

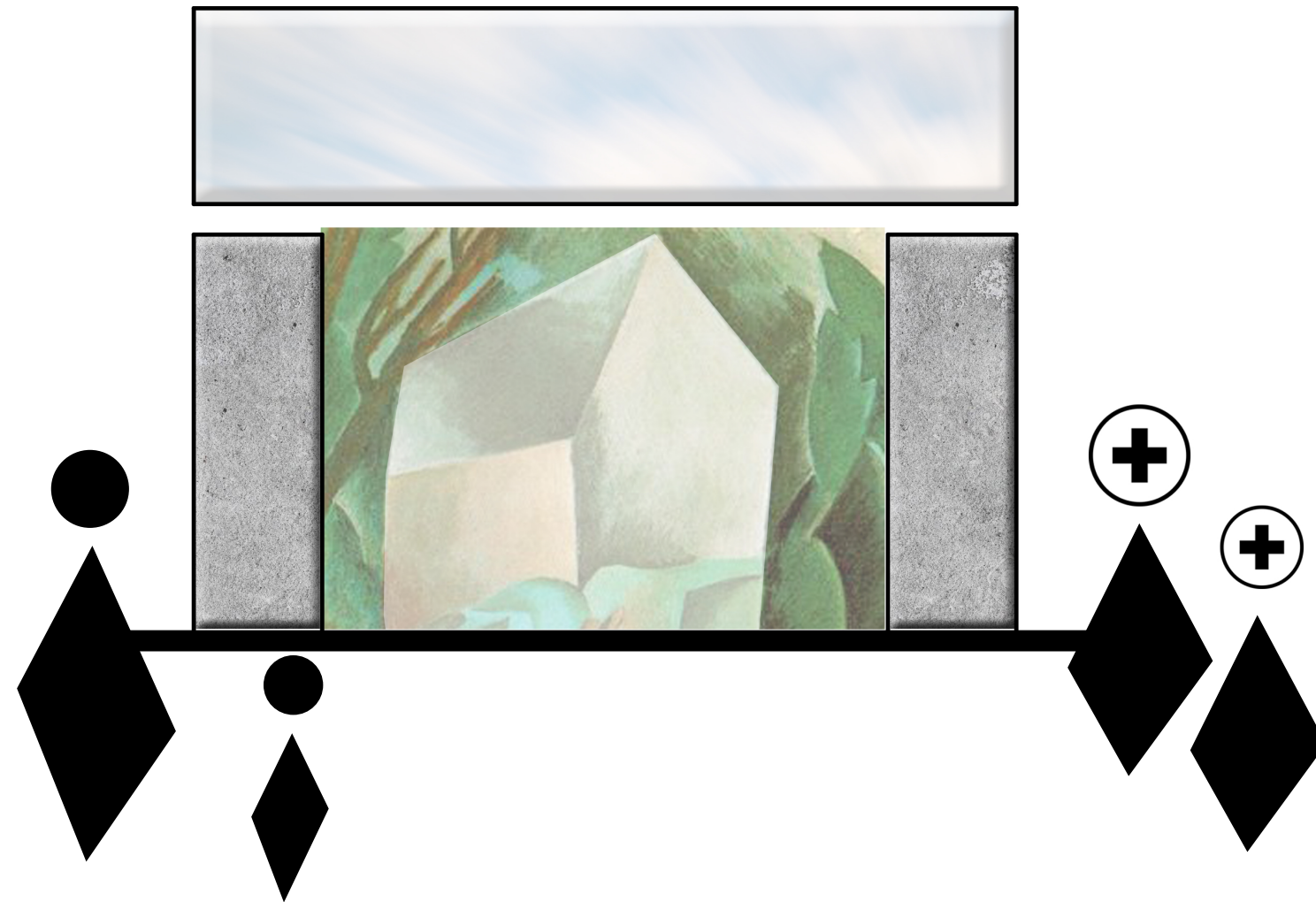
URBAN REVIVAL OF THE SUPER-BLOCK

PROJECT ORIGIN

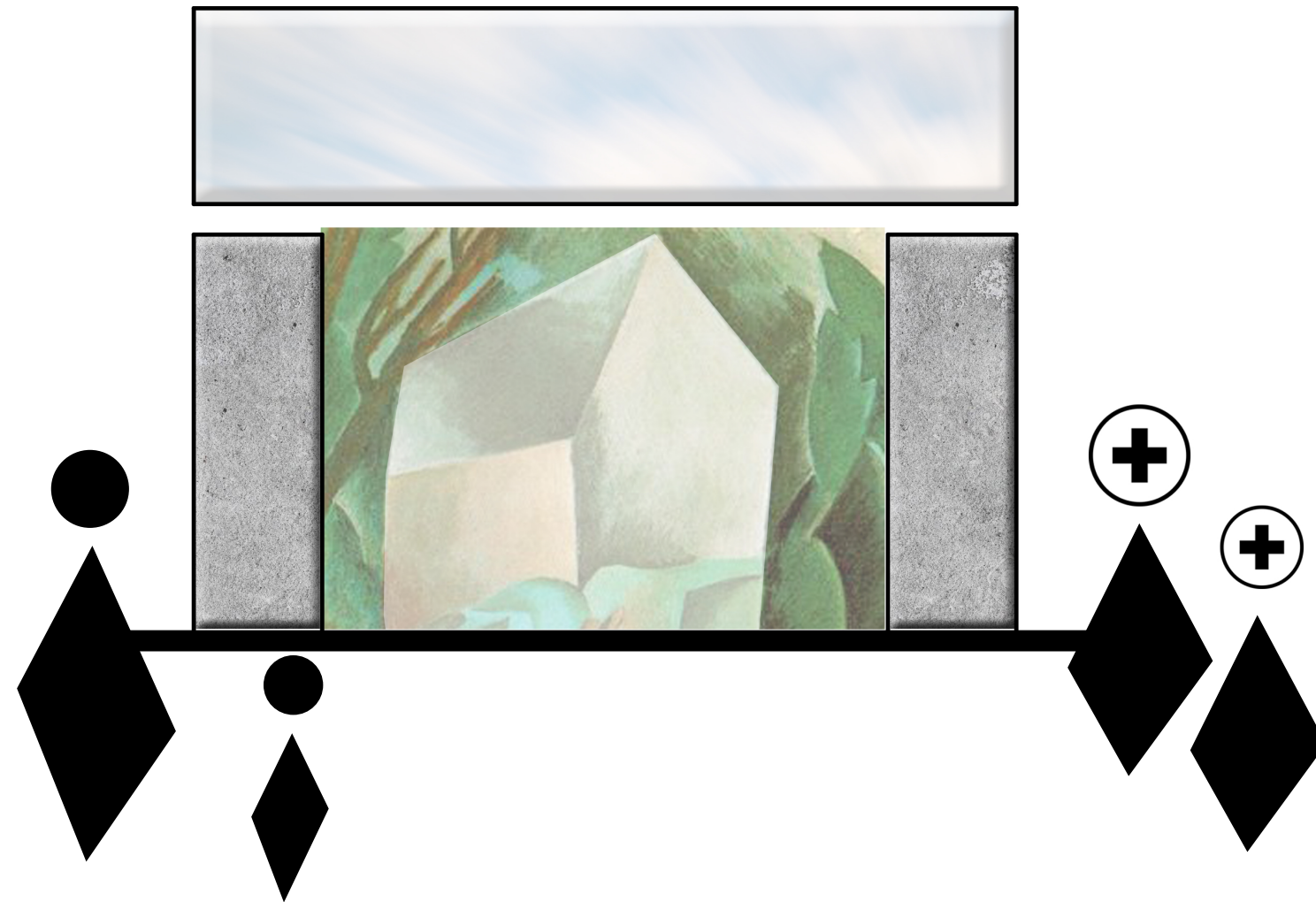
Yde Engelsma

P5 Presentation
01-07-2020

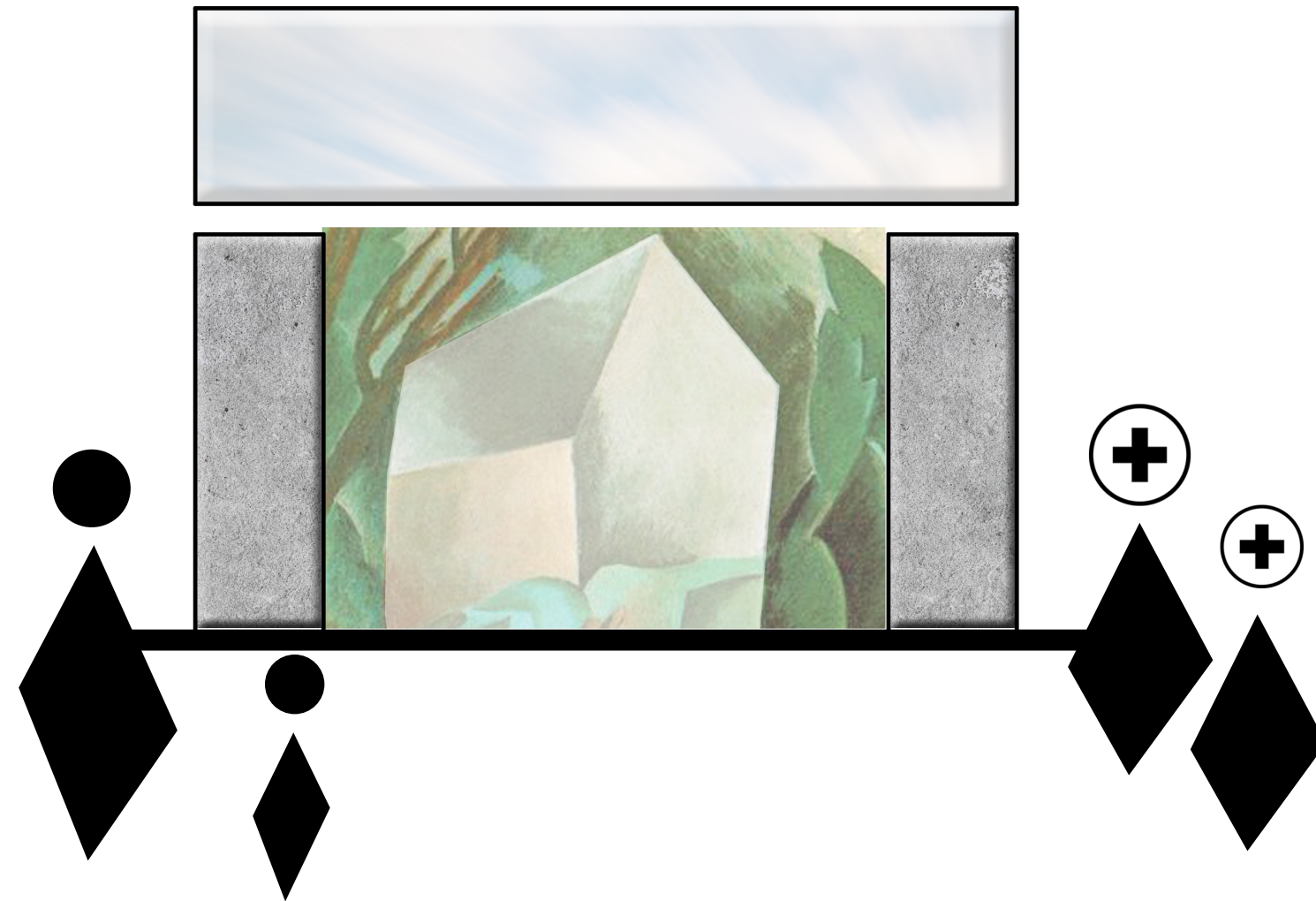




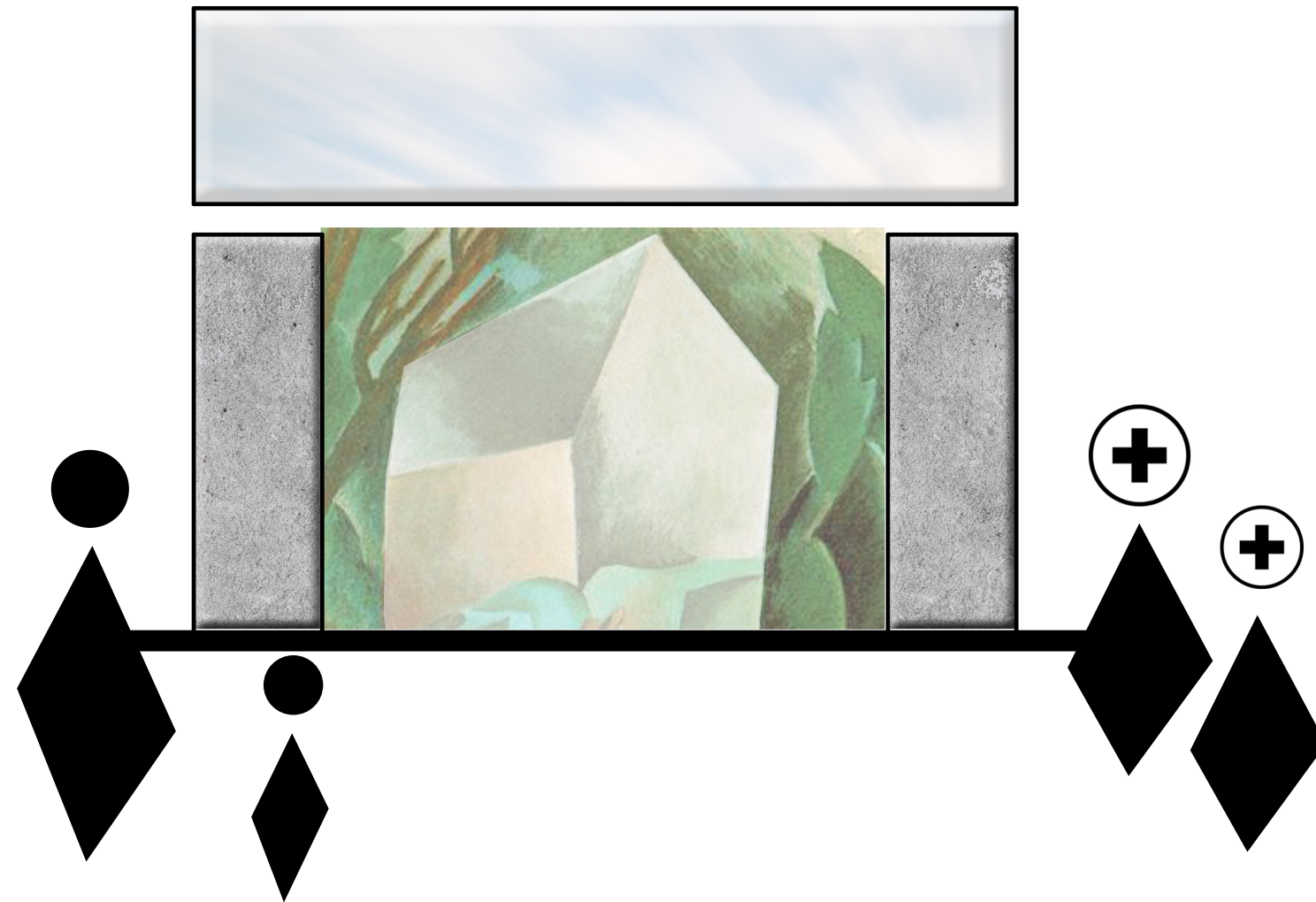
A **public gateway** between the **medical complex** and the **residential neighborhood**.
(1st & 2nd Avenue)



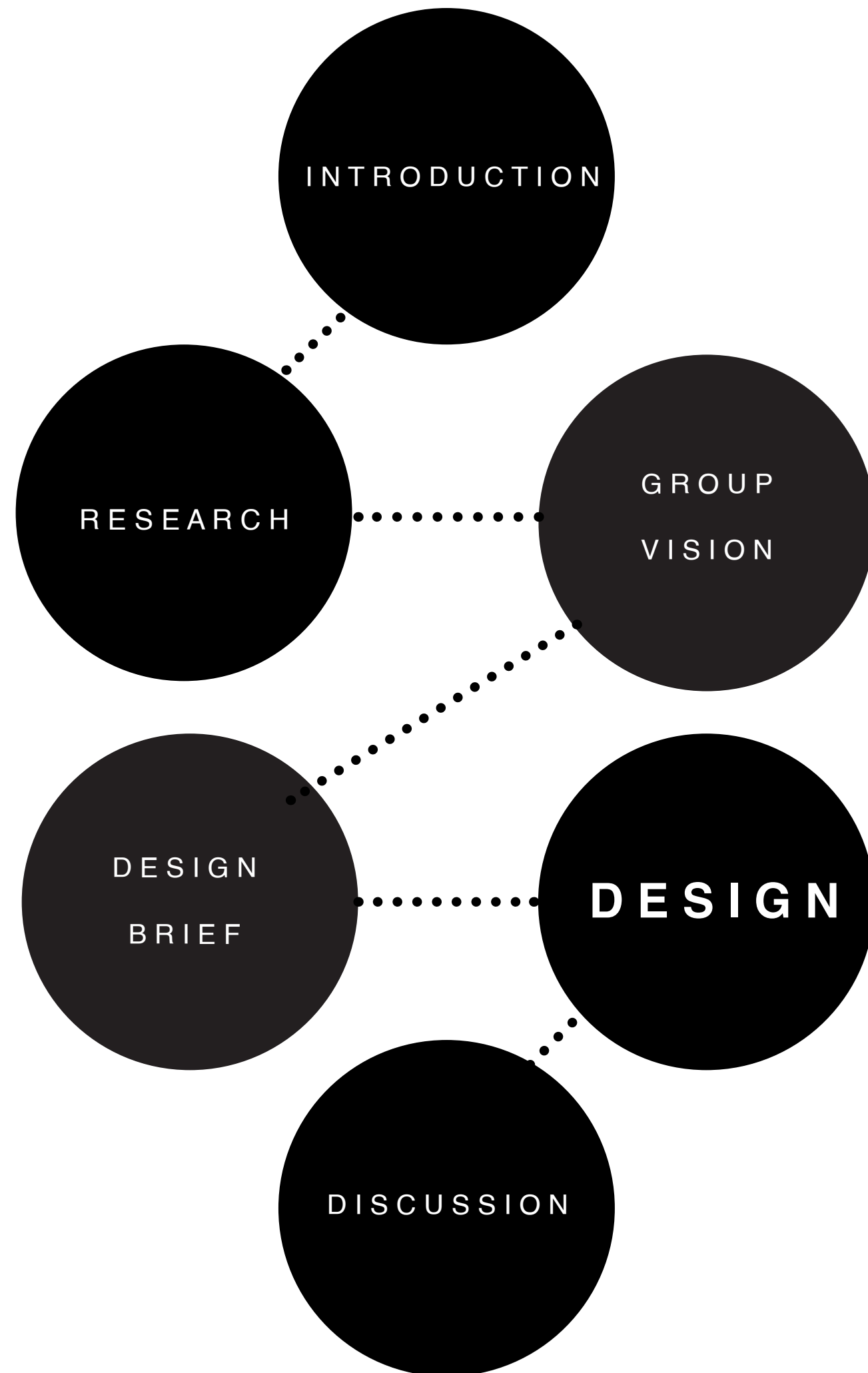
Creation of a **plaza** with **subway entrance** and **leisure uses**.
(GFA = 25K)



Repurposing two listed buildings for flexible needs medical complex.
(GFA = 80K)



Densification by a **residential ring**, hovering over the plaza.
(GFA = 95K)



INTRODUCTION

LOCATION



New York City

inhabitants: 8.850.000

size: 1213.37 km²

gdp: 807 billion \$

image from: <https://commons.wikimedia.org>



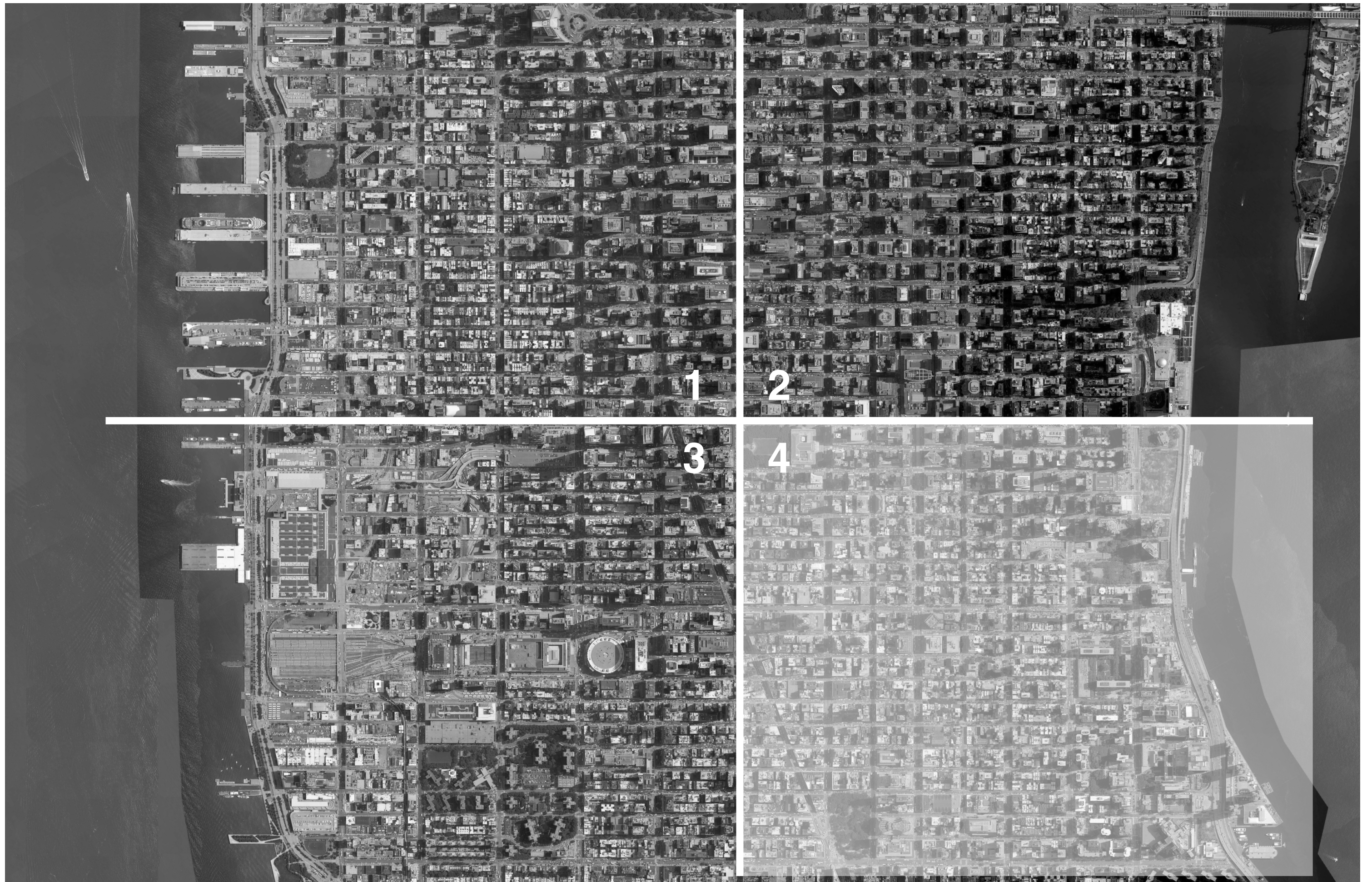
Manhattan

inhabitants: 1.660.000

size: 59.13 km²

gdp: 630 billion \$

image from: <https://www.google.nl/maps/>



Midtown

inhabitants: 300.000

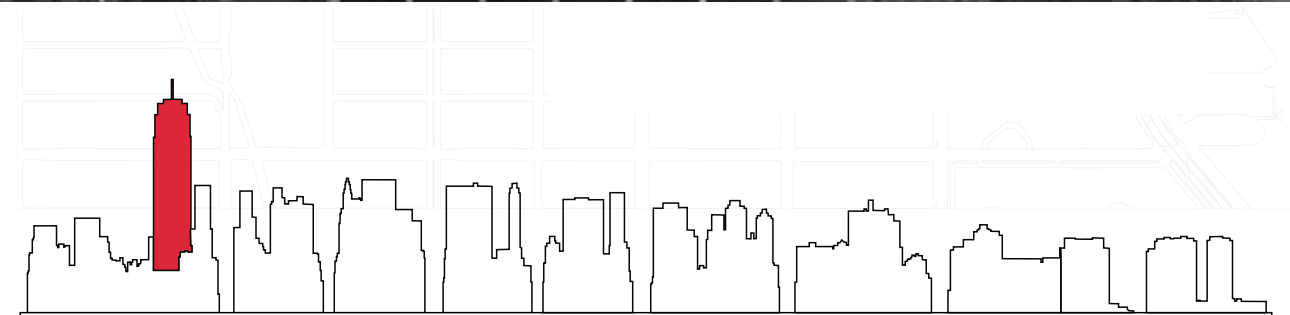
size: 5.84 km²

EMPIRE VILLAGE



Empire State Building

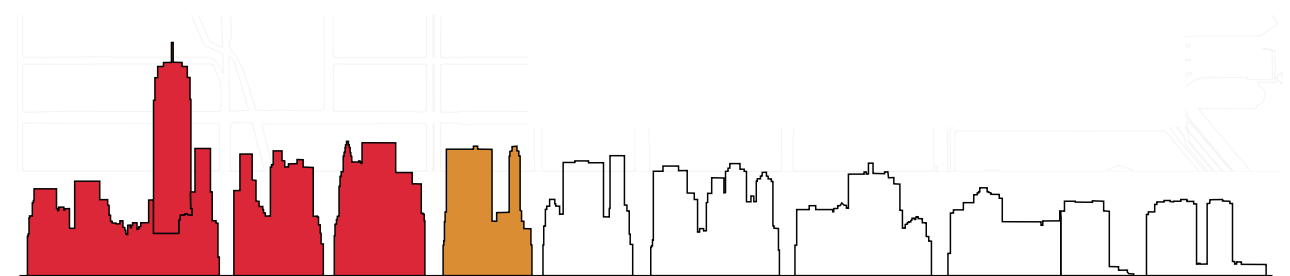
image from: <https://www.globehopper.nl>





Bryant Park

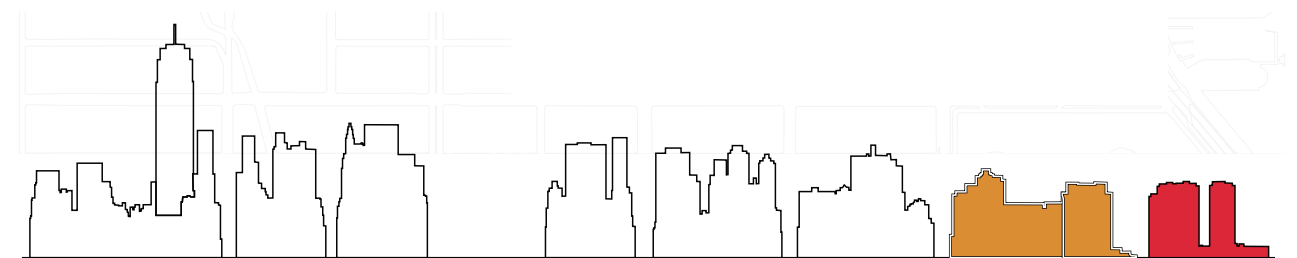
image from: <https://newyorktoday.it>





East River Waterfront

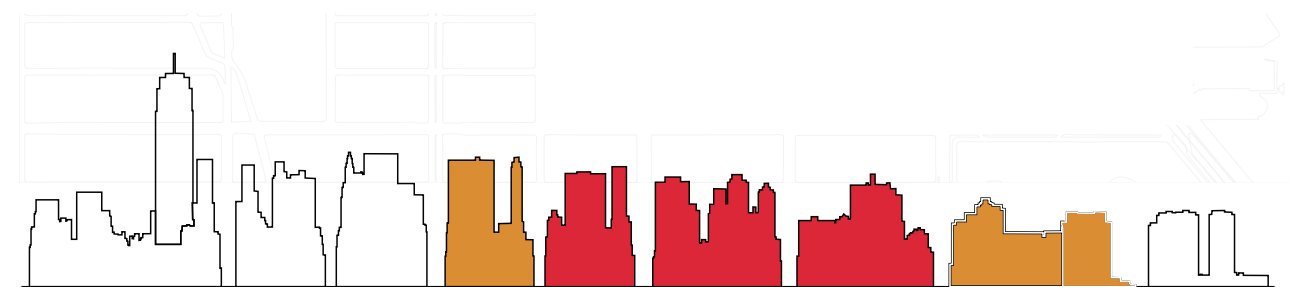
image from: <https://americancopper.nyc>



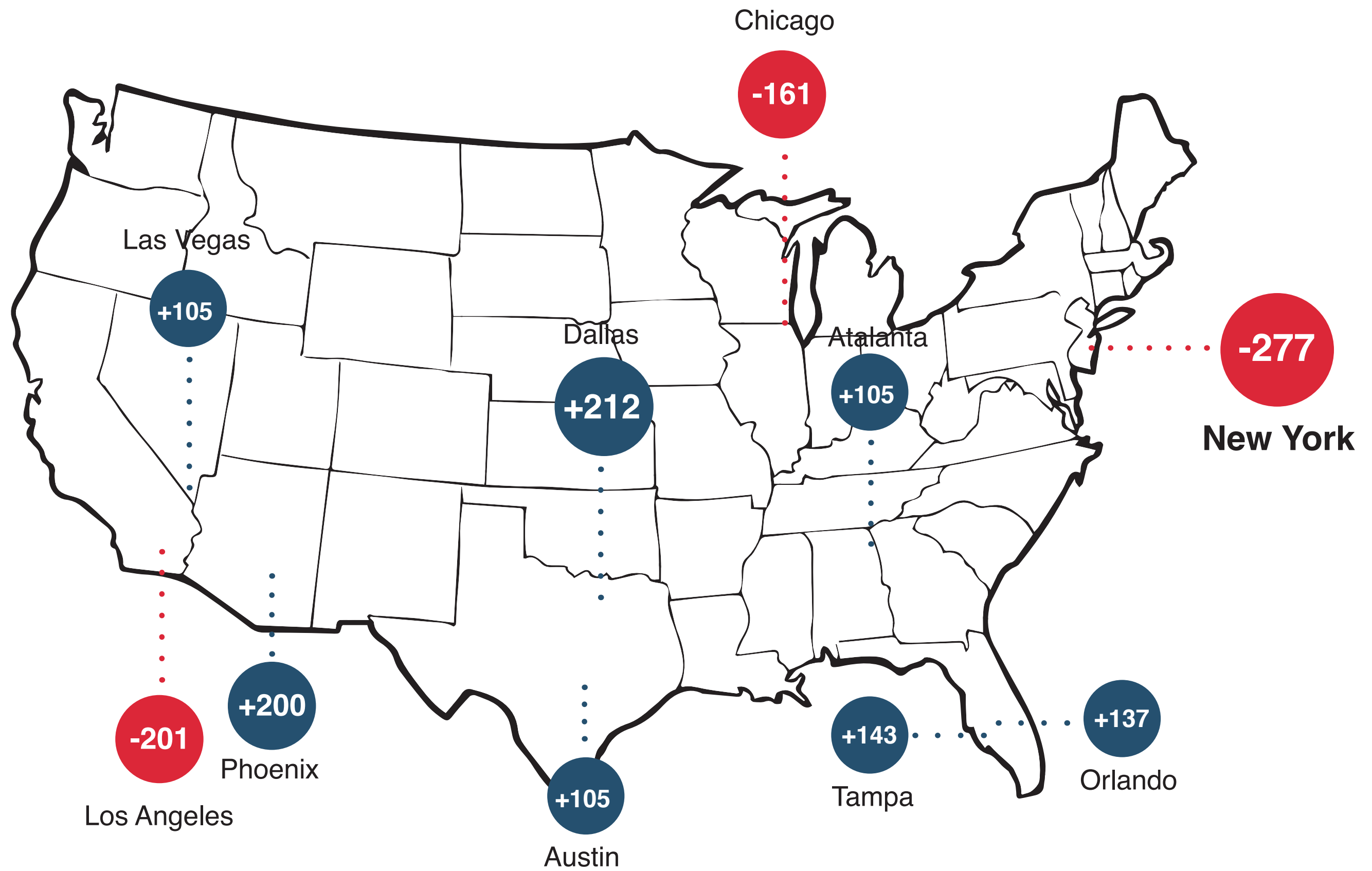


Kips Bay

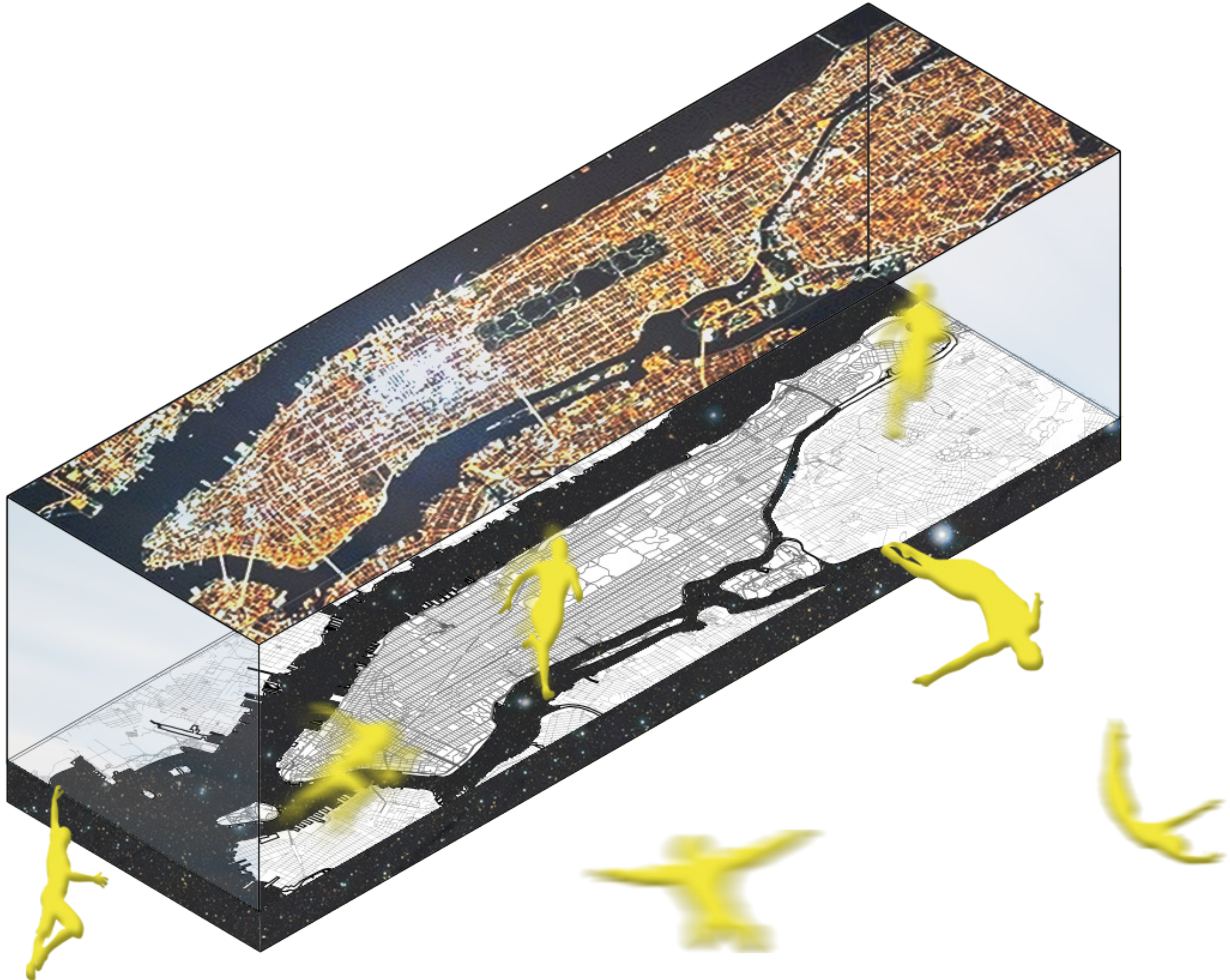
image from: <https://newyorktoday.it>



URBAN DISPLACEMENT



THE MANHATTAN PARADOX



JANE JACOBS



“I think by far the **most important question** about planning cities is:

How can cities generate **enough mixture among use** - enough **diversity** - throughout enough of their territories, **to sustain their own civilization?**

RESEARCH QUESTION



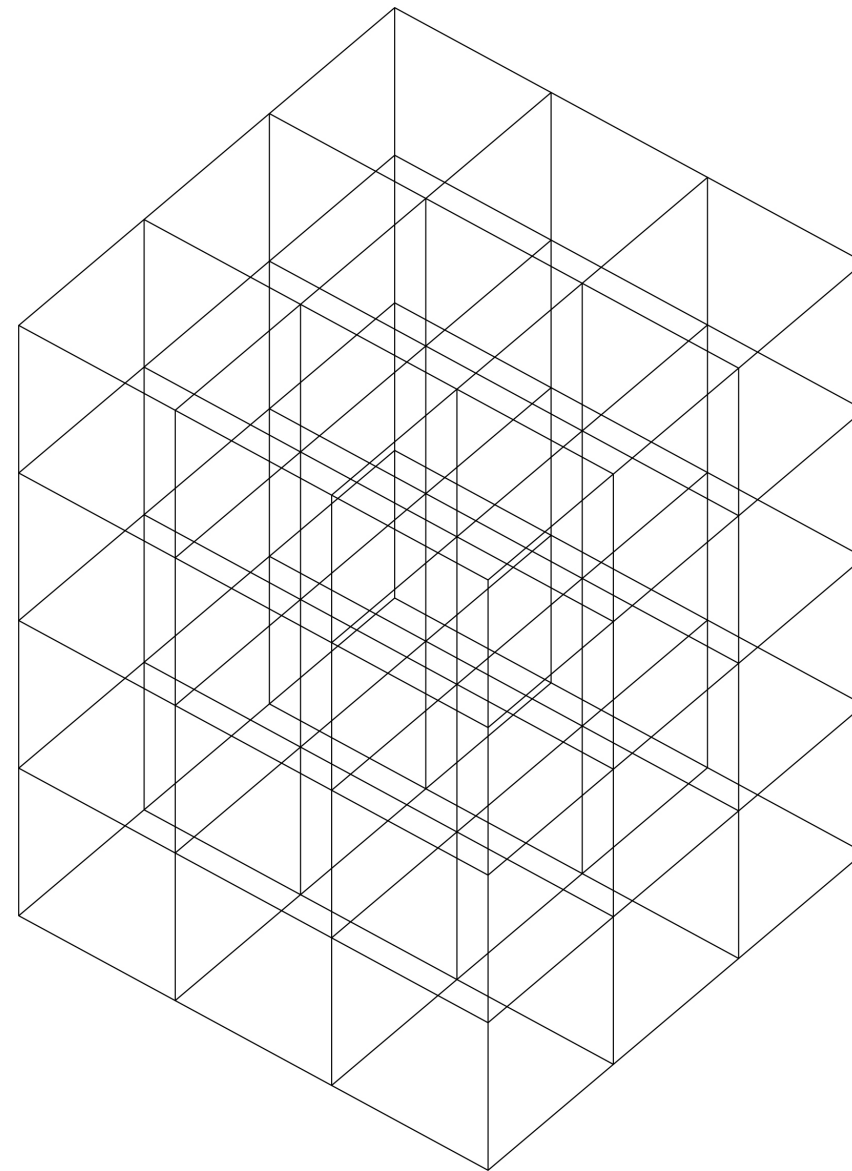
How to **activate monofunctional**, homogeneous **areas** in Empire Village, **through architectural interventions** that **adapt to the context** of the blocks, the present typologies and future plans of development?

RESEARCH

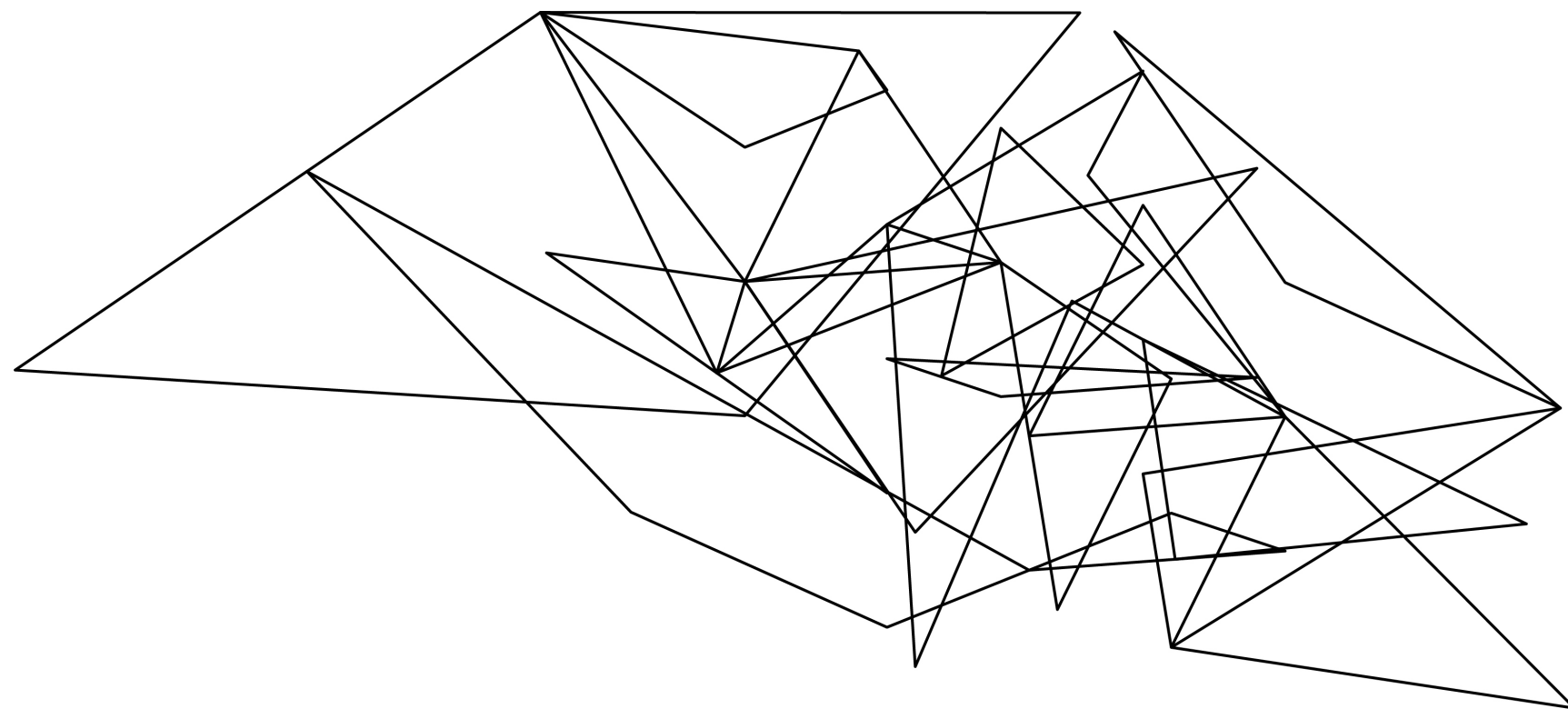
ORIGINS OF THE GRID



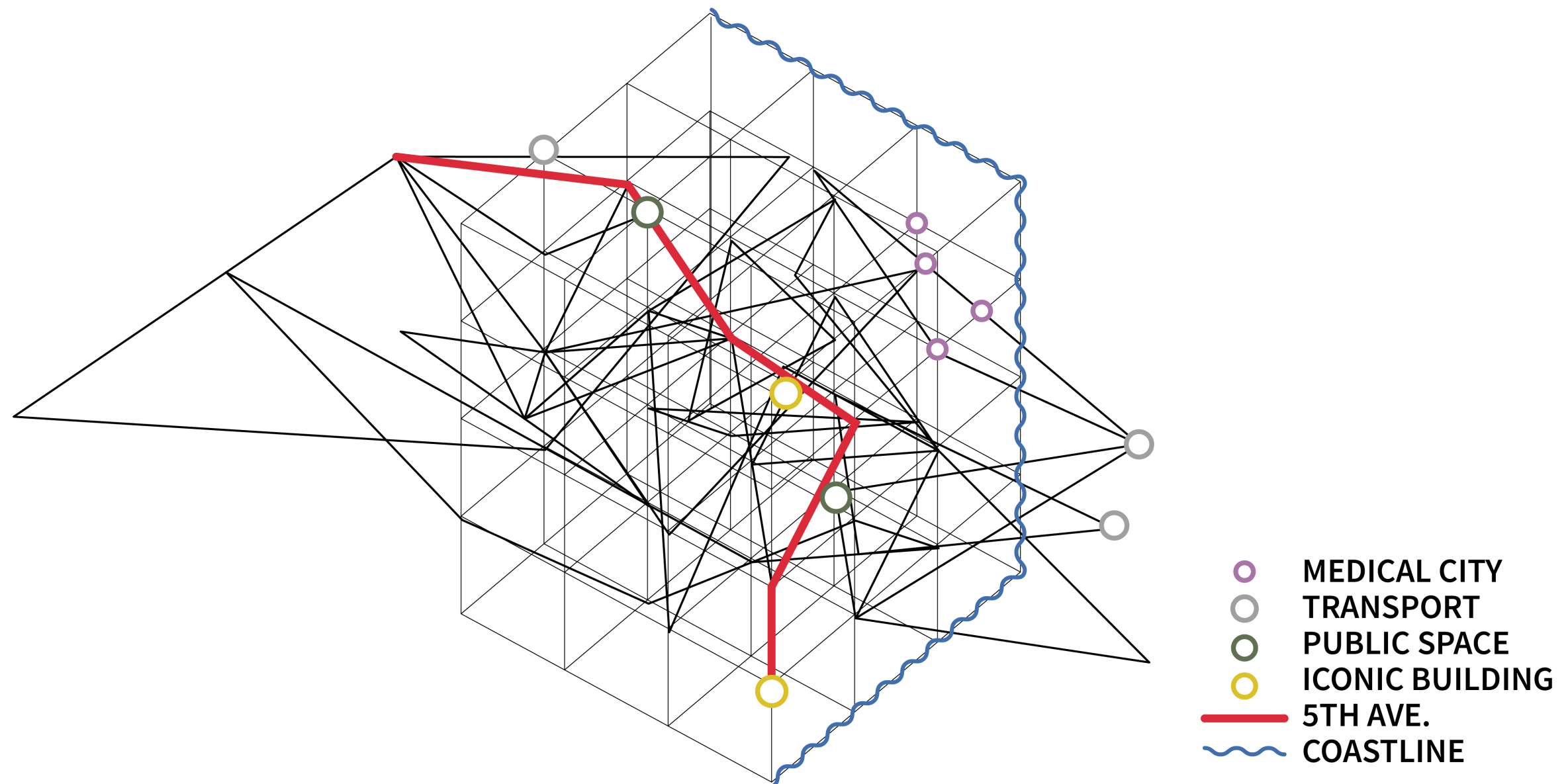
A **neutral** background to society = a **financial** background to society



A grid structure **frames potential** for development...



...In reality **developments don't stay within expected boundaries...**



... But important **nodes and grid deviations shape** the nature of **grid use**.

How can **monofunctional** distinctions be **defined** in it the grid?

PEOPLE FLOWS



Residents



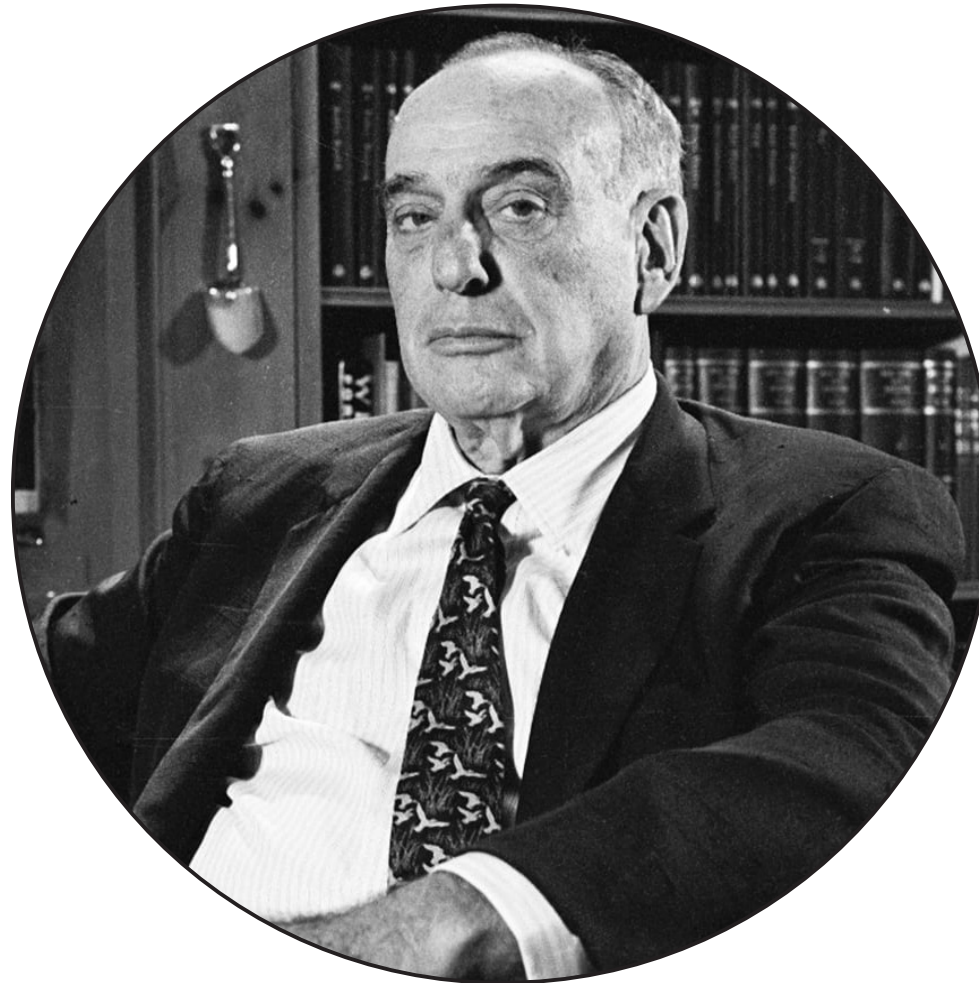
Commuters



Visitors

HOW & WHY

ROBERT MOSES



“You can draw any kind of picture you like on a clean slate and indulge your every whim in the wilderness in leveling out a New Delhi, Canberra, or Brasilia. But, **when you operate in an overbuilt metropolis, you have to hack your way with a meat axe!**”



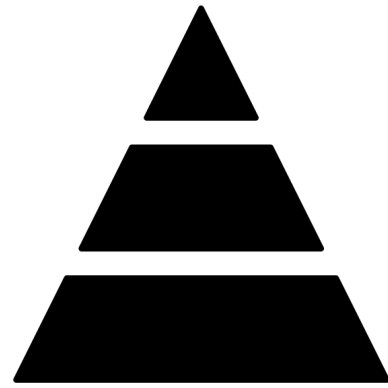
“Title I Housing Project” for FDR **Highway** and **slum removal**.



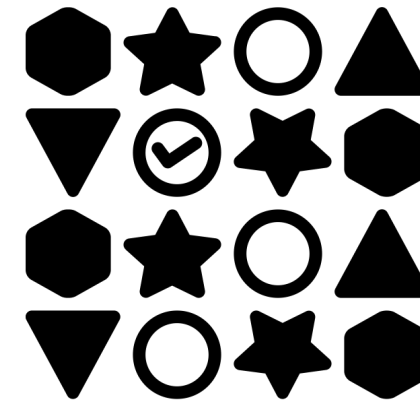
No respect to context.



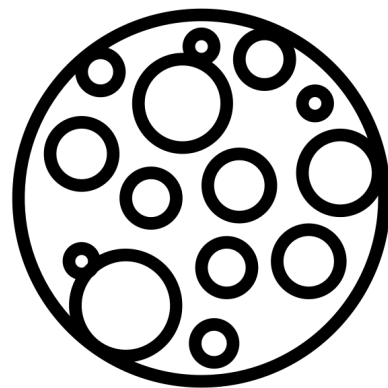
The **Second Avenue** as a **highway** to go to more interesting places.



