

BEYOND MADRID'S HEAT

Sheltering the Vulnerable

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P5 Presentation

T.L.C. van der Meer
4876733
Delft University of Technology
Architectural Design Crossovers [AR3DC100]

J.P.M. van Lierop, G. Karvelas, A.M.R. van der Meij





[Madrid, 2024]



[Madrid, 2024]

Spain

CLIMATE CHANGE

“The average temperature in Madrid in summer will go from 29°C to 36°C”

Julio Díaz, who studies link between environment and mortality, discusses effects of global warming



Julio Díaz, an expert on the effects of climate on public health.
JAIME VILLANUEVA

Madrid

Two deaths from heat stroke in Madrid in the last 24 hours

A 76-year-old man dies at home in Usera and another 44-year-old man with pre-existing conditions suffers cardiac arrest in a park in the Latina district



Samur is treating a 44-year-old man who died of heat stroke while walking in a park in Latina.
EFE/MADRID EMERGENCIES

CLIMATE CHANGE

Spain will be the country with the most deaths from heat at the end of the century

Italy, Greece and parts of France will also increase them, mainly due to climate change.



August 22, 2024 - 11:57
(Updated: August 22, 2024 - 15:29)
EDITORIAL / AGENCIES

Madrid

Madrid in its first heat wave: there is no better refuge than the trusted shopping centre

Marathon runners who start their race early at 6am, workers for whom nothing changes at 40 degrees, municipal climate shelters that require payment, and generally good public transport performance



A woman and a child get wet in a fountain in Madrid, this Thursday.
ALVARO GARCIA

‘Brutal’ heatwaves across Europe create vicious cycle of more air con and higher emissions



Madrid

The Madrid frying pan takes refuge in a cane

The heat wave from Plaza del Rastrillo, in Malasaña, the hottest spot in the capital of Spain, where the heat island effect is greater than in other cities



The Plaza del Rastrillo in Madrid, in Malasaña, this Friday during the fourth heat wave declared by the AEMET PHOTO: Santi BURGOS
SANTI BURGOS

[El Pais, TeleMadrid, Euronews, 2024]

“How can **localized** architectural interventions and urban infrastructure address the **vulnerabilities** of **marginalized populations** in response to Madrid’s **Urban Heat?**”

VULNERABLE POPULATIONS

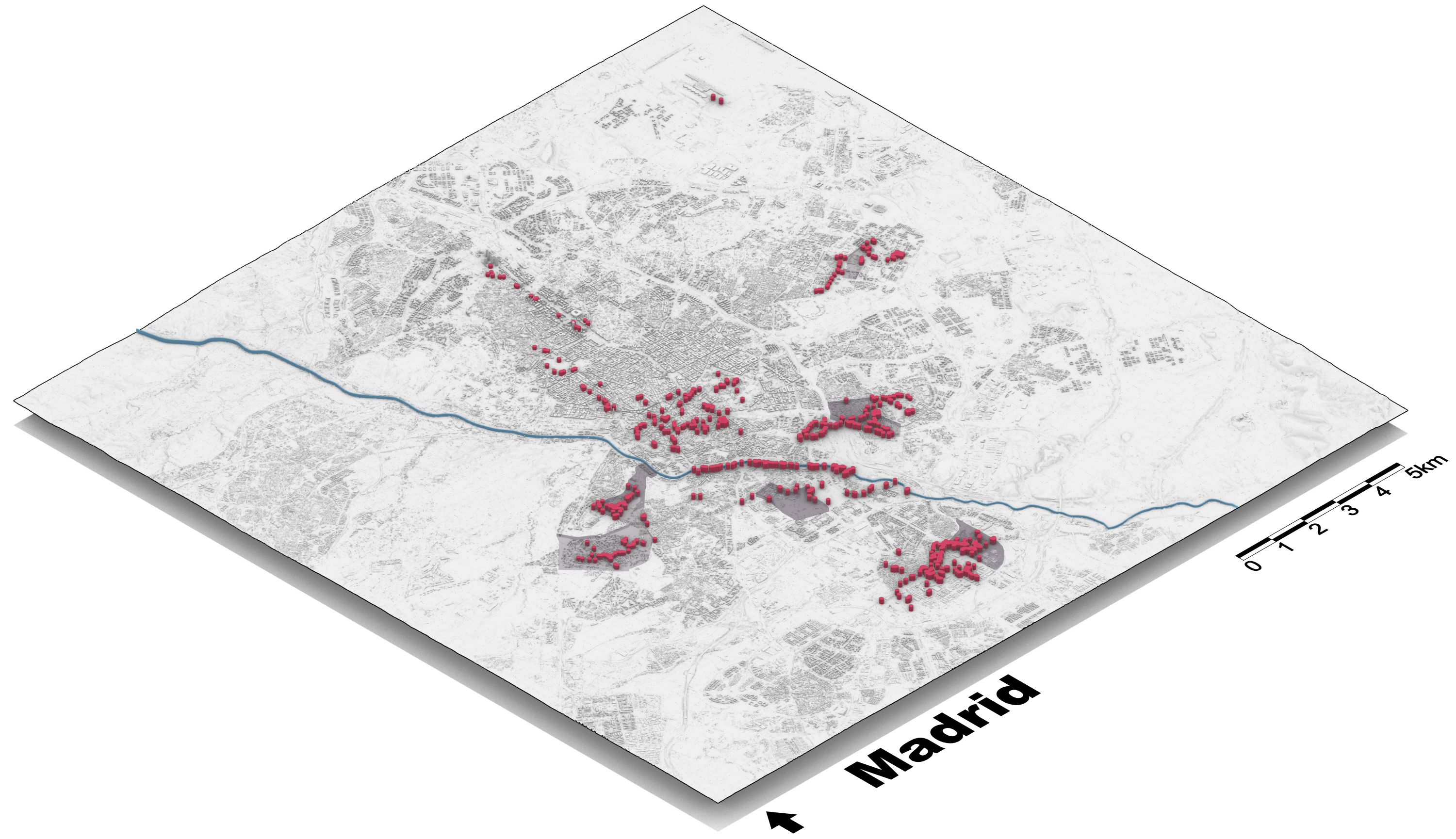


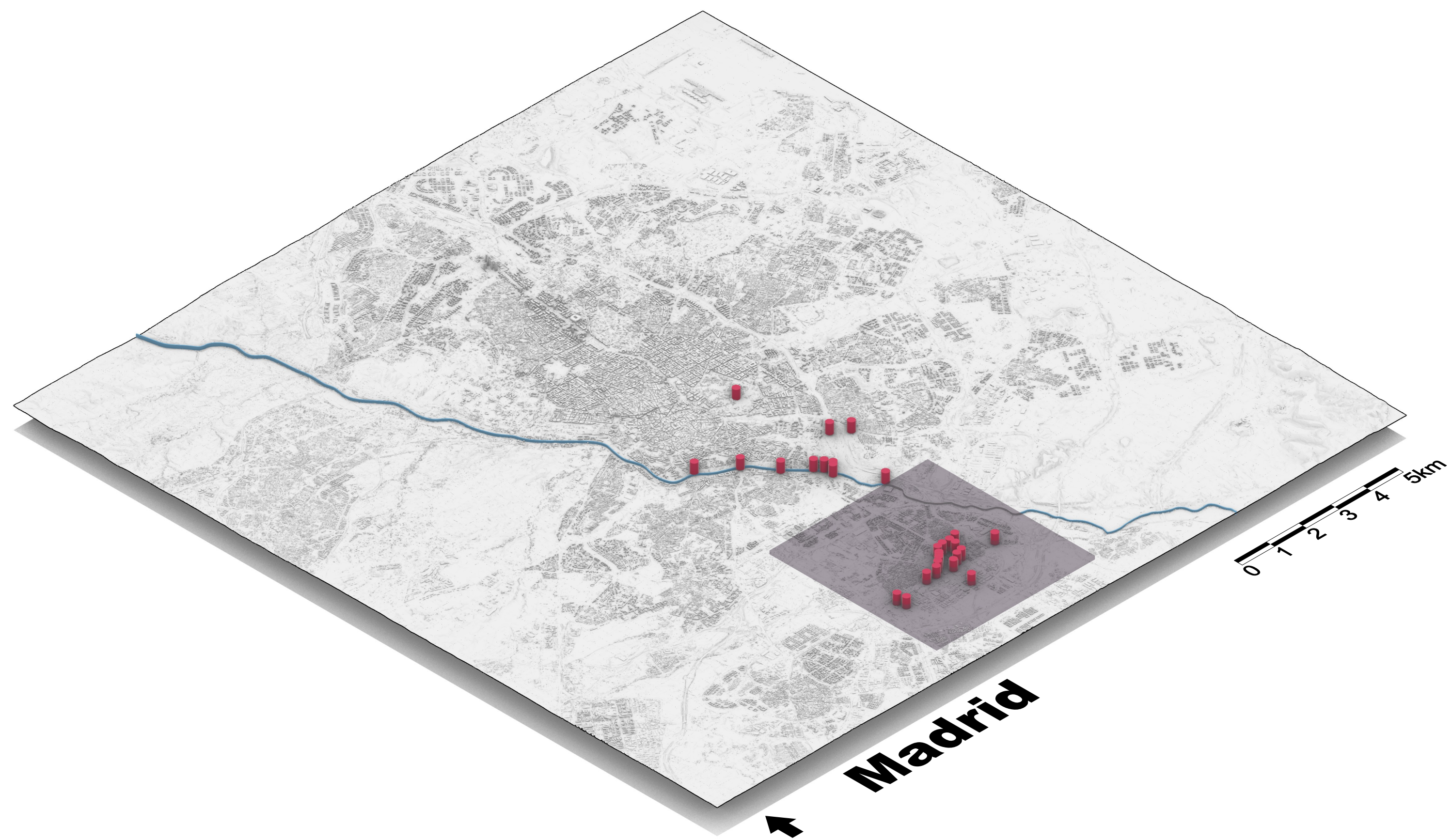
VULNERABLE POPULATIONS



VULNERABLE POPULATIONS









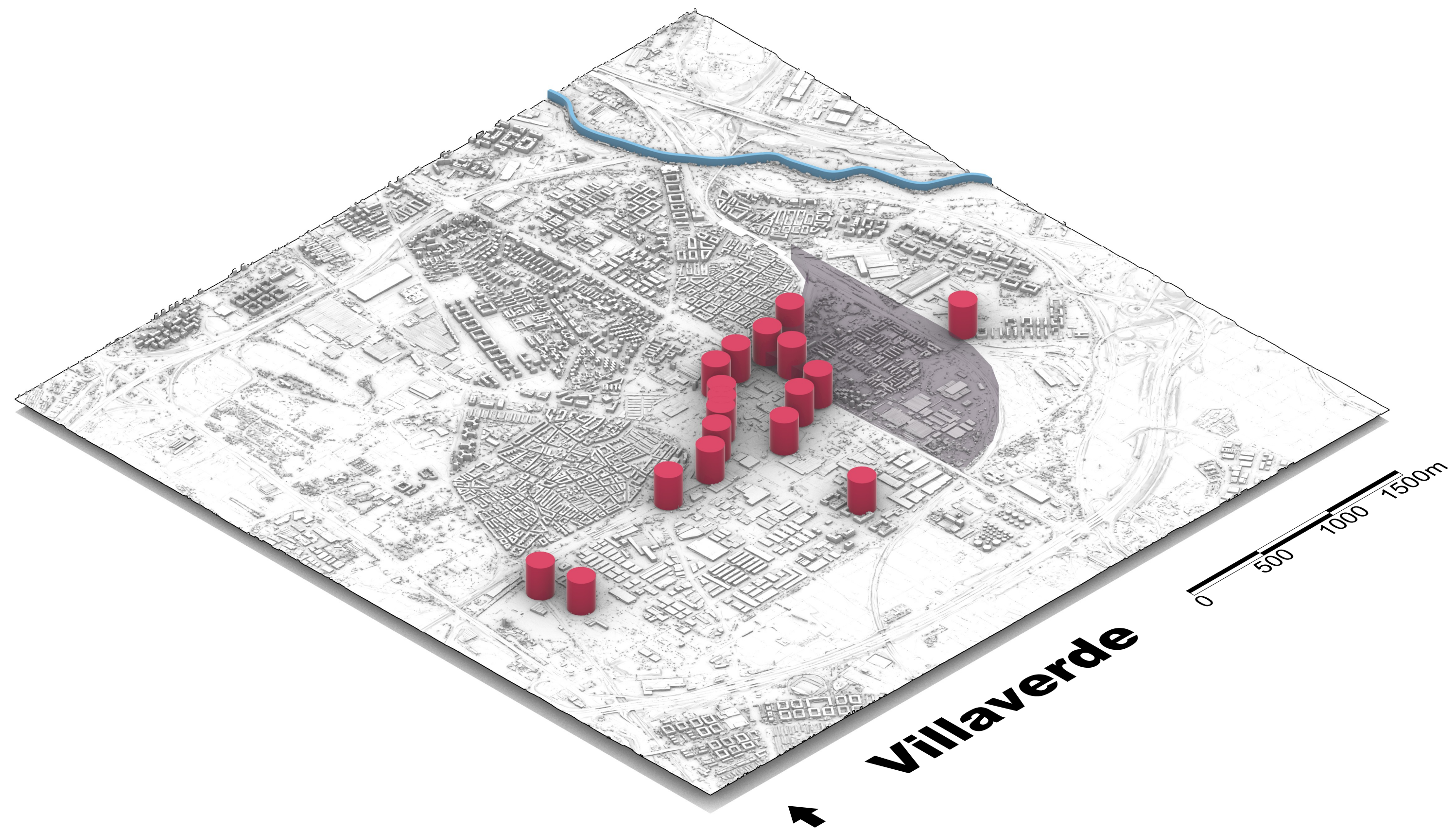




[San Cristóbal de los Ángeles, 1978]



[San Cristóbal de los Ángeles, 2024]







[San Cristóbal de los Ángeles, 1966]



[San Cristóbal de los Ángeles, 1980s]

VULNERABLE POPULATIONS



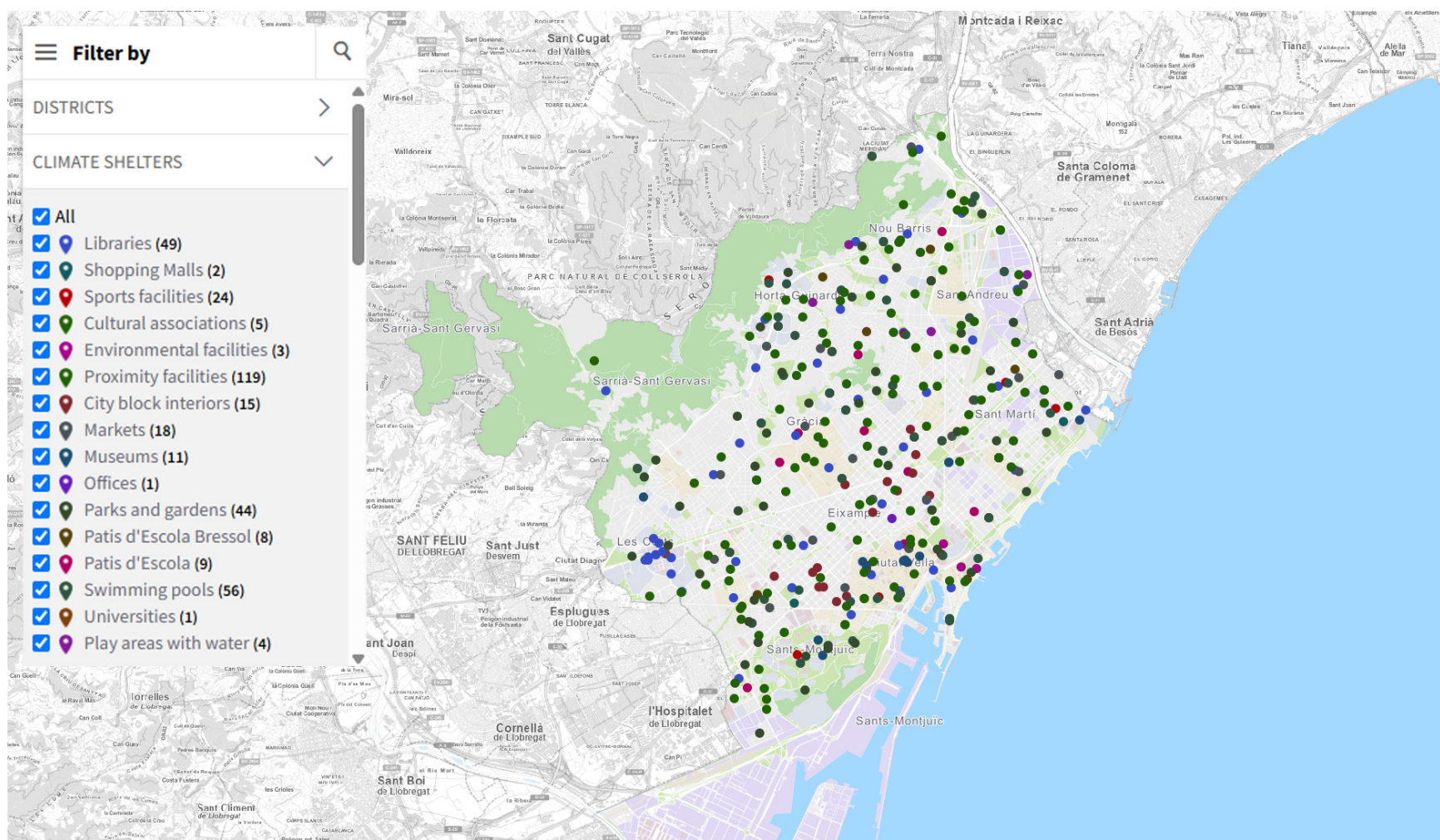
SHANTY TOWNS



POBLADOS DIRIGIDOS

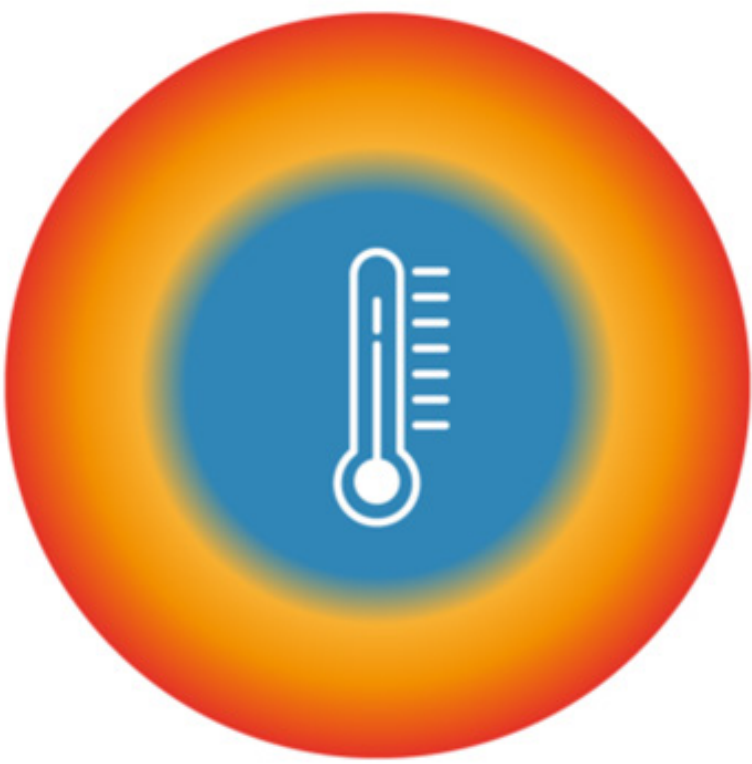


[Madrid, 2025]



