



NICOLAS GARCIA

COLUMBIA - GSAPP - 2026

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INHABITING THE FACADE

WOROFILA

ASSESSING ENDOGENOUS
BUILDING PRACTICES

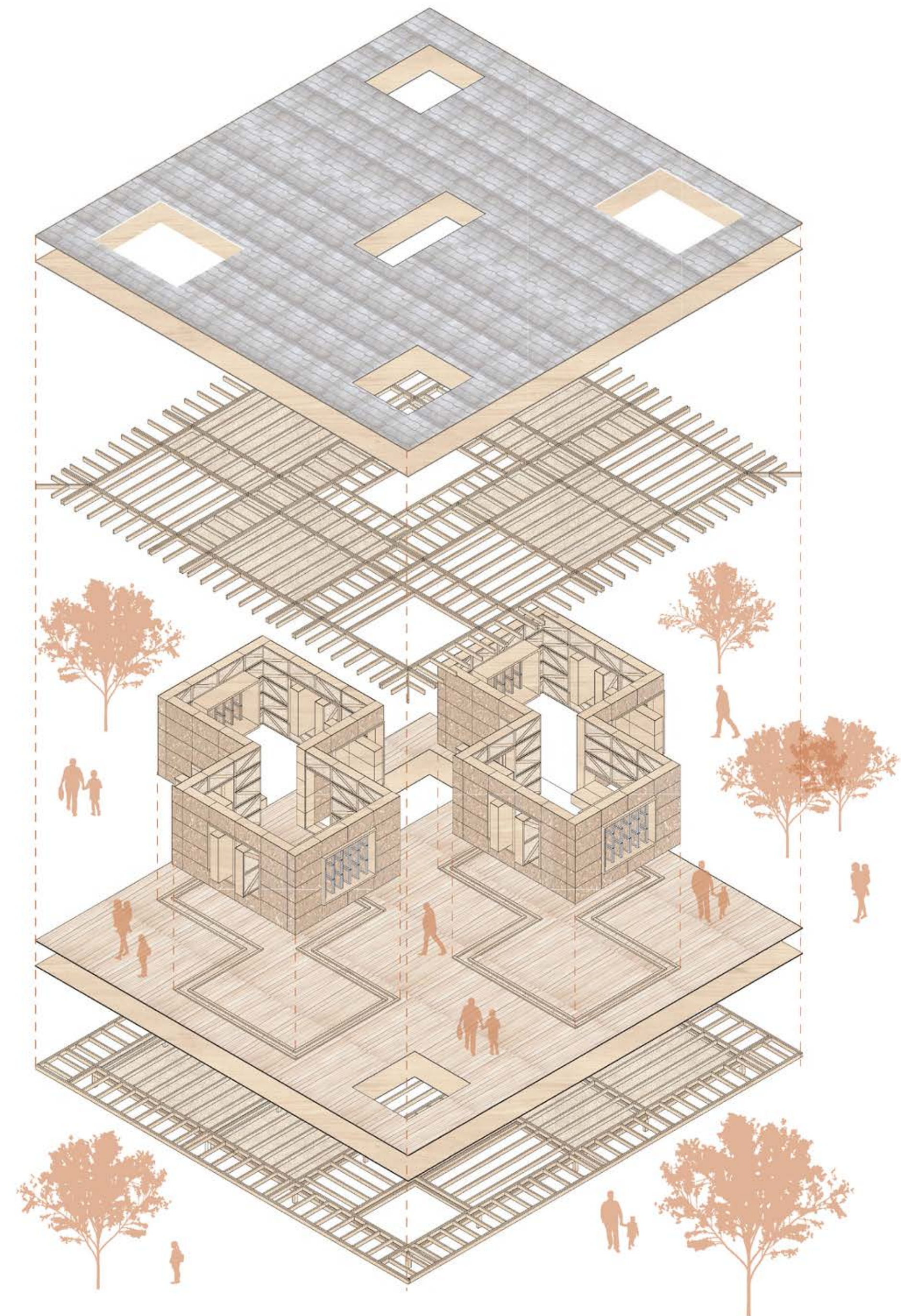
SUMMER SEMESTER 2025

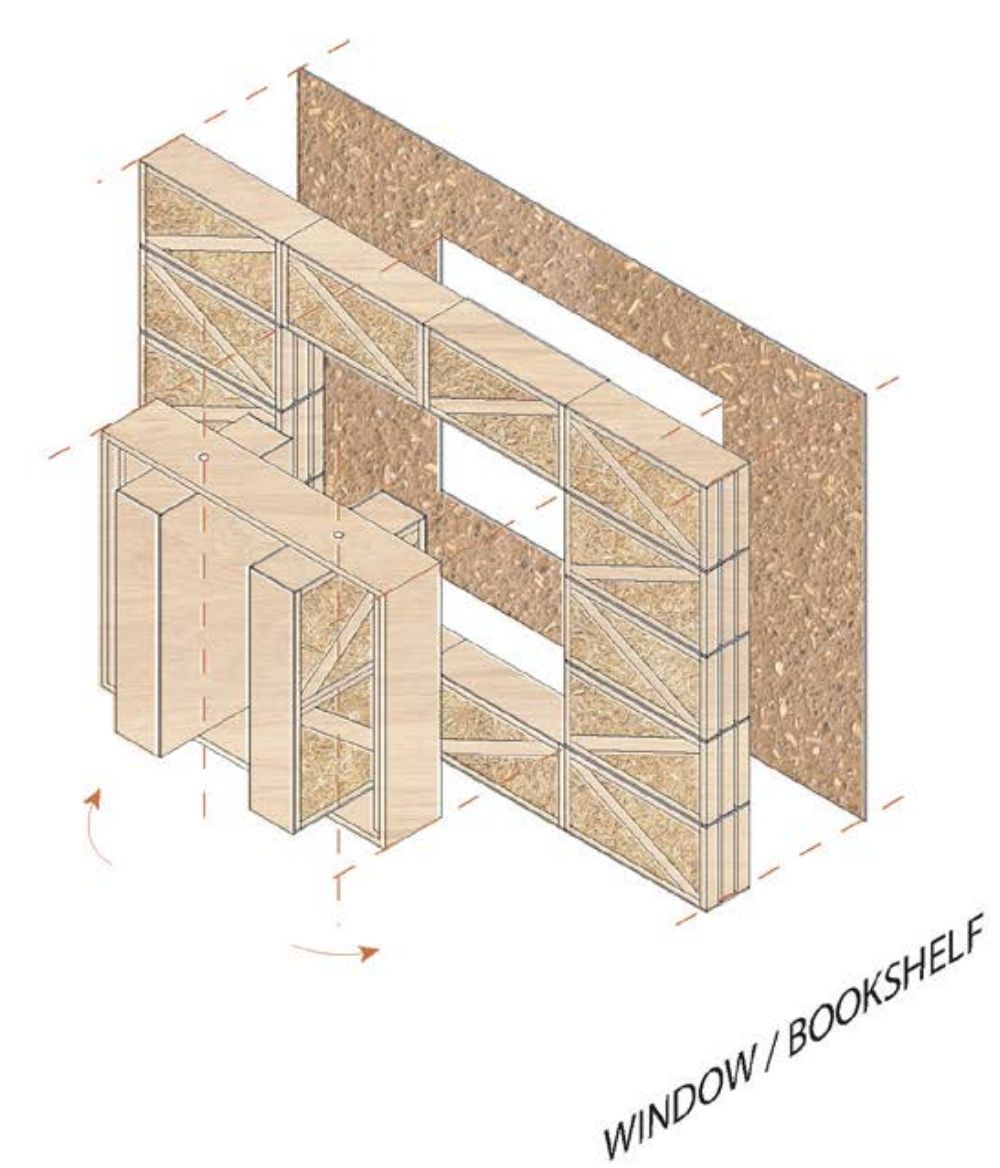
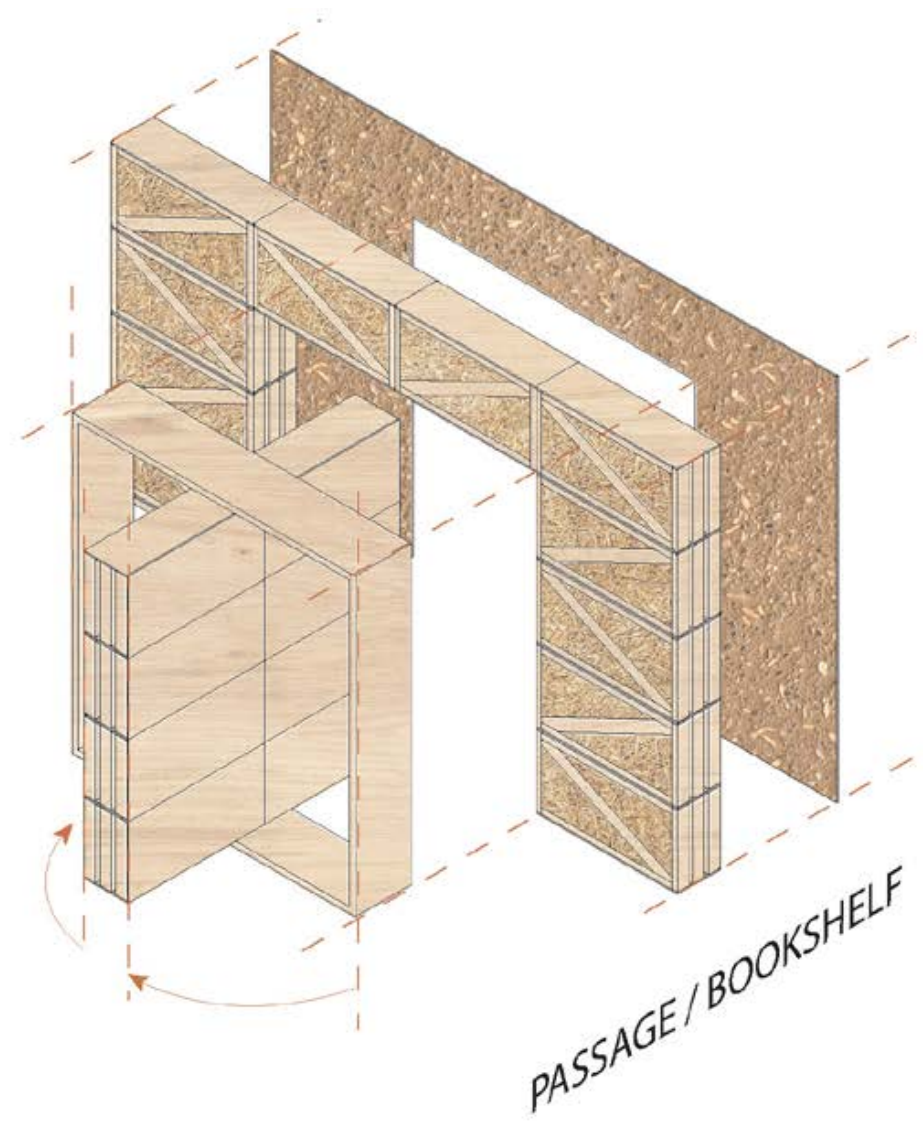
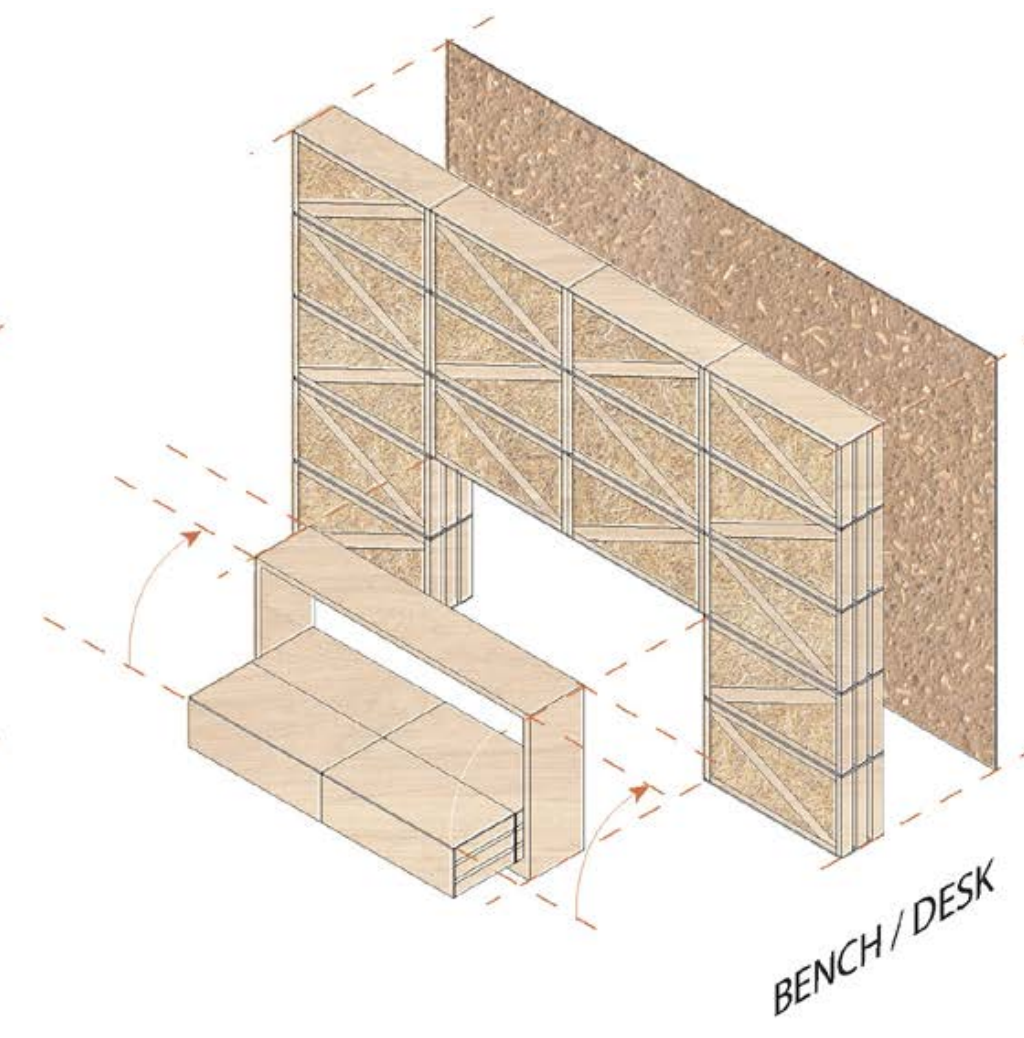
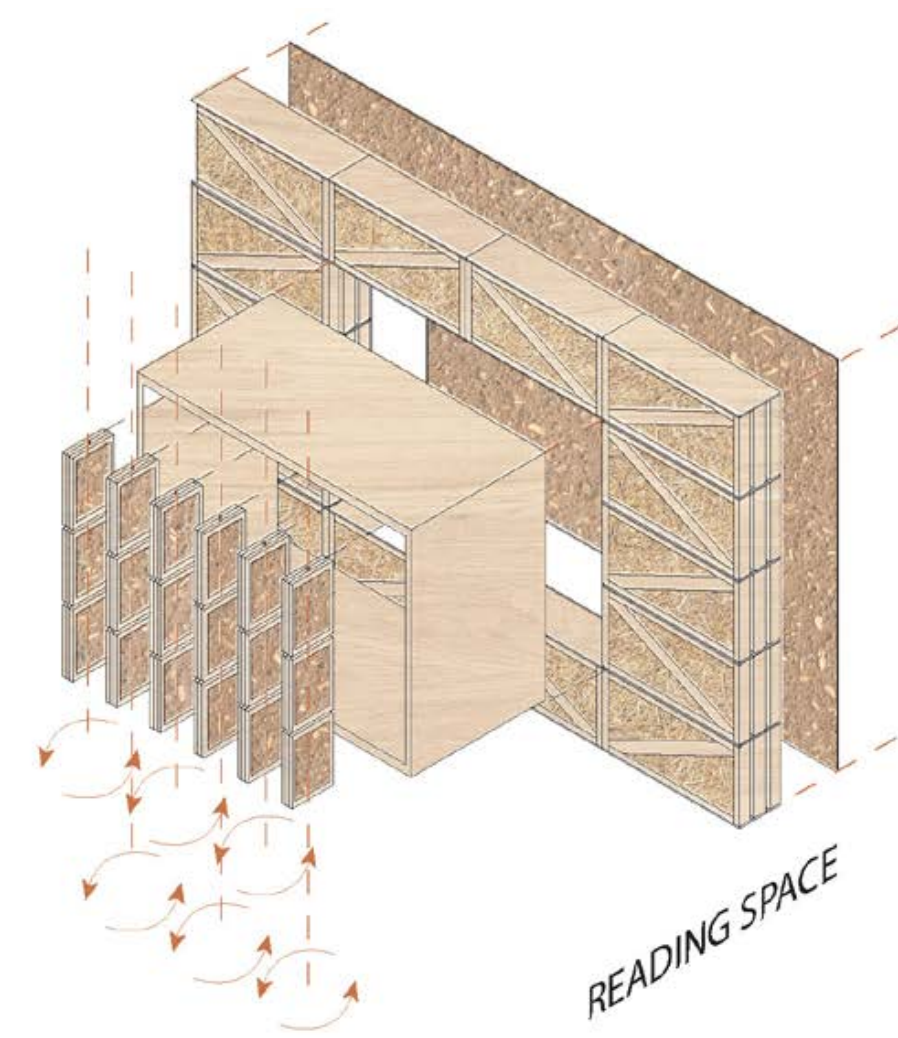
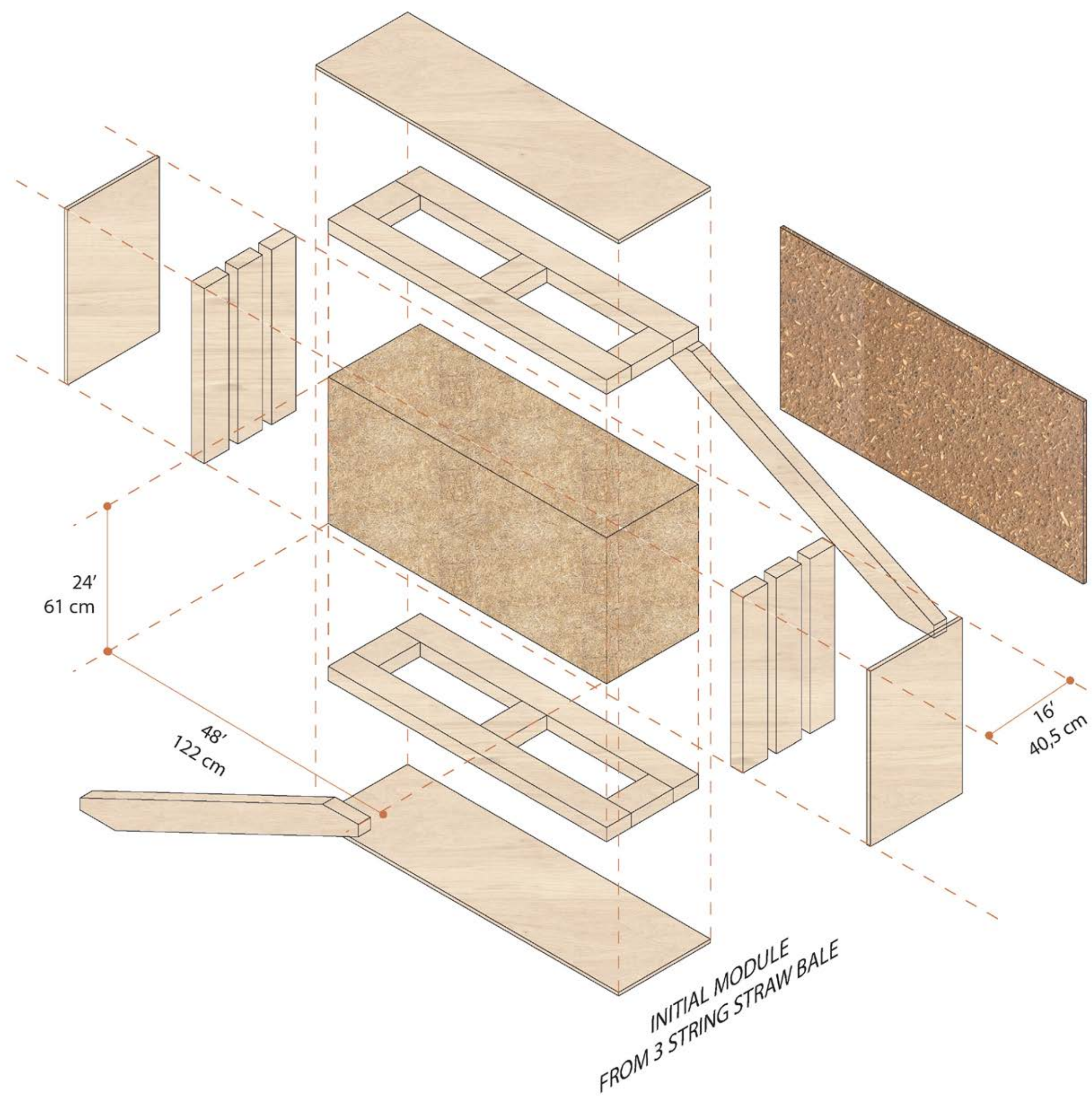
This project proposes a modular library system built from locally sourced straw bales, an agricultural byproduct with strong ecological benefits as a renewable, low-carbon material. Straw, like other natural fibers, also offers excellent thermal insulation, making it especially suitable for New York City's variable climate while reducing operational energy needs. By revaluing agricultural waste as architecture, the design reduces embodied energy and promotes circular resource use.

