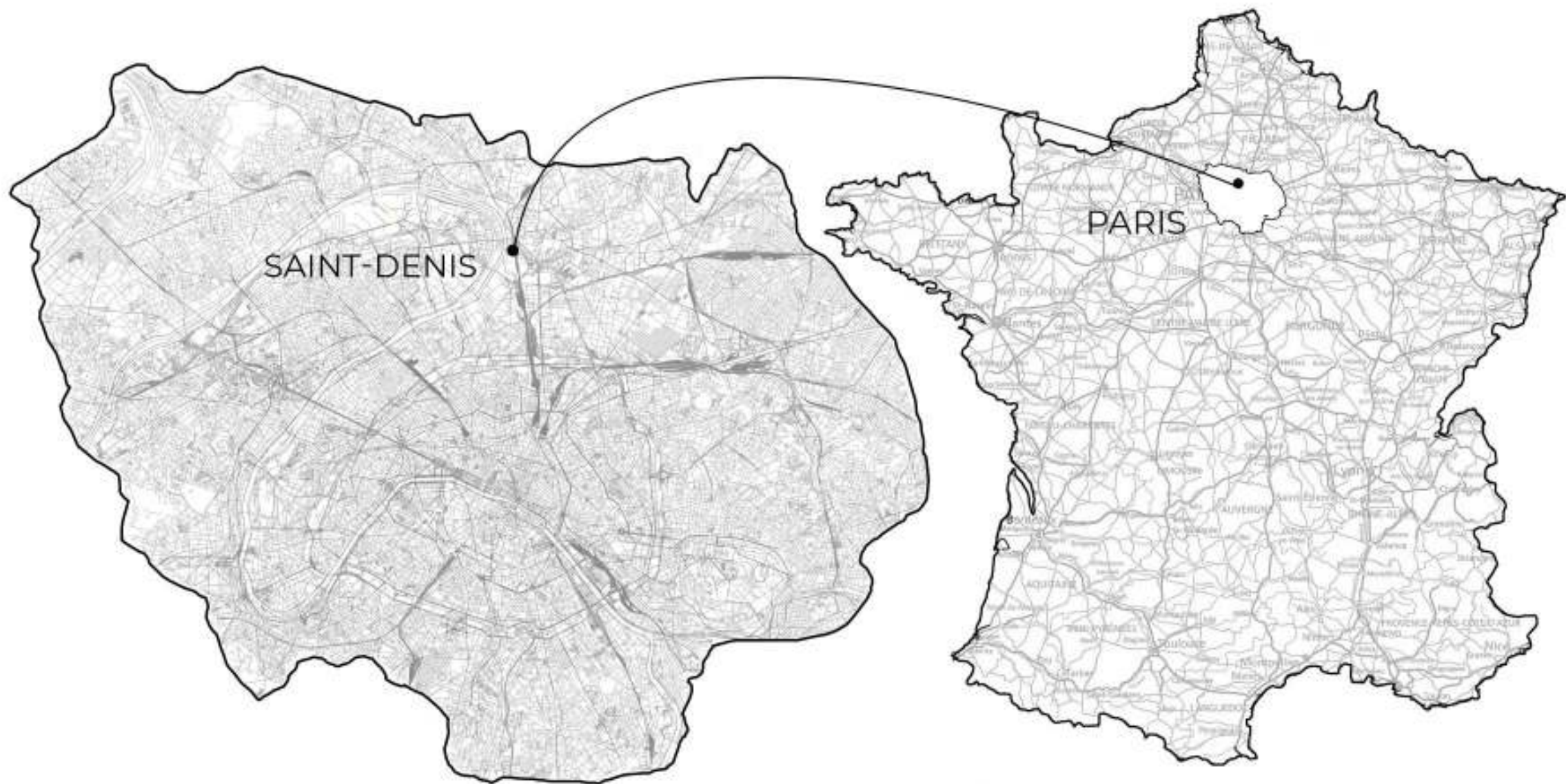


LIVE, WORK AND PLAY
IN SUSTAINABLE WAY





SAINT-DENIS

PARIS



YANG MING

YANG MING

YANG MING

YANG MING

MELK

MELK

tex

tex

B&W

CHINA SHIPPING

CHINA SHIPPING

CHINA SHIPPING

tex

OOCL

OOCL

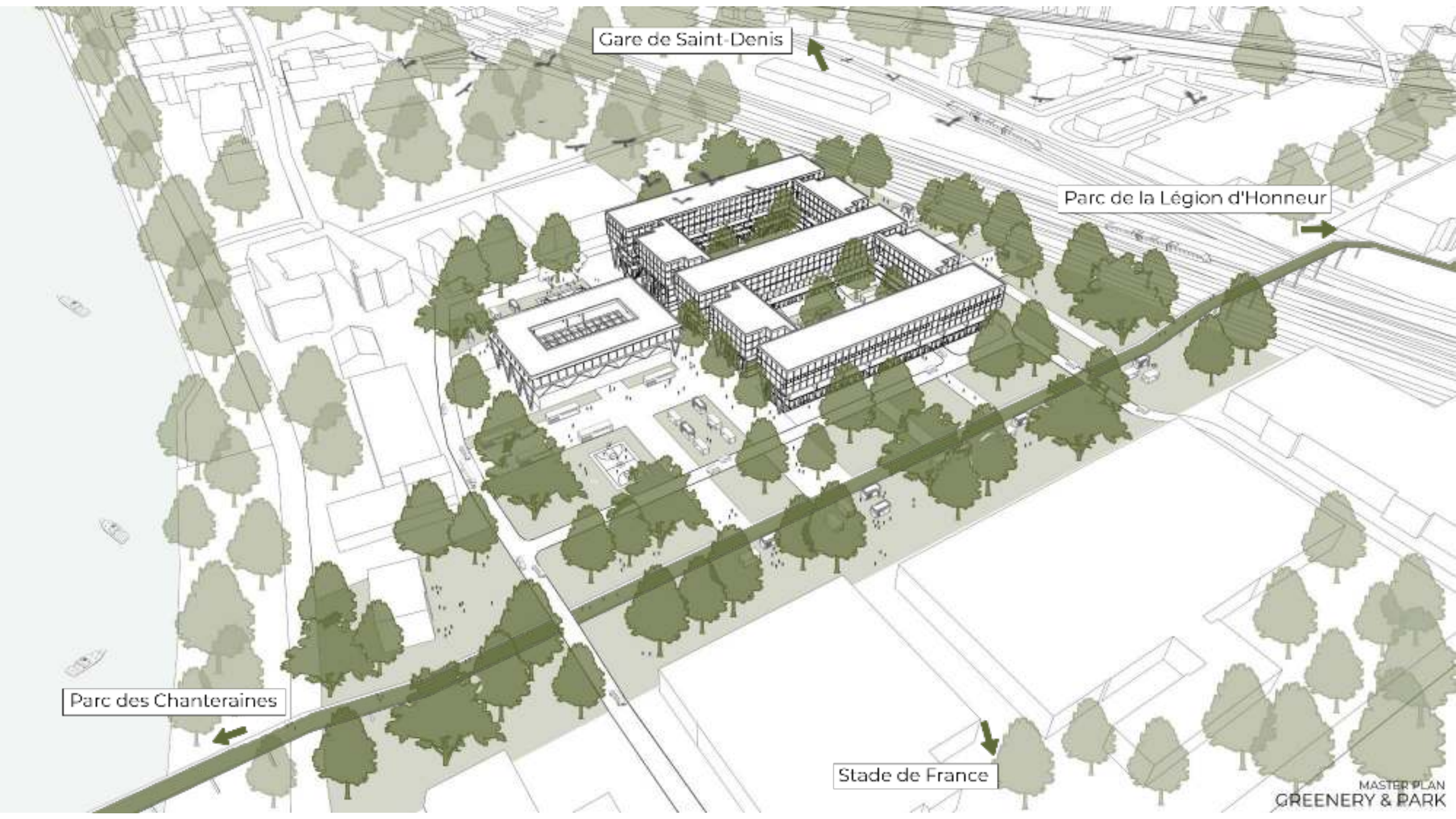
OOCL