REFUGIS CLIMÀTICS

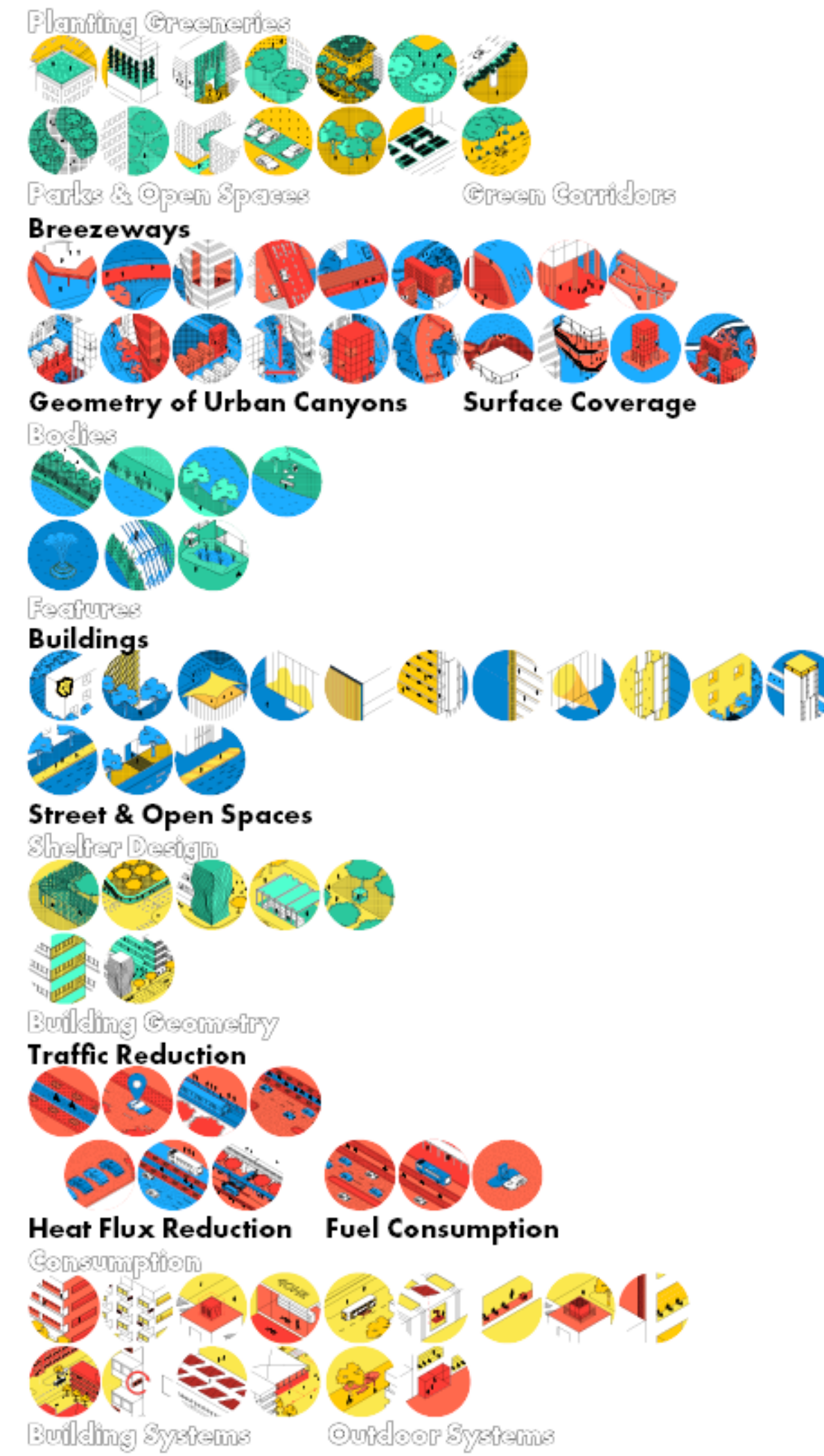
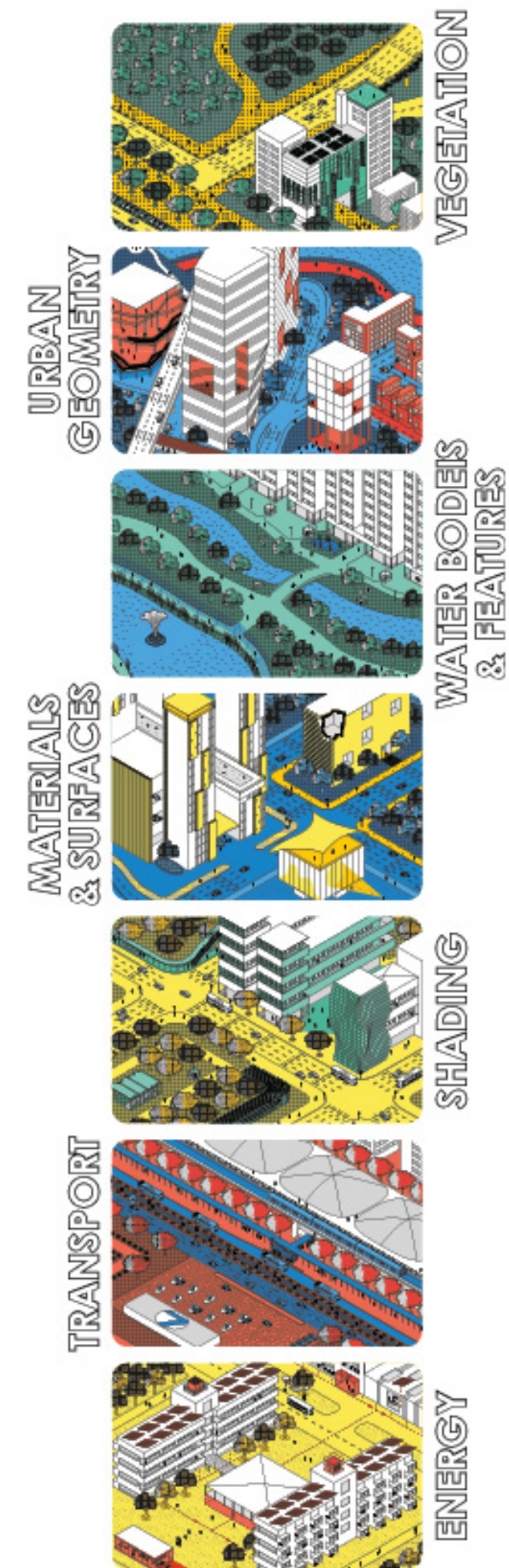
Utilitza aquest
espai per
protegir-te
de la calor



[Ajuntament de Barcelona]



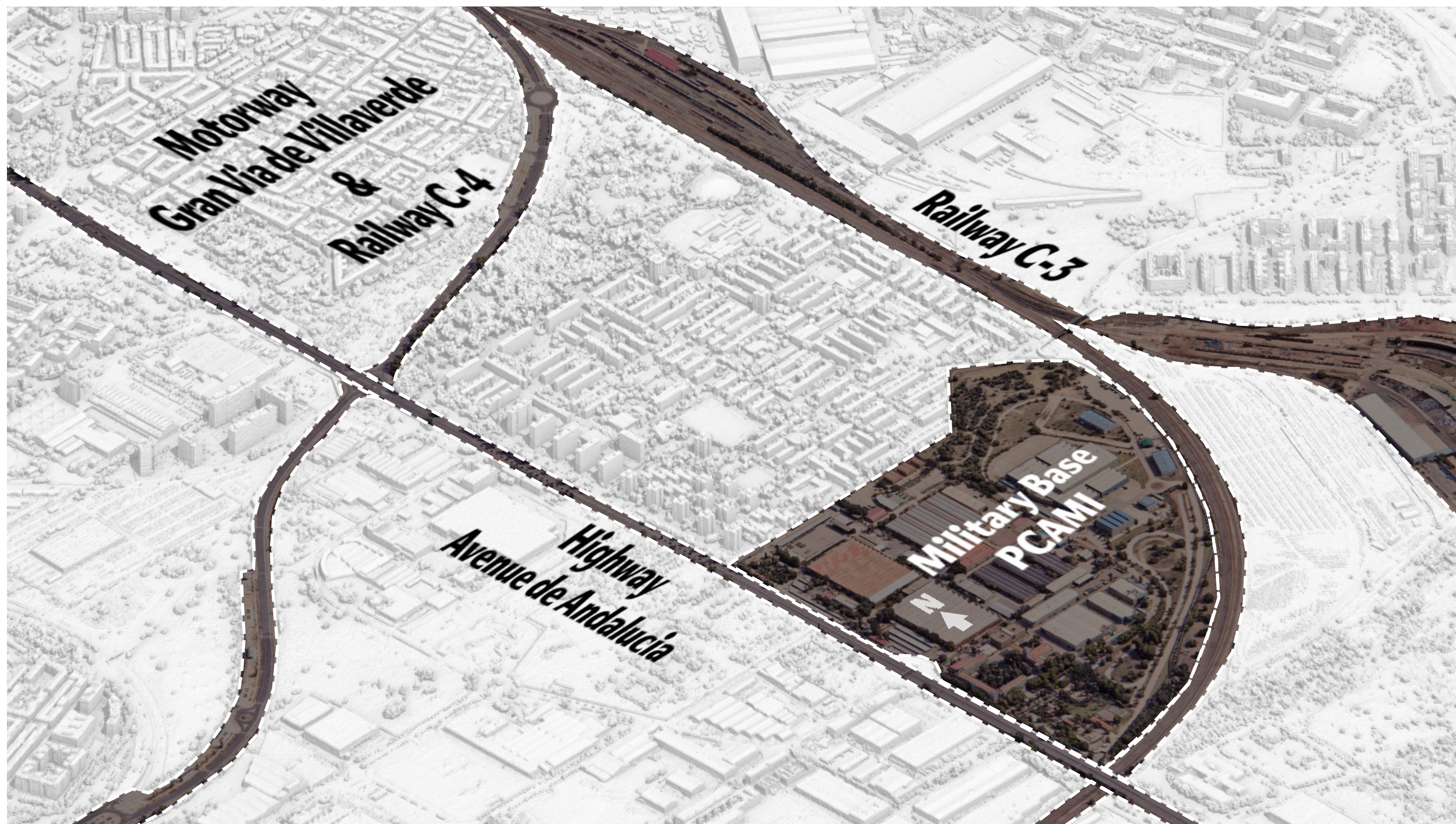
[Madrid, 2024]



[Cooling Singapore, 2017]



[Madrid, 2024]

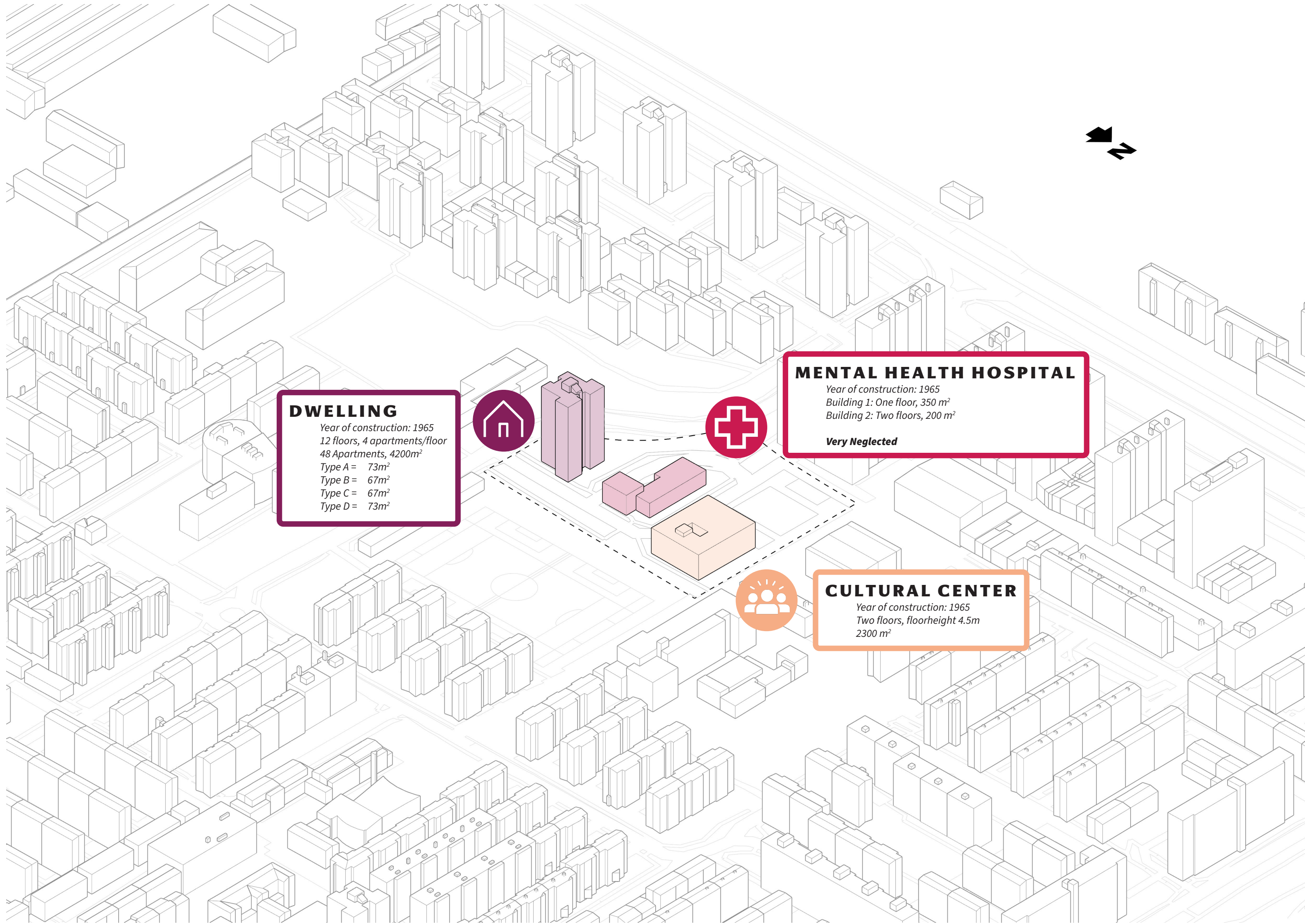
















RESIDENTIAL
Dwellings

Goals
Climate proof



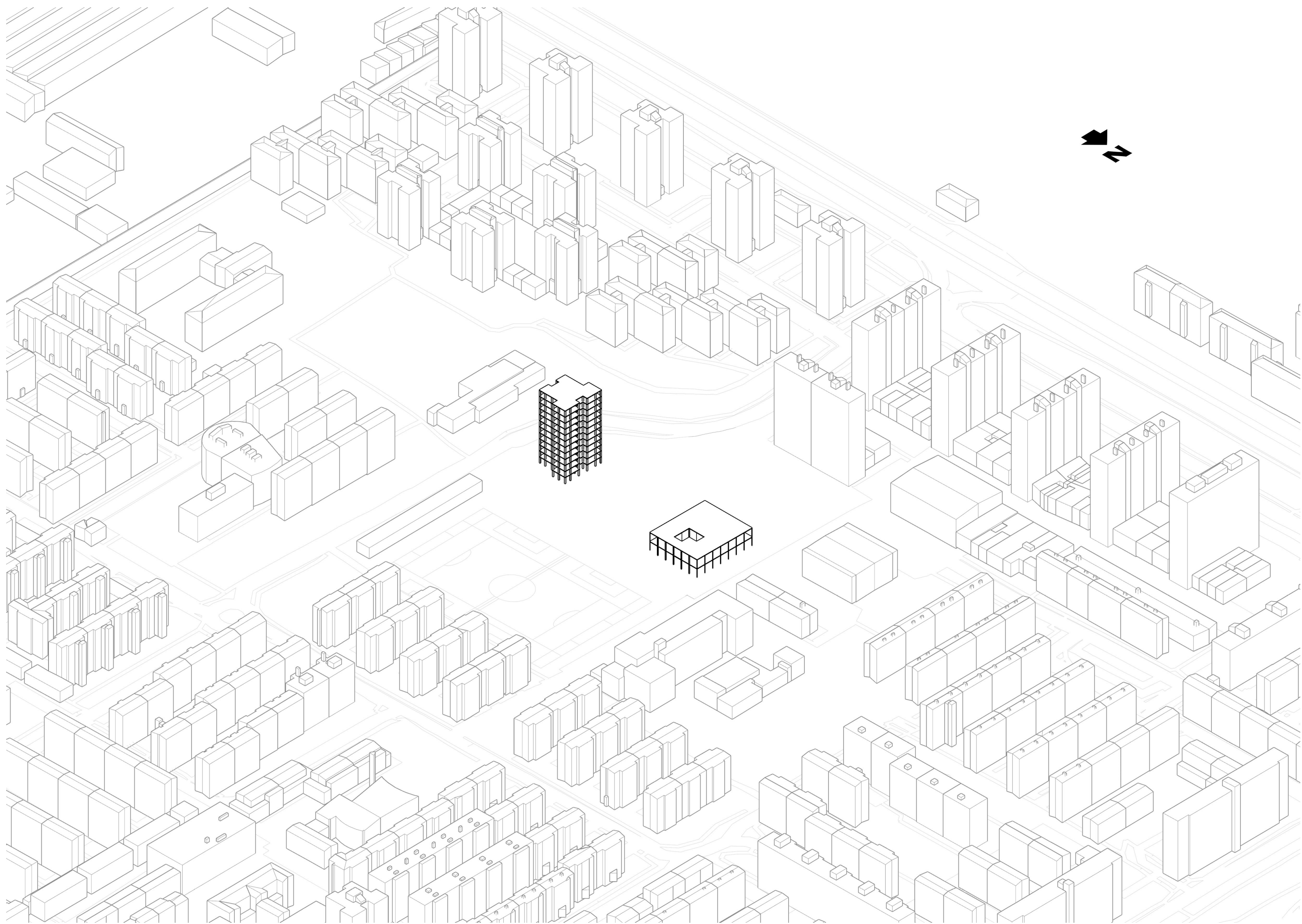
HEALTHCARE
*Reception
Clinic
Inpatient department*

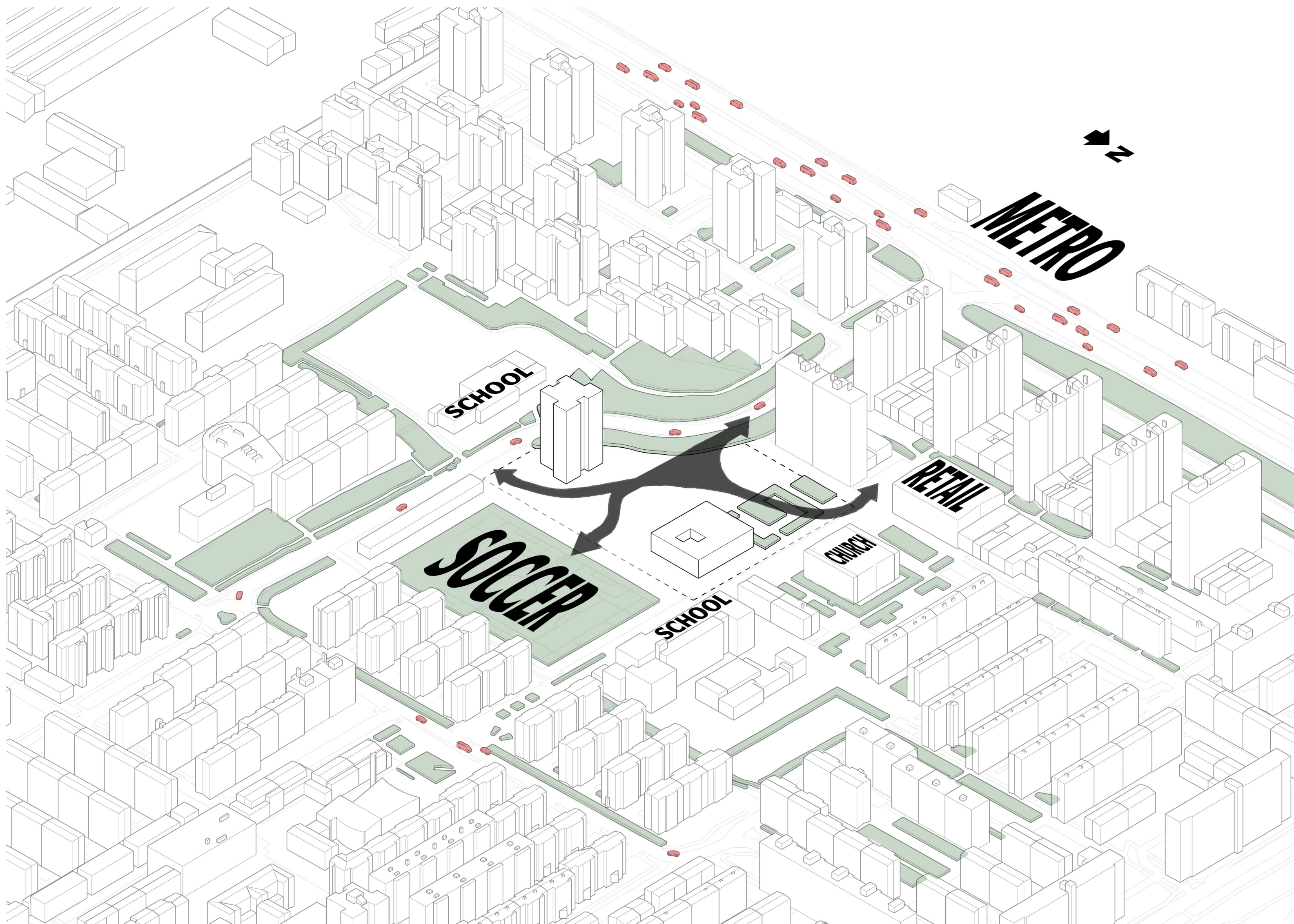
Goals
*Drug rehabilitation
Mental Health Hospital*