The modules are fast to assemble and disassemble, requiring very little prior knowledge or technical skill, which makes the system accessible, replicable, and easy to implement. They are designed to adapt to different pre-existing site conditions, scales of programs, and evolve over time as community needs shift.

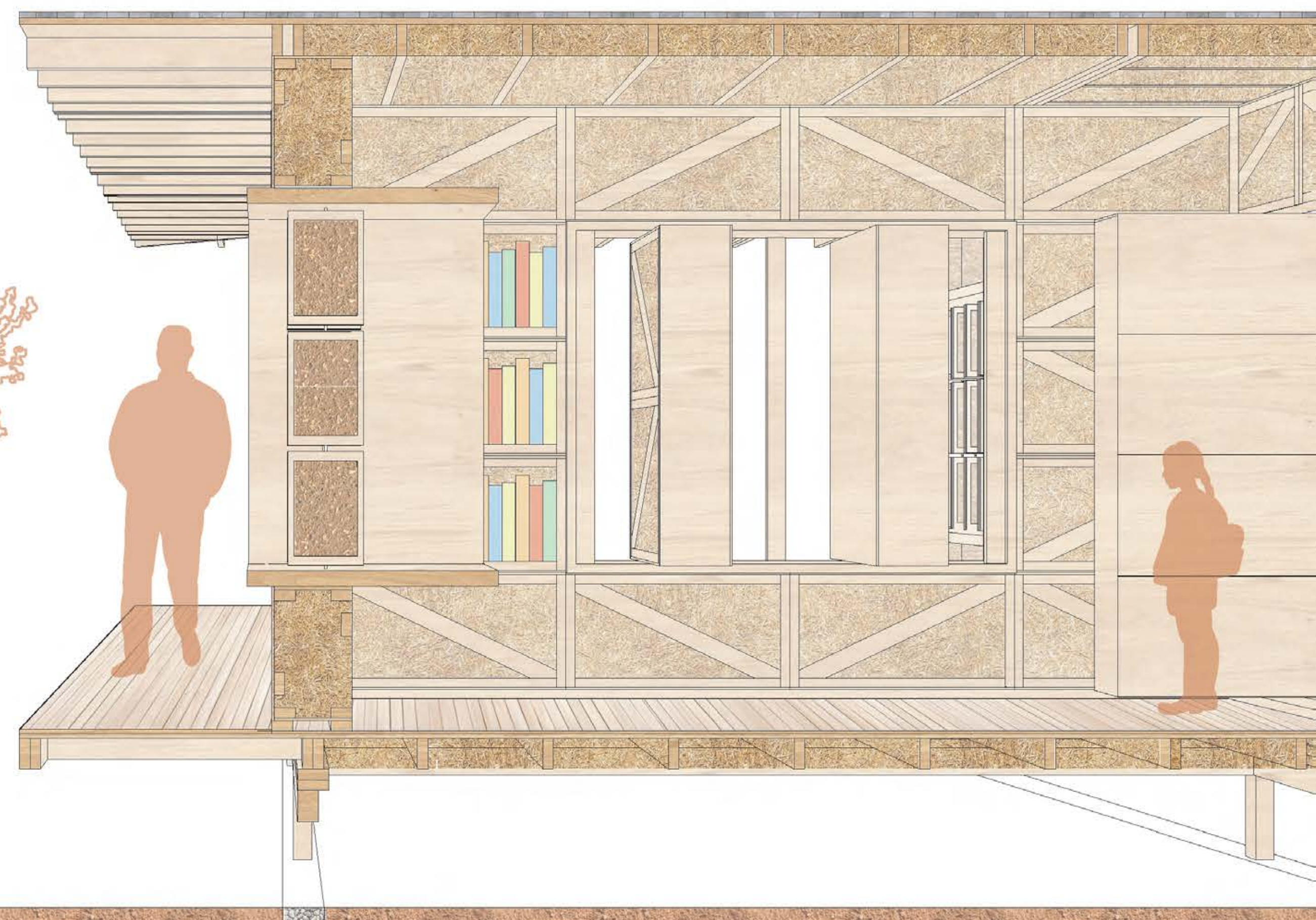
Each unit integrates kinetic façade elements that transform bookshelves, benches, and windows into interactive surfaces, encouraging reading, play, and social engagement. The prototype at St. Mary's Park in the Bronx demonstrates how vernacular, sustainable construction can merge with dynamic architectural systems to create vibrant cultural infrastructure.

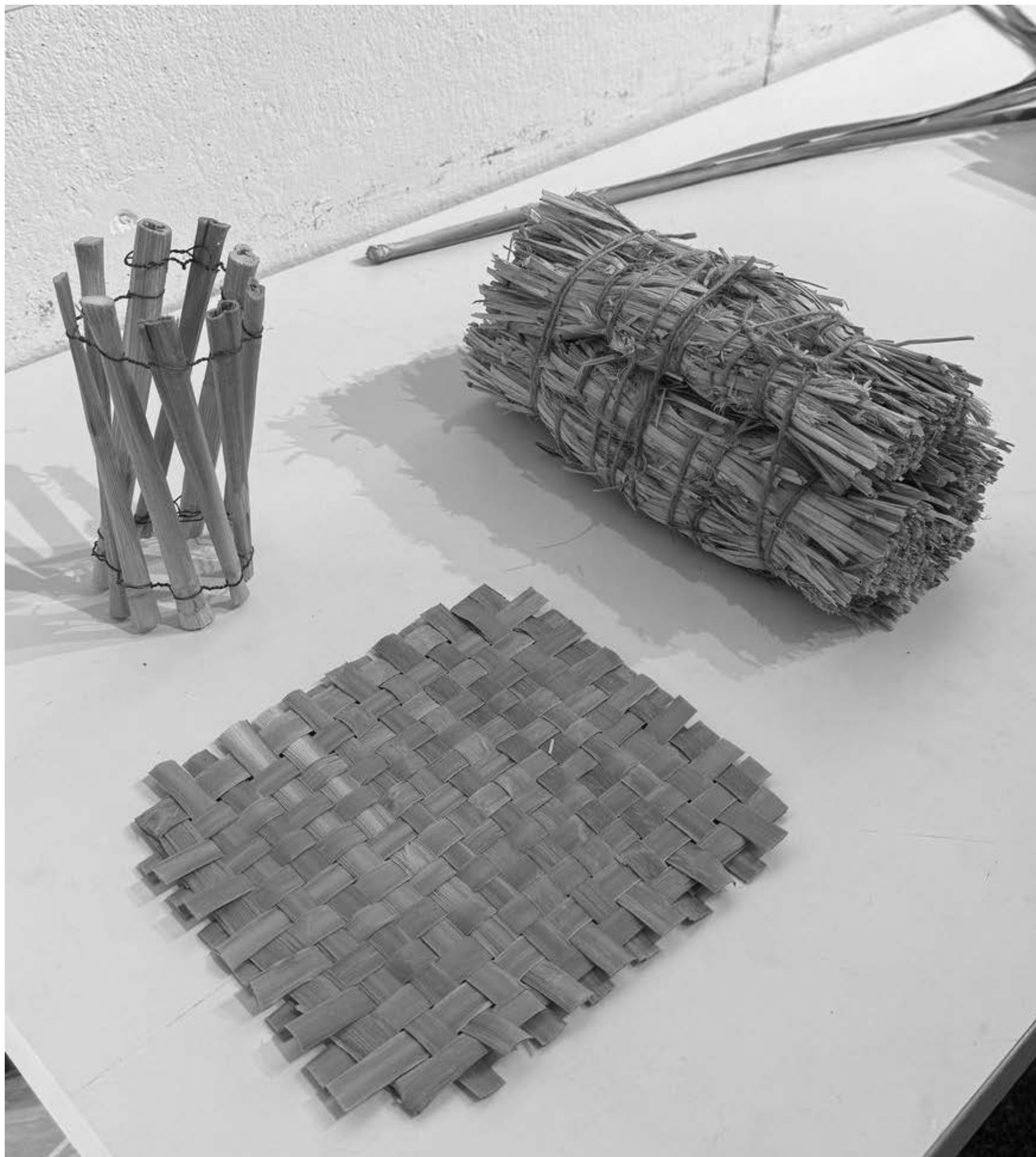
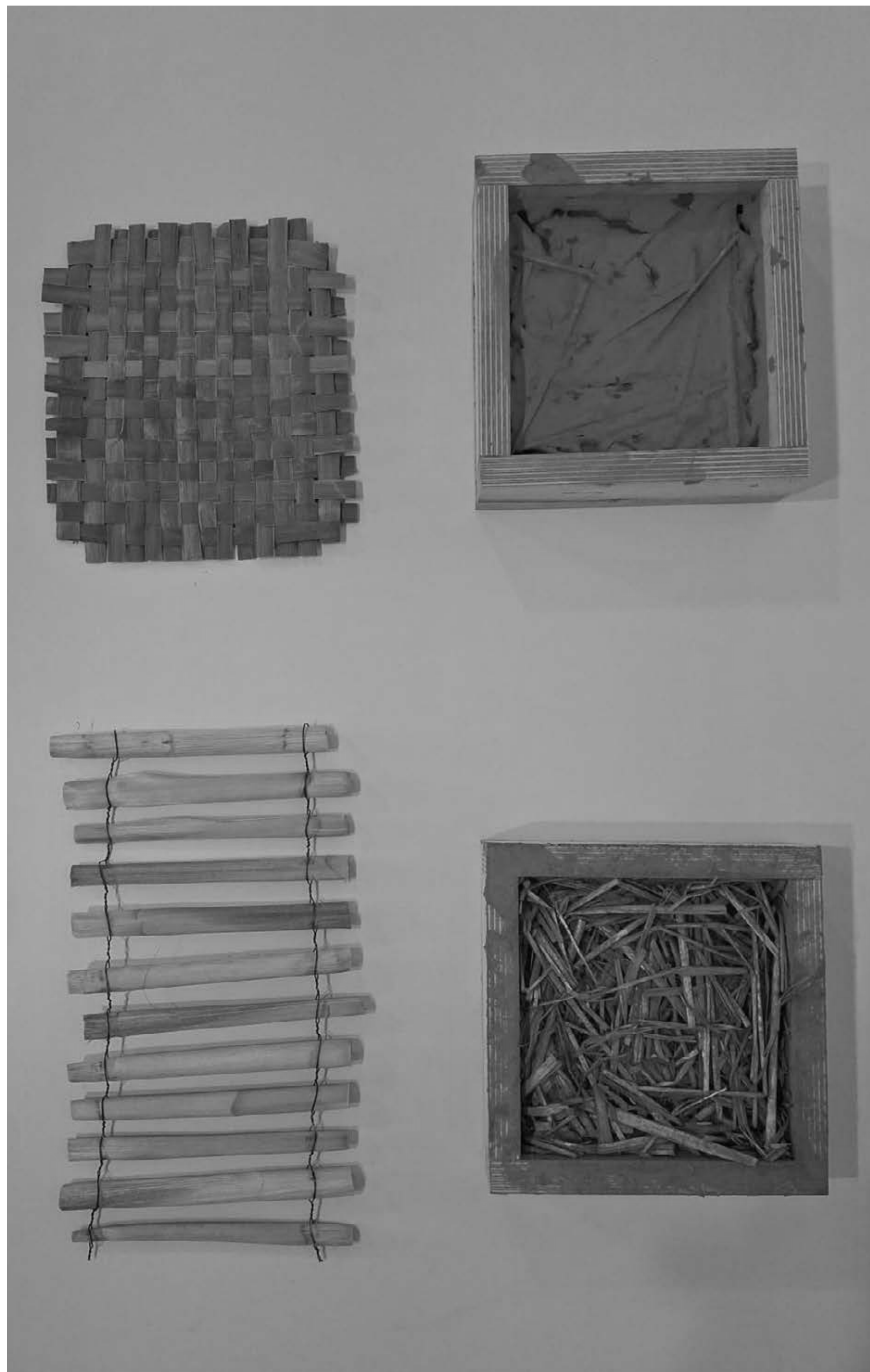
When deployed across New York City's public parks, the system forms a distributed network of neighborhood-scale libraries, fostering ecological responsibility, inclusivity, adaptability, and public knowledge exchange.





FACADE CONFIGURATIONS FROM INNITIAL MODULE





AT THE JUNCTION

FLORES&PRATS

BUILDING COMMUNITIES

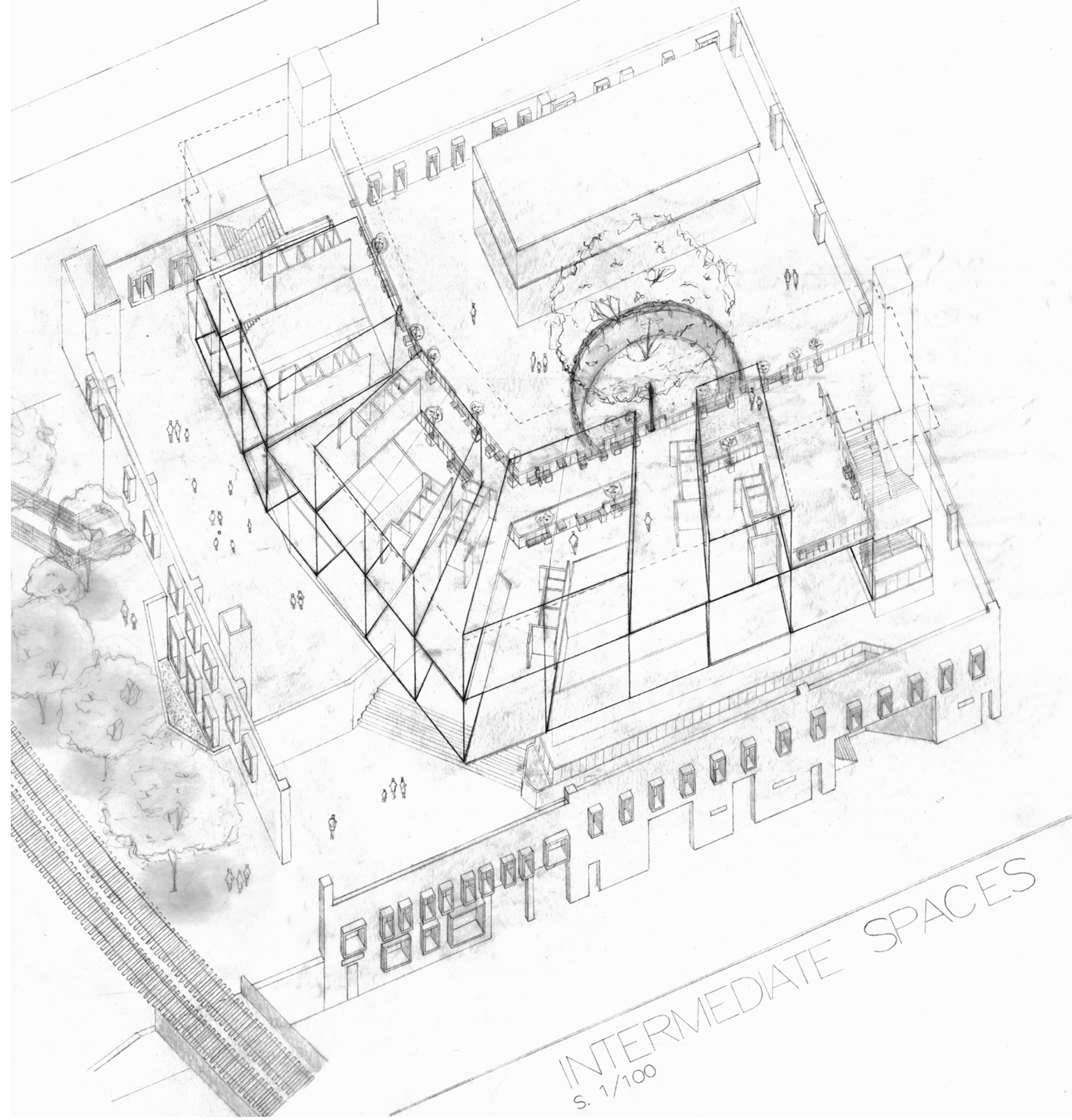
FALL SEMESTER 2025

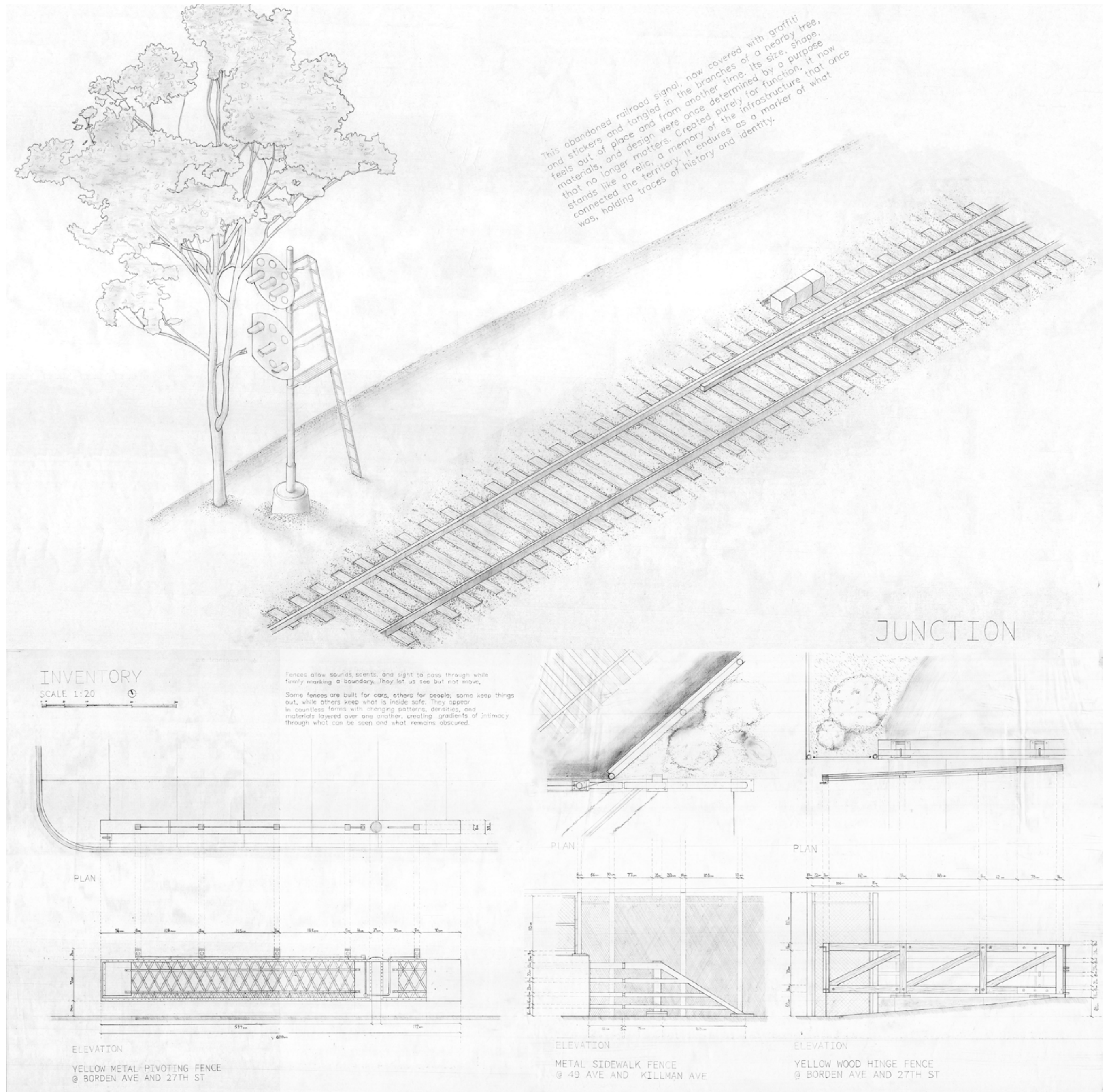
At the Junction: Housing and Collective Space along the Montauk Cutoff