SITE







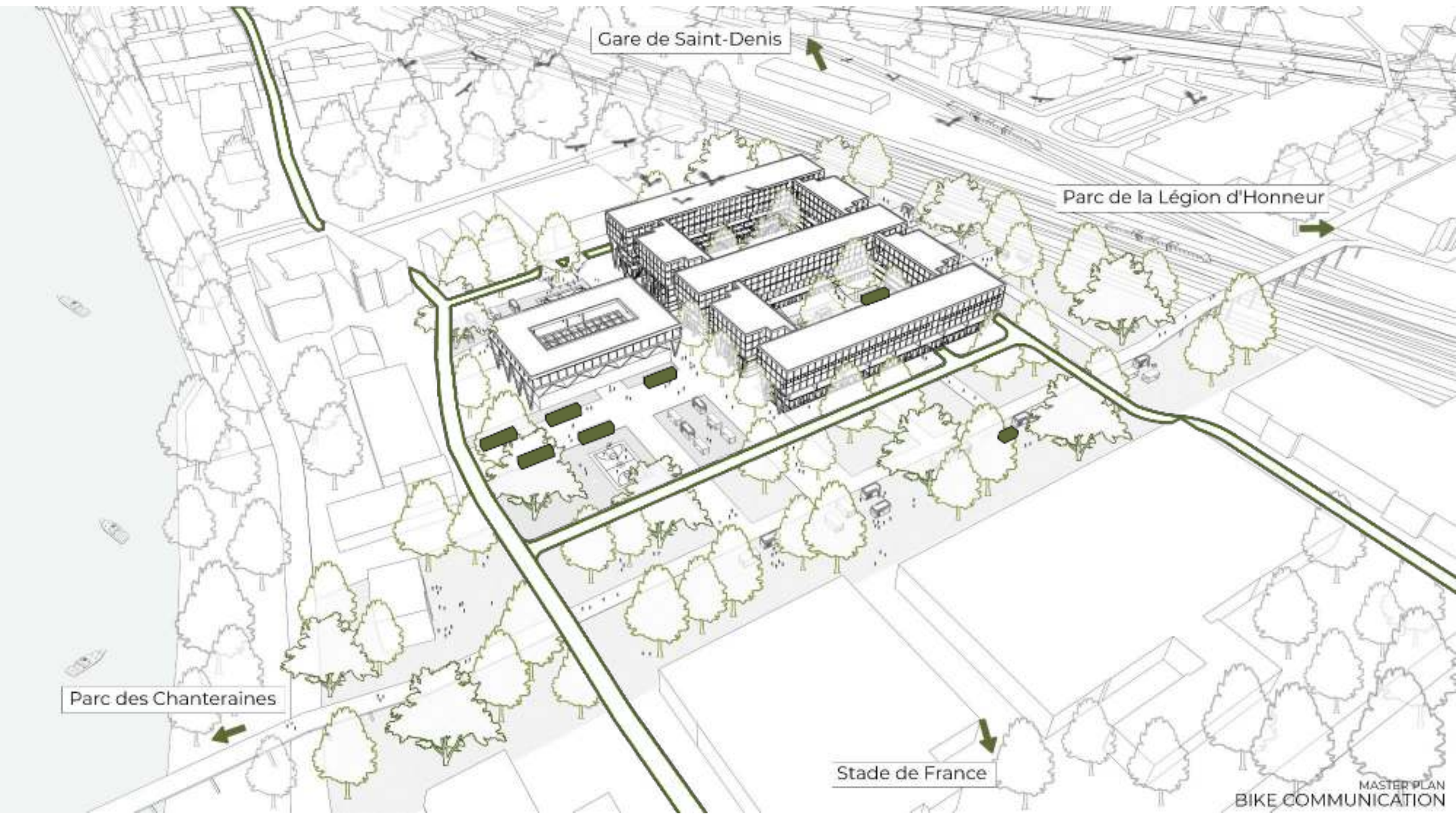
Gare de Saint-Denis

Parc de la Légion d'Honneur

Parc des Chanteraines

Stade de France

MASTER PLAN
GREENERY & PARK



Gare de Saint-Denis

Parc de la Légion d'Honneur

Parc des Chanteraines

Stade de France

SCHOOL