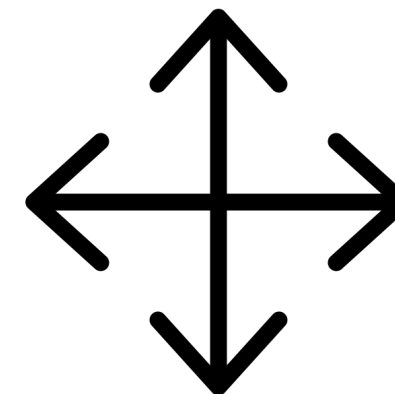
NOT enough secondary, public functions to support a lively residential area



NOT ENOUGH close grained mingling of buidlings that vary in age and condition



People are too spread out and have no variery of purpose within the area

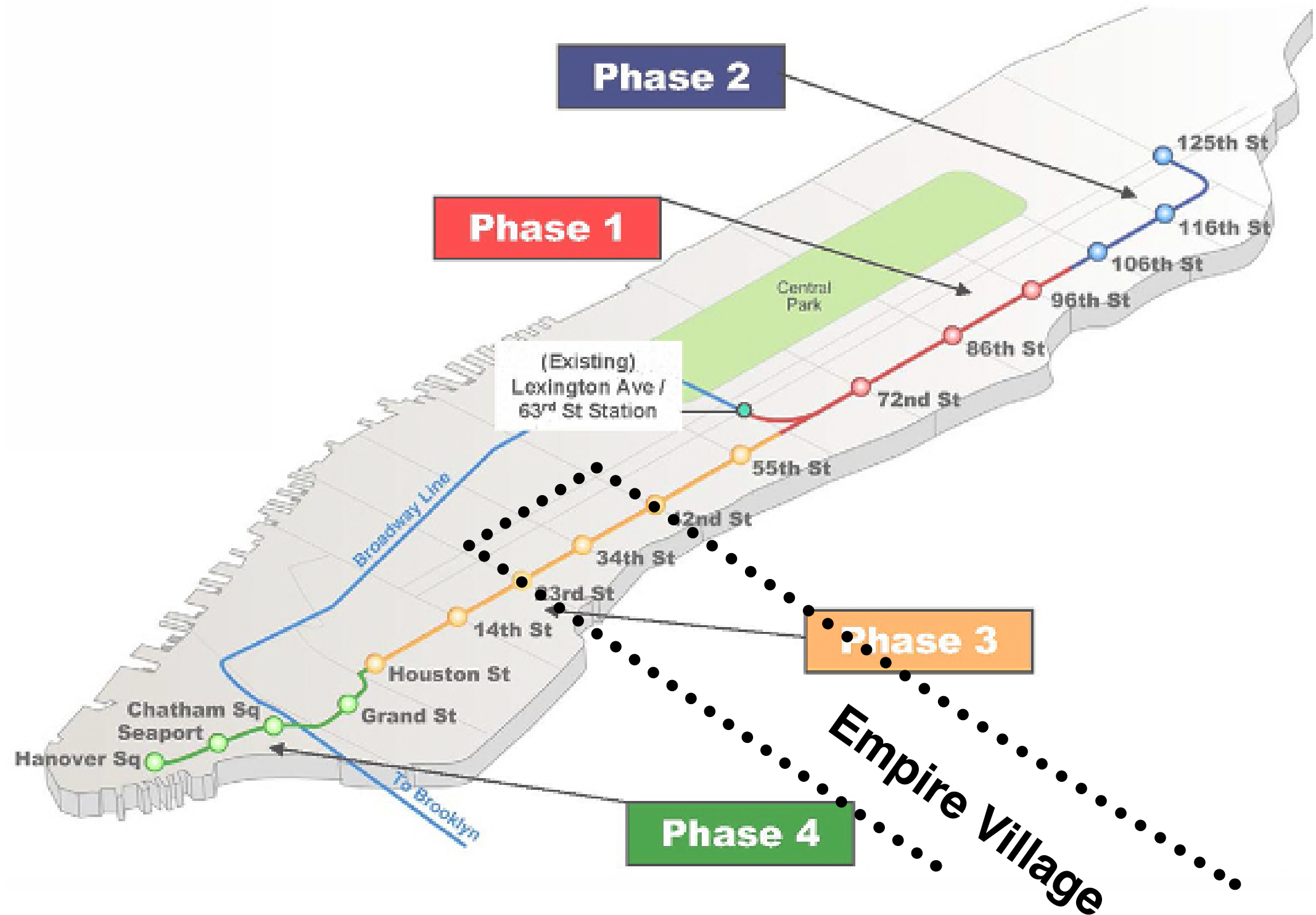


Big blocks and border conditions that prevent opportunities to cut corners

GROUP VISION

EXPECTATIONS

SECOND AVENUE SUBWAY LINE



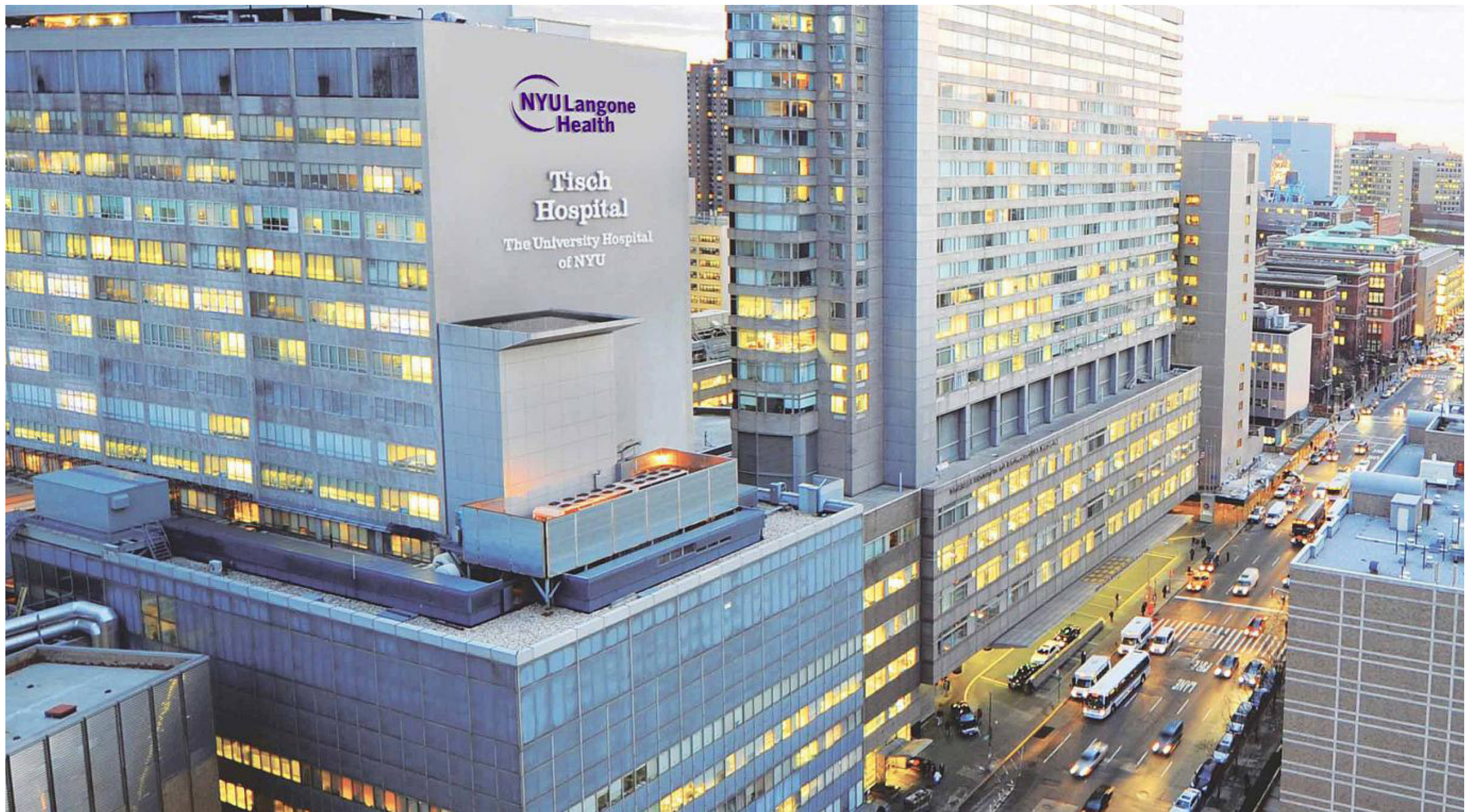
13.7 km | 17 billions dollars | 1.2 million per meter

The new line will **reduce overcrowding** and delays on Manhattan's Lexington Avenue line and **make mass transit more accessible to people living on Manhattan's far East Side.**

SECOND AVENUE SUBWAY LINE



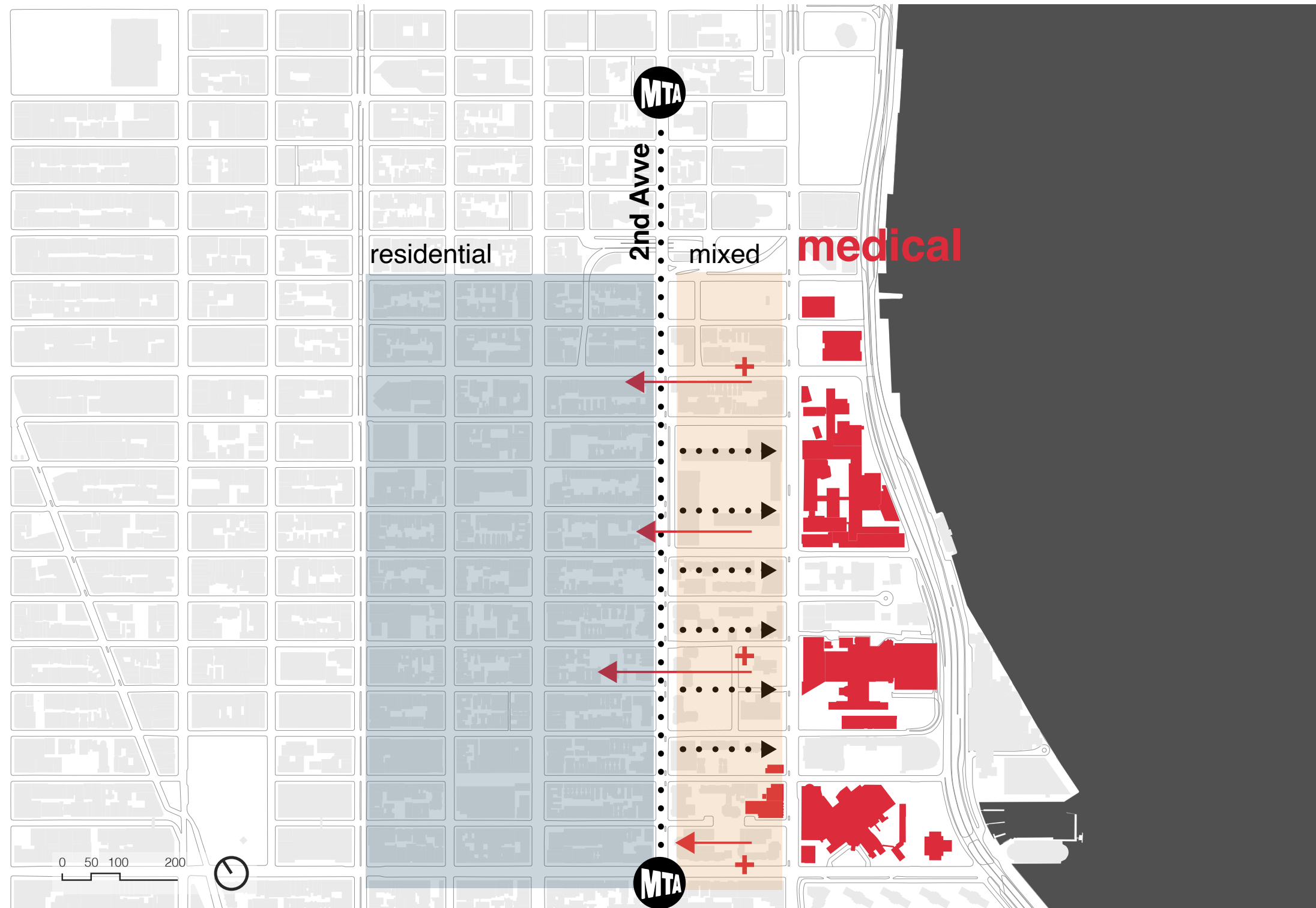
Expected increase for **more and new user groups**. **Dense gentrification developments** around stations are inevitable.



645.000 People visits | + 25.000 employees | + 500 students

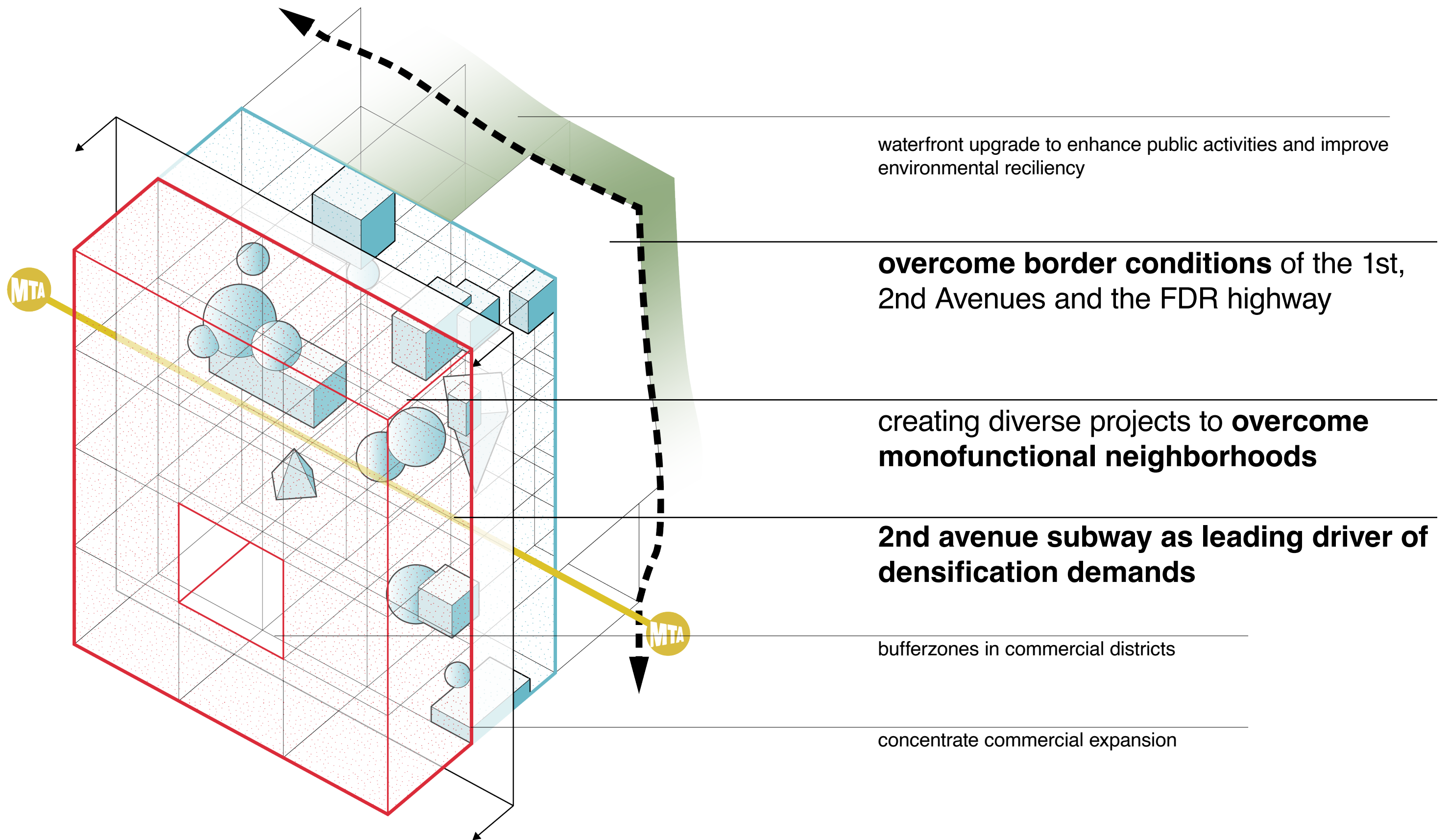
Exponential greying of society makes needs for expansion

MEDICAL EXPANSION

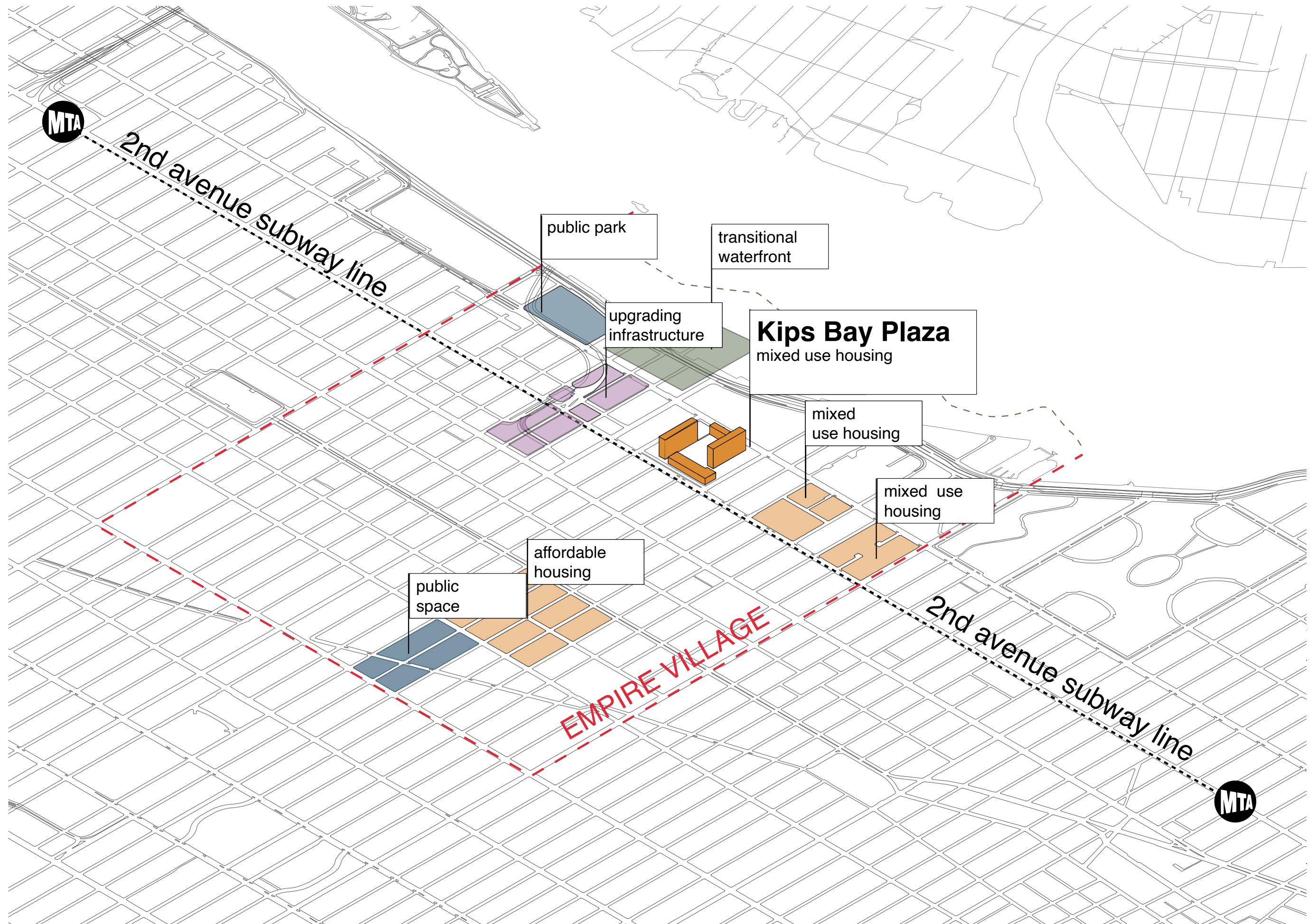


Medical expansions are expected to go deeper into Manhattan, clashing with the 2nd Avenue and its residential character

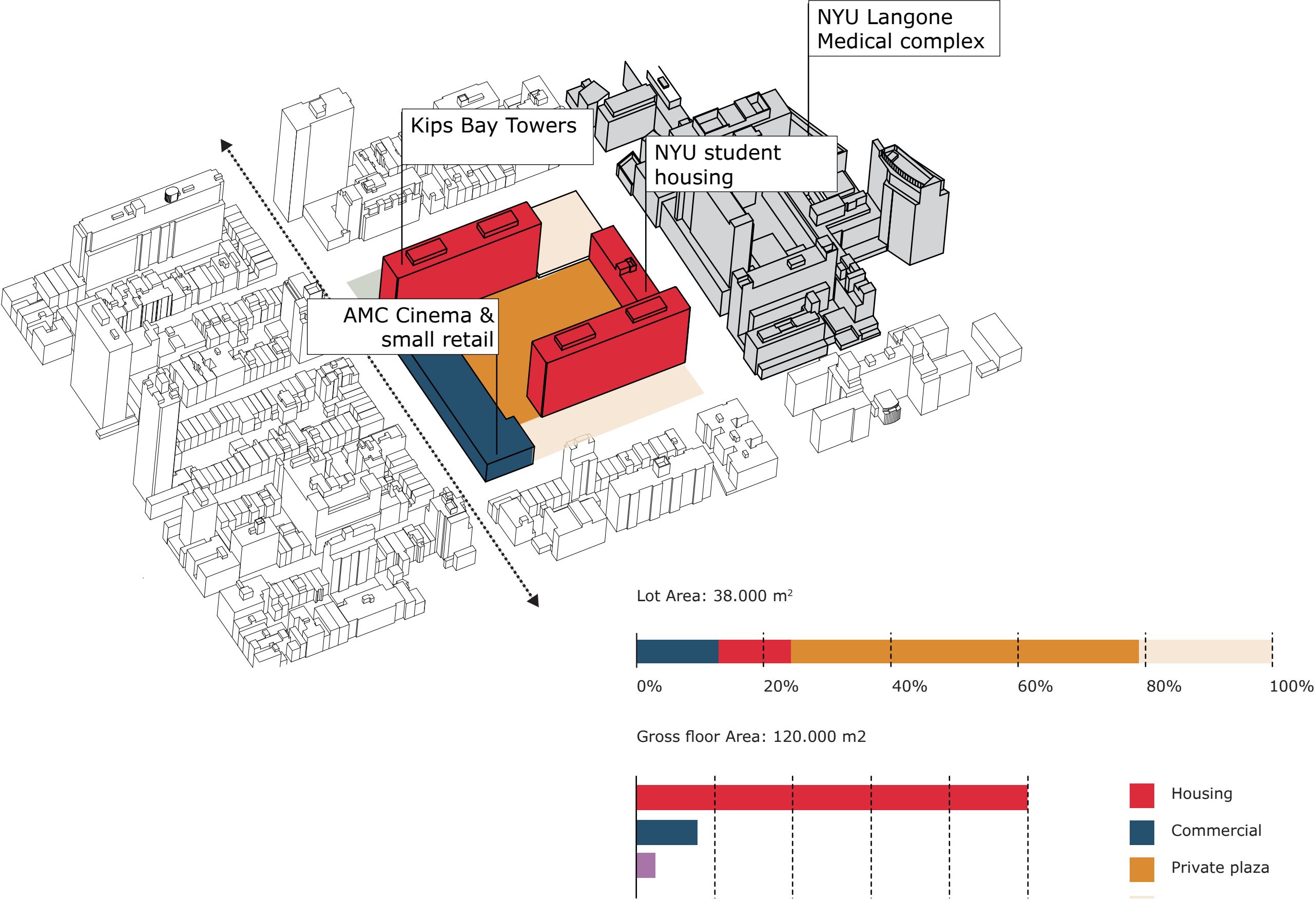
STRATEGY



DESIGN BRIEF



CURRENT PROGRAM



URBAN RENEWAL



Robert Moses
urban planner, politician



William Zeckendorf
real estate developer



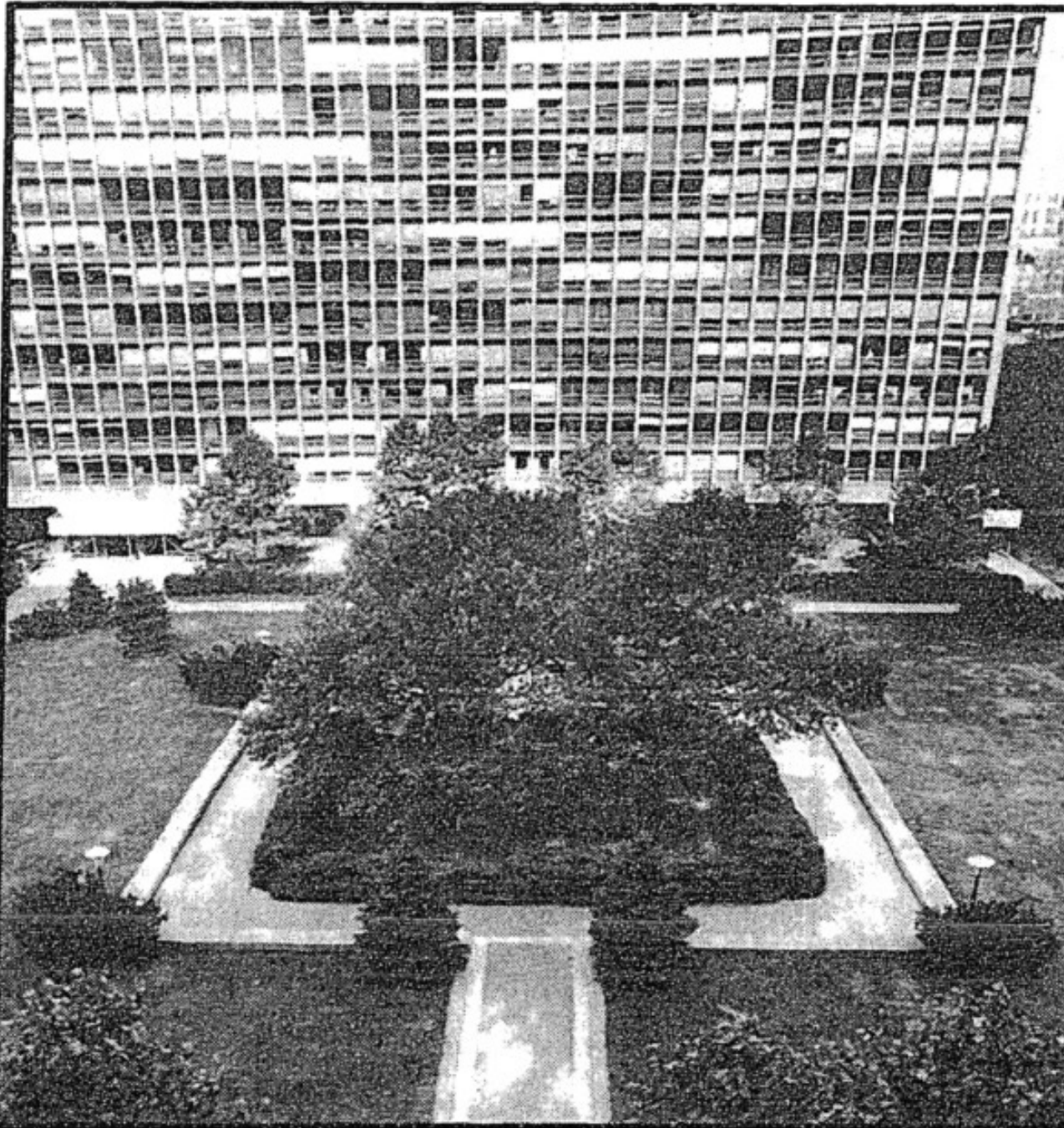
Ieoh Ming Pei
architect







Aerial picture in **1962**



Closing of Kips Bay Garden Draws Fire

The grounds at the Kips Bay Towers housing complex, at left. Access to the area is now restricted to residents of the complex by gates such as the one at right.

The New York Times / Dith Pran



By WILLIAM G. BLAIR

For 20 years, the private, tranquil, parklike garden and playground in the Kips Bay Towers housing complex on Manhattan's East Side has been open to anyone seeking an oasis of calm or a place for toddlers to play.

No more. Worried about security, the directors of the condominium housing development decided last spring to enclose the grounds and restrict access to residents of the two 20-story apartment buildings. Four weeks ago, the work of sealing off the park and playground was completed.

The change has sparked protests, especially from parents of very young children from outside the complex for whom the playground within the park provided facilities not to be found elsewhere in the immediate area.

Nonresident parents have formed a

Committee to Reopen Kips Bay Park under the chairmanship of Douglas Brin, an artist and writer. Mr. Brin, the father of two young children, said "4 dads and 36 mothers," including at least 5 mothers from Kips Bay Towers, attended a recent meeting.

Mr. Brin, who lives at 27th Street and Second Avenue, said the committee was considering a suit against the Kips Bay Towers board based on adverse possession. This is a legal principle under which a person who has continuously had the use of someone else's property may have a right to retain that privilege.

The towers, each containing 1,120 apartments, rise at the northern and southern edges of the 7.5-acre residential plot between 30th and 33d Streets and First and Second Avenues. A row of retail shops is on the west, and an undeveloped, fenced-in open plot is on the

east, facing the New York University Medical Center. The playground is at the west edge of the park.

Staff members of the medical center, the elderly, joggers and bird watchers also frequented the park.

A six-foot-high, black iron fence was erected in stages over the summer across the old entrances into the landscaped park, with its wide expanse of grassy lawns and extensive walkways bordered by trees and shrubs. The only access to the apartment buildings and the grounds now is through guarded entrances on 30th and 33d Streets.

Bennett Kremen, a writer and psychotherapist who lives with his wife, Jeanette Arnone, an artist, and their 2-year-old son, Brian, on East 26th Street, said the sealing off of the park and playground to outsiders represented a "James Watt-like land grab." Mr. Watt

Continued on Page B28

Clustering of the homeless led to fencing of the plaza.



Urban Privatisation walls of the area in current day.



“A lot of **young adults** live here to **wait for opportunities** to go to **more interesting places.**”

DISUSED CITY SPACE



Direct surrounding



3 minute walk



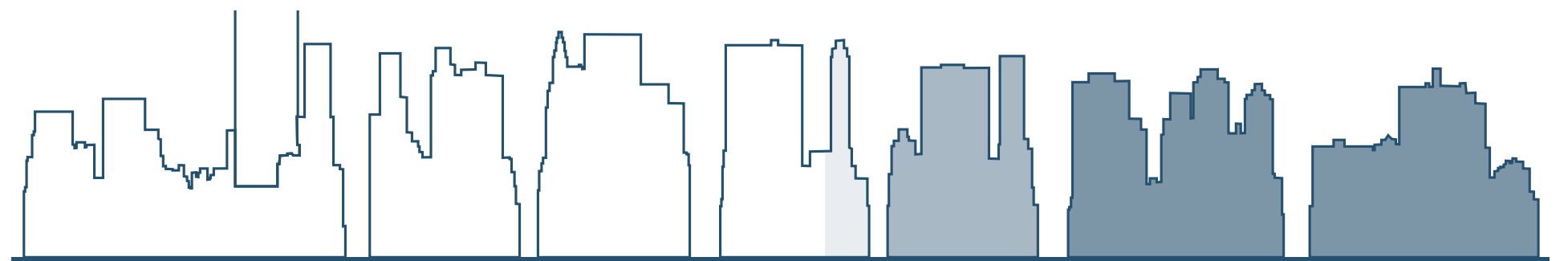


5 minute walk

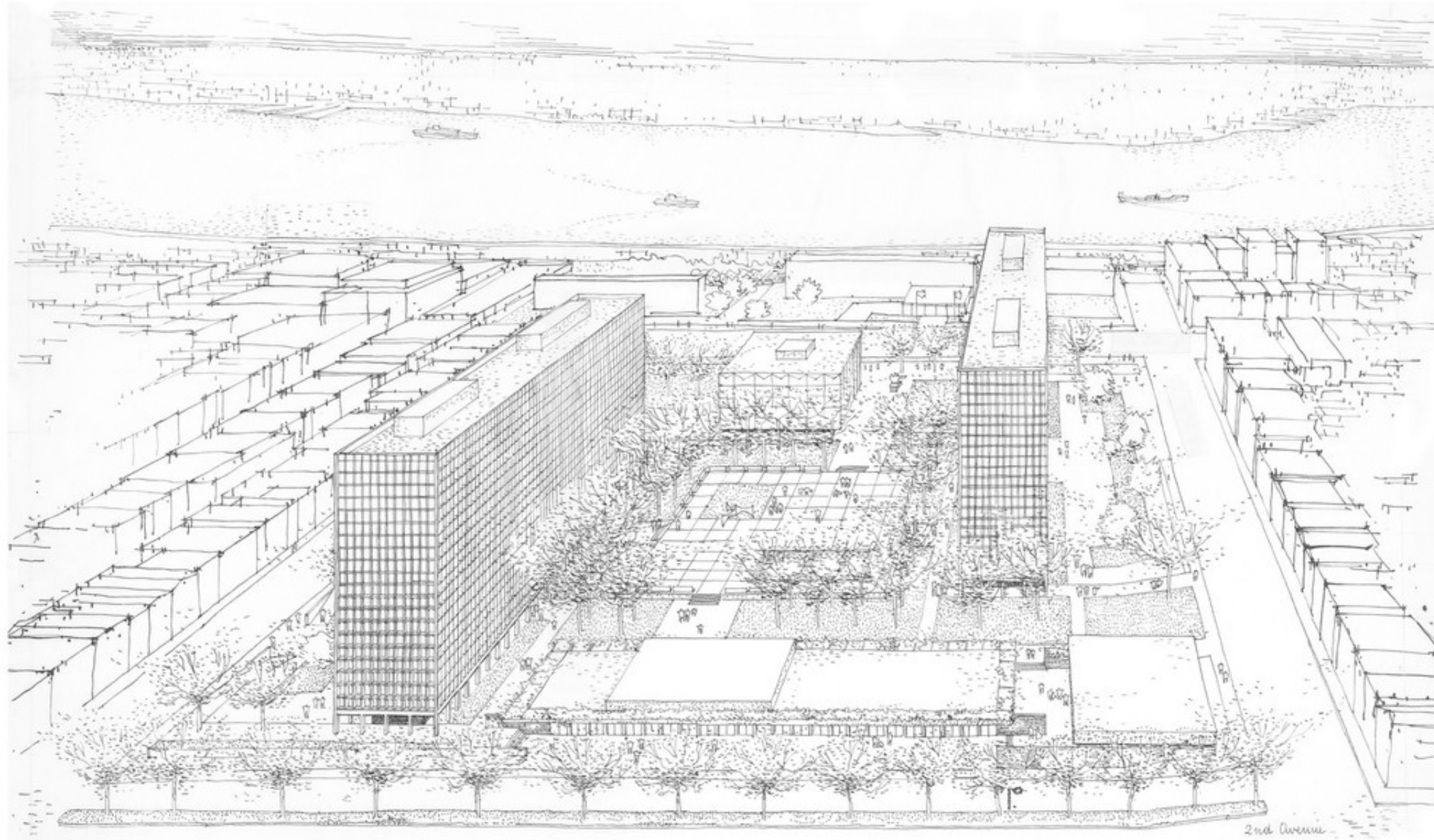




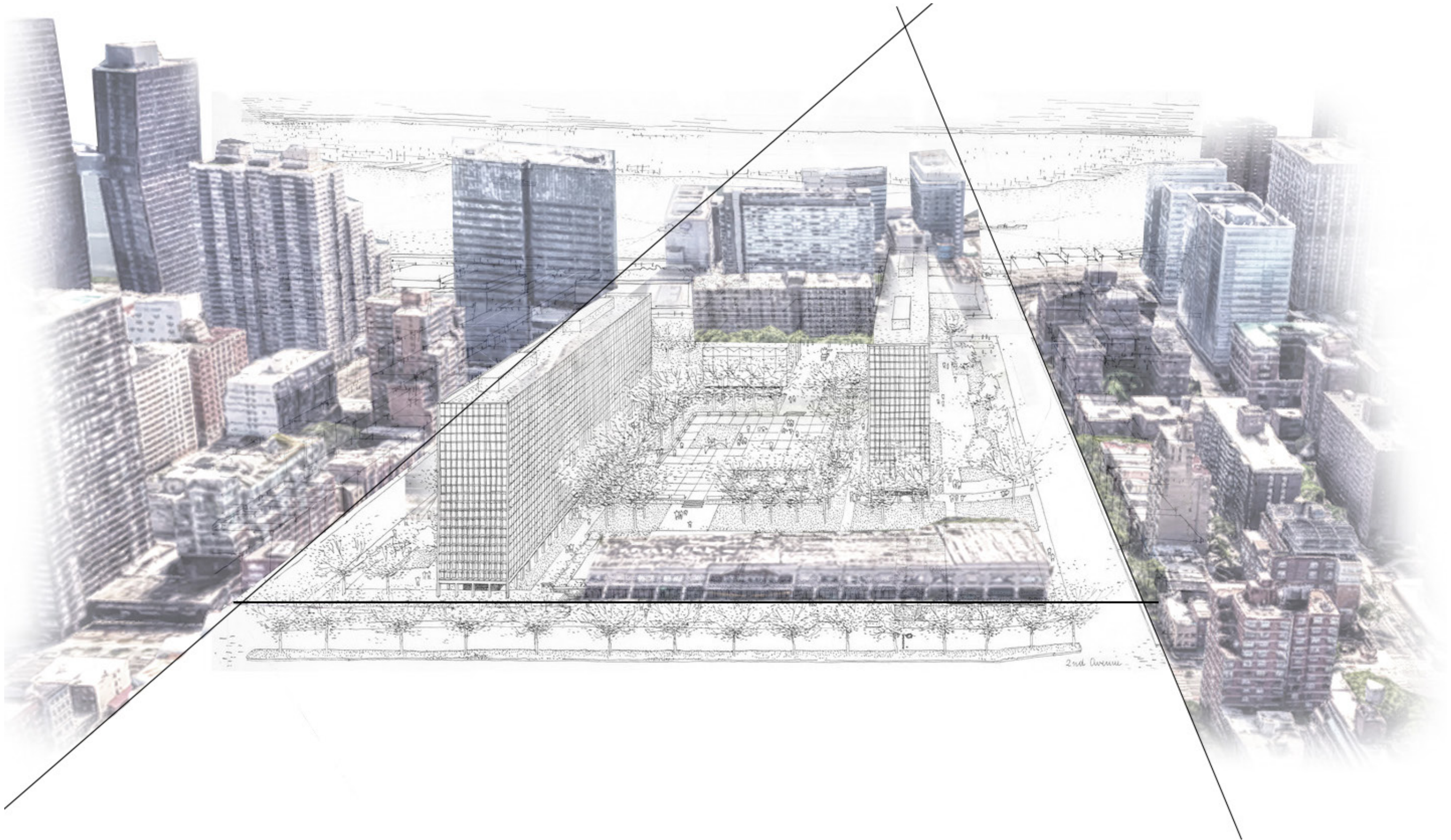
City center



VISION

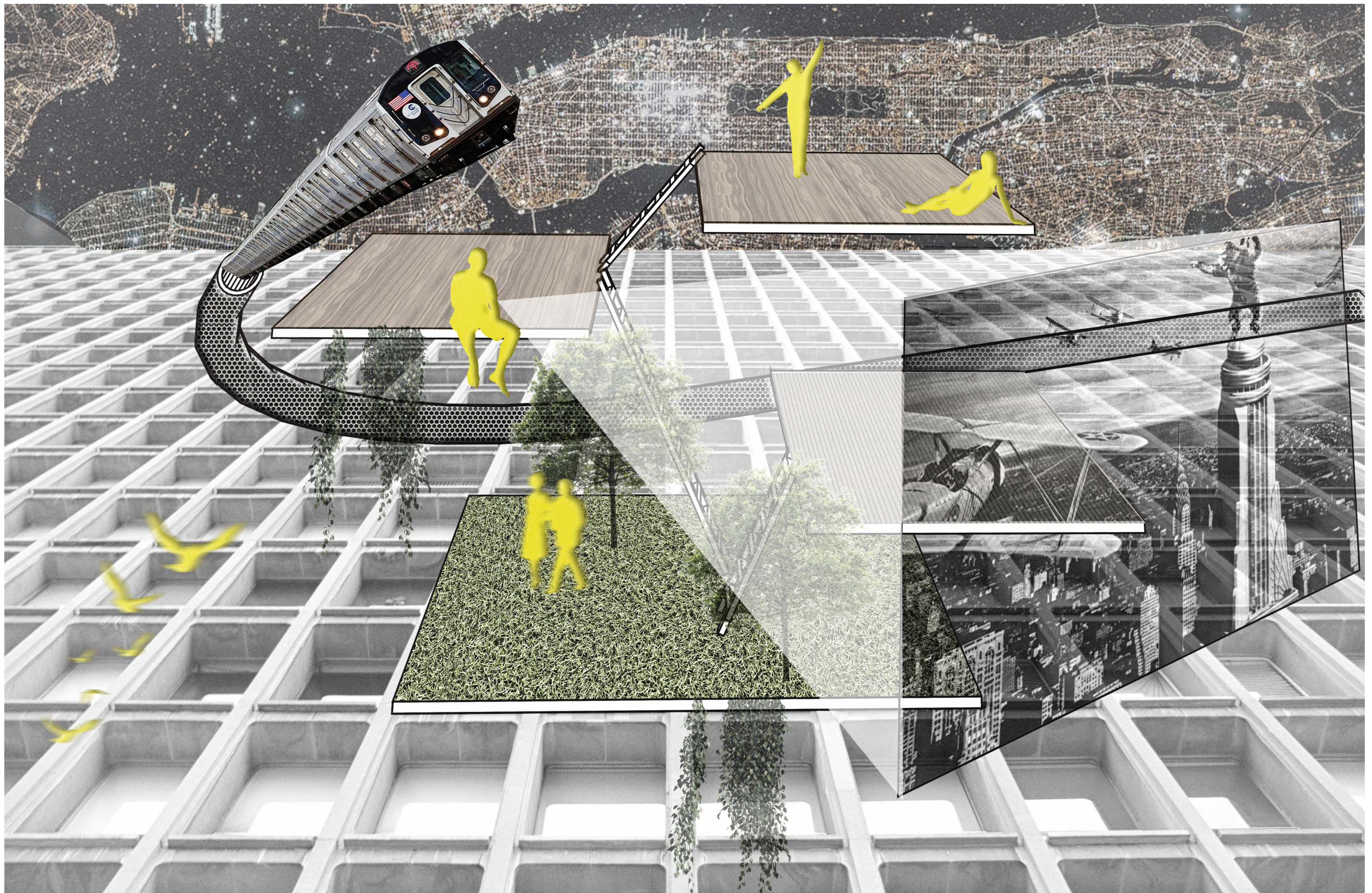


REALITY

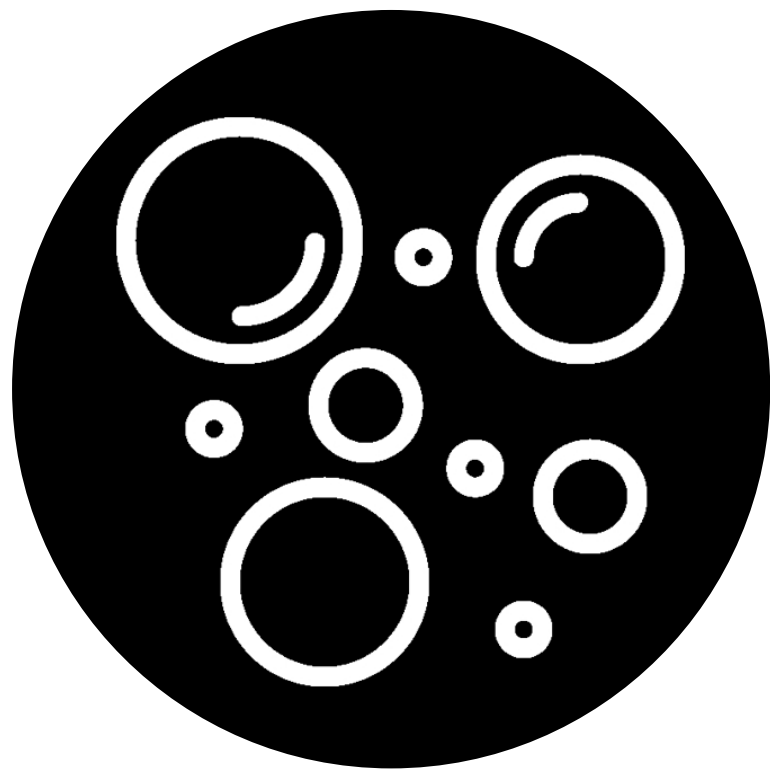


60 years later, overtaken by the city of hyper density

AMBITION

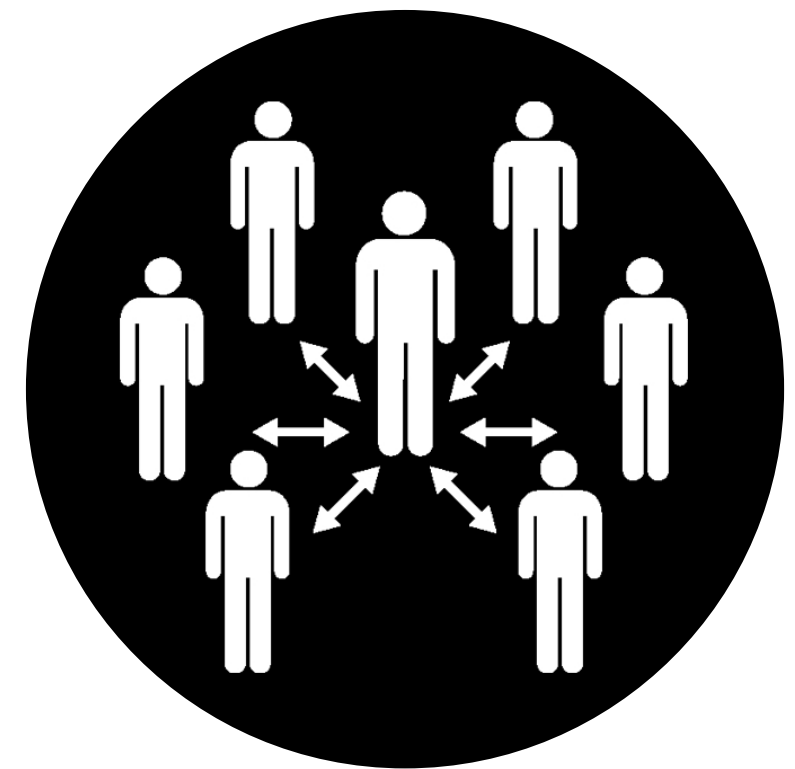


Public revival of the Superblock. As a critique to established ways of urban renewal in NYC.

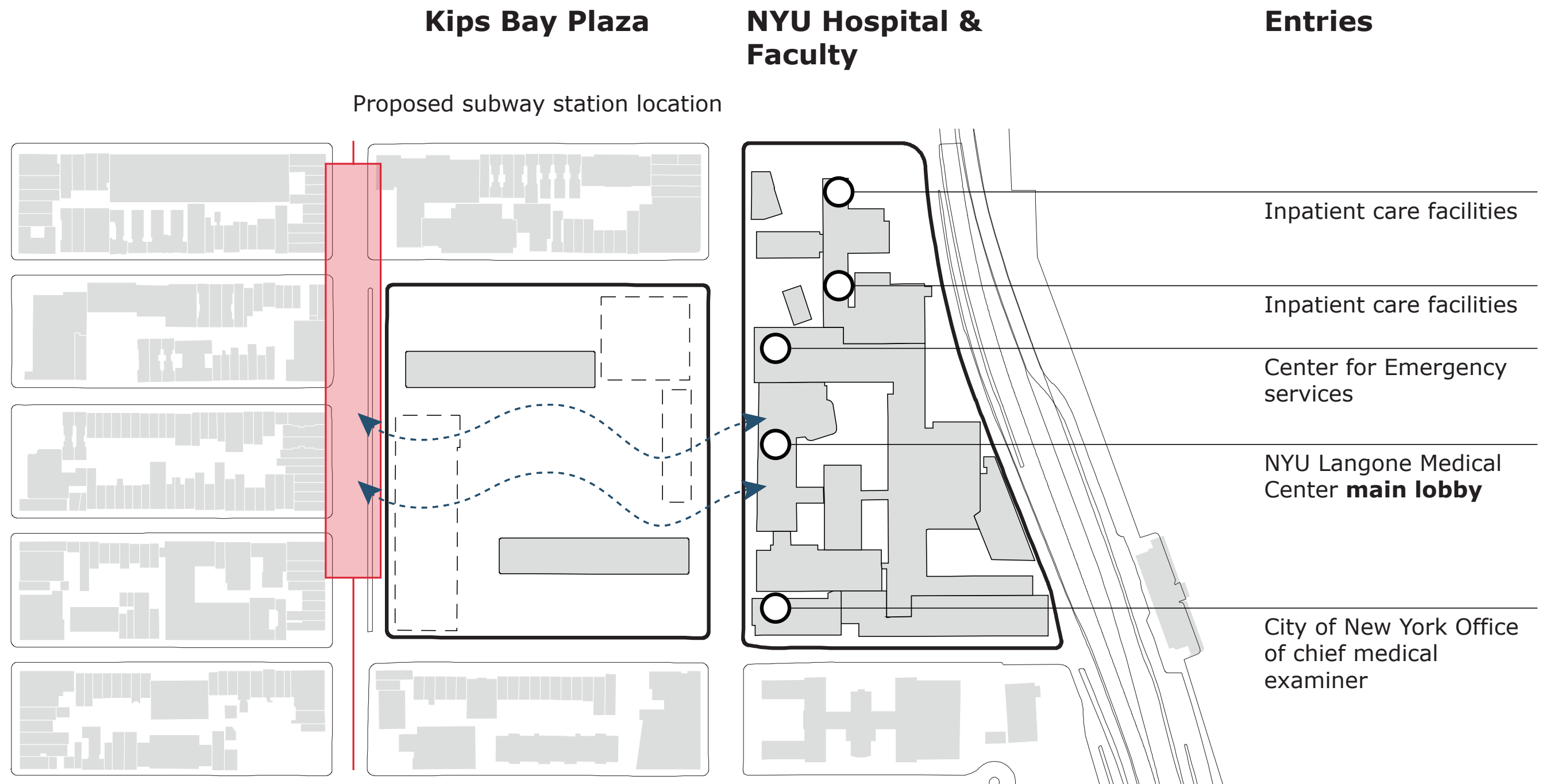


Individual territories

SOCIAL BALANCE



User Density



Integrate the needs of medical complex, to increase the use and overcome the border condition.

HYPOTHESIS

NYC Government & **NYU** Langone **invest** in acclimating the full ownership of the Kips Bay Plaza. In order to create **a public gateway to the main entrance**, and **reserve space for future needs**. They also need **secondary uses and housing density** for better investment returns.

