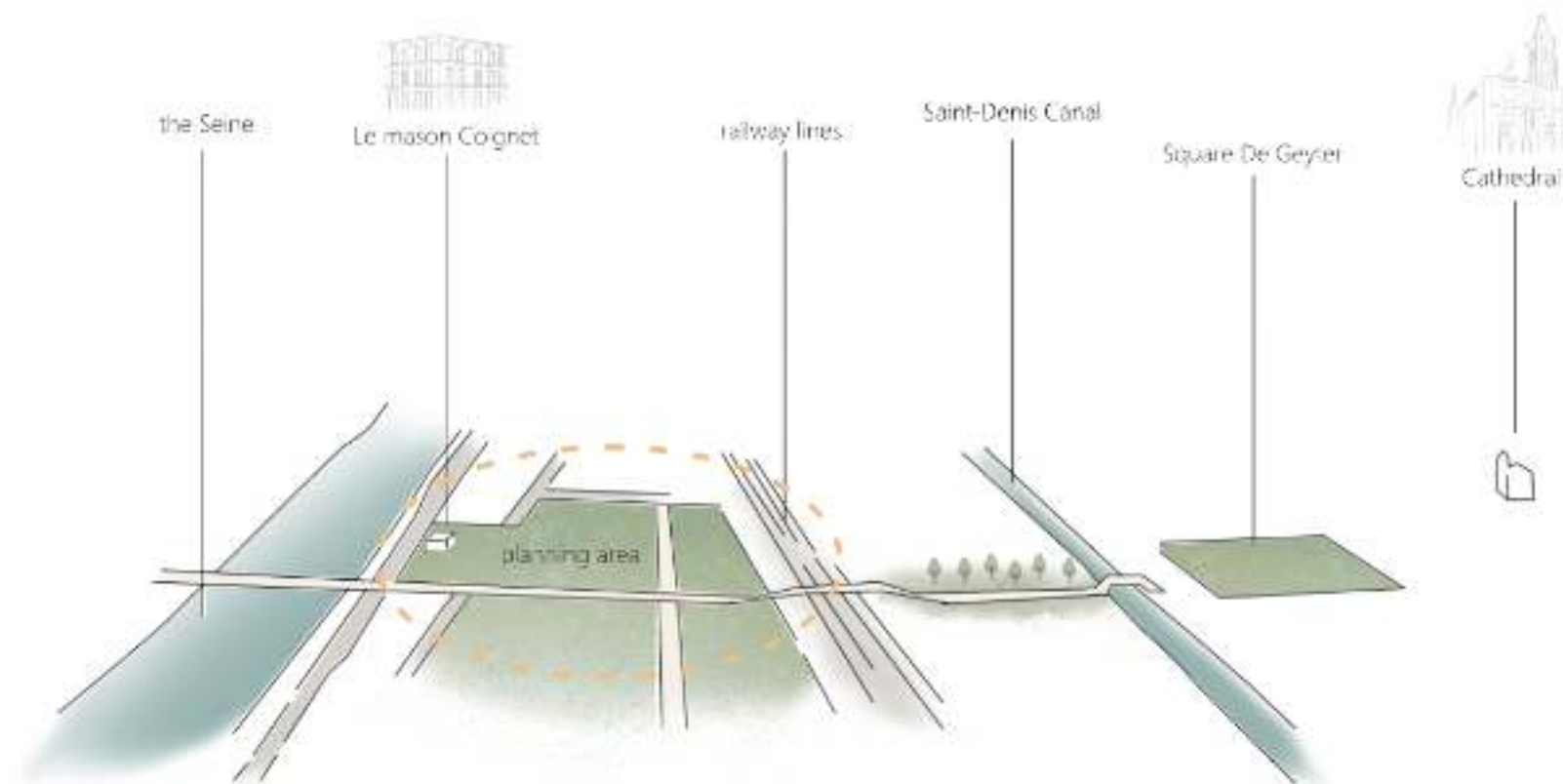




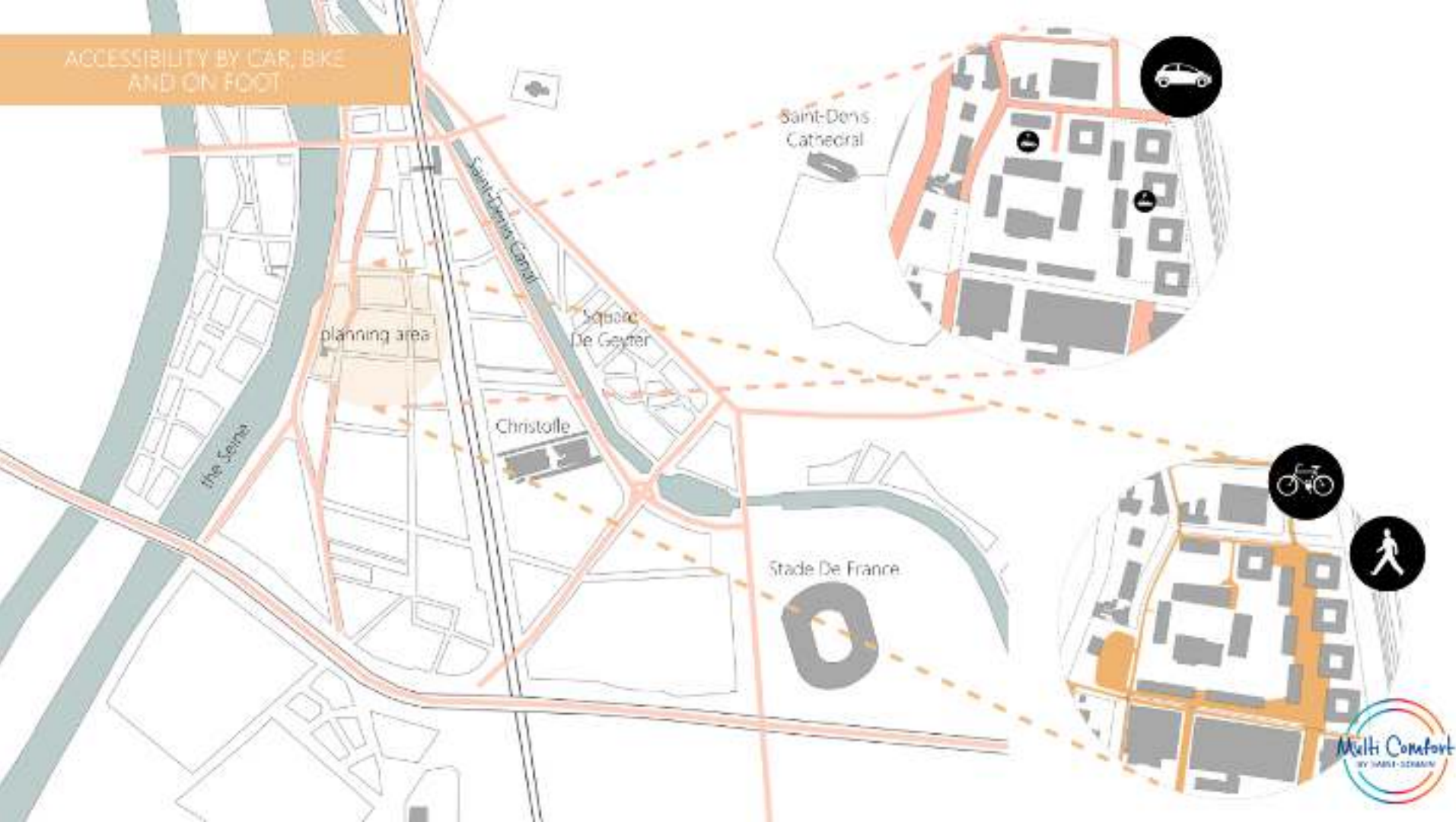
GREEN AND VIBRANT SAINT-DENIS  
SUSTAINABLE DEVELOPMENT PARK