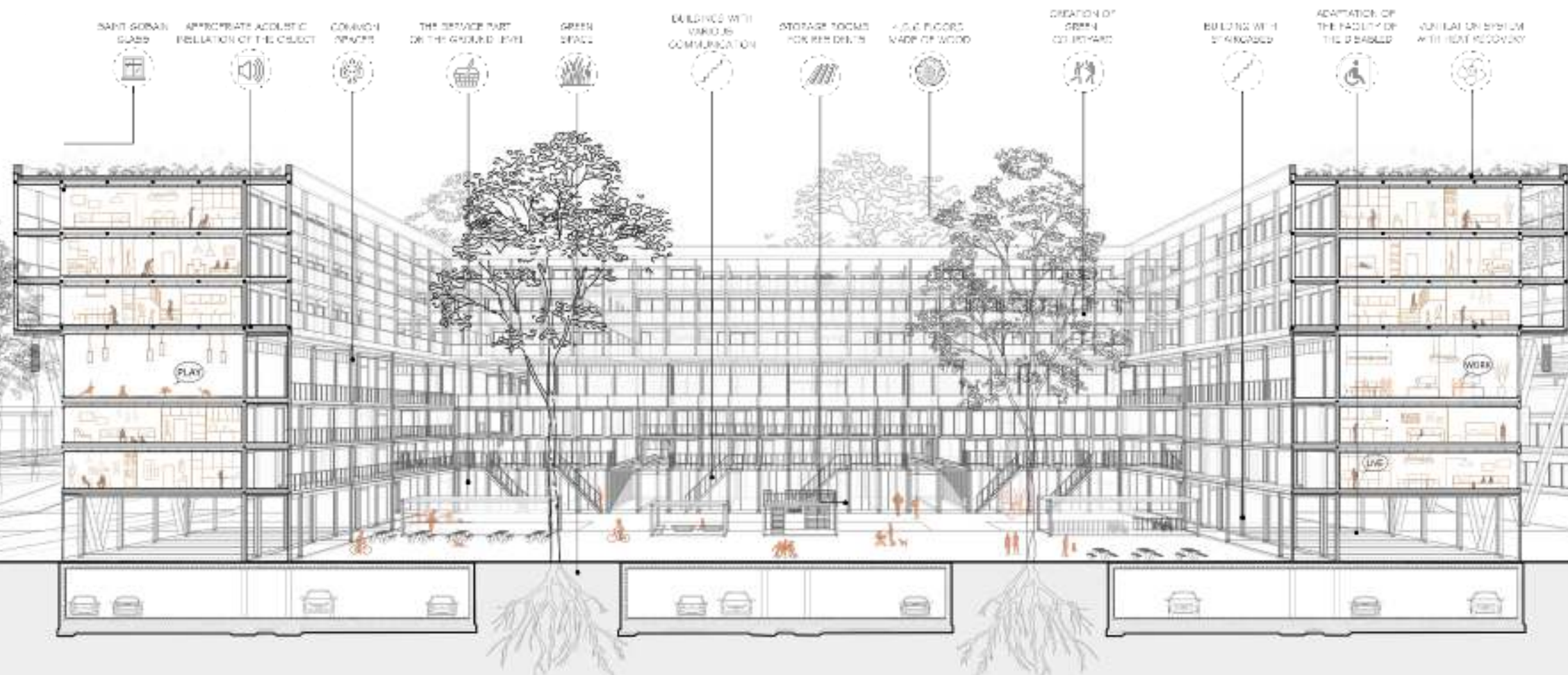


GROUND FLOOR
RENOVATED BUILDING



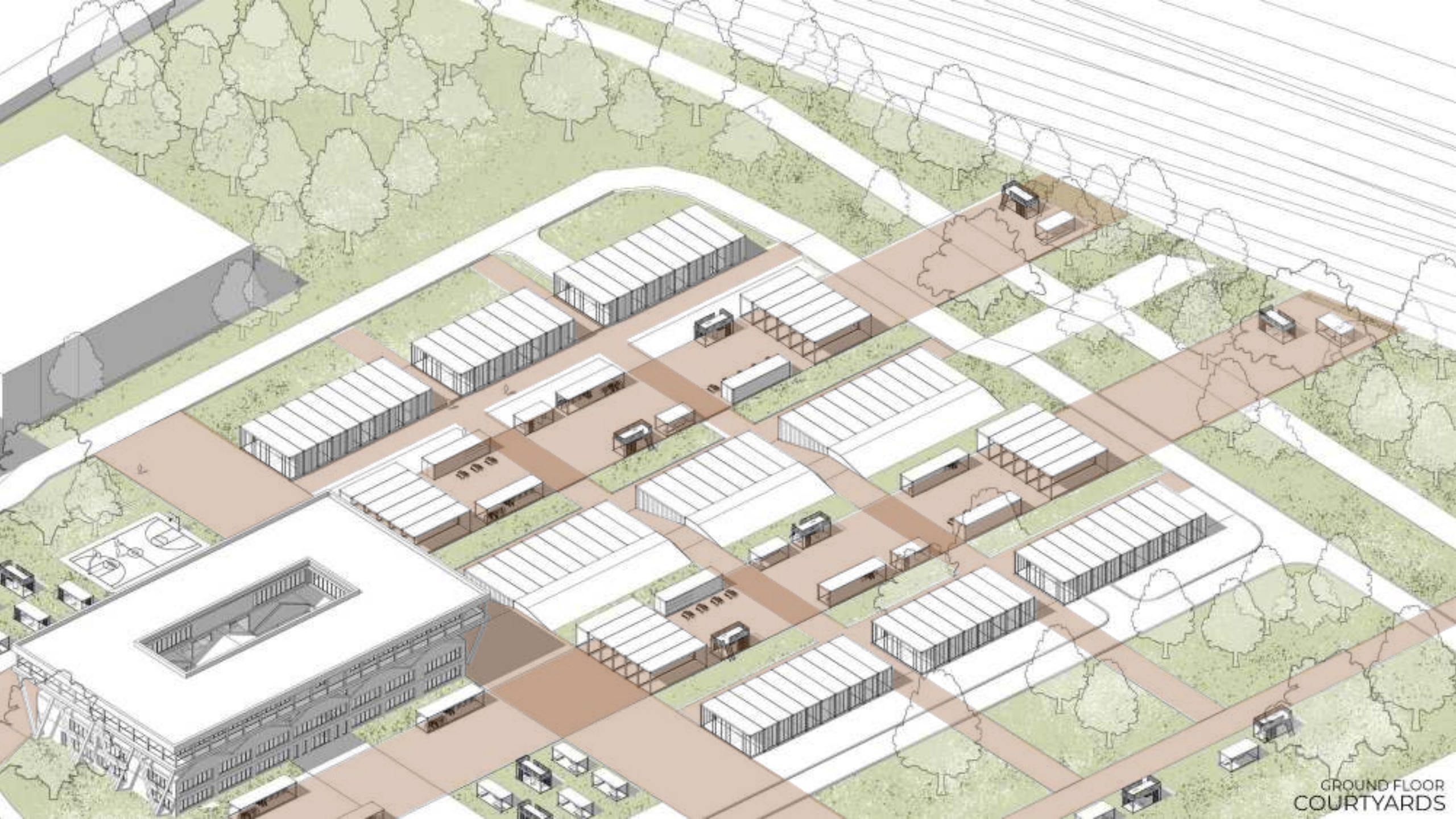
EXTENSIVE GREEN ROOF







GROUND FLOOR
COURTYARDS



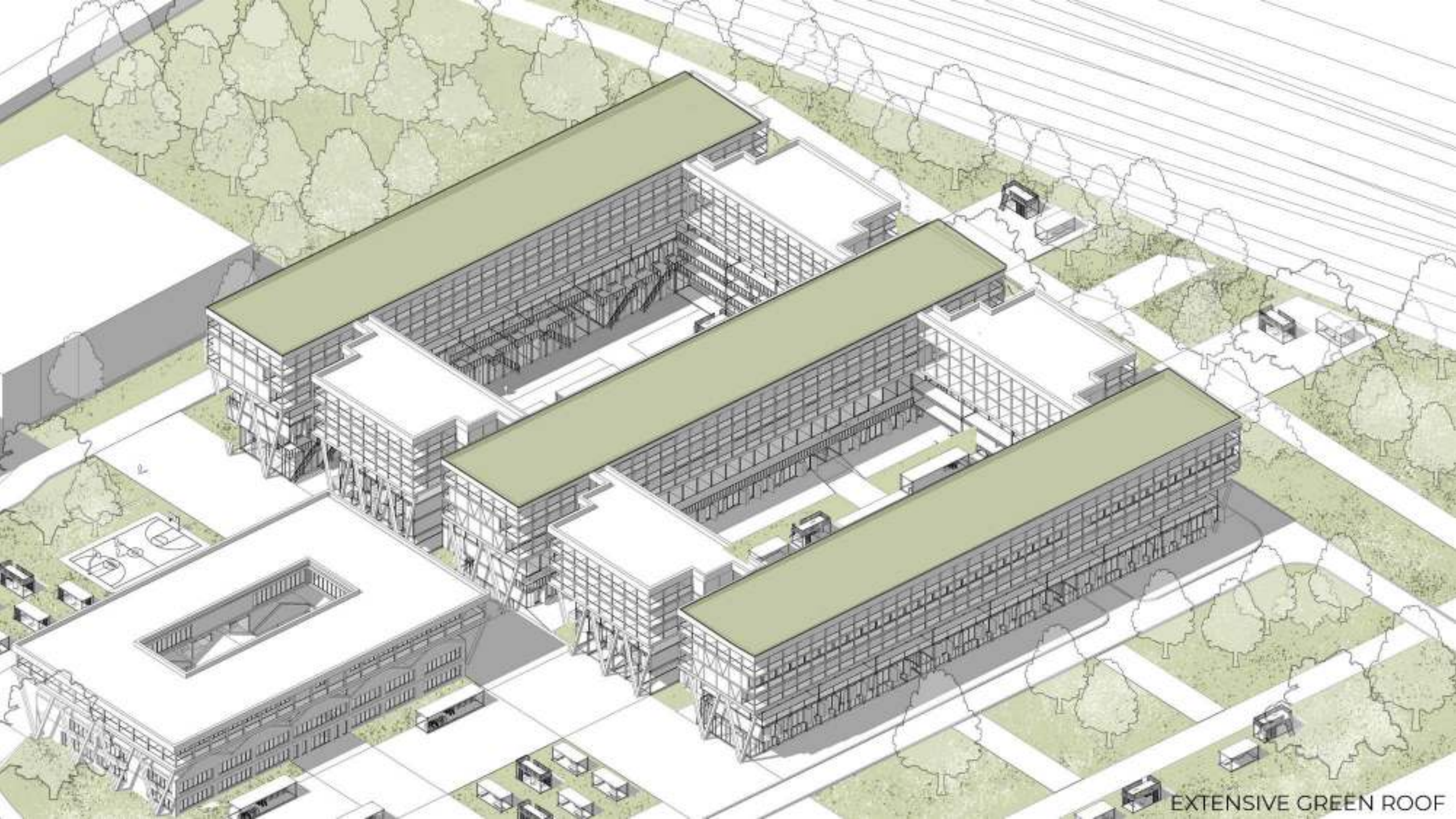
GROUND FLOOR
COURTYARDS







THIRD FLOOR
COMMON SPACES



EXTENSIVE GREEN ROOF

T1



T1'