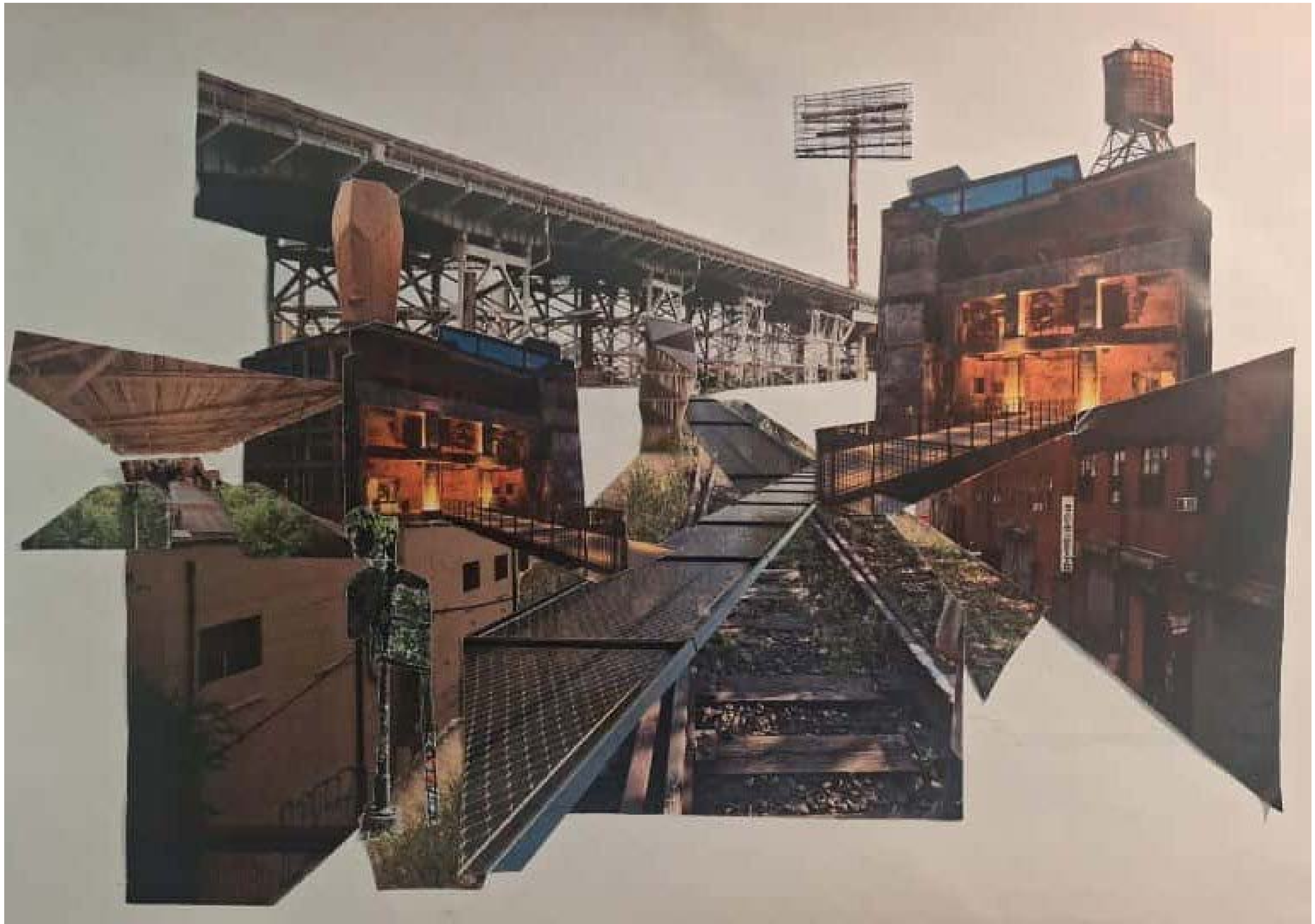
The project is born from the space between existing warehouses and the Montauk Cutoff. It plays with fill and void, presence and absence: introducing new program without erasing the site's industrial identity, community, or memory.

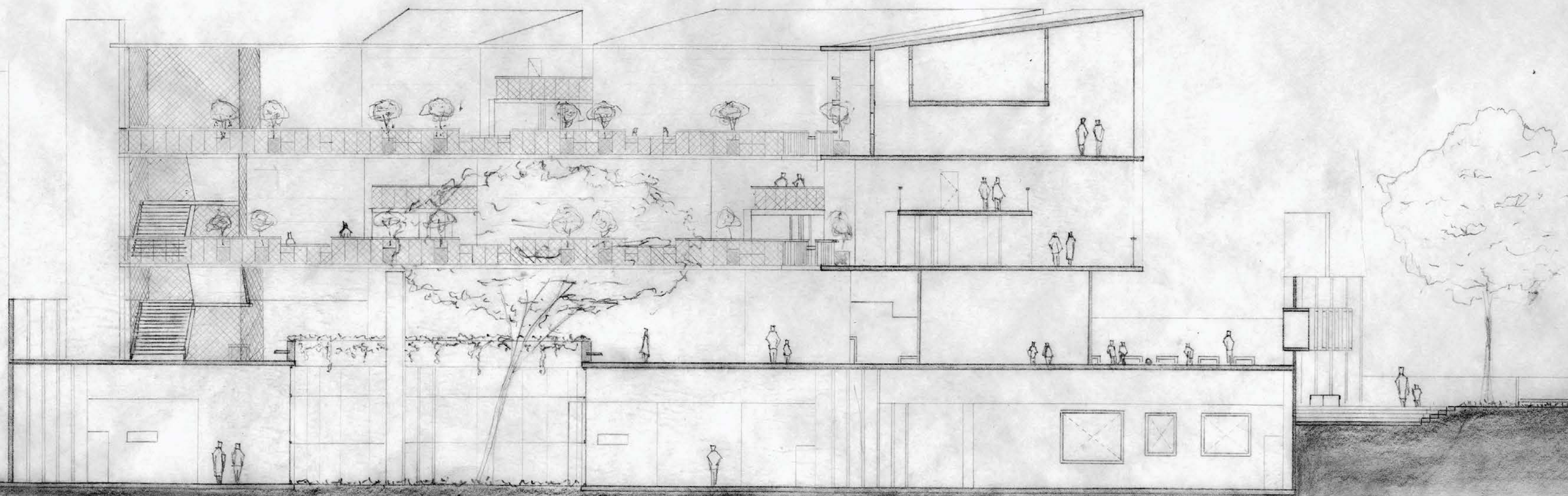
The gap is partially filled to expand the cutoff and create an access point to the project. The second floor of the warehouses is carved out, while preserving the facades, forming a public courtyard at cutoff level that concentrates daycare, public laundry, gardens, commercial spaces, and offices. This shared void acts as a social buffer between industrial ground level and housing above.

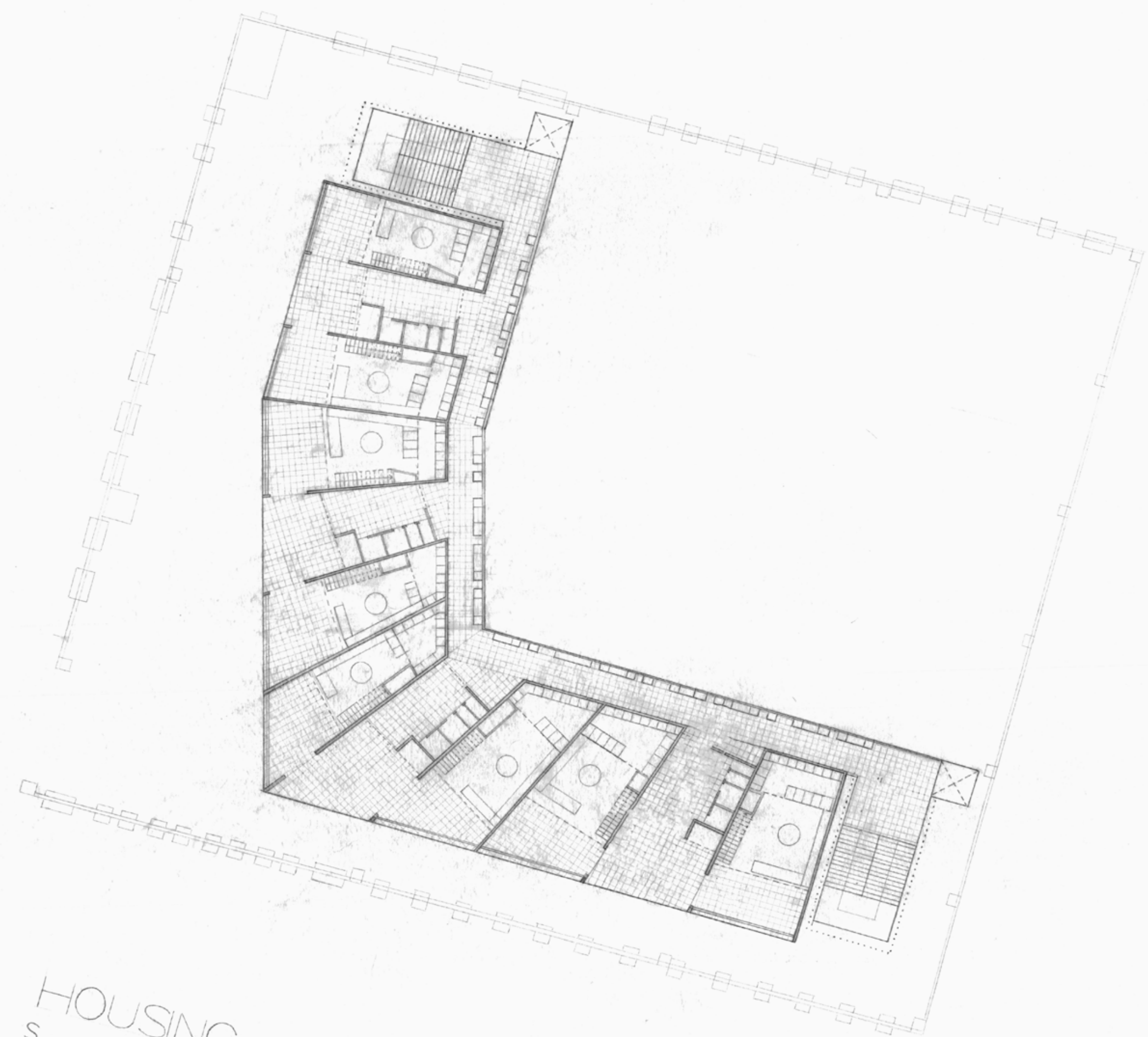
Duplex housing units, oriented toward either the river or the cutoff, accommodate diverse family structures. Accessed through shared patios—one serving two homes—these outdoor spaces extend social areas and offer showers, changing areas, sinks, and laundry to support a transition from work to domestic life. Meanwhile, the corridors face the courtyard, with kitchens and articulated railings forming benches, tables, and planters that foster daily encounters.



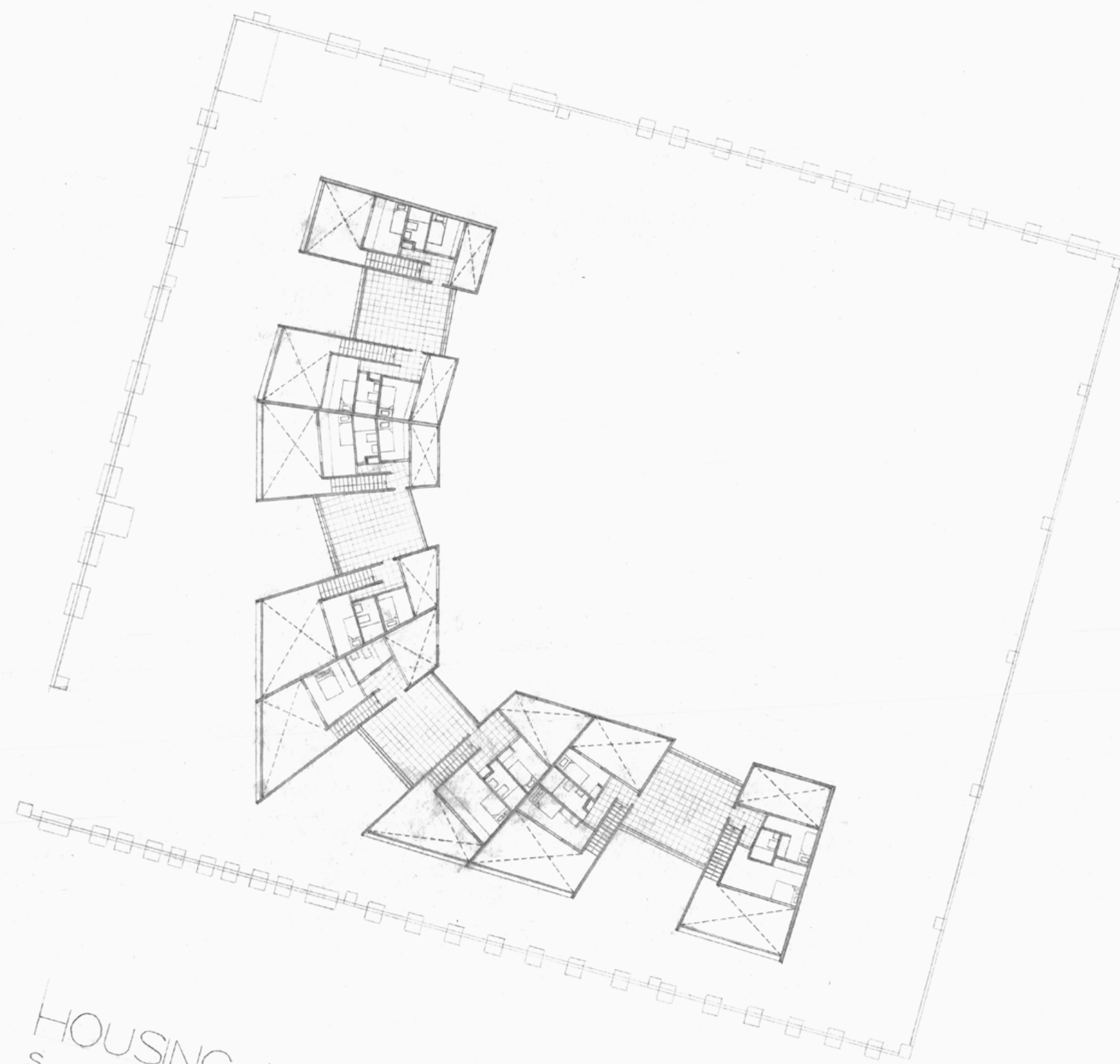




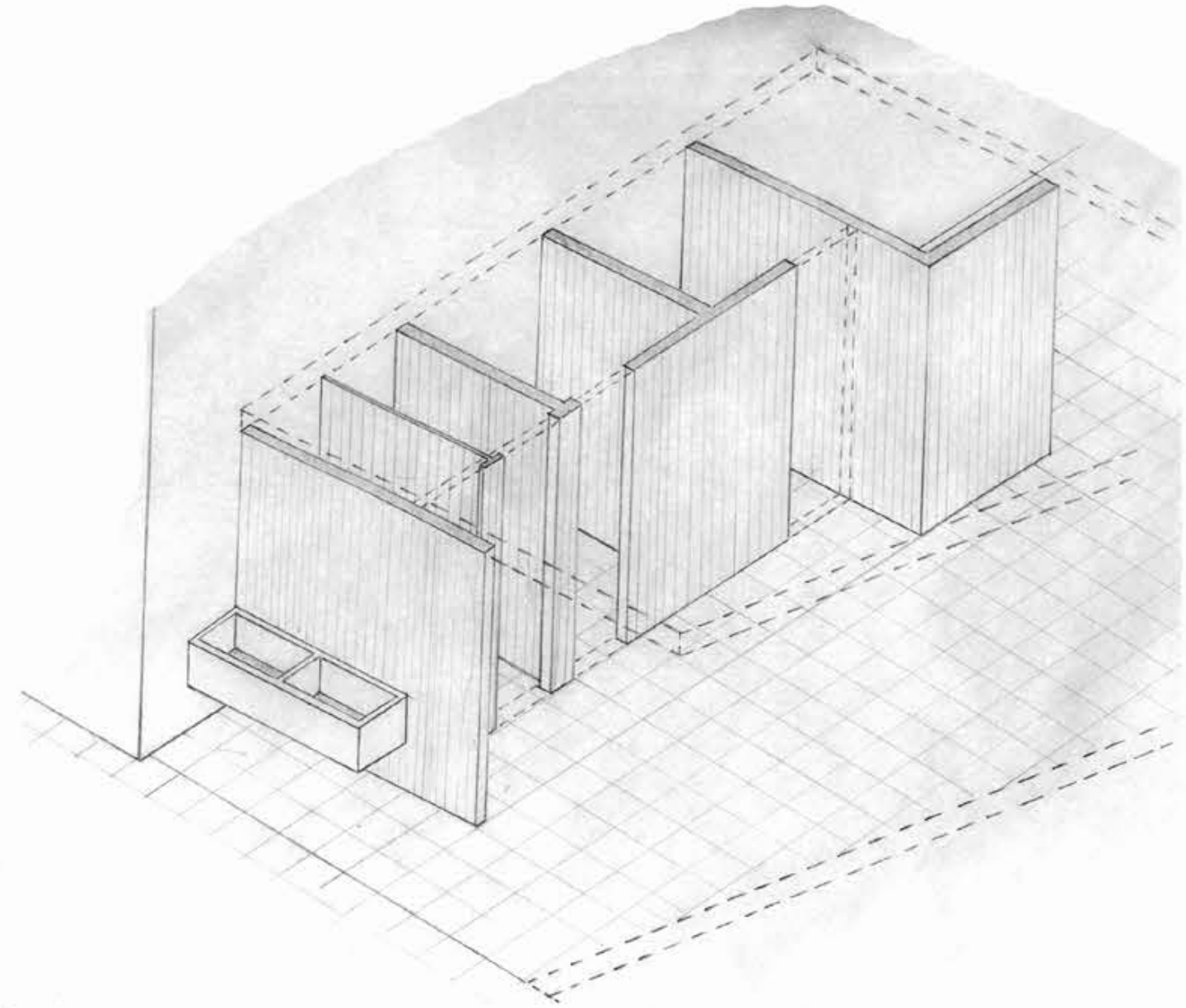
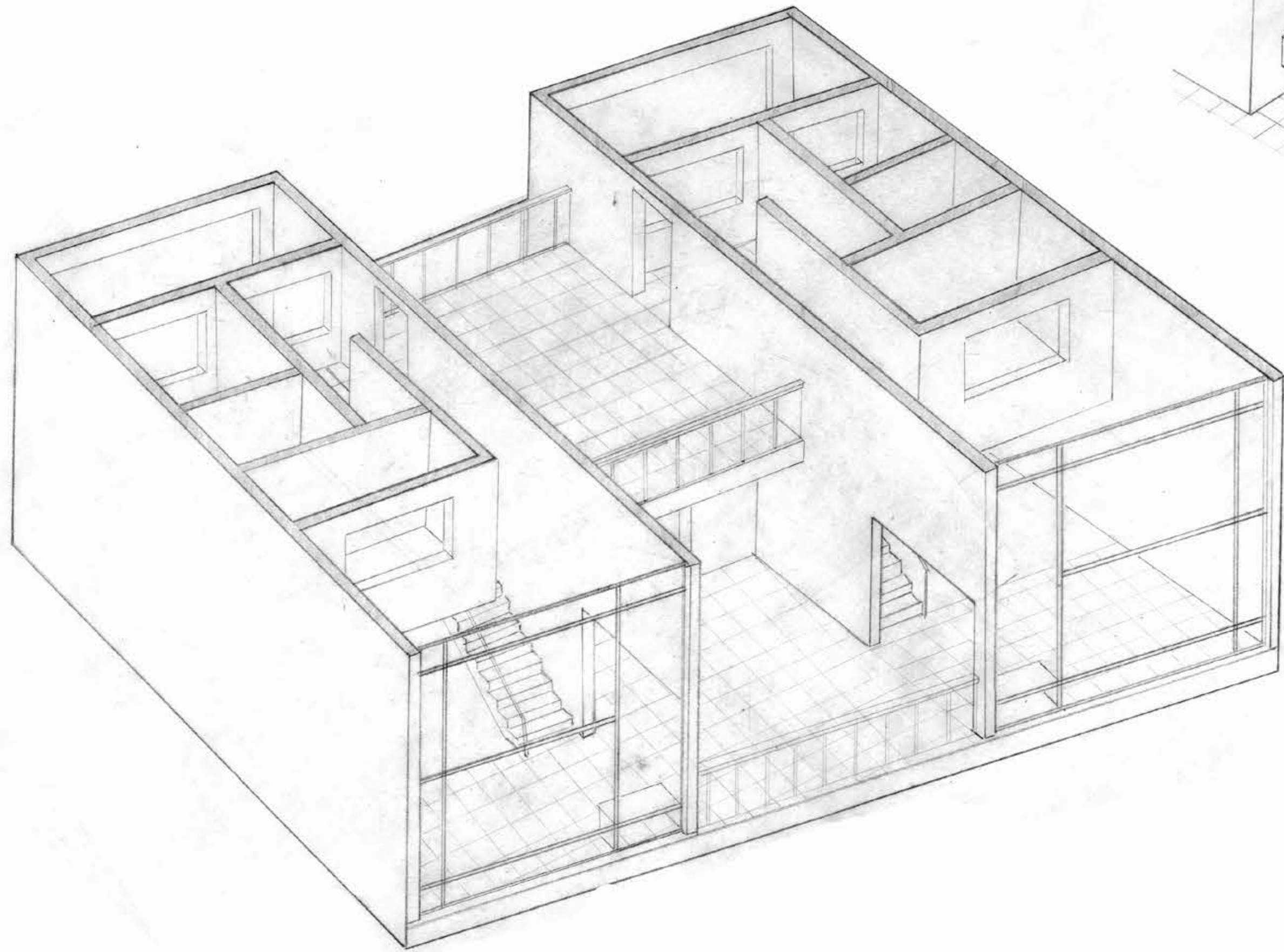