International Stage - Finland - University of Oulu - Anniina Bitter - 32

A LANDSCAPED EAST-WEST  
ROUTE TOWARDS THE SEINE



ACCESSIBILITY BY CAR, BIKE  
AND ON FOOT



MASTERPLAN



## GREENERY



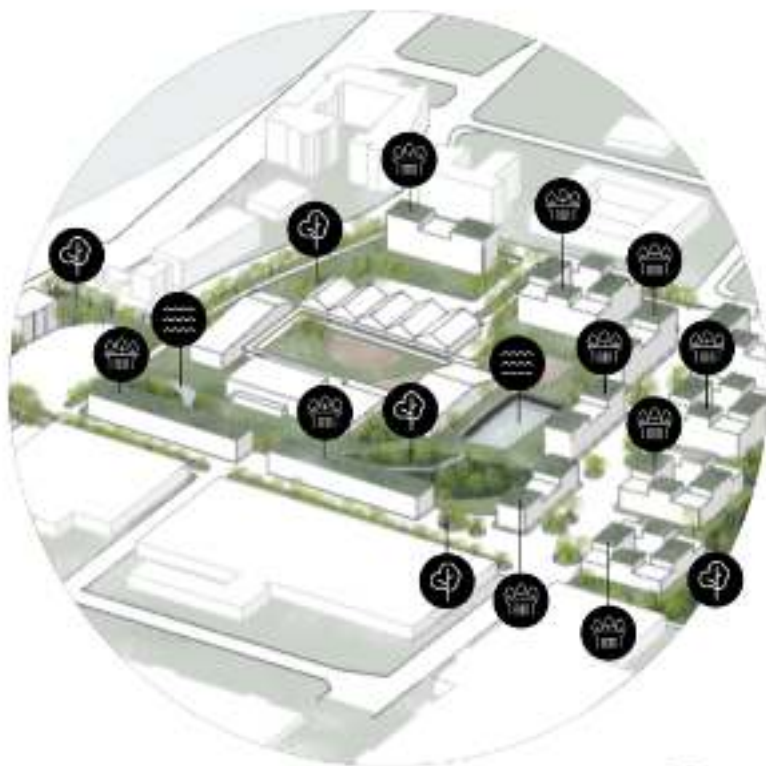
trees & bushes



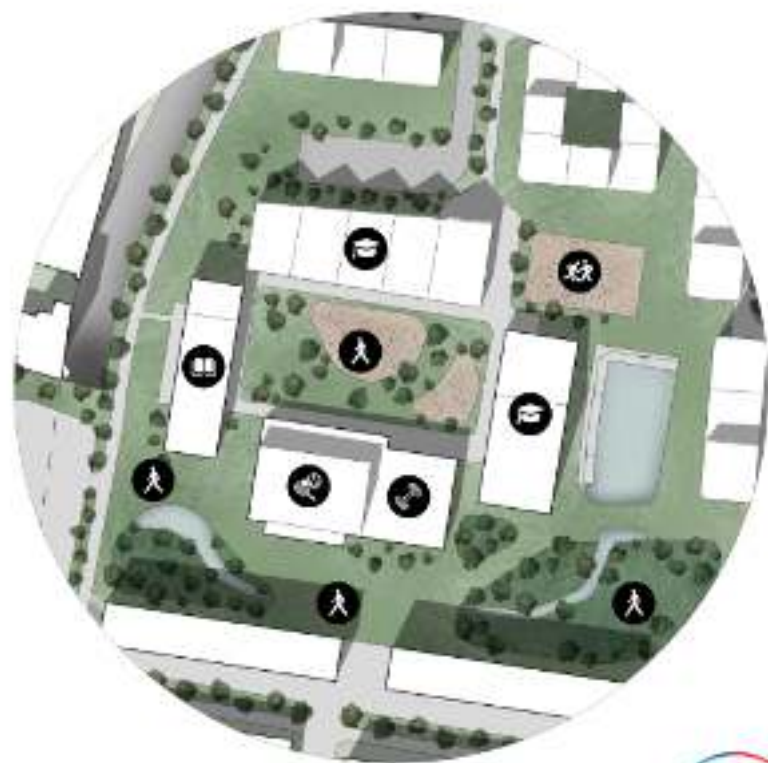
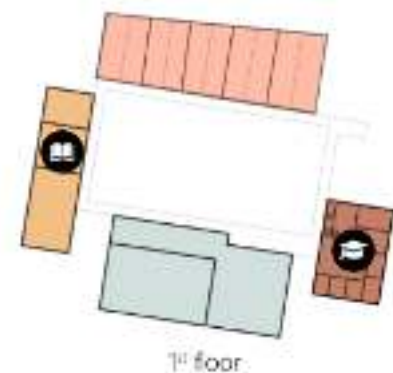
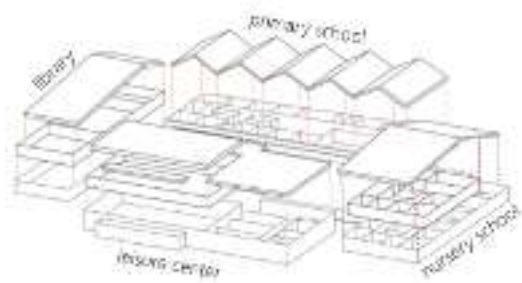
green roof