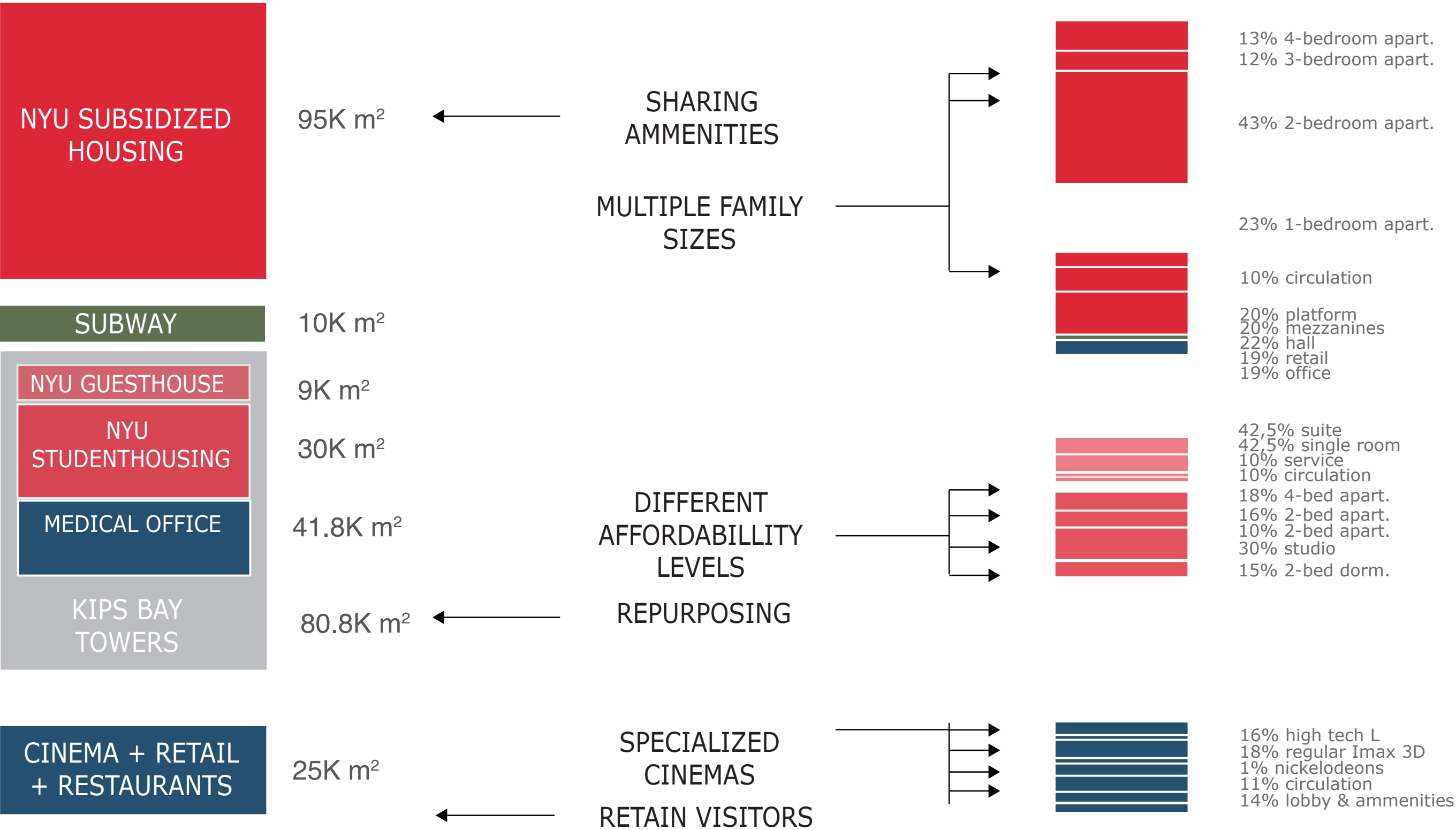


PROGRAM

GFA Masterplan = 200K m²

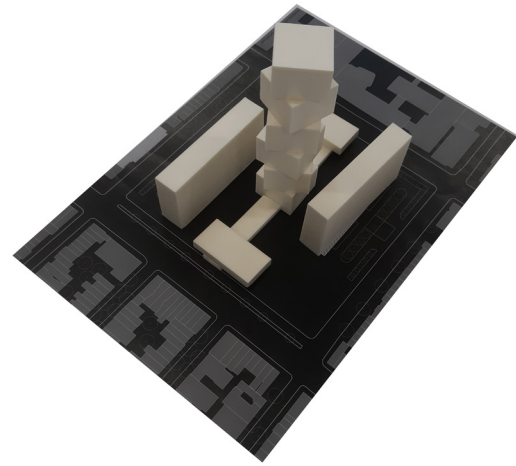
added GFA = 120K m²

FAR 2,9 > 5,2 (max 6,0)

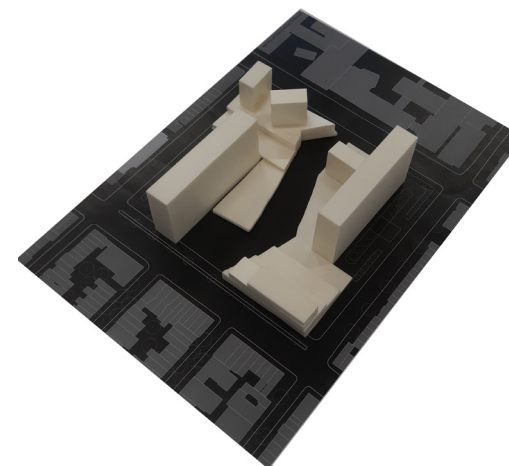


DESIGN

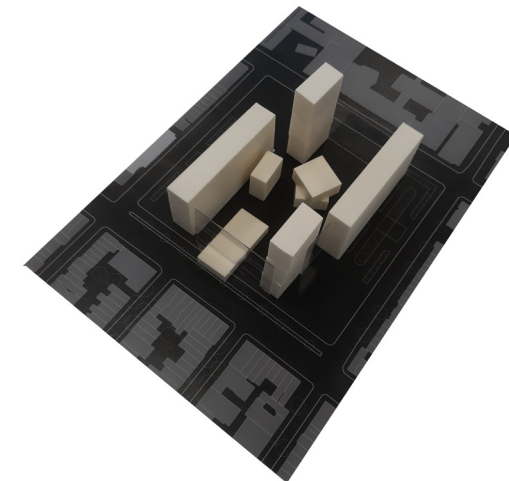
EARLY DEVELOPMENT



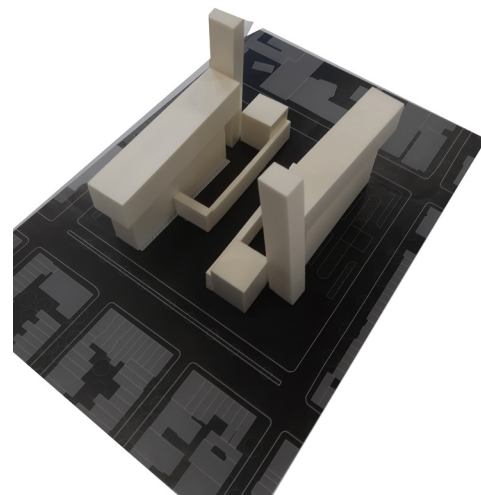
Cube tower



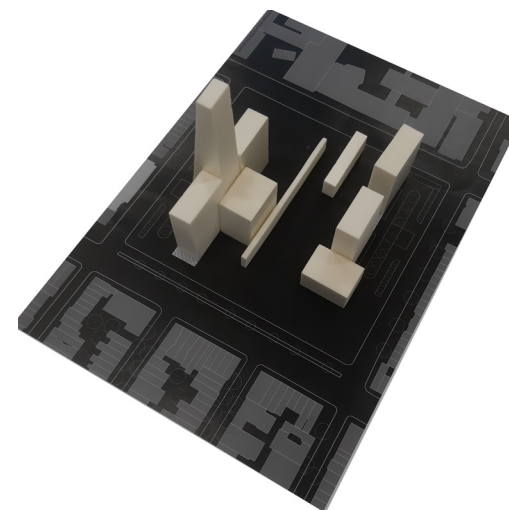
Urban Landscape



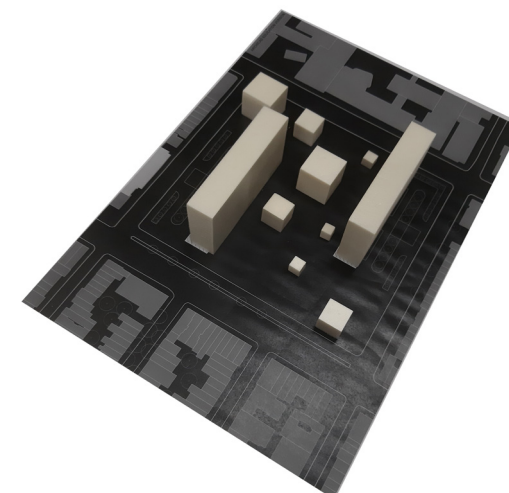
Atrium



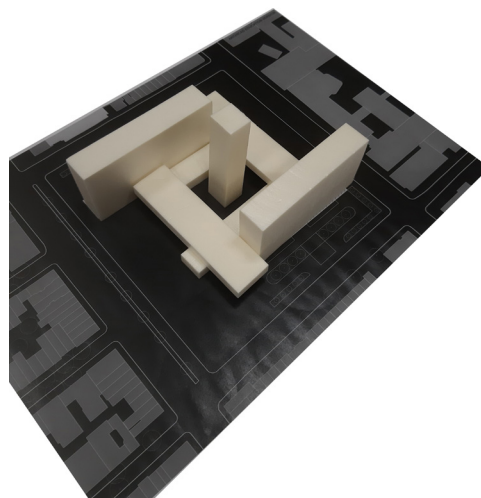
Juxtapos. Towers



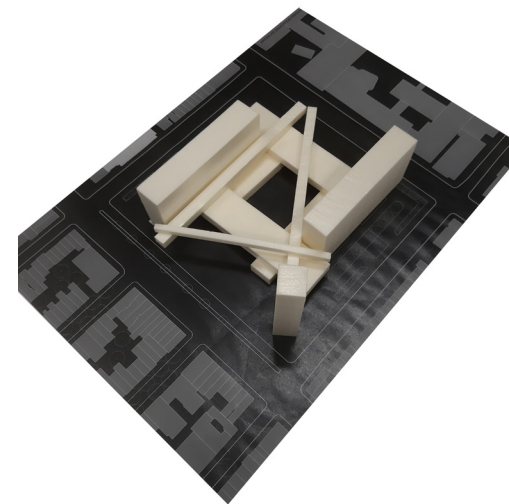
Fragmentation



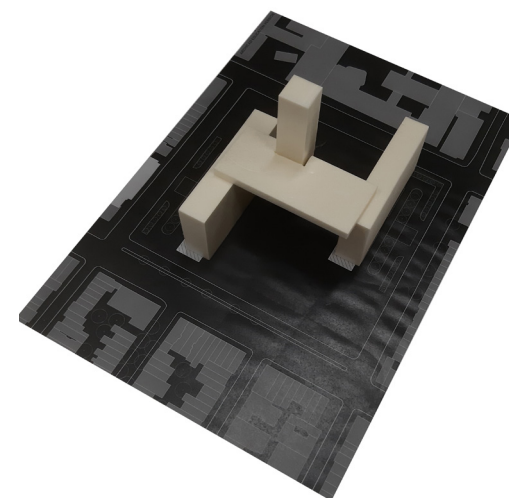
Cube Field



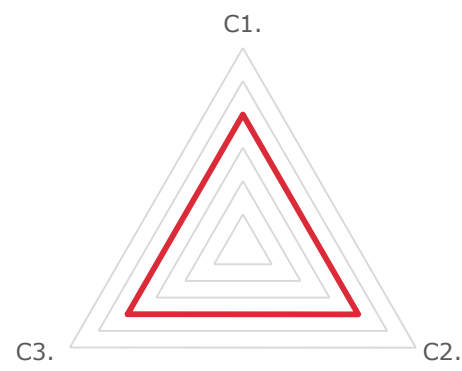
Monumental Courtyard



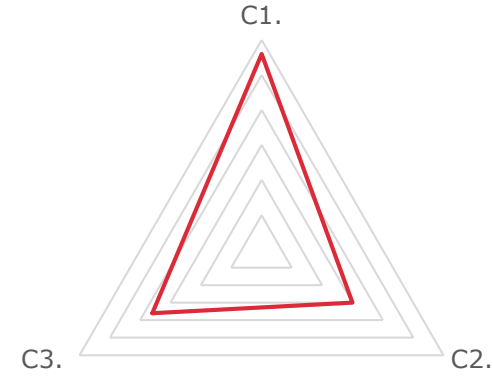
Asymetric Courtyard



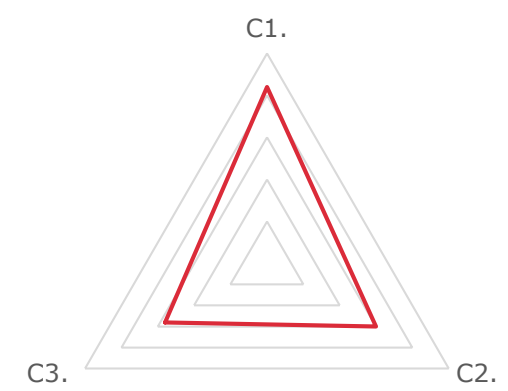
Floating Plaza



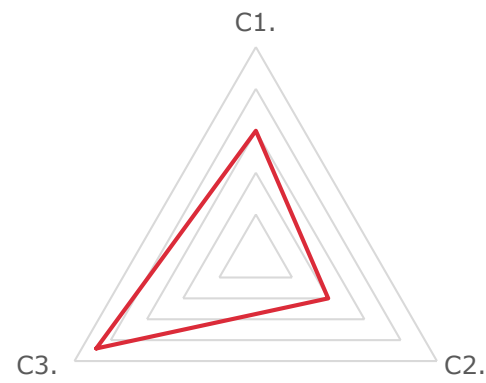
Cube tower



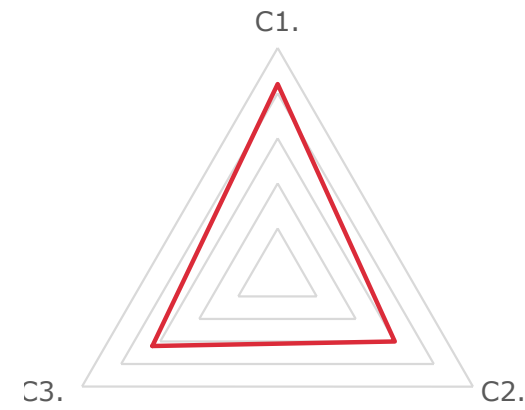
Urban Landscape



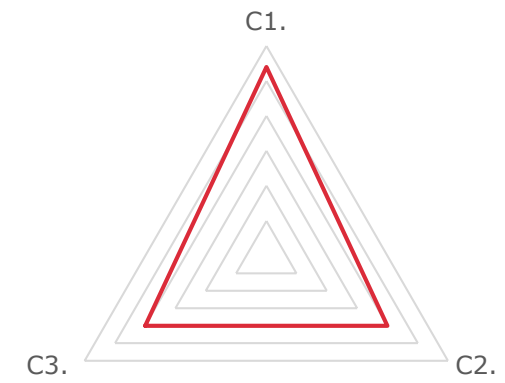
Atrium



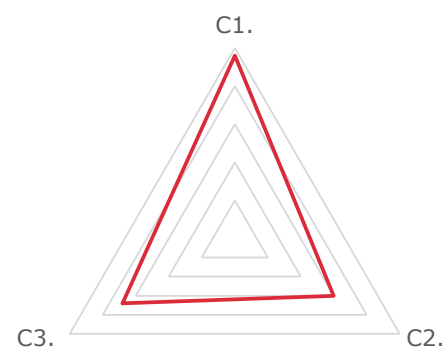
Juxtapos. Towers



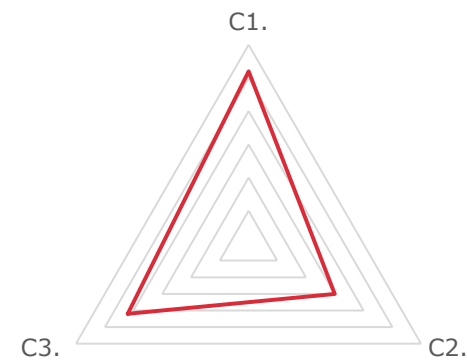
Fragmentation



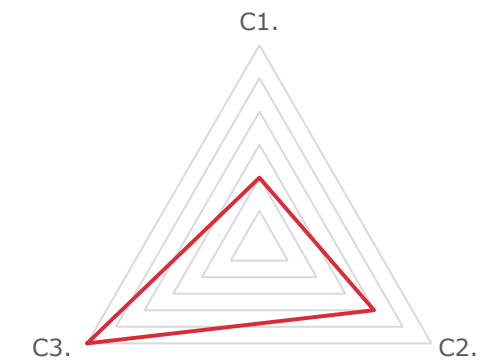
Cube Field



Monumental Courtyard

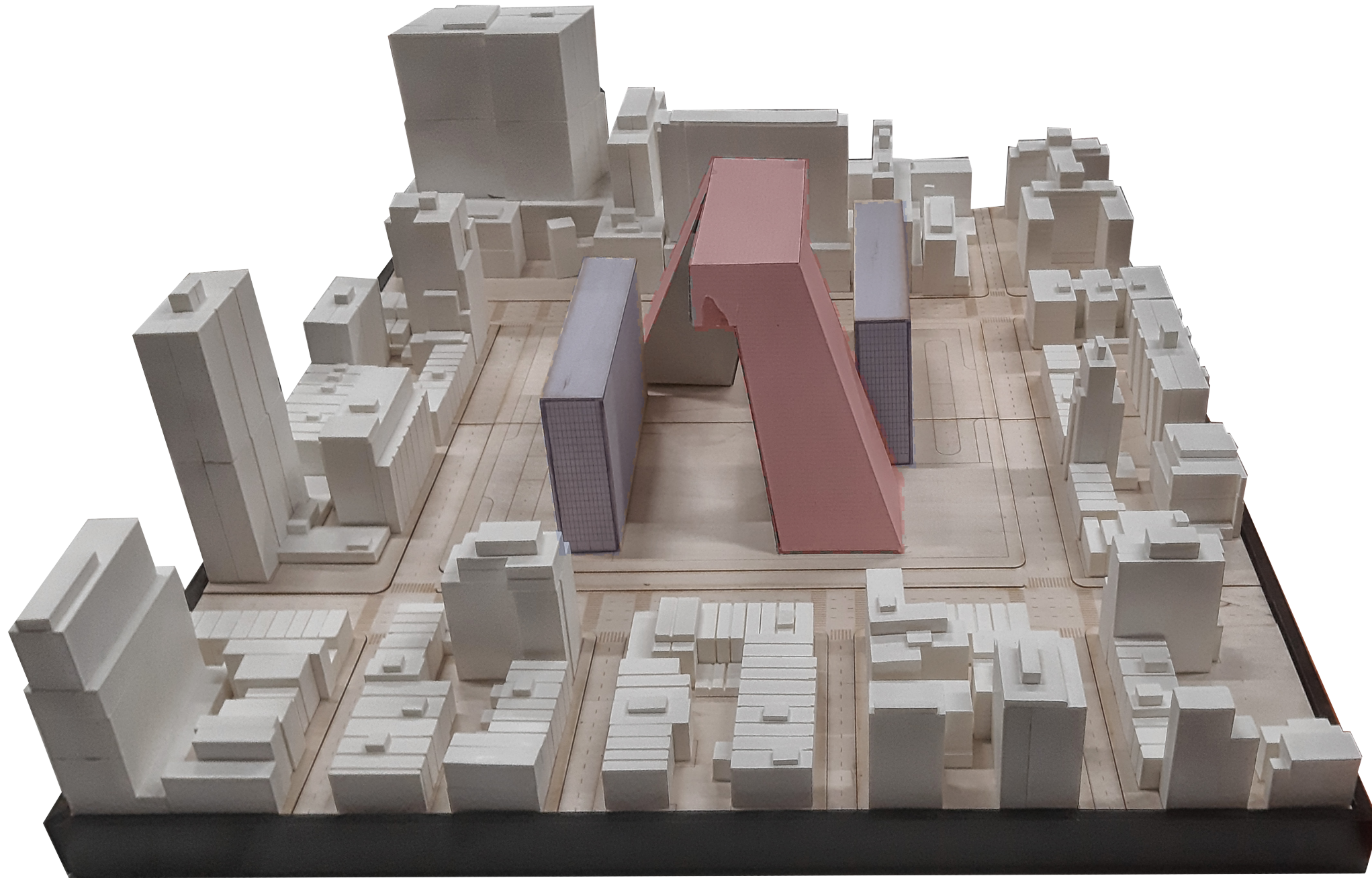


Asymetric Courtyard

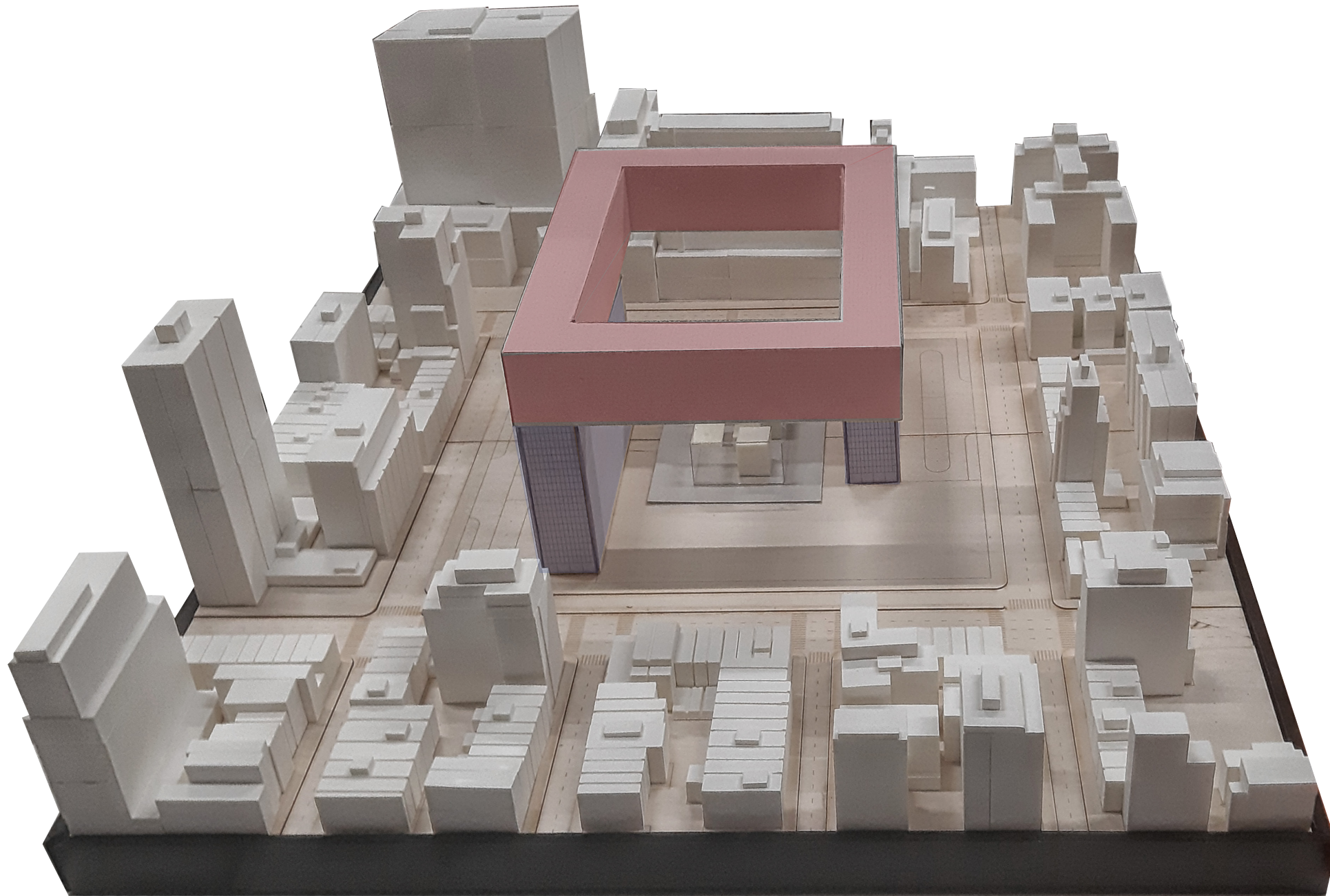


Floating Plaza

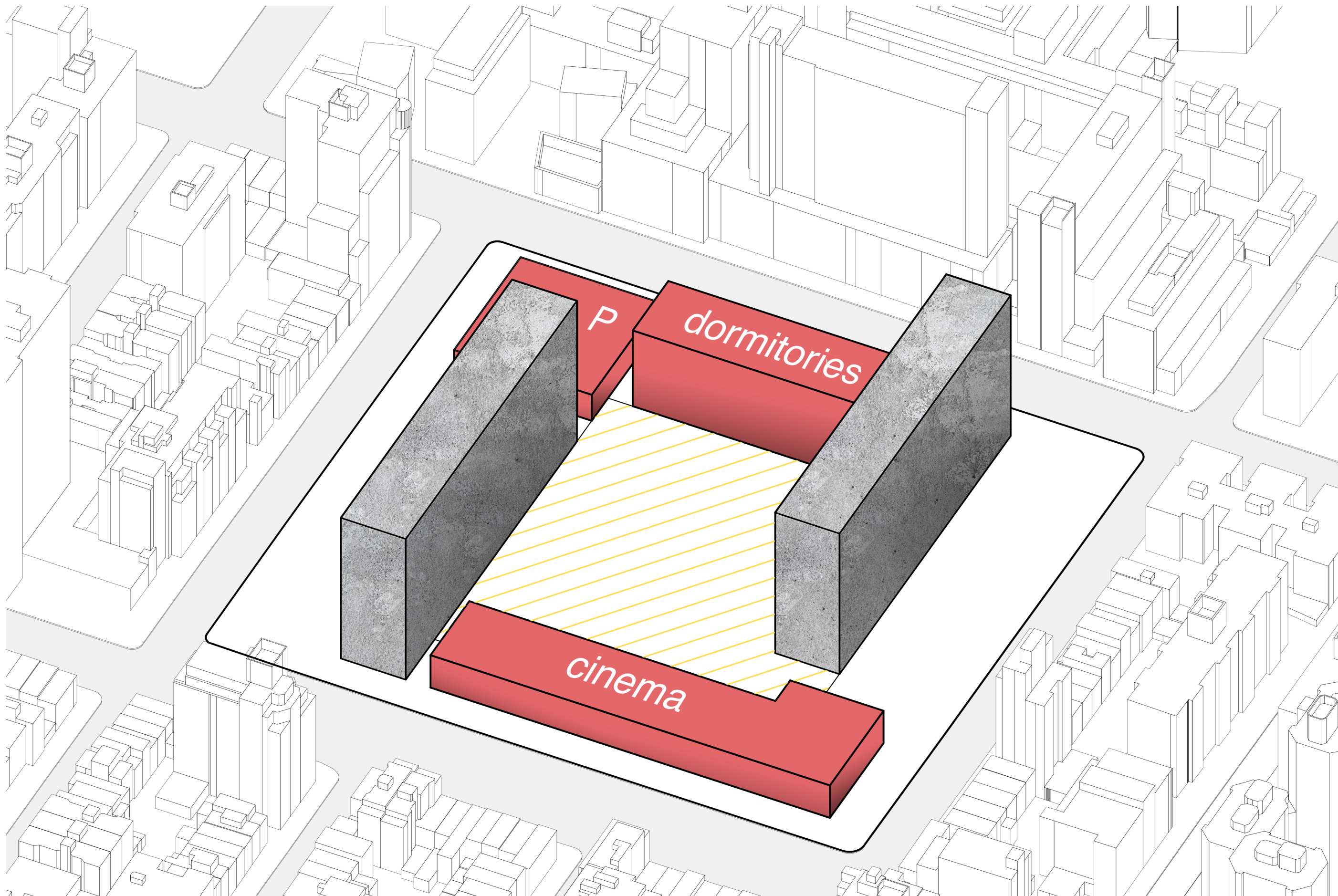
OPTION 1: AUTONOMOUS



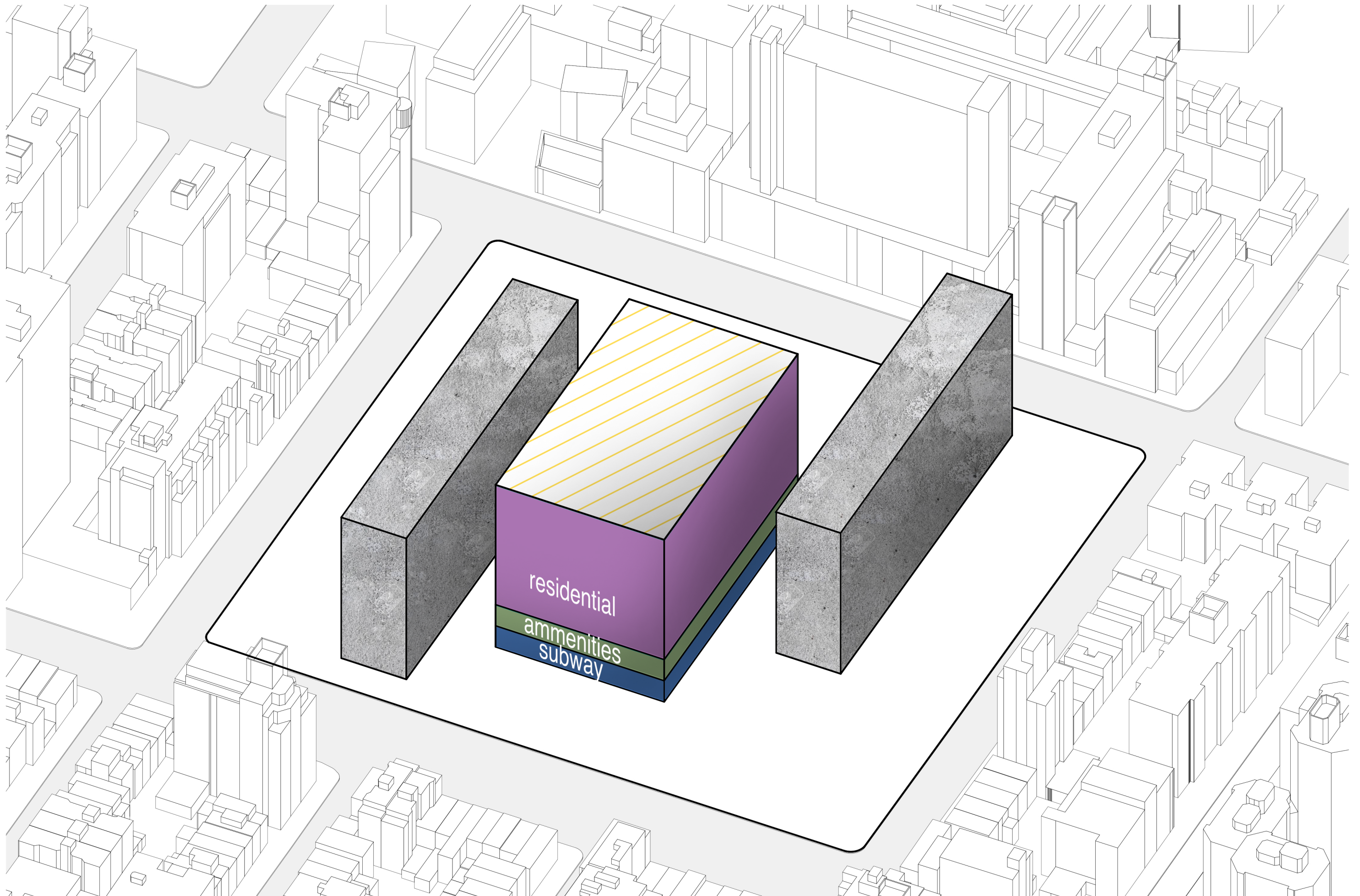
OPTION 2: INTEGRATED



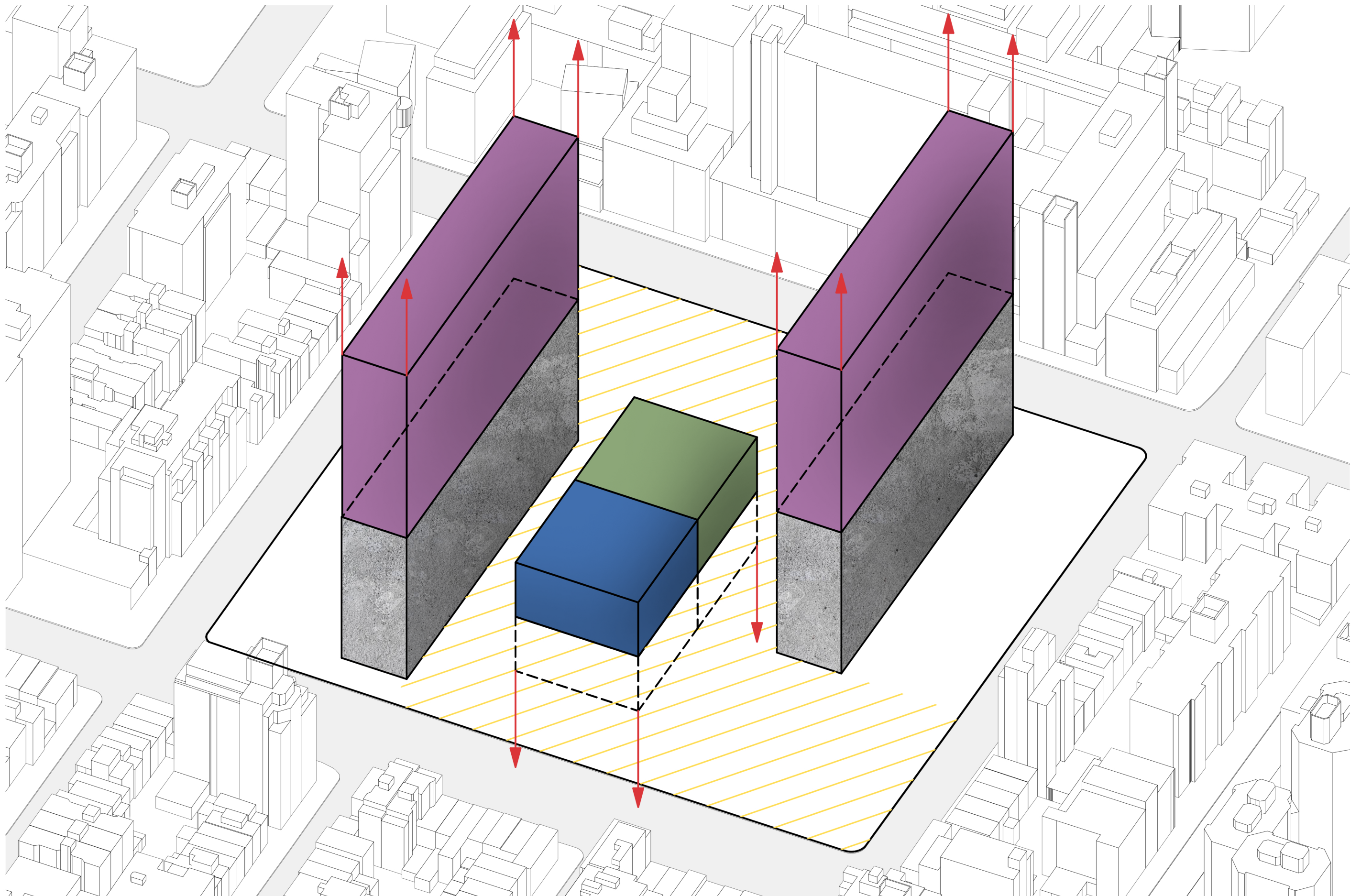
S P A T I A L C O N C E P T



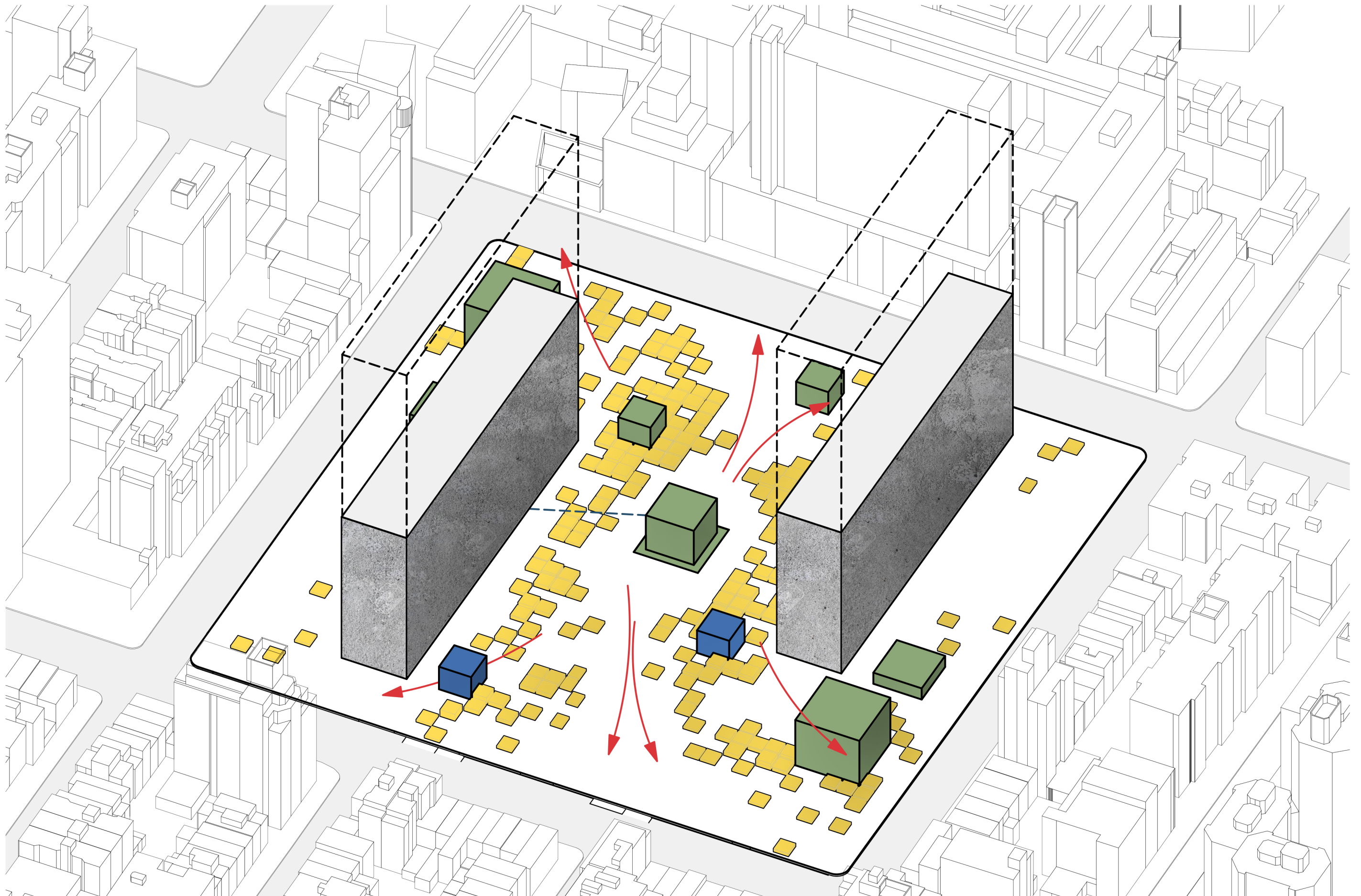
Demolish later additions



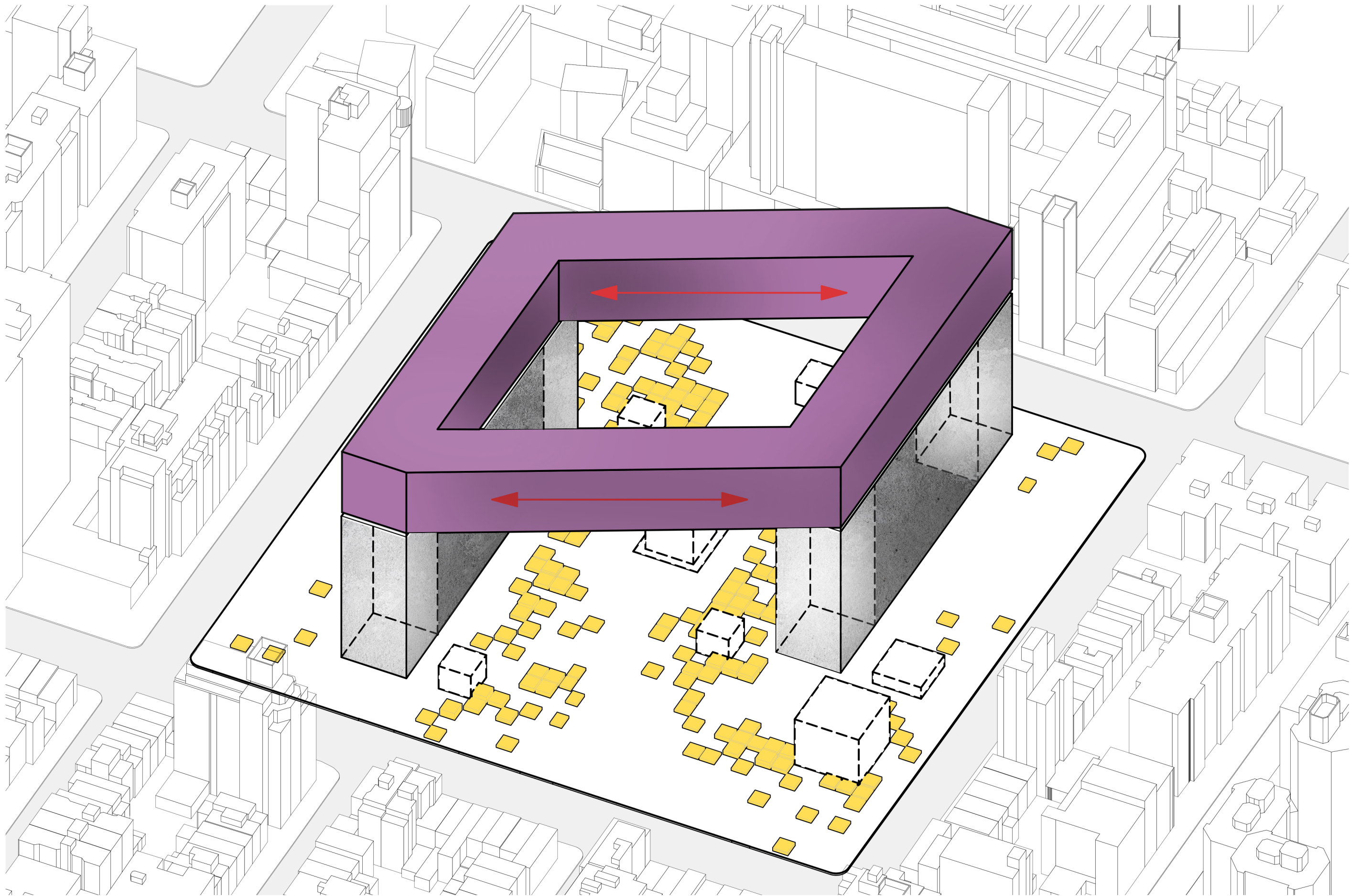
Densify from 45% to 90% FAR.



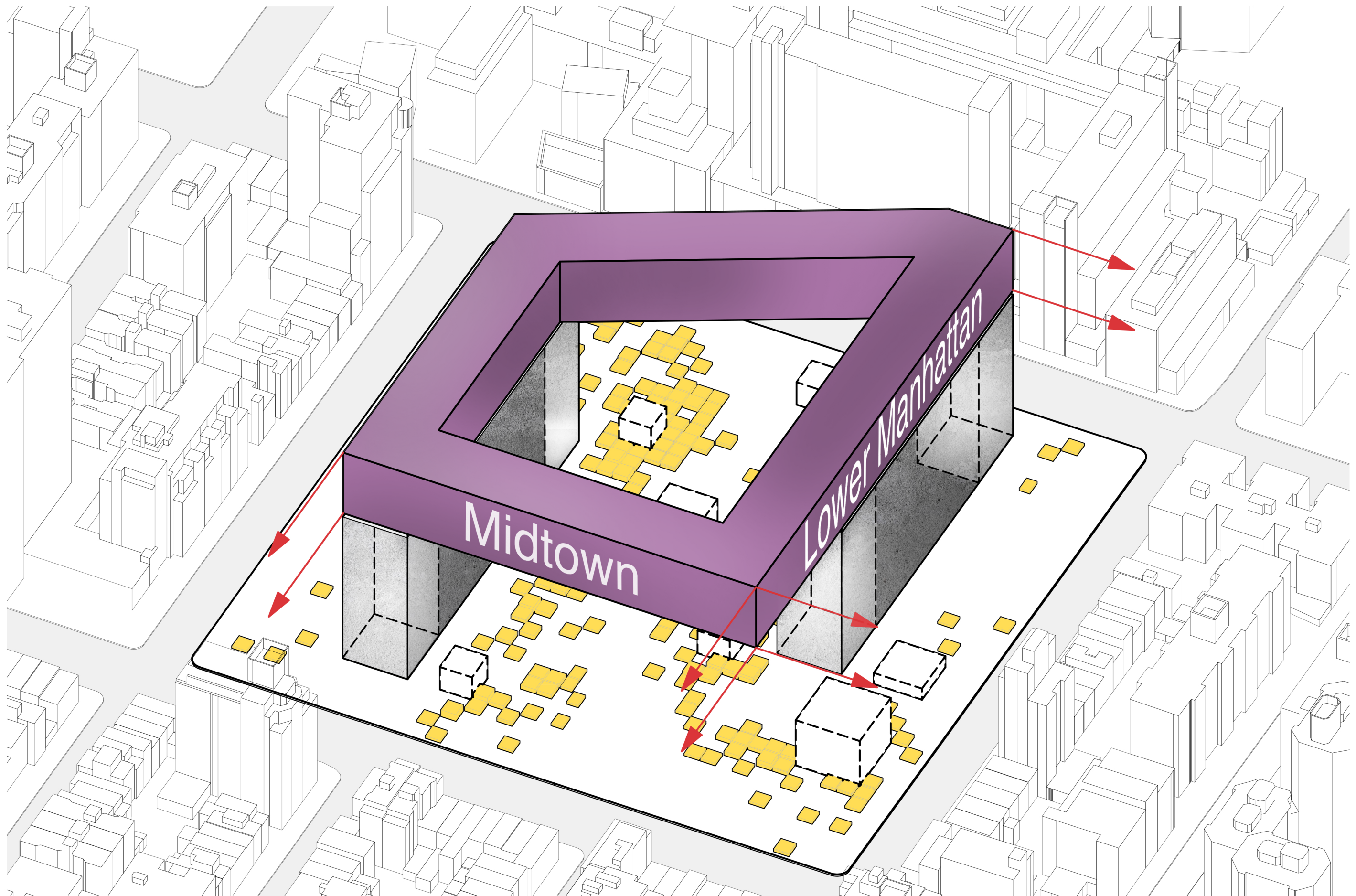
Elevate residential, Push public.



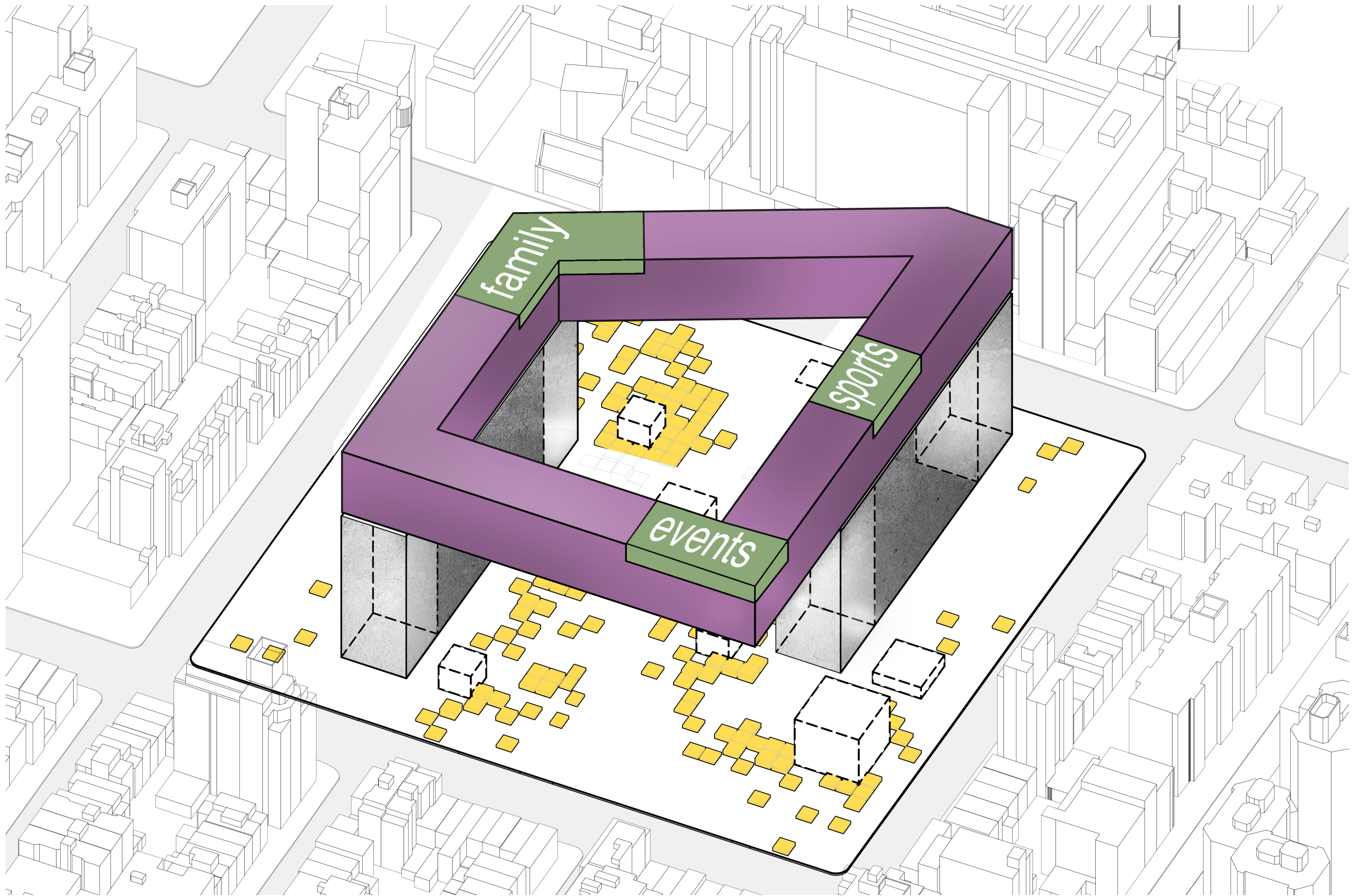
Distribute public based on existing ratios, create pedestrian funnel with park.



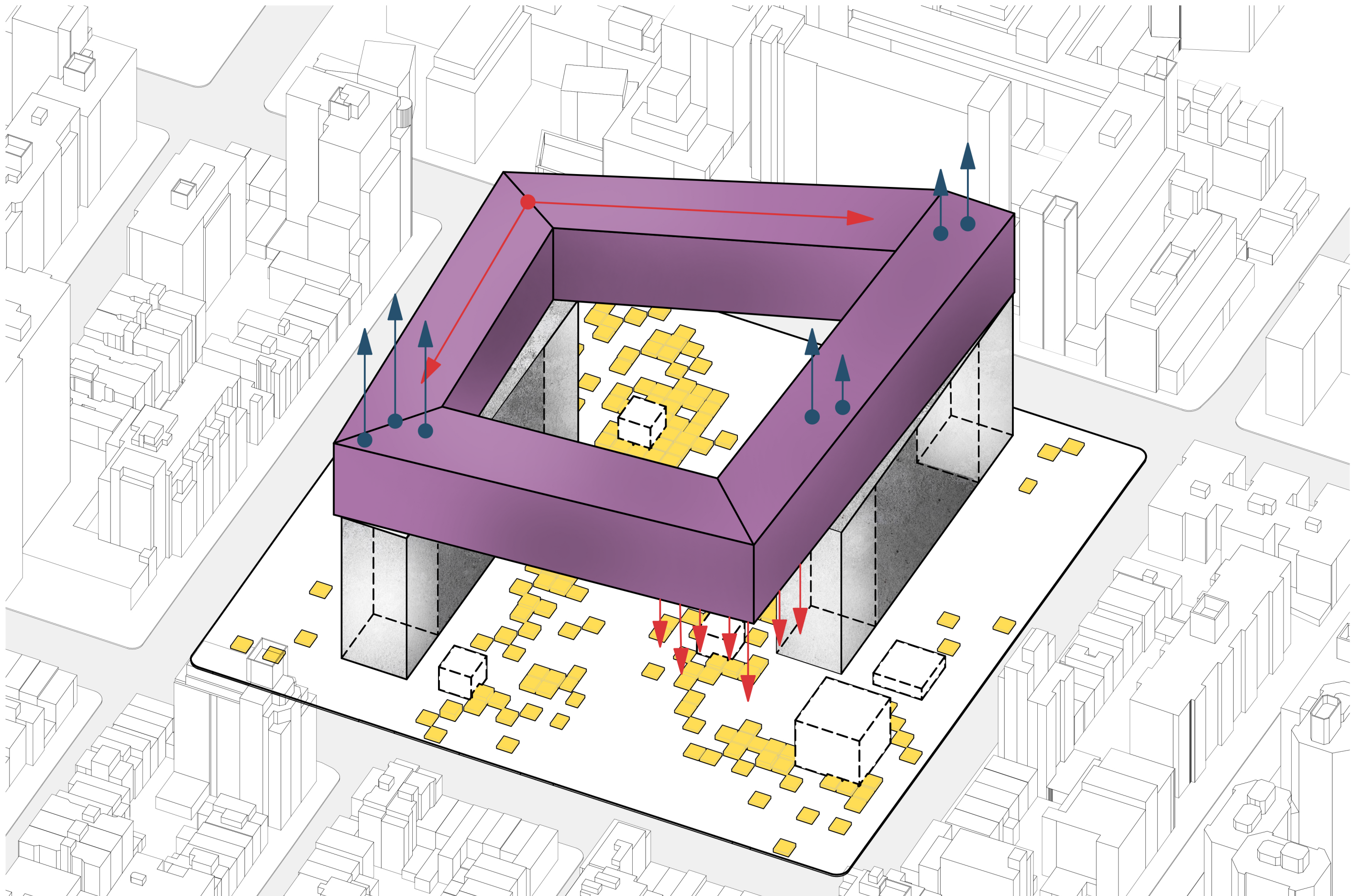
Connect residential functions.