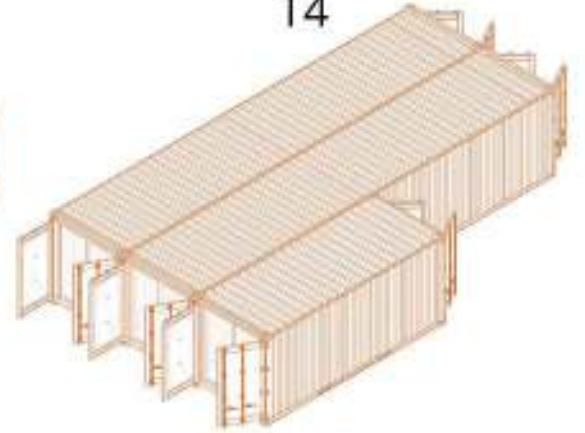
T2



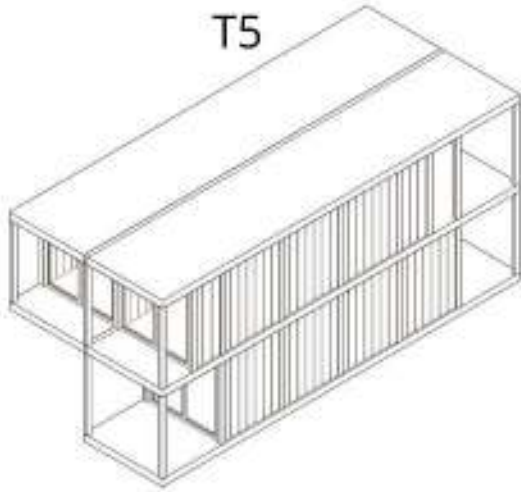
T3



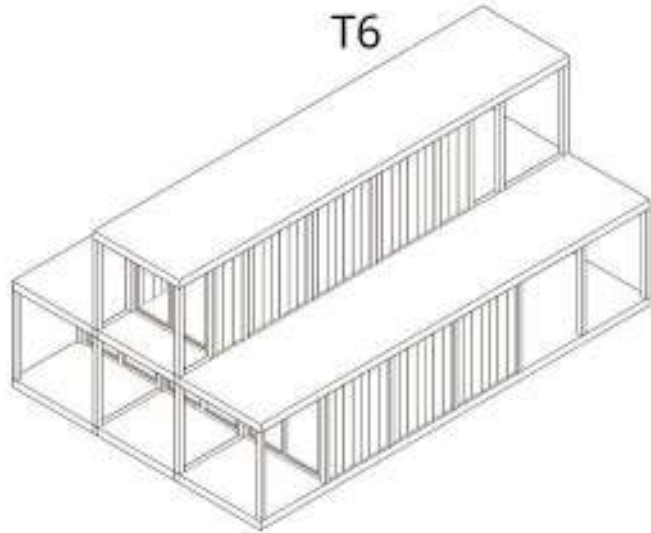
T4



T5

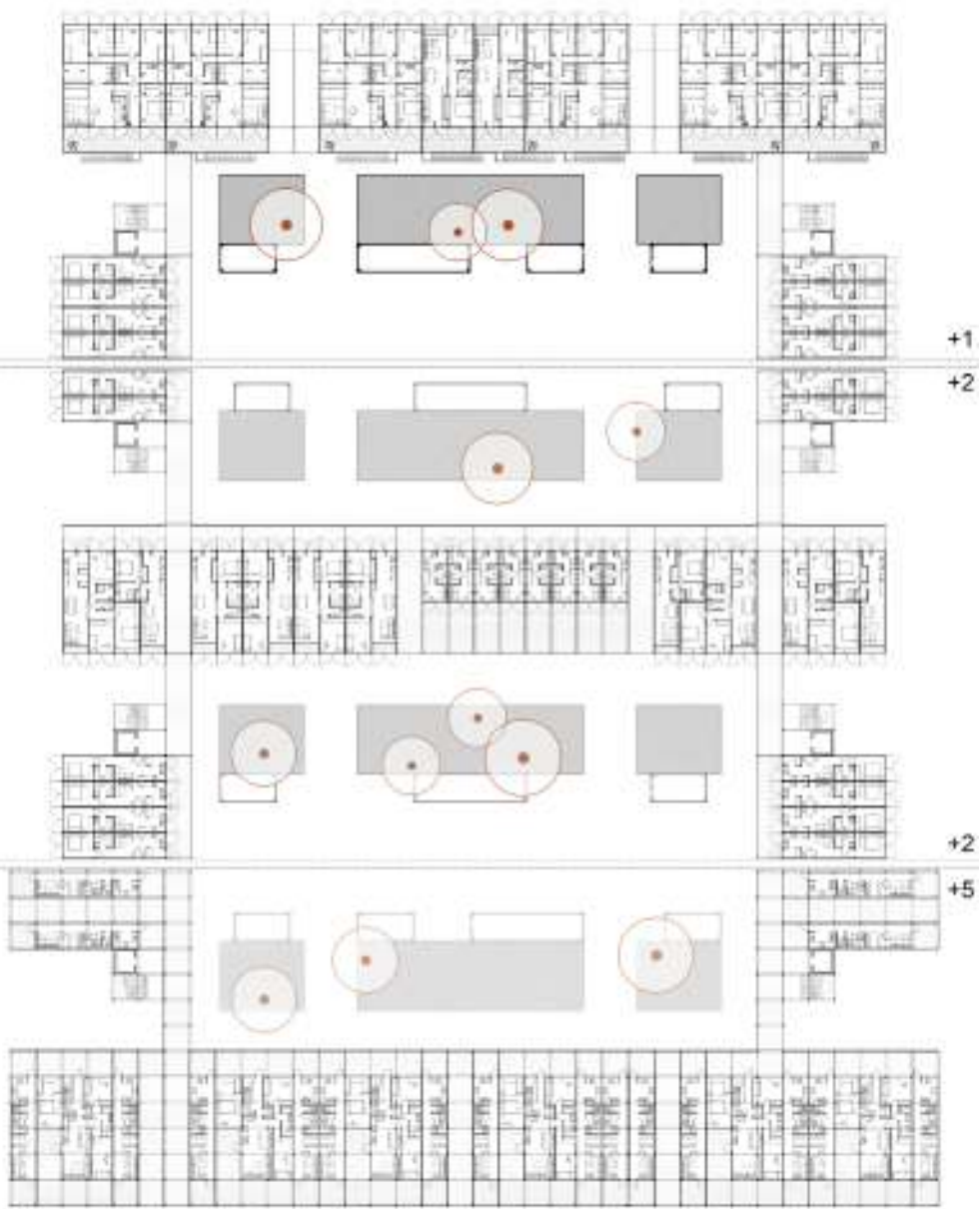


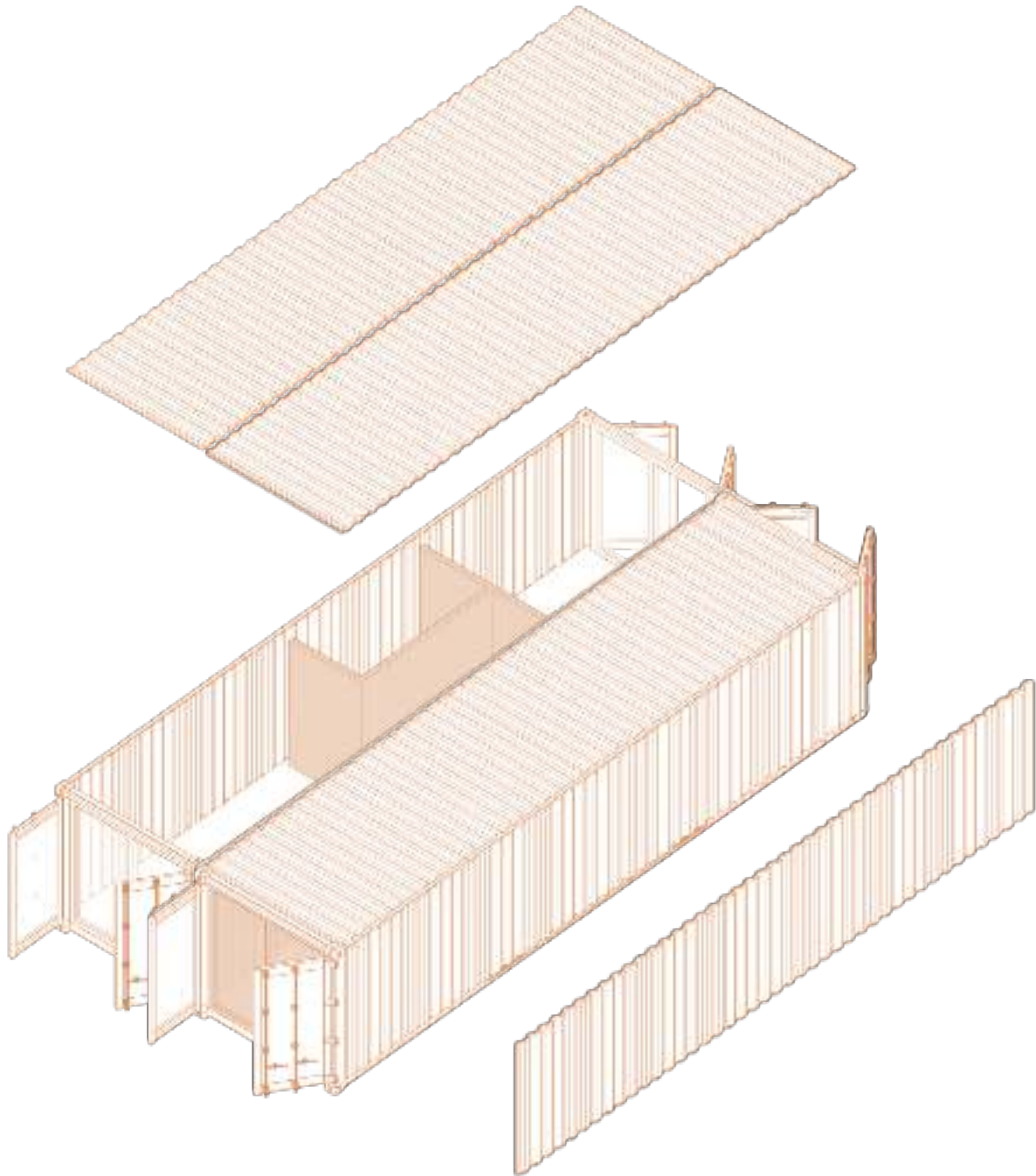
T6



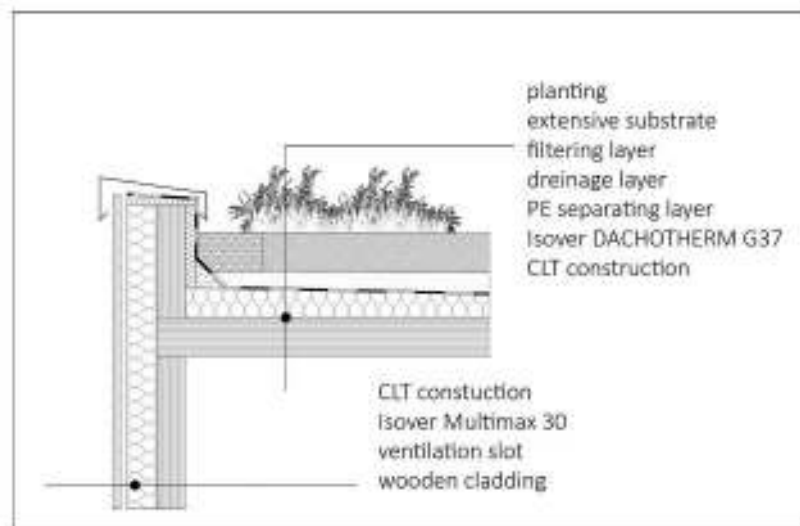
T7



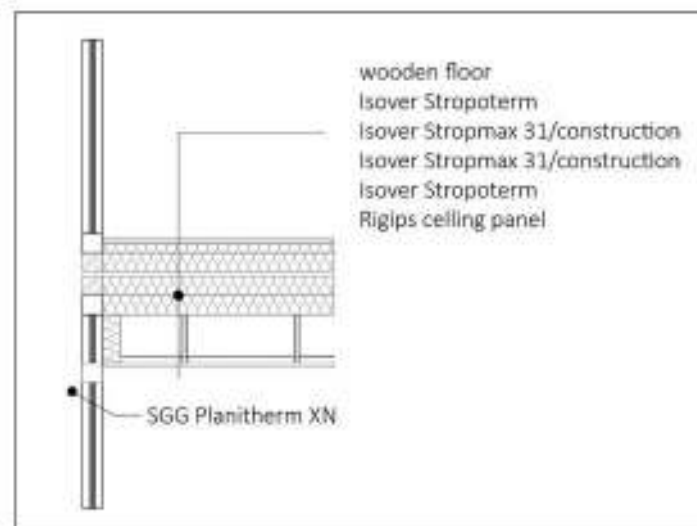




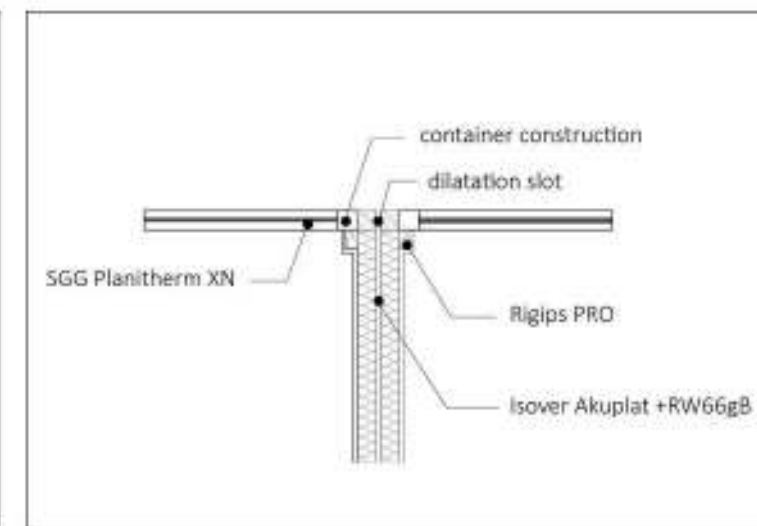
1. PROJECT DATA object housing climat zone paris construction new building building type residential usage for living design temperature 20°C		4. WINDOWS/DOORS (U-VALUES) windows 0.73 doors 0.80		8. CALCULATIONS transmission heat losses 2563 kWh/a ventilation heat losses 272 kWh/a total heat losses 2835 kWh/a total heat losses 722 kWh/a internal heat gains 2405 kWh/a solar heat gains 2470 kWh/a total heat gains 365 kWh/a annual heat gains 5.06 kWh/(m2a) specific heat gains	
2. AREA INPUT sum of living area 72m2 sum of heated space volume 216m3 a/v ratio 0.33 sum of thermal envelope 234m2		5. QUALITY airtightness yes thermal bridge free		9. ENERGY EFFICIENCY CLASSES  5.06	