run-off water



EDUCATION &  
FREE-TIME ACTIVITIES



## CULTURE & ART & SOCIAL ACTIVITIES



attraction



marketplace



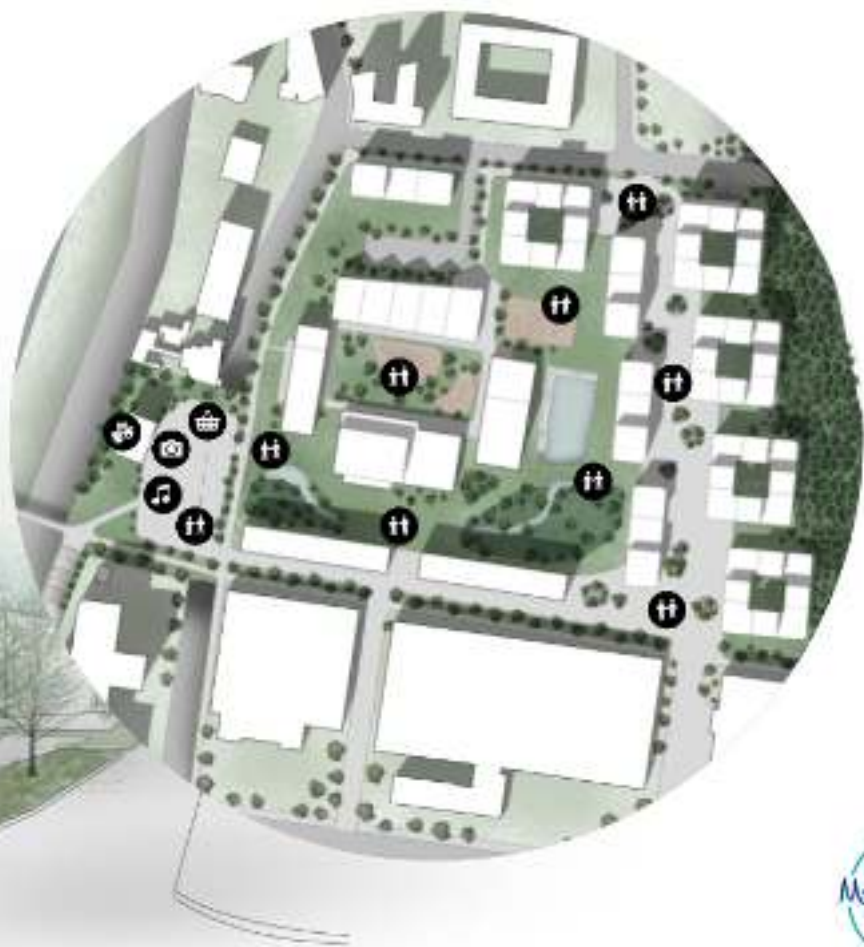
art &  
theatre



encounters  
with people

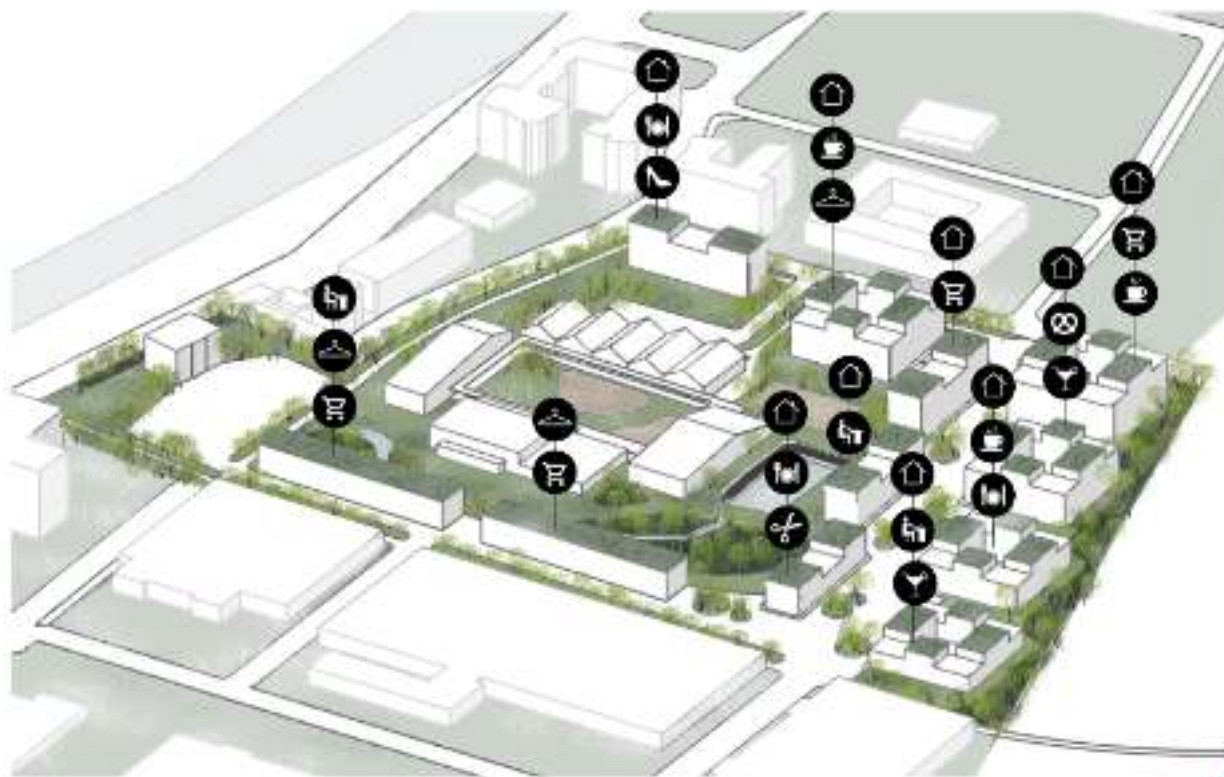


music &  