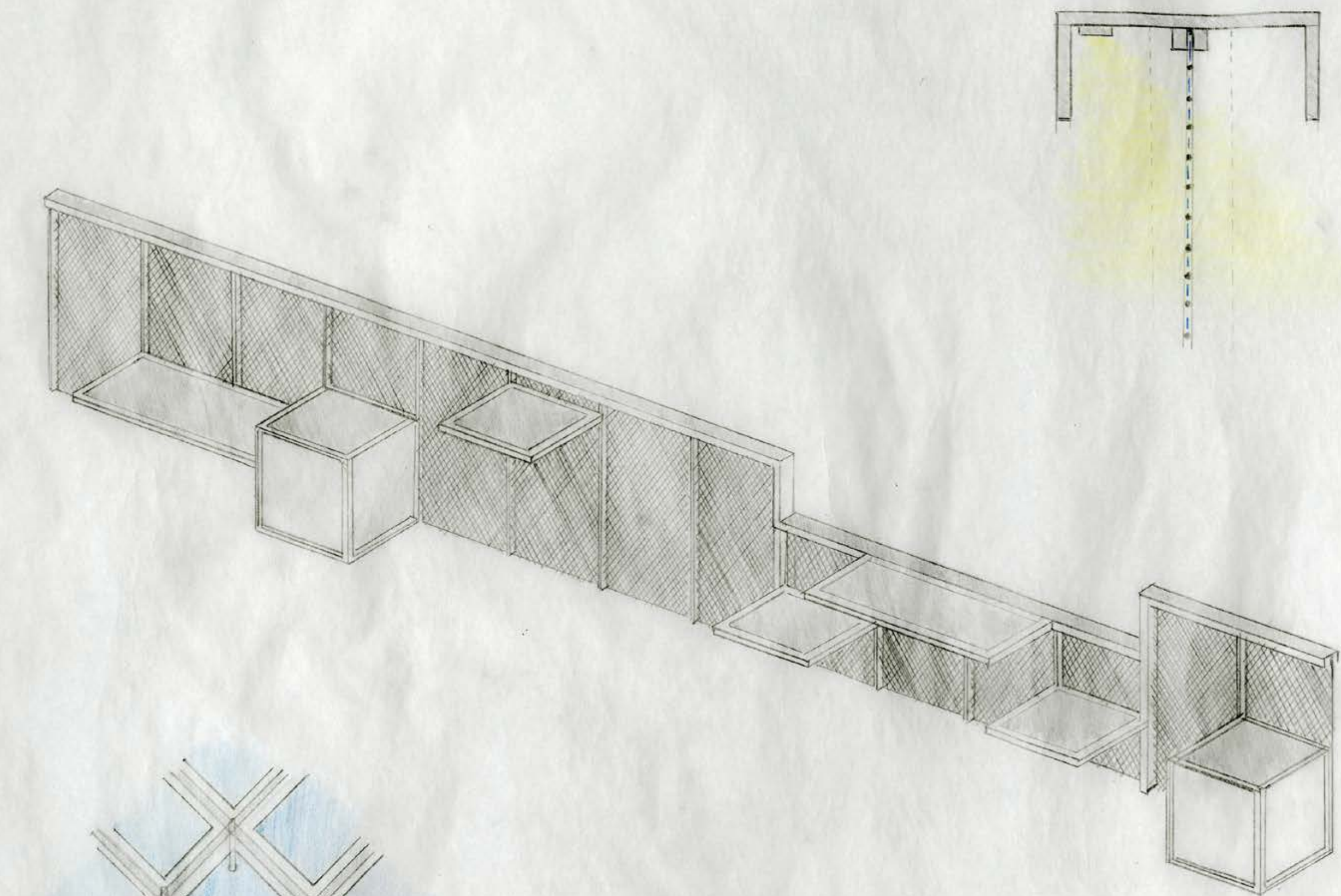


HOUSING UNITS FIRST FLOOR
S. 1/200

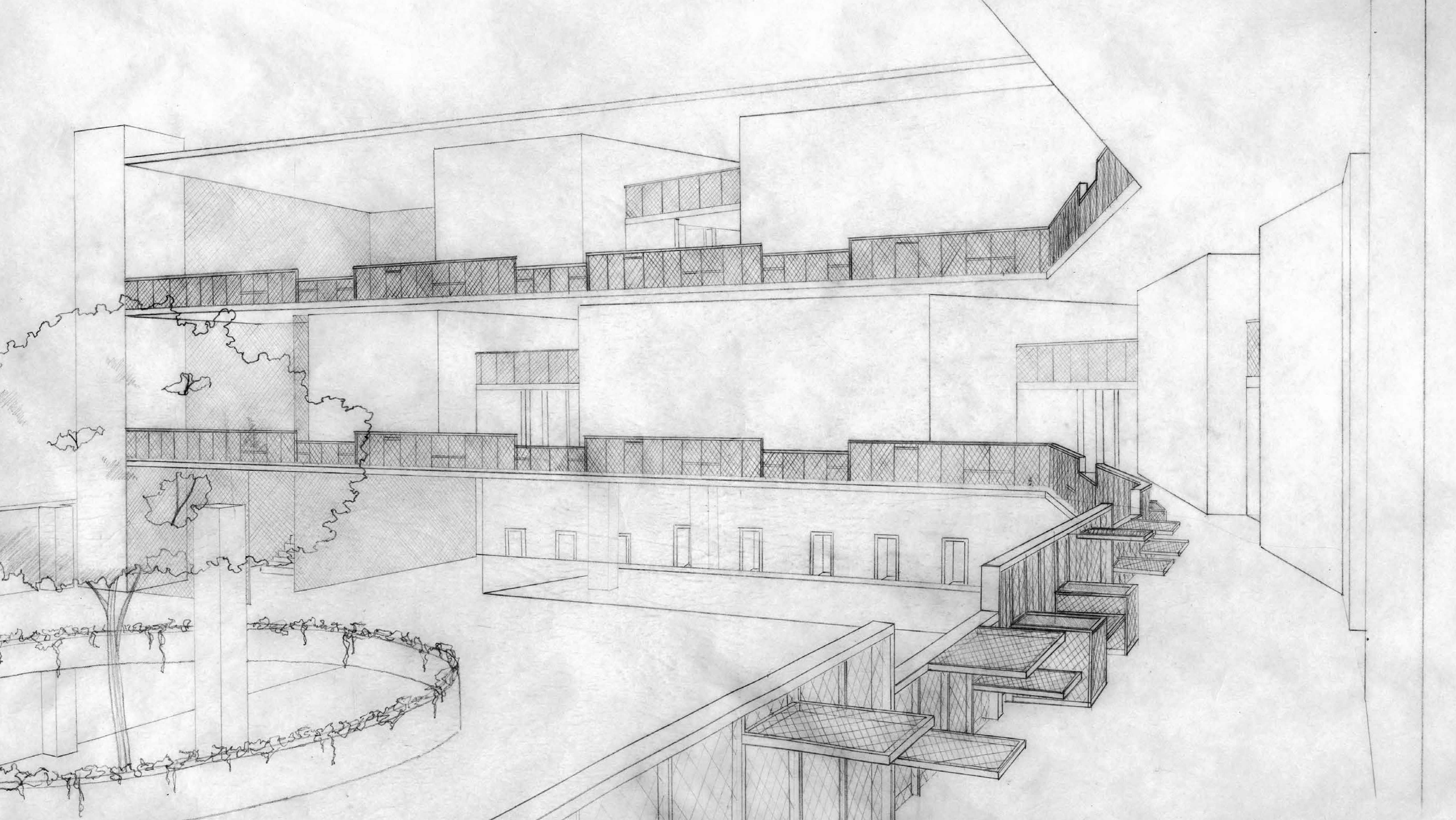


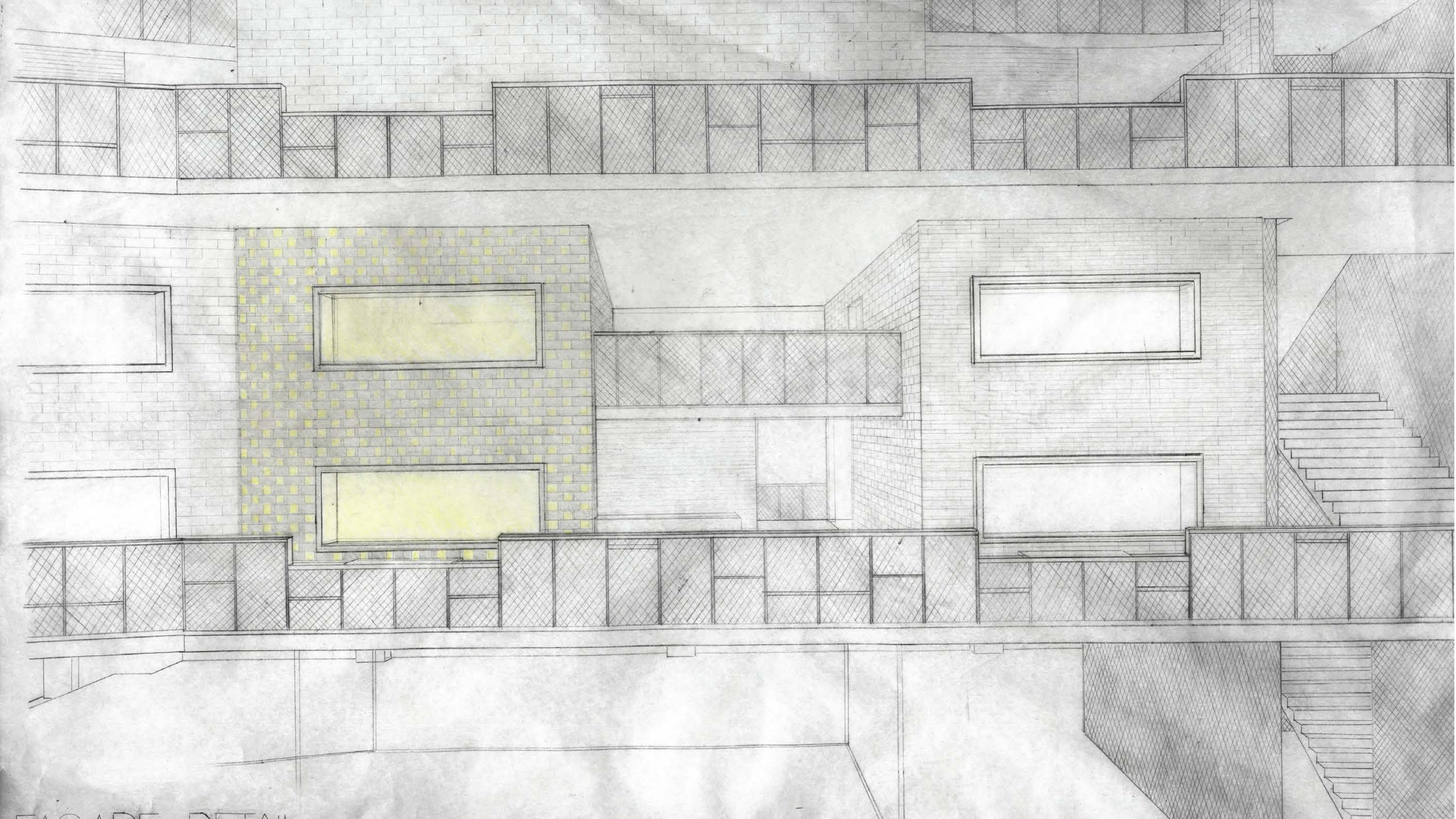
HOUSING UNITS SECOND FLOOR
S. 1/200





RAILING DESIGN





REFRAMING BROADWAY

JOE BRENNAN

RE-THINKING BIM

FALL SEMESTER 2025

Sited between 29th Street, 30th Street, and Broadway in Manhattan, this mixed-use tower stacks public and private programs to intensify street life while preserving light, air, and openness. A transparent double-height commercial base activates the street with planted public space, the mid-rise office volume forms a strong urban edge, and a slimmer residential tower rises above, stepping back into terraces that reduce perceived bulk, open views, and create outdoor amenity levels.

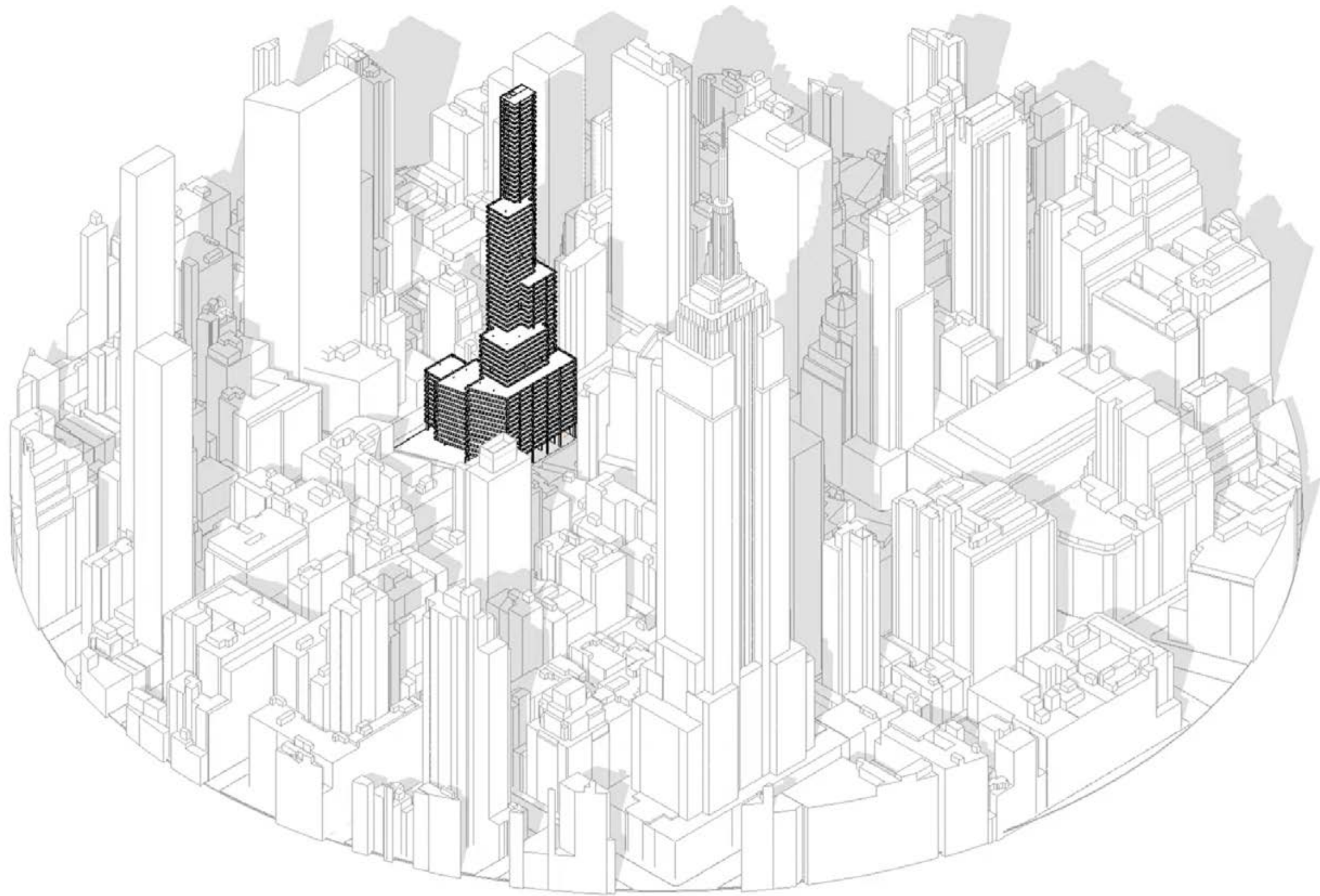
The project was developed through a computational workflow linking concept to documentation. Massing began in Rhino and evolved into a parametric Grasshopper system controlling setbacks, floorplate transitions, and zoning compliance through rule-based constraints. Environmental feedback (solar exposure and wind patterns) helped calibrate orientation, step-backs, and glazing ratios for daylight, pedestrian comfort, and facade performance.

A viewshed and view-corridor analysis mapped surrounding sightlines, informing tower proportions and step-back placement to capture broader residential vistas while minimizing visual conflict with adjacent towers. The same Grasshopper logic coordinated volumetric modulation, structural rhythm, and facade panelization, aligning architecture, structure, and constructability. The workflow then translated into a BIM-ready Revit model for coordinated drawings, detailing, and visualization, keeping urban form, zoning logic, view strategy, and facade systems synchronized from early iterations to deliverables.