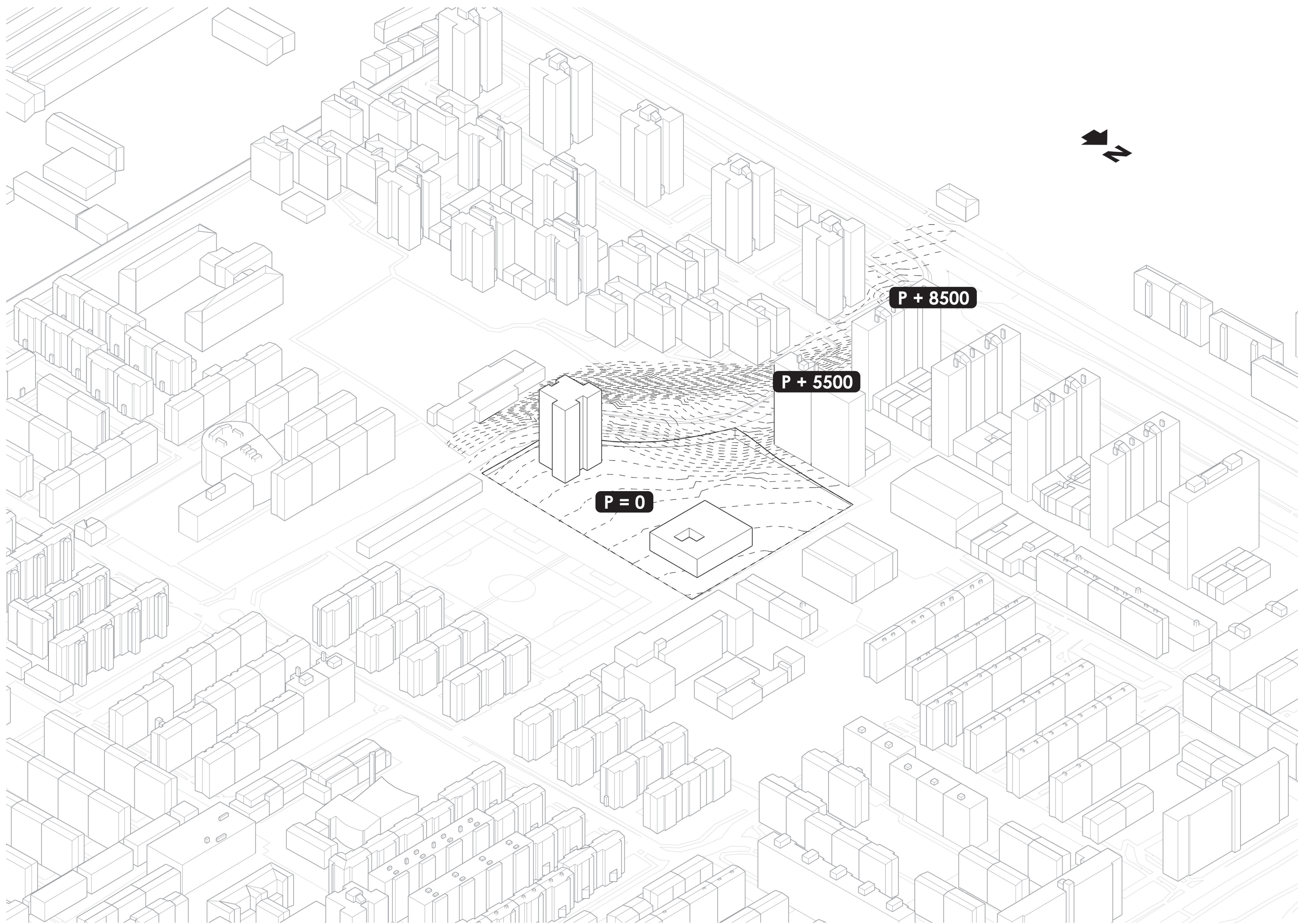


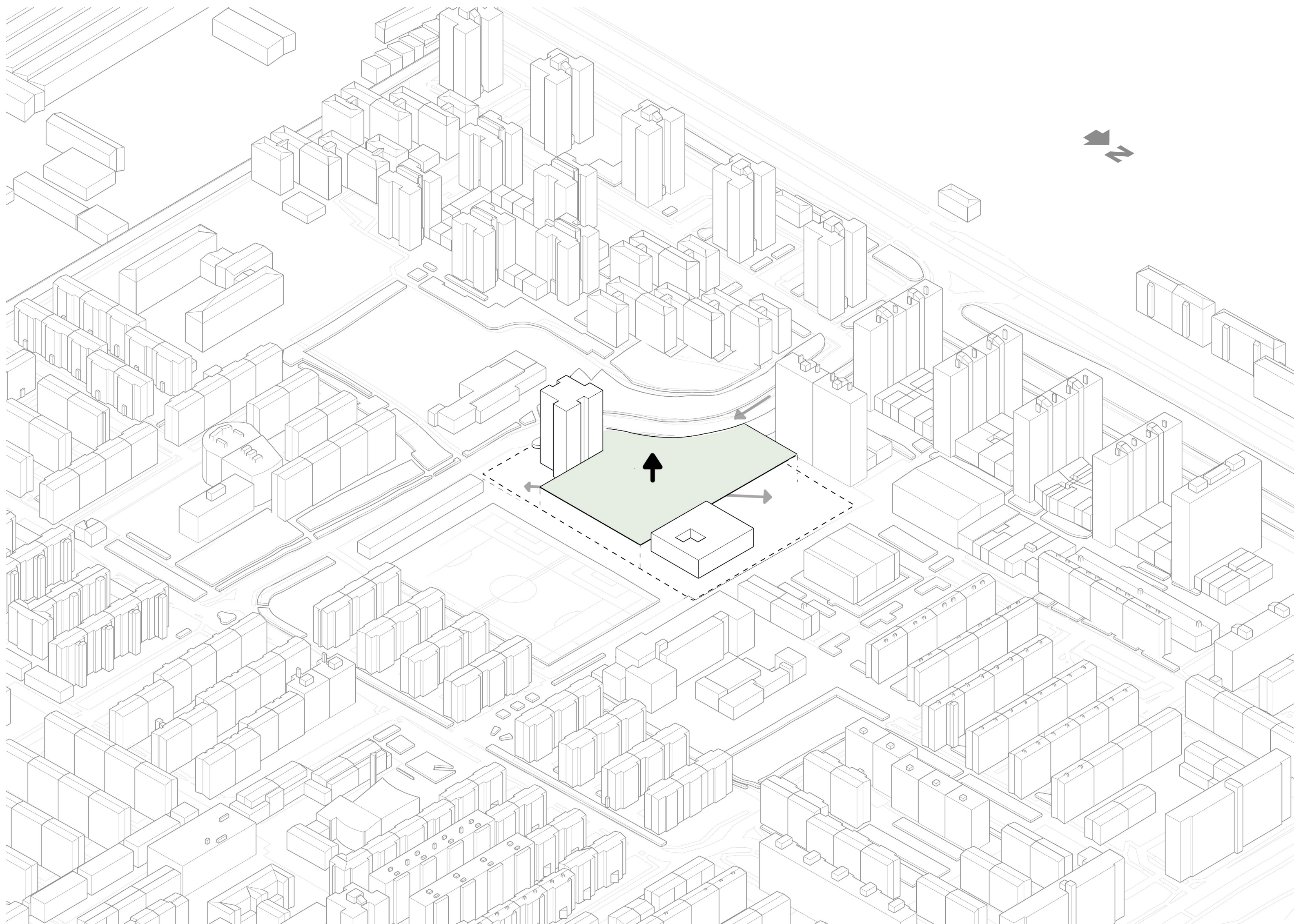
COMMUNITY
*Food Bank
Swimming Pool & Sport facility
Day Care Center & Workshops
Climate Shelter*