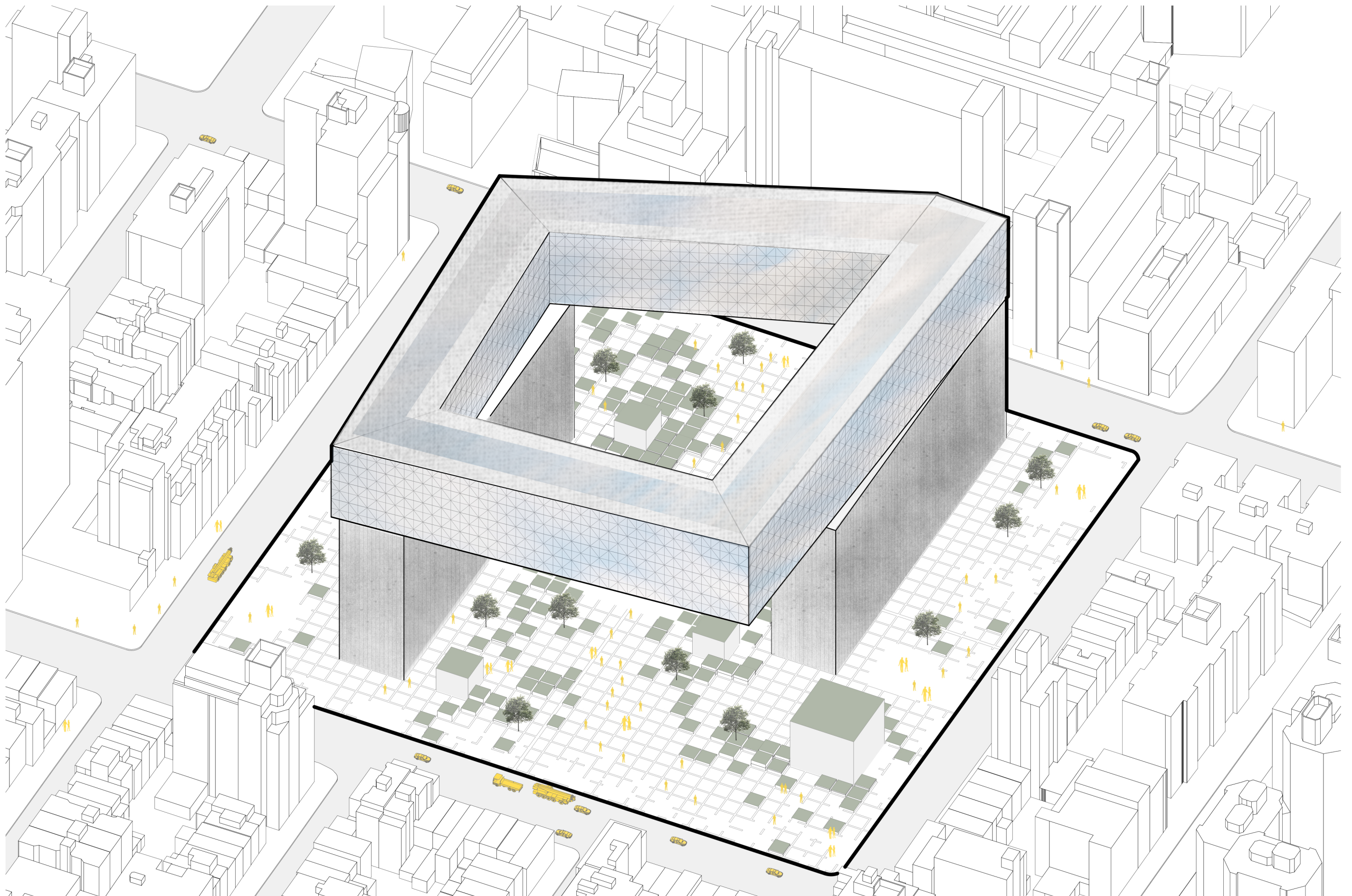
Create **cantilever** for valuable **urban panoramas**, more **density** while maintaining a low profile, and **more daylight** in the courtyard.



Place **collective spaces** along **all viewpoints** of the Orbit



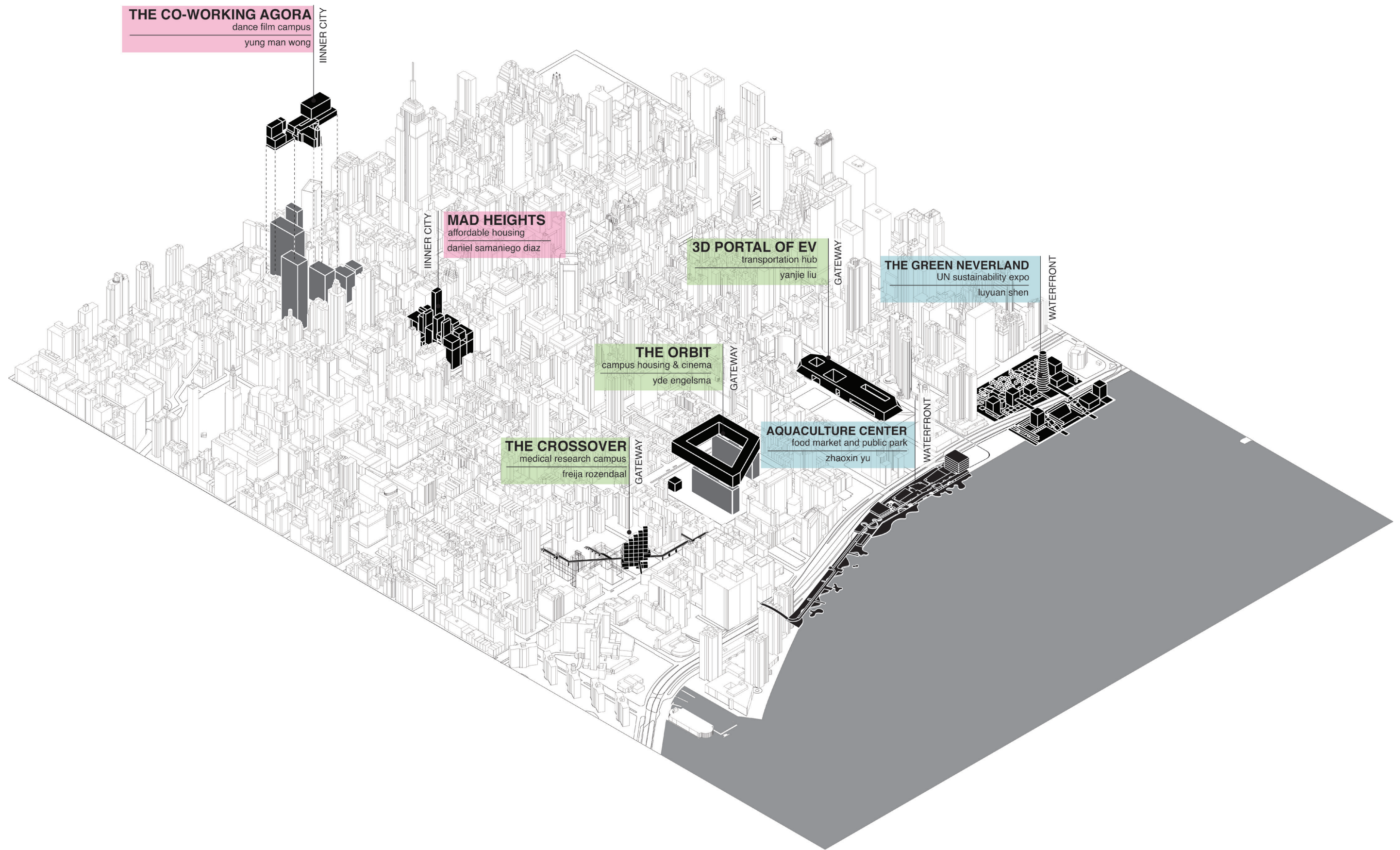
Engineer volume by creating a moment-fixed ring, using inclinations to overcome tension and compression forces.

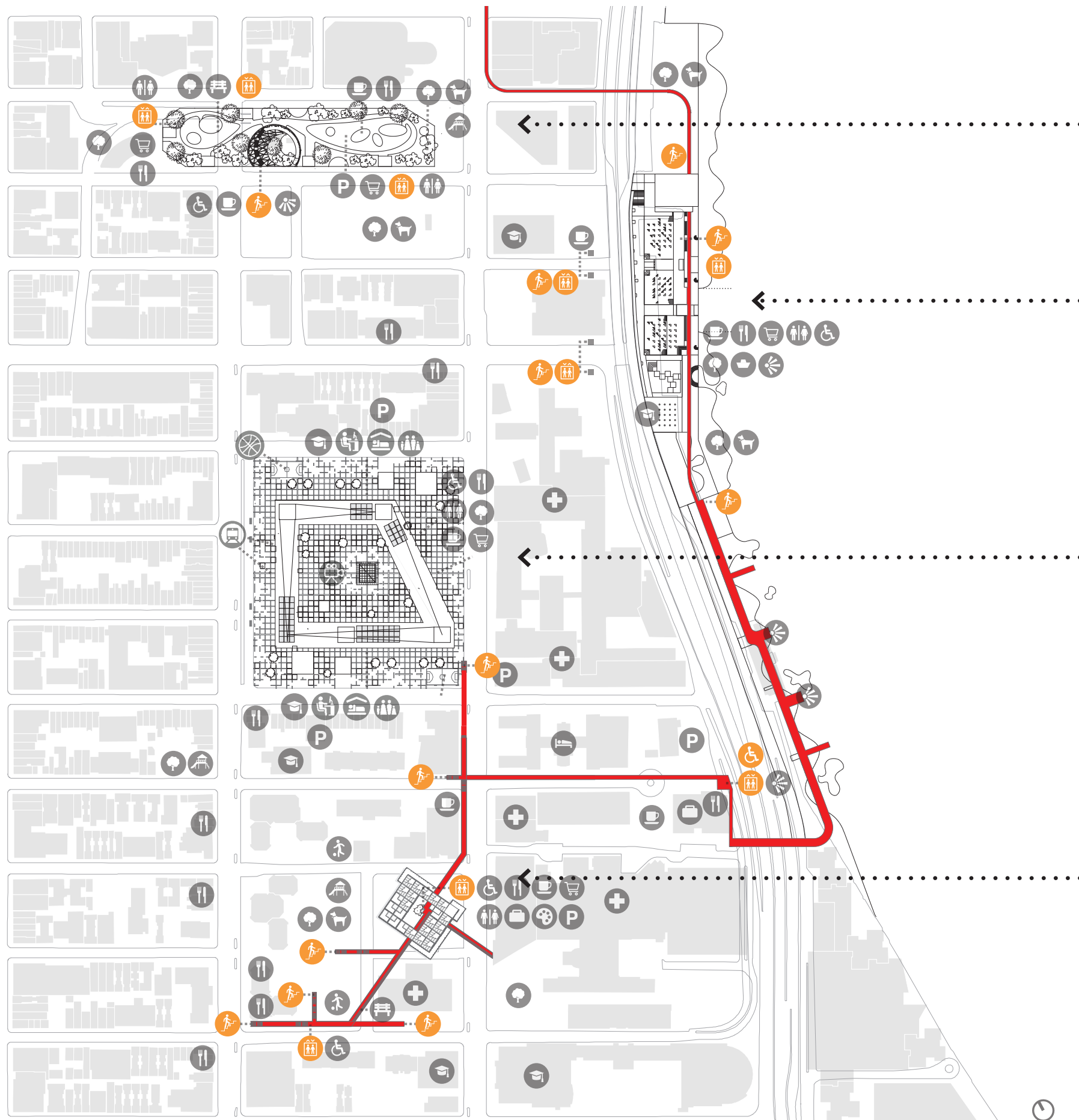


Cover volume by light, transparent facade provide maximum views for its users.



GROUP VISION RELATIONS





TRANSPORTATION HUB
Car / Train / Subway

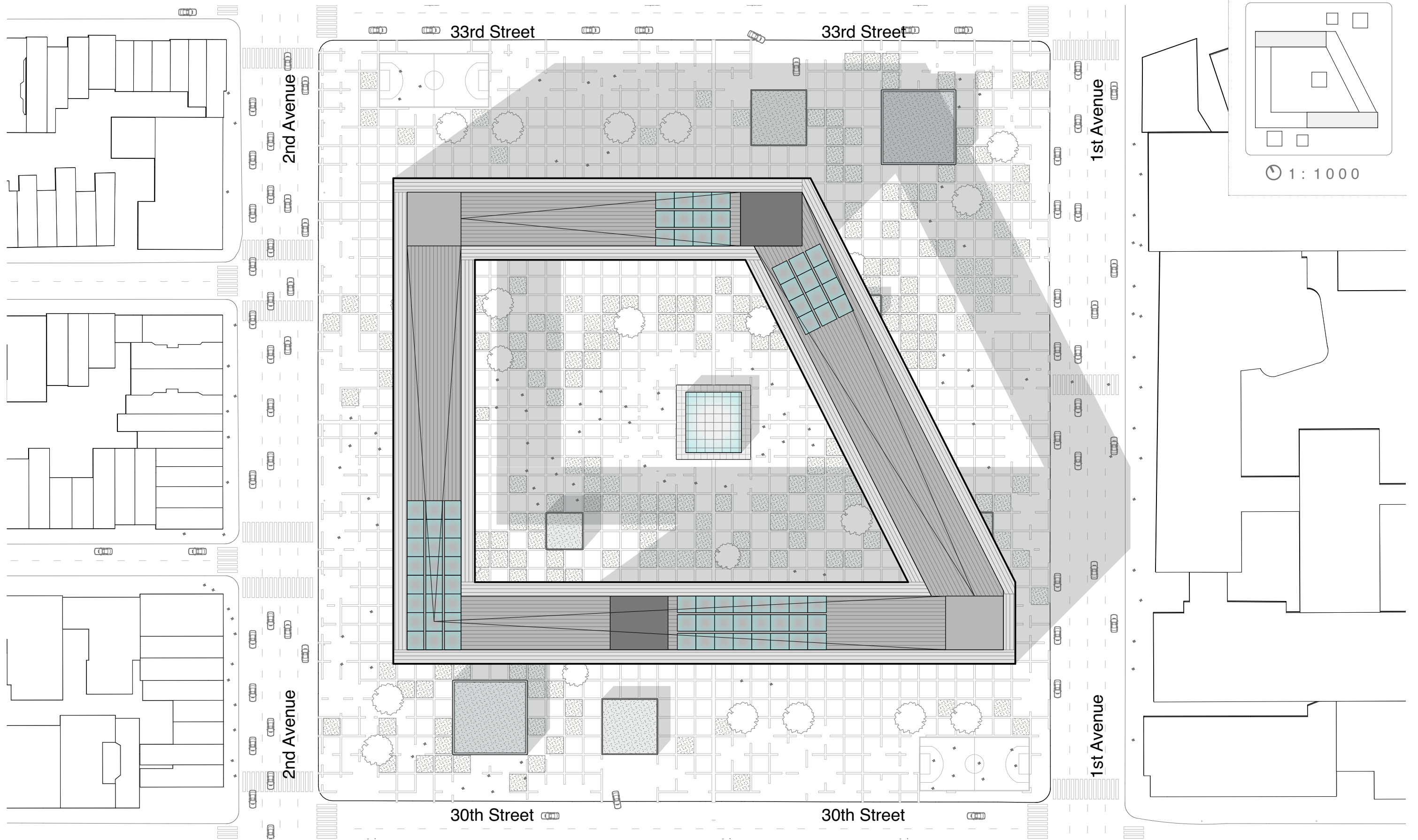
AQUACULTURE CENTER
Oyster farm &
Resilient waterfront park

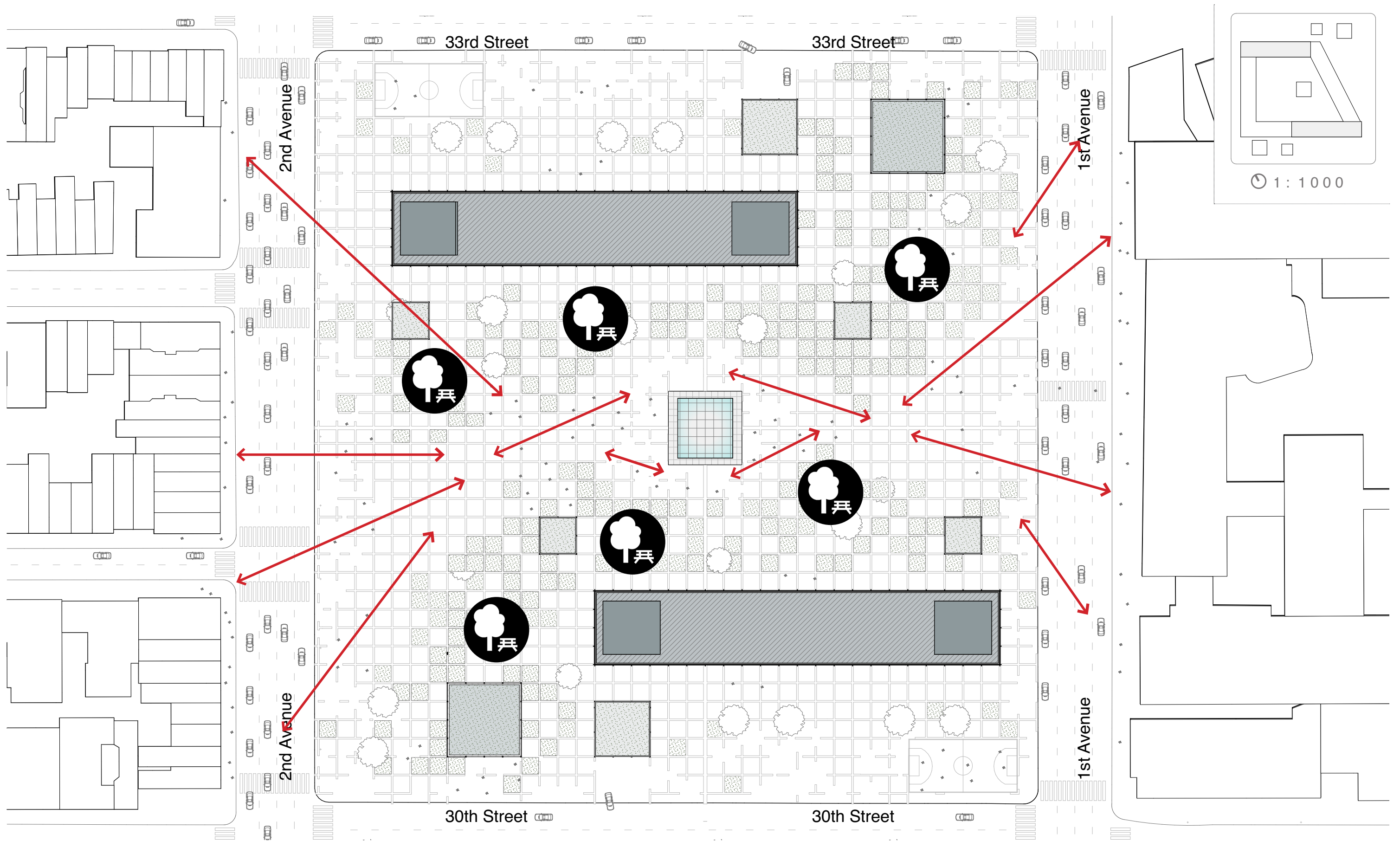
THE ORBIT
Public plaza / Leisure uses
& Medical Campus housing

THE CROSSOVER
Medical research campus

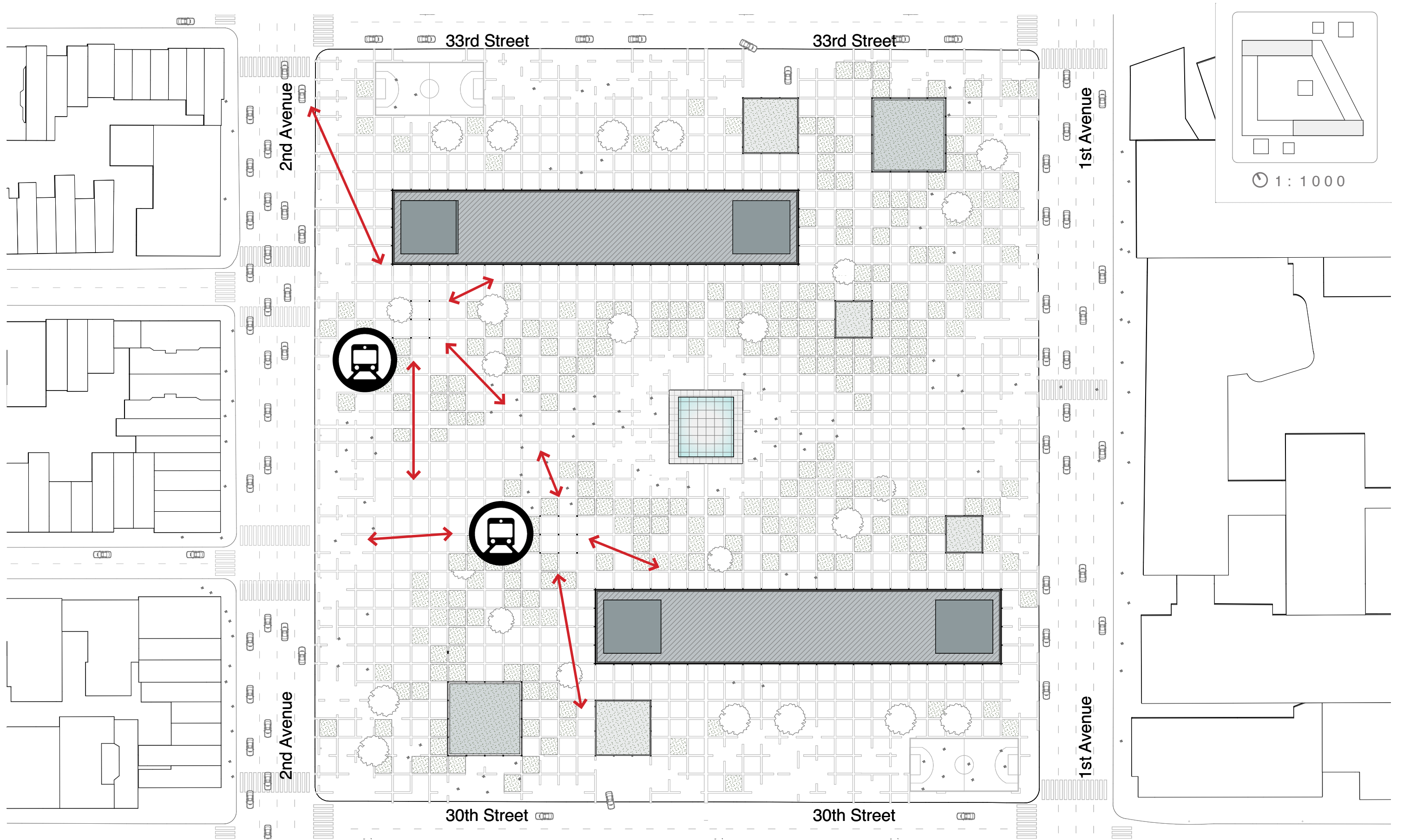
THE PLAZA



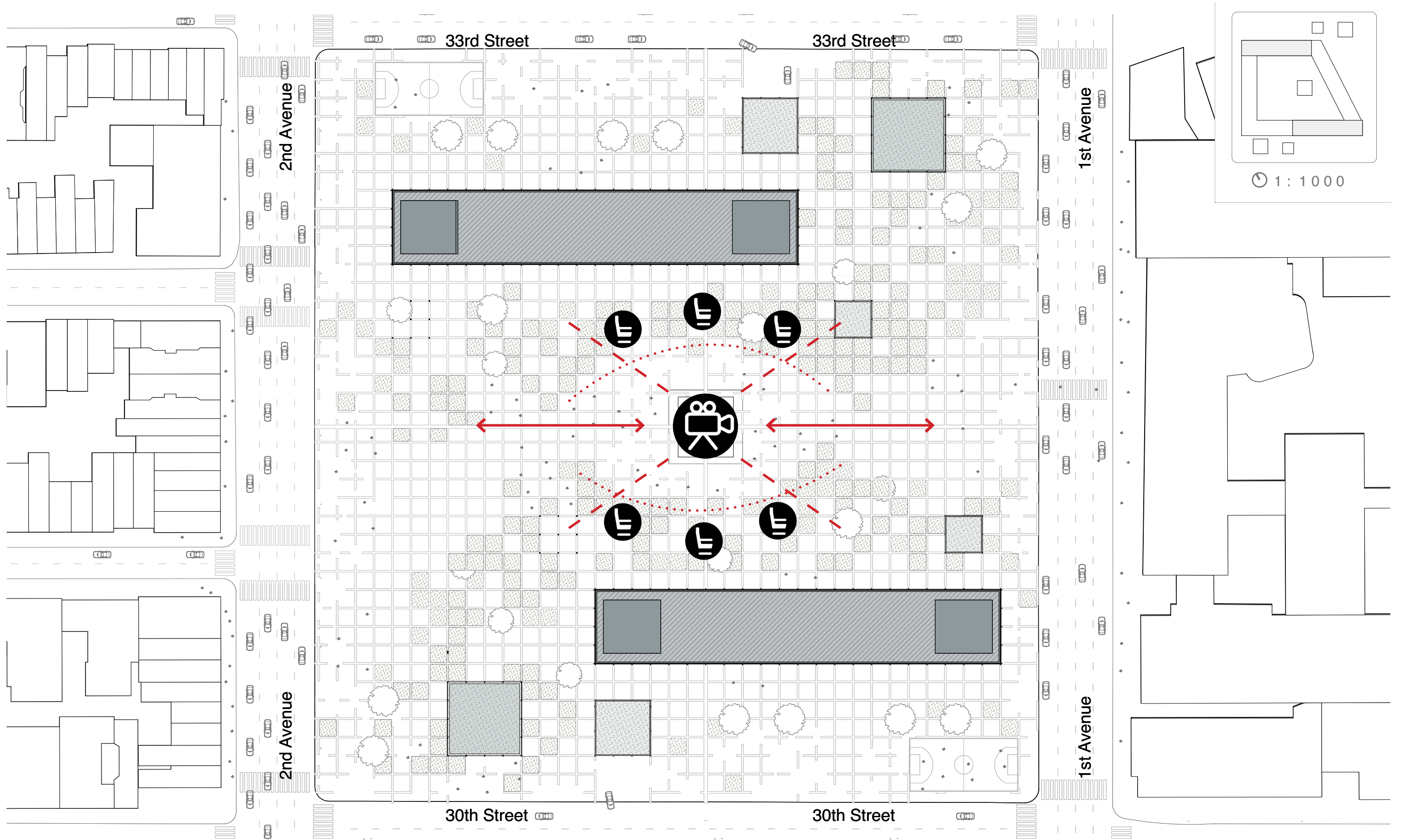




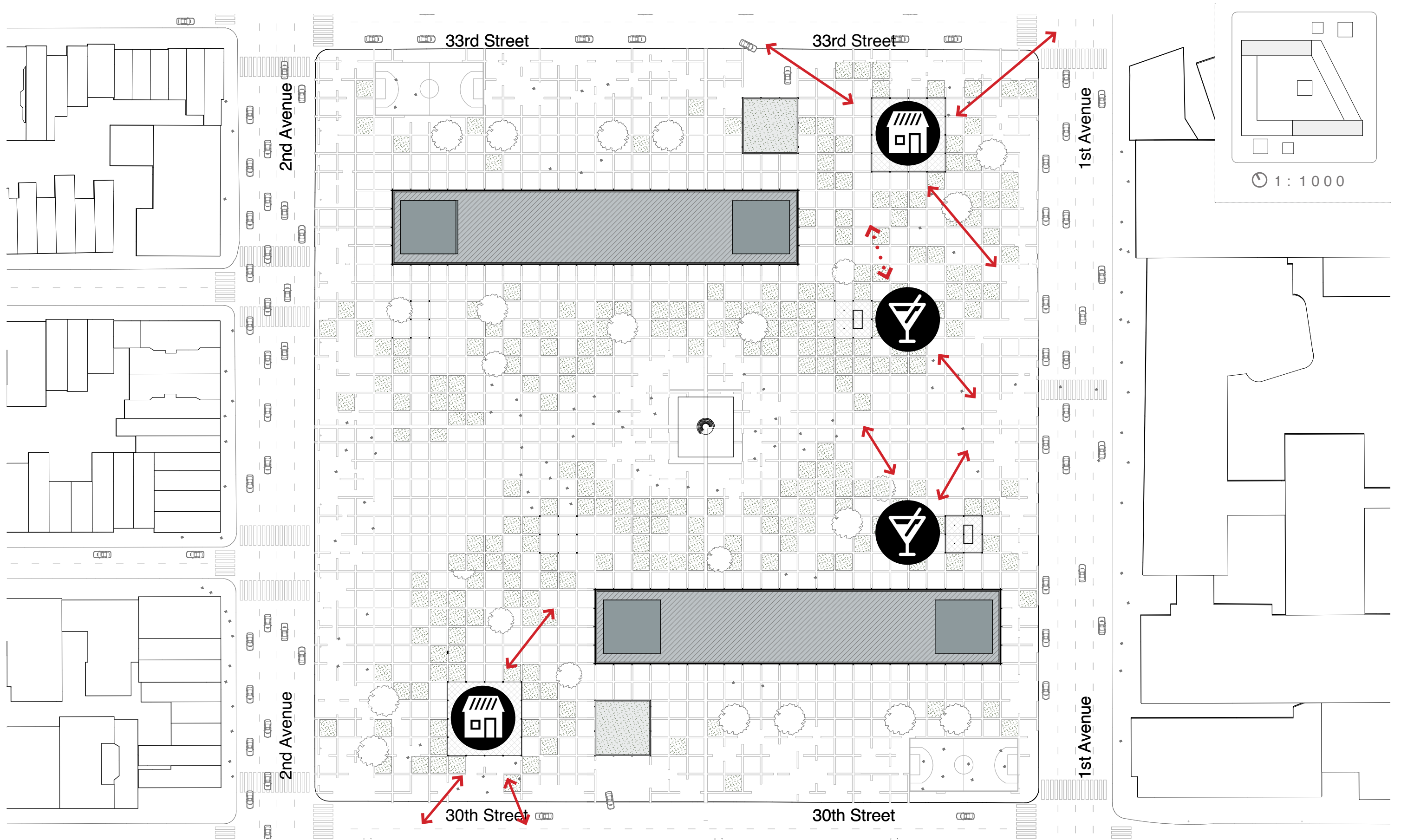
Greenery patches with height varieties create a pedestrian funnel from 2nd to 1st Ave.



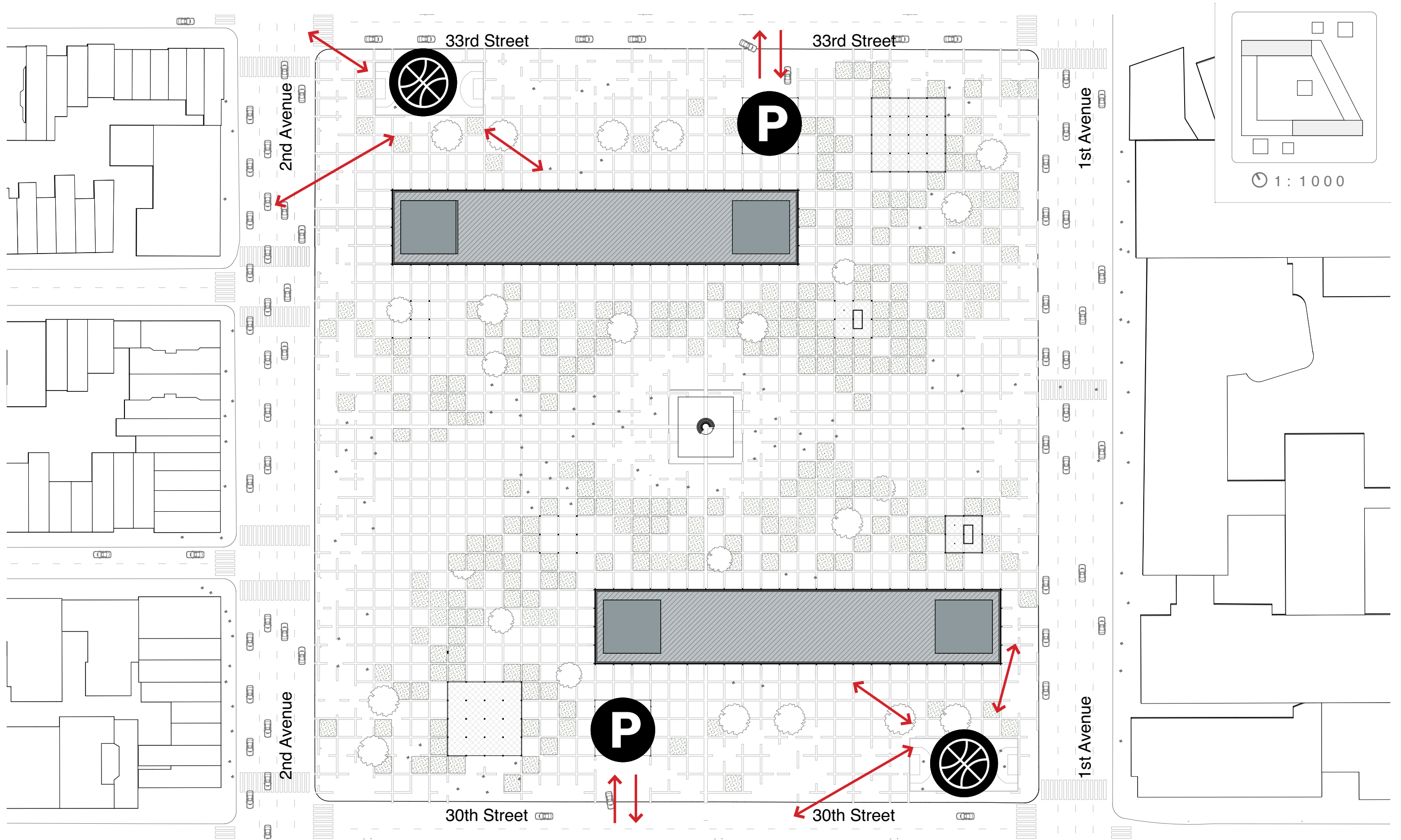
Subway entrances along 2nd avenue generate people flow into the plaza and its functions



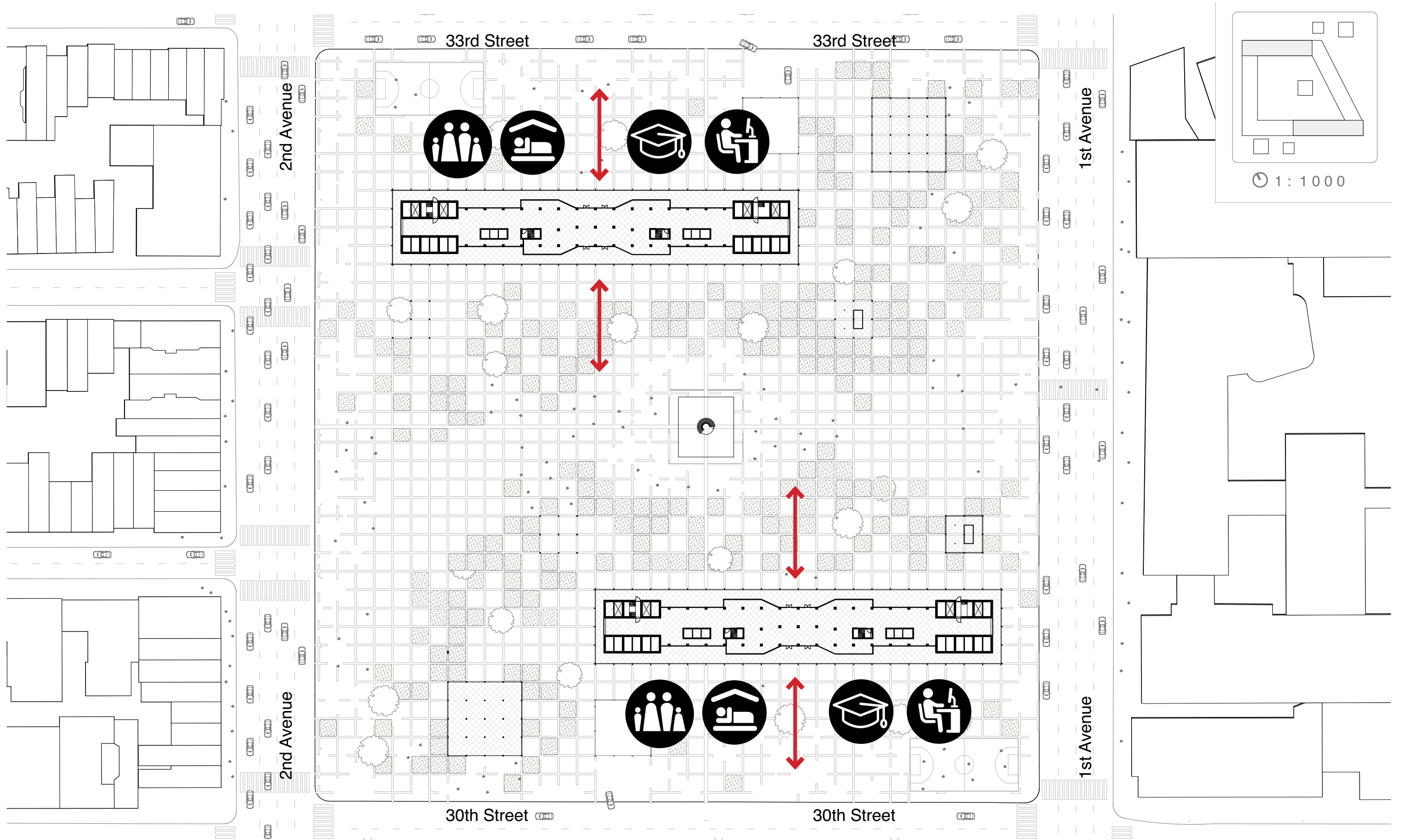
Cinema entrance volume functions as 3D- outdoor cinema screen. Cascading patches create seating.



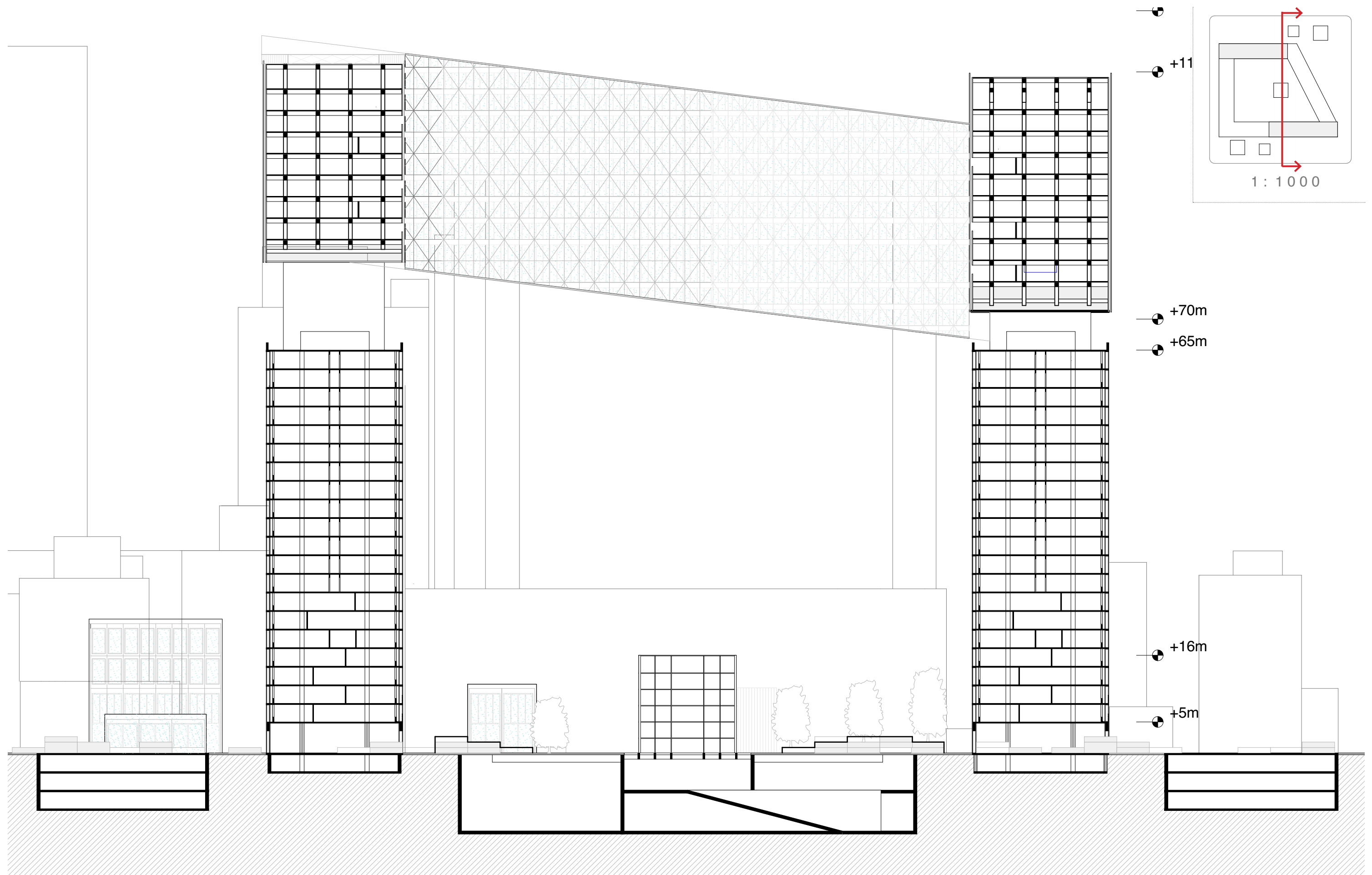
Retail to retain residents. Restaurants and bars to retain cinema users.



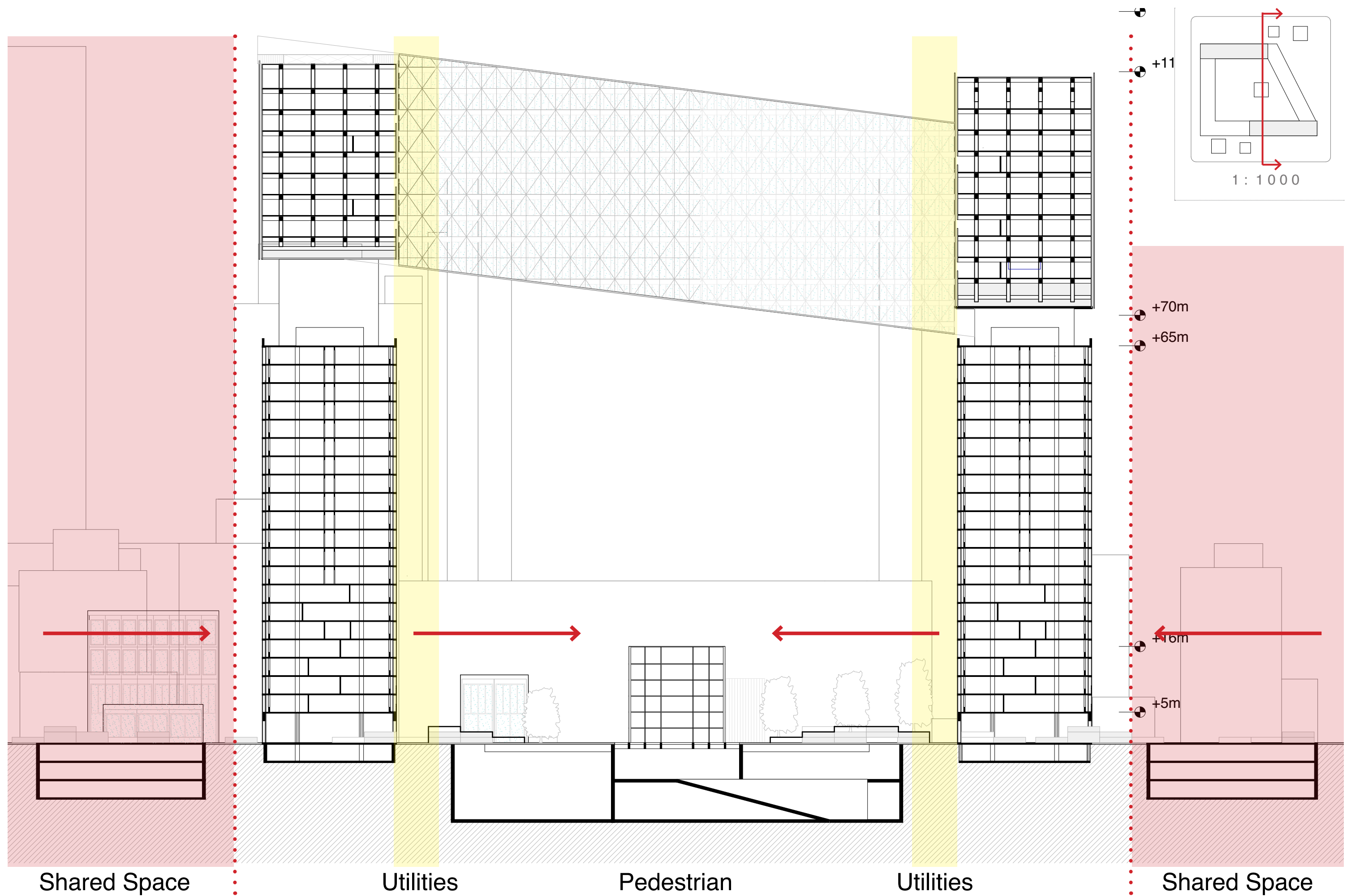
Automated parking garage for Orbit users. Basketball fields for younger user groups.



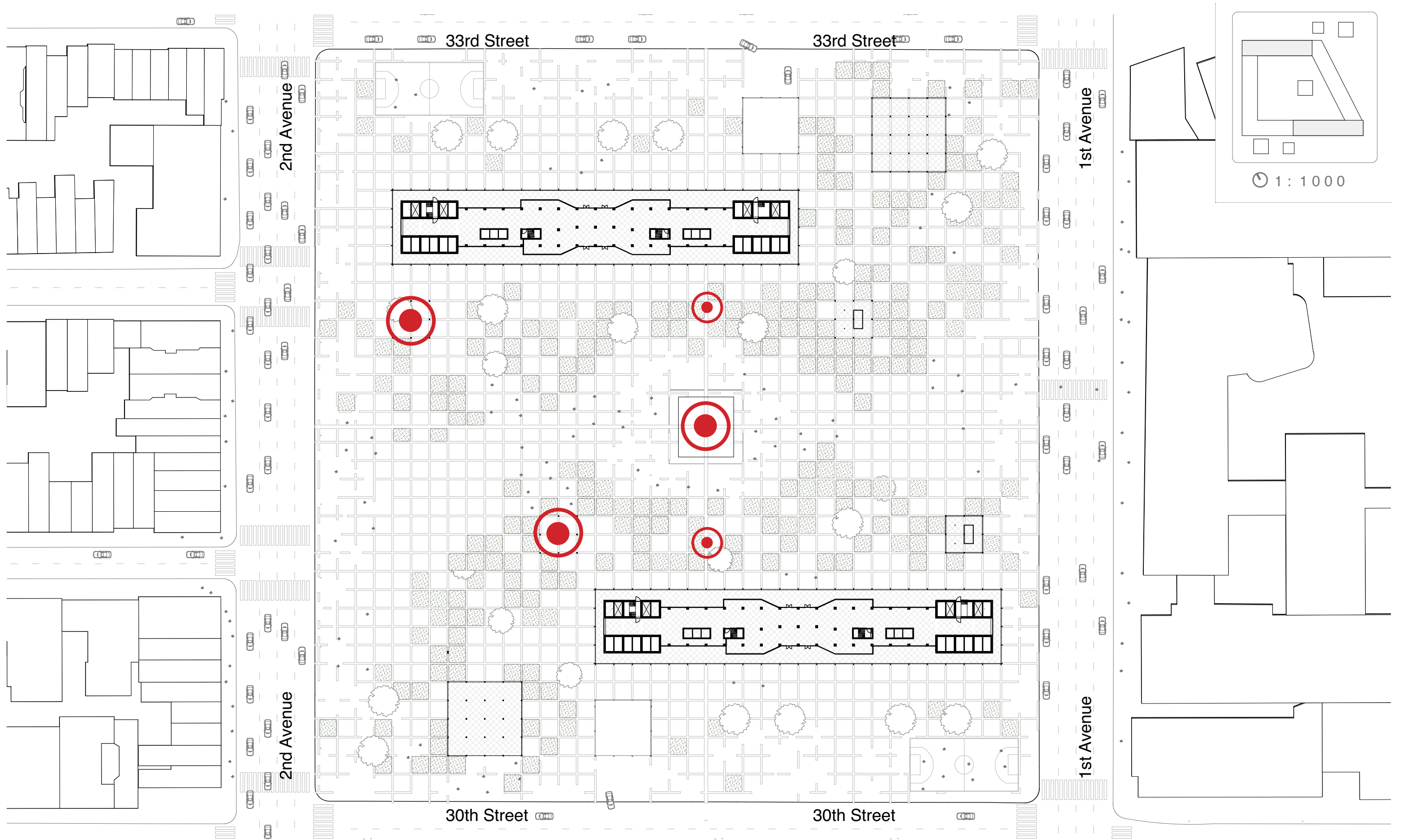
Orbit entrance for residents, guesthouse users, students and office staff.