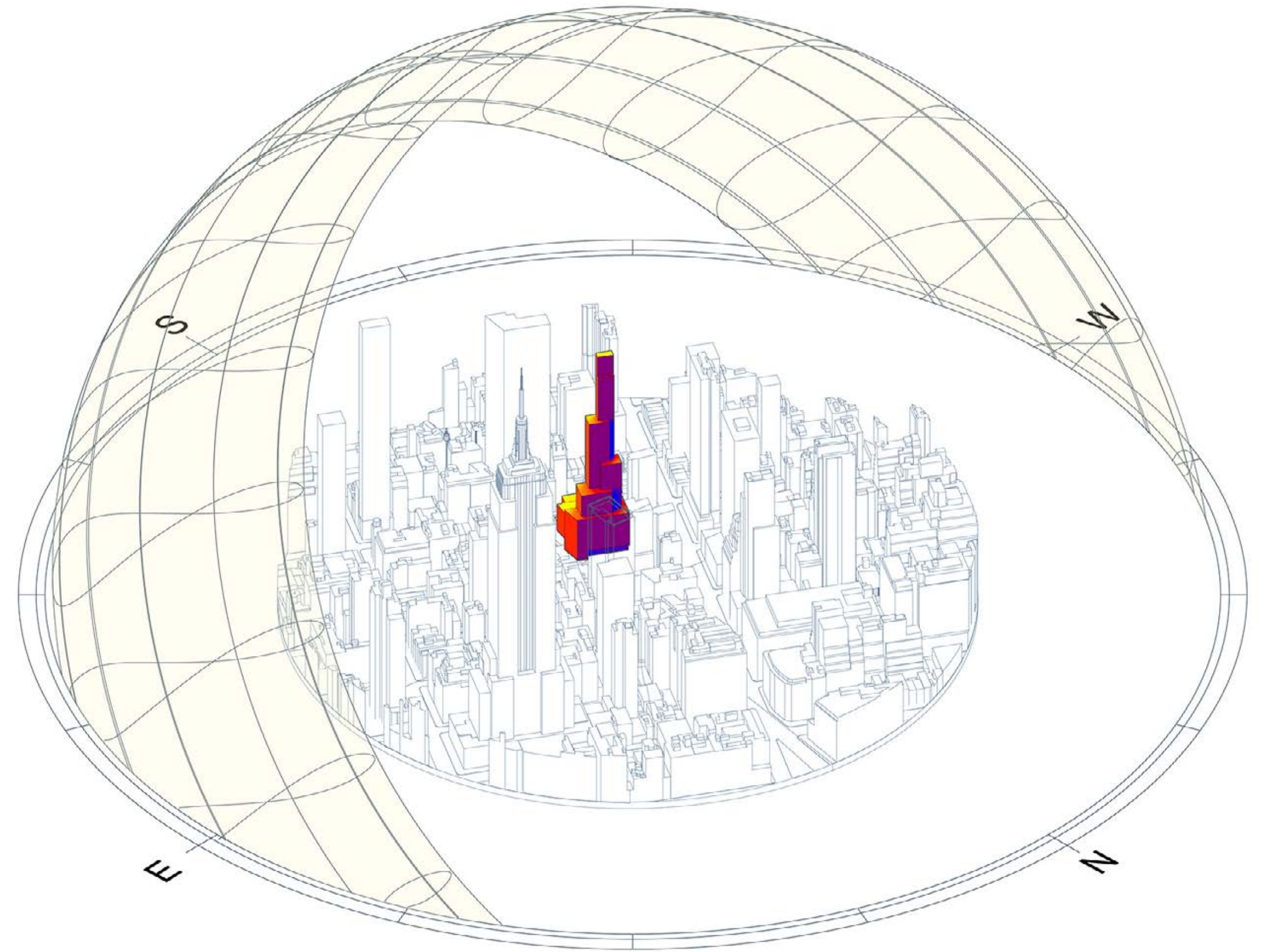
Collaborators

Georgios Koltiris
Valentina Lizcano

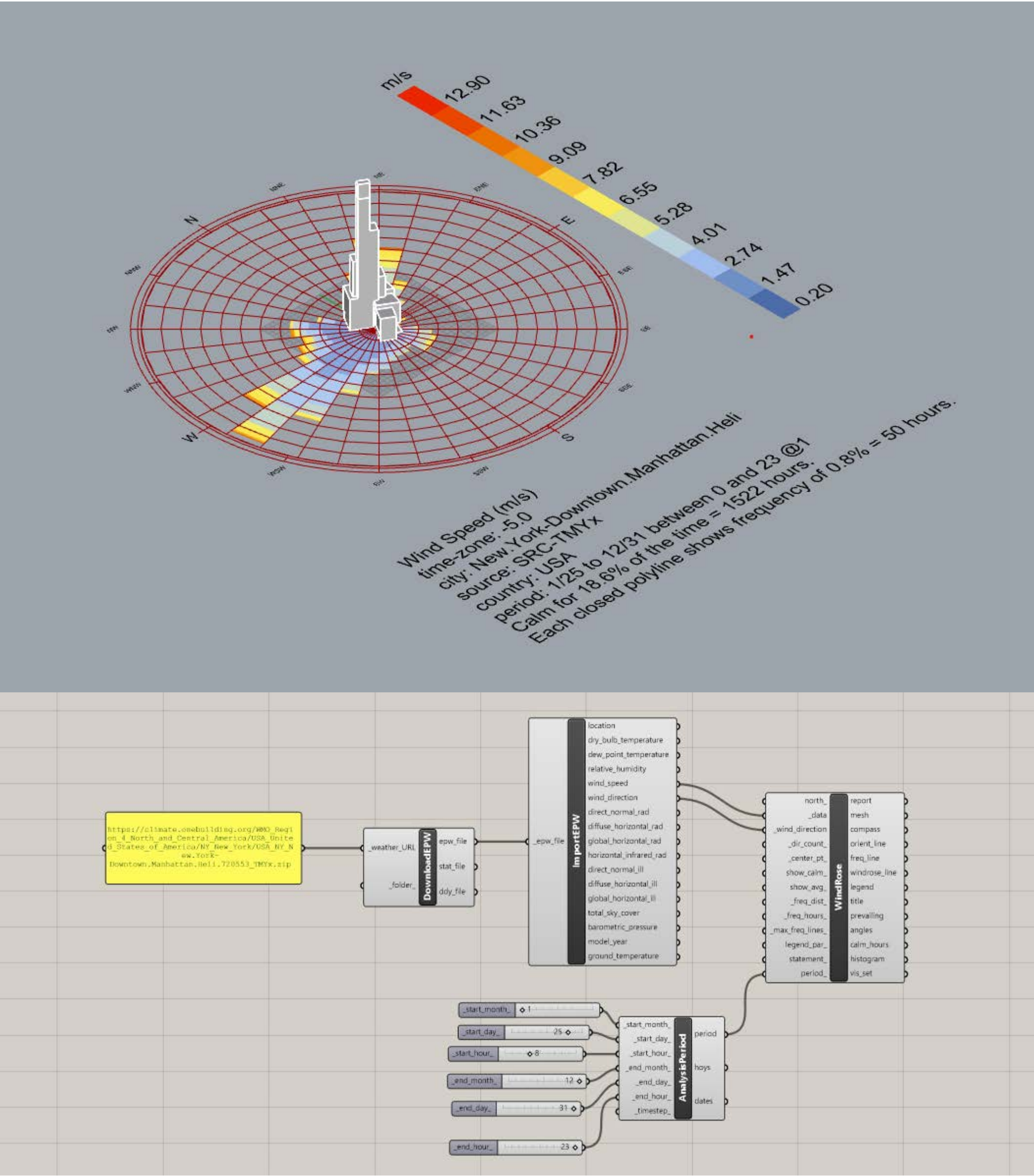




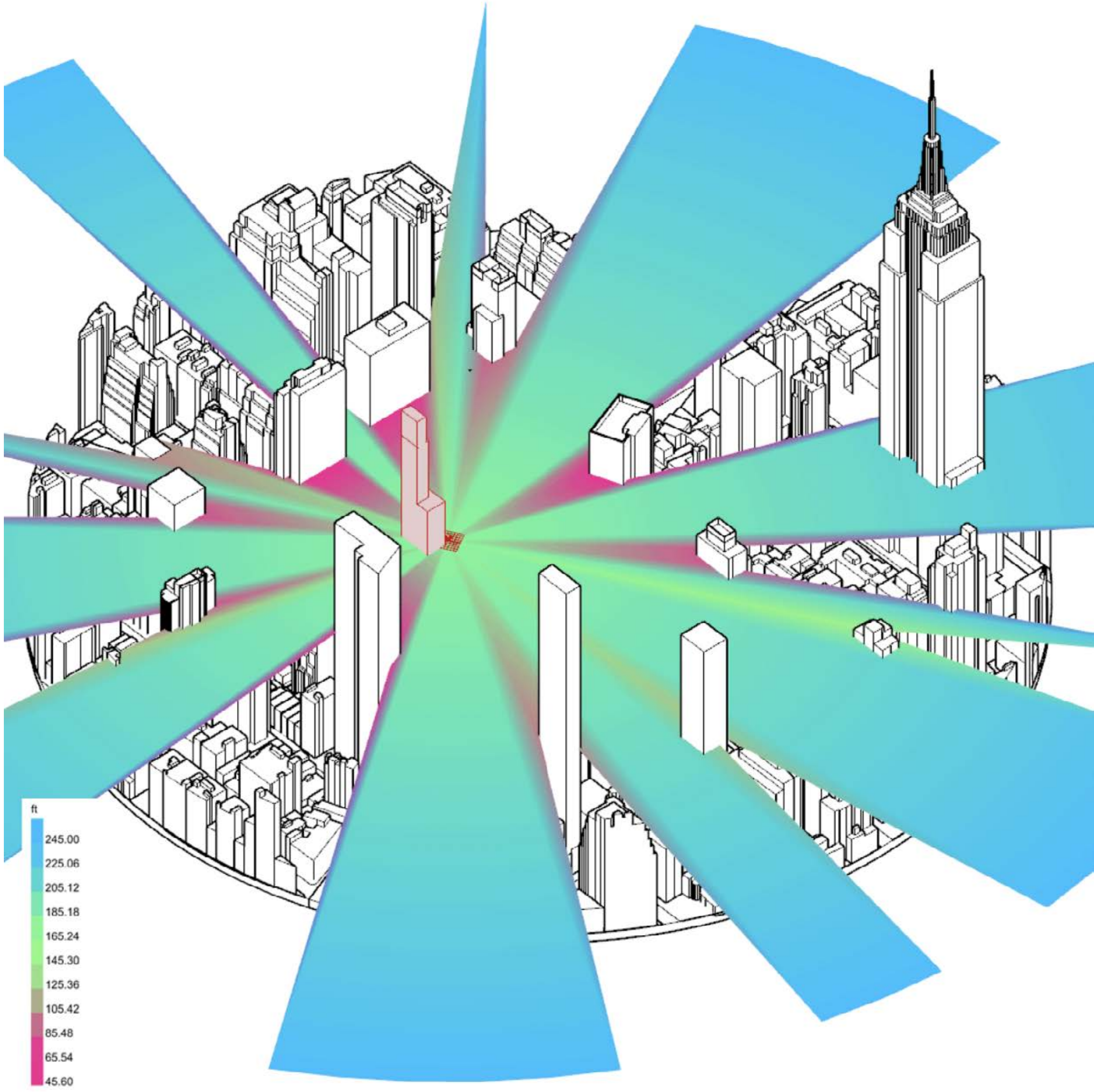
ANALYSIS OF SHADOWS IN RELATION TO THE CONTEXT WITH GEOREFERENCED REVIT MODEL



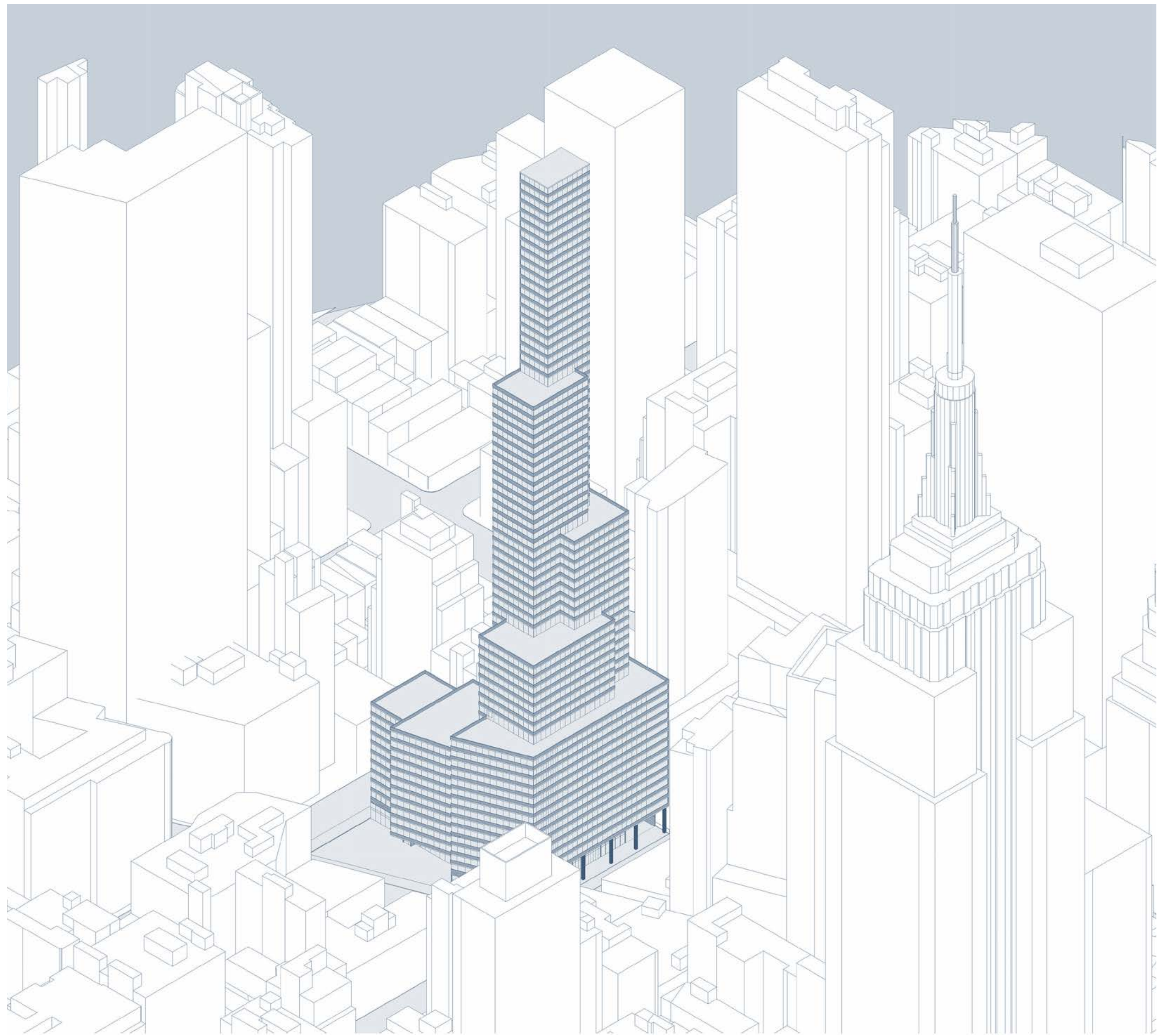
SOLAR EXPOSURE ANALYSIS FOR WINTER AND SUMMER CONDITIONS