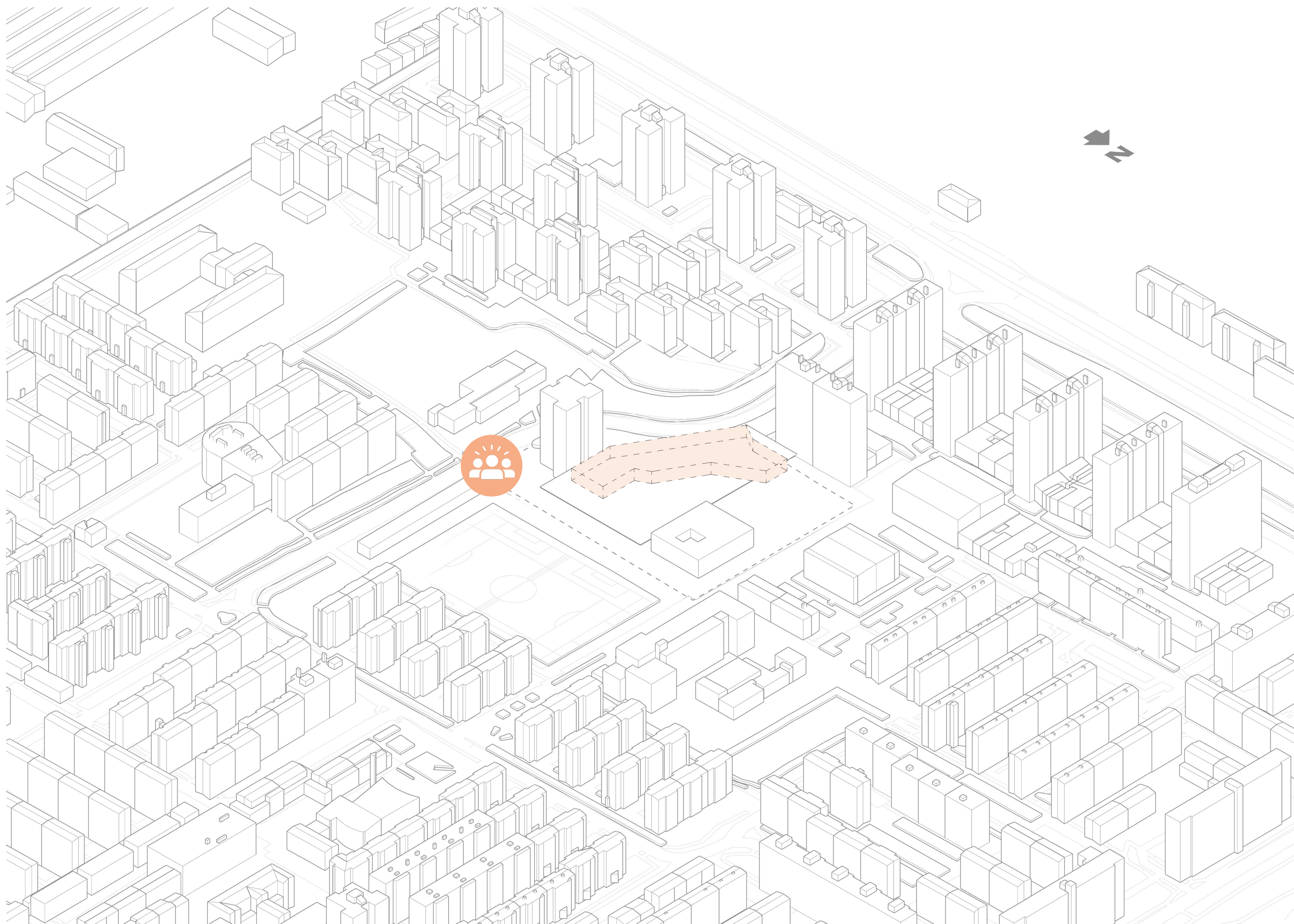
Goals
Community Engagement and Support

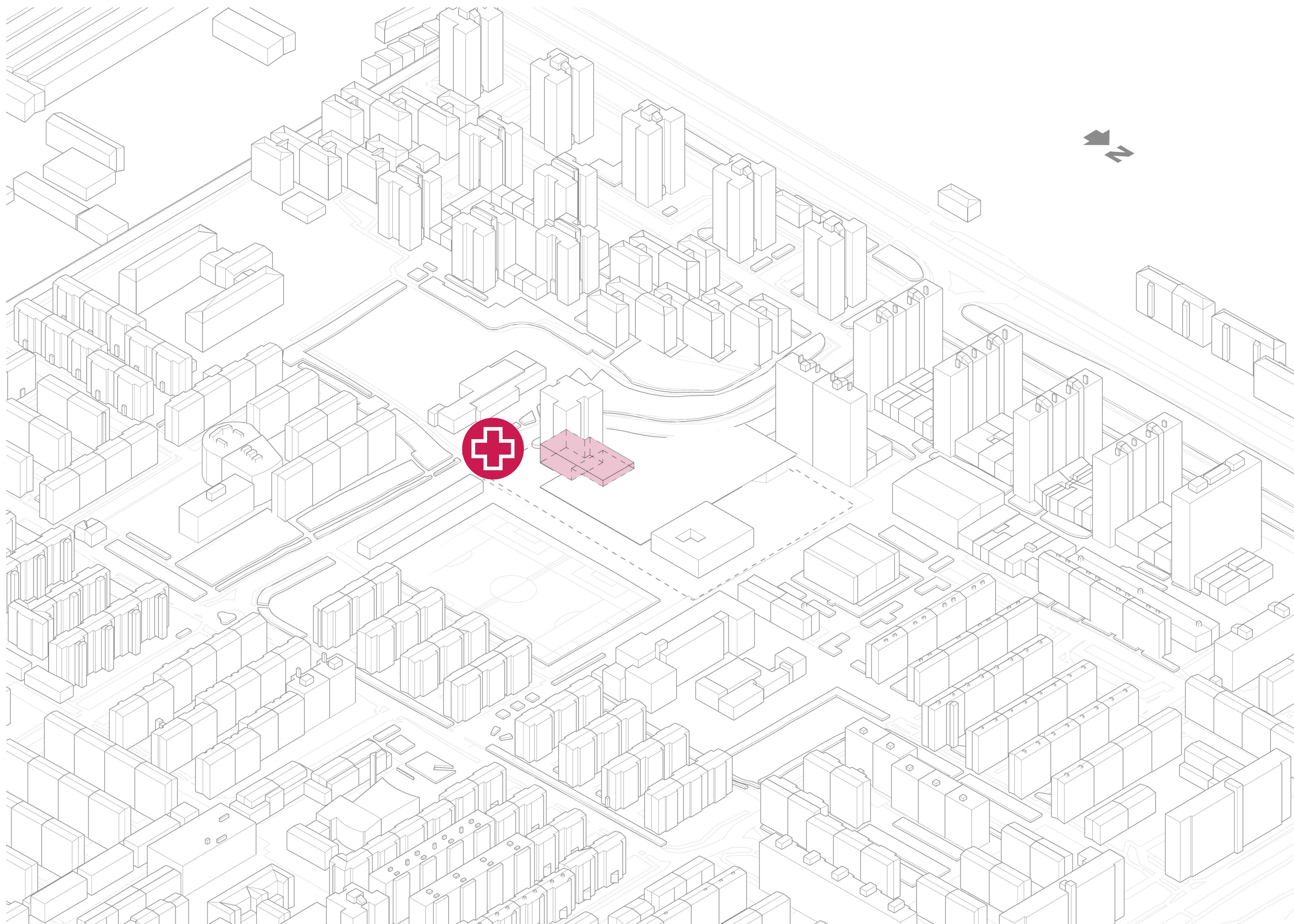


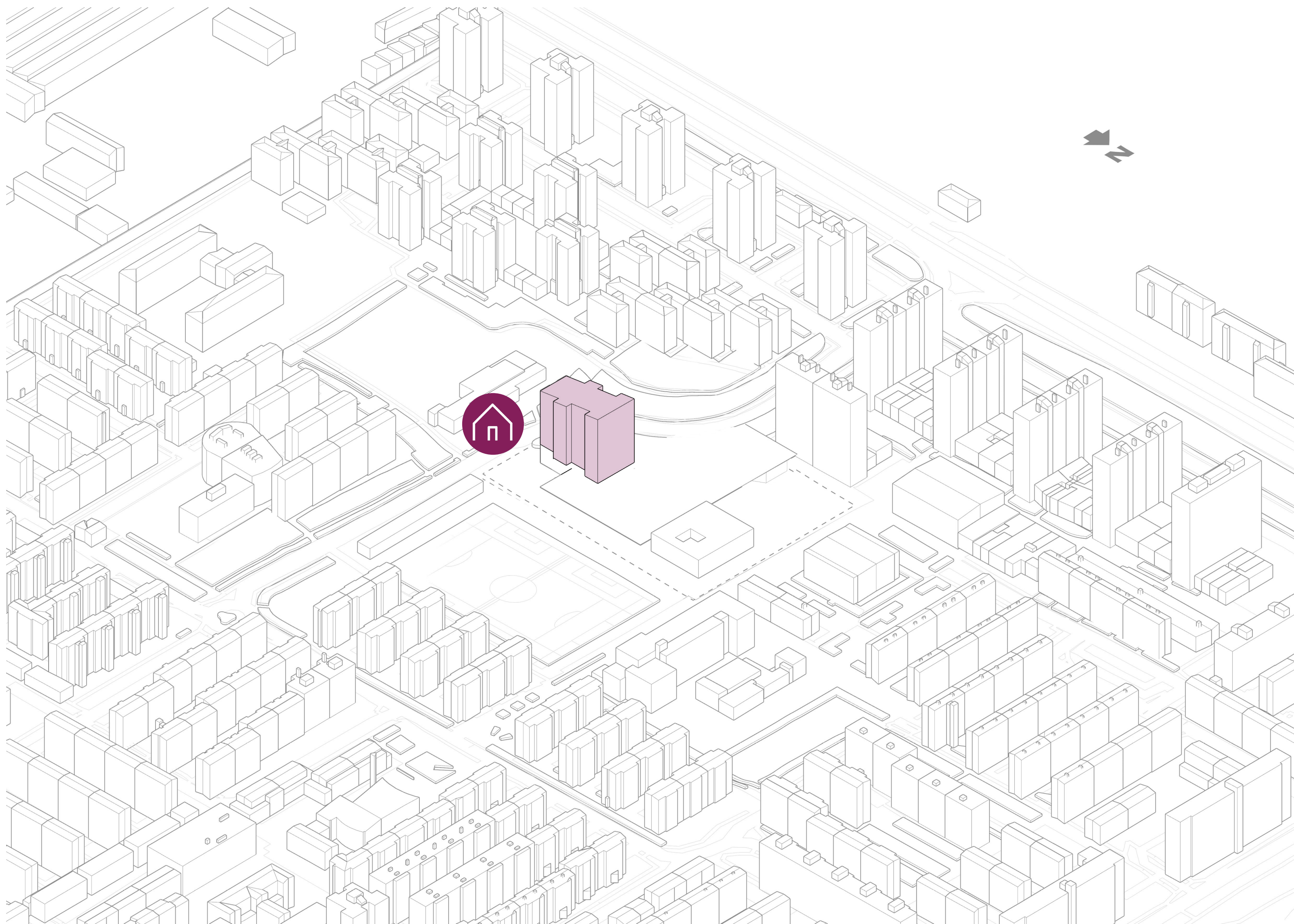




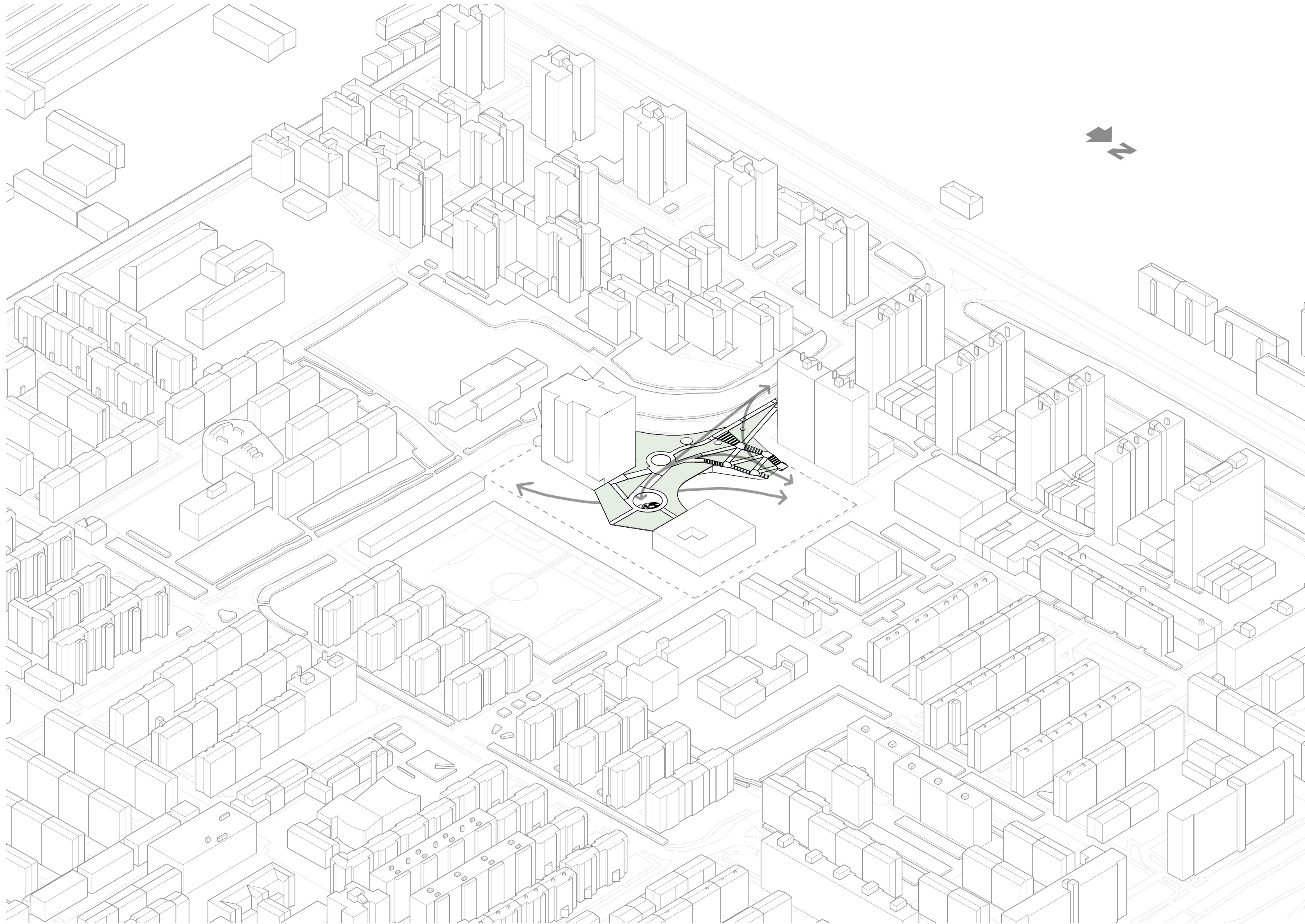




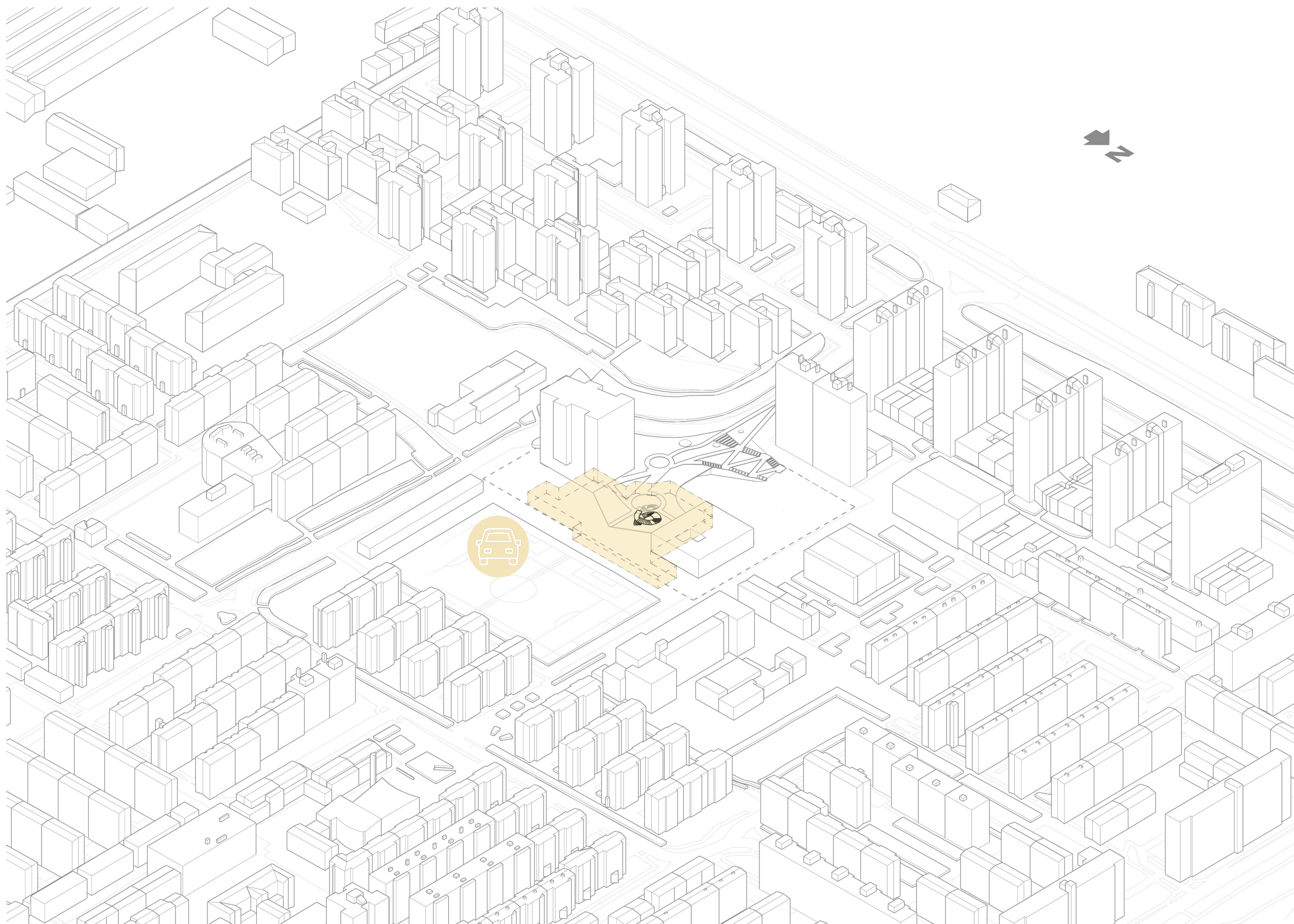






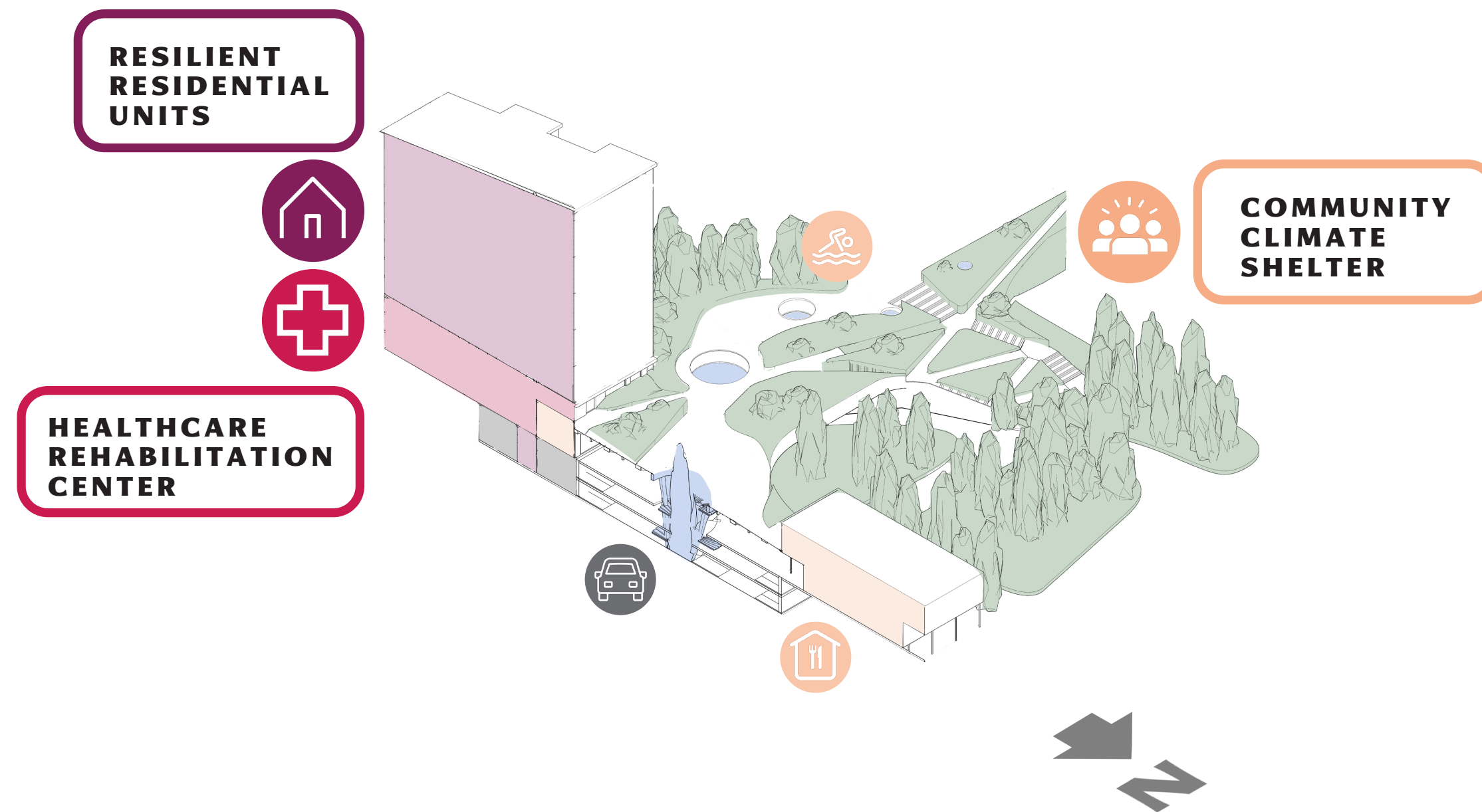


Slope of path <5%

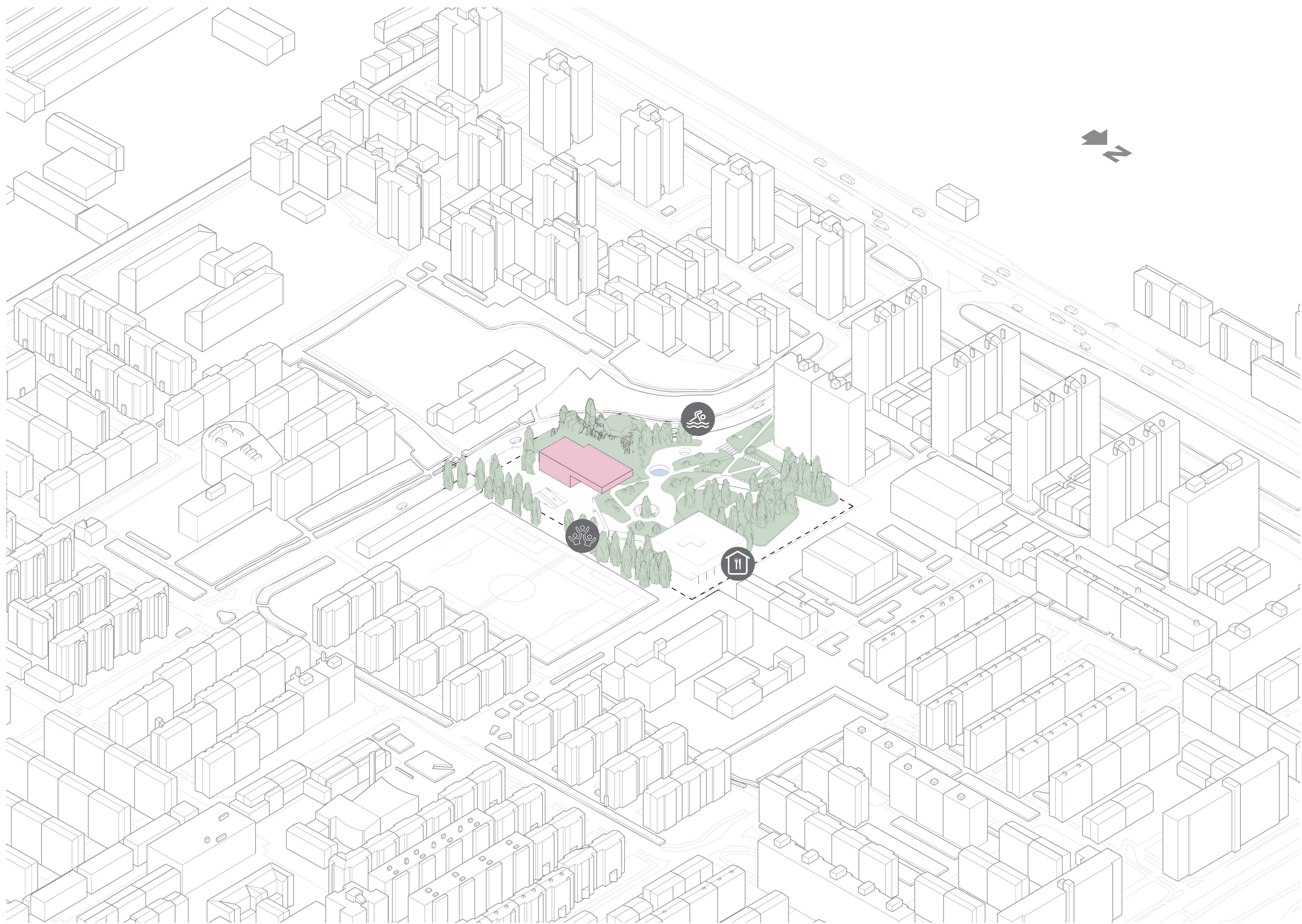






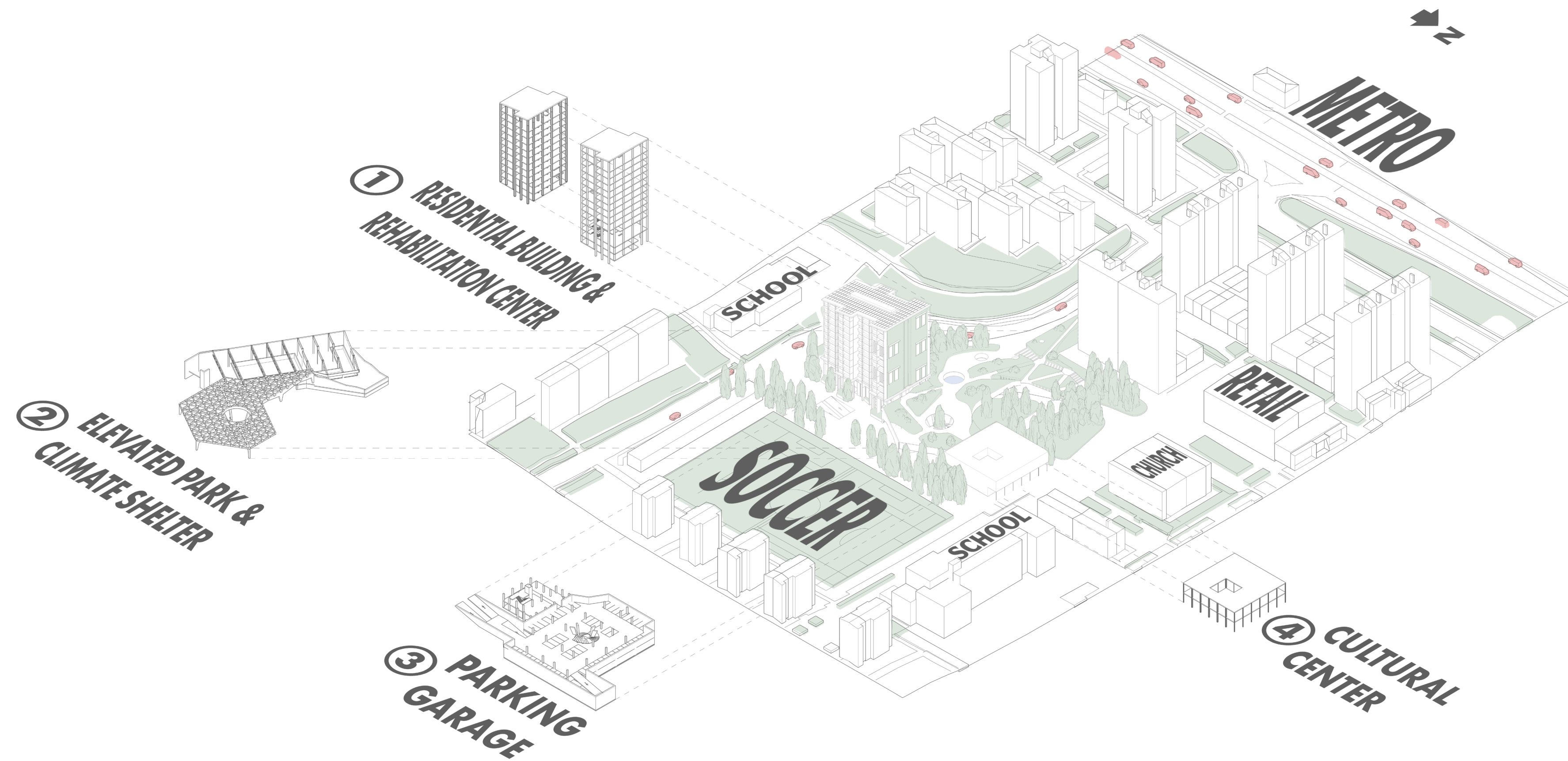


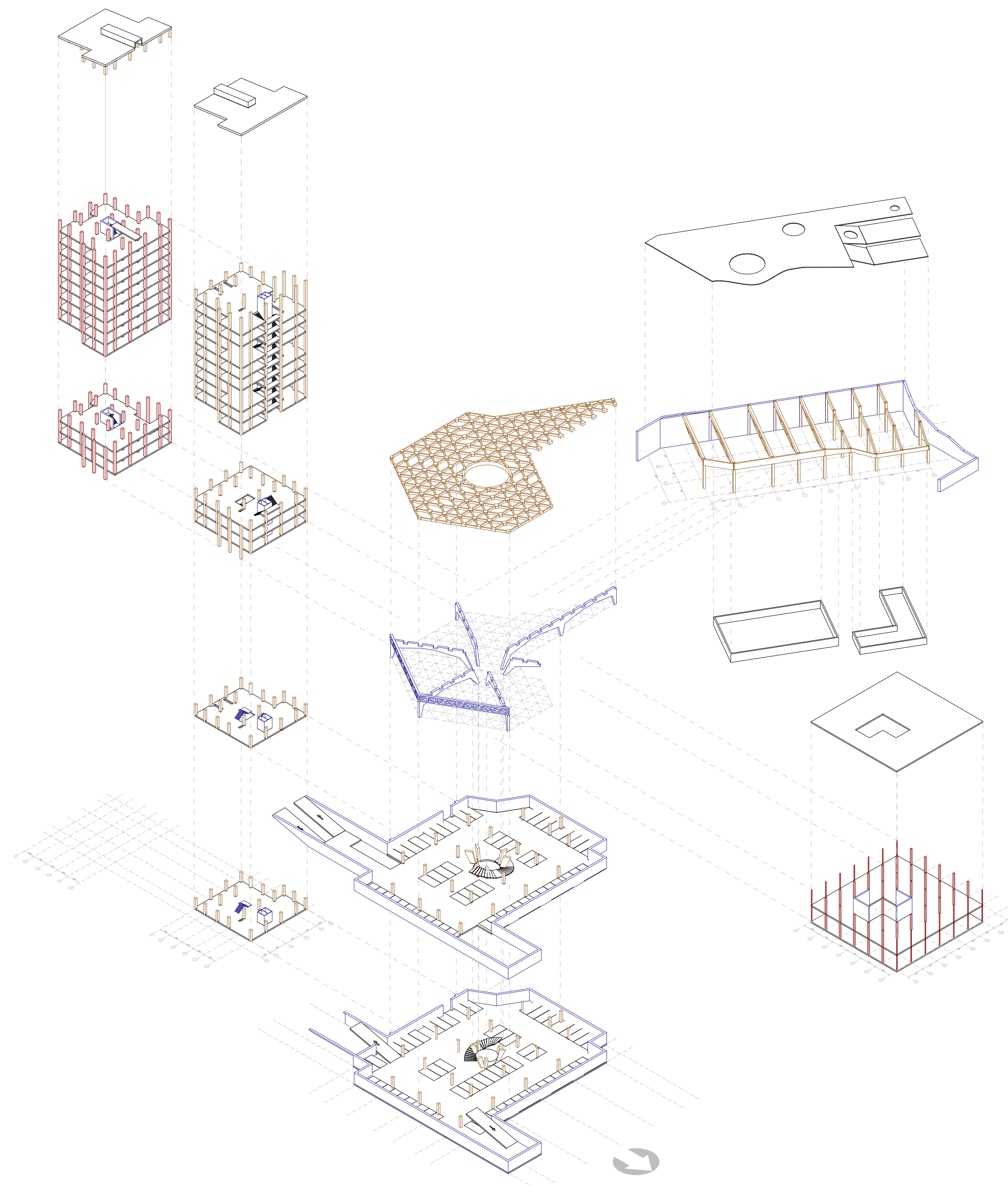
[SECTION AA]