3. OPAQUE ELEMENTS (U-VALUES) roof flat 0.12 wall against air 0.11 wall against neighbour n/a slab against unheated cellar 0.16		6. SHADING 180° 0.24 270° 1.00 0° 1.00 90° 1.00 horizontal 1.00			
		7. SUMMER VENTILATION STRATEGY summer air exchange rate 0.33 with heat recovery system yes night ventilation tilted windows+33%(2h) day ventilation none			



ROOF
& EXTERNAL WALL



INTERMEDIATY FLOOR
& EXTERNAL WALL



PARTITION WALL
& WINDOWS

1. PROJECT DATA

object	housing
climat zone	paris
construction	new building
building type	residential
usage	for living
design temperature	20°C

2. AREA INPUT

sum of living area	72m2
sum of heated space volume	216m3
a/v ratio	0.33
sum of thermal envelope	234m2

3. OPAQUE ELEMENTS (U-VALUES)

roof flat	0.12
wall againsts air	0.11
wall against neighbour	n/a
slab against unheated cellar	0.16

4. WINDOWS/DOORS (U-VALUES)

windows	0.73
doors	0.80

5. QUALITY

airtightness	0.60
thermal bridge free	yes

6. SHADING

180°	0.24
270°	1.00
0°	1.00
90°	1.00
horizontal	1.00

7. SUMMER VENTILATION STRATEGY

summer air exchange rate	0.33
with heat recovery system	yes
night ventilation	tilted windows+33%(2h)
day ventilation	none