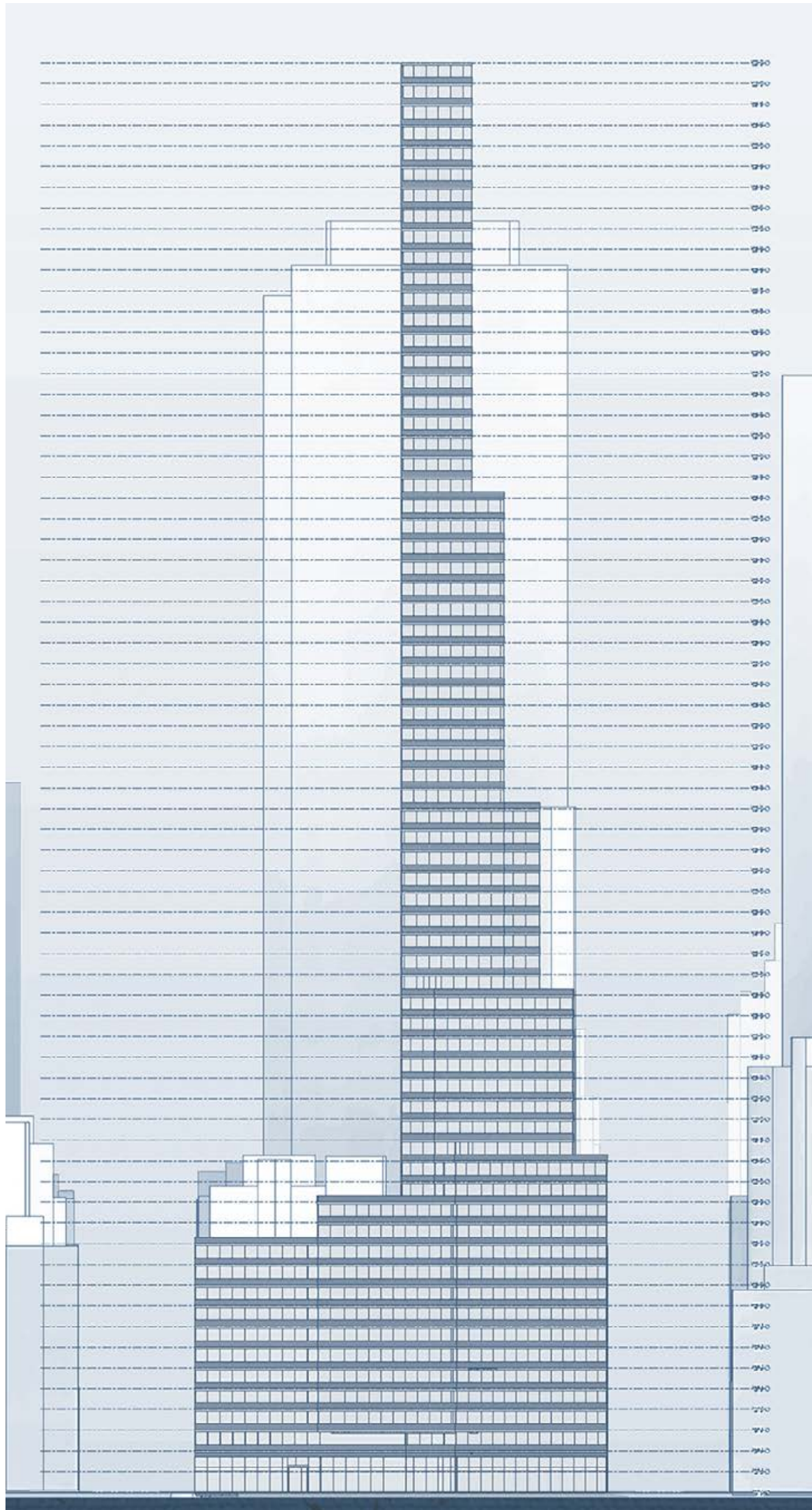


WIND PATTERNS ANALYSIS

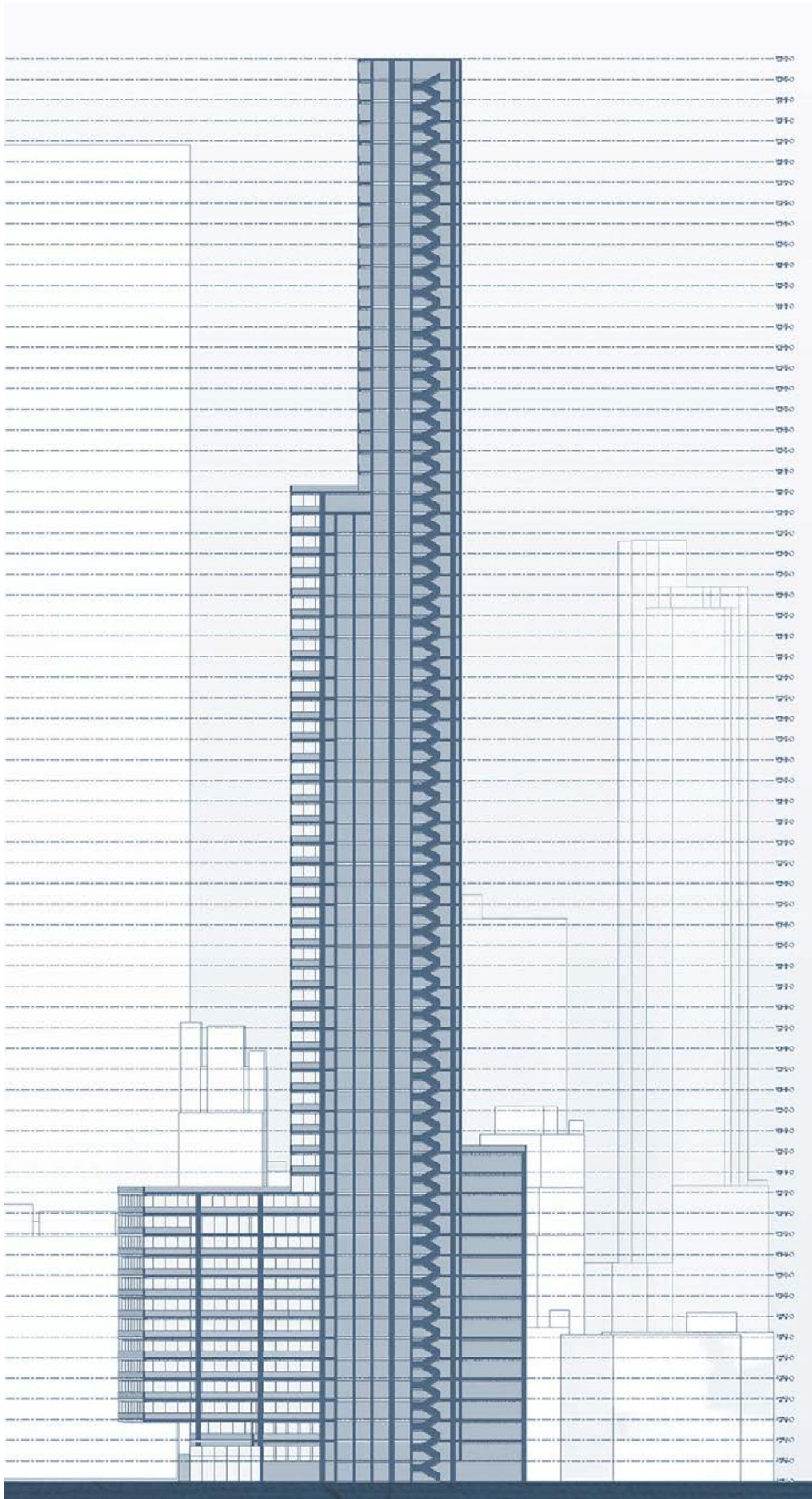


VIEWS ANALYSIS IN RELATION TO SURROUNDING BUILDINGS





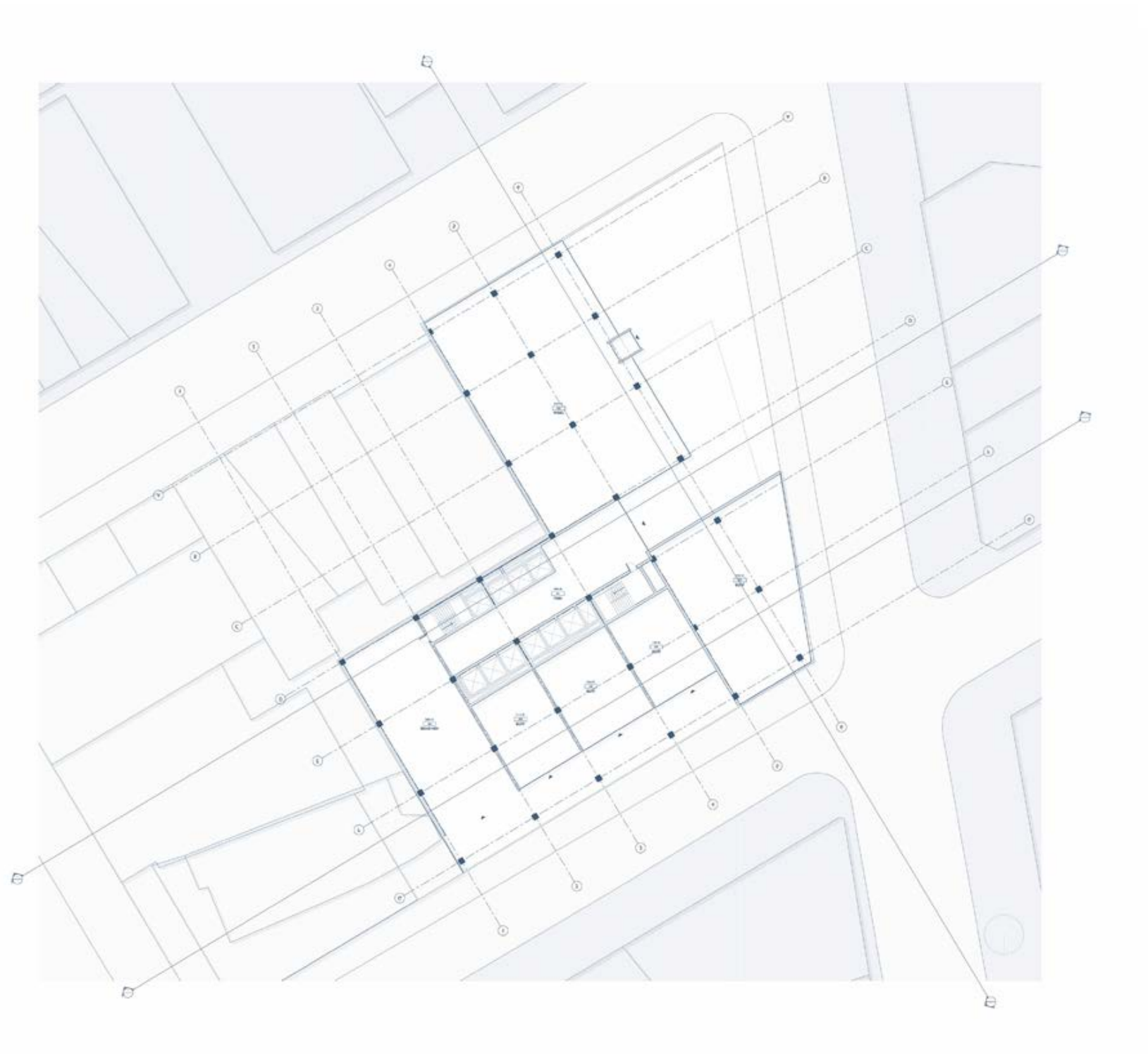
ELEVATION



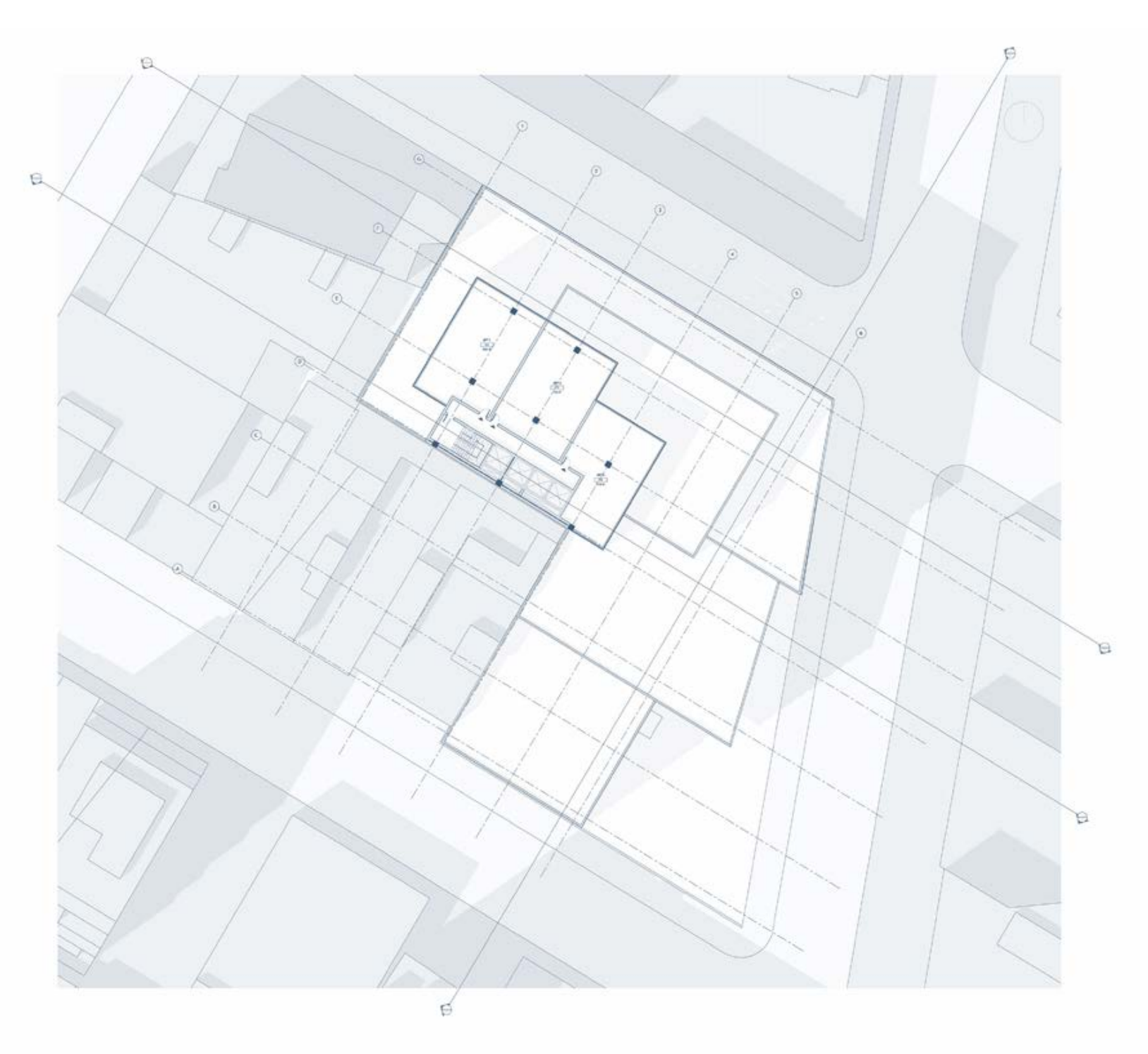
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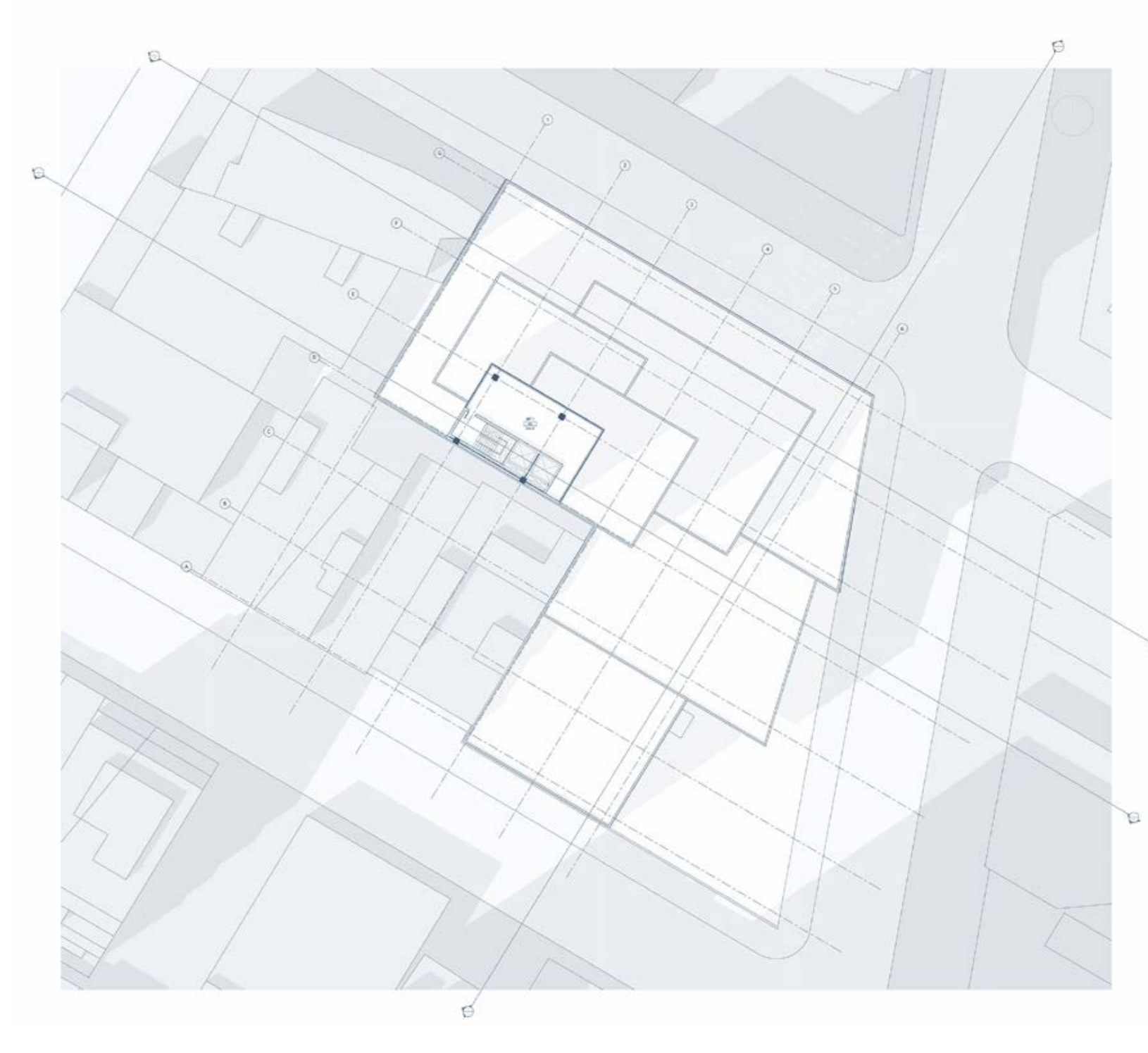
PHYSICAL SITE MODEL



GROUND FLOOR PLAN



29TH FLOOR PLAN



69TH FLOOR PLAN



WATER, TERRITORY AND URBAN VULNERABILITY IN BOGOTA

DARE BRAWLEY
MARIO GIAMPIERI

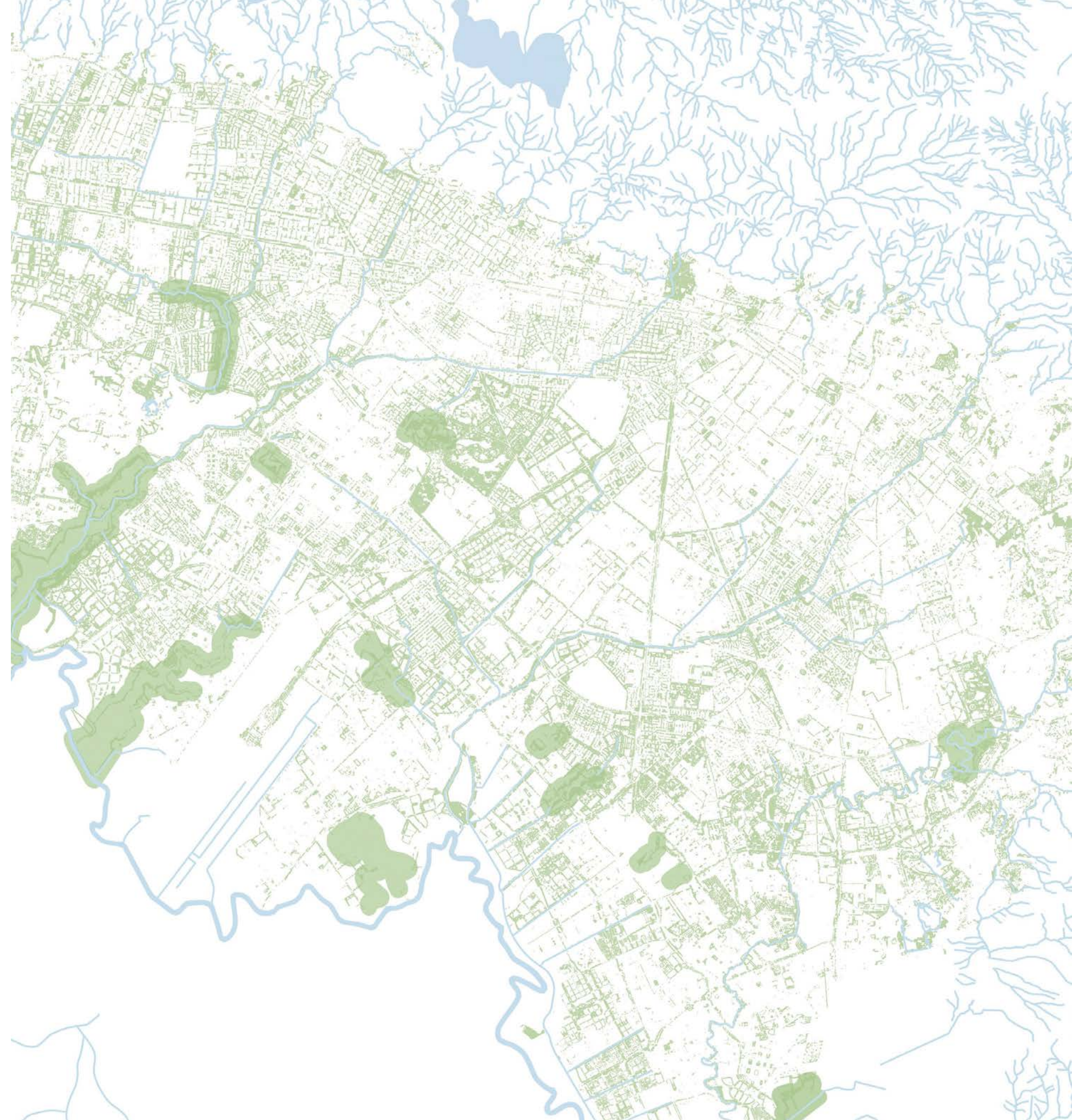
GIS FOR DESIGN PRACTICES

FALL SEMESTER 2025

This project examines the structural paradox of a city founded on water-rich territory that now faces systemic shortages and rationing. Through a multi-scalar GIS analysis, the Narrative Atlas spatializes the intersection of urban development, industrial expansion, and hydrological management to expose the underlying links between infrastructure and socioeconomic inequality.

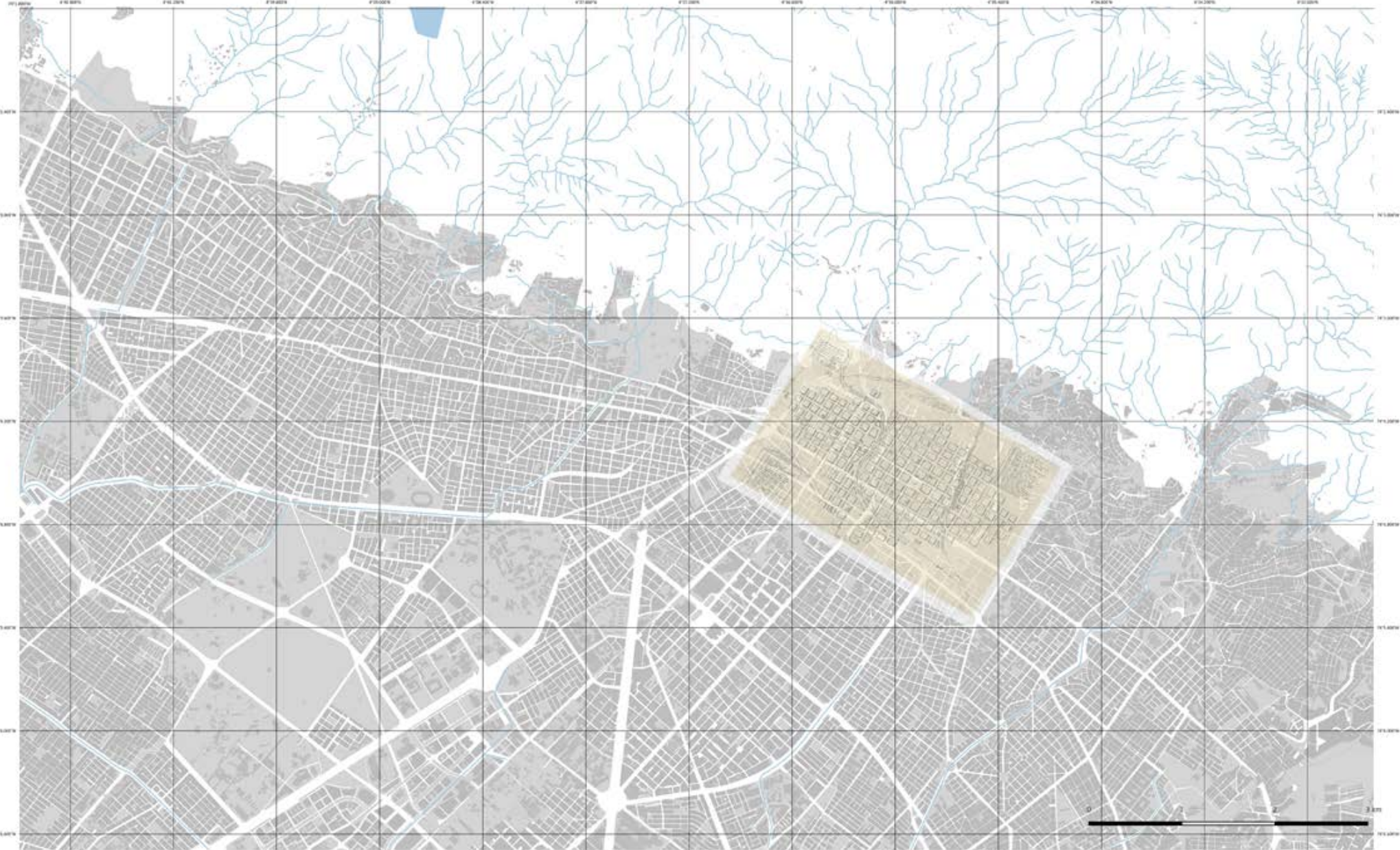
The research utilizes a cartographic methodology that overlays four centuries of historical growth—from 17th-century croquis to 20th-century aerophotographic surveys—against contemporary datasets. By mapping precipitation patterns, hydrographic networks, and soil degradation alongside socioeconomic stratification and property values, the atlas reveals a clear spatial bias: higher-income sectors occupy areas with historically superior access to resources, while lower-income and informal neighborhoods are pushed into “water-stressed” peripheries.

Ultimately, the work serves as a diagnostic visual record, arguing that water management is not merely a technical challenge but a primary driver of urban and environmental injustice in the Bogotá savanna.