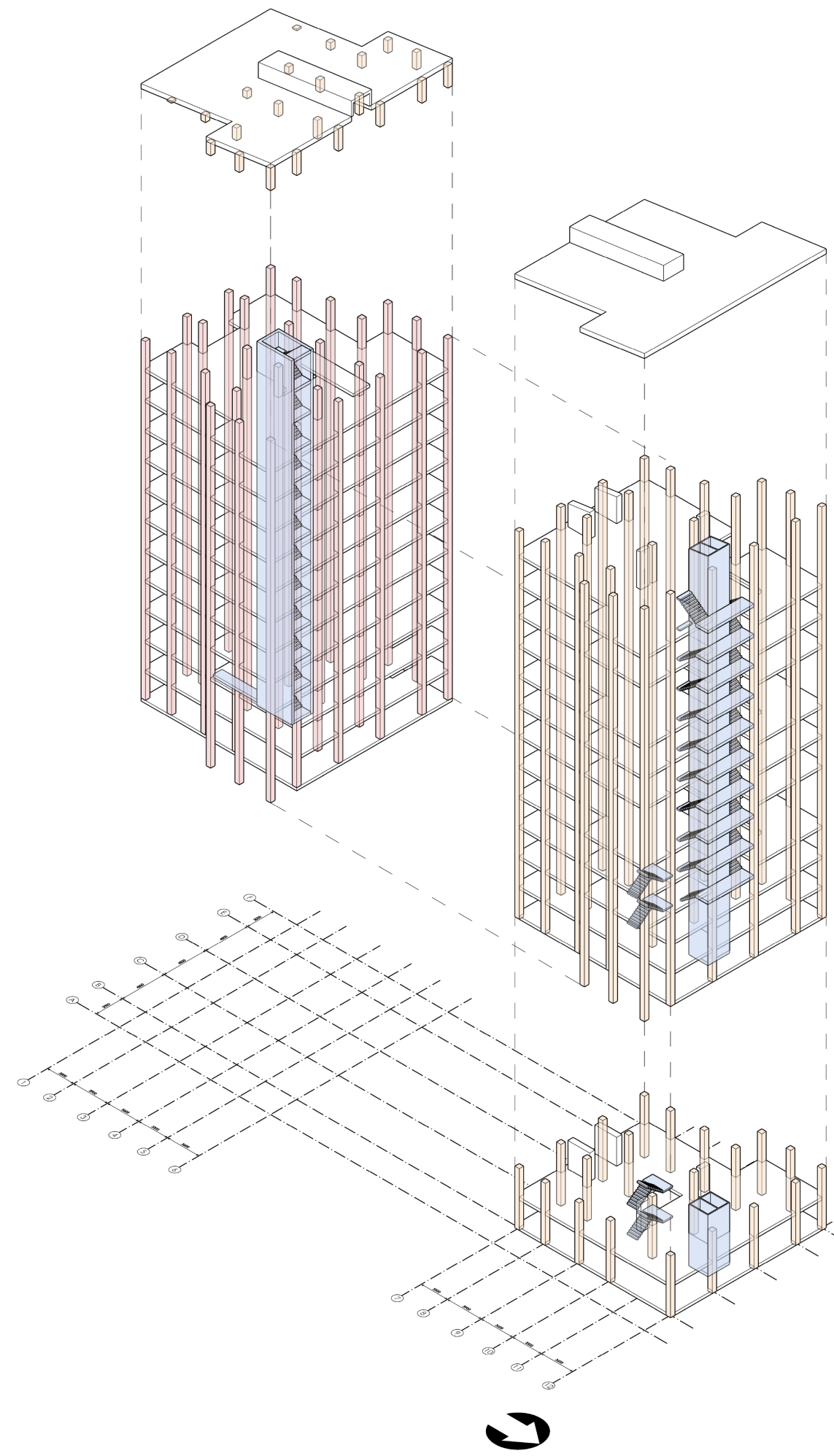


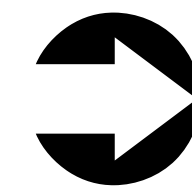
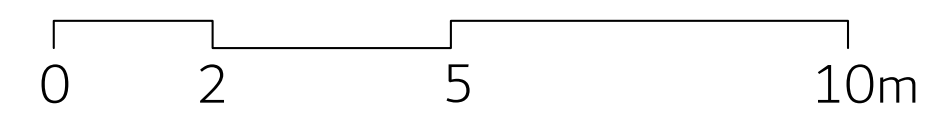
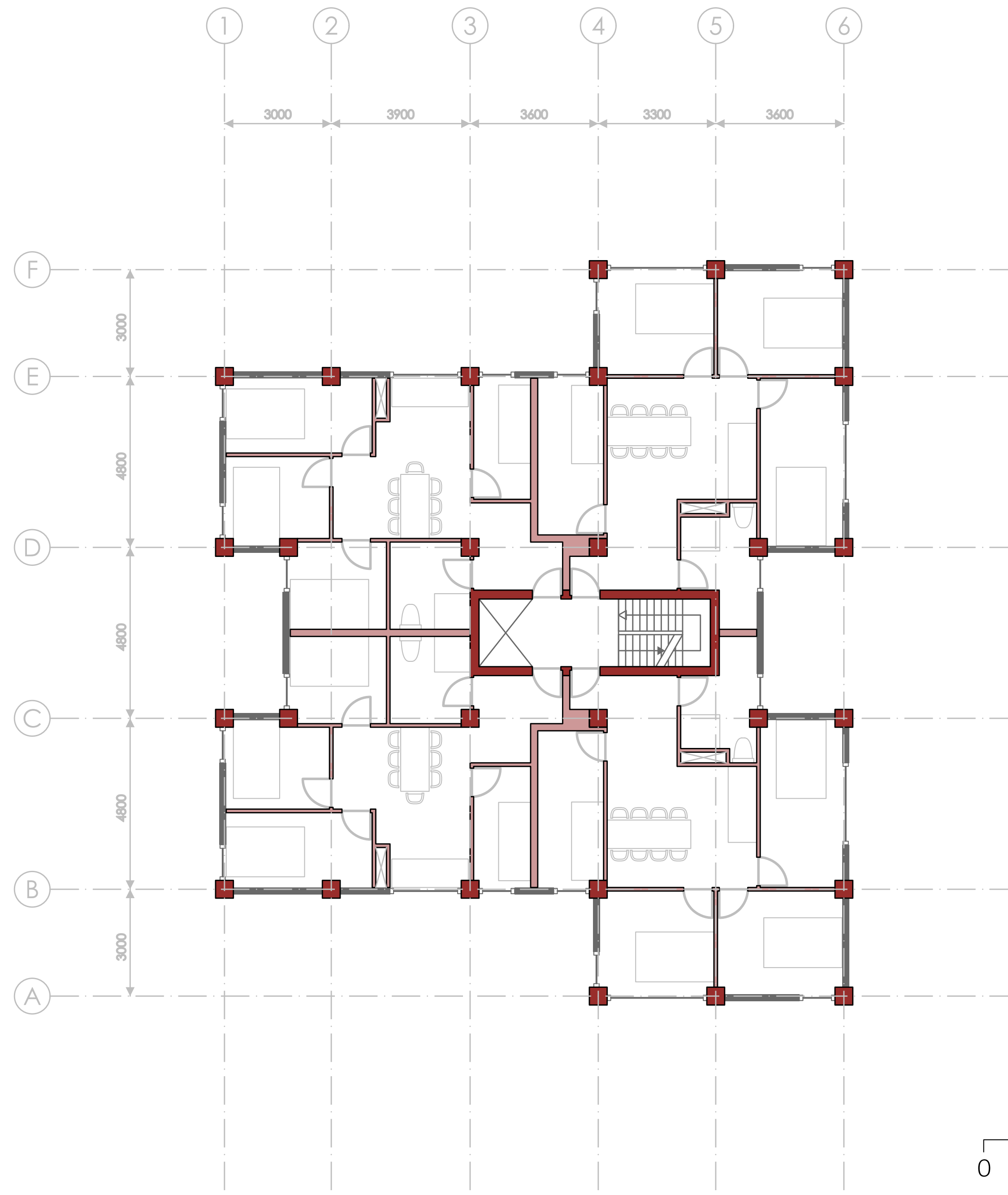


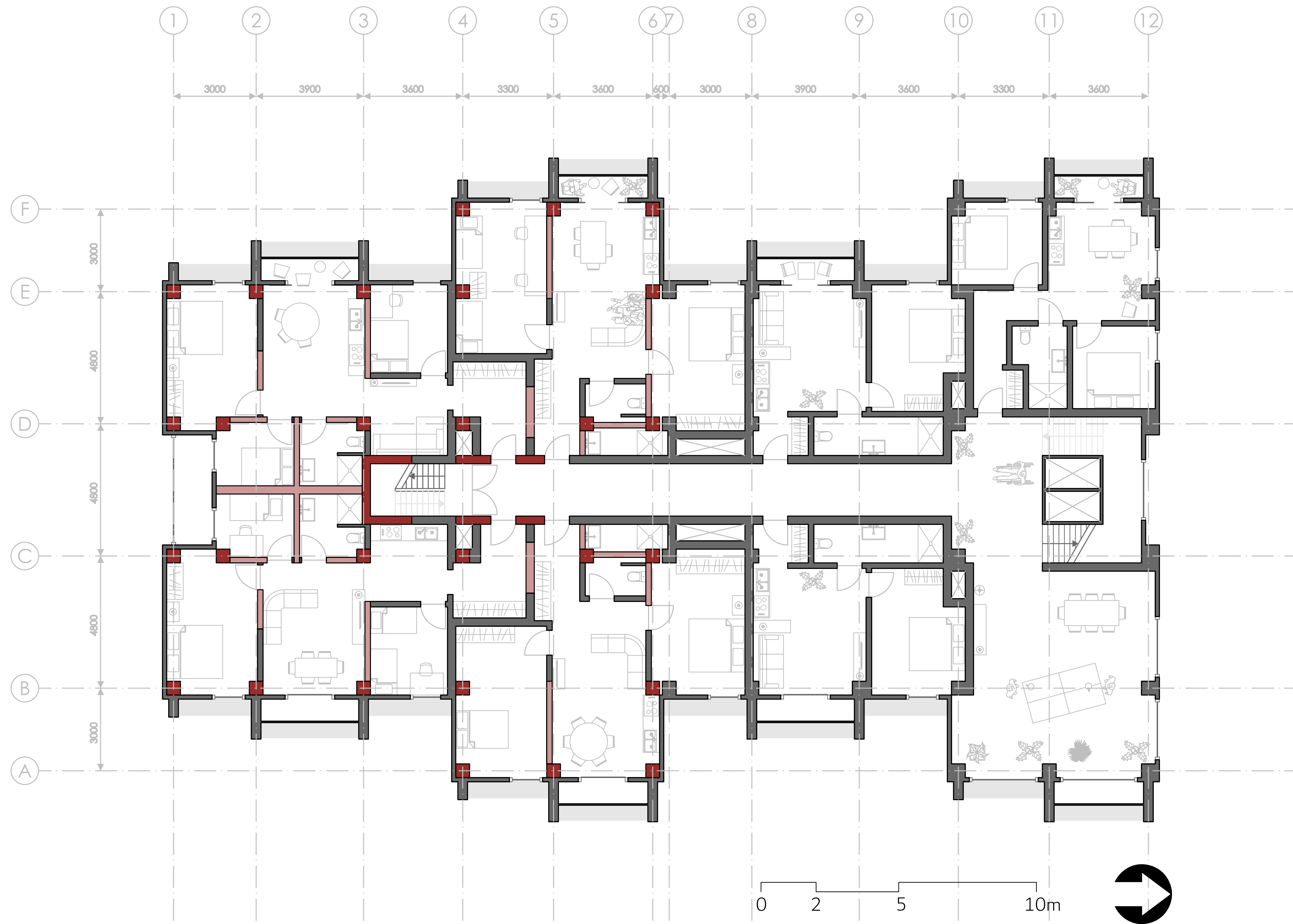


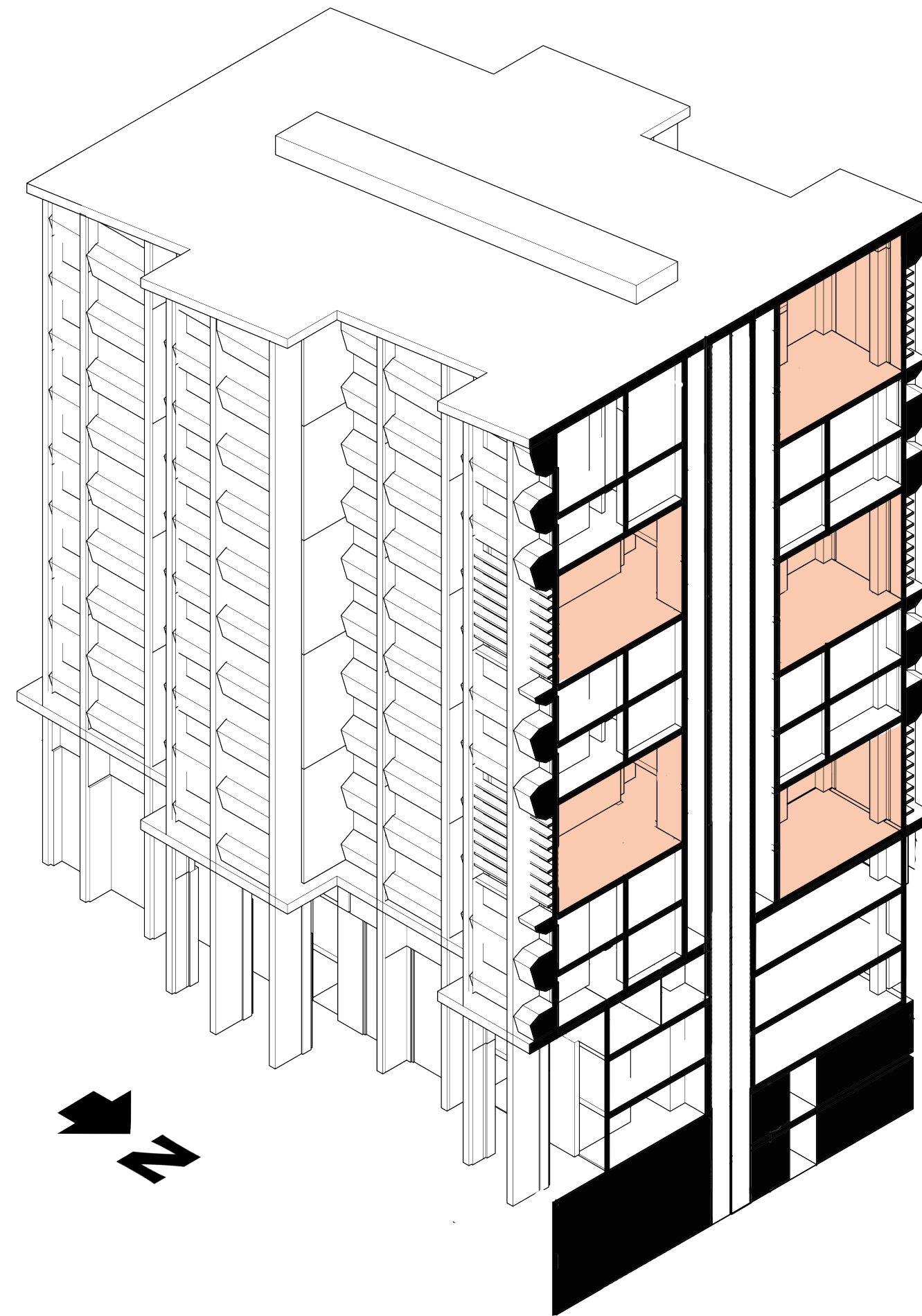






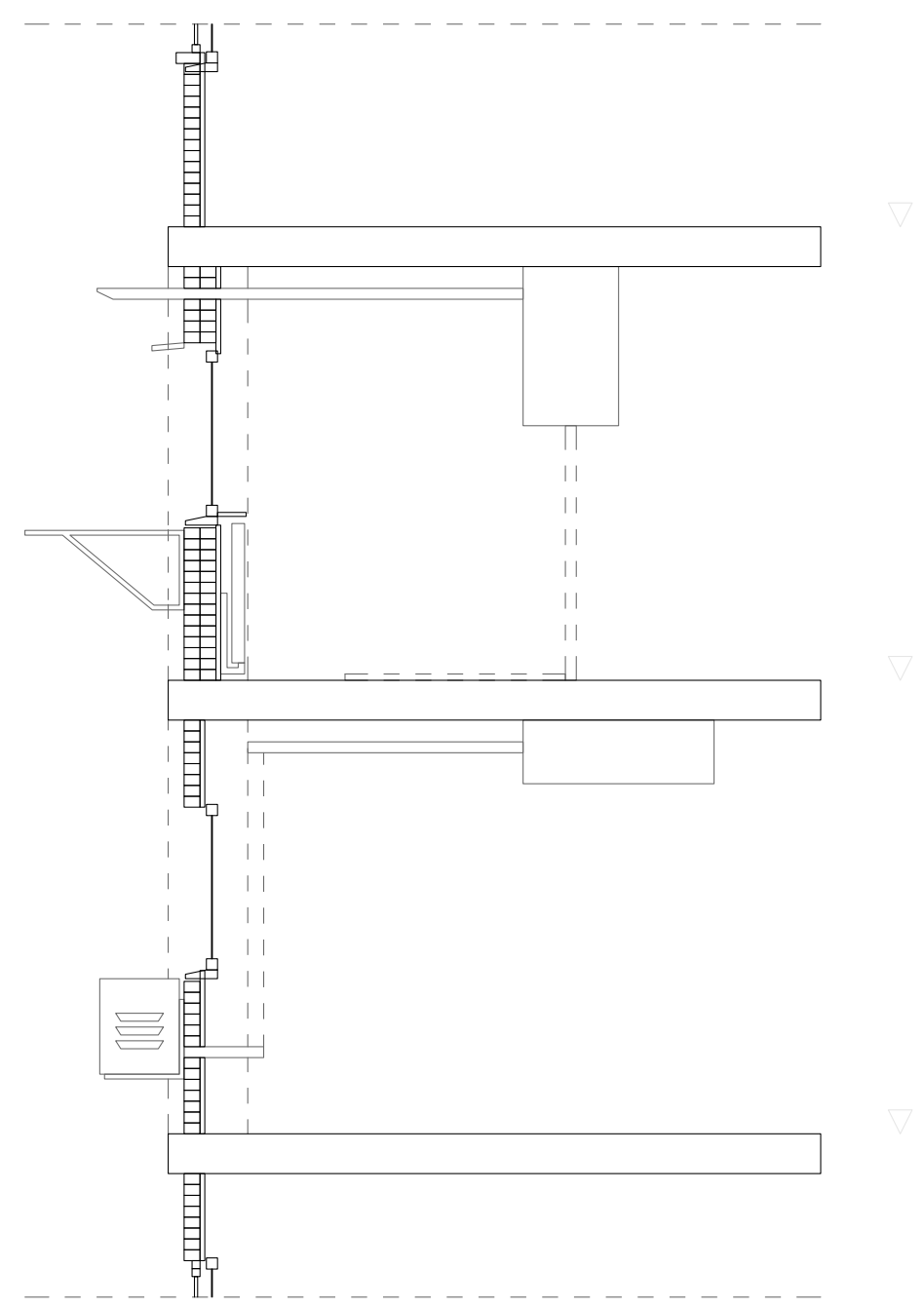
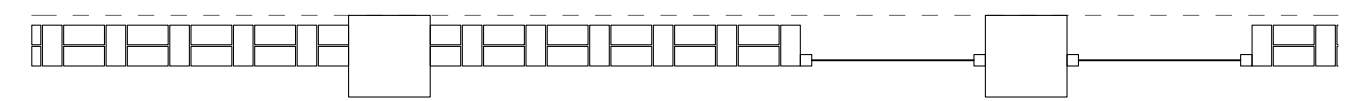
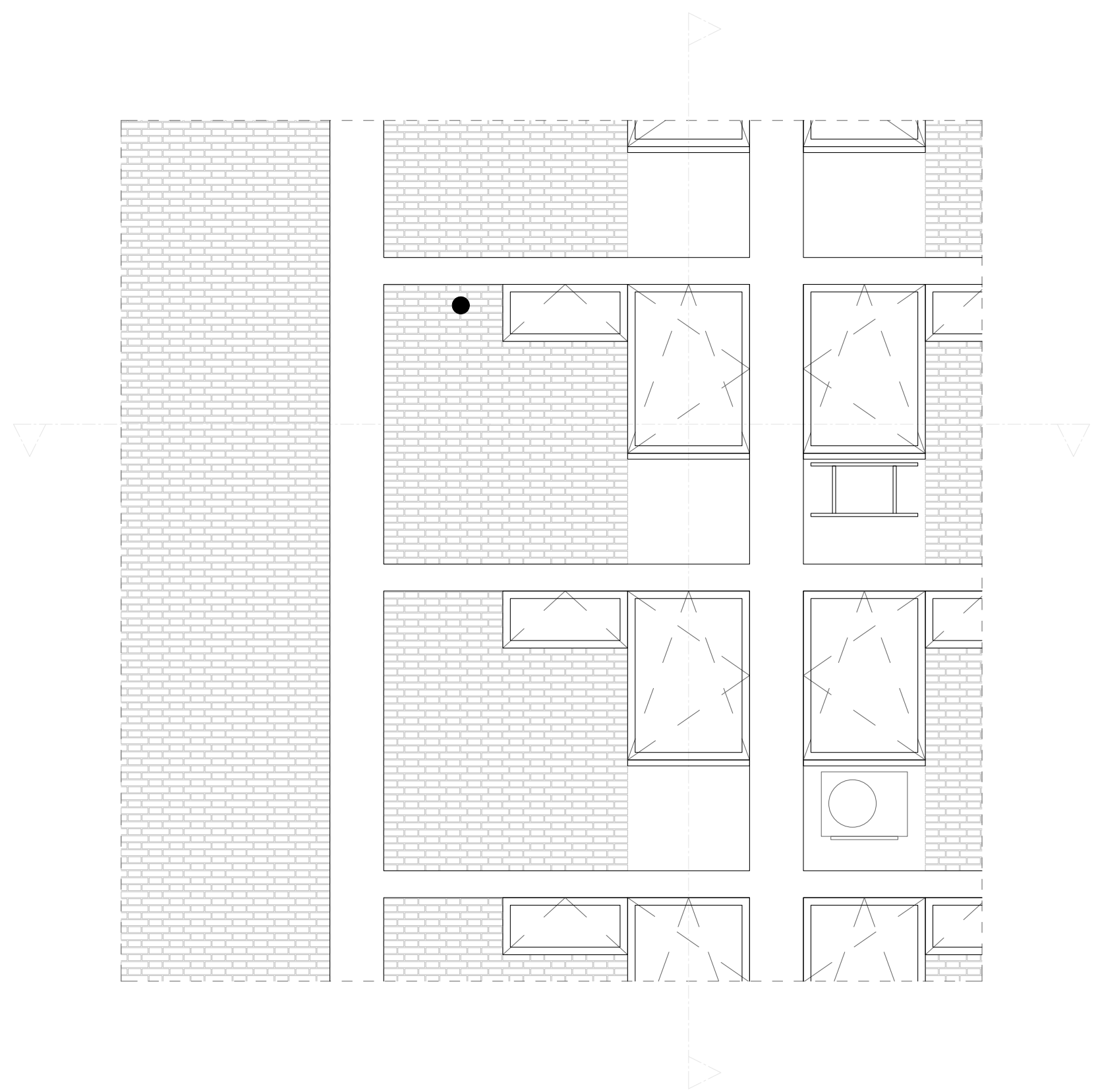