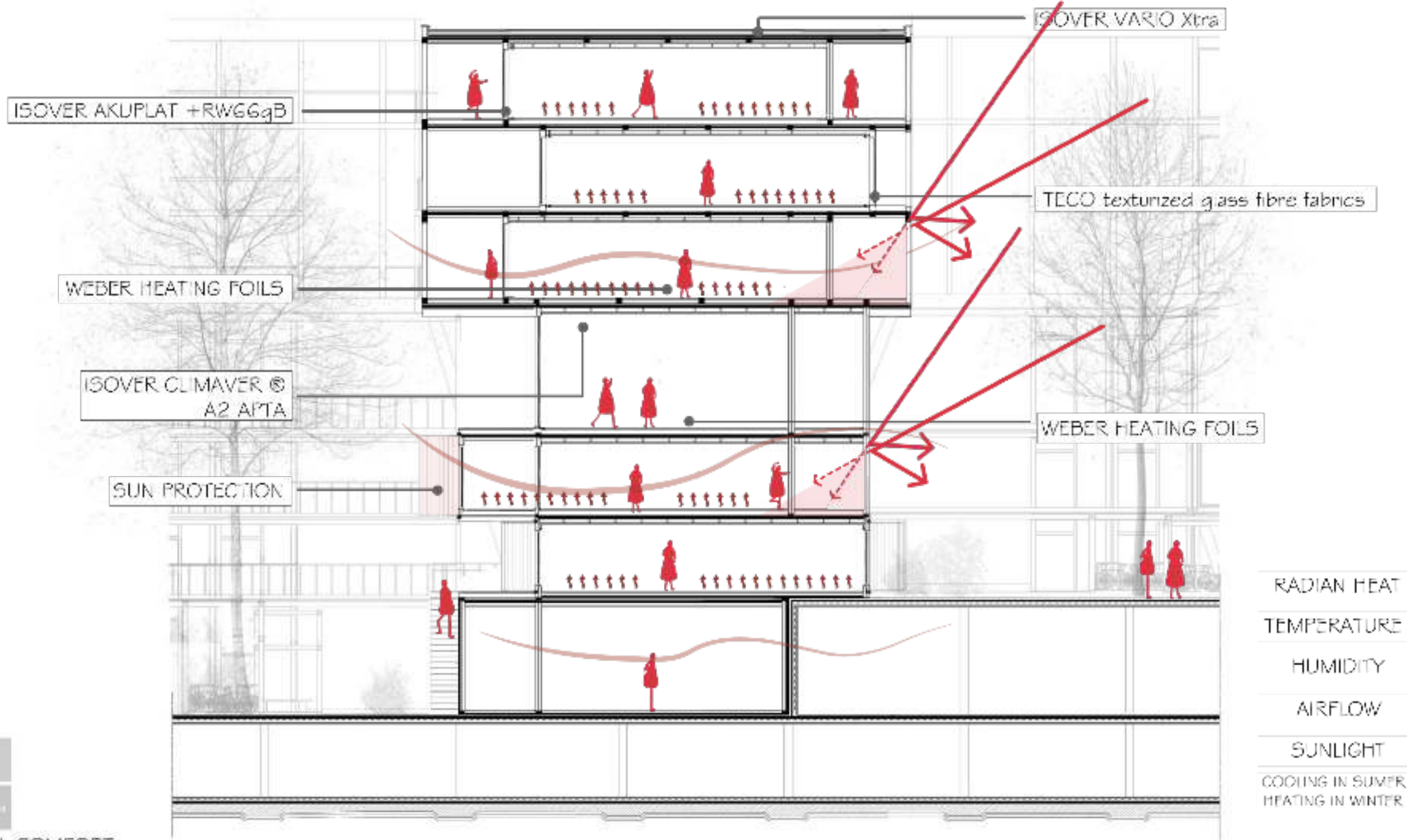
8. CALCULATIONS

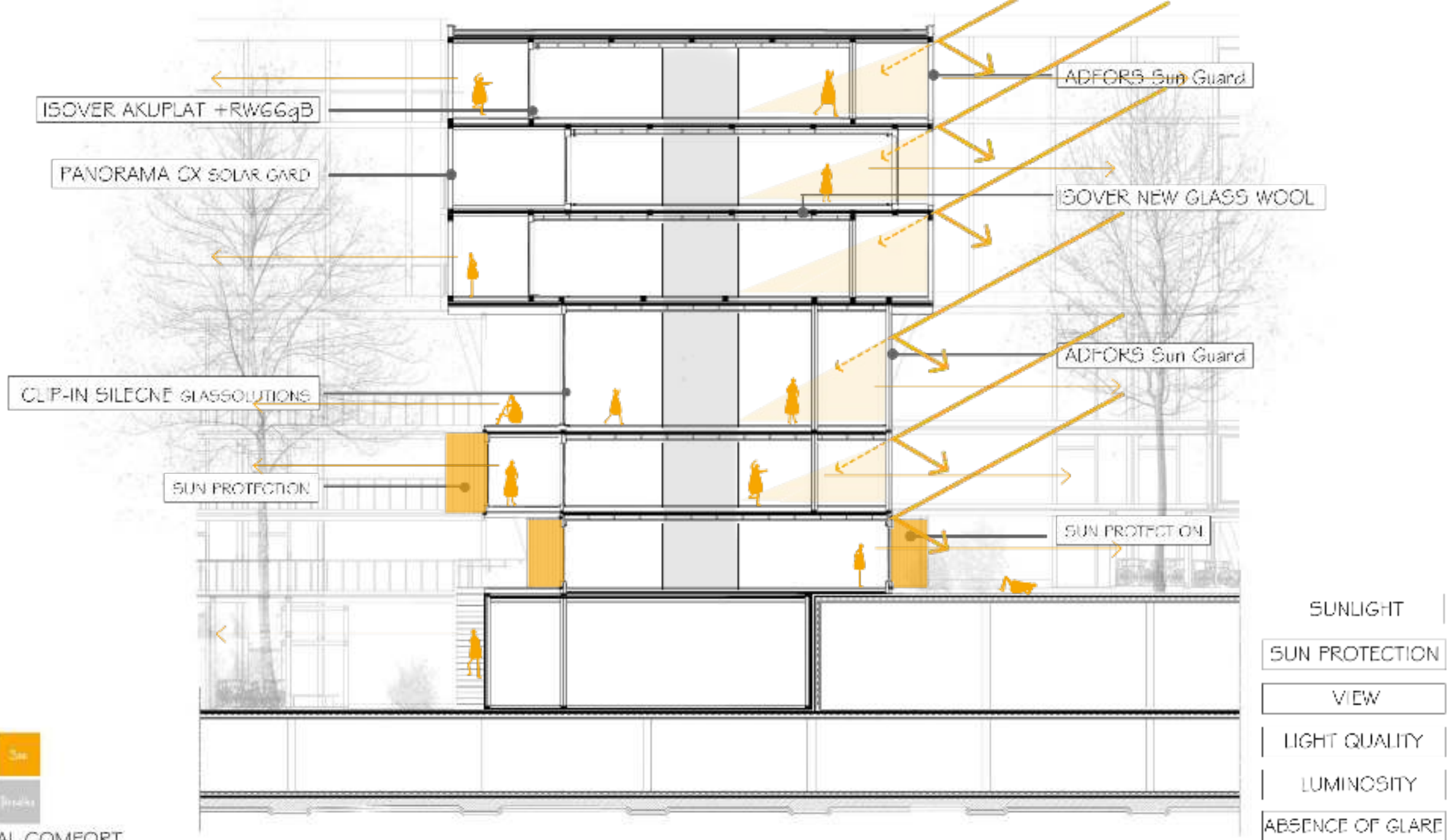
transmission heat losses	2563 kWh/a
ventilation heat losses	272 kWh/a
total heat losses	2835 kWh/a
internal heat gains	722 kWh/a
solar heat gains	2405 kWh/a
total heat gains	2470 kWh/a
annual heat gains	365 kWh/a
specific heat gains	5.06 kWh/(m2a)