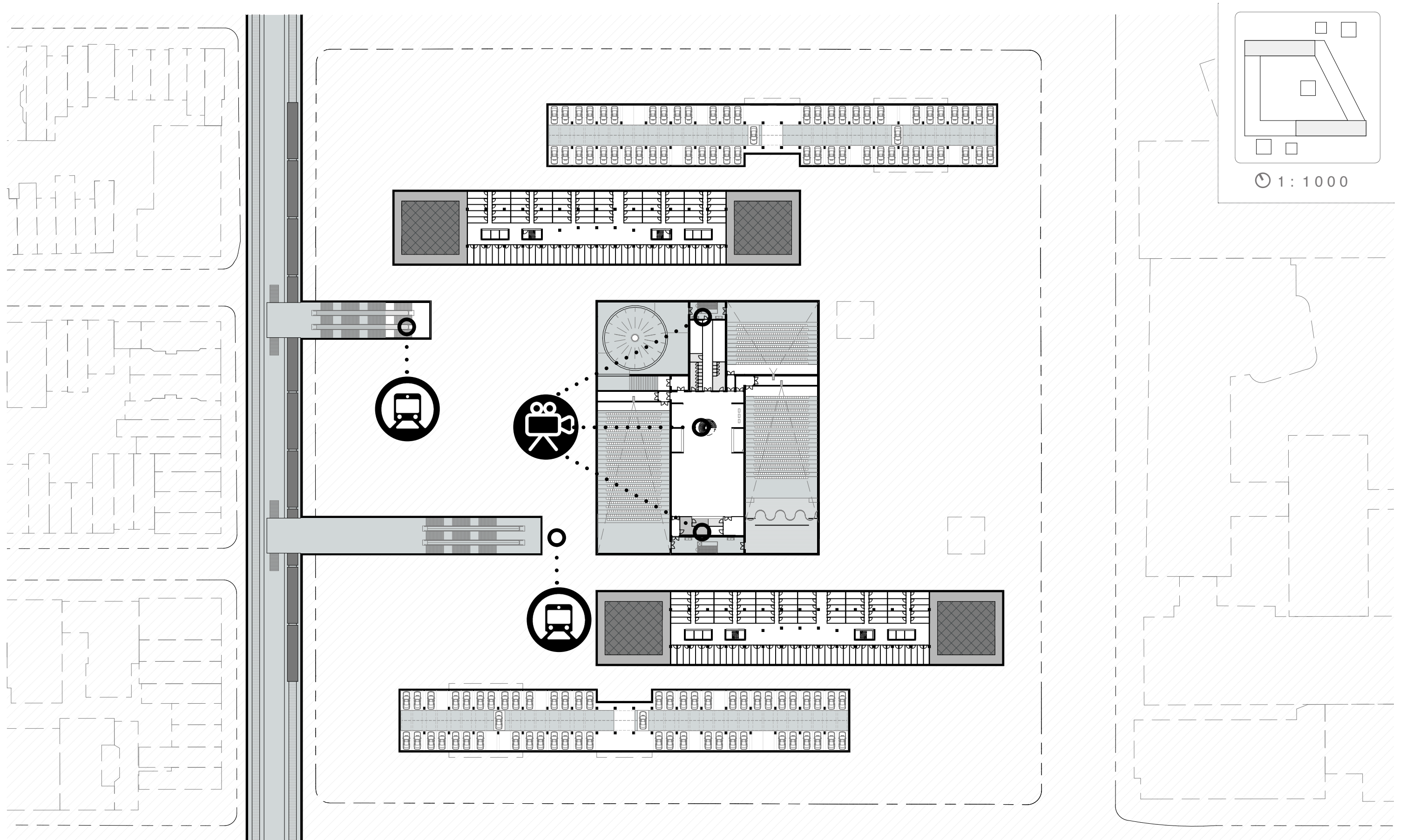
CENTRAL CROSS SECTION



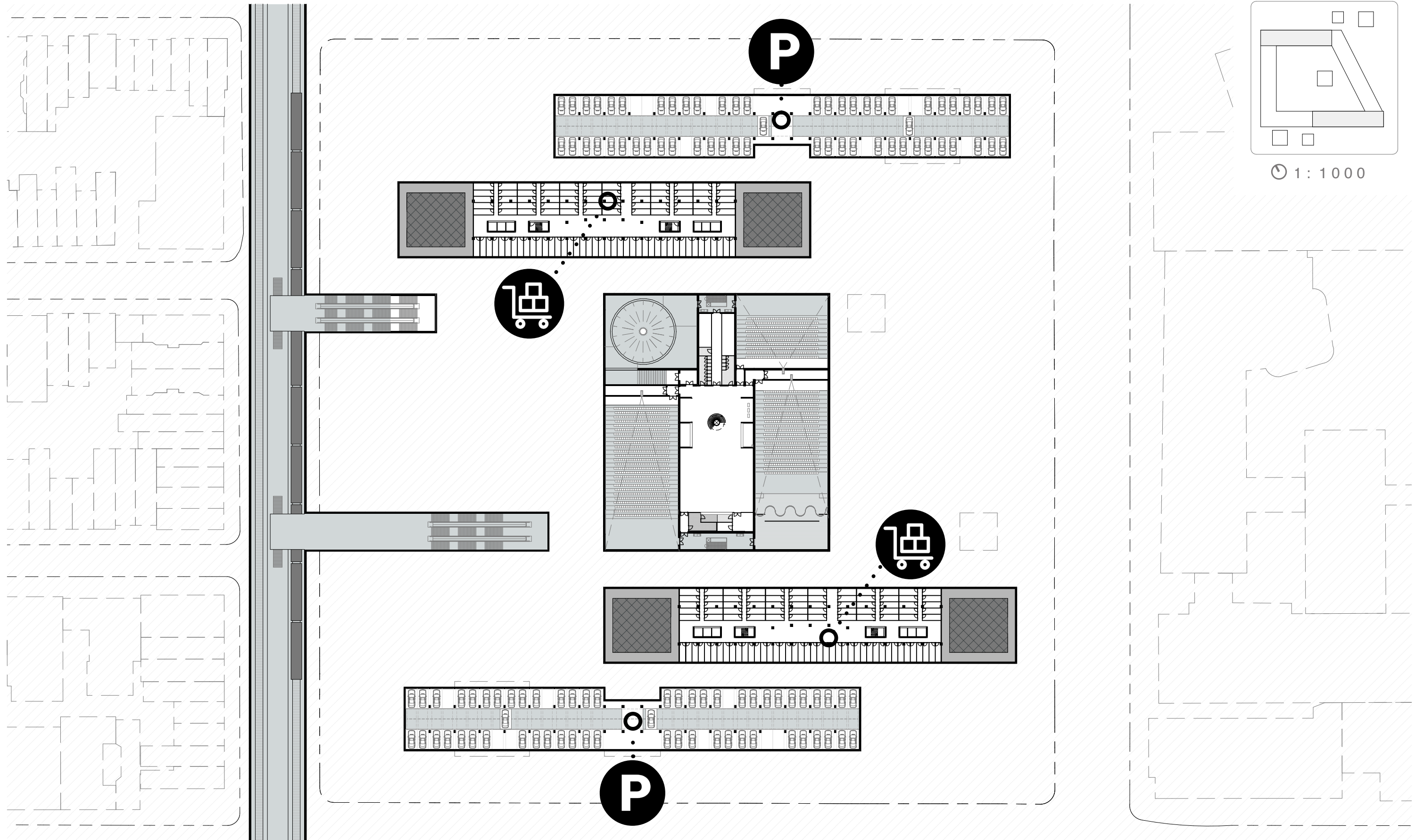
THE UNDERGROUND



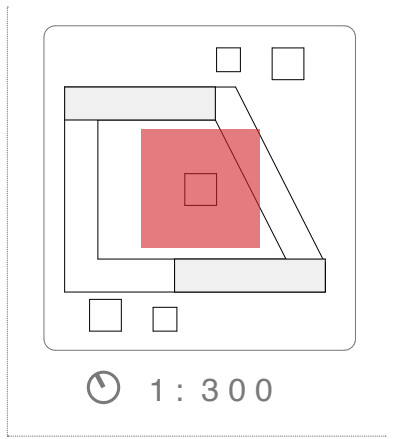
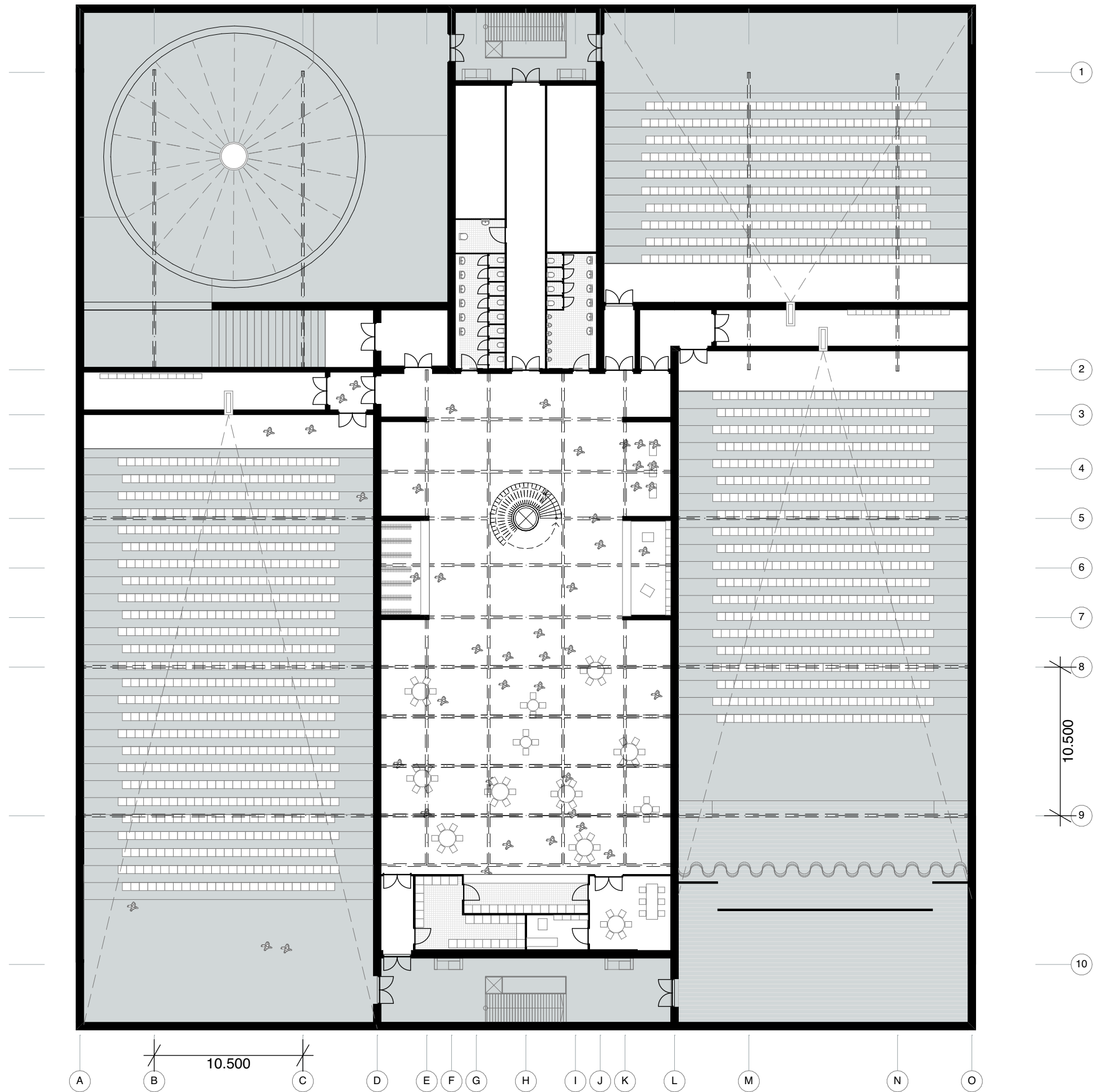
Public access points and emergency circulation



Subway and cinema.



3 layers of automated parking (480 cars). Orbit storage areas.

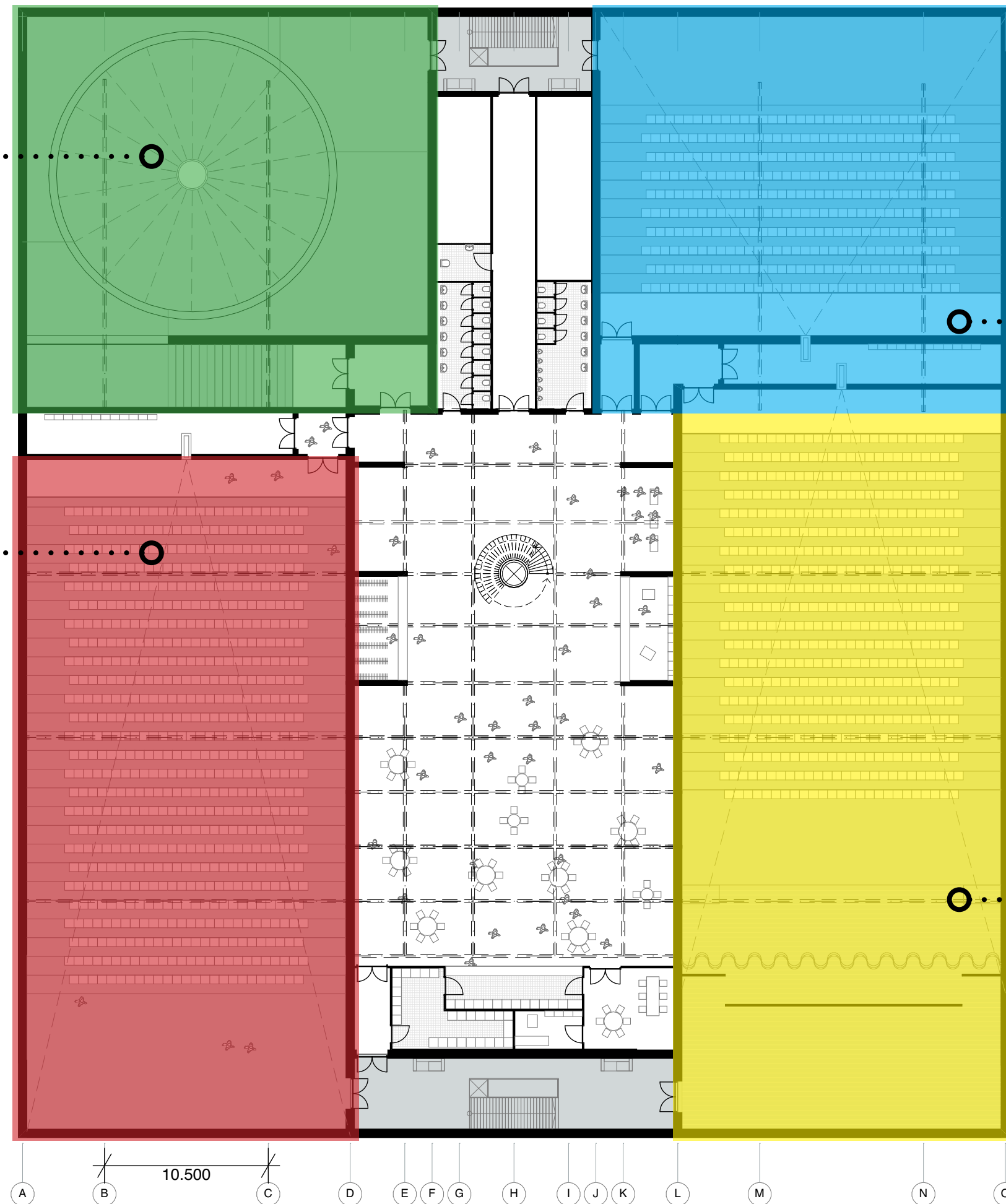
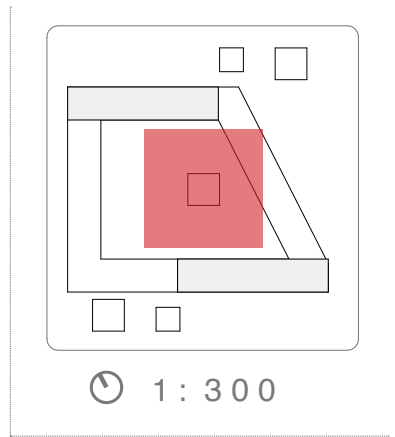


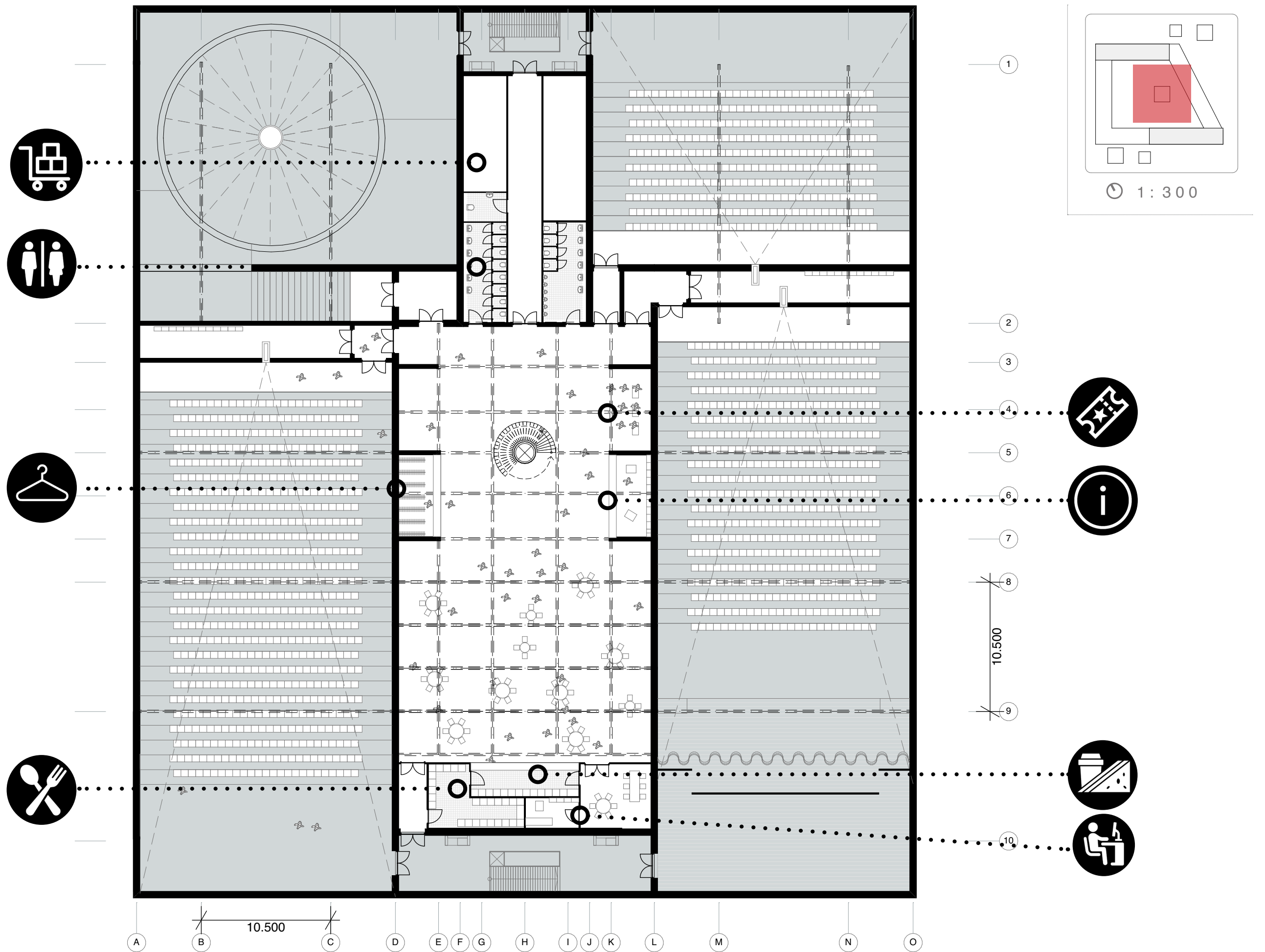
4D / VR / 360
cinema experiences

Imax screen (600p)

Regular screen (300p)

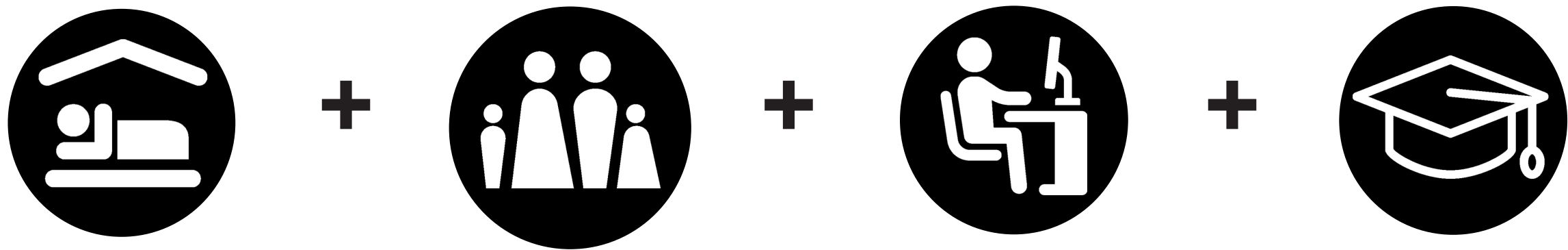
Multipurpose theater
(425p)



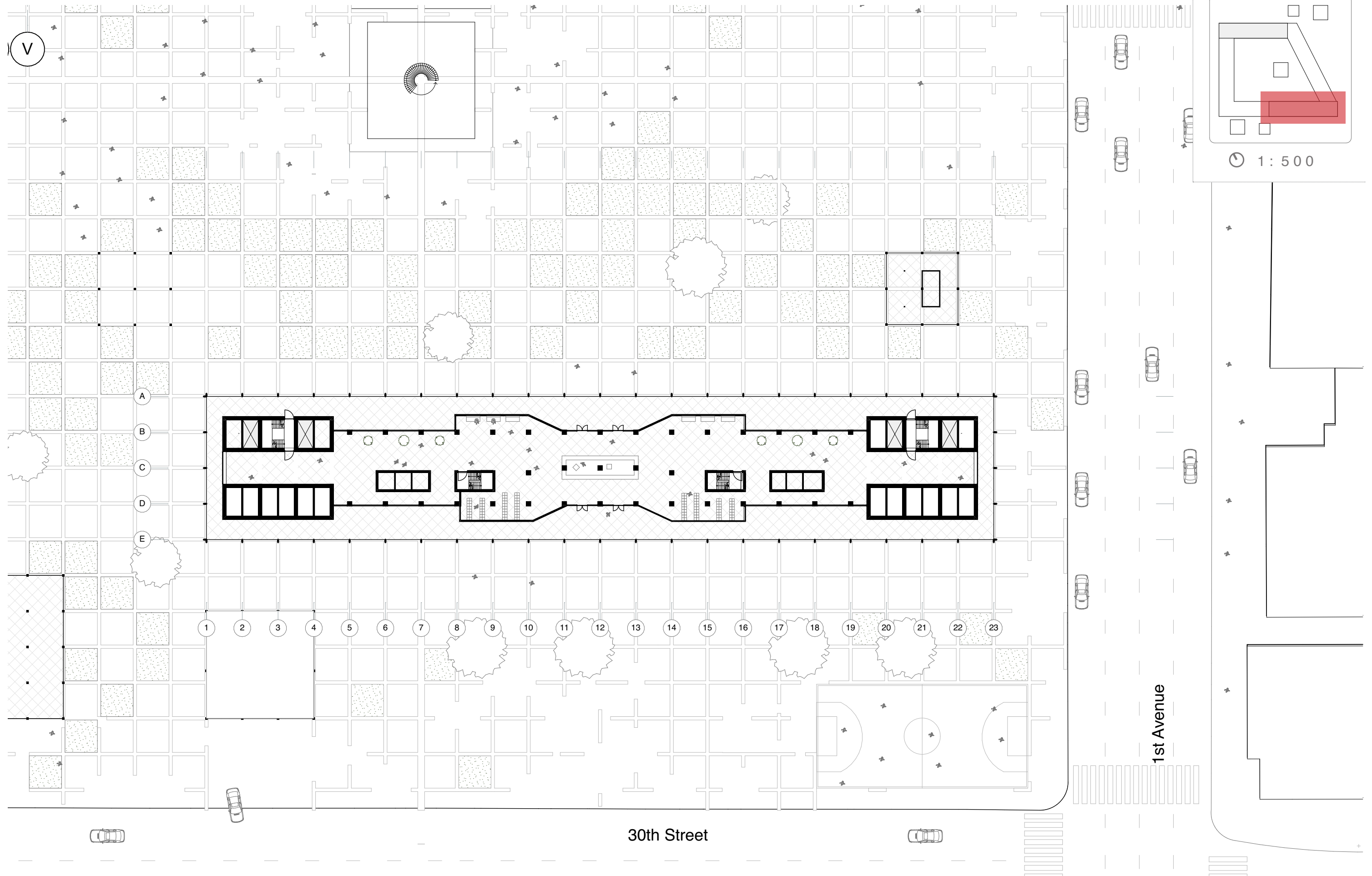


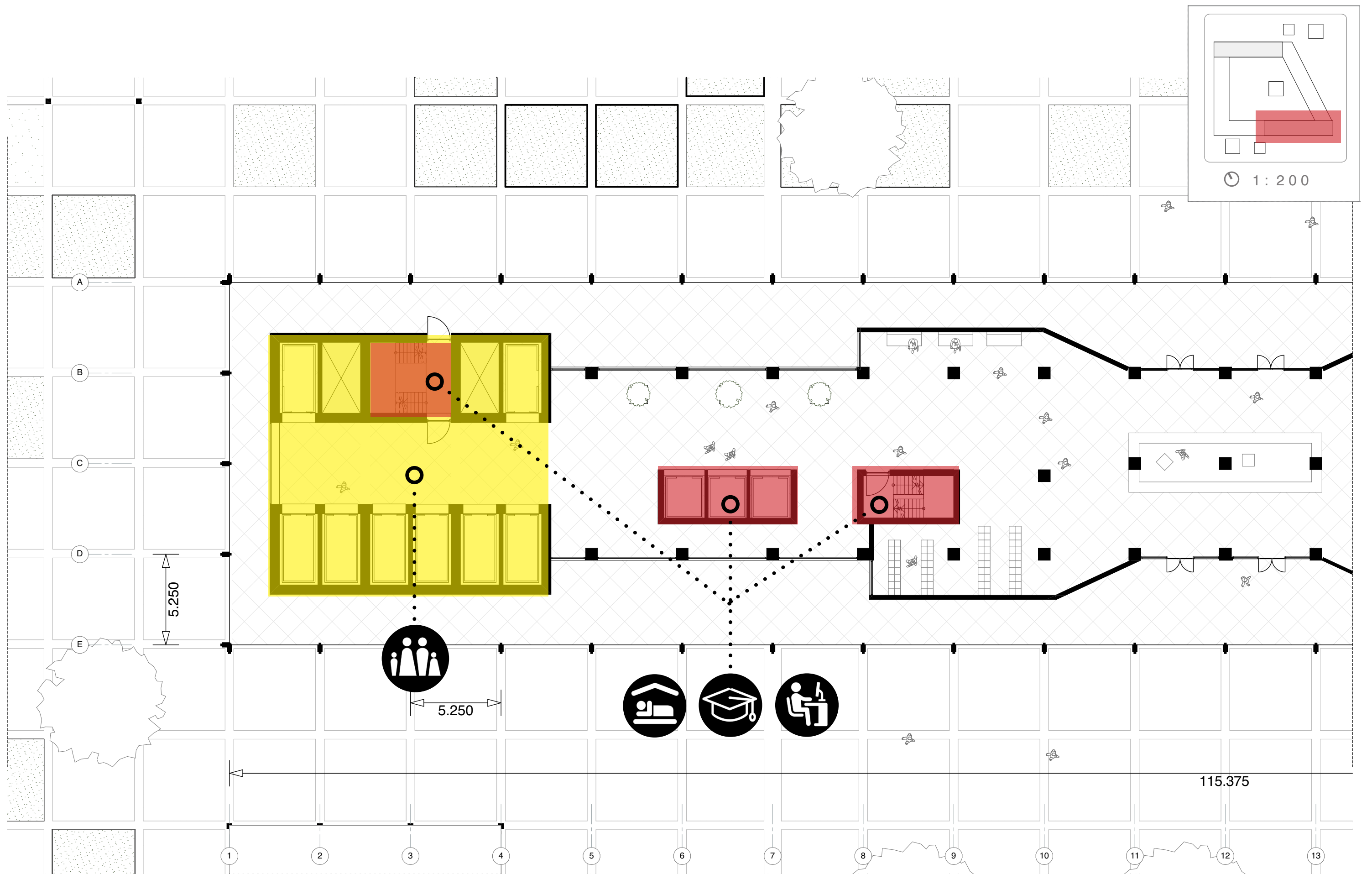
Back of house (BOH) distributed along center

KIPS BAY TOWERS

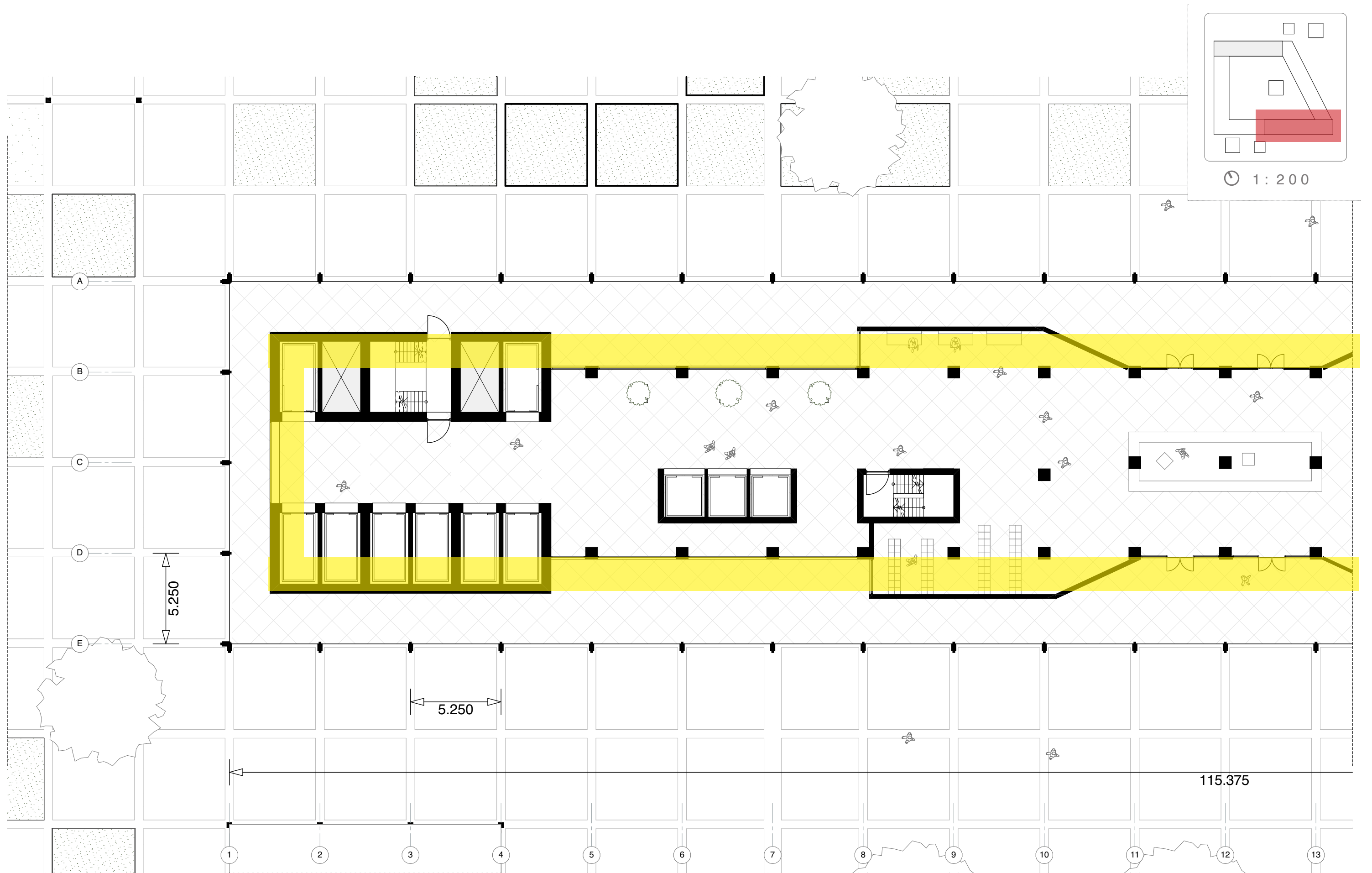


FLEXIBILITY = SUSTAINABILITY





Circulation core of ring in outer wings. Independent circulation of Kips Bay Towers



Outward extrusion of facade to create **effective core** and **spacious lobby**.



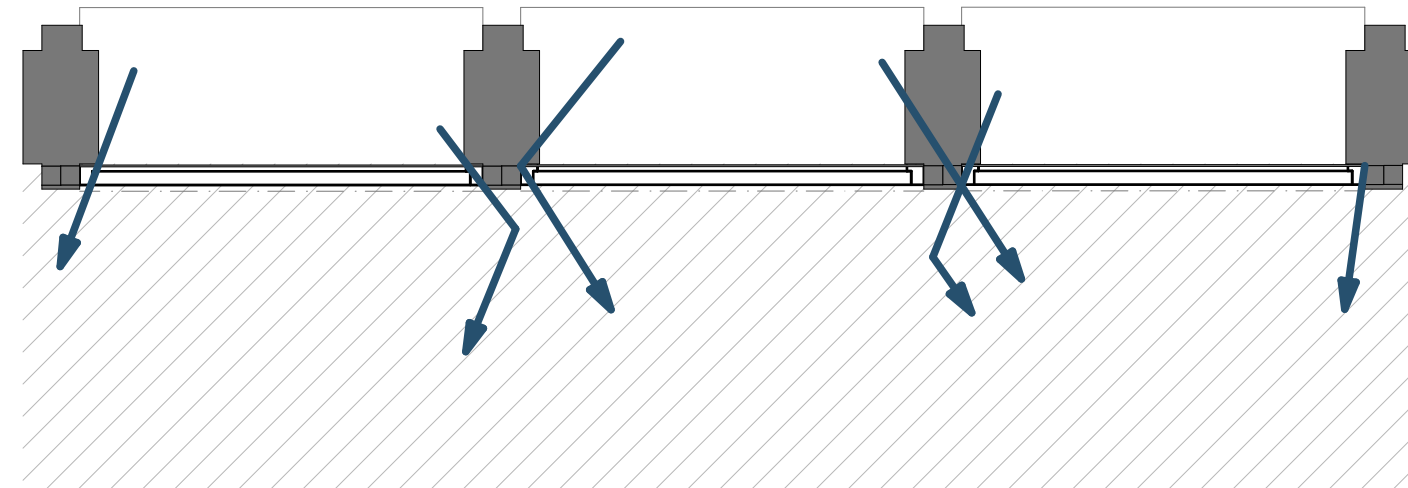




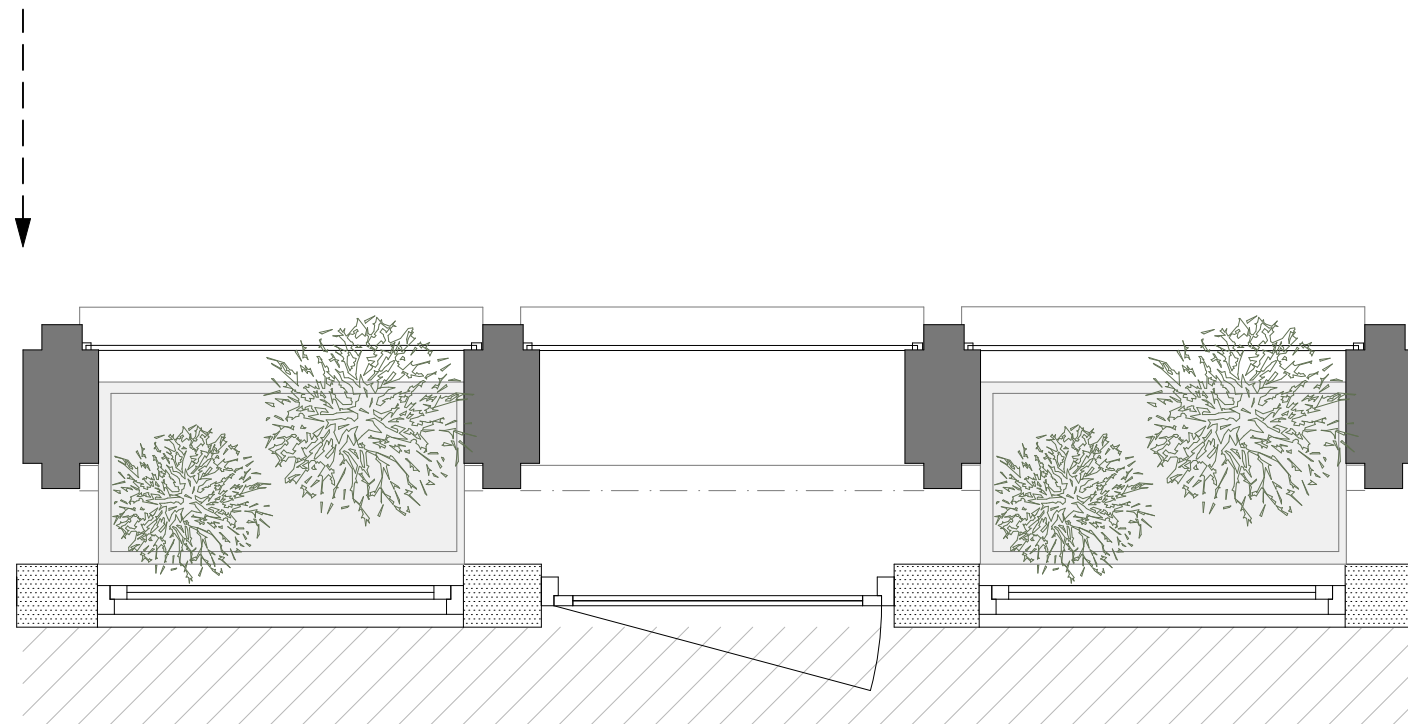
First exposed concrete residential tower in New York.

Loadbearing facade, and inner construction is only columns, making it a **very flexible multipurpose structure**.

NEW FACADE PROPOSAL

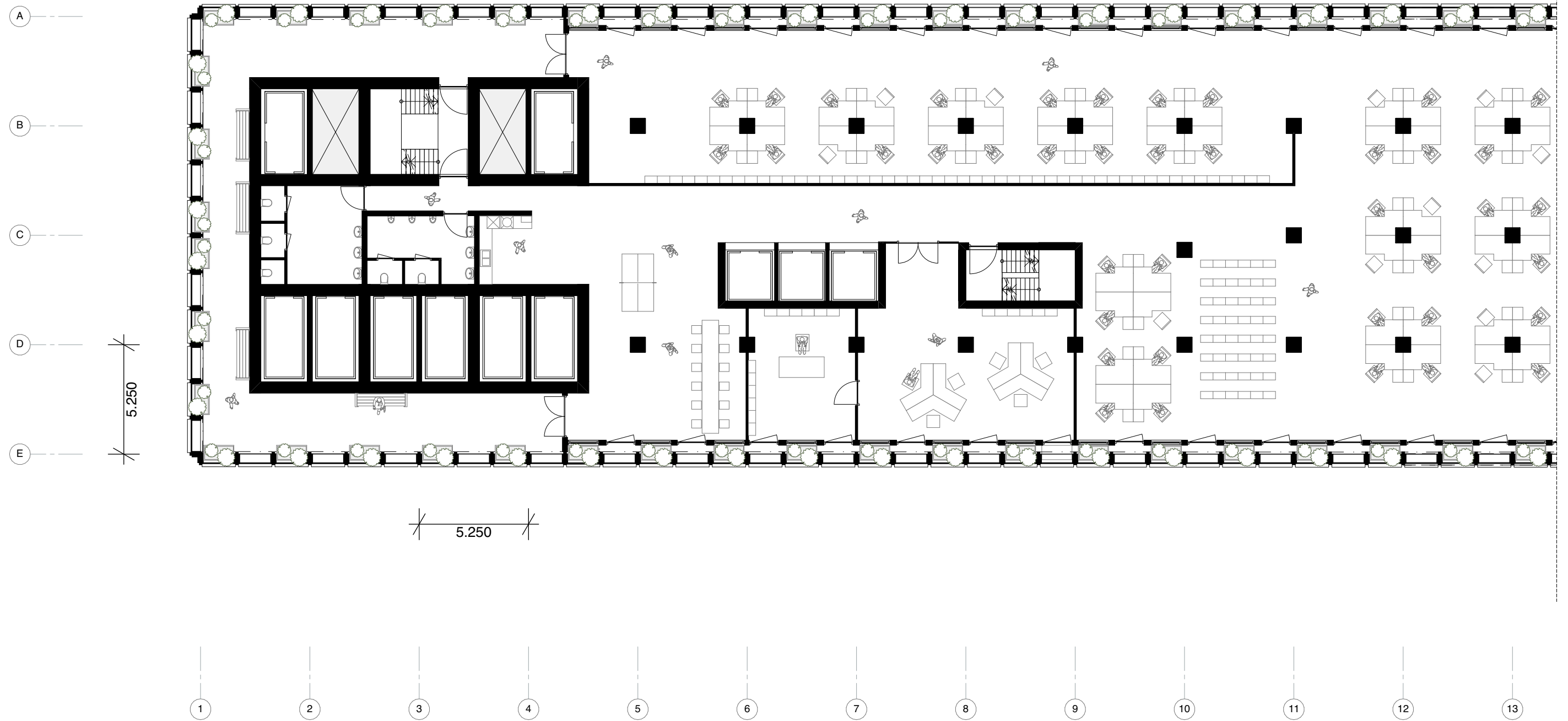
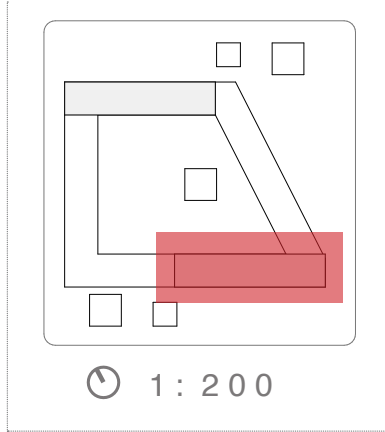


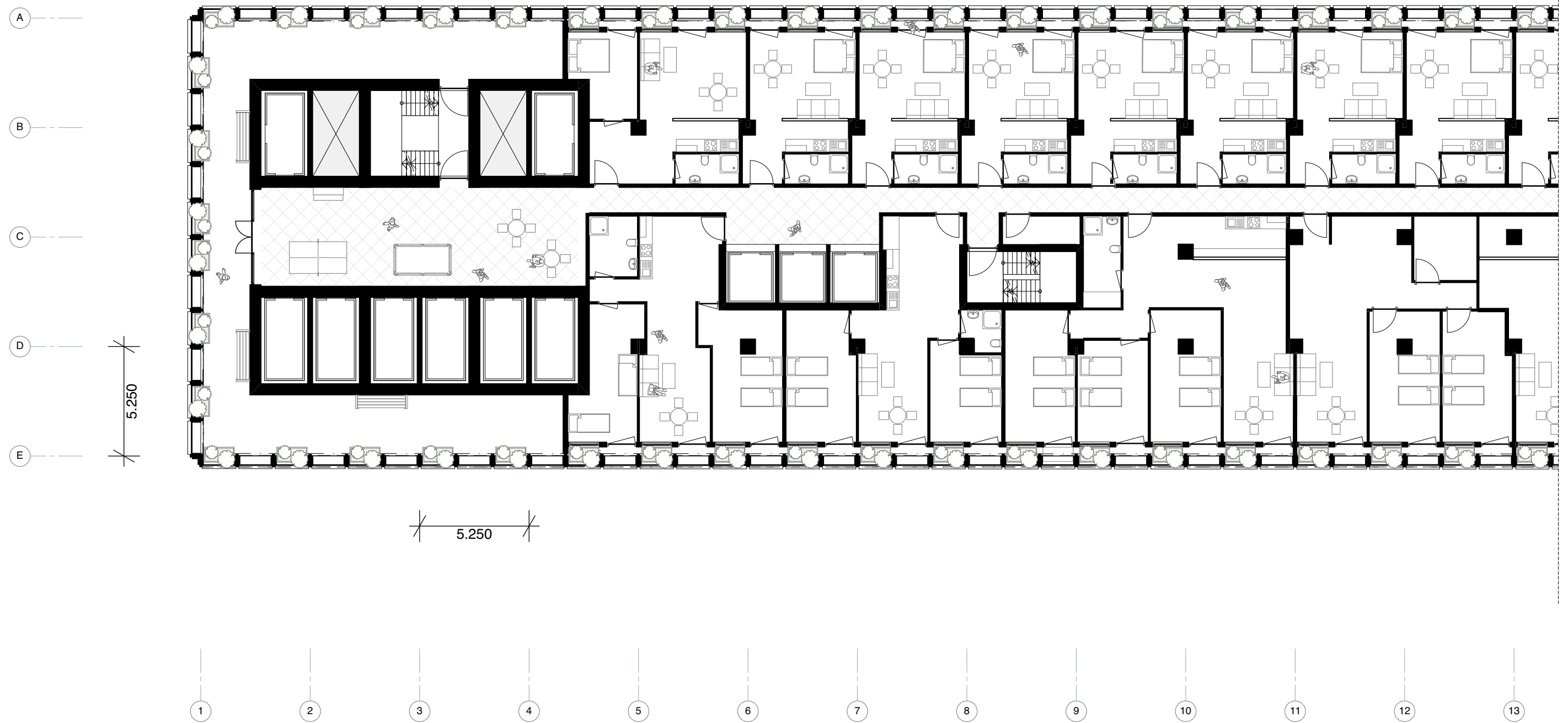
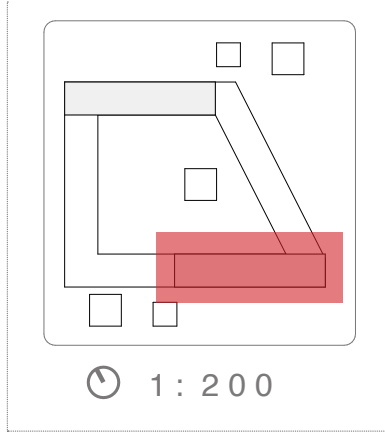
old



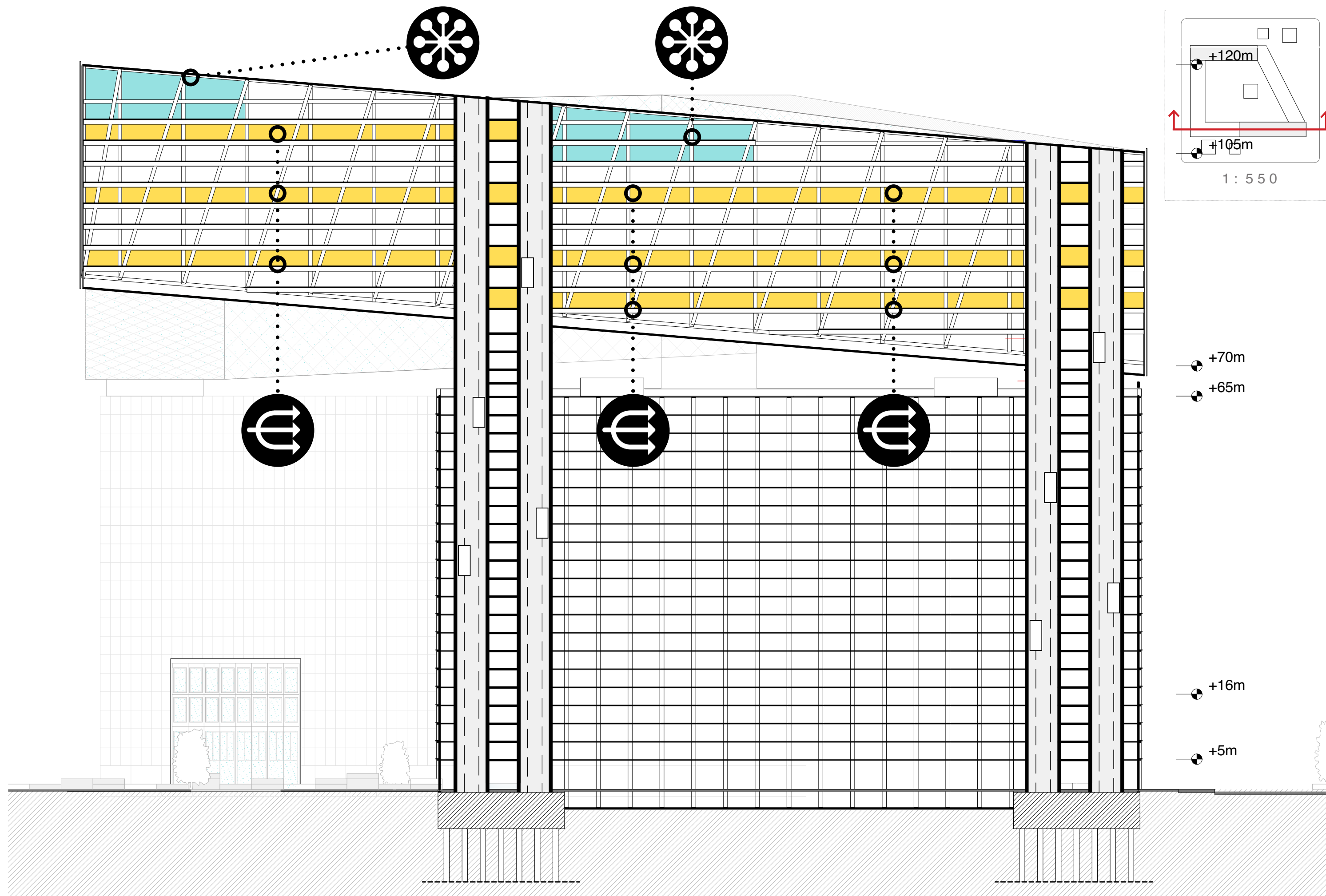
new

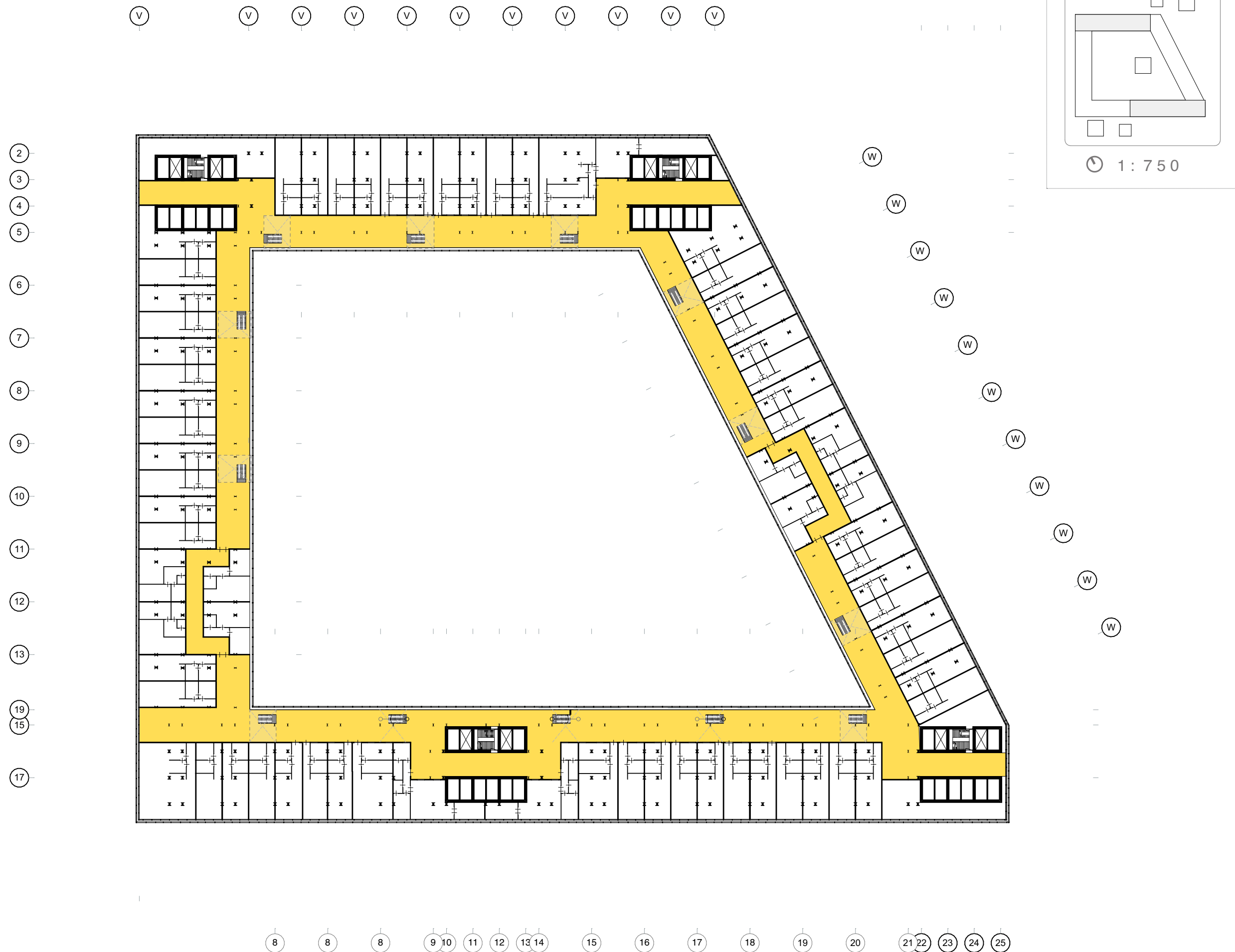
Creates **balconies**, overcomes **thermal bridges**, makes a **multipurpose layer**, and facade **proportions** are **respected**