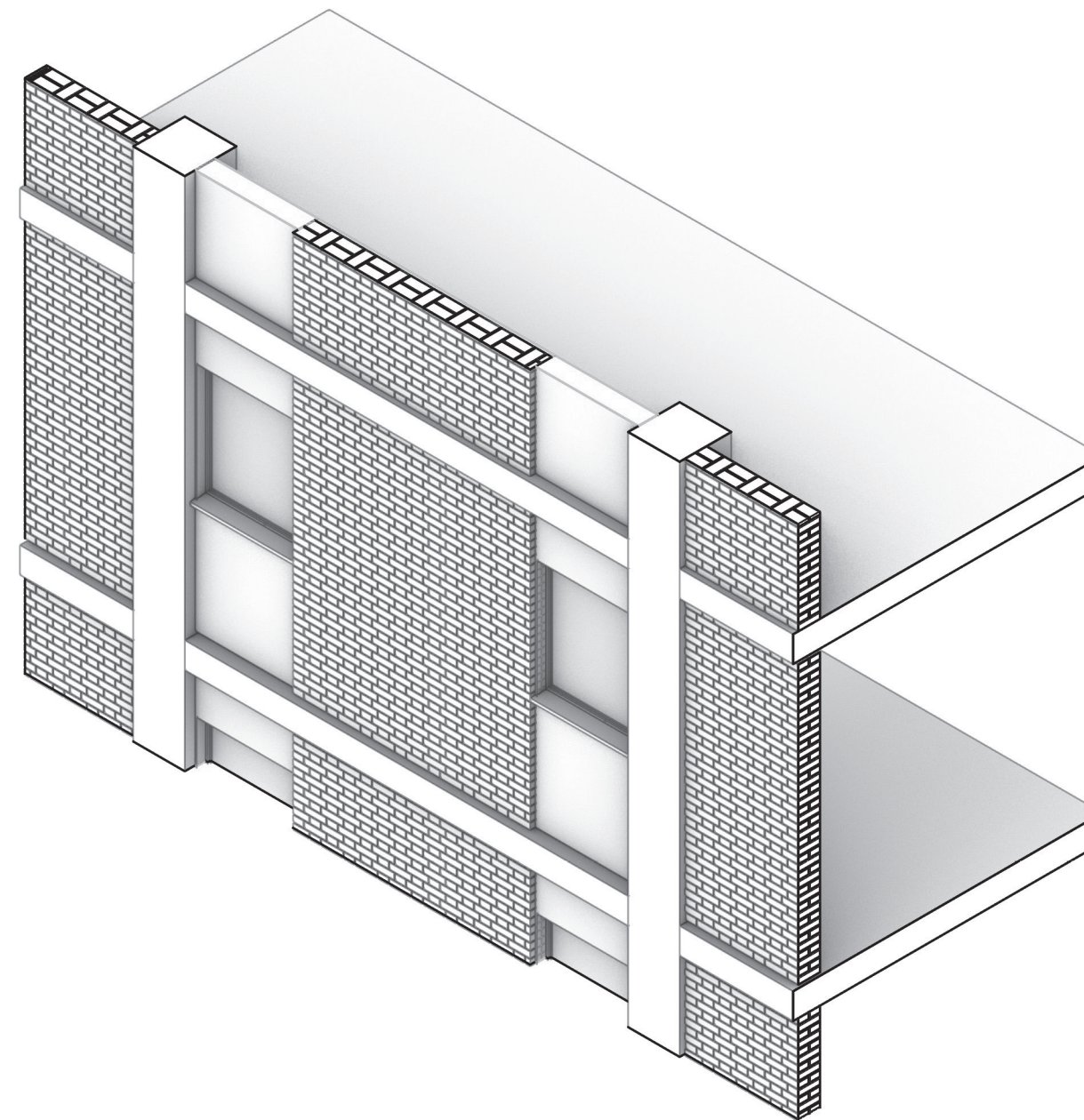






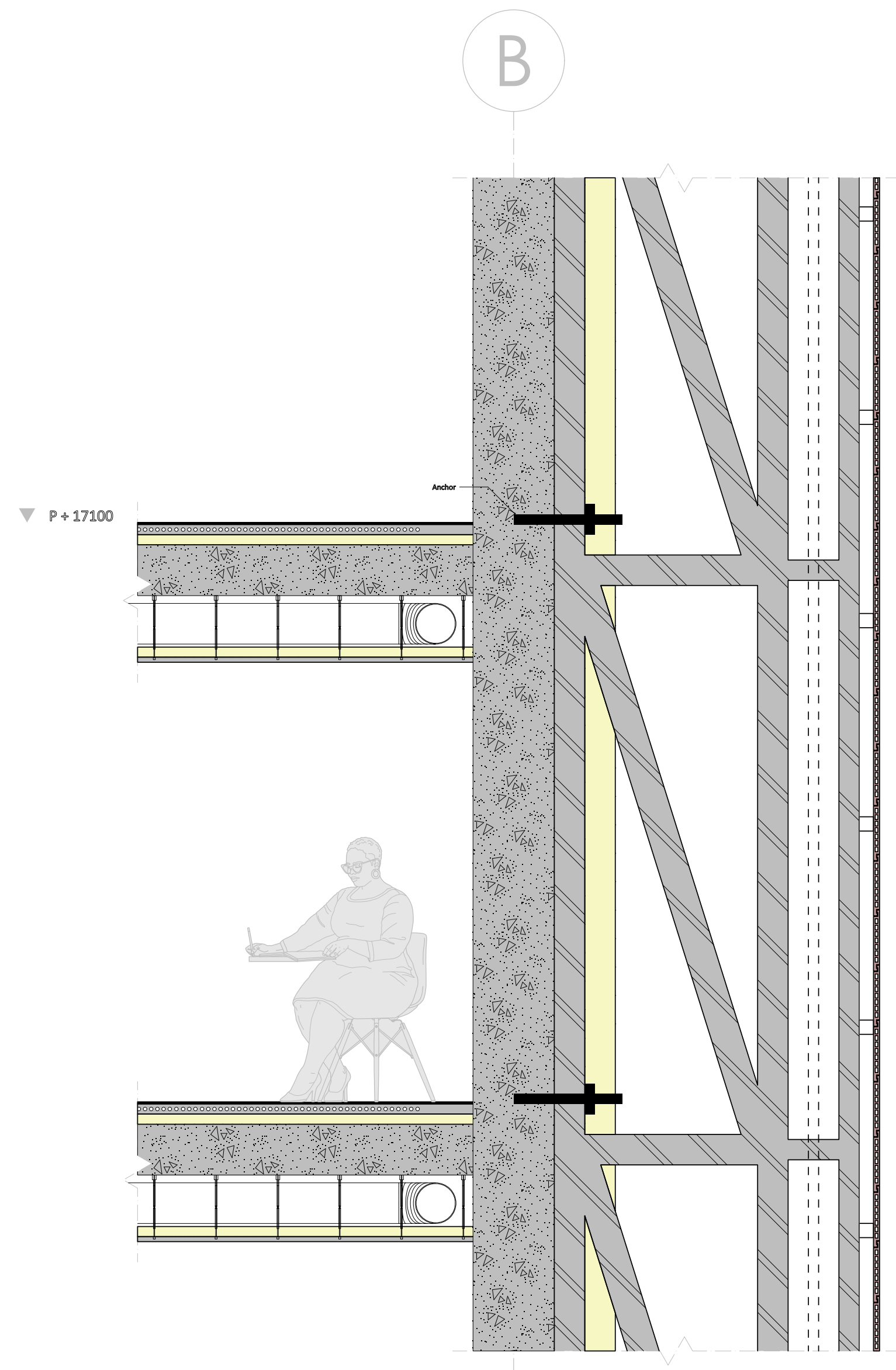


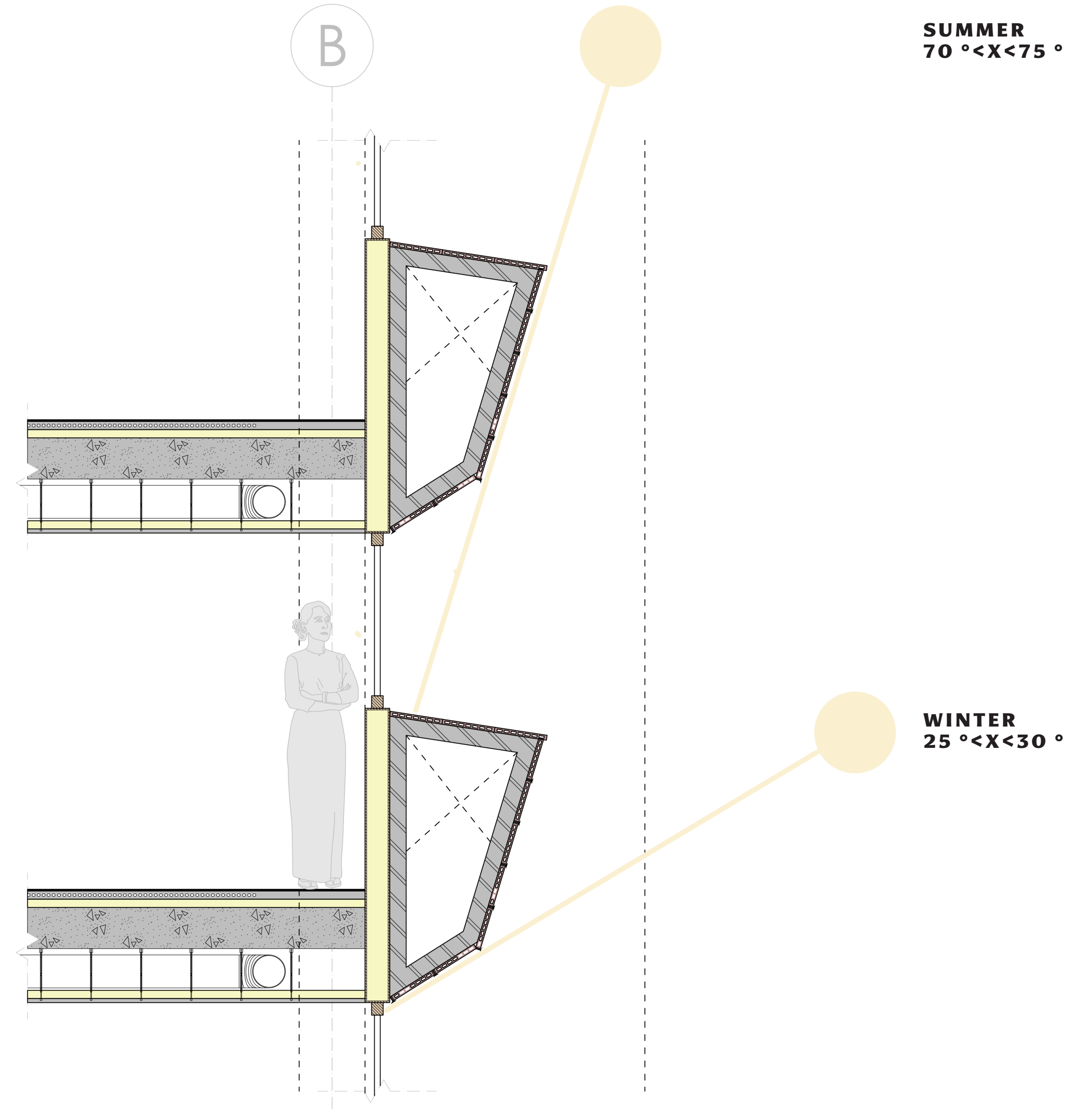
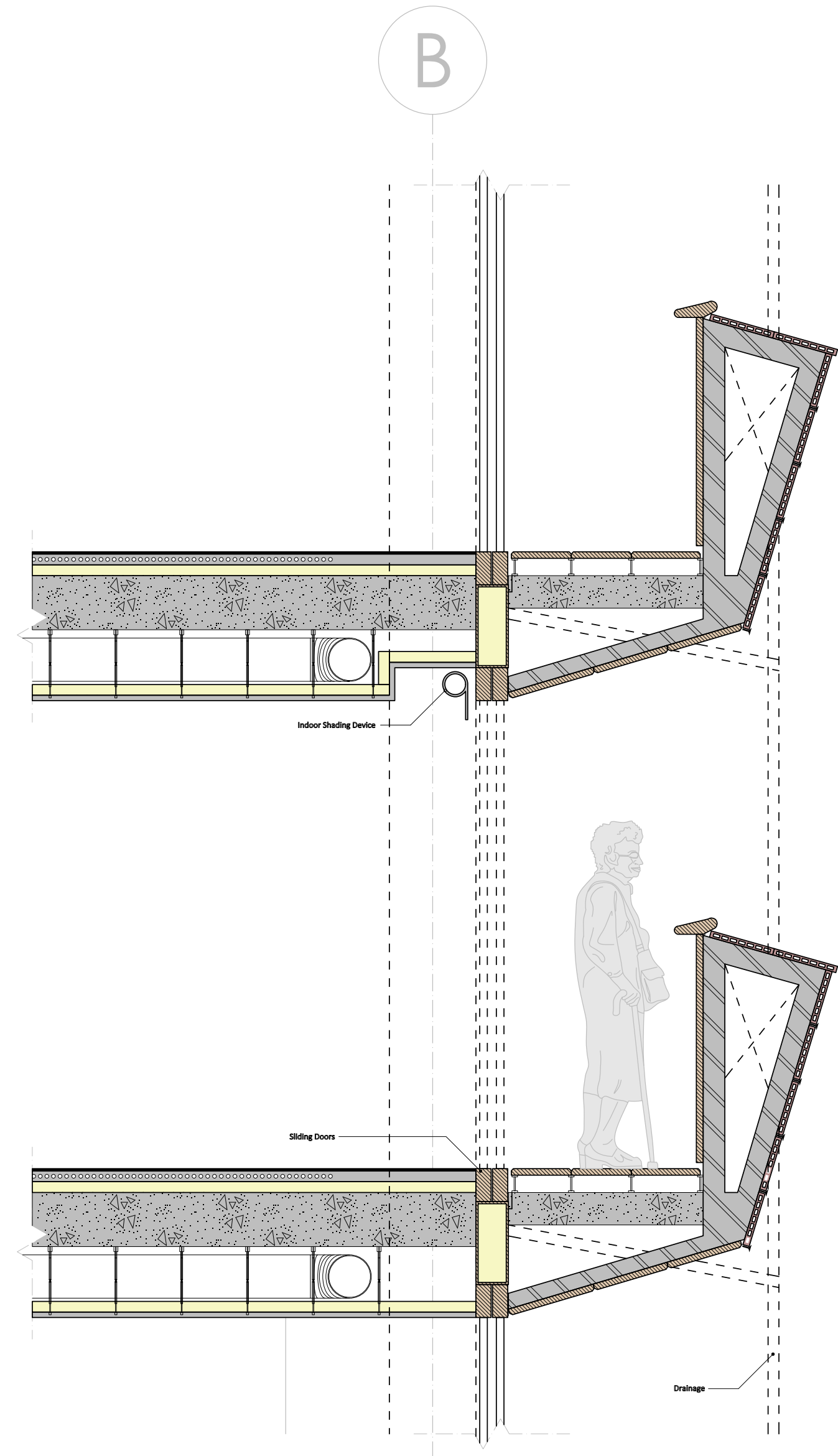


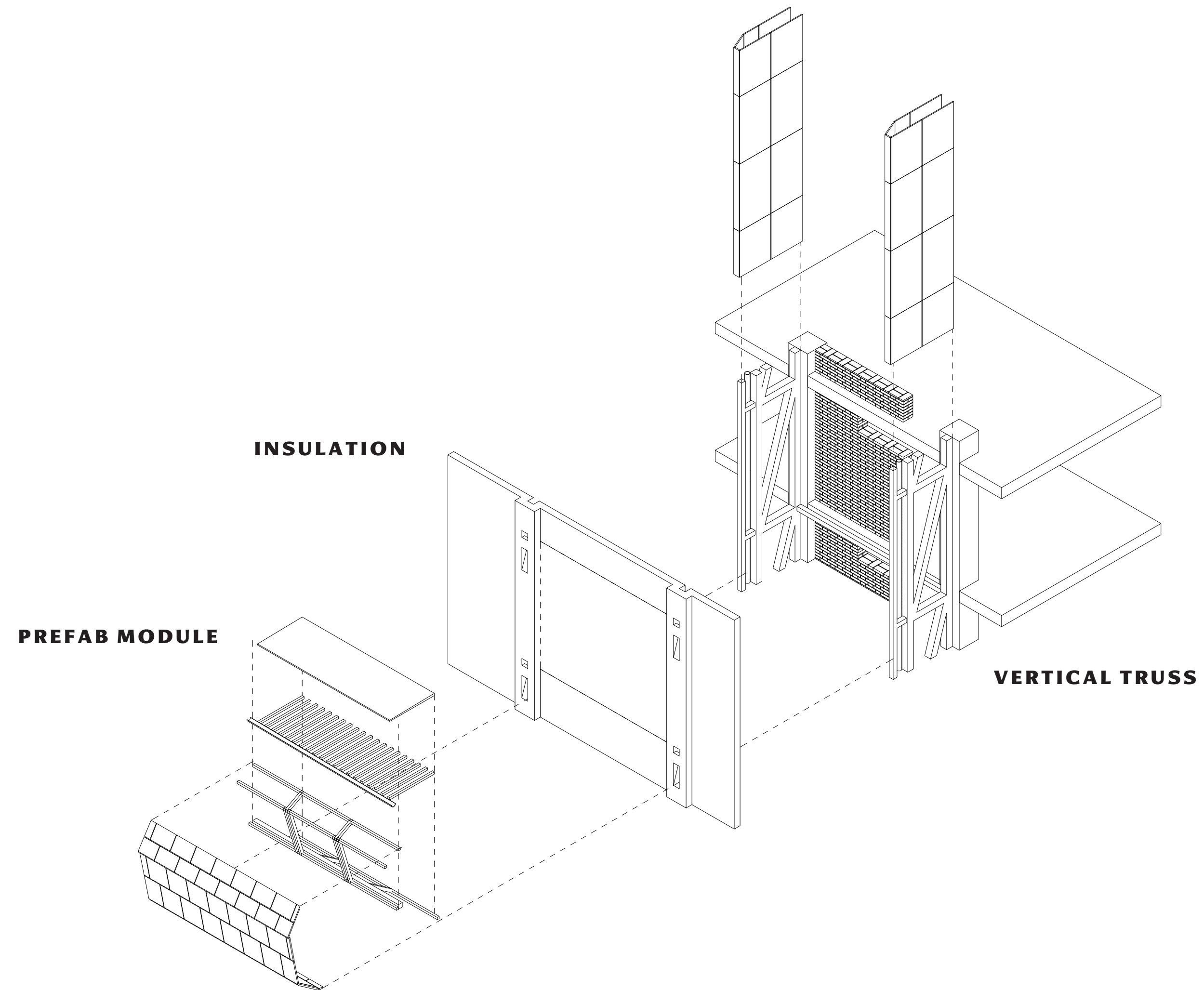


Requirements

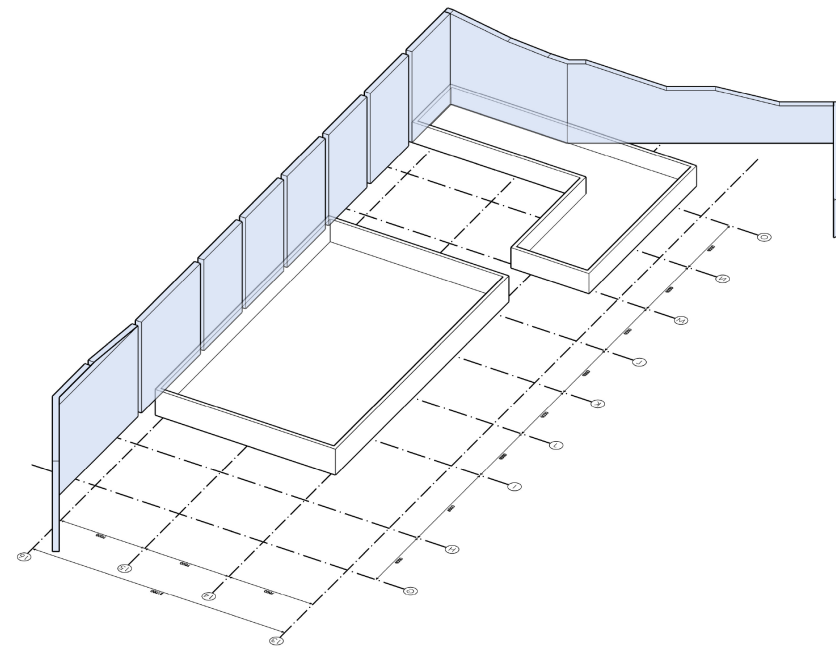
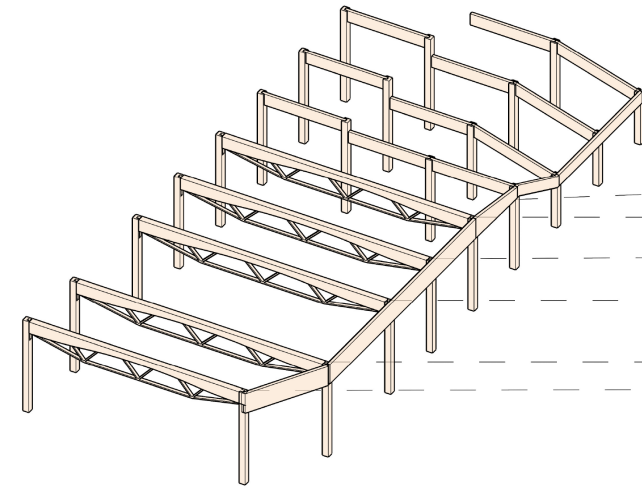
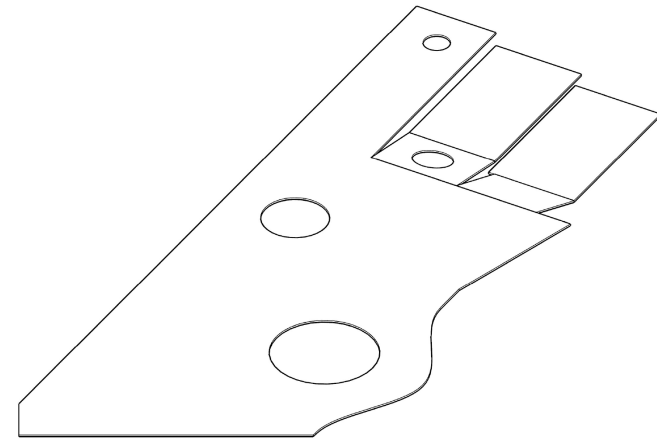
- € Standardized
- ⚙ Low maintenance
- 🪶 Lightweight
- ☀️ ↓ Minimizing solar radiation in summer months
- ☀️ ↑ Maximizing solar radiation in winter months