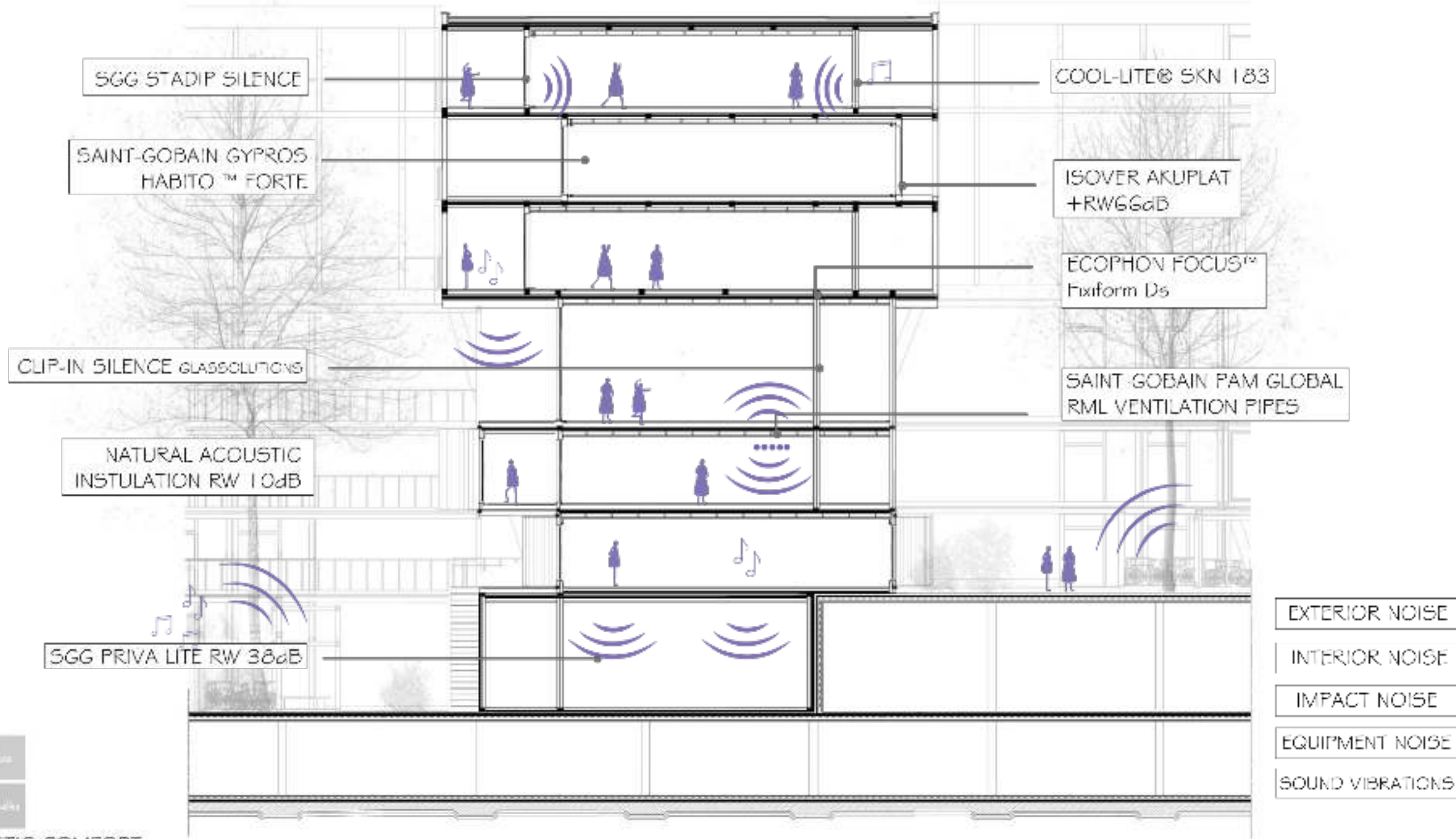
9. ENERGY EFFICIENCY CLASSES

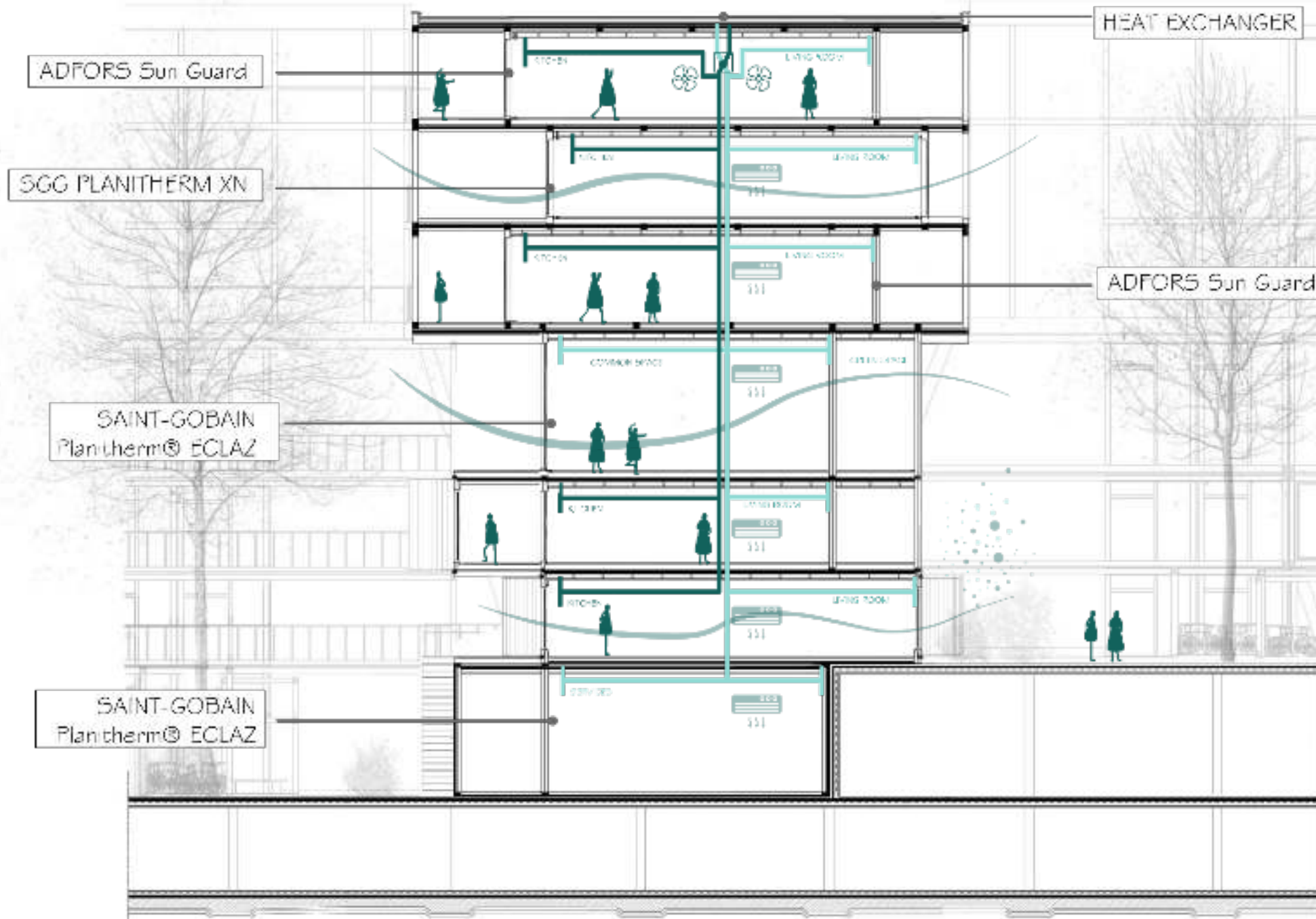


5.06









INDOOR AIR QUALITY

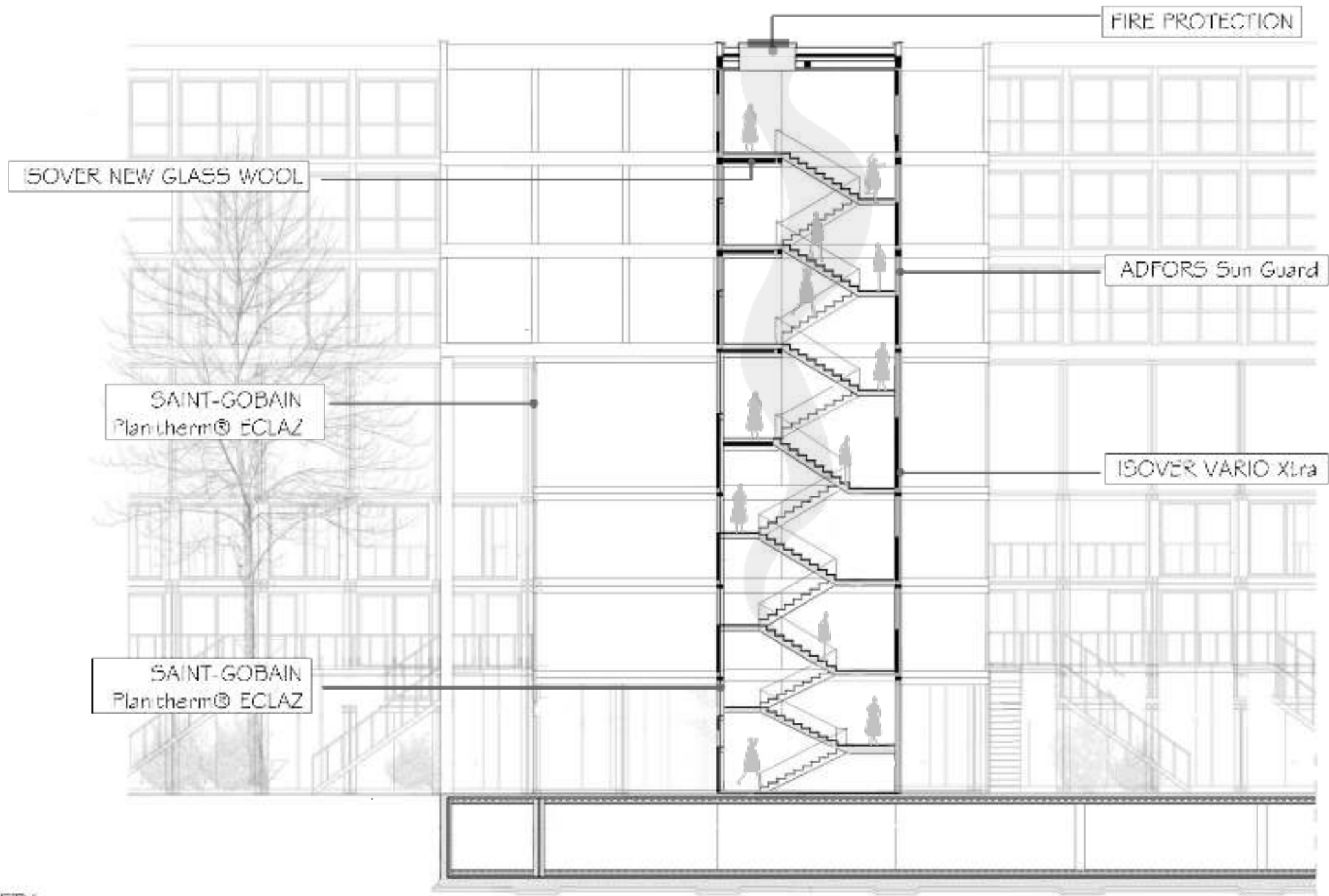
FRESH AIR SUPPLY

CONTROL OF ODORS

ABSENCE OF INTERNAL POLLUTANTS