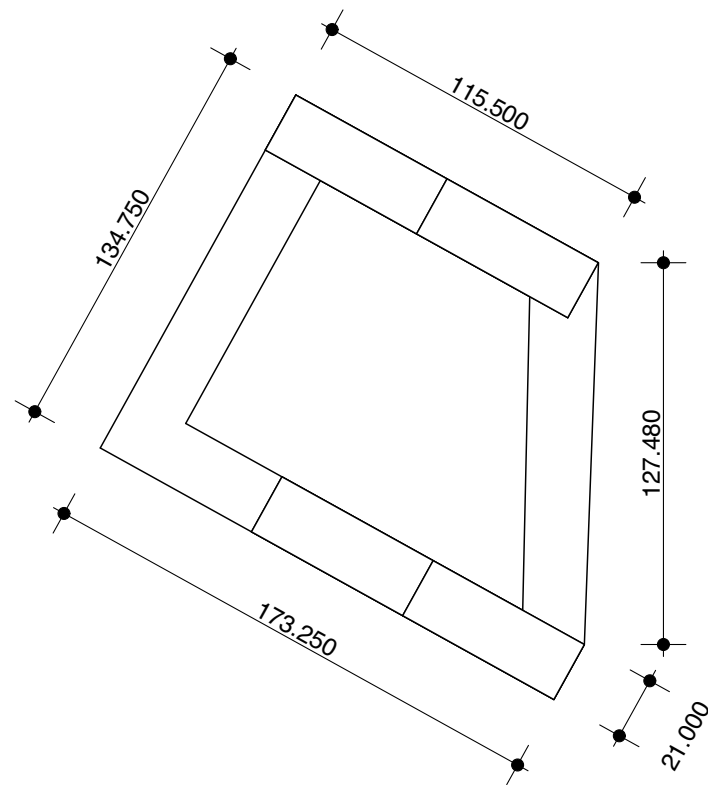




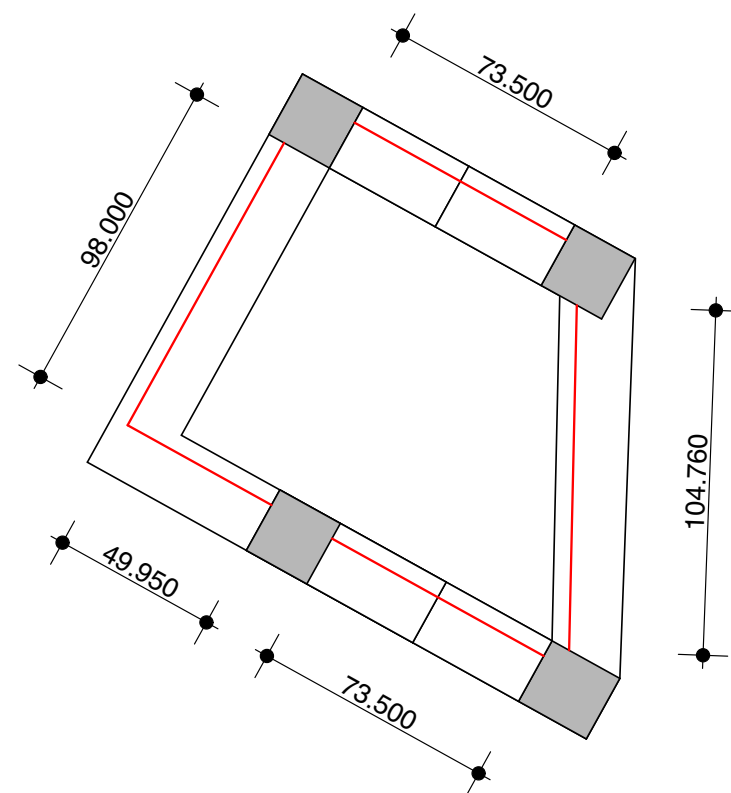
THE RING



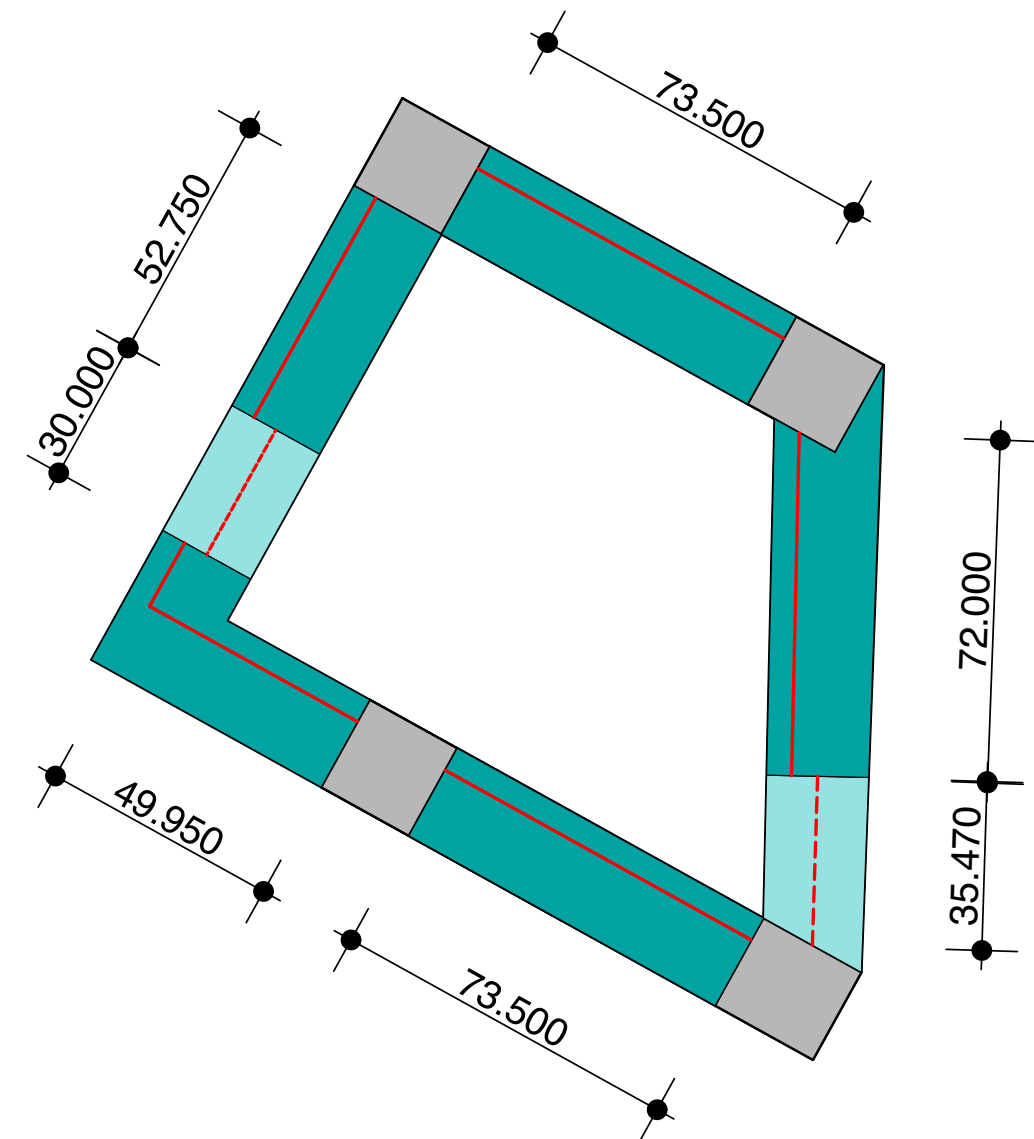




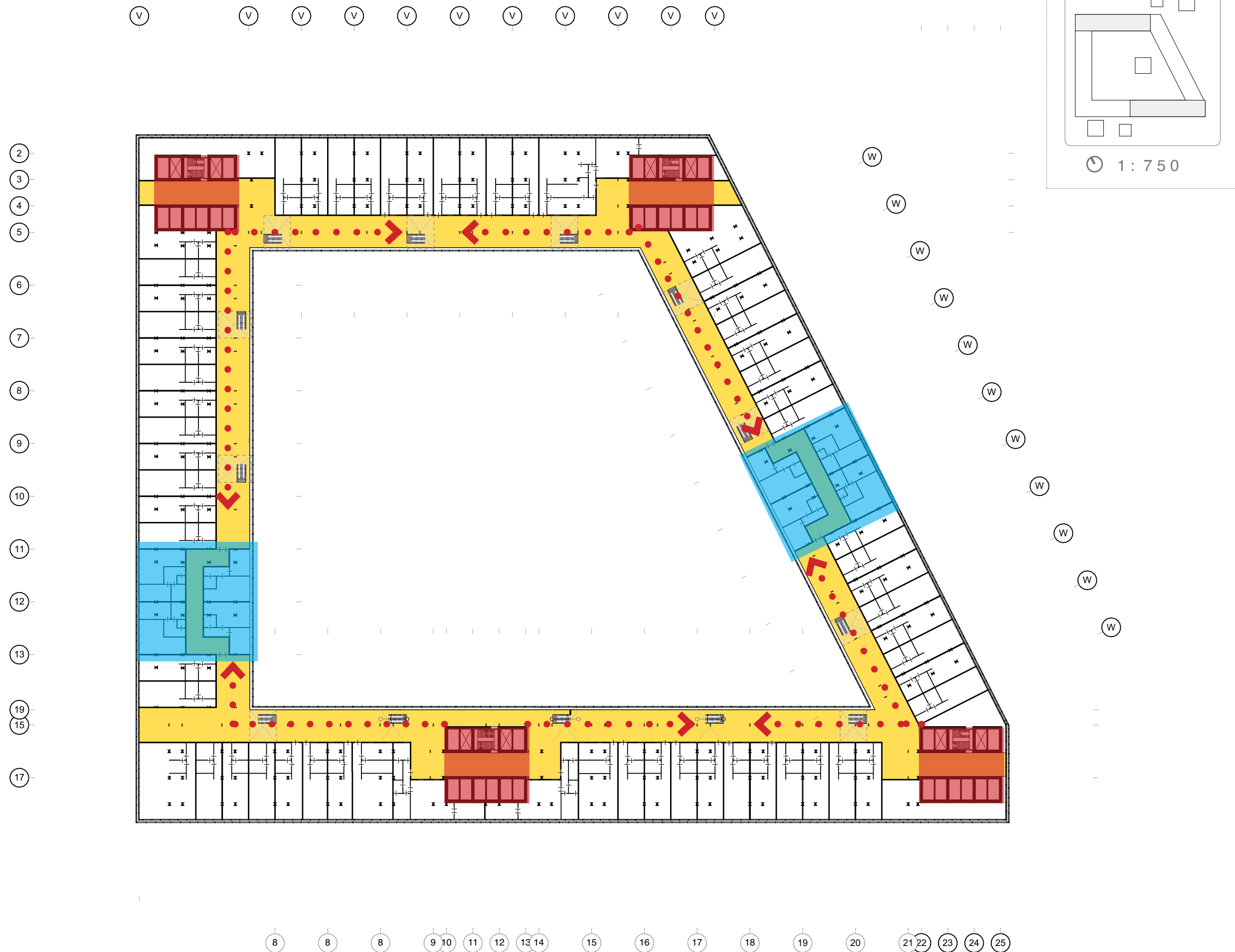
Total perimenter

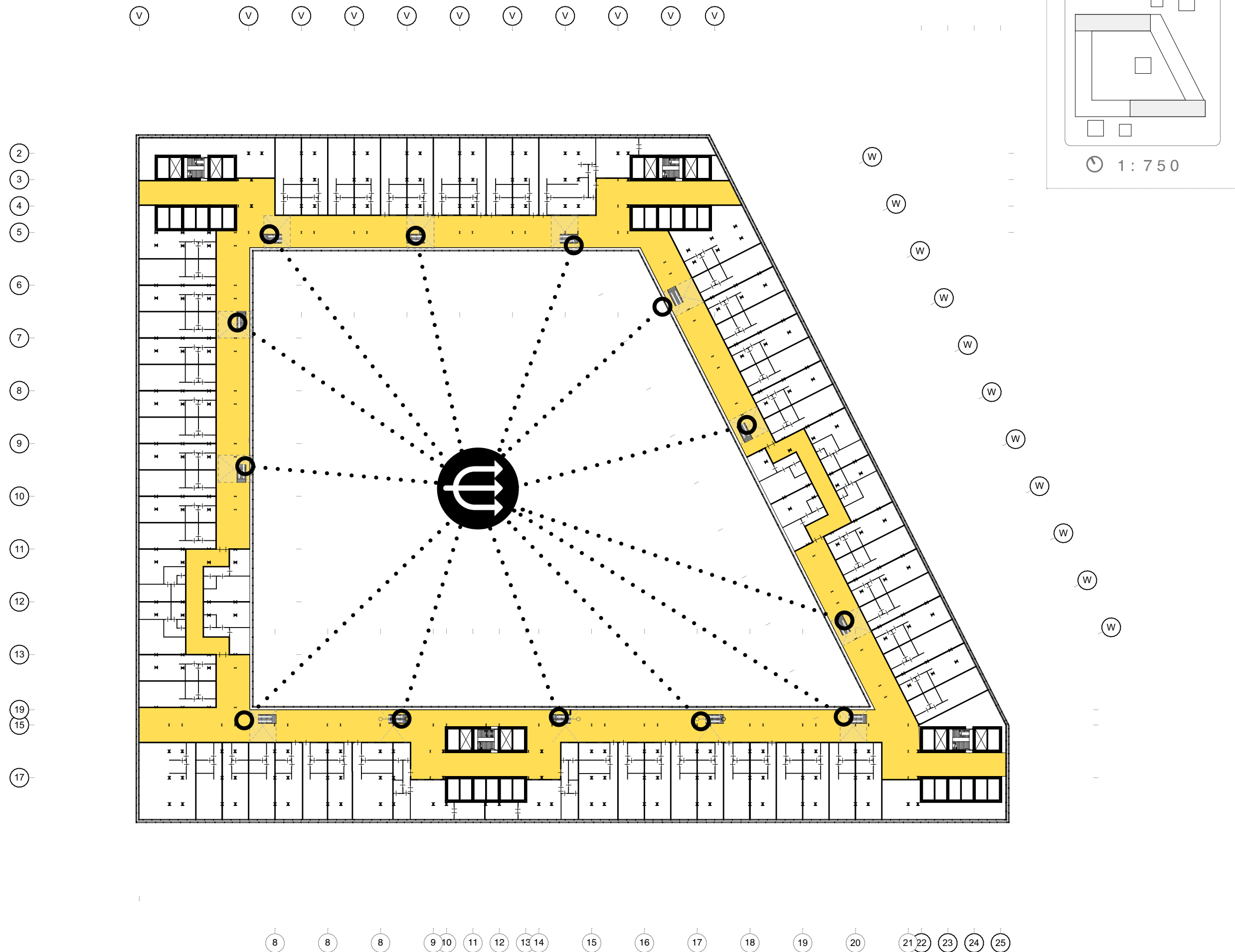


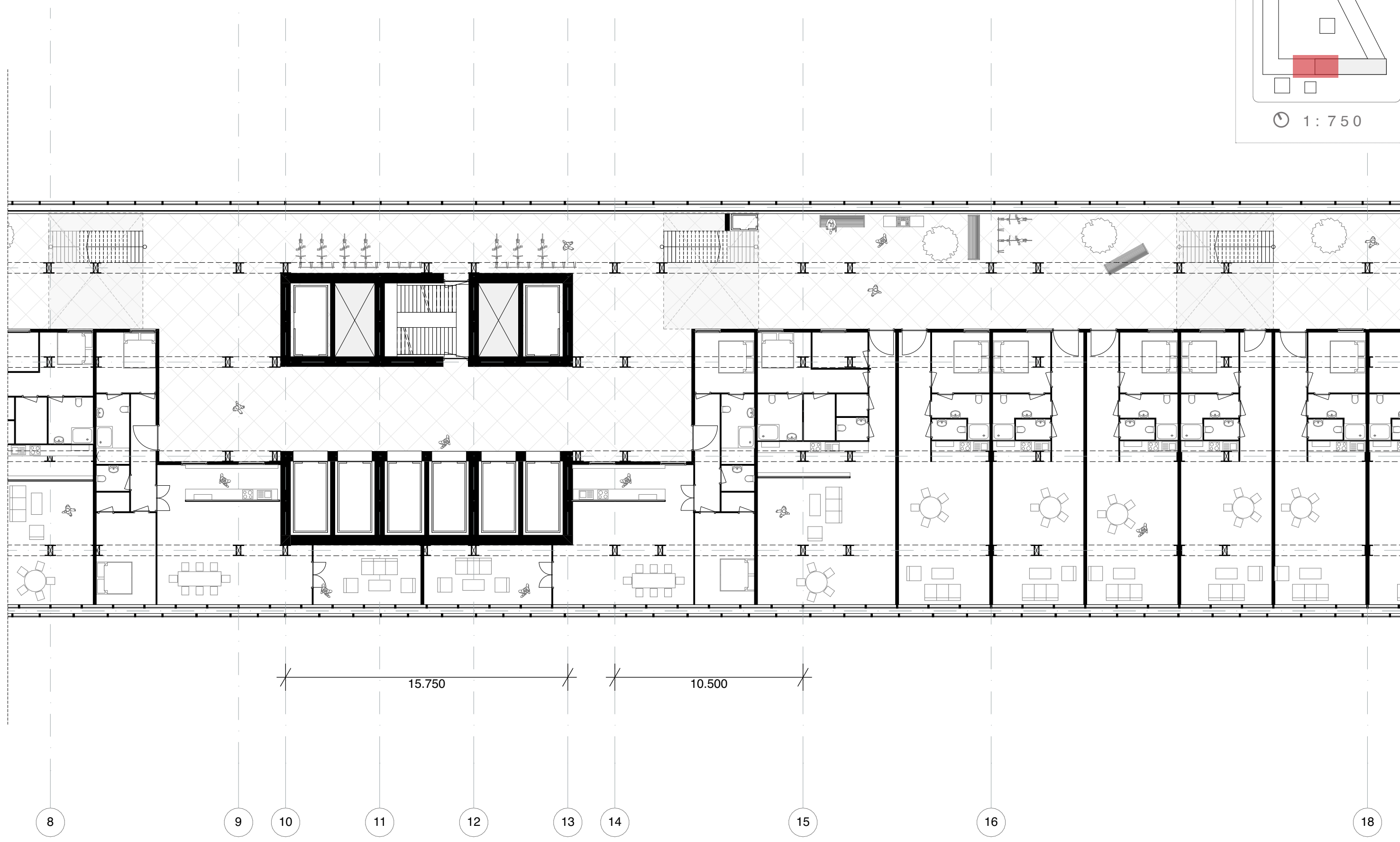
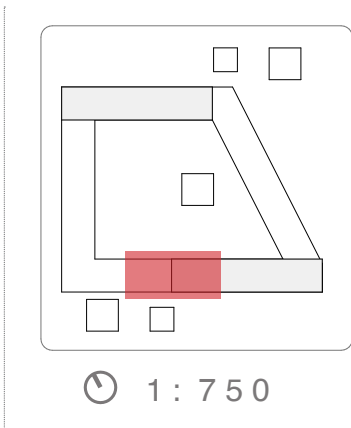
Gallery Perimeter
Doesnt Suffice , +75m

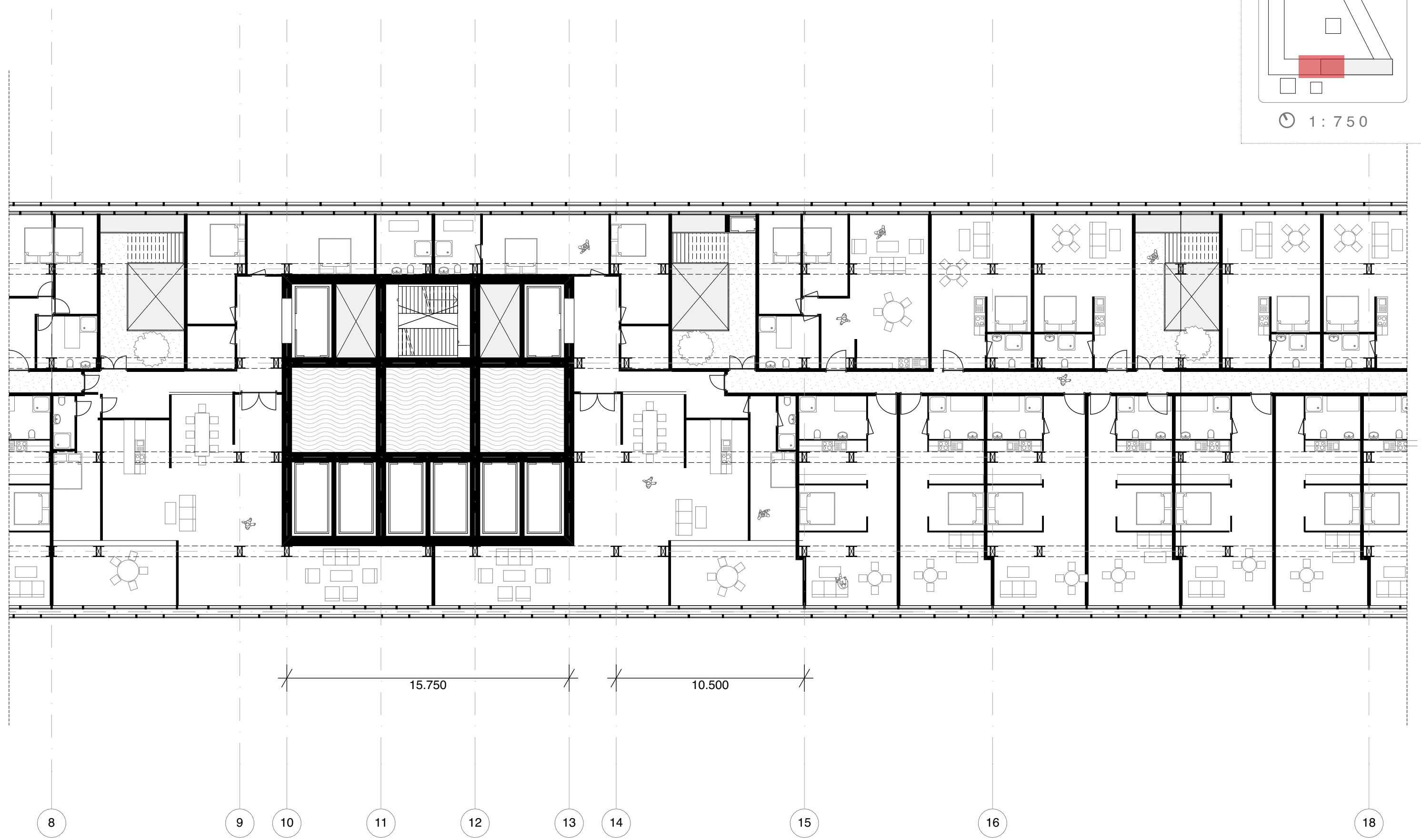
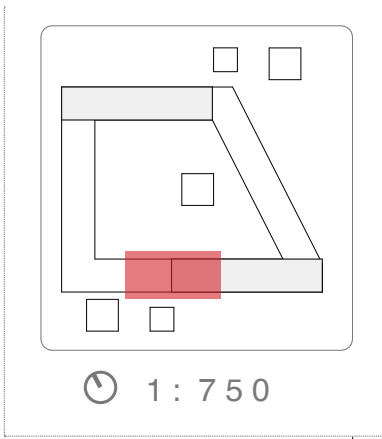


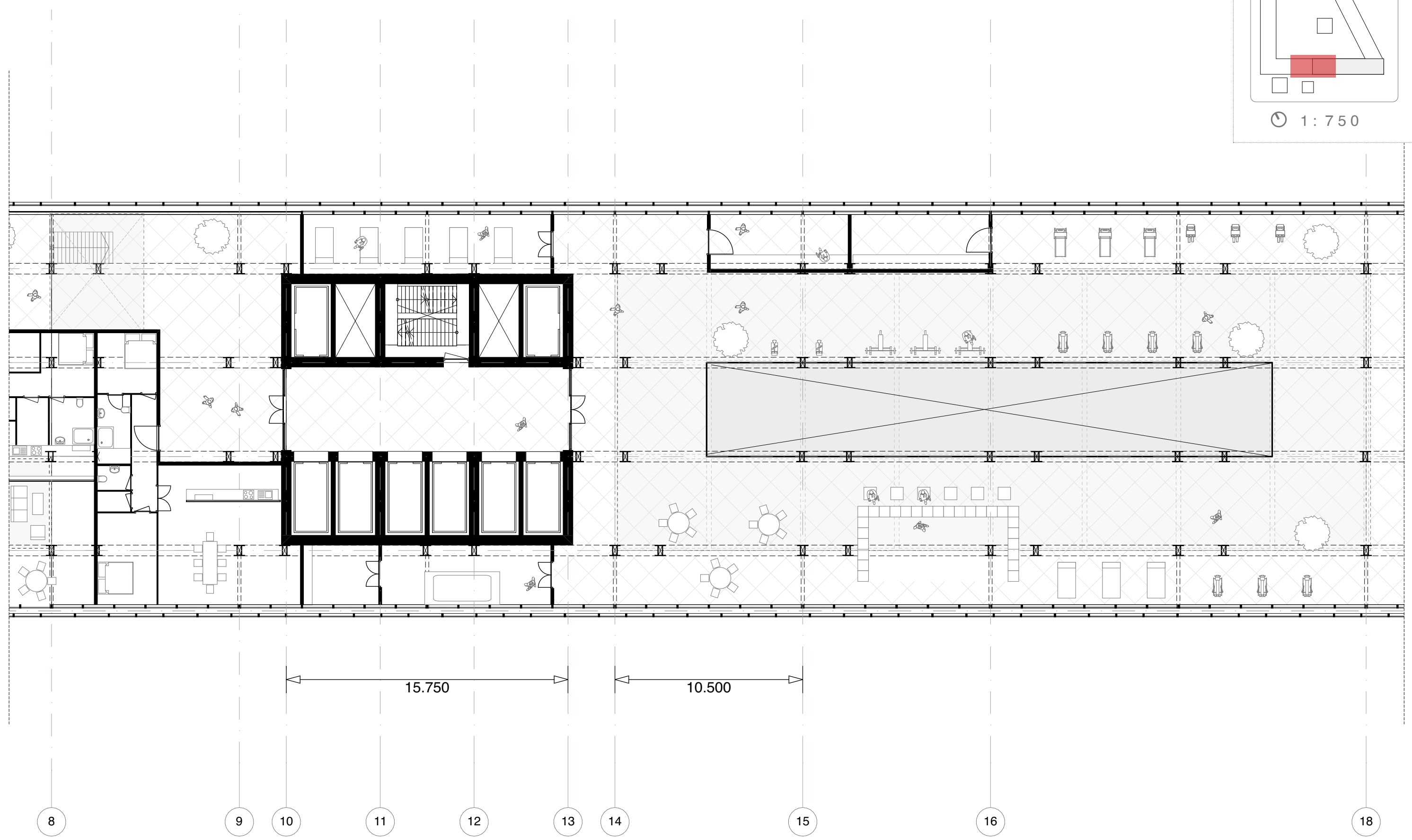
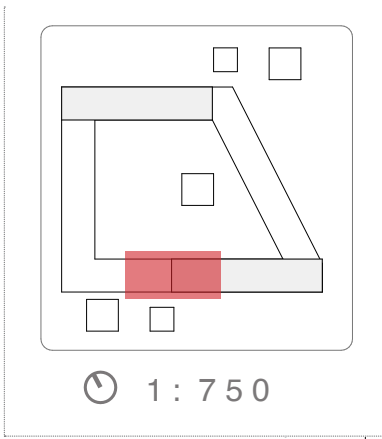
Combined Hallway & Gallery
Suffices, +105m









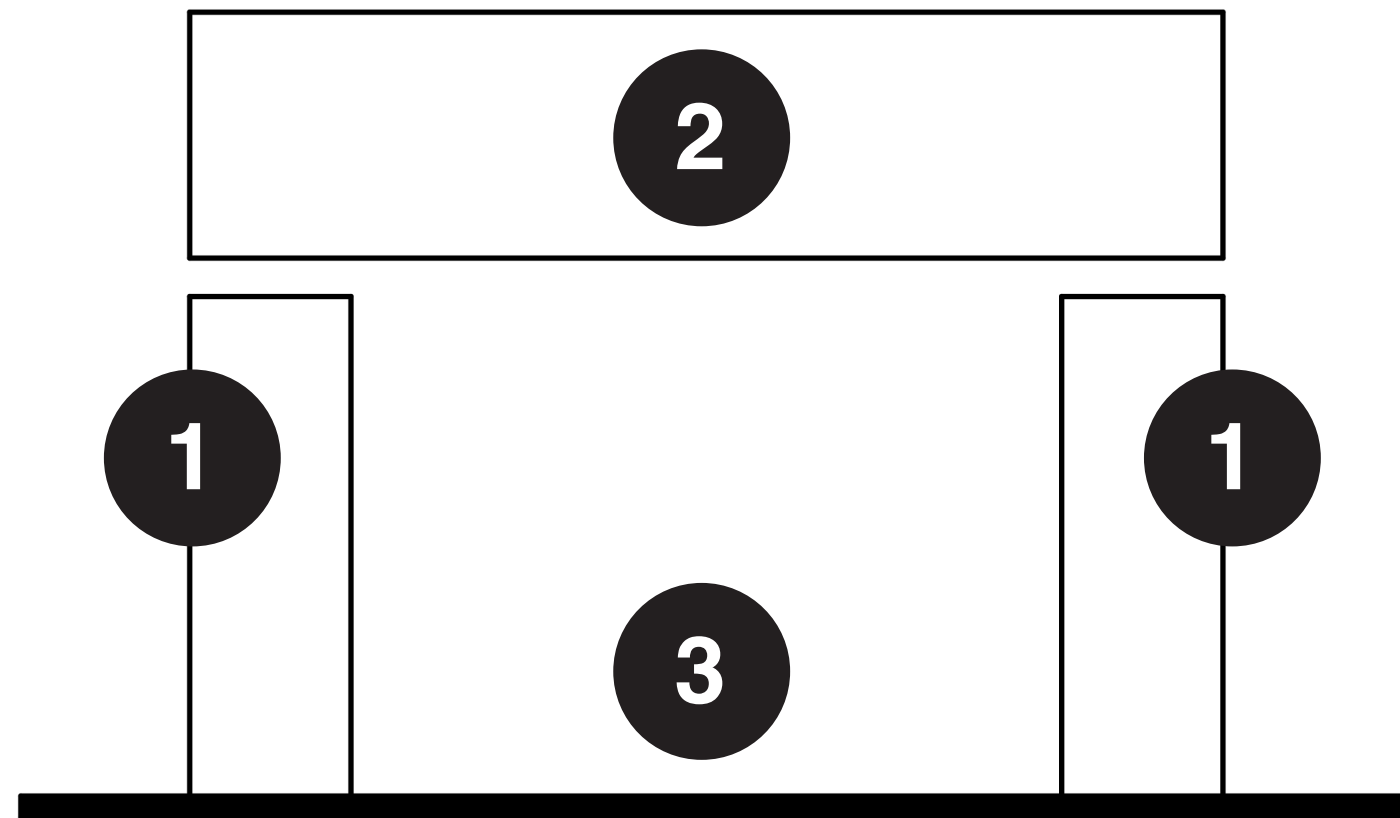


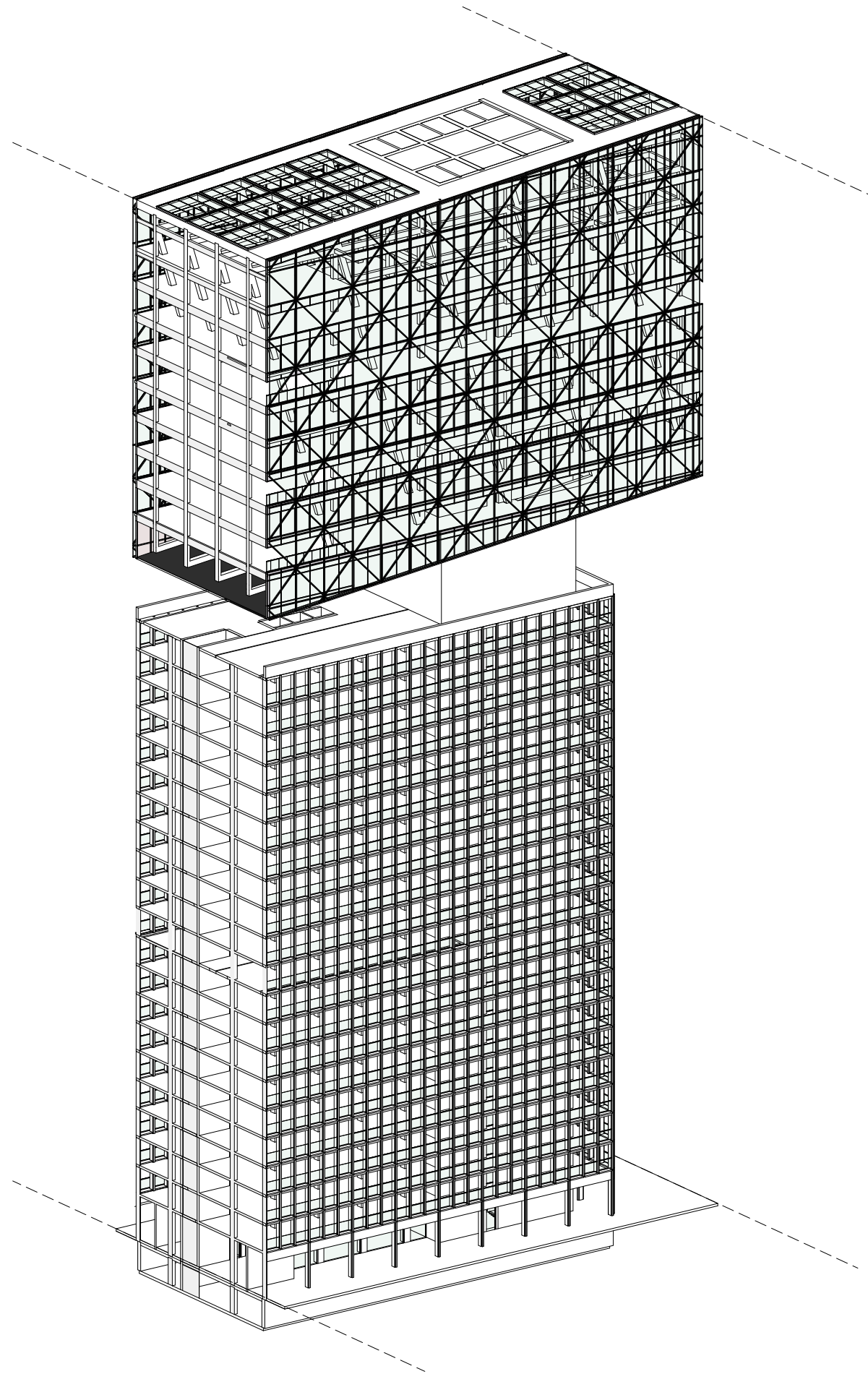


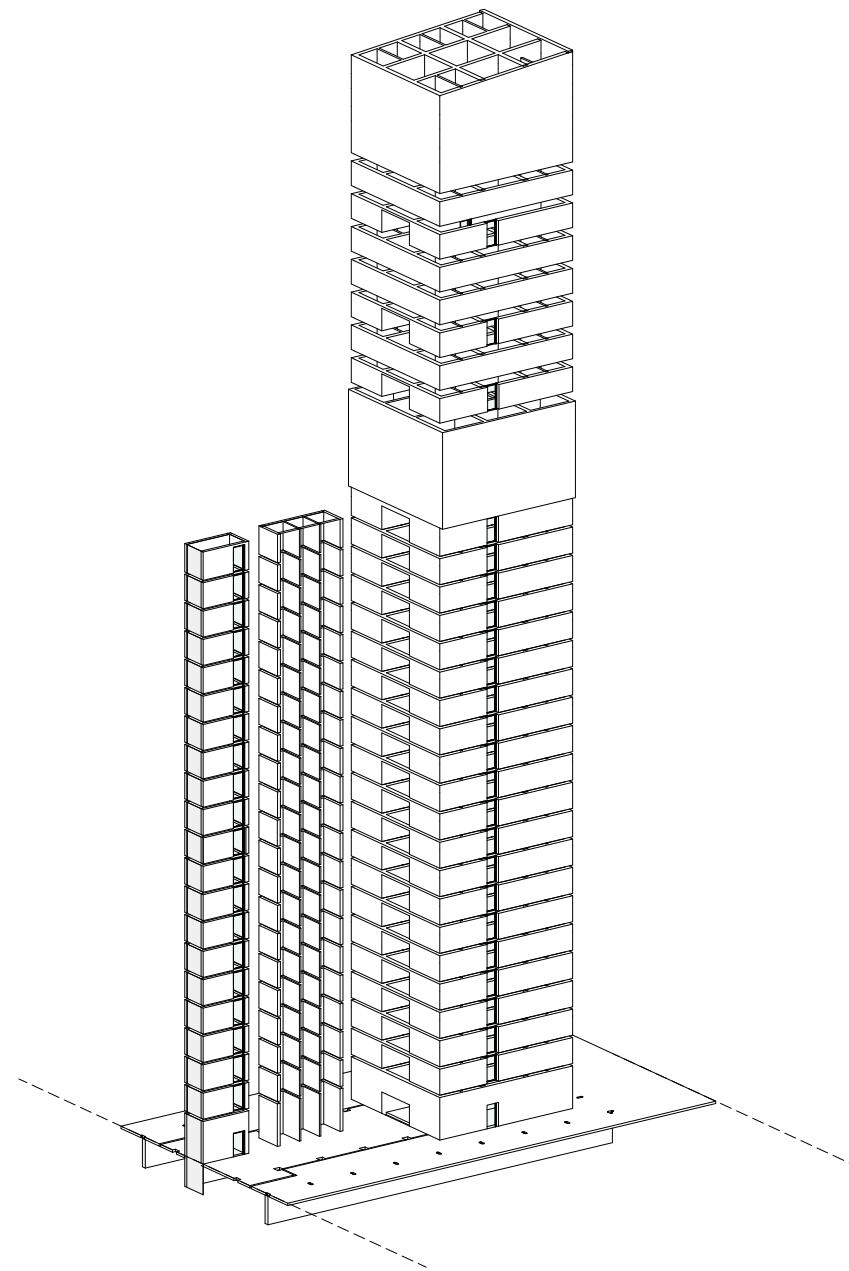




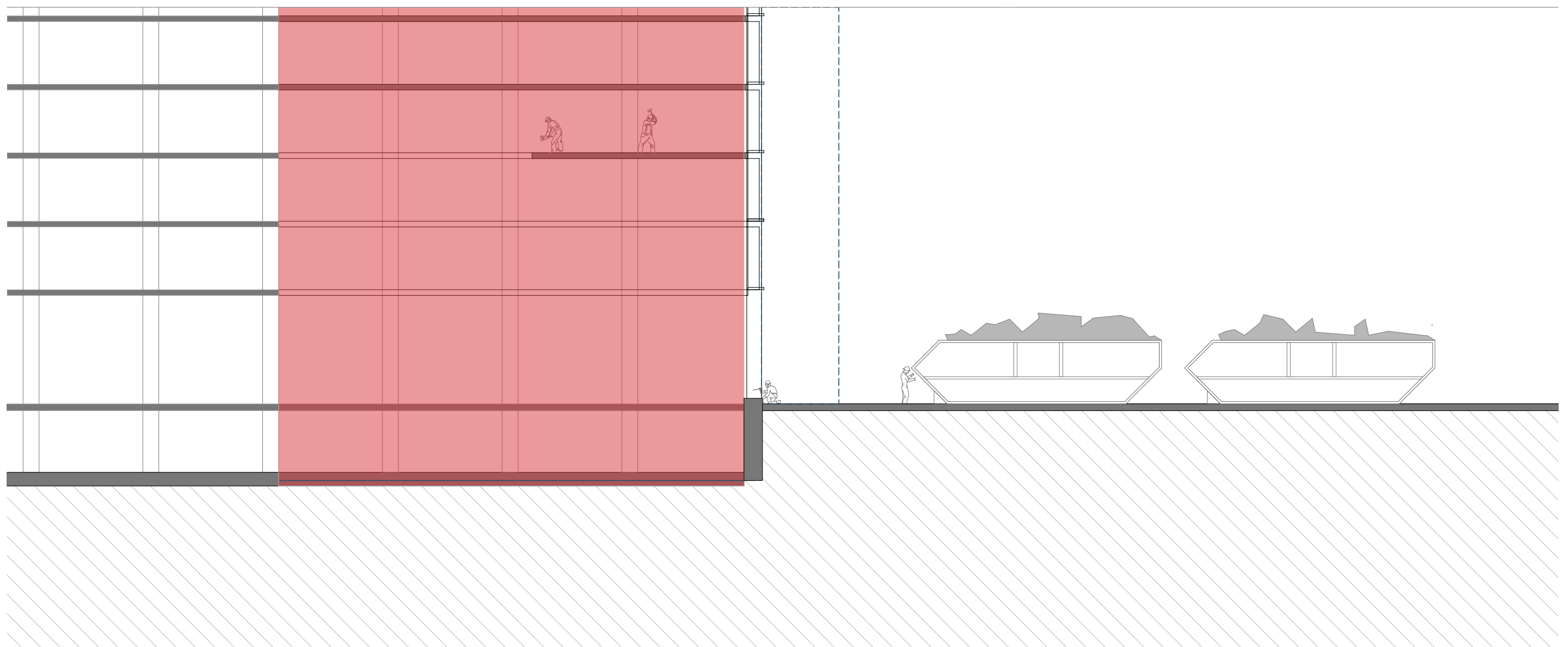
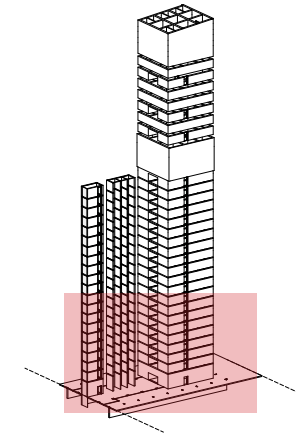
STRUCTURE



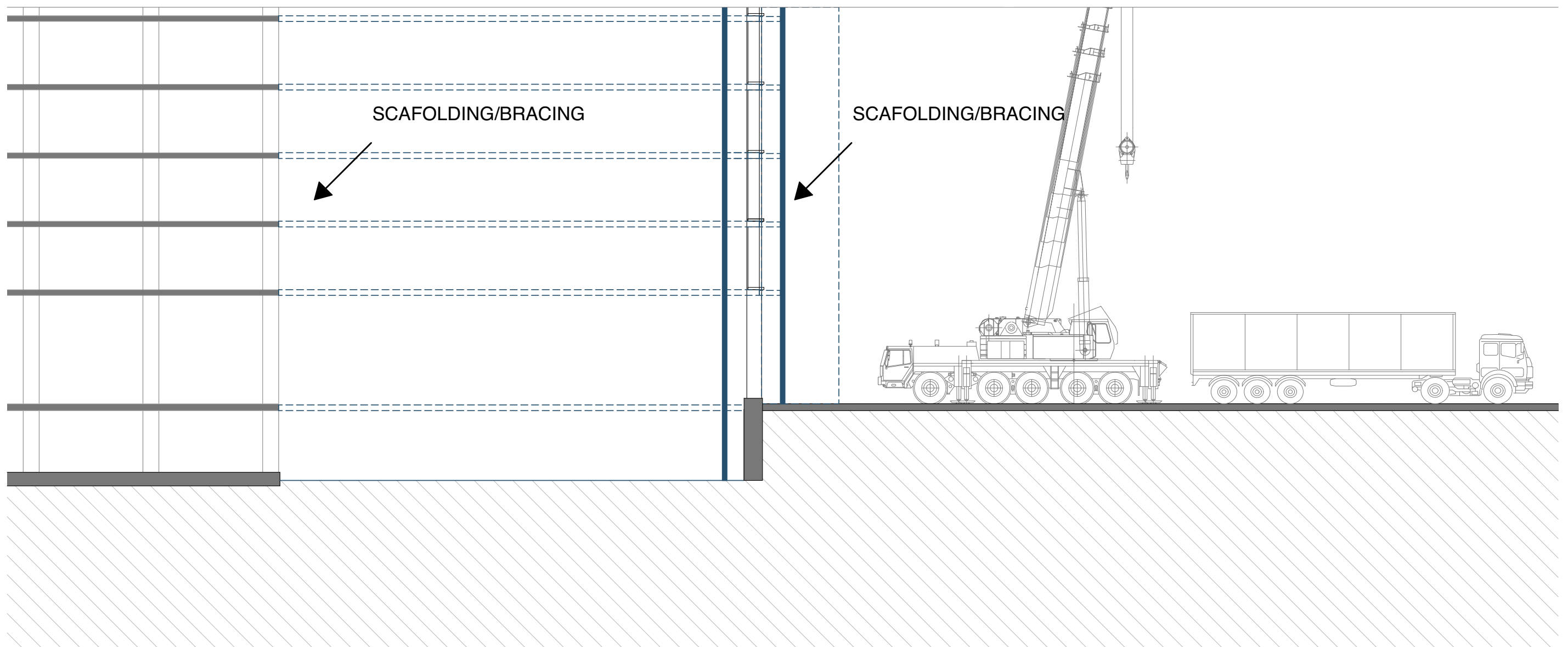
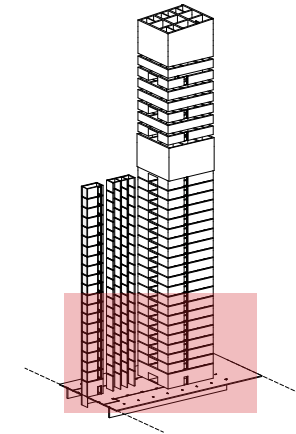




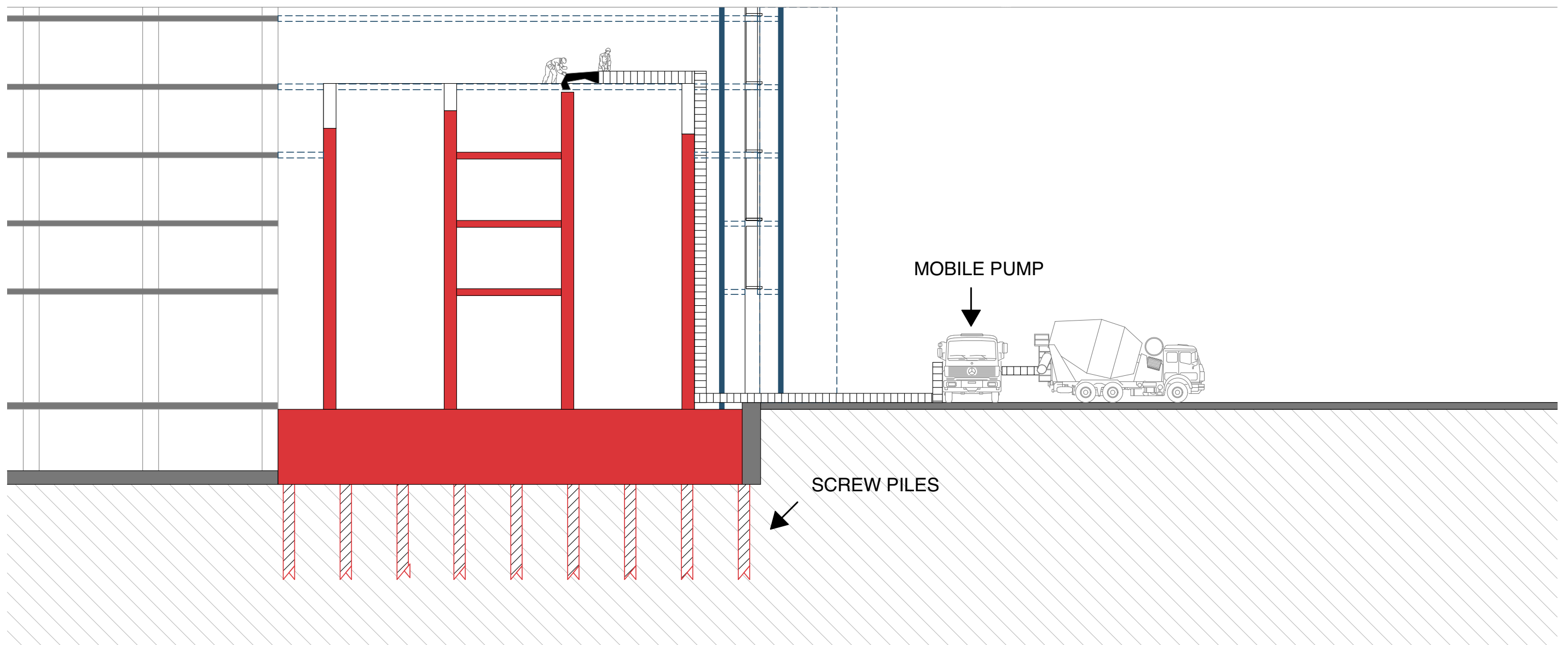
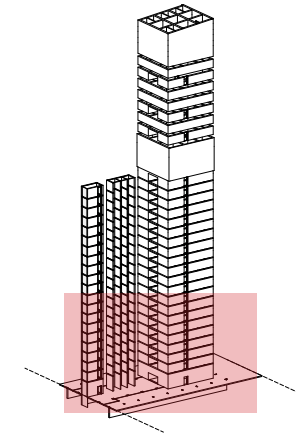
1. Placing of **insitu concrete** circulation **core** in **outer wings** of the tower's structure



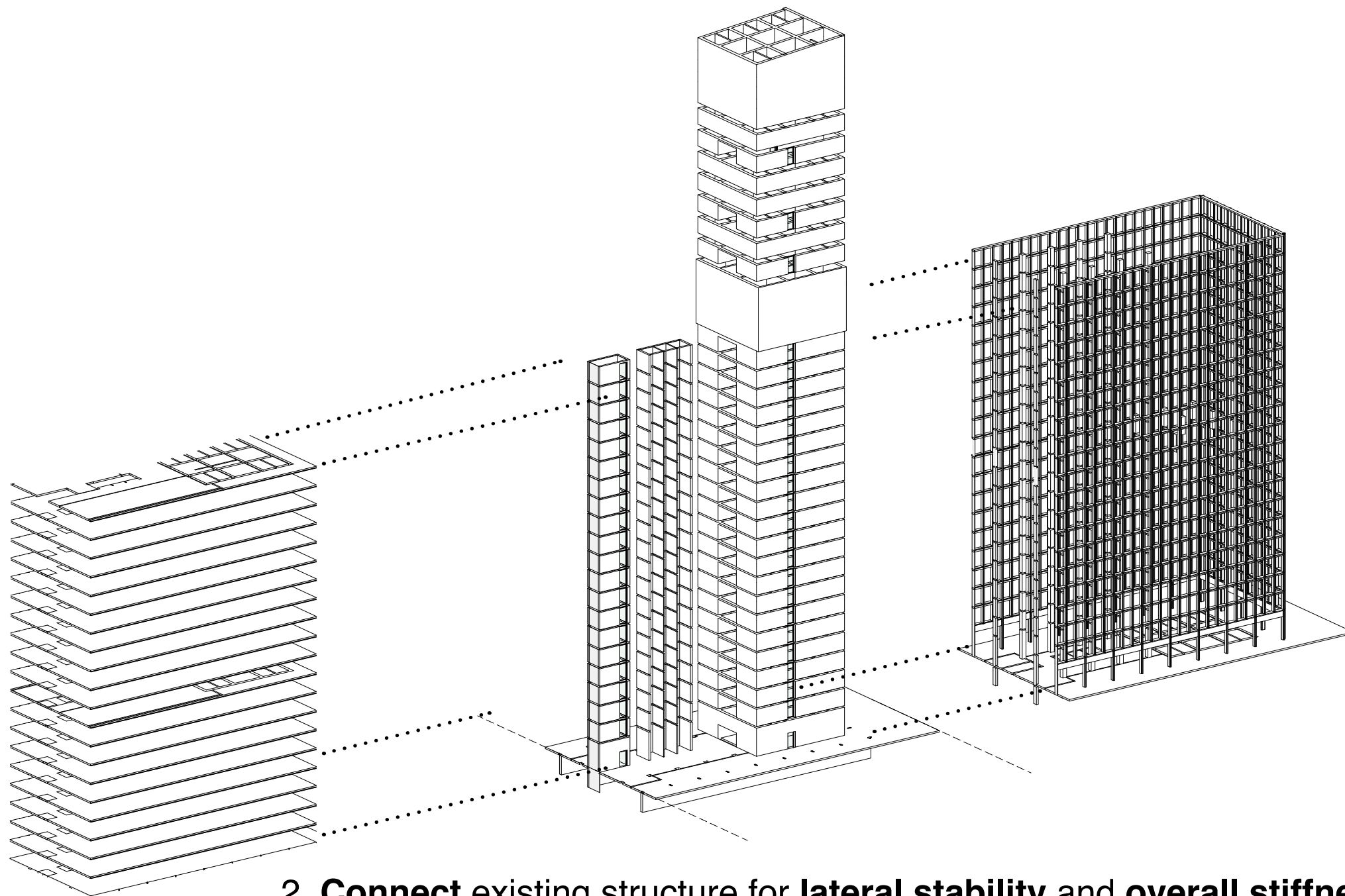
Inside out- **removal** of structural **floors** and **beams**.



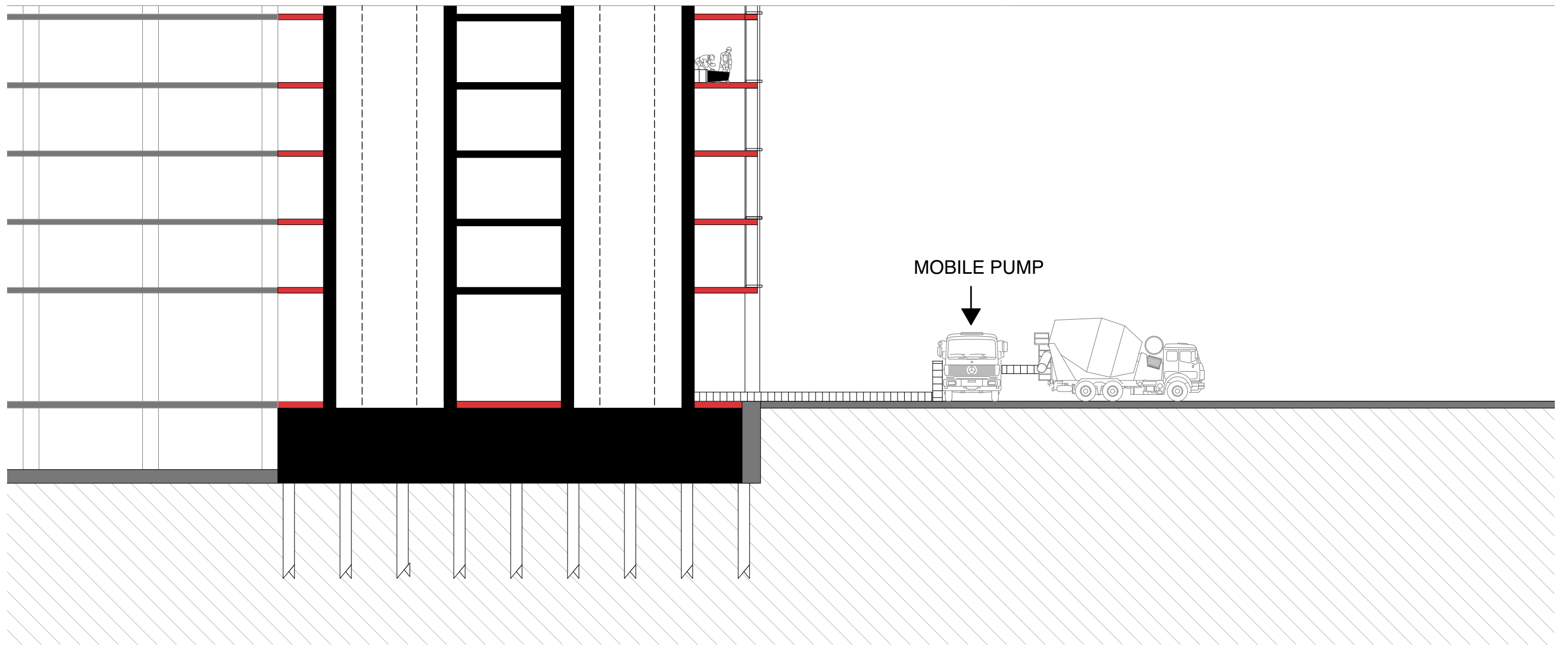
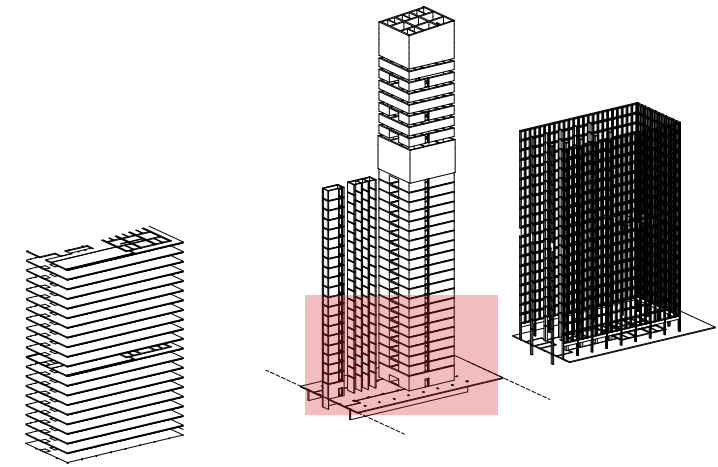
Built up scaffolding and **bracing** to **stabilize** existing **structural facade**.