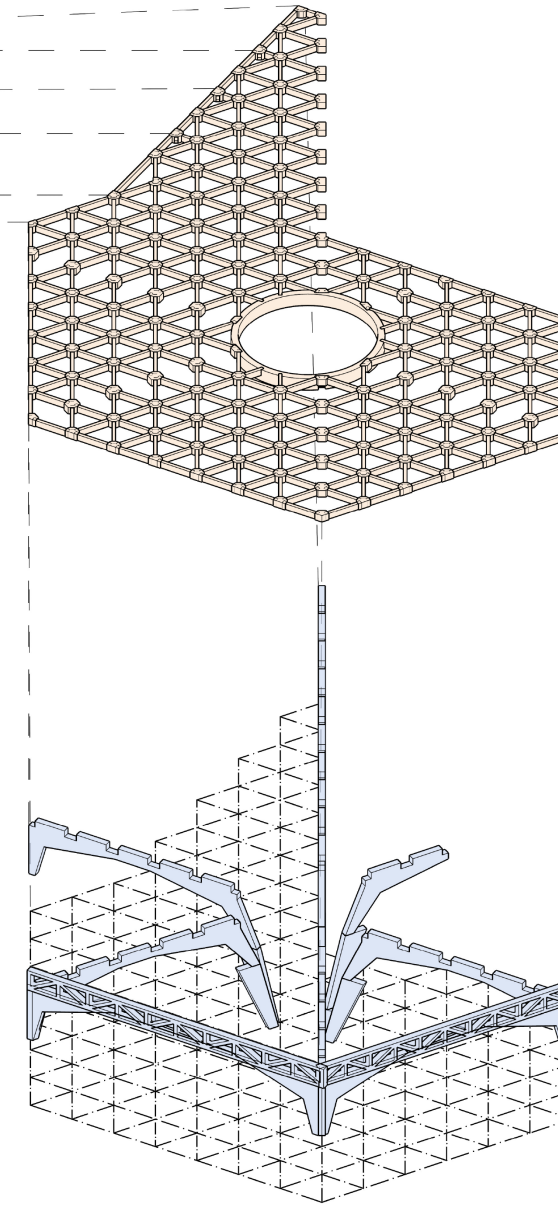




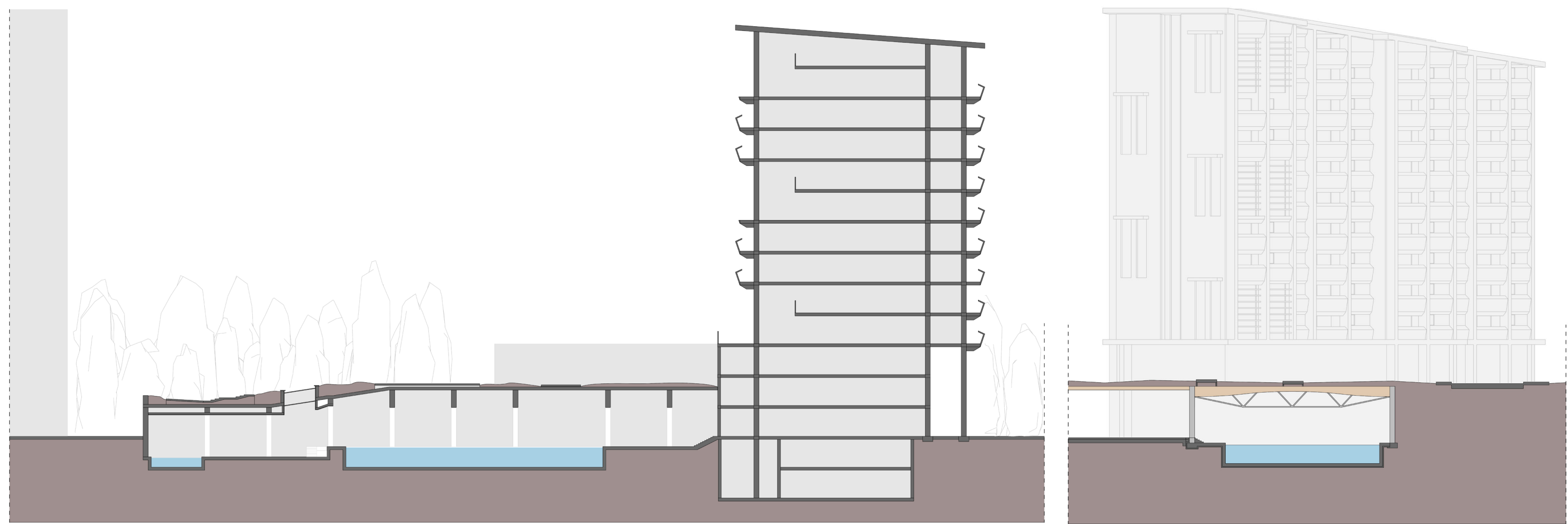




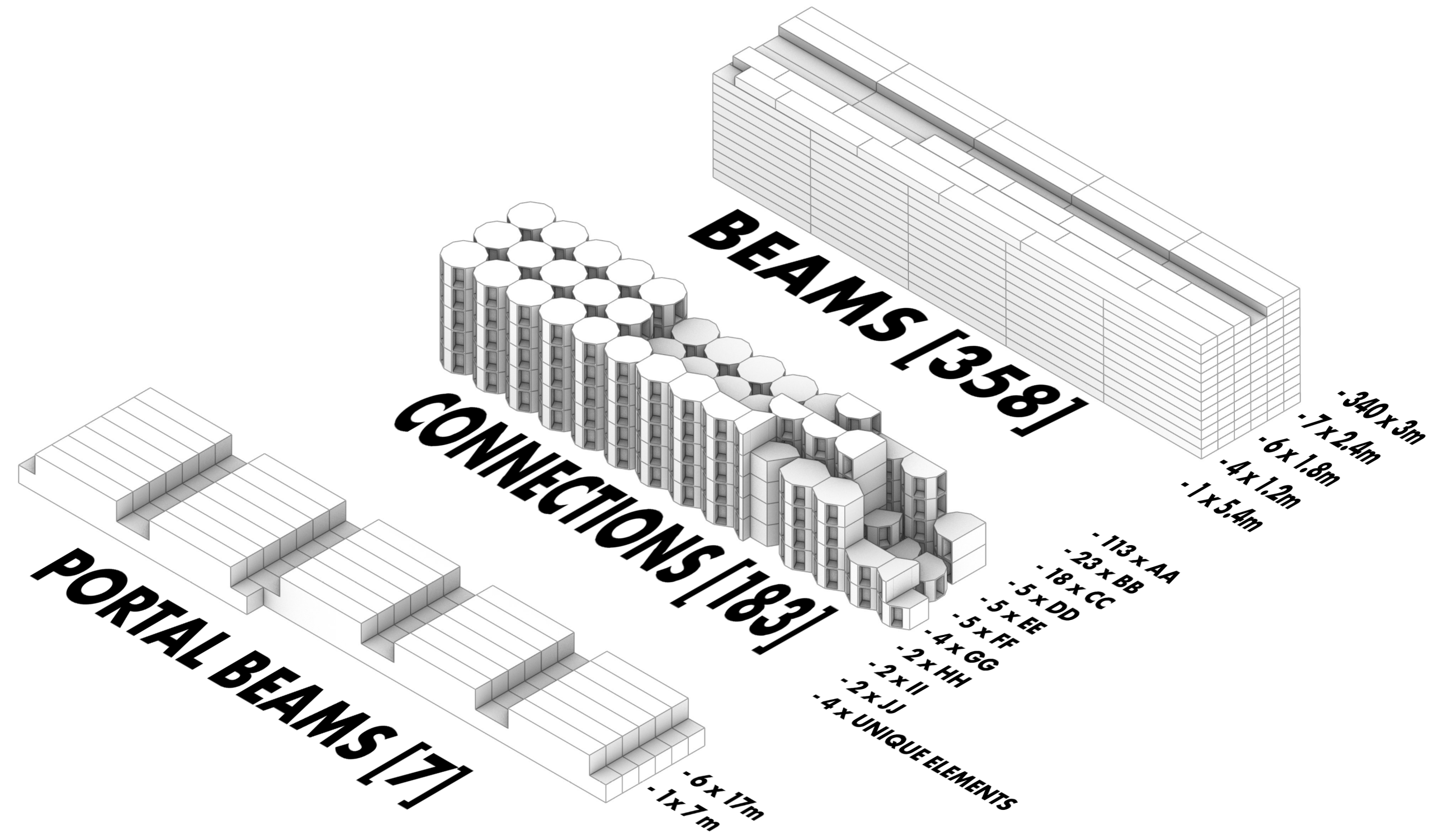
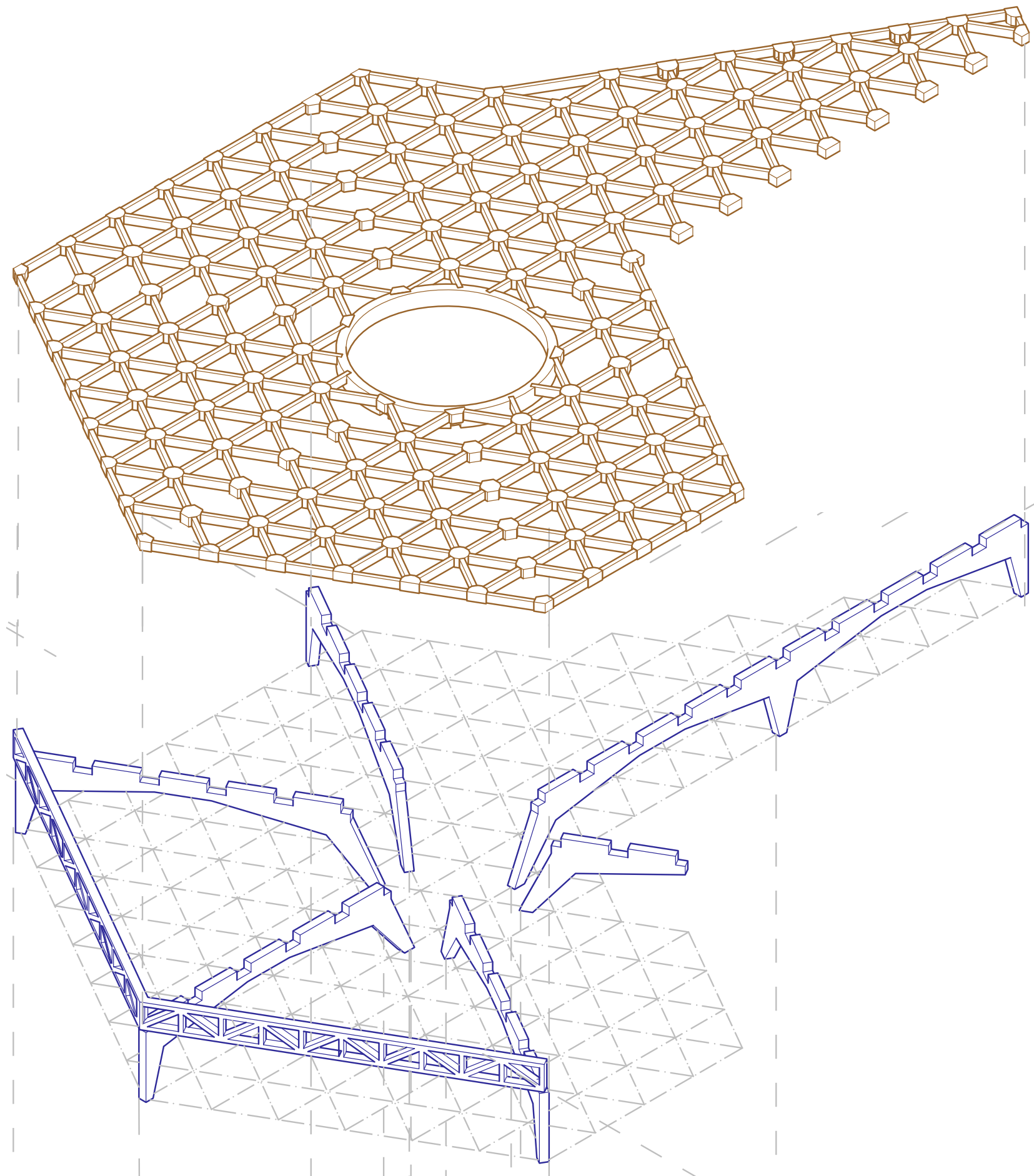
INDOOR