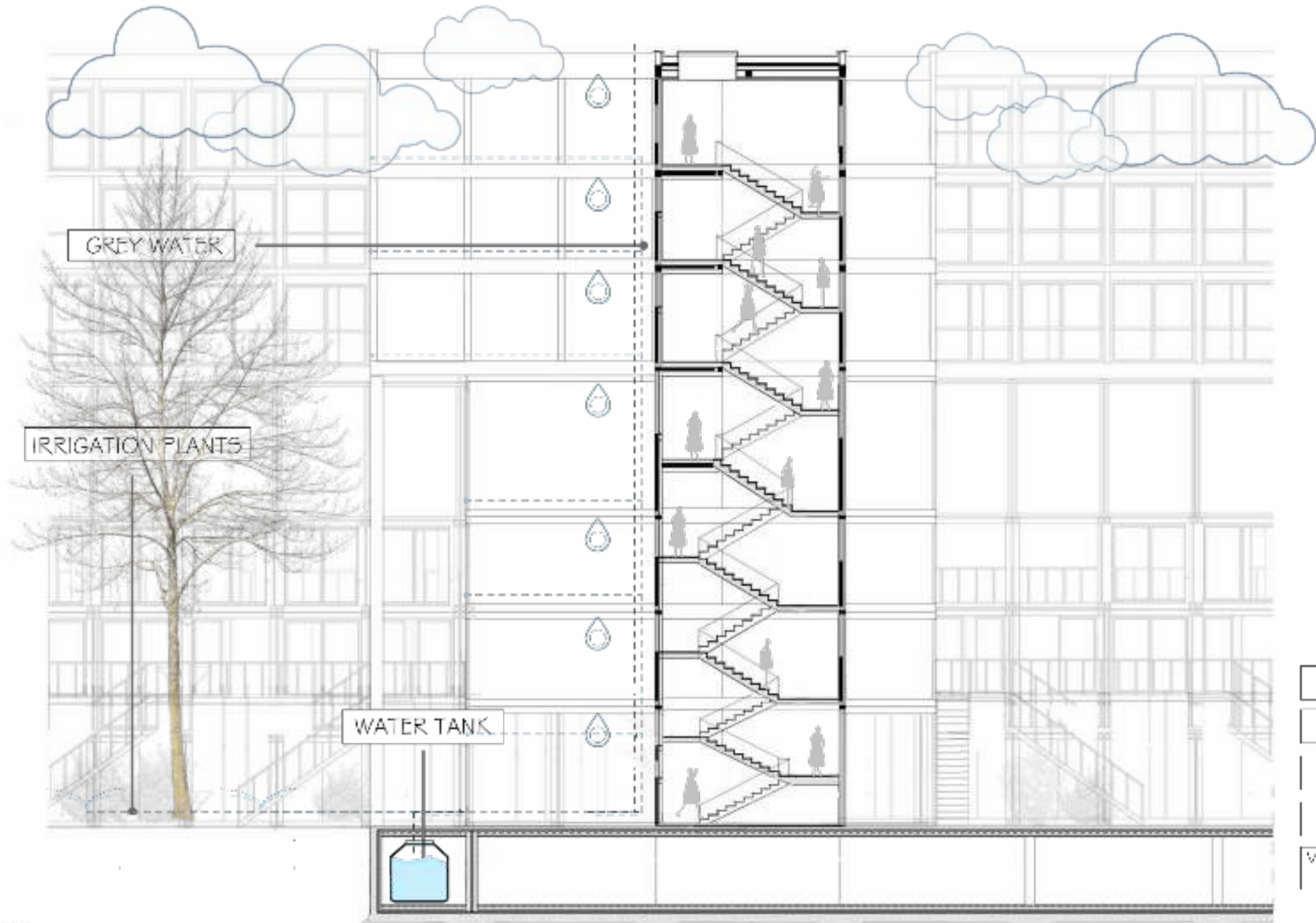
VENTILATION SYSTEM COMPONENTS





- FIREFIGHTING
- STRUCTURAL SAFETY
- COMPARTMENTATION
- EVACUATION
- DETECTION
- PREVENTION





- RAINWATER
- 5000 m³ / YEAR
- SOIL WATER
- NATURAL
- VEGETATION RESISTANT TO DROUGHT





DO YOU LIVE?