concerts

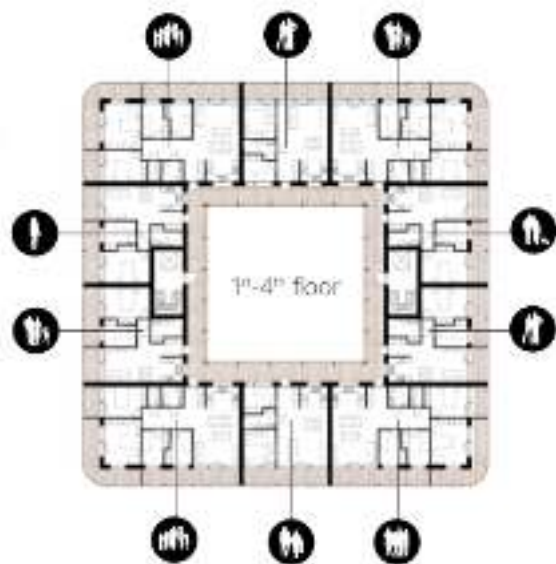


SERVICES  
& RESIDENCE

- |   |  |
|---|--|
|  restaurant |  supermarket    |
|  shoe shop  |  barber shop    |
|  bakery     |  coffee shop    |
|  office     |  clothing store |
|  bar        |  apartments     |