OUTDOOR



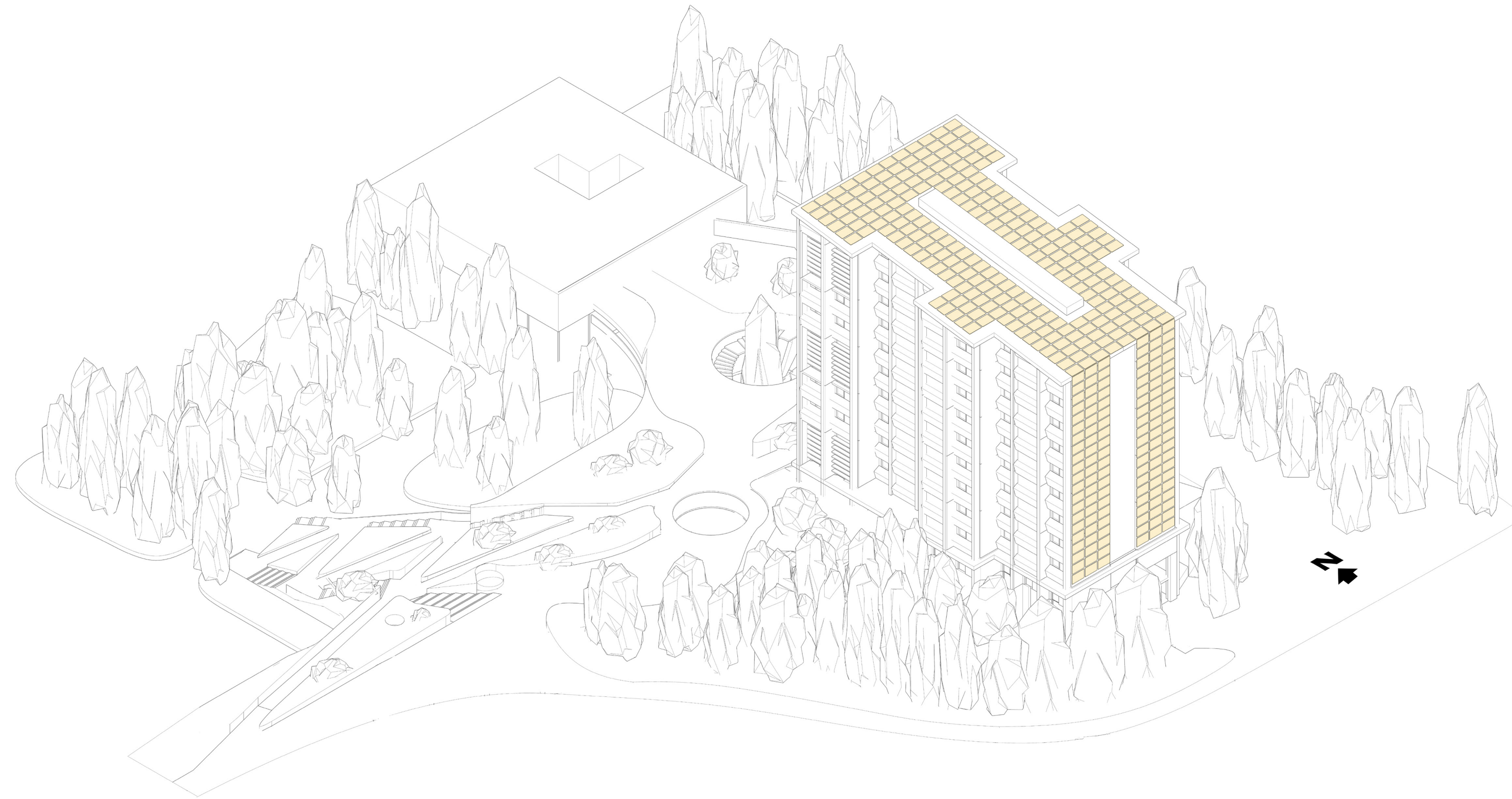


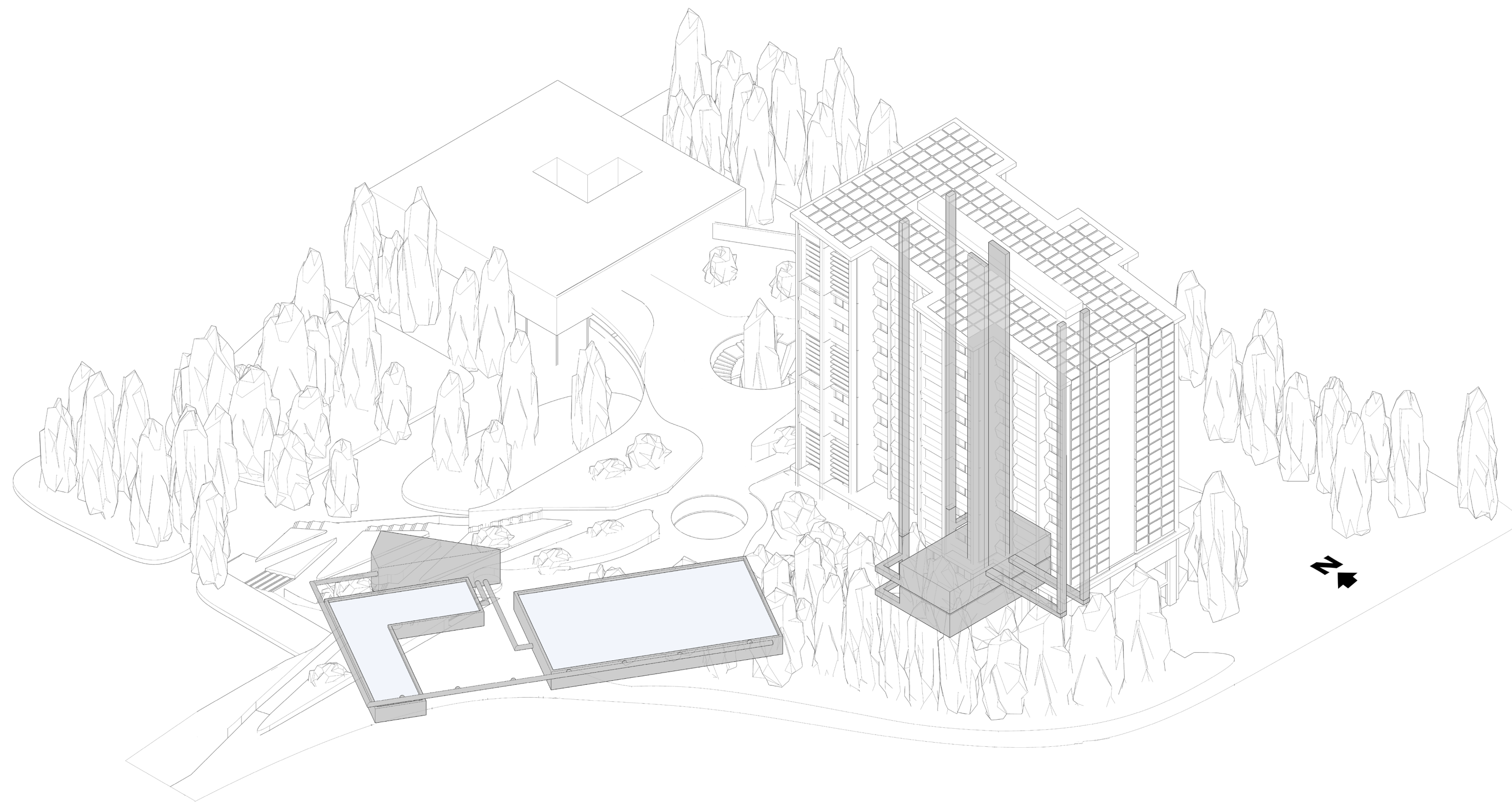


- € Minimising (production)cost
- Support green roof

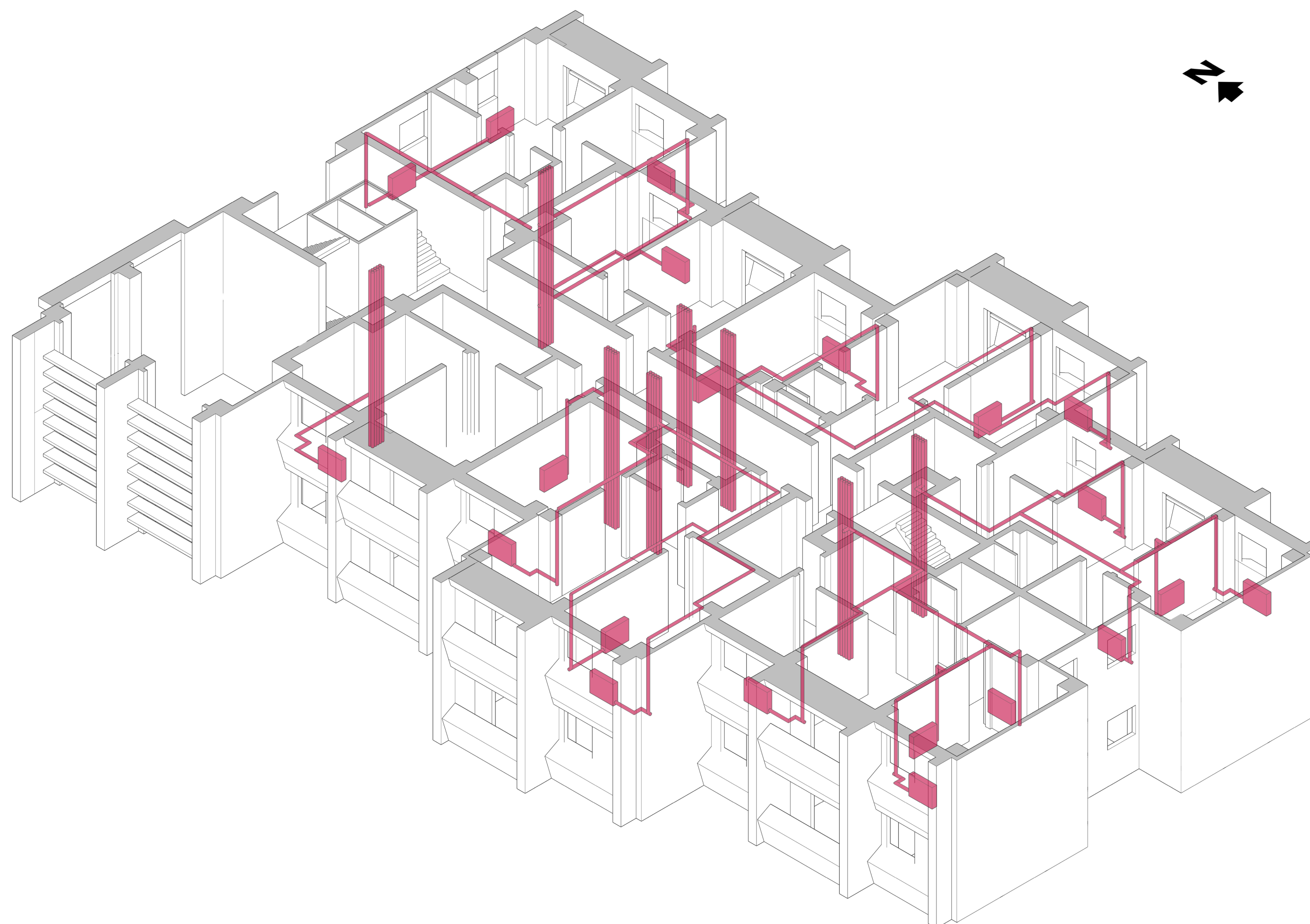


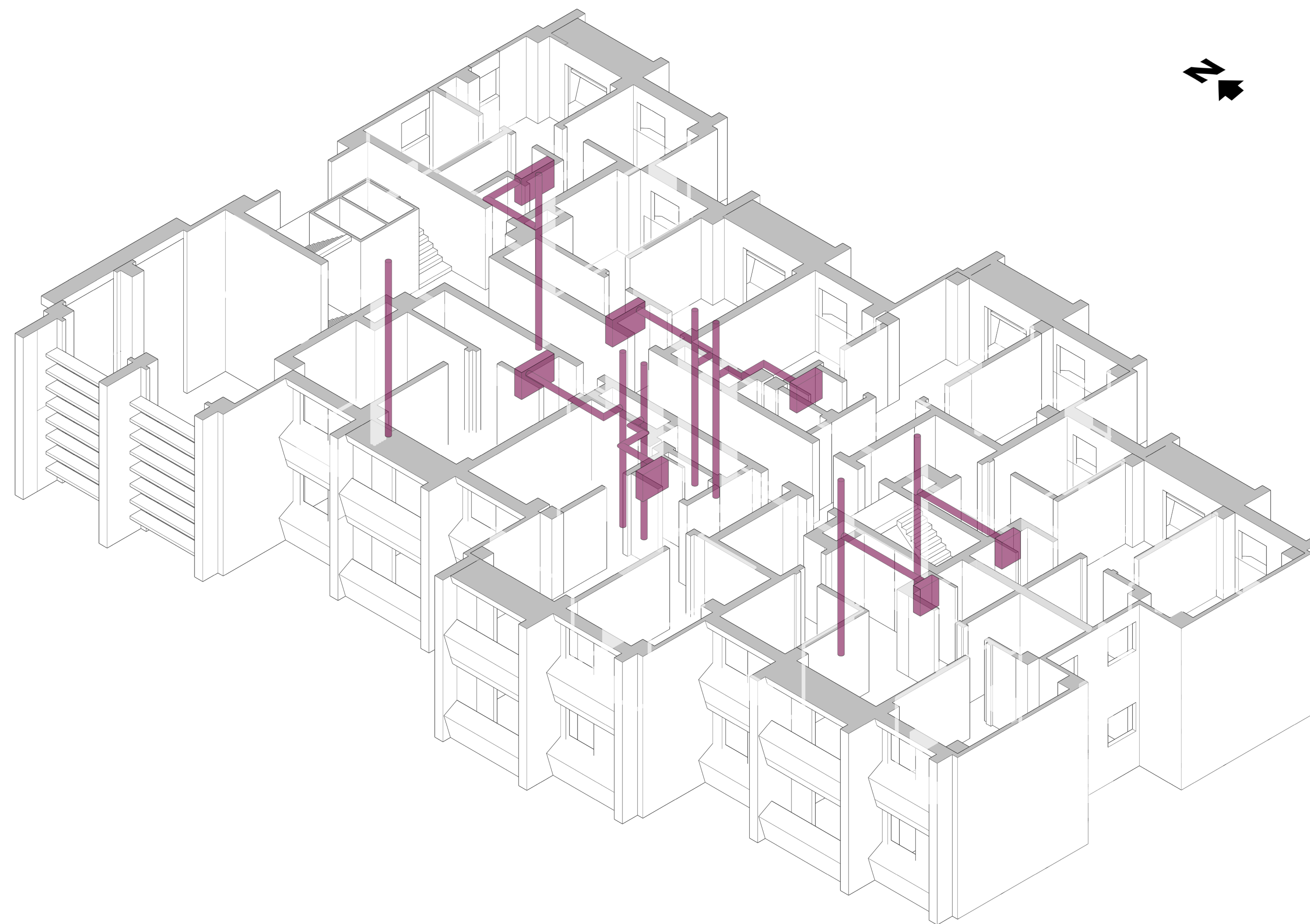




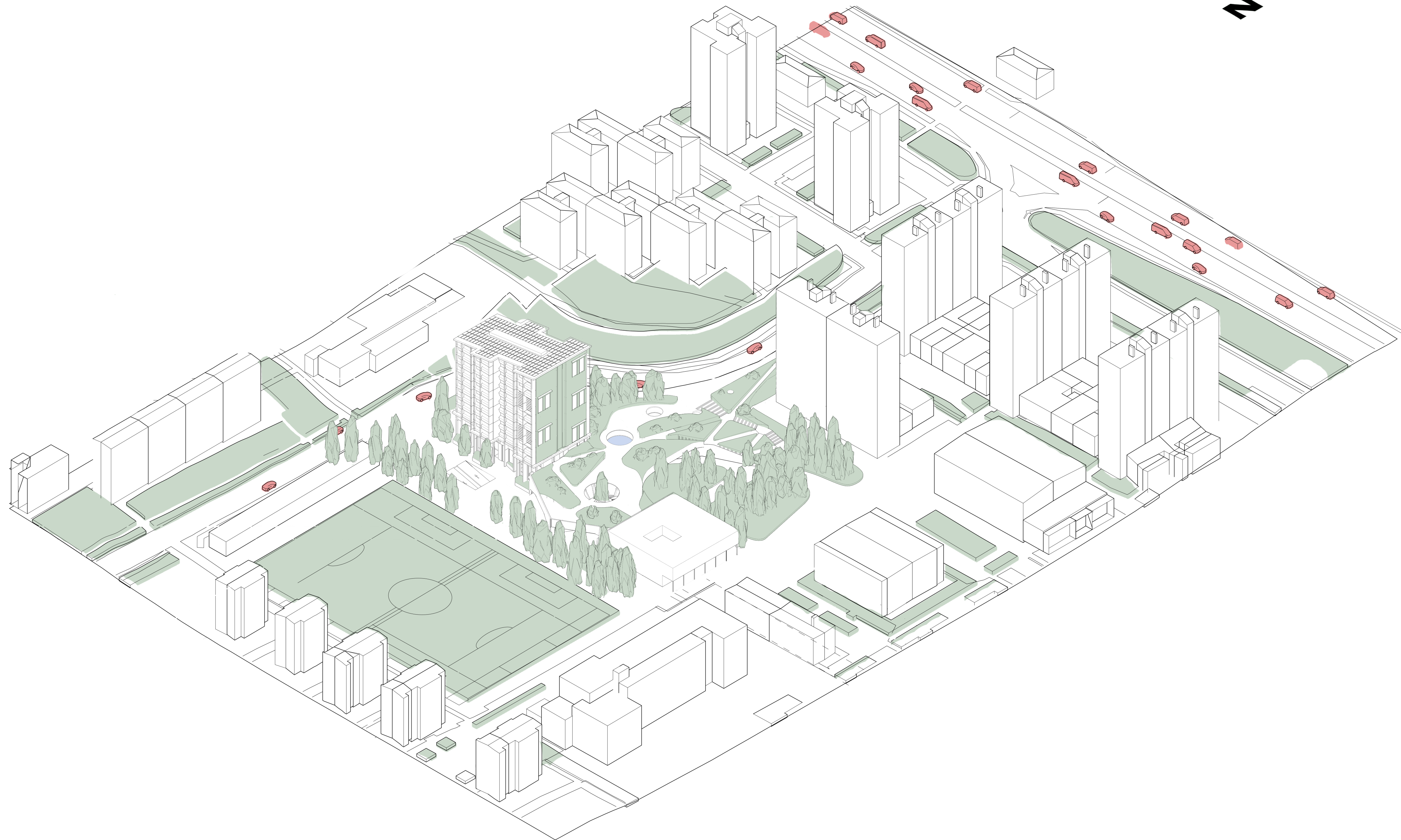










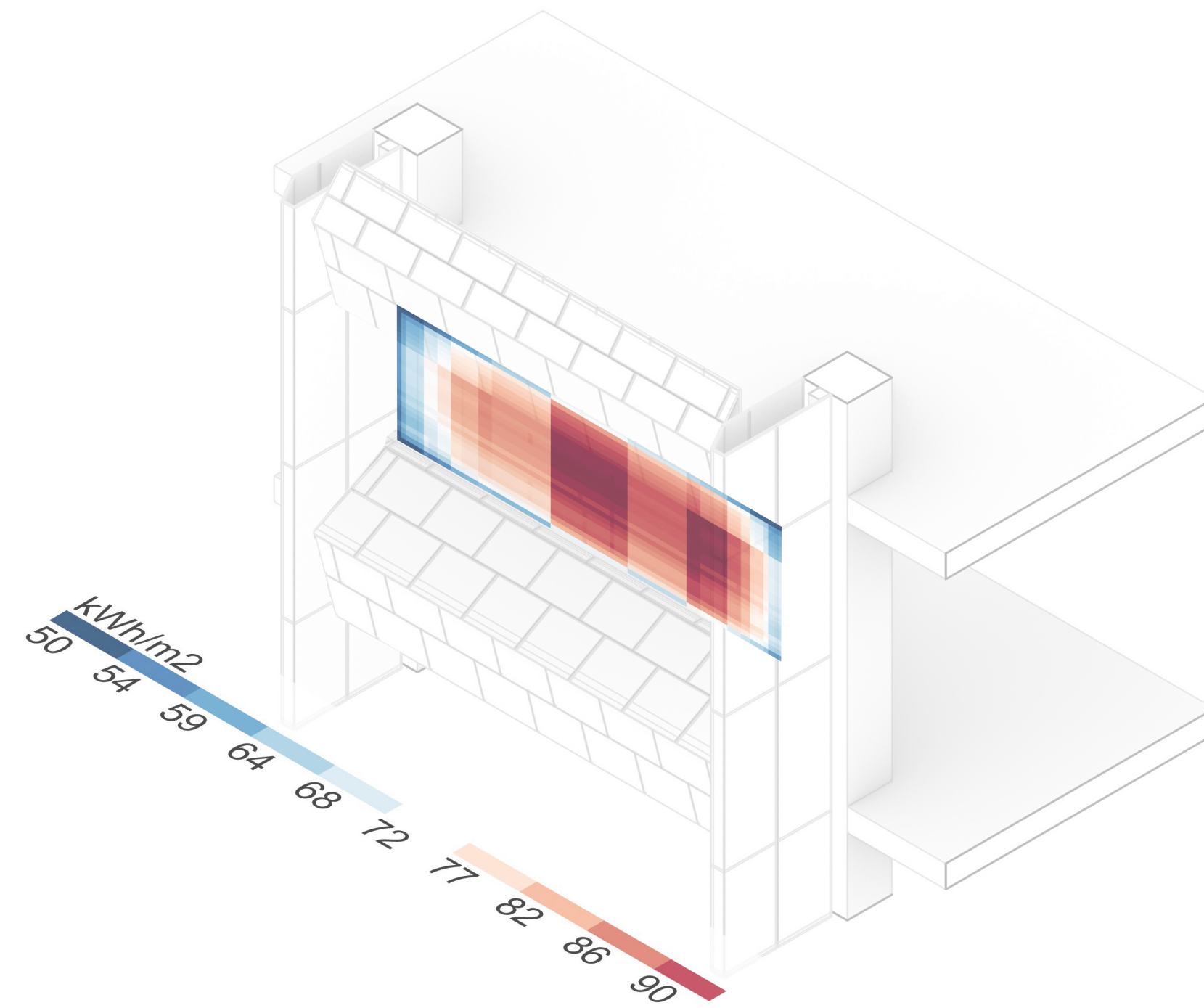




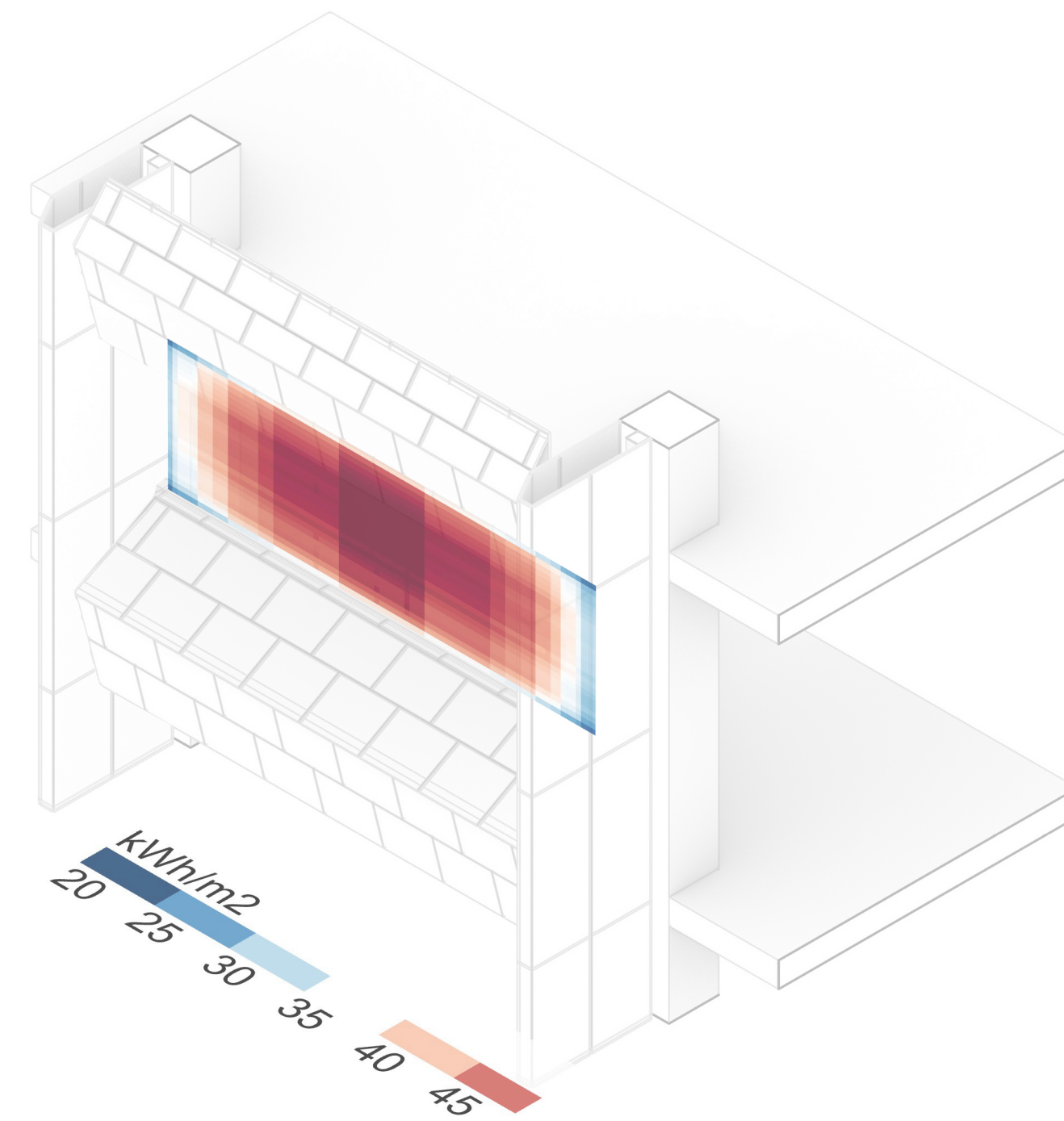
[Site location, 2025]



[Madrid, 2025]

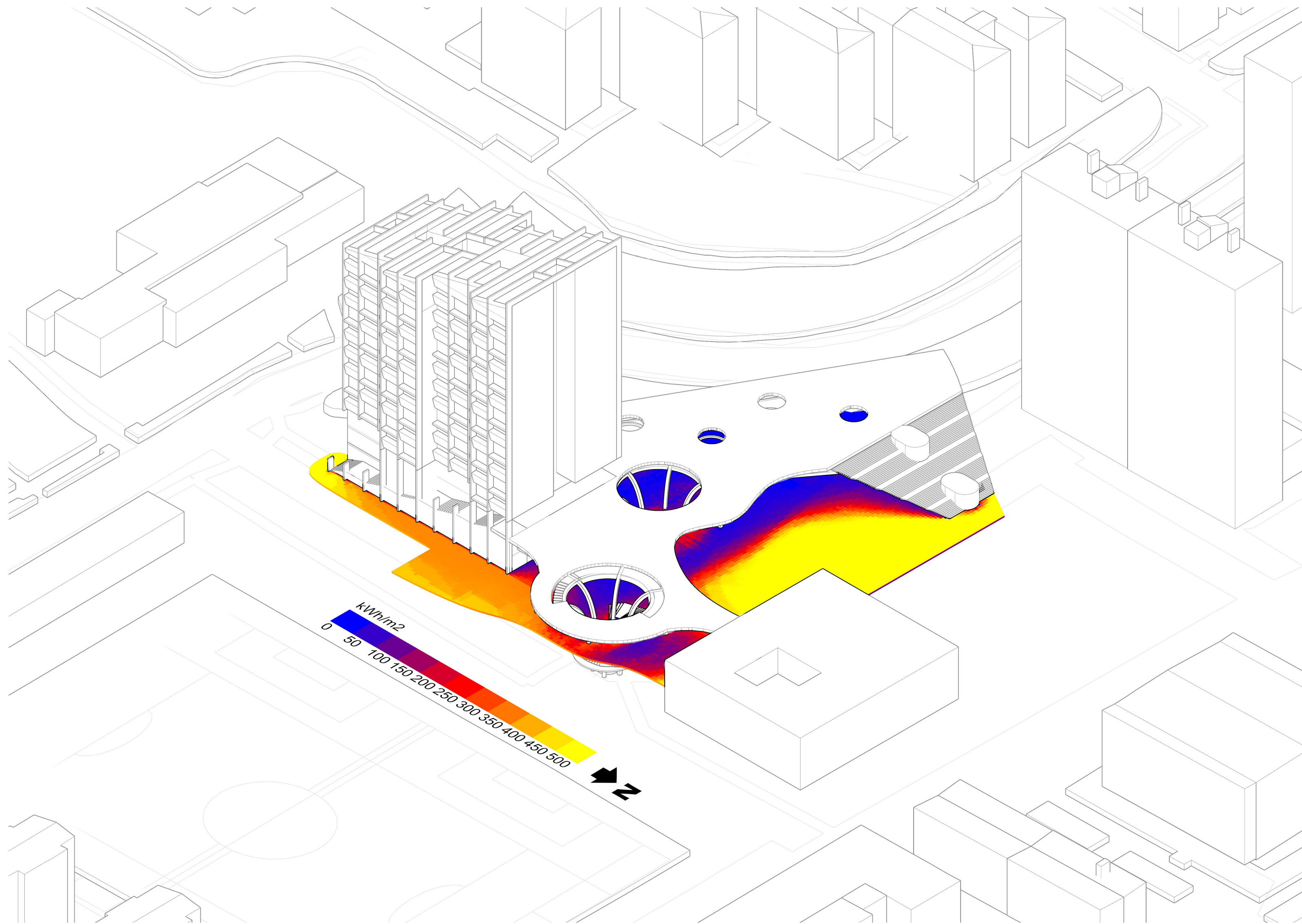


Summer



Winter

*A solar radiation
study of the facade
module [Ladybug]*





THANK YOU