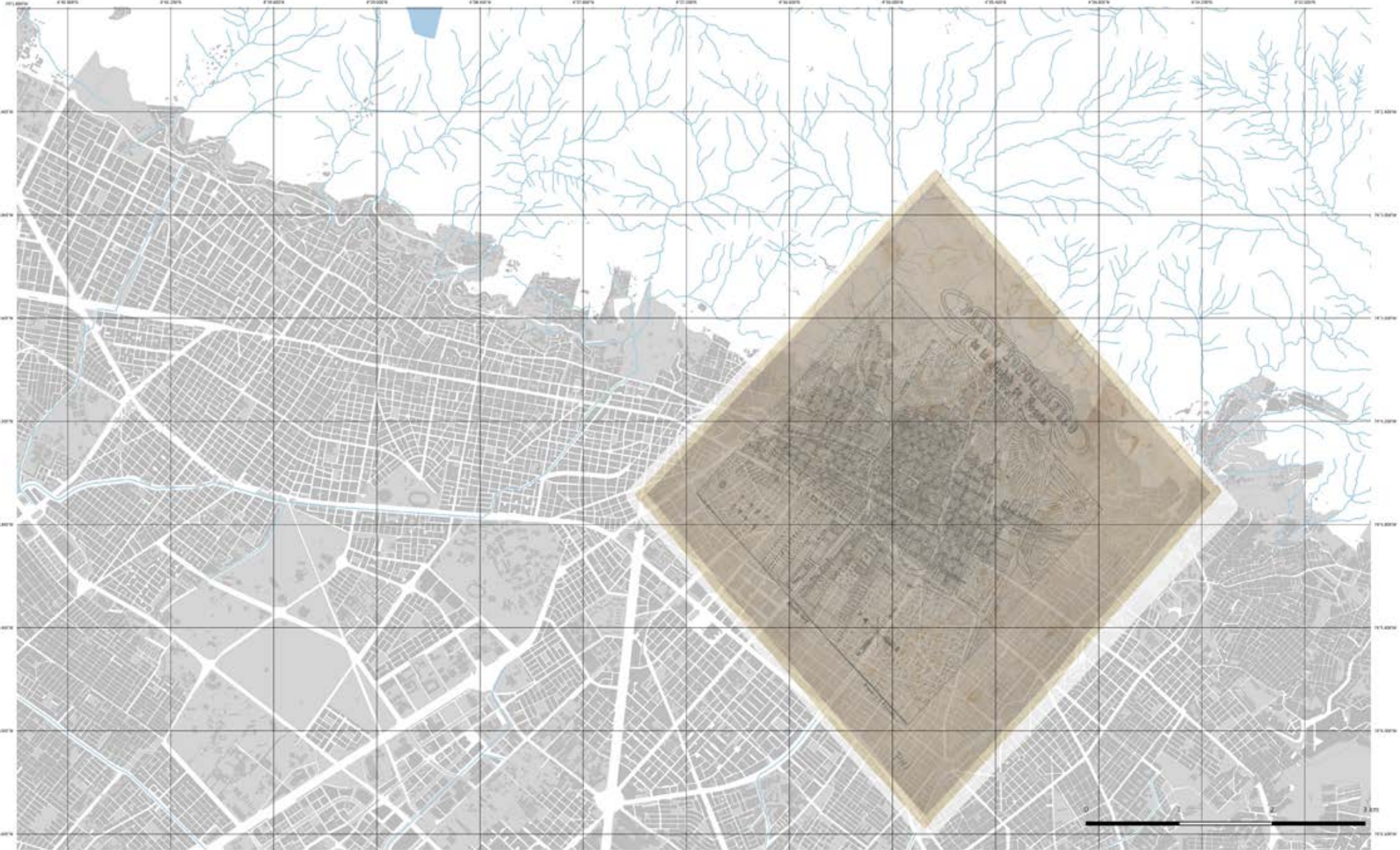


HISTORICAL EVOLUTION

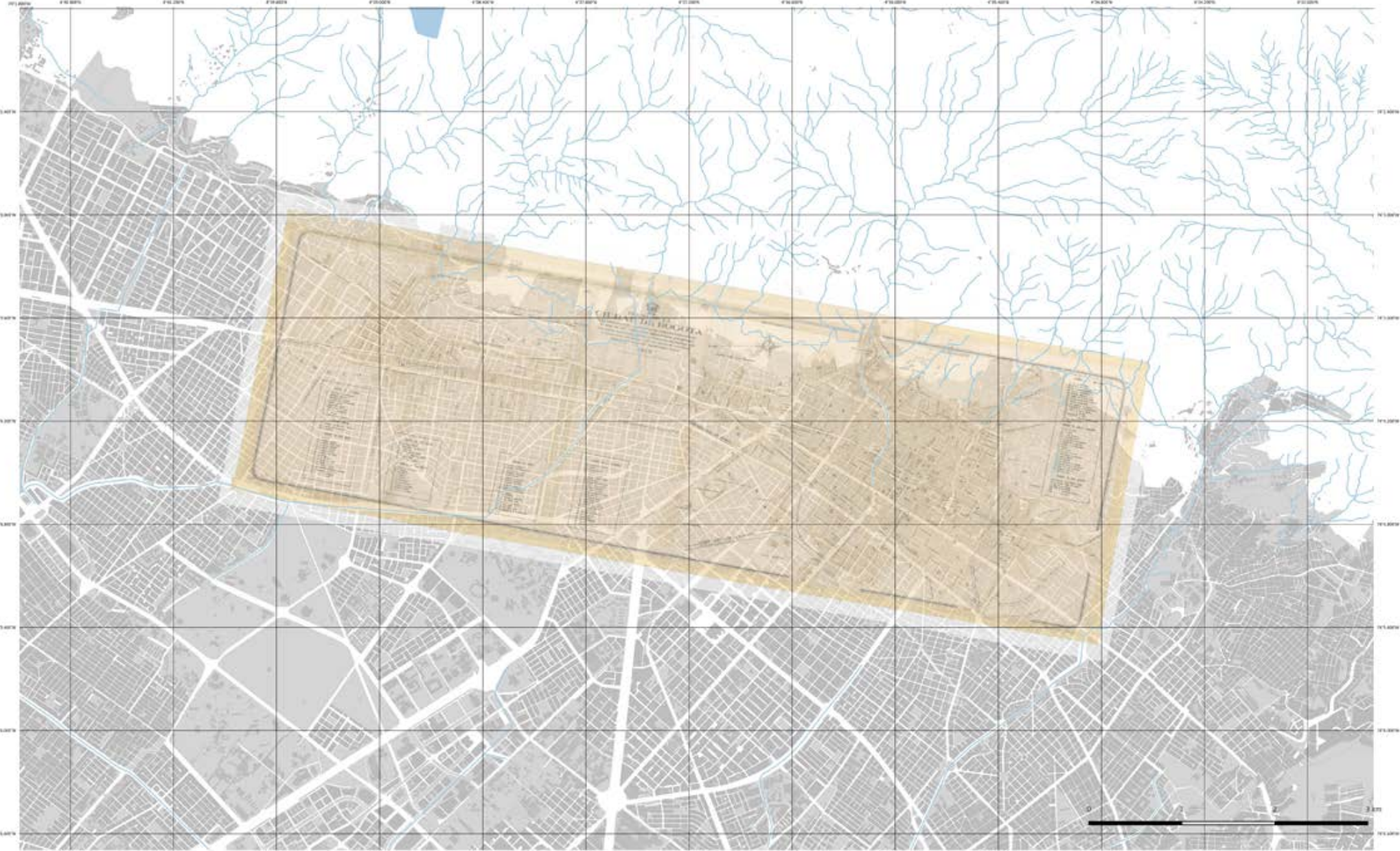
GEO-REFERENCED CROQUIS DE SANTAFE DE BOGOTA (1600)



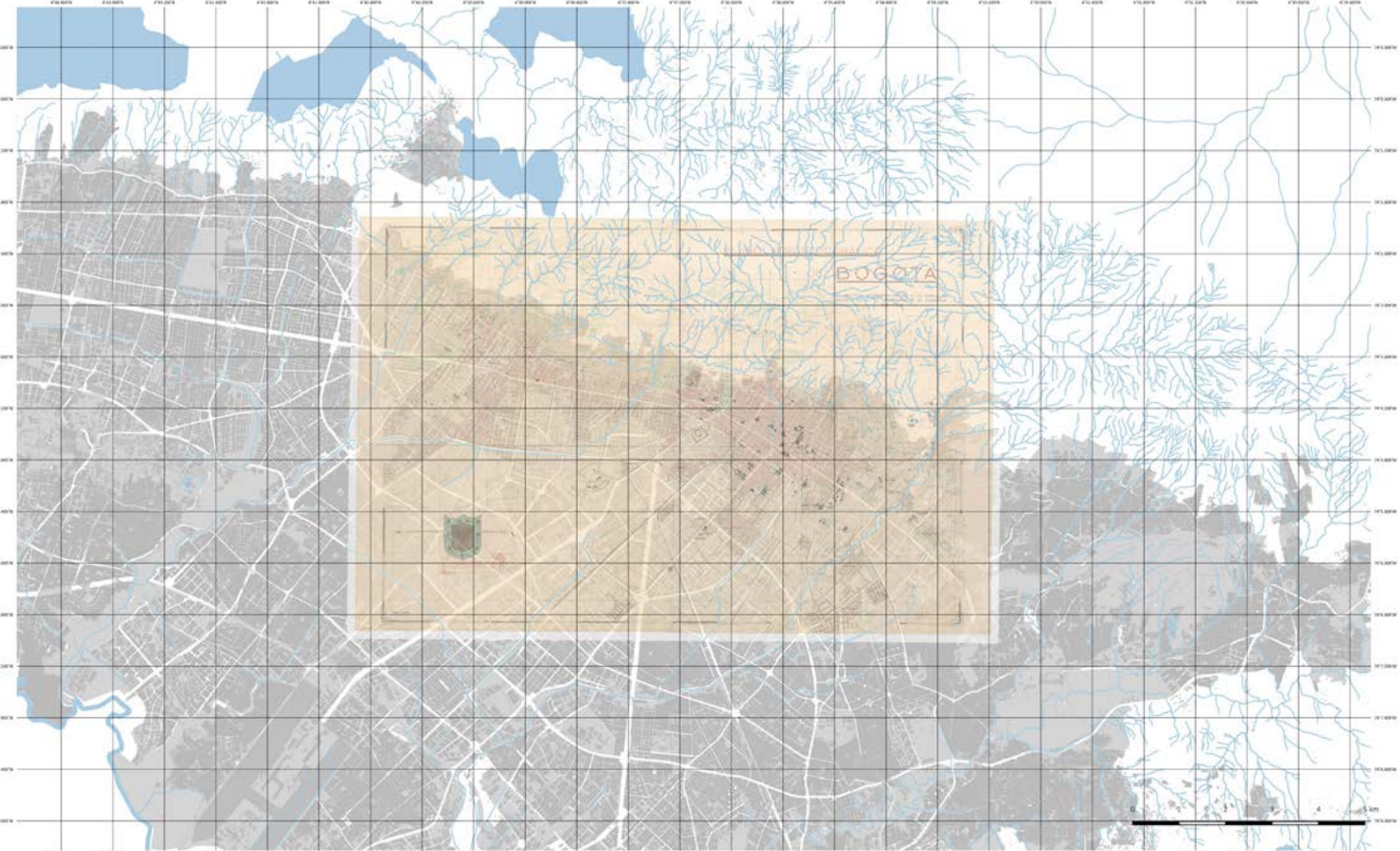
GEO-REFERENCED PLANO TOPOGRAFICO DE LA CIUDAD DE BOGOTA (1848)



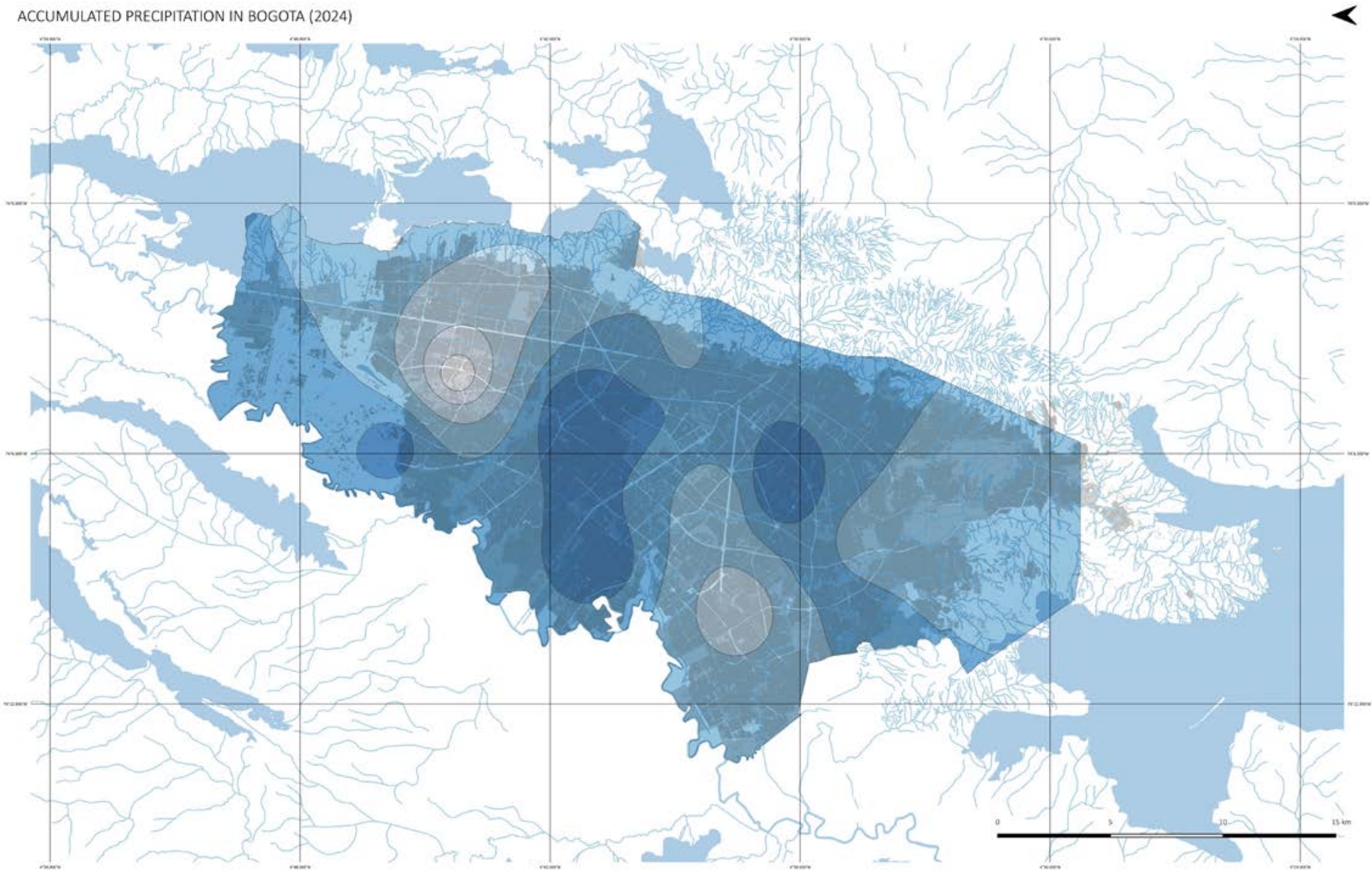
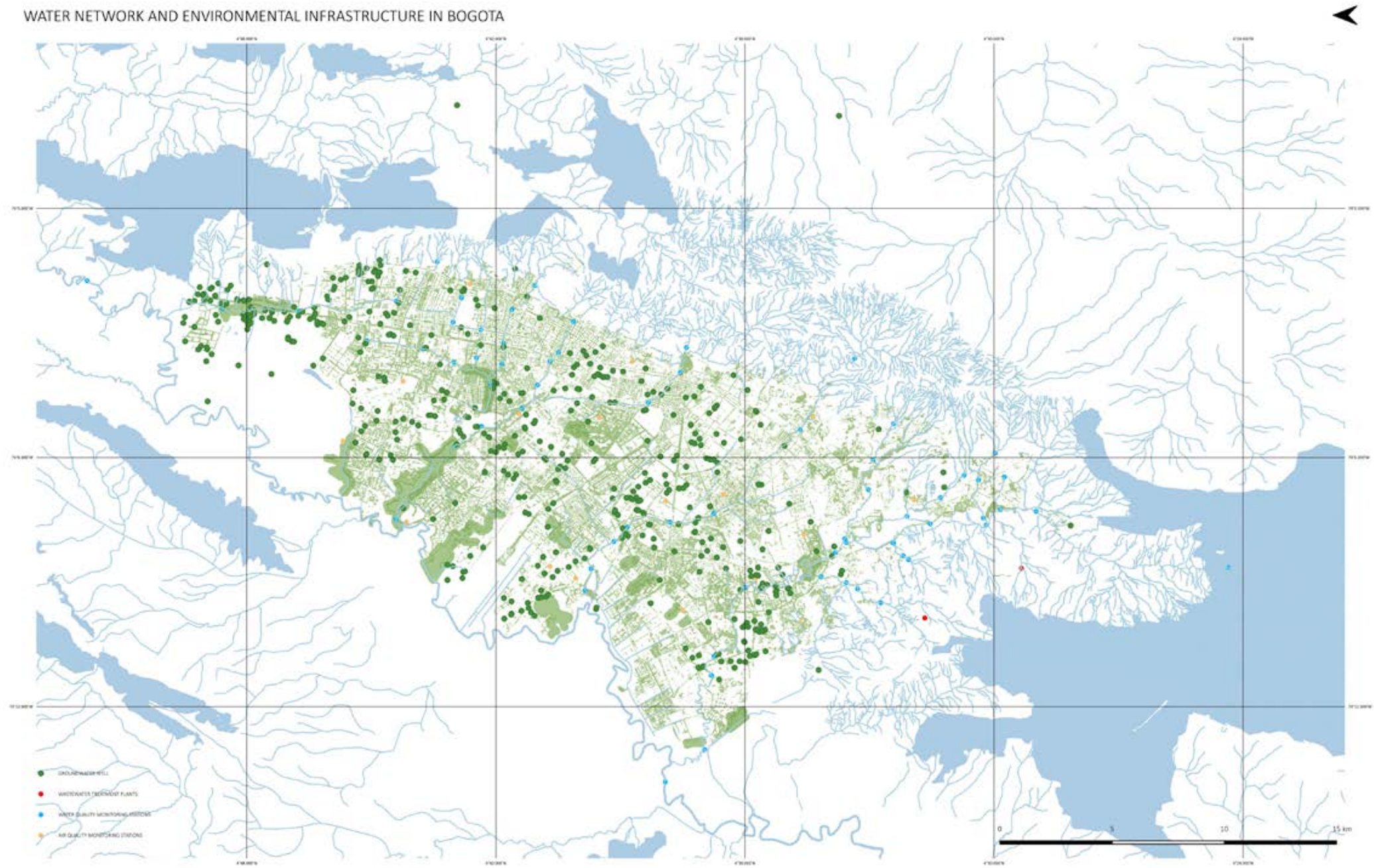
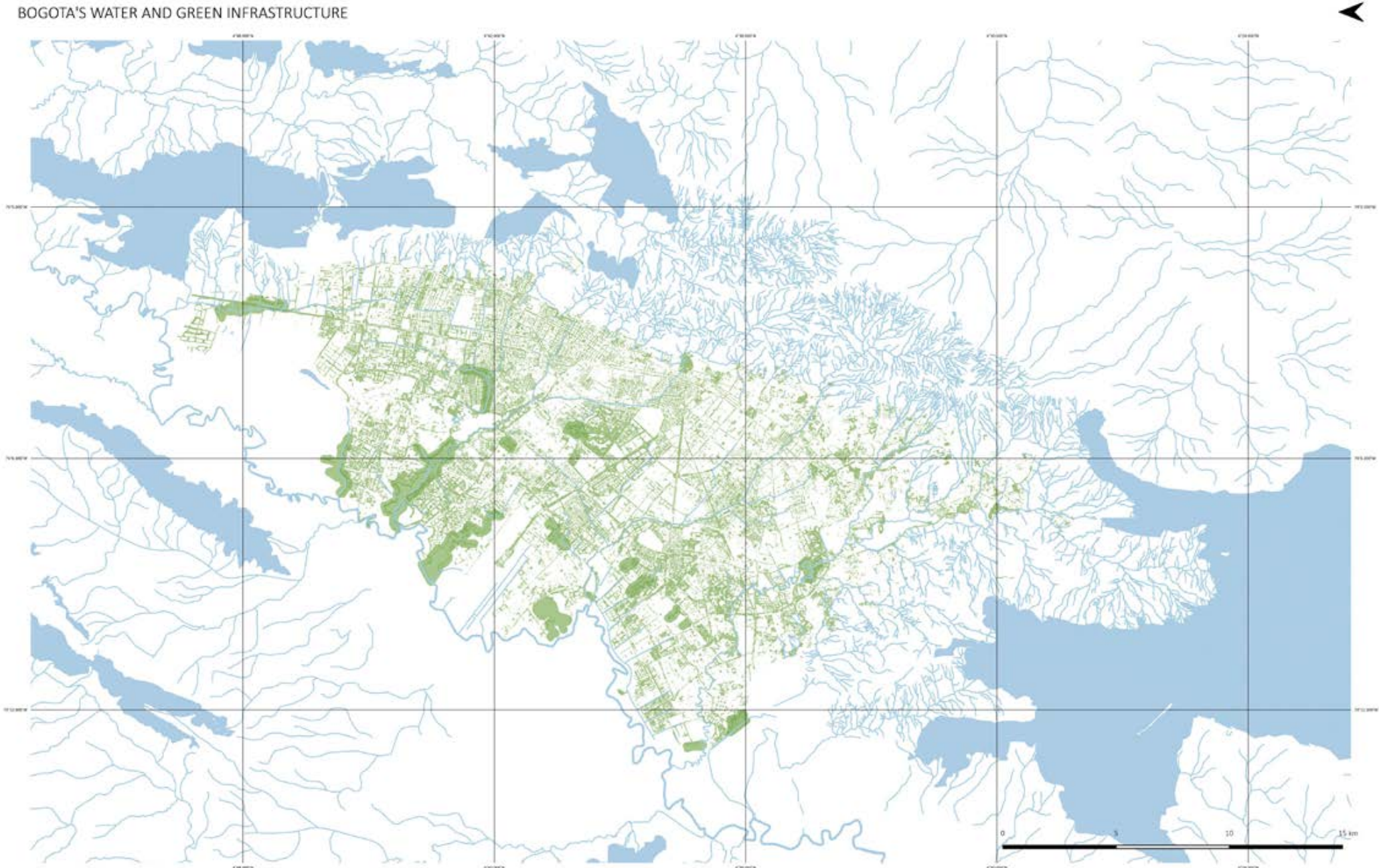
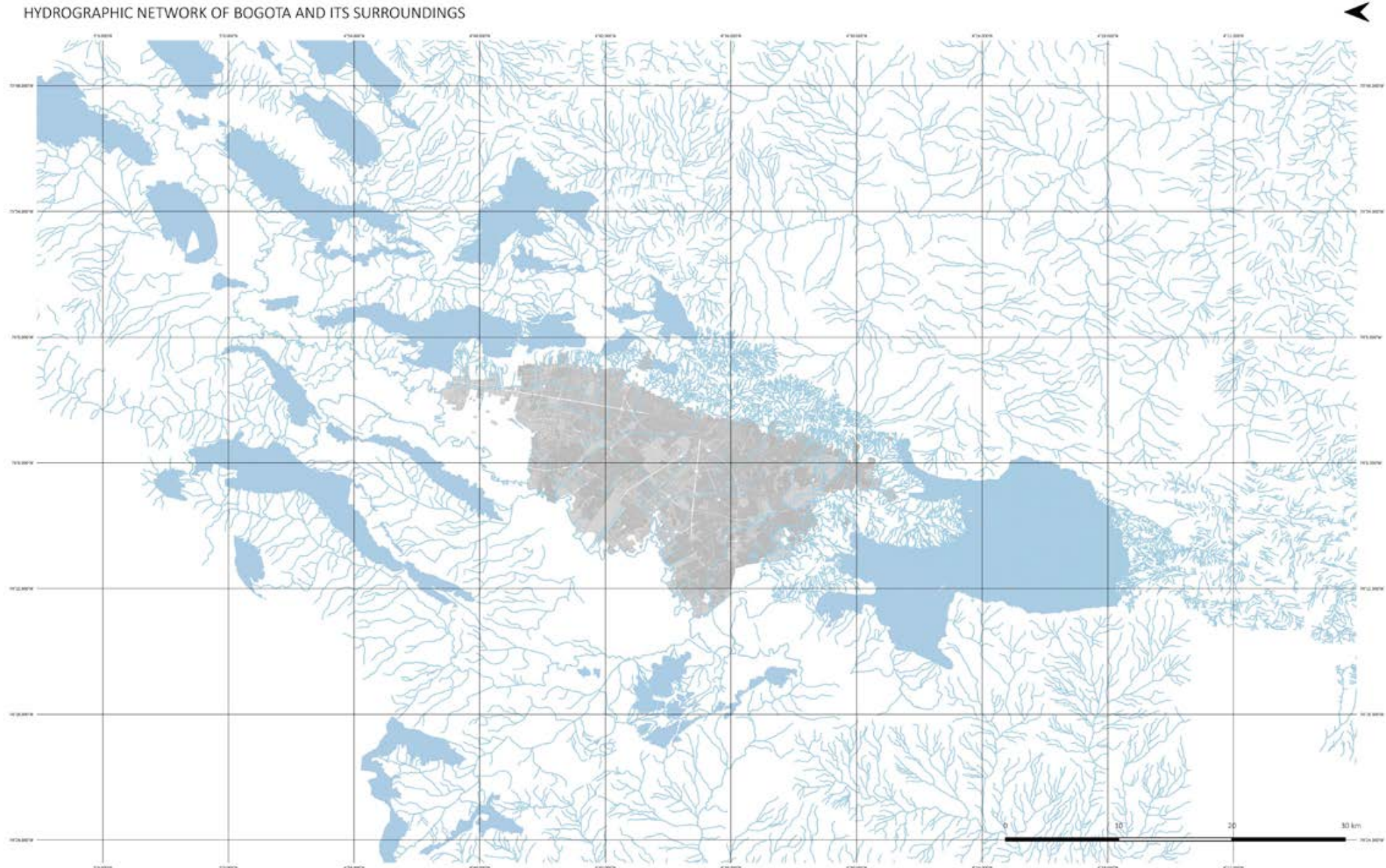
GEO-REFERENCED PLANO DE LA CIUDAD DE BOGOTA (1913)