## APARTMENTS TYPOLOGY & COLLECTIVE LIVING



## ELEVATIONS



west facade - towards the pedestrian zone



north facade



east facade - towards the railway & the forest



south facade

VIEW FROM  
PEDESTRIAN ZONE

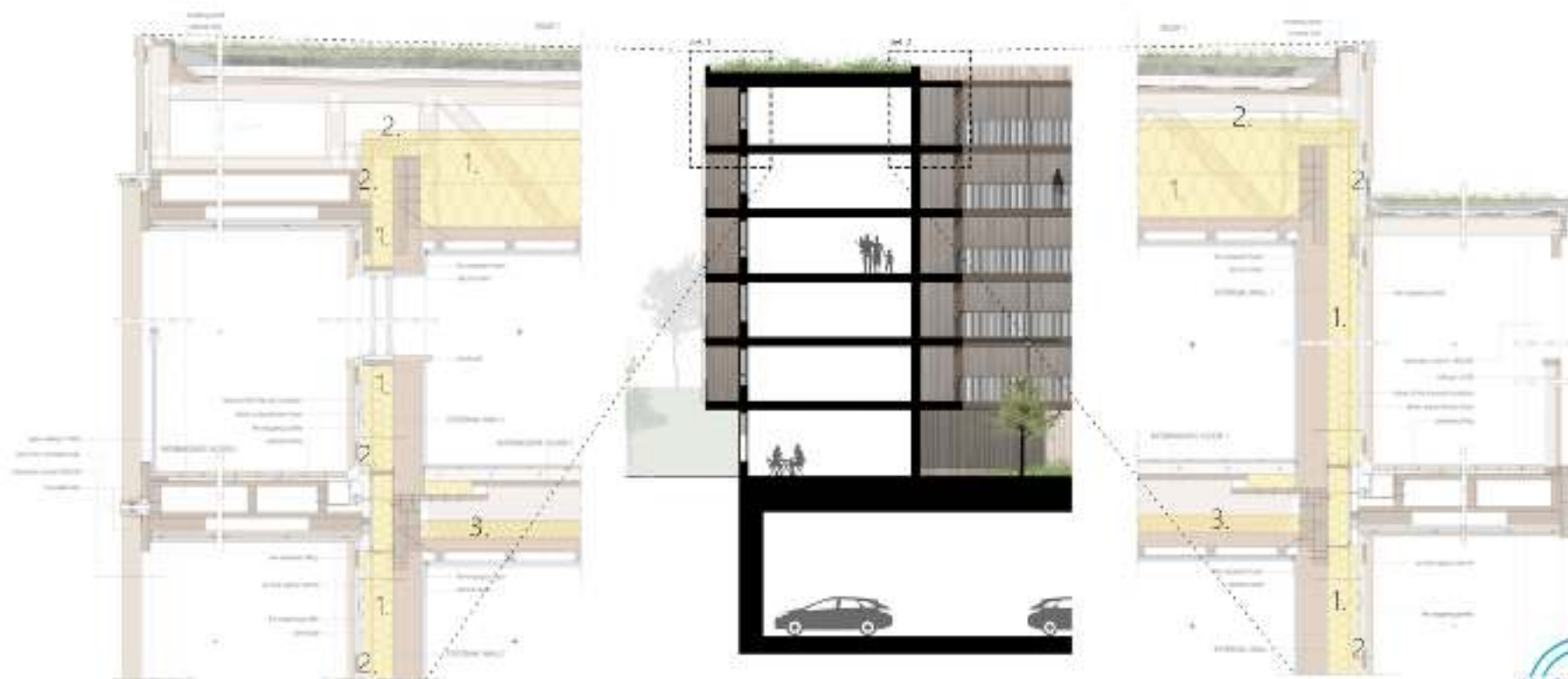


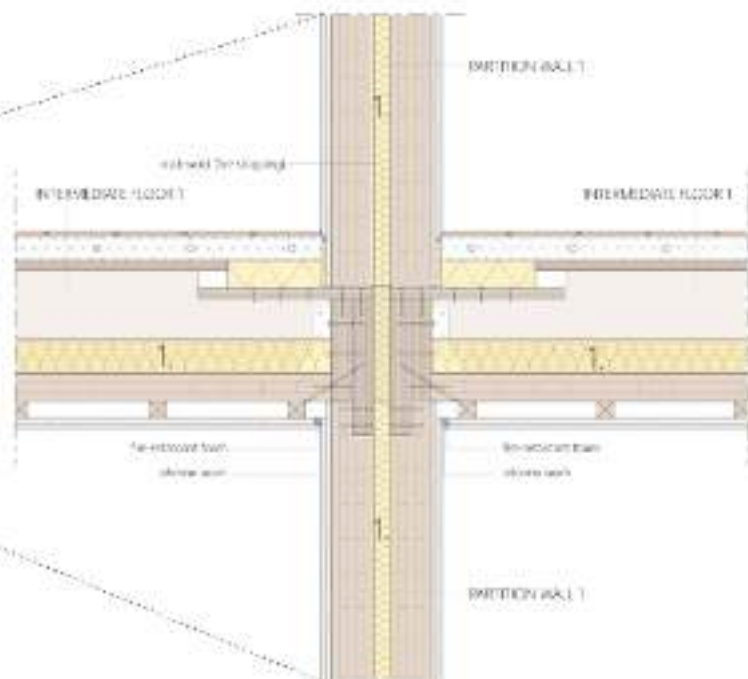
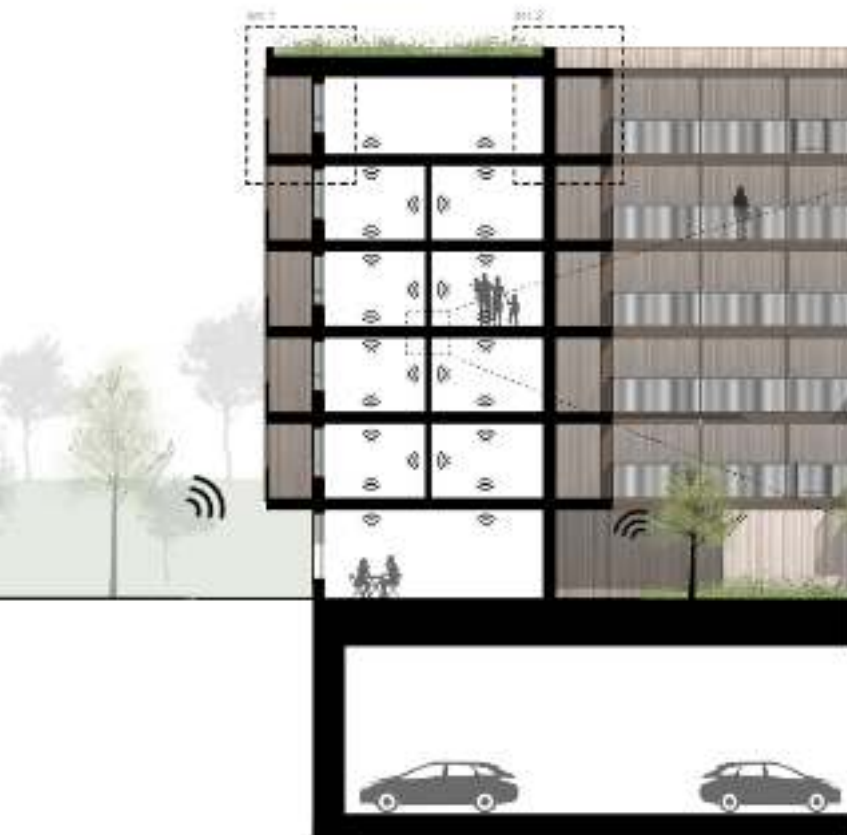
THERMAL COMFORT &  
AIRTIGHTNESS