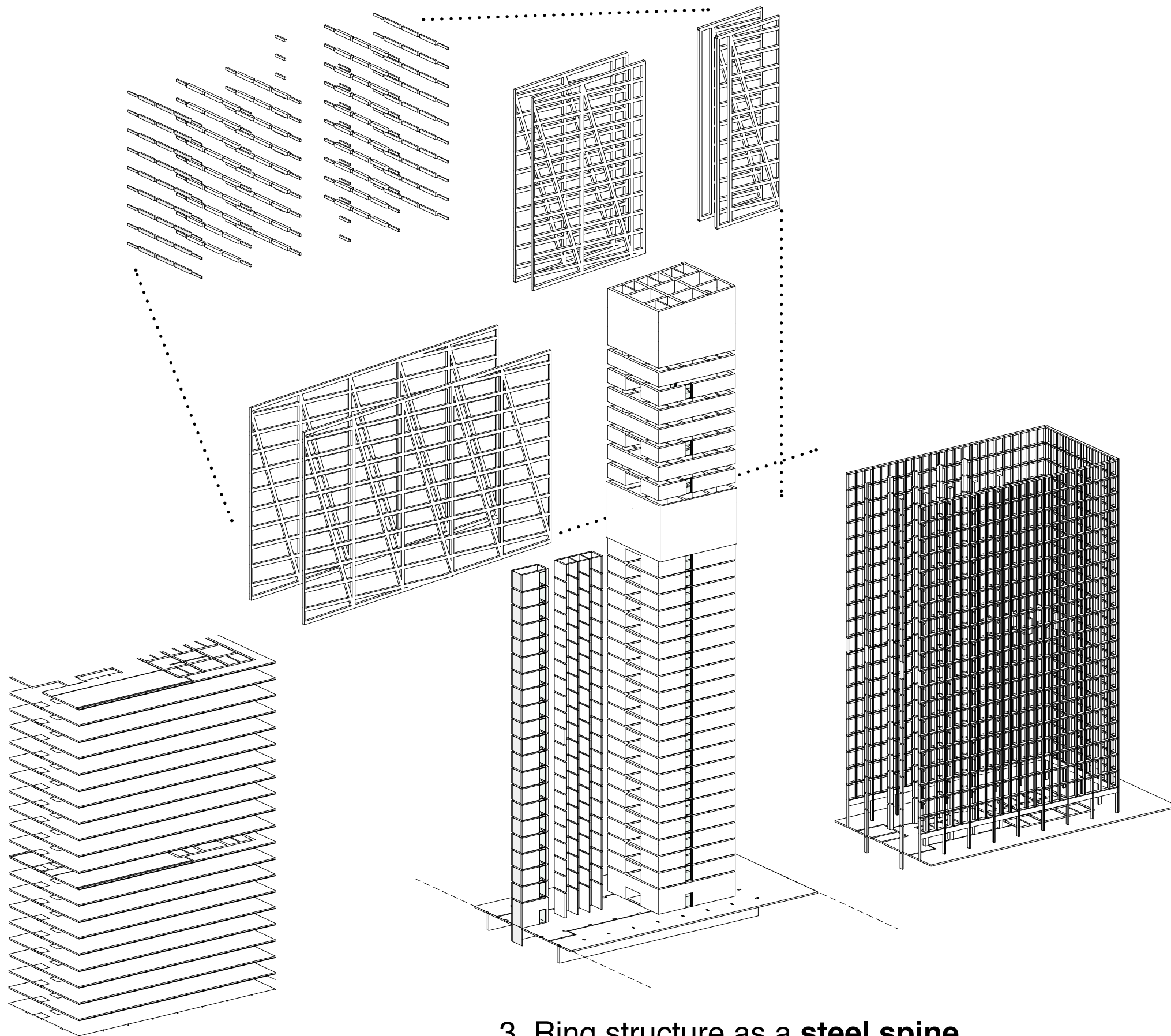
Existing basement as foundation slab on **vibration free piles**. Built up the **insitu-concrete core**.



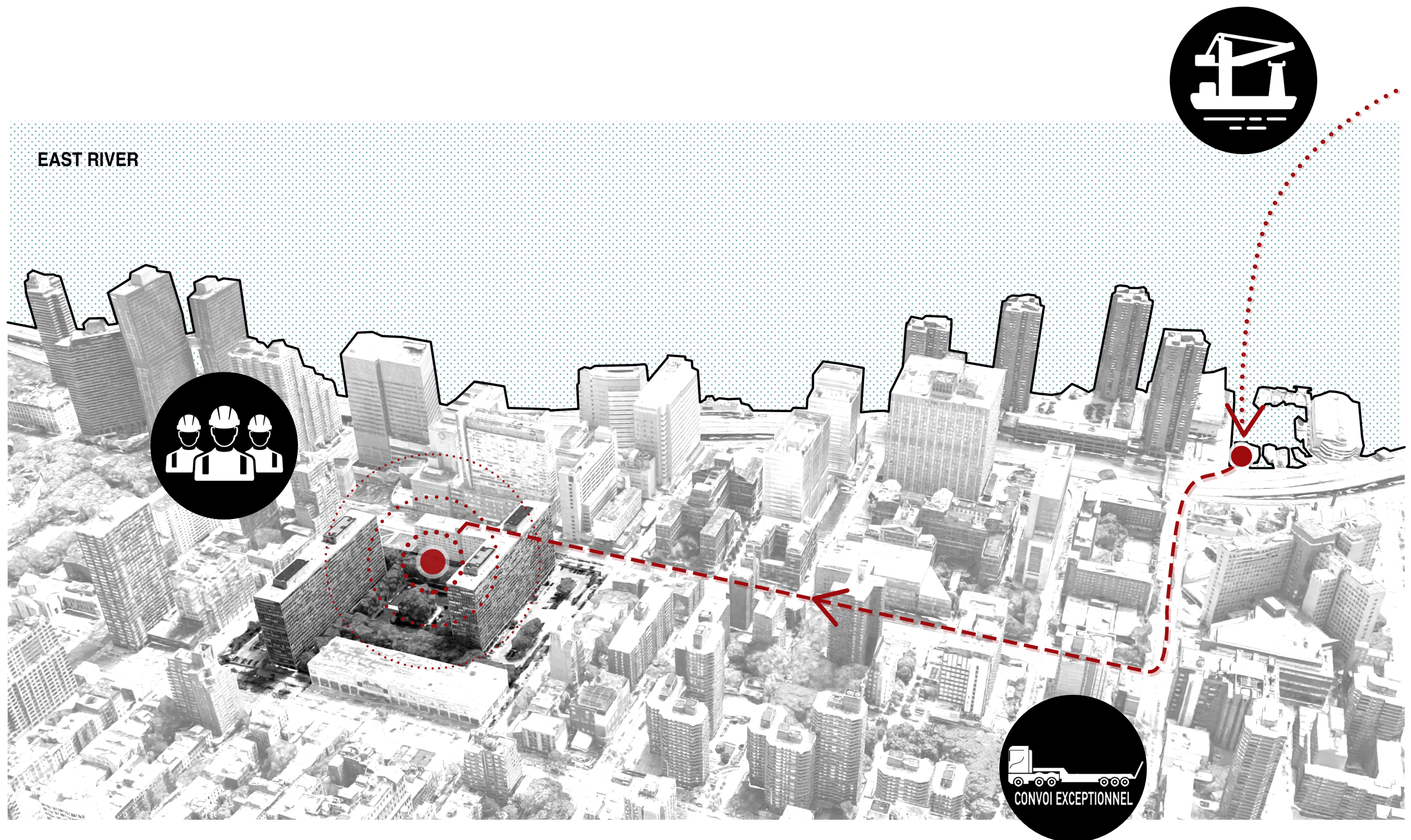
2. **Connect** existing structure for **lateral stability** and **overall stiffness**.



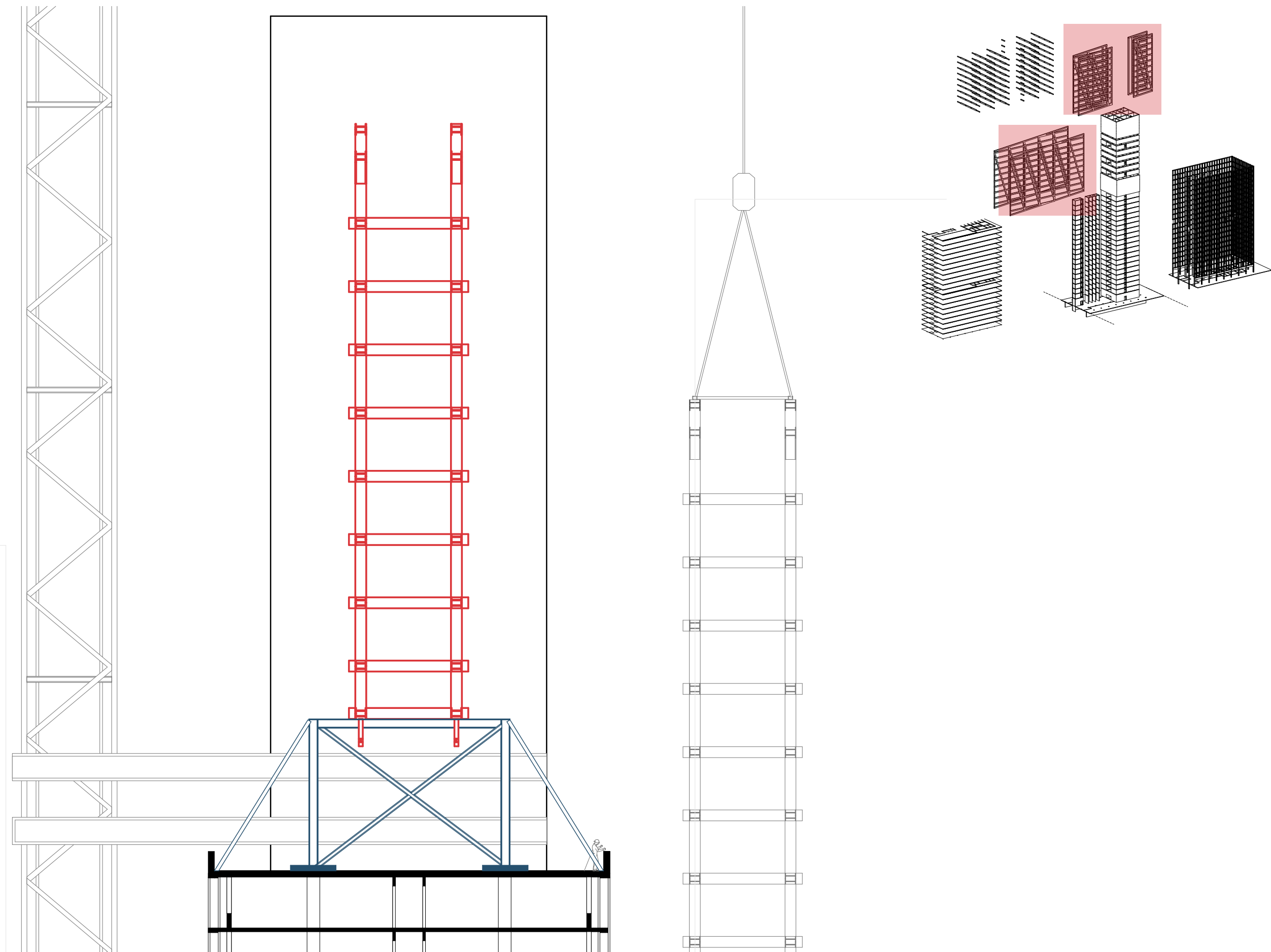
Attach new to old by insitu concrete floor systems.



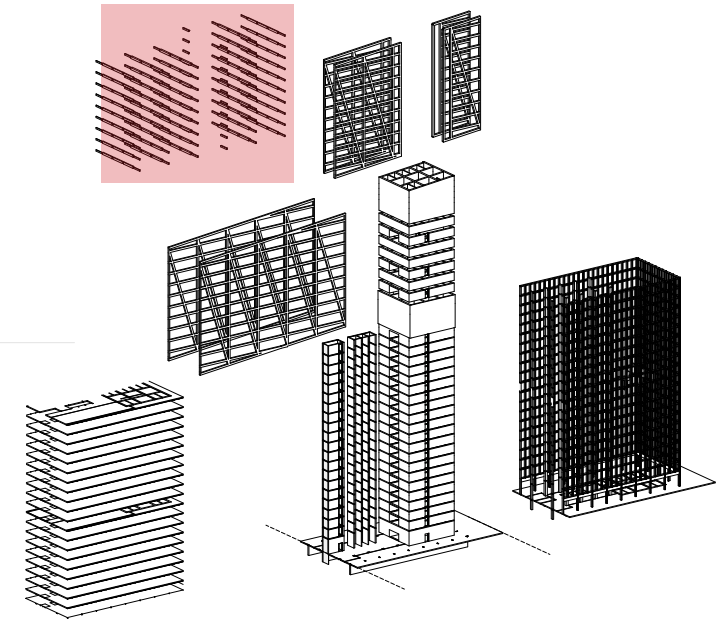
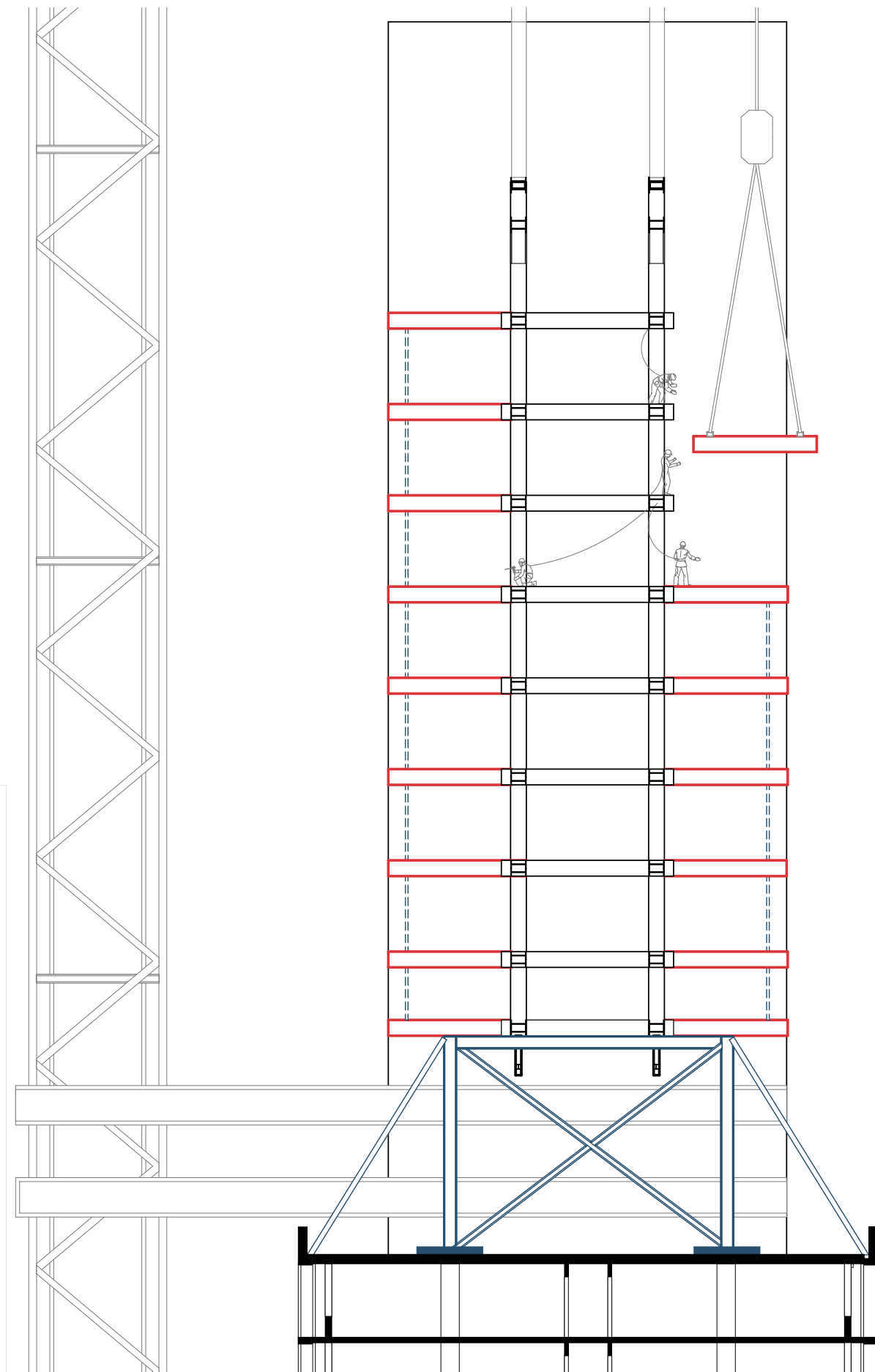
3. Ring structure as a **steel spine**.



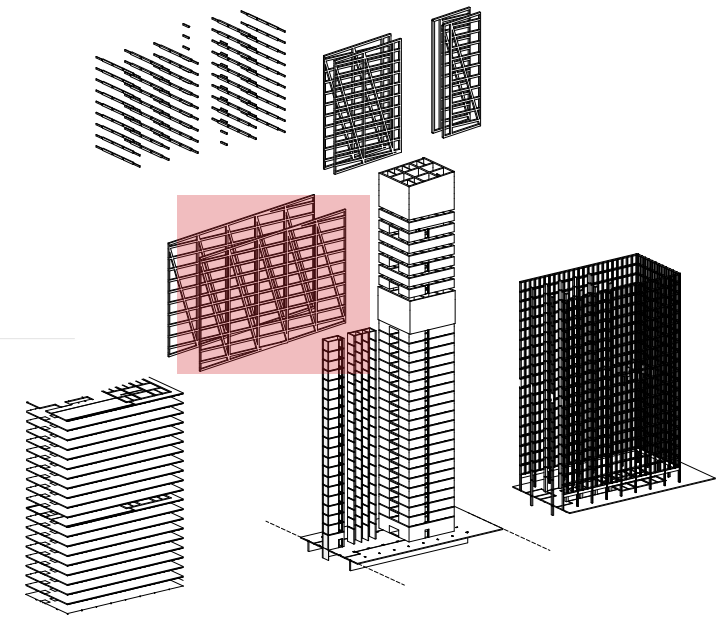
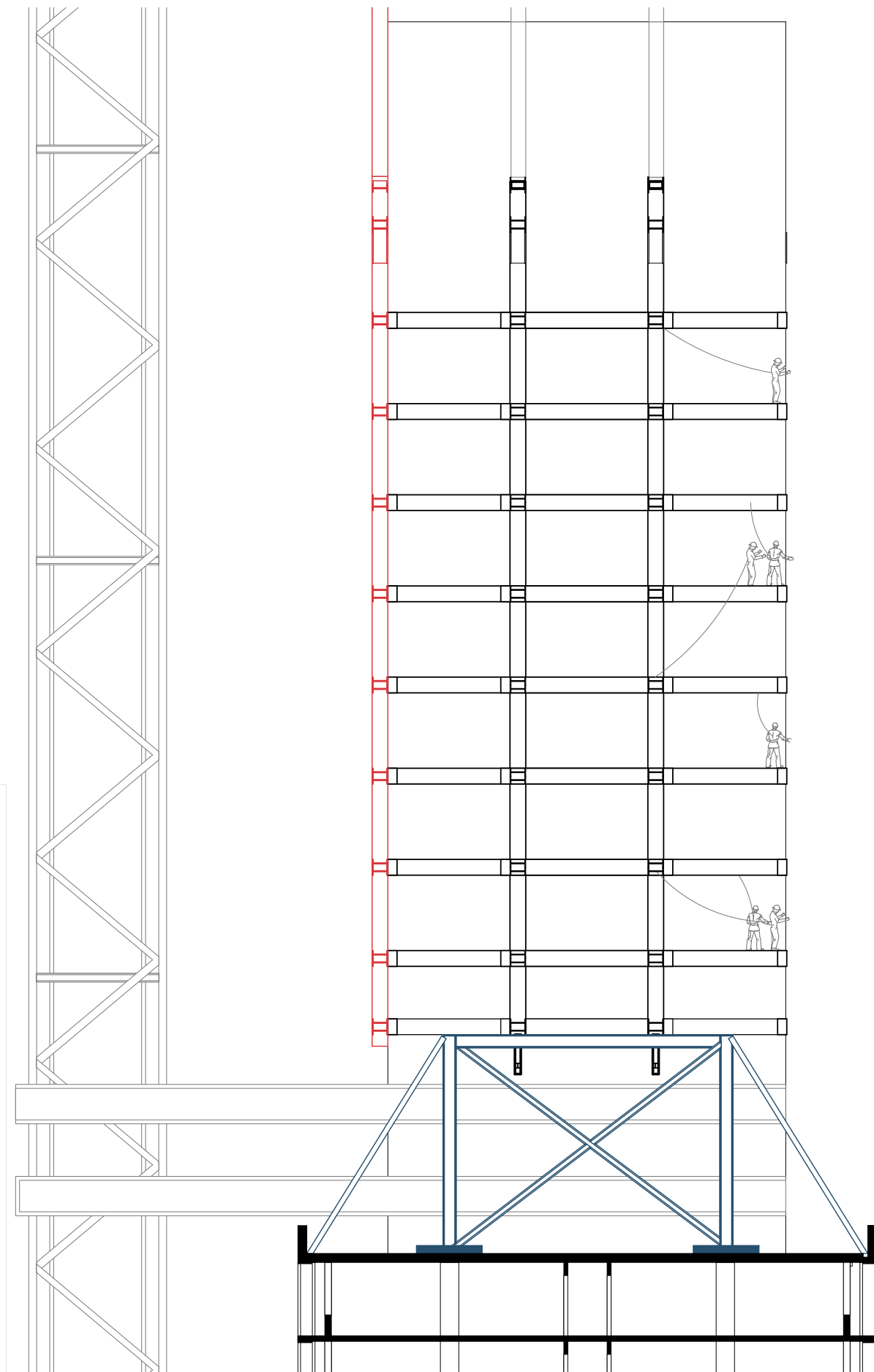
Prefab spine structure fragments, transported over the East River from fabrication site/manufacturer.



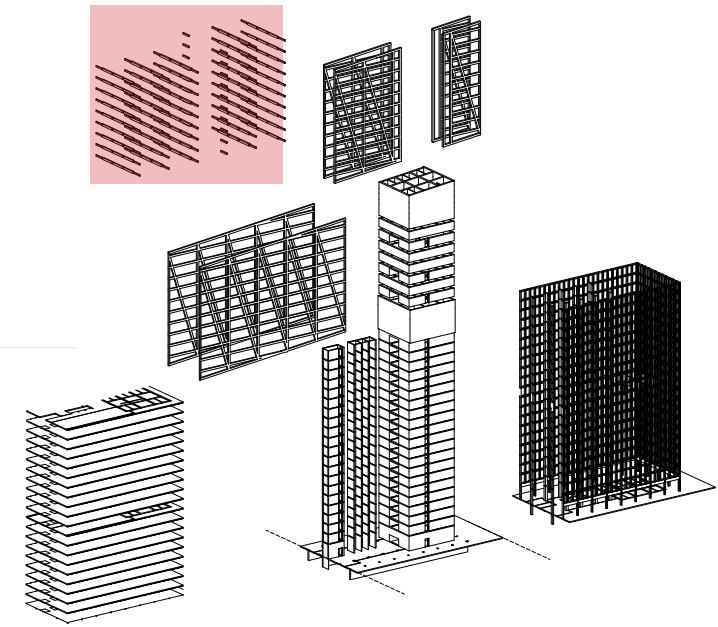
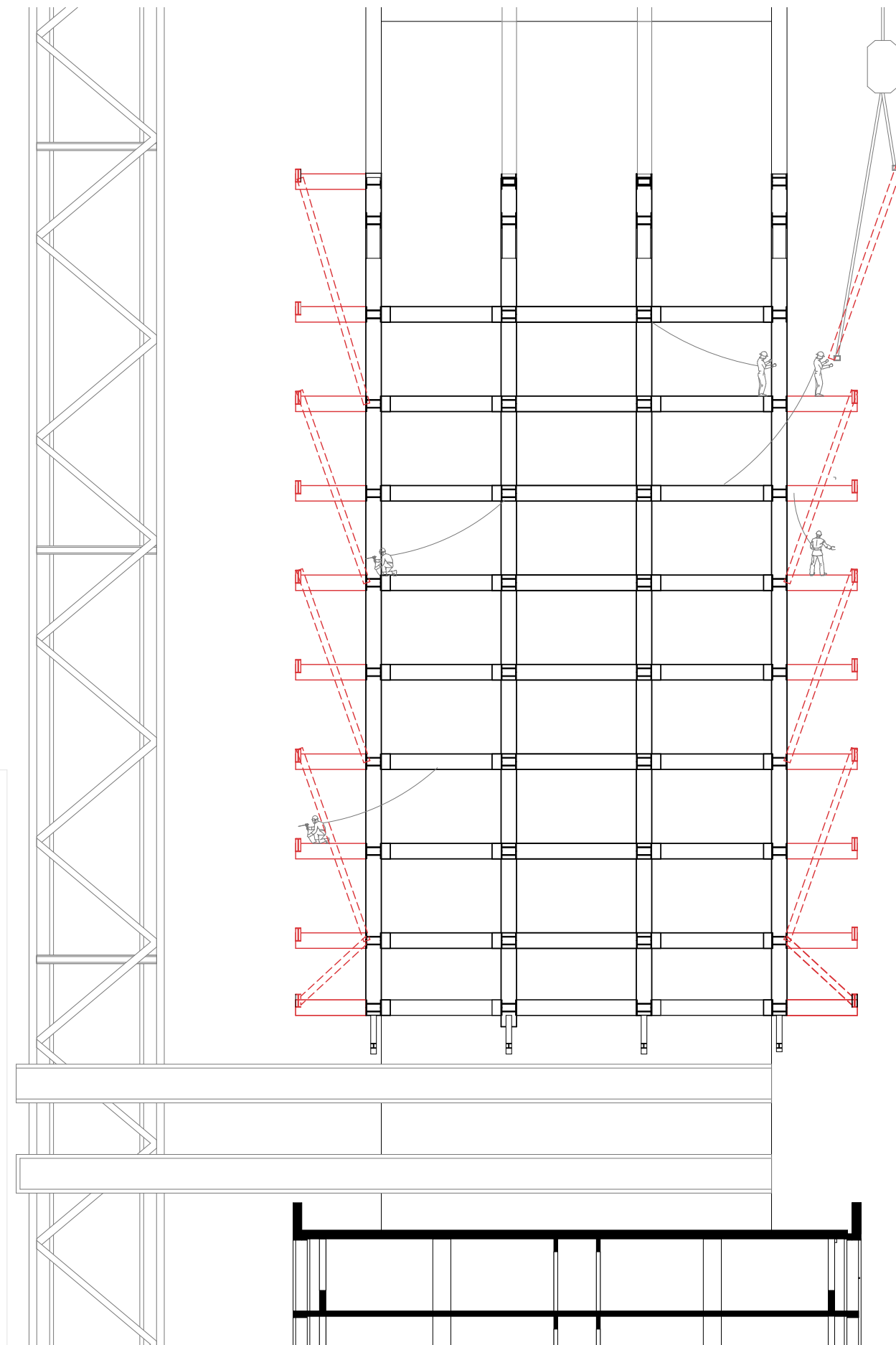
Base spine in **seperate fragments** in between cores. **Supported by towers**, along **cantilever** by **temorary structure**.



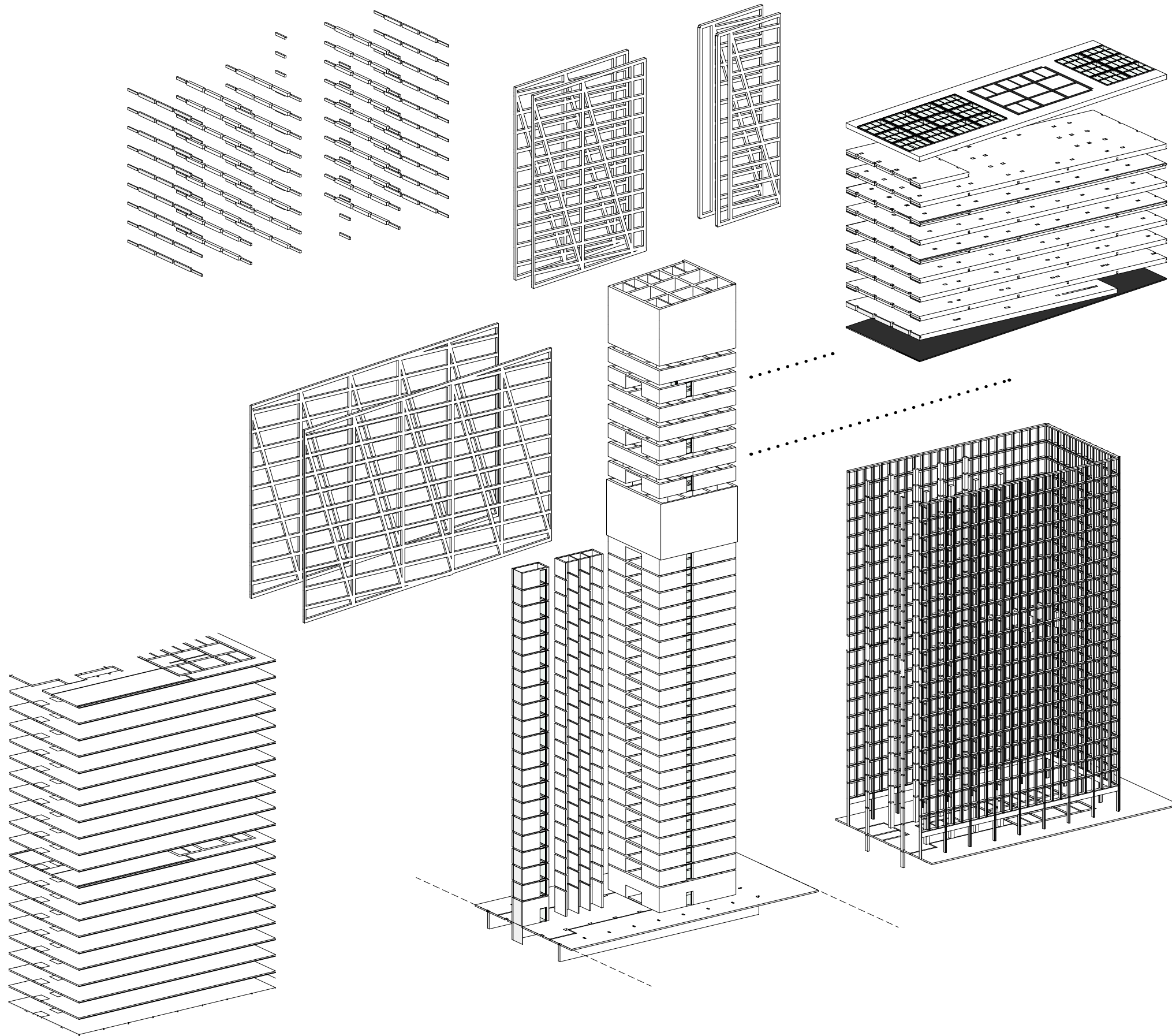
Attach steel floorbeams as **connectors outer spine**.



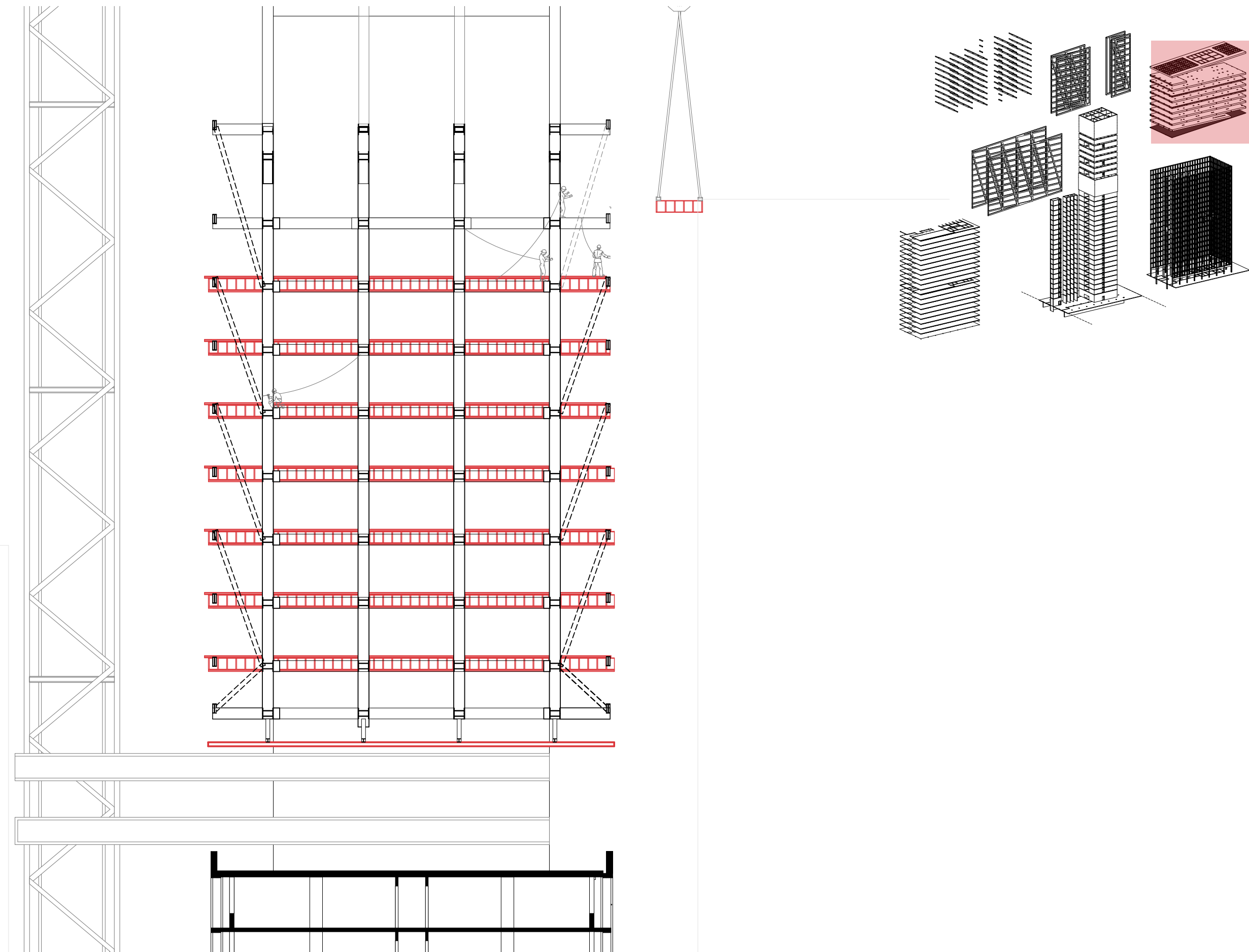
Attach full lenght **outer spine**, hoisted by multiple tower cranes.



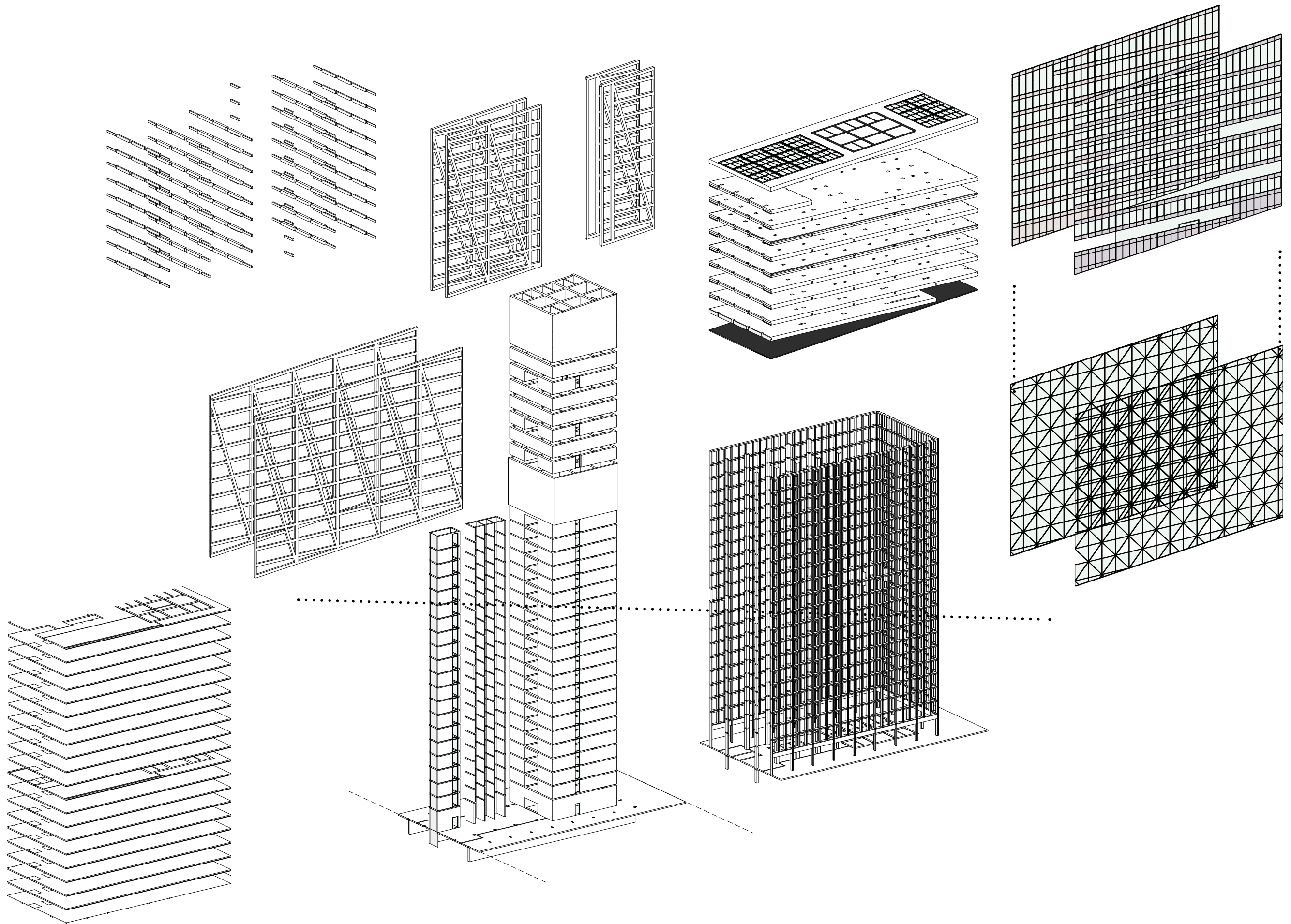
Add cantilevering extensions and structural facade beams.



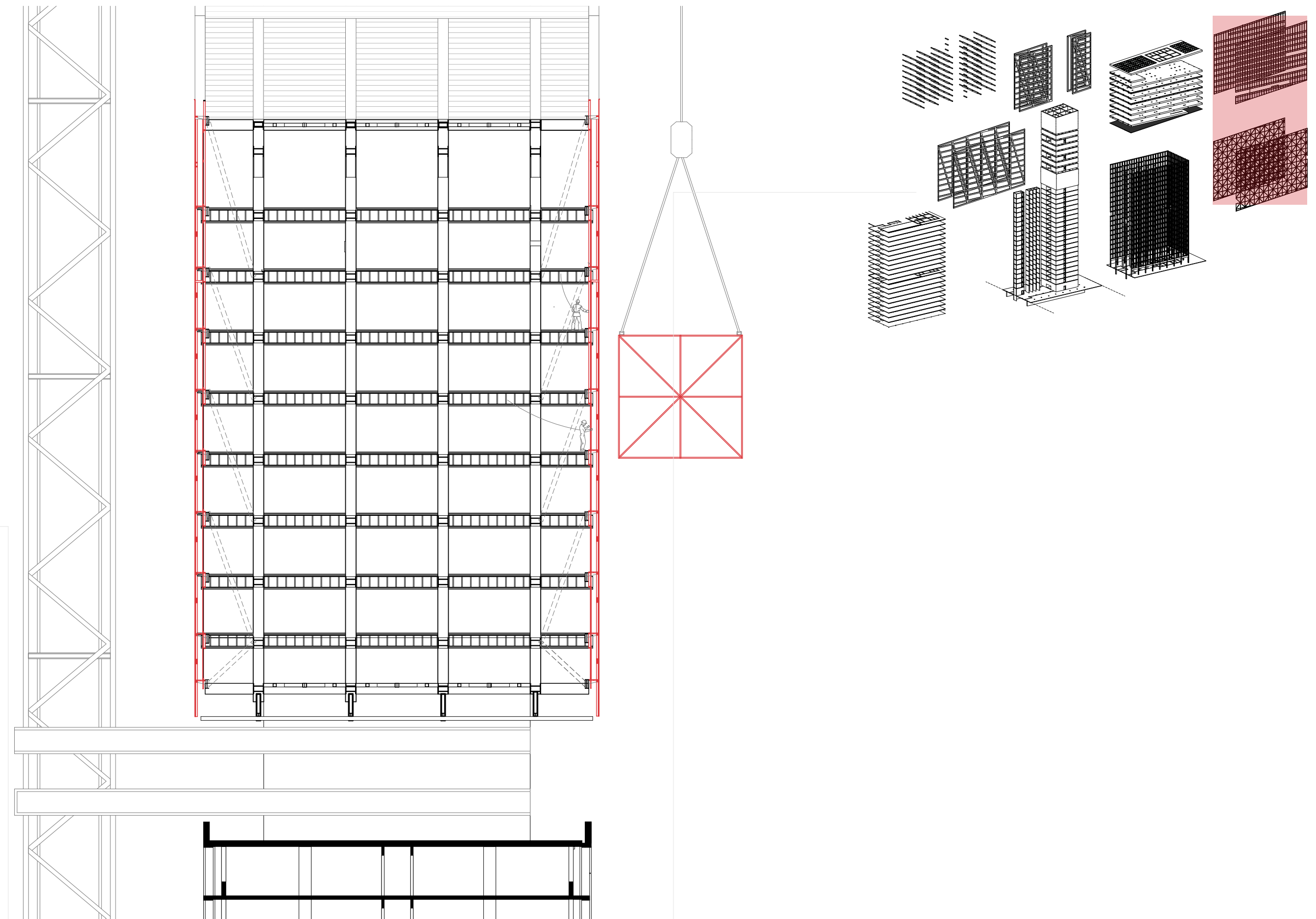
4. **Timber**, laminated & prefabricated **floorslabs** to **minimize** overall **weight** and **hide** installations.



4. **Timber**, laminated & prefabricated **floorslabs** to minimize overall **weight** and **hide installations**.

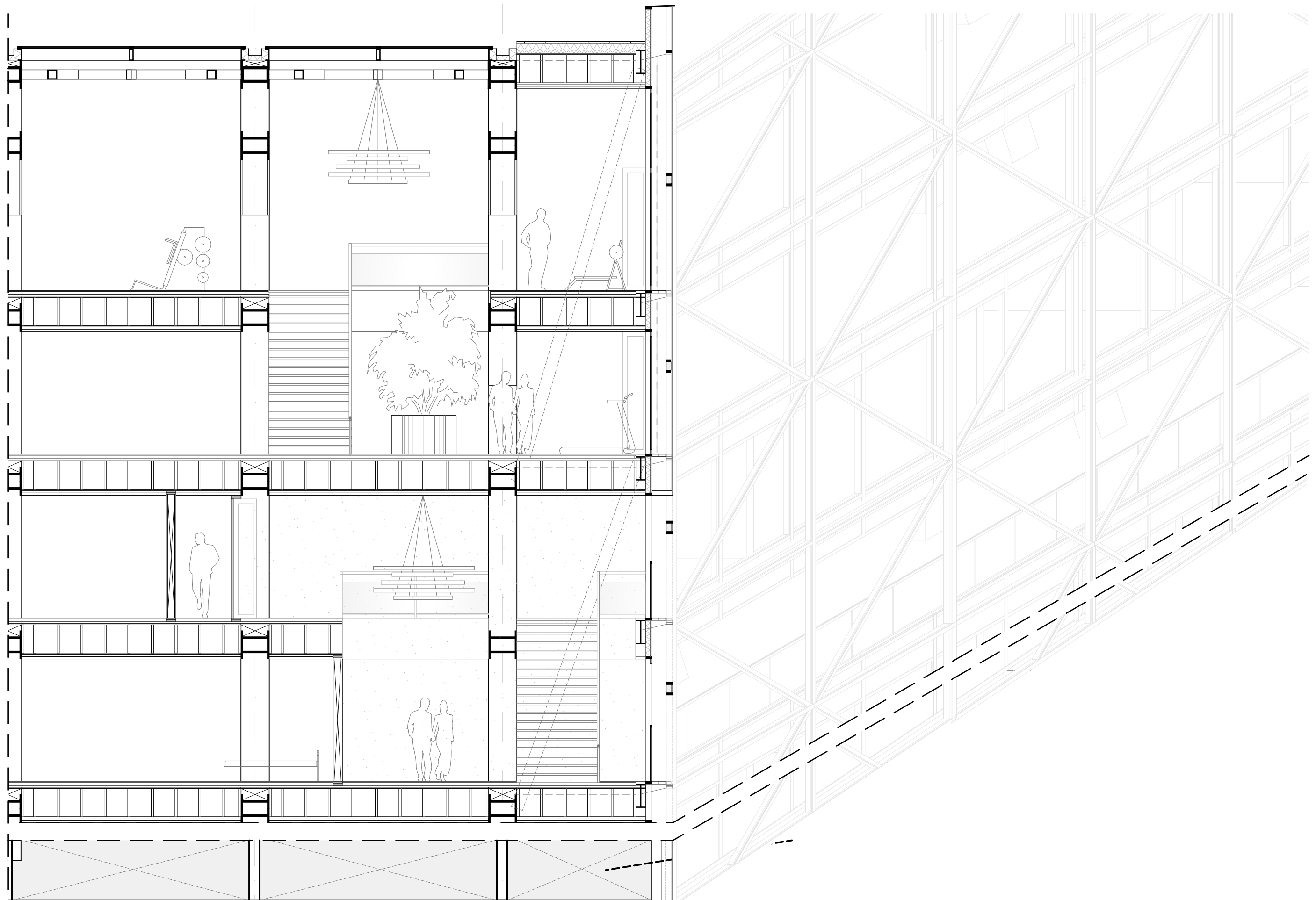


placing a **two-layered facade** system.

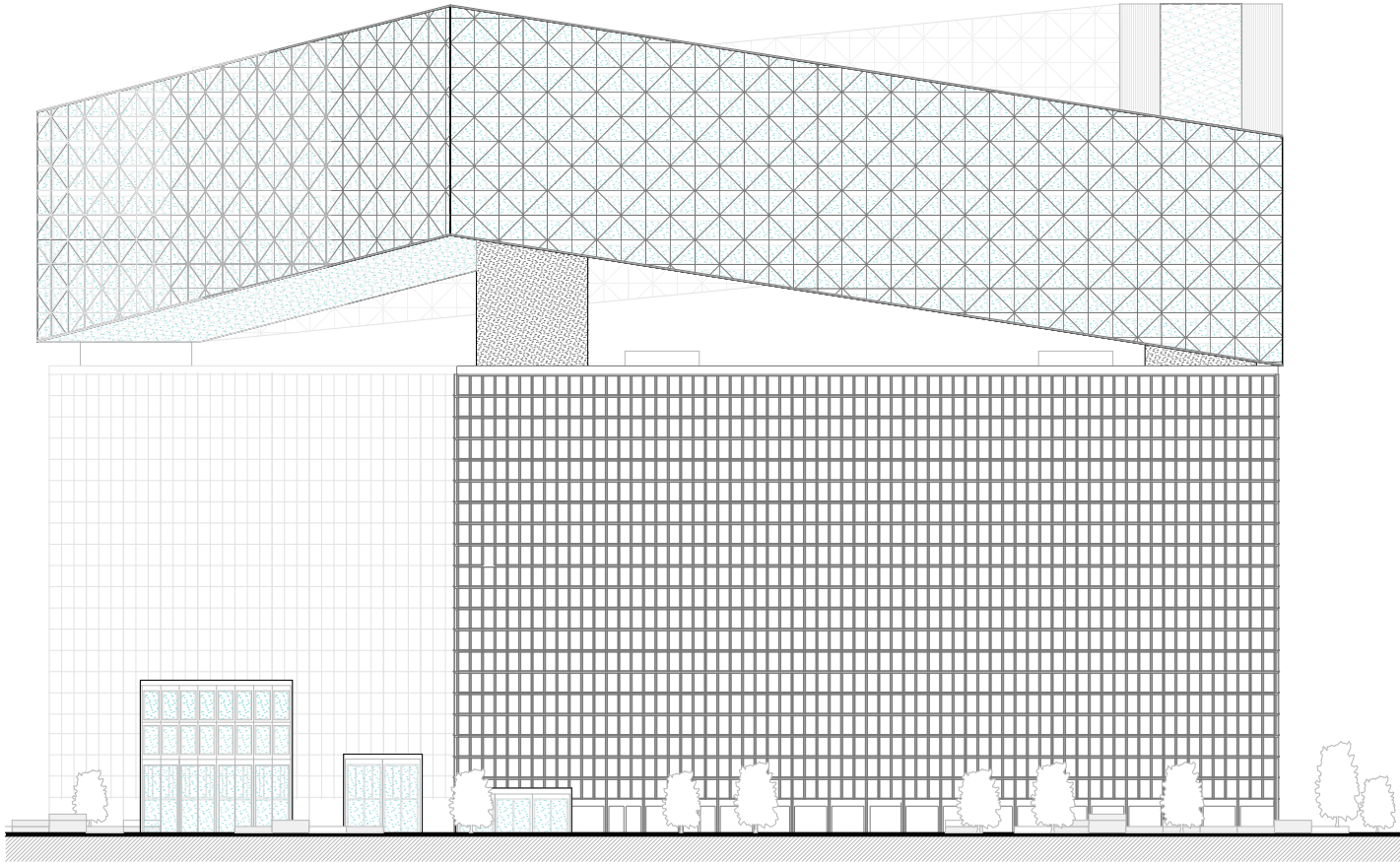


placing a **two-layered facade** system.

