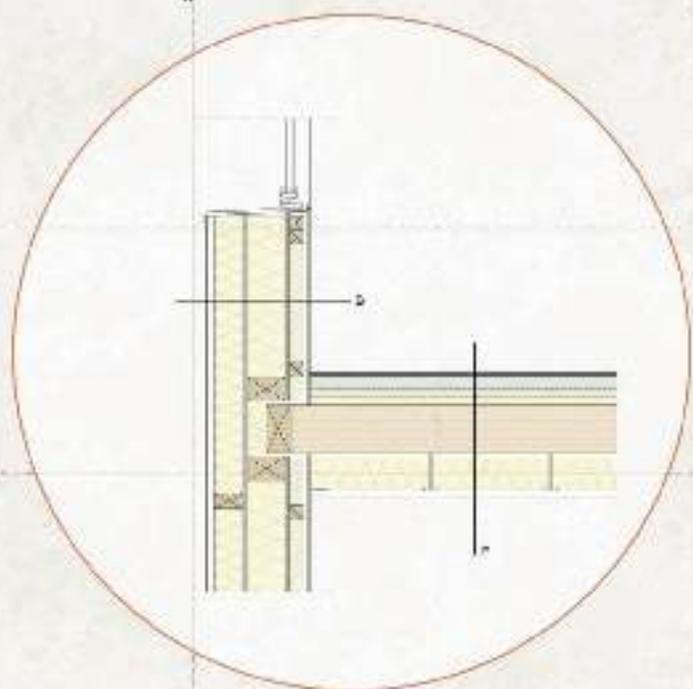
STRATEGY: MAXIMIZE DAYLIGHT TO
REACH THE MOST REMOTE PARTS
OF THE SPACE

DESIGN: MAXIMIZE THE USE OF
NATURAL LIGHT BY USING
SLIDES - MAXIMIZE LIGHT

KEY: TO ALL PARTS OF
THE SPACE, THE LIGHT IS
EVENLY DISTRIBUTED

RESULT: THE SPACE IS FULLY
ILLUMINATED





B Section Detail in or

- 1.00 Riplex Regular D double layer, each layer 11.5 mm
- 6.00 100mm insulation - EPS 1.050 board min 110 100 kg/m³ between the 2 air spaces - 0
- 1.00 GIB board or chipboard
- 16.0 TOWER Trough - 200 x 100 (max 11/20 x 200) 100 kg/m³
- 1.00 GIB board or chipboard
- 14.00 Concrete 150 x 150 Easy Fix 120 shown 8/11 shown 120 kg/m³
- 6.00 100mm insulation - EPS 1.050 board min 110 100 kg/m³
- 0.00 exterior cladding (w.o. wood, metal, plastic, stone)

C Section detail in or

- 0.00 exterior cladding
- 6.00 100mm insulation - EPS 1.050 board min 110 100 kg/m³
- 1.00 GIB board or chipboard
- 16.0 TOWER Trough - 200 x 100 (max 11/20 x 200) 100 kg/m³
- 1.00 GIB board or chipboard
- 14.00 Concrete 150 x 150 Easy Fix 120 shown 8/11 shown 120 kg/m³
- 6.00 100mm insulation - EPS 1.050 board min 110 100 kg/m³
- 1.00 Riplex Regular D double layer, each layer 11.5 mm

PERFORMANCE SIMULATION

PROJECT DATA

Object:	Building K
File location:	0000
Project:	One-Storey House
Project:	10000-10000000
Orientation:	For Building
Window type:	Vertical
Room:	For Building
Design Temperature:	20°

AREA INFO

Useful floor area:	1000.72 m ²
Useful space volume:	1000.72 m ³
A/V ratio:	0.25



ENVELOPE - WINDOW ELEMENTS

Wall U-value:	0.15 W/m ² K
Wall airtightness:	0.15 W/m ² K
Wall airtightness (with pattern):	0.15 W/m ² K
Wall airtightness (ground):	0.15 W/m ² K



ENVELOPE - WINDOWS AND DOORS

Windows:	0.20 W/m ² K
Doors:	0.20 W/m ² K



QUALITY

Airtightness (leakage):	0.15
Sound insulation (room):	25



SHADING

0%	0.00
10%	0.06
20%	0.40
30%	0.72
Scallop 10%	1.40

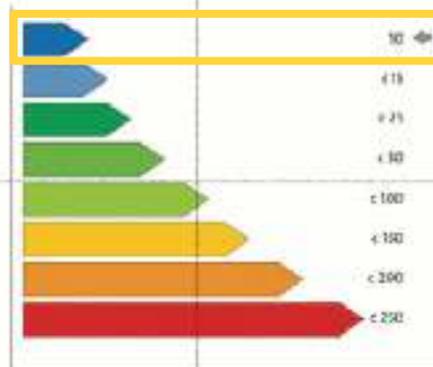


SUMMER VENTILATION STRATEGY

Summer air exchange rate:	0.15
with heat recovery system:	25
night ventilation:	1000 m ³ /h
day ventilation:	full open windows + (20) 10°

LOADS/DEMANDS

Specific Heat Demand	
Transmission Heat Demand	14274.40 kWh/a
Ventilation Heat Demand	10076.10 kWh/a
Total Heat Demand	24350.50 kWh/a
Internal Heat Gains	18860.10 kWh/a
Solar Heat Gains	14260.10 kWh/a
Total Heat Gains	33120.20 kWh/a
Annual Heat Demand	12211.40 kWh/a
Specific Heat Demand	6.17 kWh/m ² a







thank you



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Atmosphere