1. **ISOVER** PREMIUM 33

2. **ISOVER** RKL-31

3. **ISOVER** ACOUSTIC





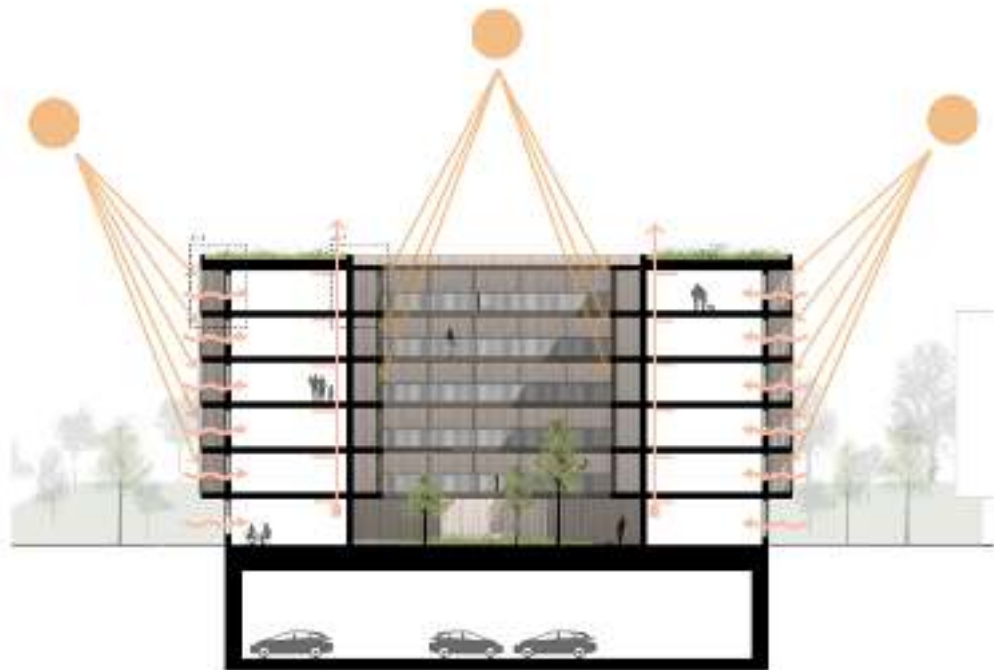
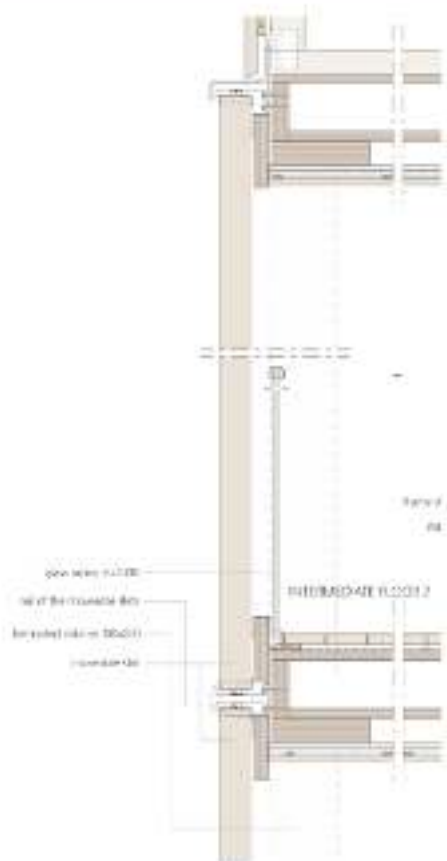
# PRIVACY & SHADING SYSTEM & VENTILATION



shading & privacy system



natural ventilation/mechanical air venting & night cooling



## HEATING SYSTEM & RE-USE OF RAINWATER



heating in winter &  
heating domestic water



collecting the rainwater



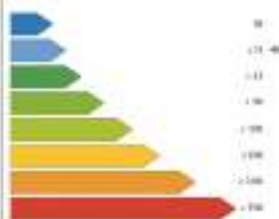
Multi Comfort Design

Calc. EPCC

Energy Use Class

Thermal Heat Loss	262527 kWh
Lighting Energy Demand	822484 kWh
Hot Water Demand	417533 kWh
Domestic Hot Water	247611 kWh
Hot Air Demand	2224 kWh
Hot Water Loss	166611 kWh
Annual Heat Demand	844400 kWh
Specific Heat Demand	0.71 kWh/m <sup>2</sup> ·a

Energy efficiency class





INTERNATIONAL  
STAGE

FINLAND

UNIVERSITY  
OF  
OULU

ANNIINA BITTER

32