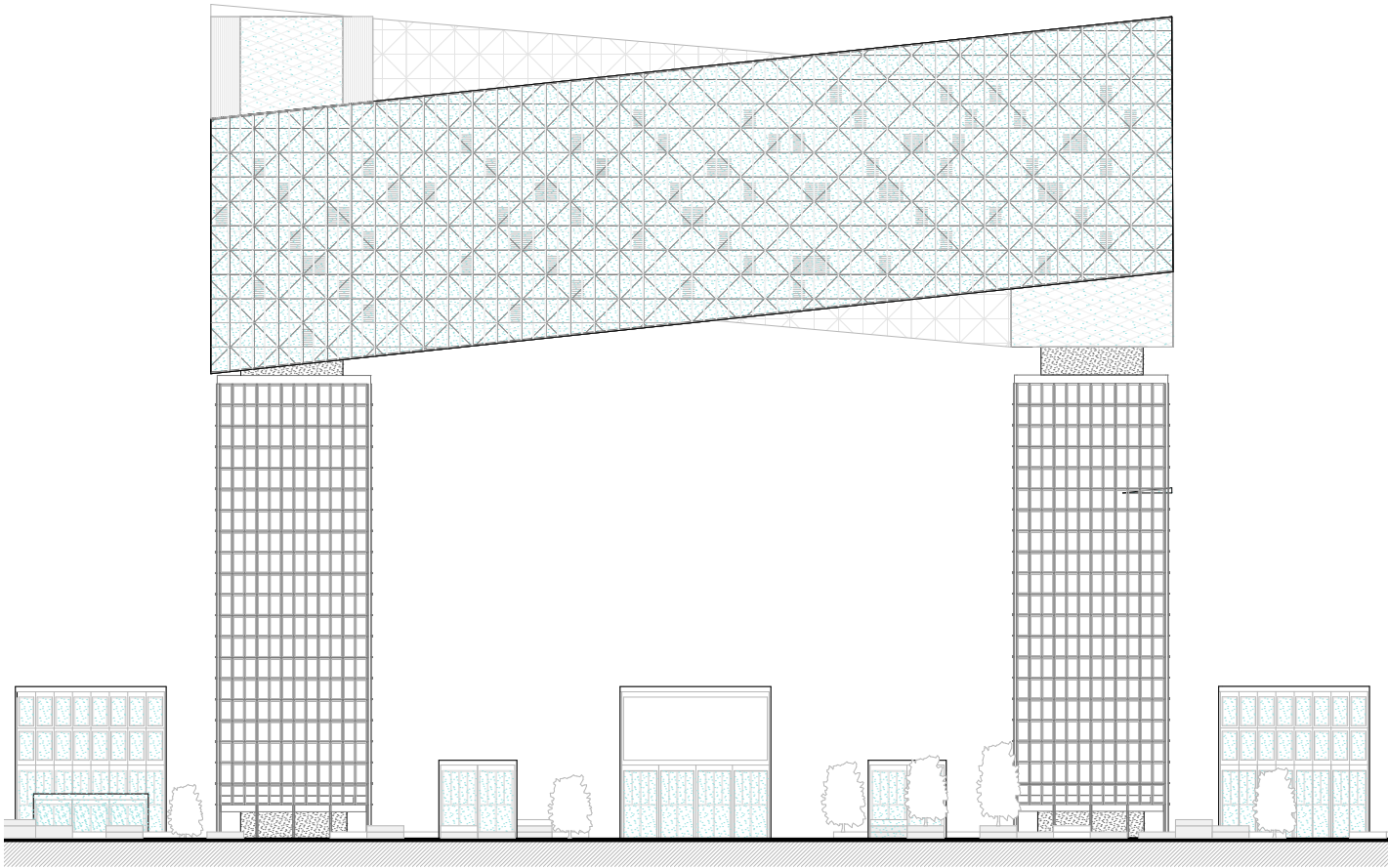
FACADE



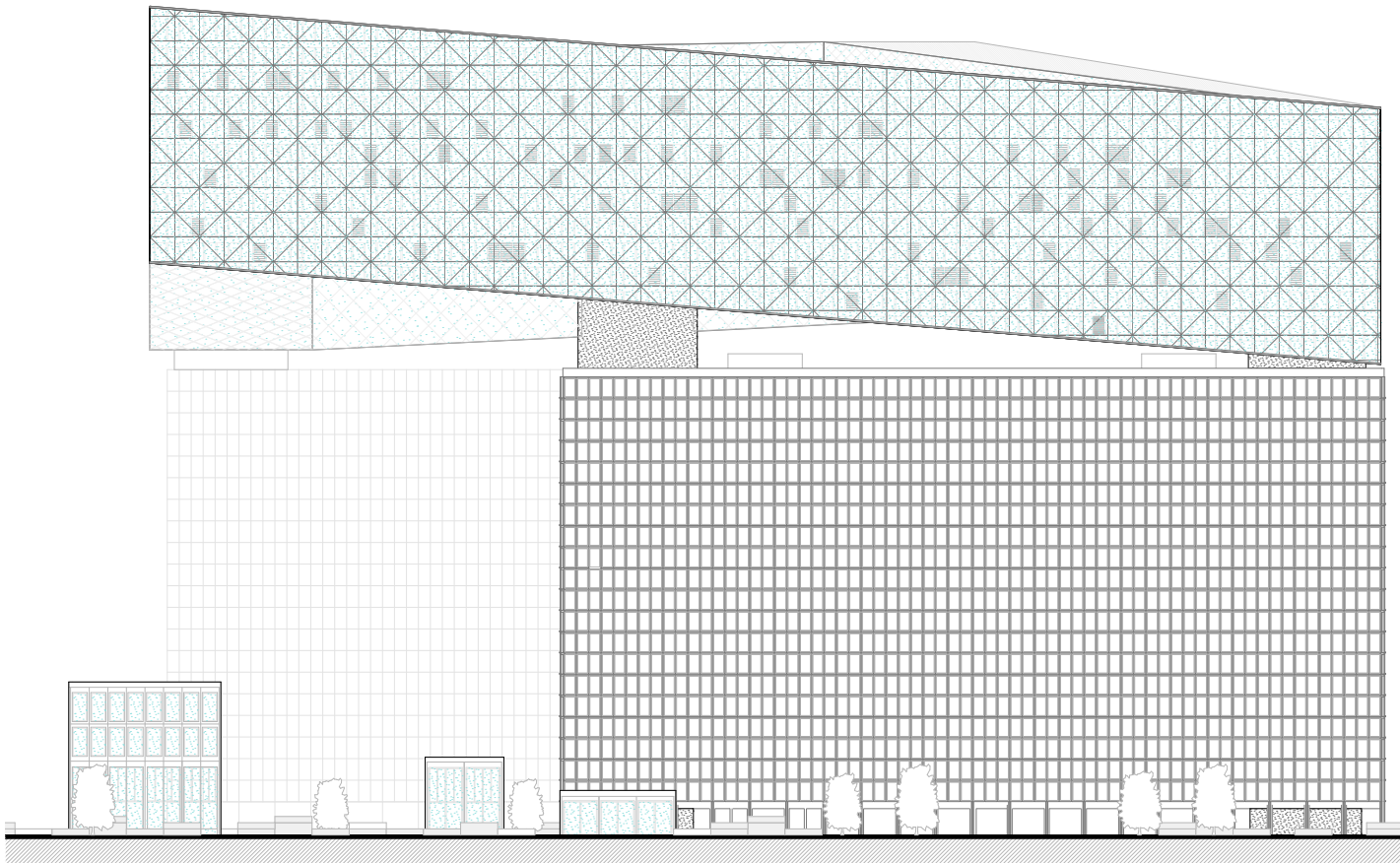
ELEVATIONS



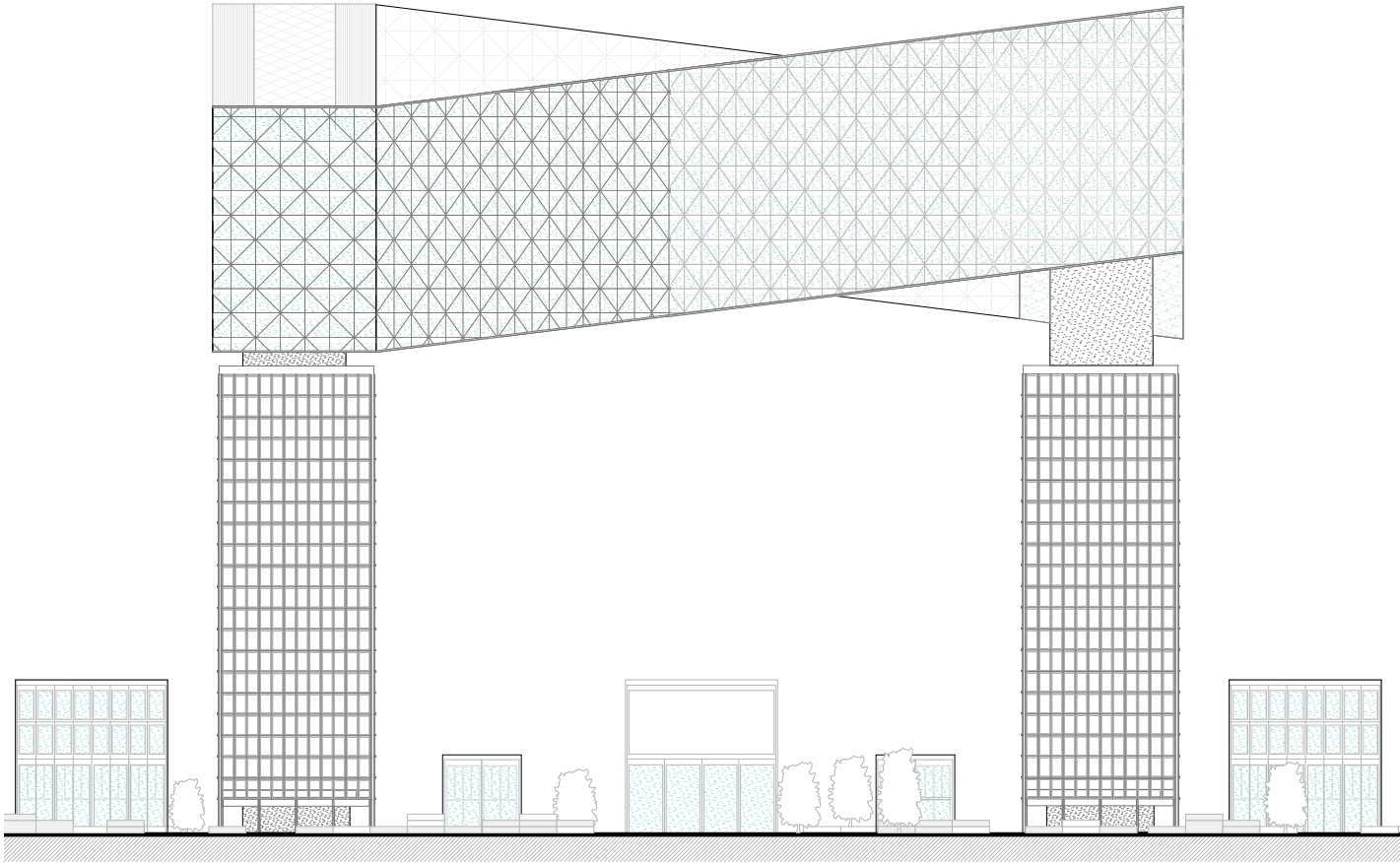
NORTH



WEST

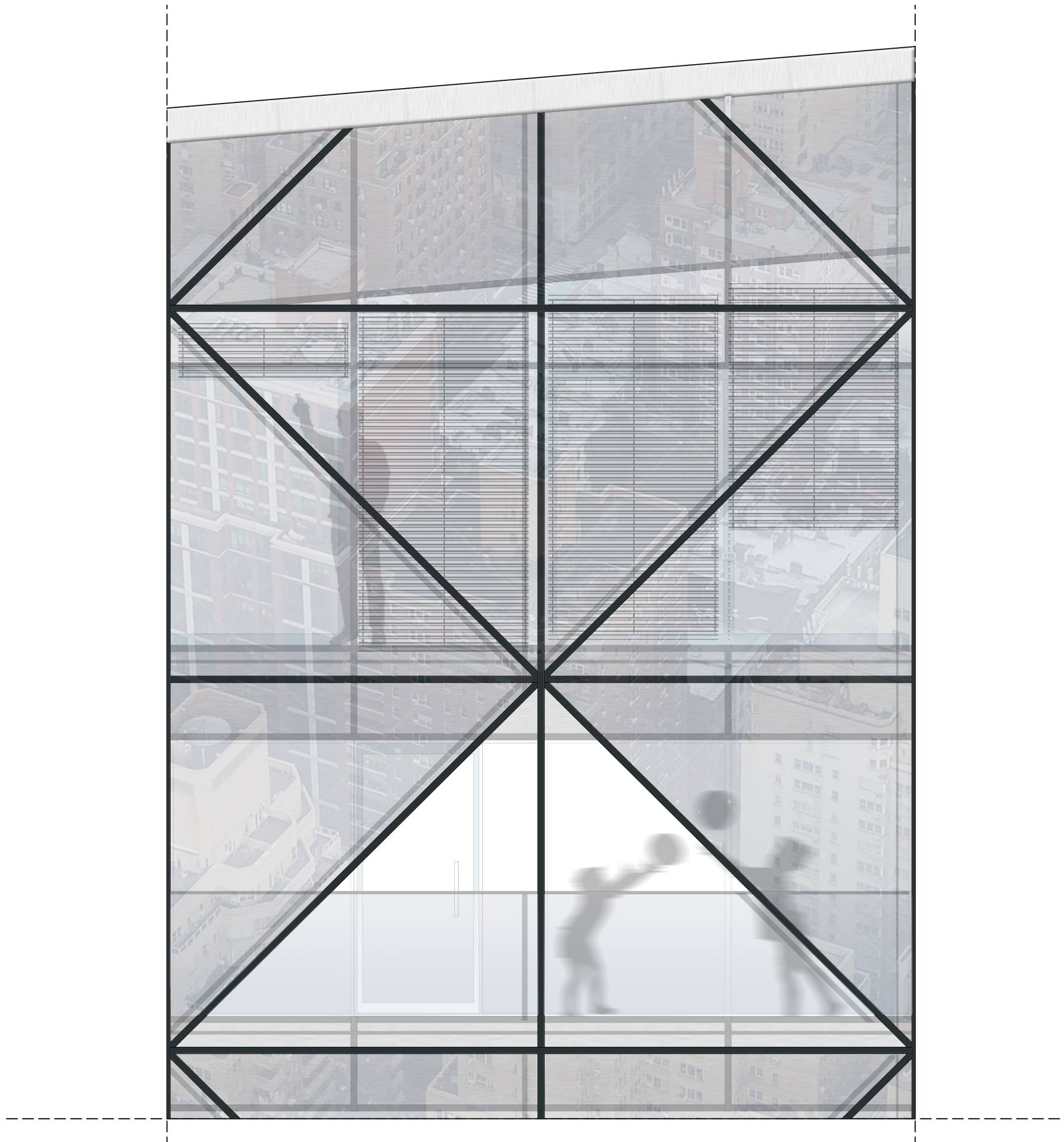


SOUTH



EAST

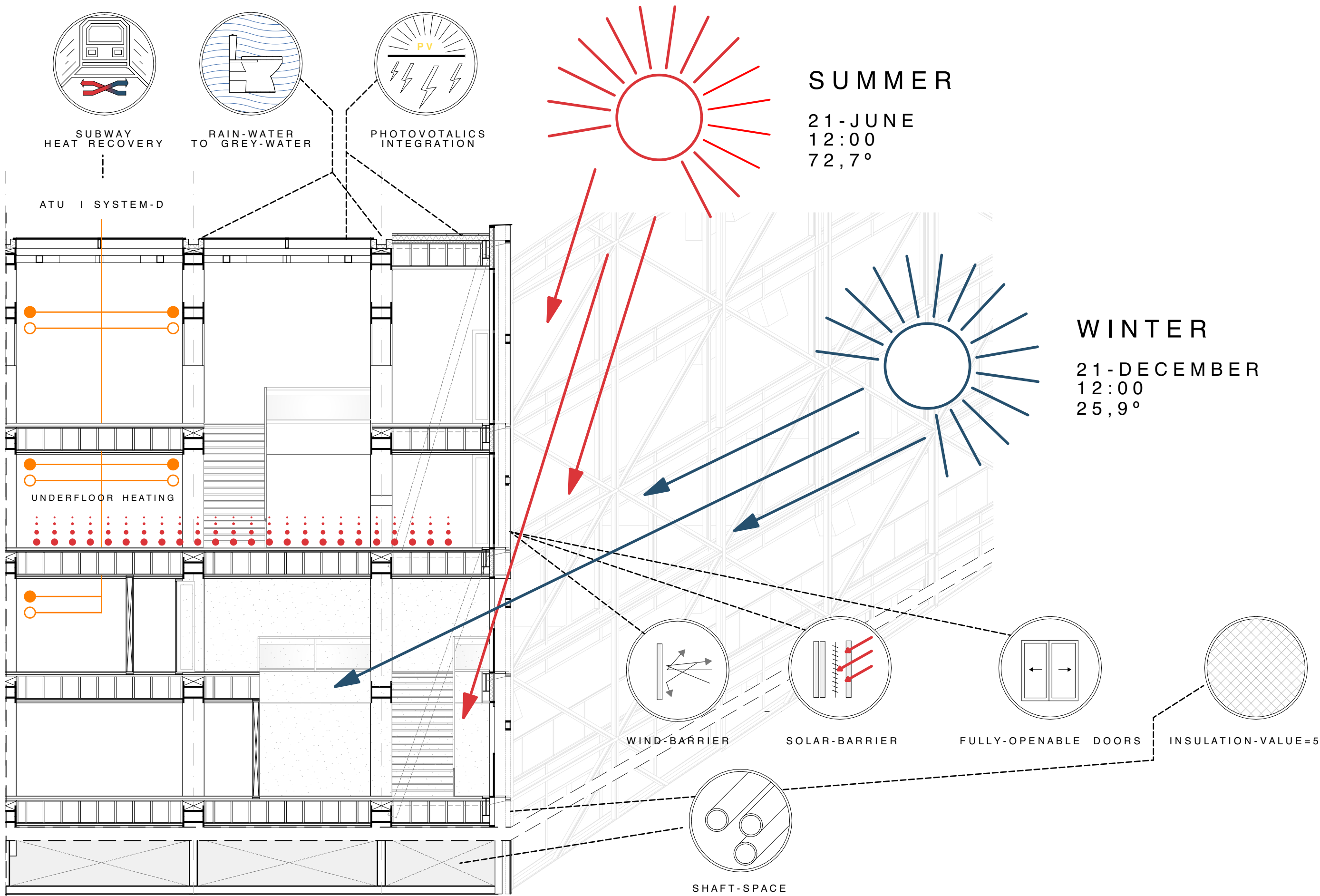
1 : 1 0 0 0



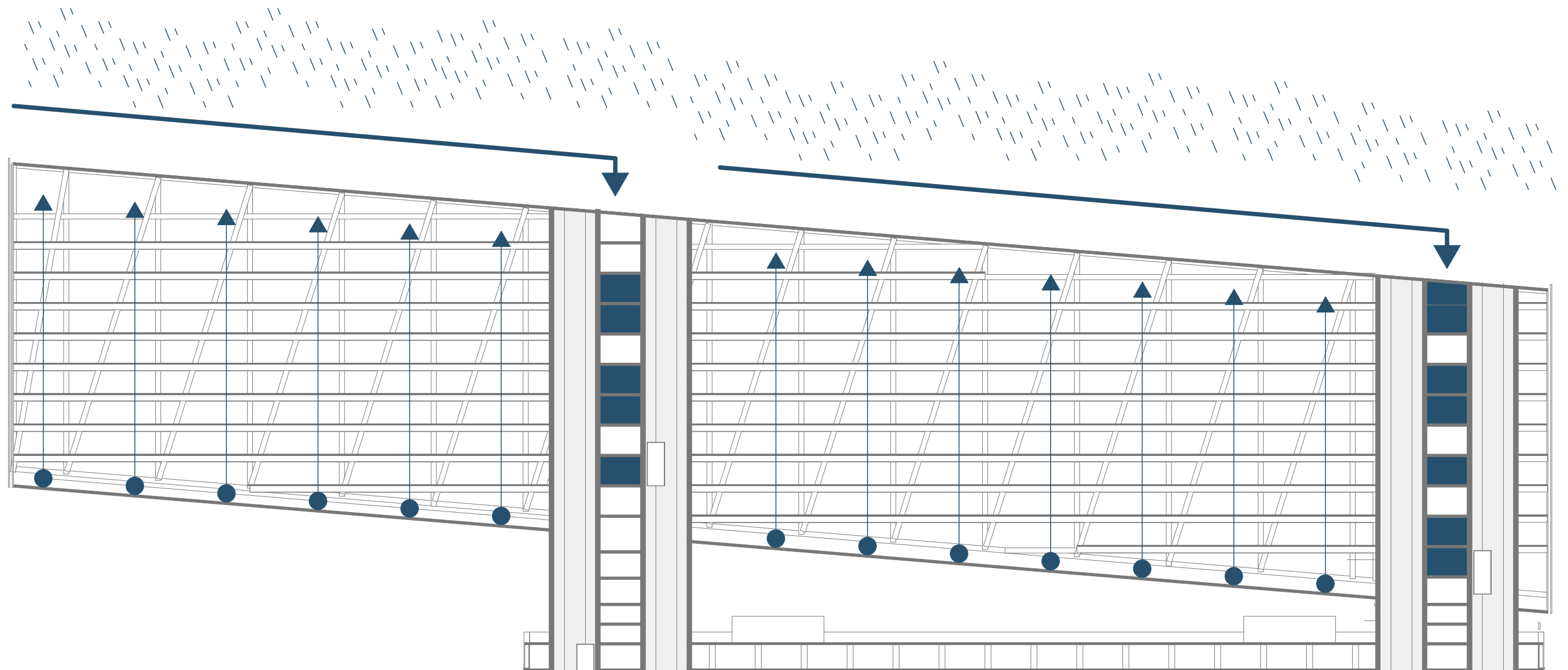


CLIMATE

BUILDING SYSTEMS

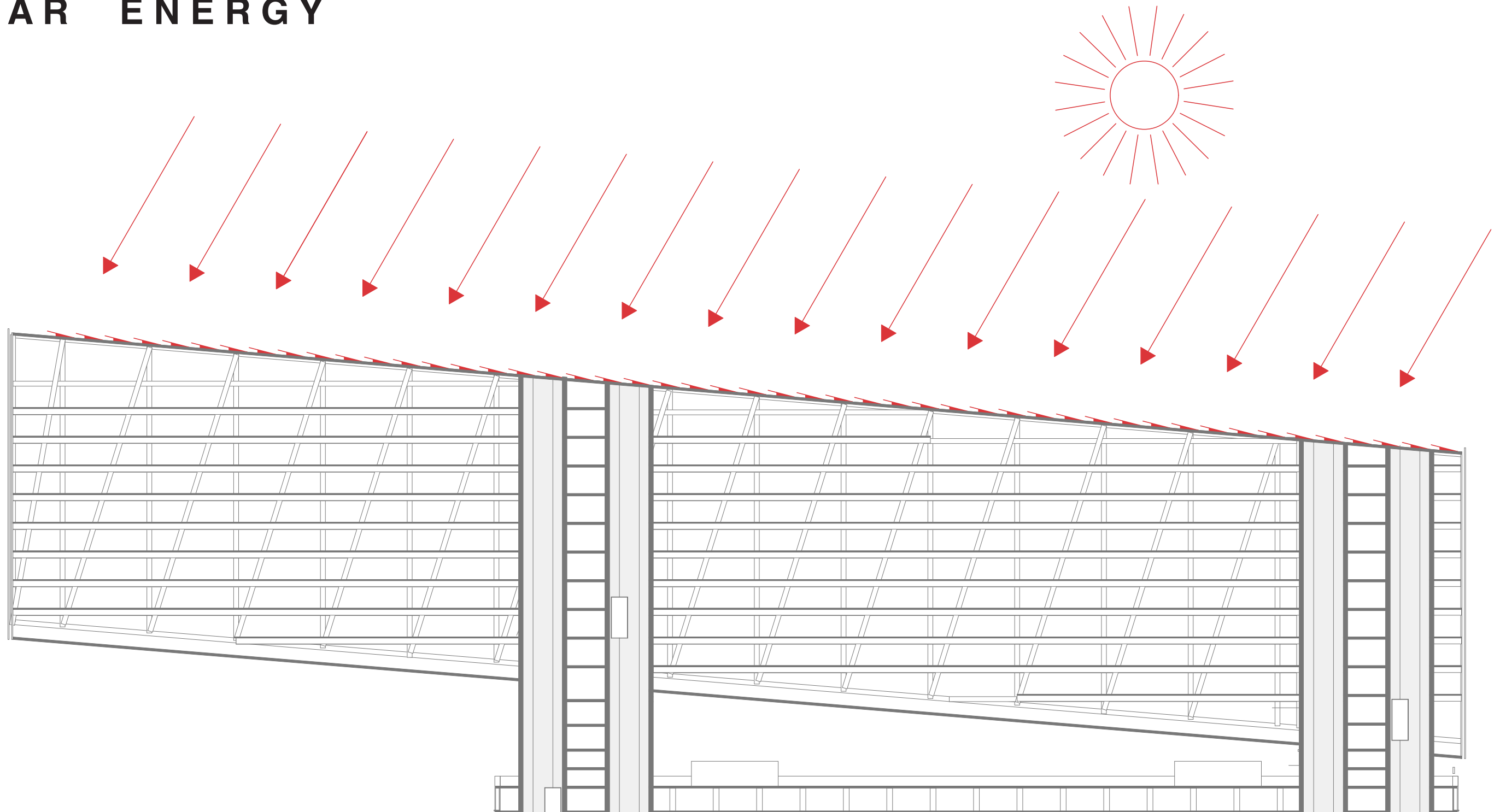


RAINWATER



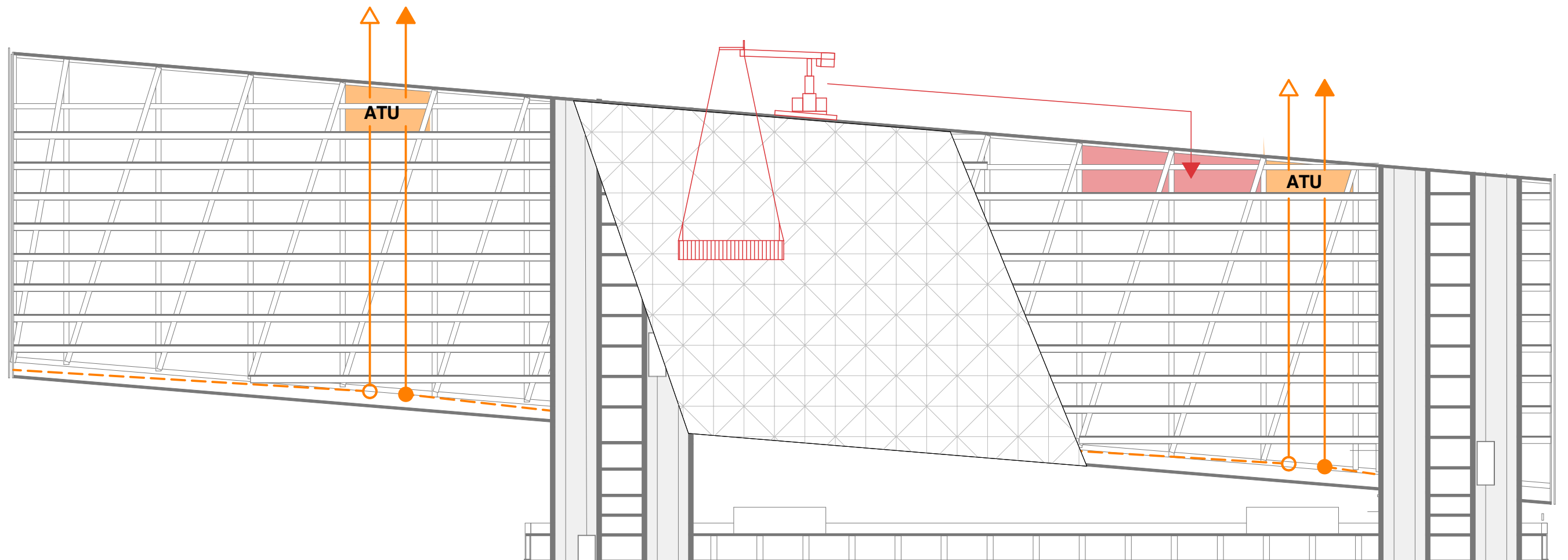
Annual grey water reduction of approx. **8 million liters** (10% of total water usage)

SOLAR ENERGY



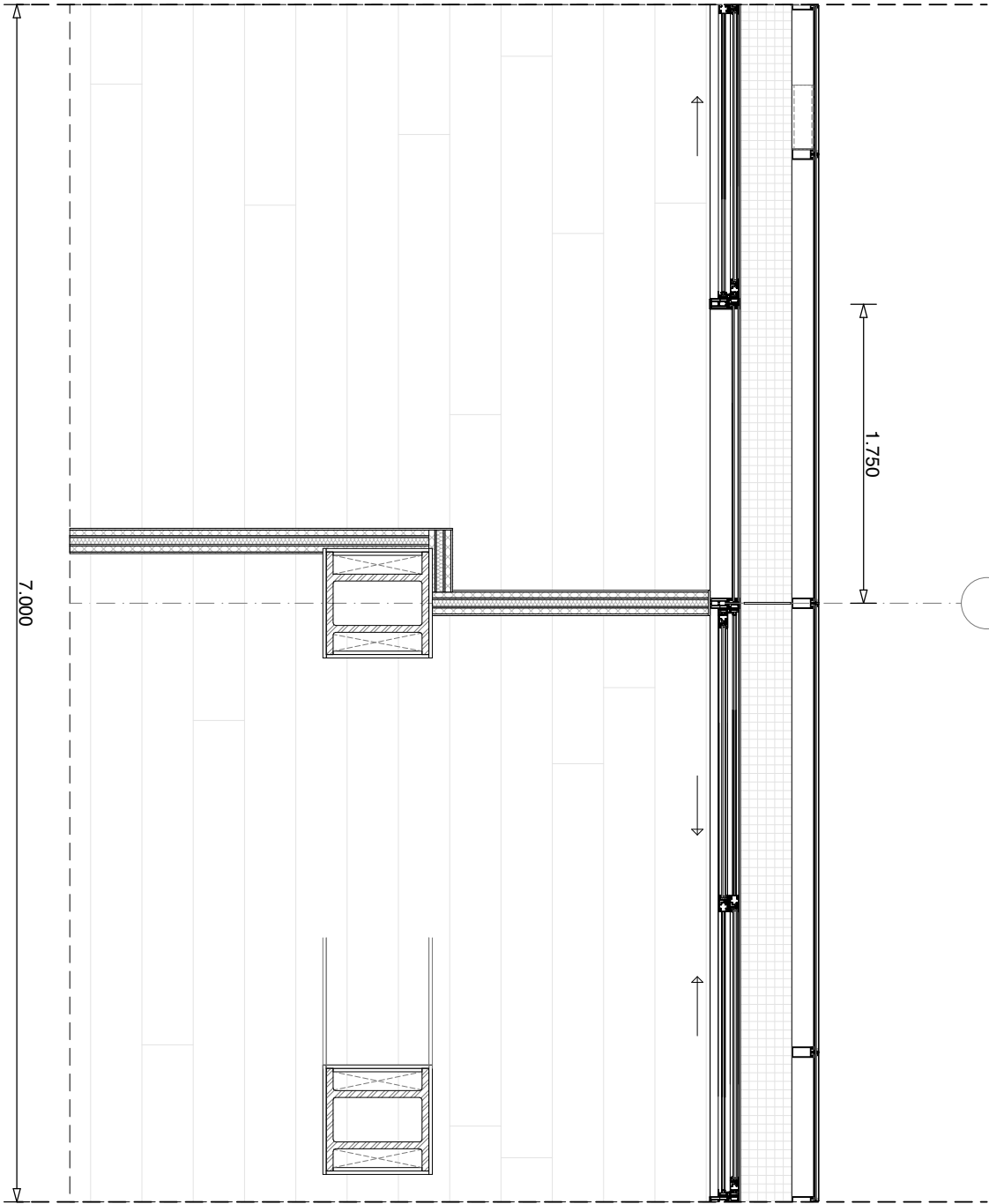
9 million KW/h of photovoltaic energy per year neutralizes the expected user energy consumption.

UTILITIES

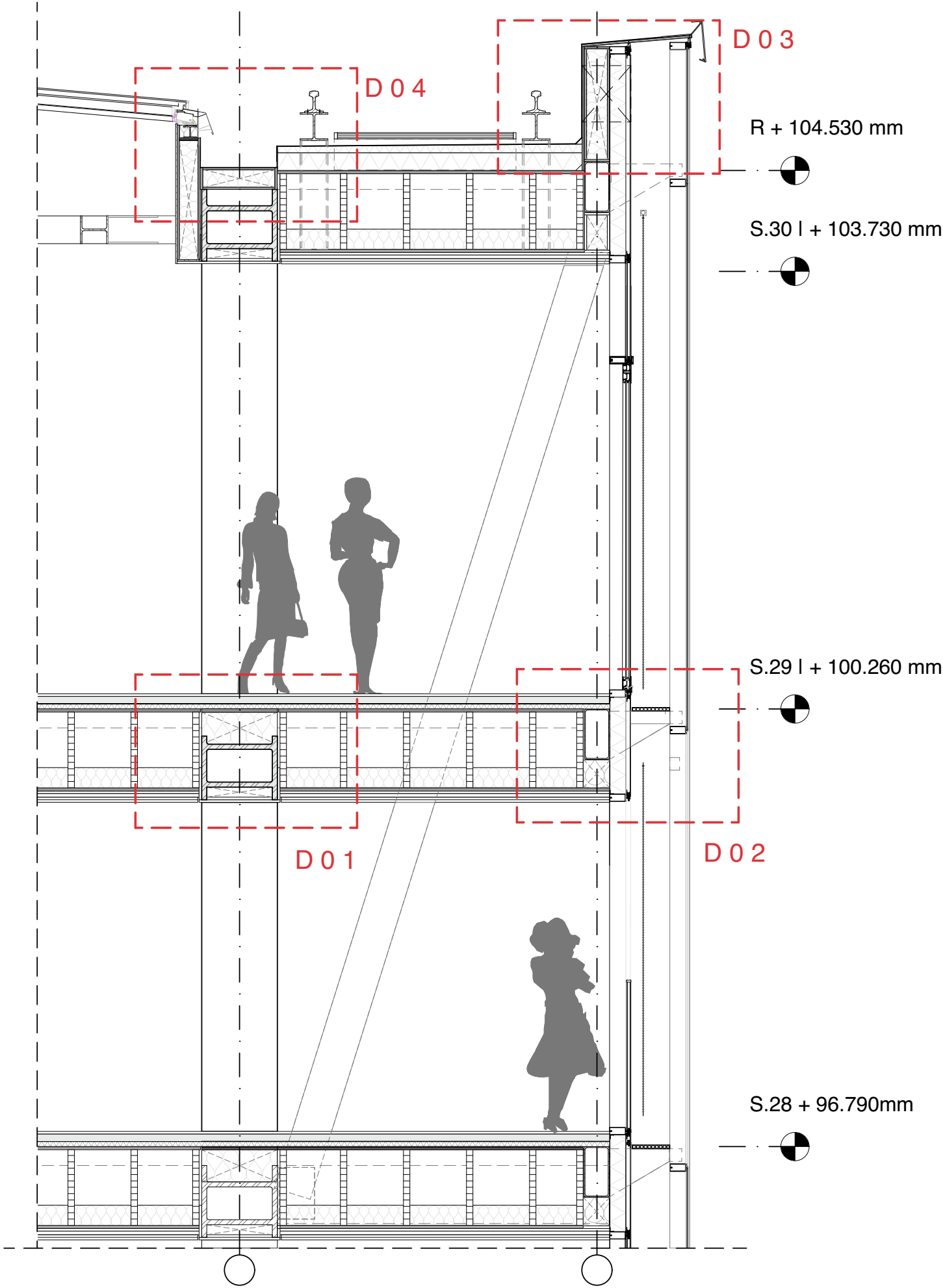


Upper levels of interior structure designated for **window washing installations** and **air treatment units**

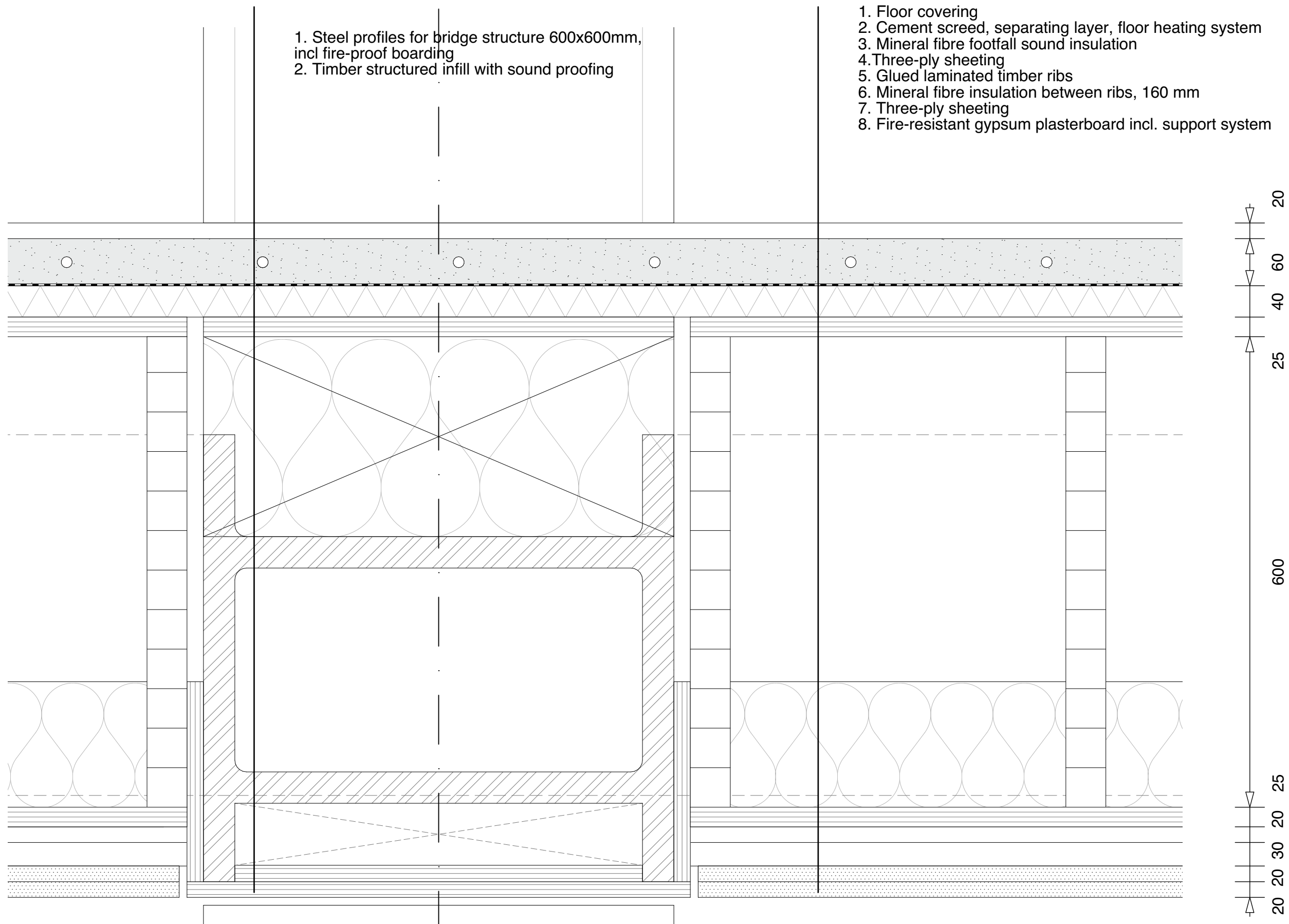
FRAGMENTS



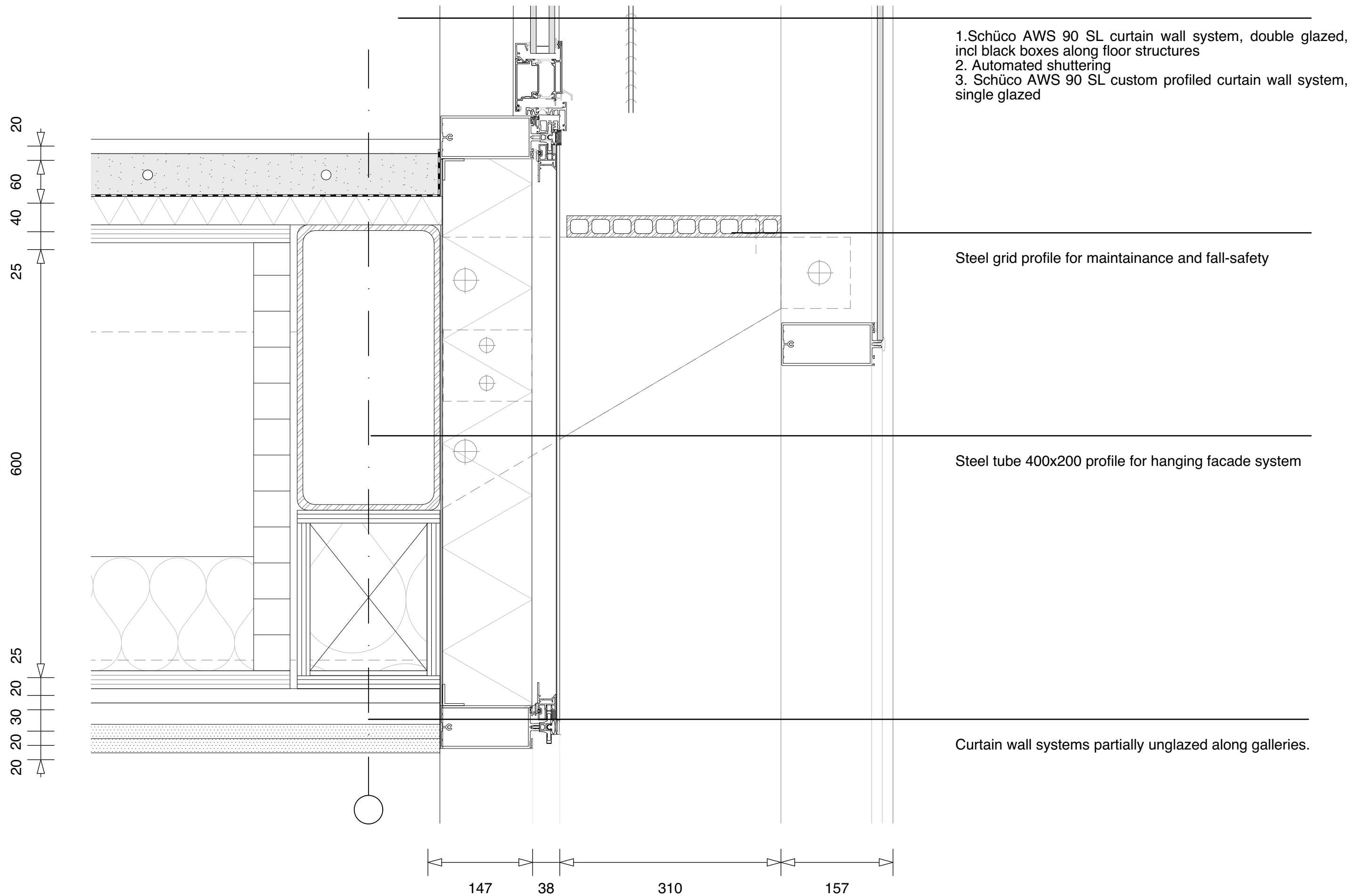
FRAGMENT SECTION & PLAN



1 : 20

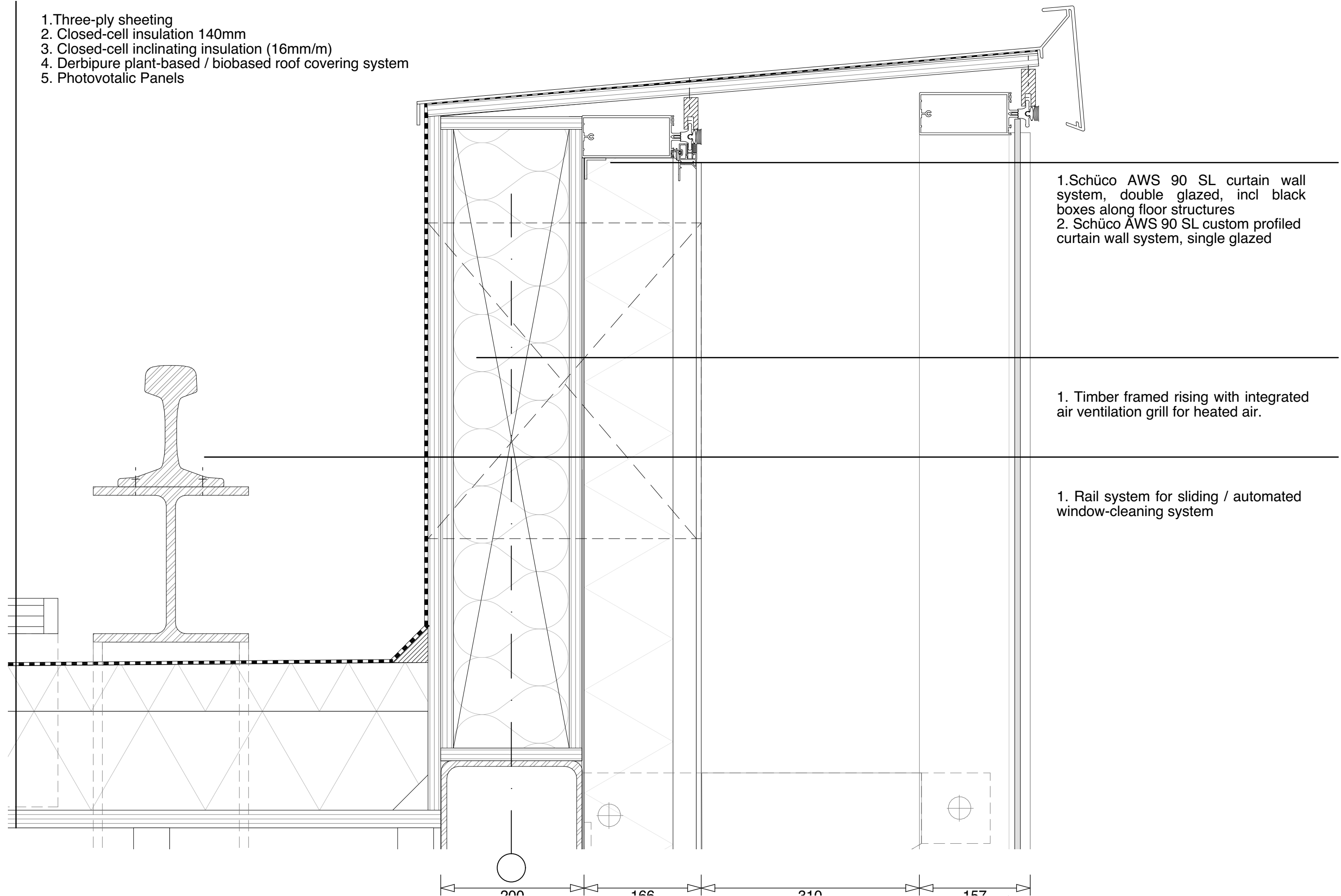


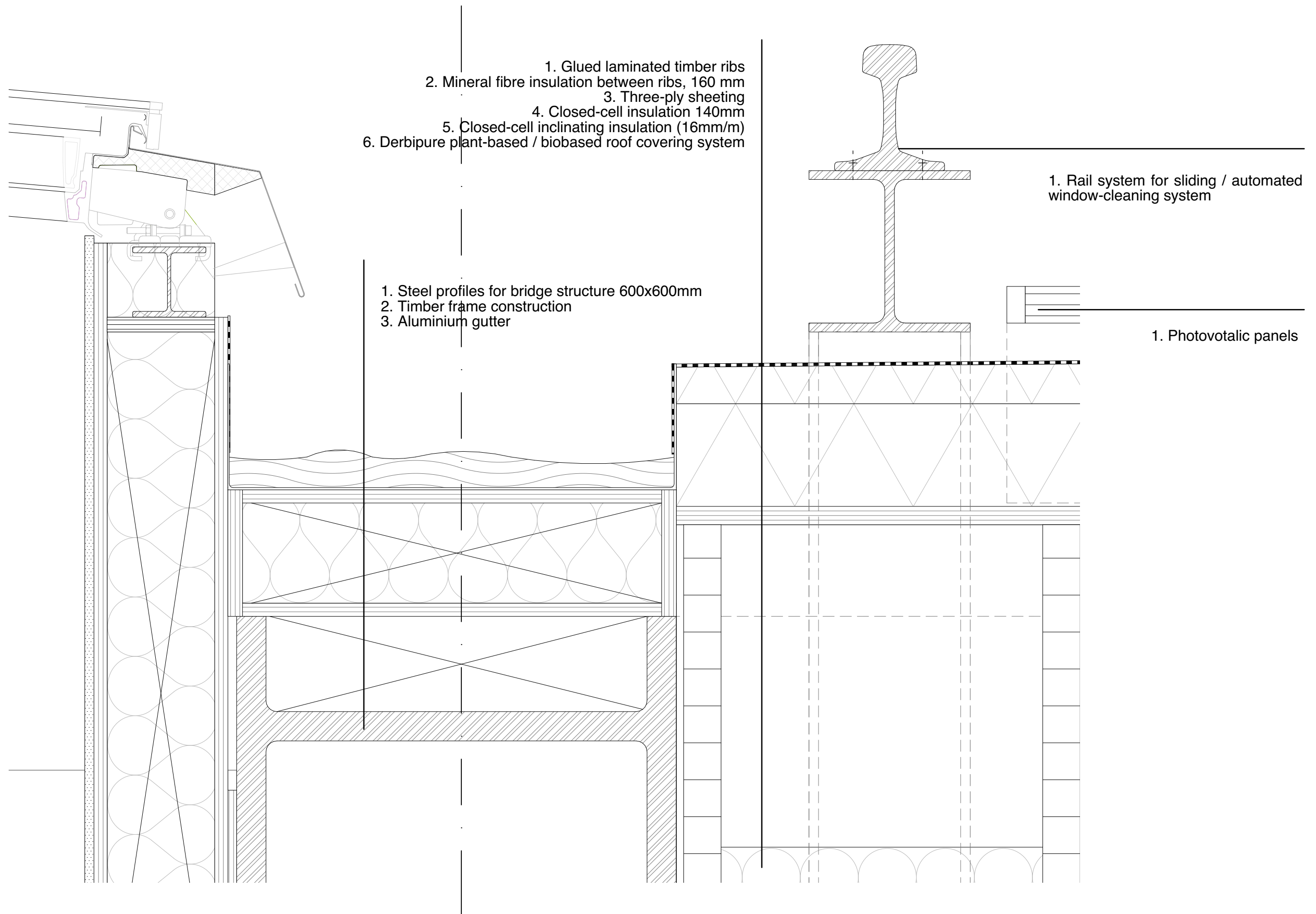
Prefrab Glulam beam saves almost 2/3 of prefab concrete weight



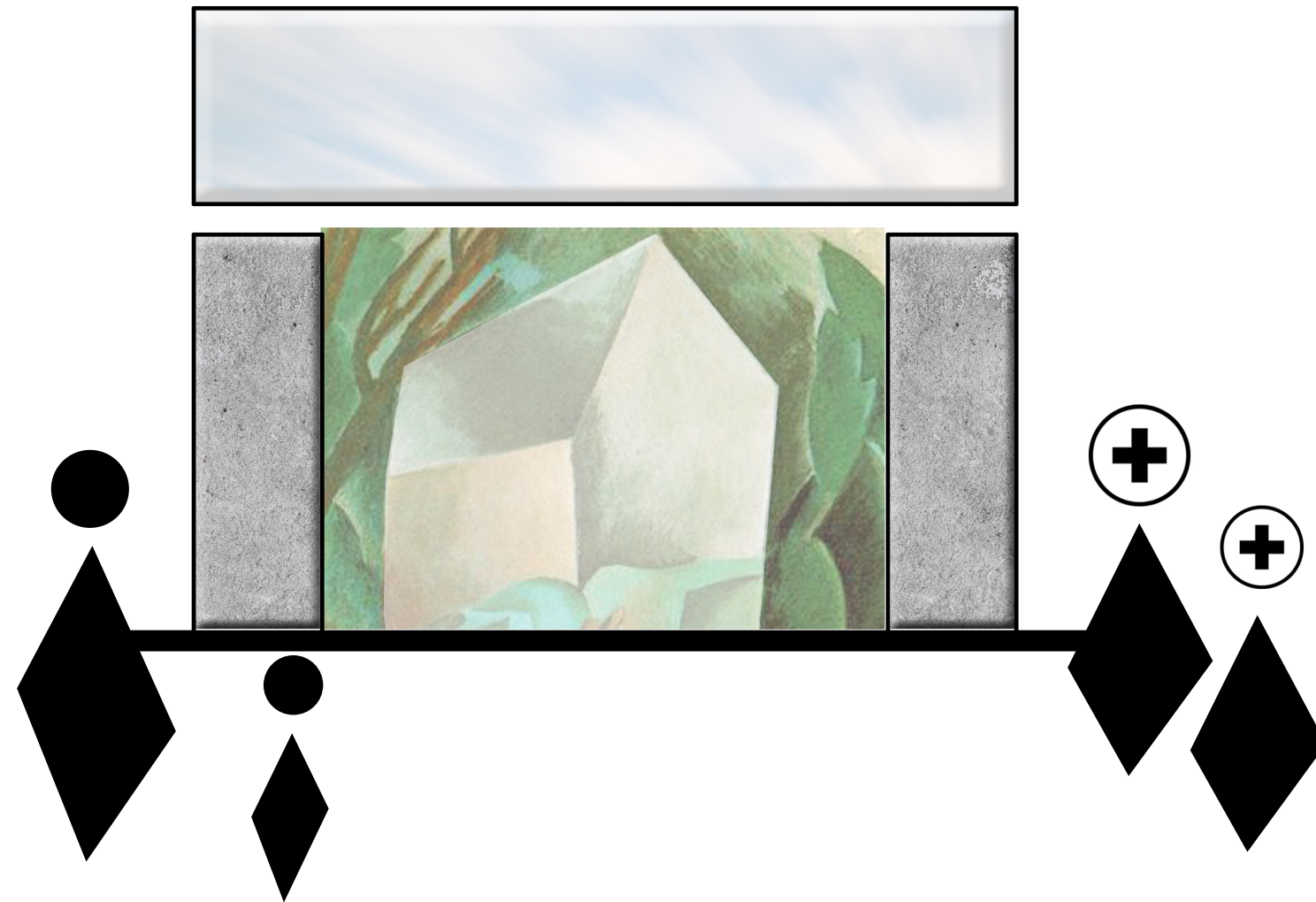
Tube profiles saves 20 Kg/m (Compared to IPE) totaling up to 184 tons (equals to 15 fire trucks)

1. Three-ply sheeting
2. Closed-cell insulation 140mm
3. Closed-cell inclinating insulation (16mm/m)
4. Derbipure plant-based / biobased roof covering system
5. Photovoltaic Panels





DISCUSSION



Density from a **top down view** but **designed** from a **user perspective**.

A critique to the **meat axe method** of urban redevelopment.

Reusing existing building stock in Midtown should be inclusive for its context and optimized for its function. Preventing Midtown to become a outdoor museum



THANK YOU!

PROJECT ORBIT

The public revival of a Super-block