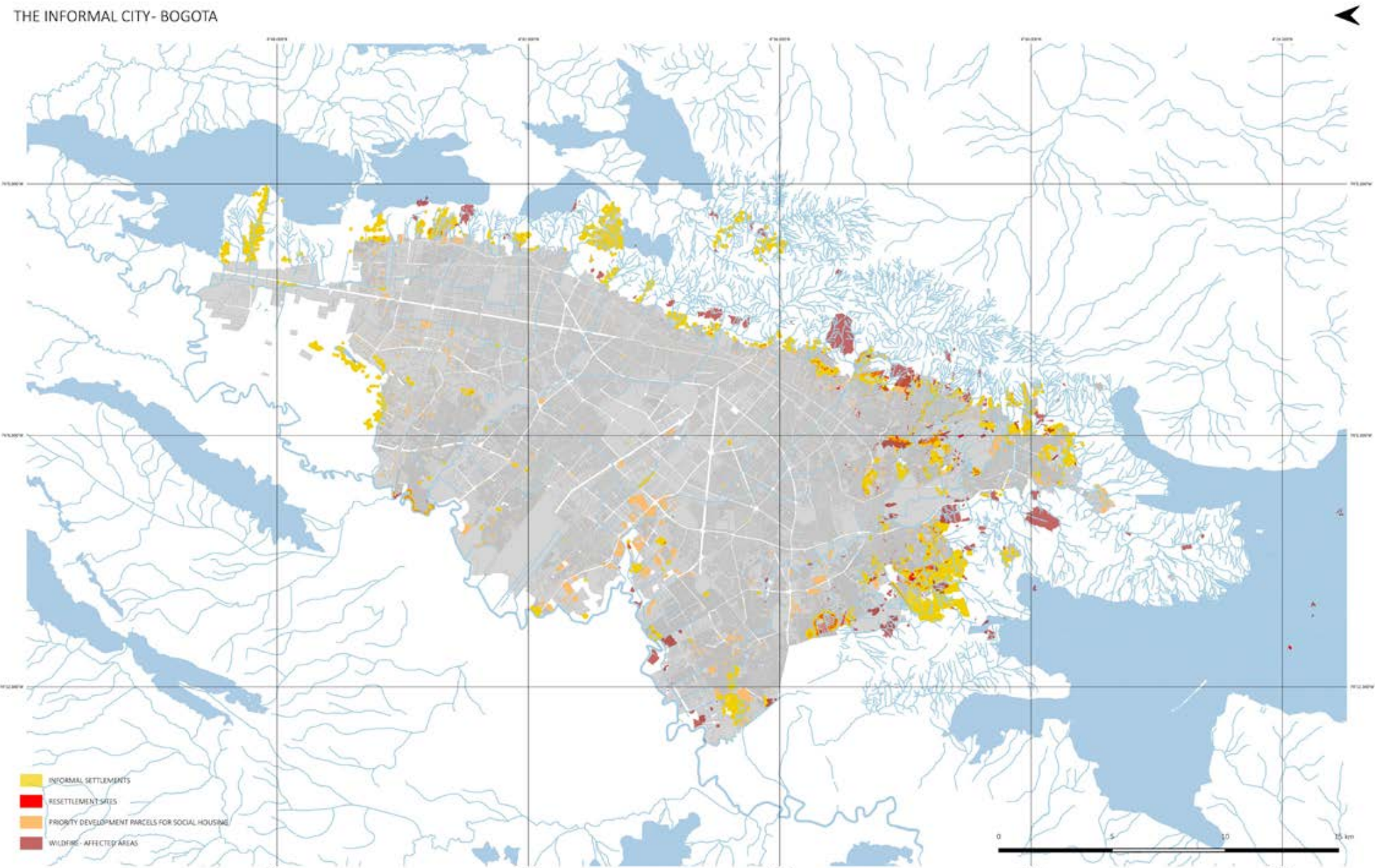
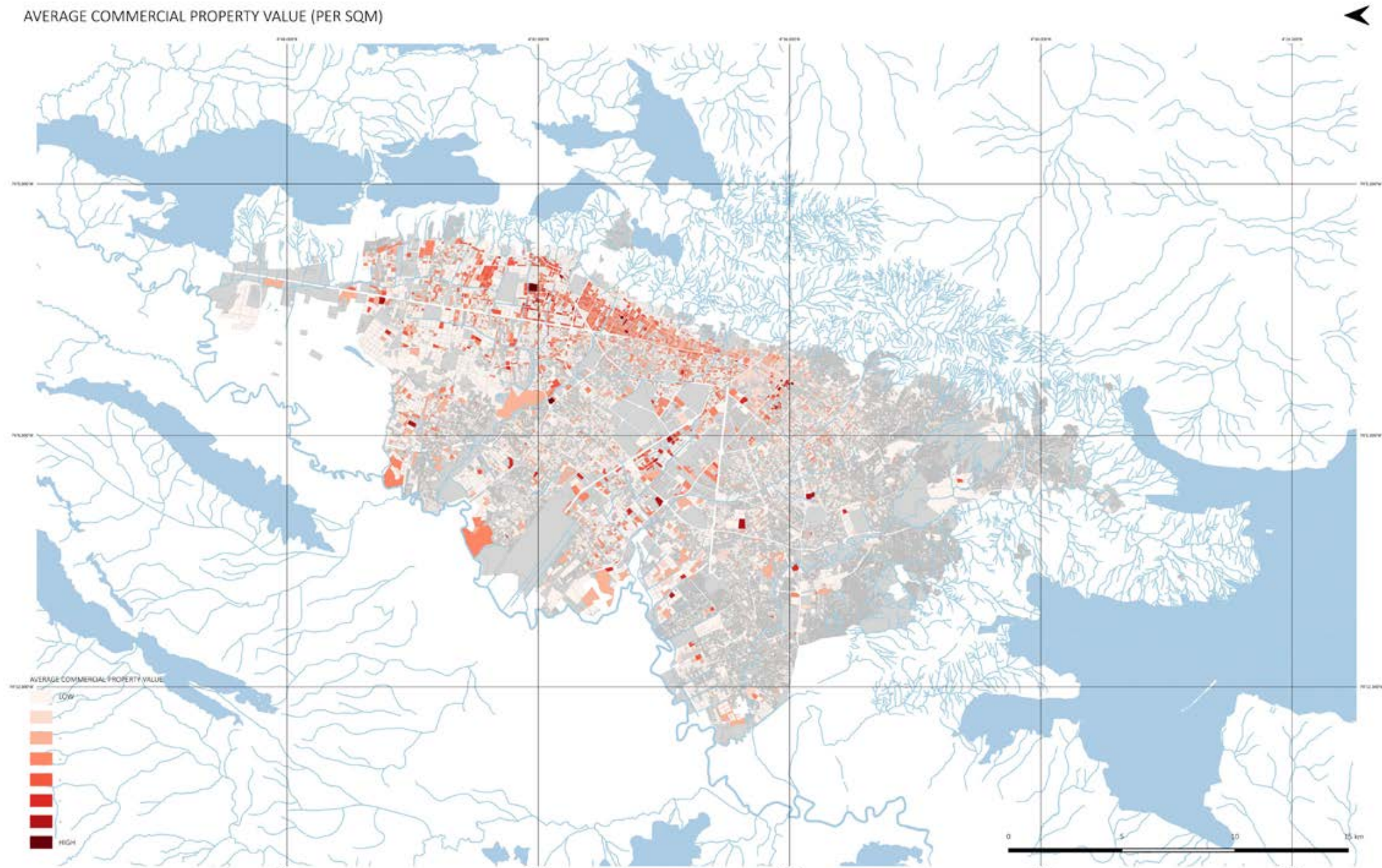
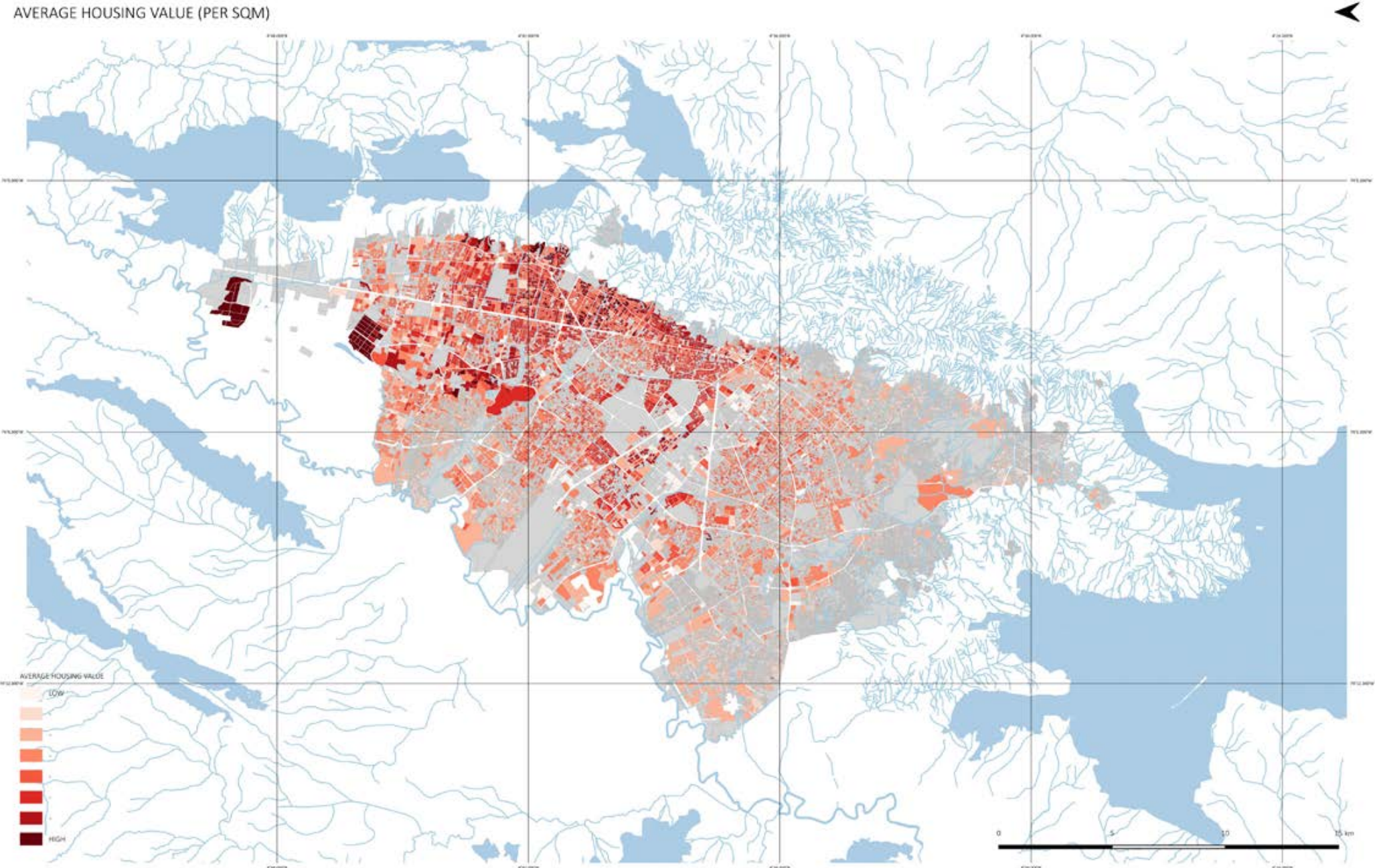
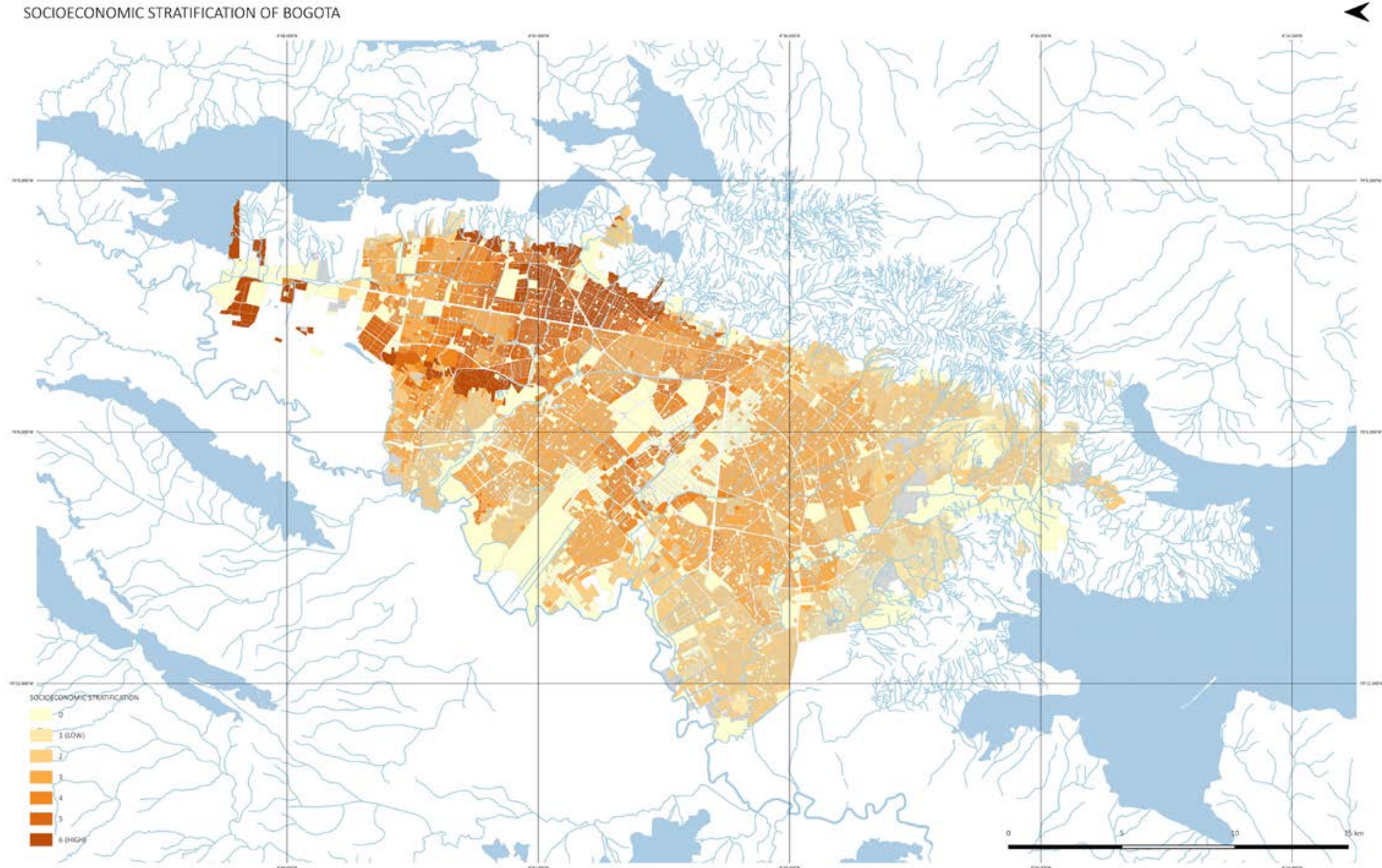
GEO-REFERENCED PLANO AEROTOPOGRAFICO DE BOGOTA (1938)



ENVIRONMENTAL CONDITIONS

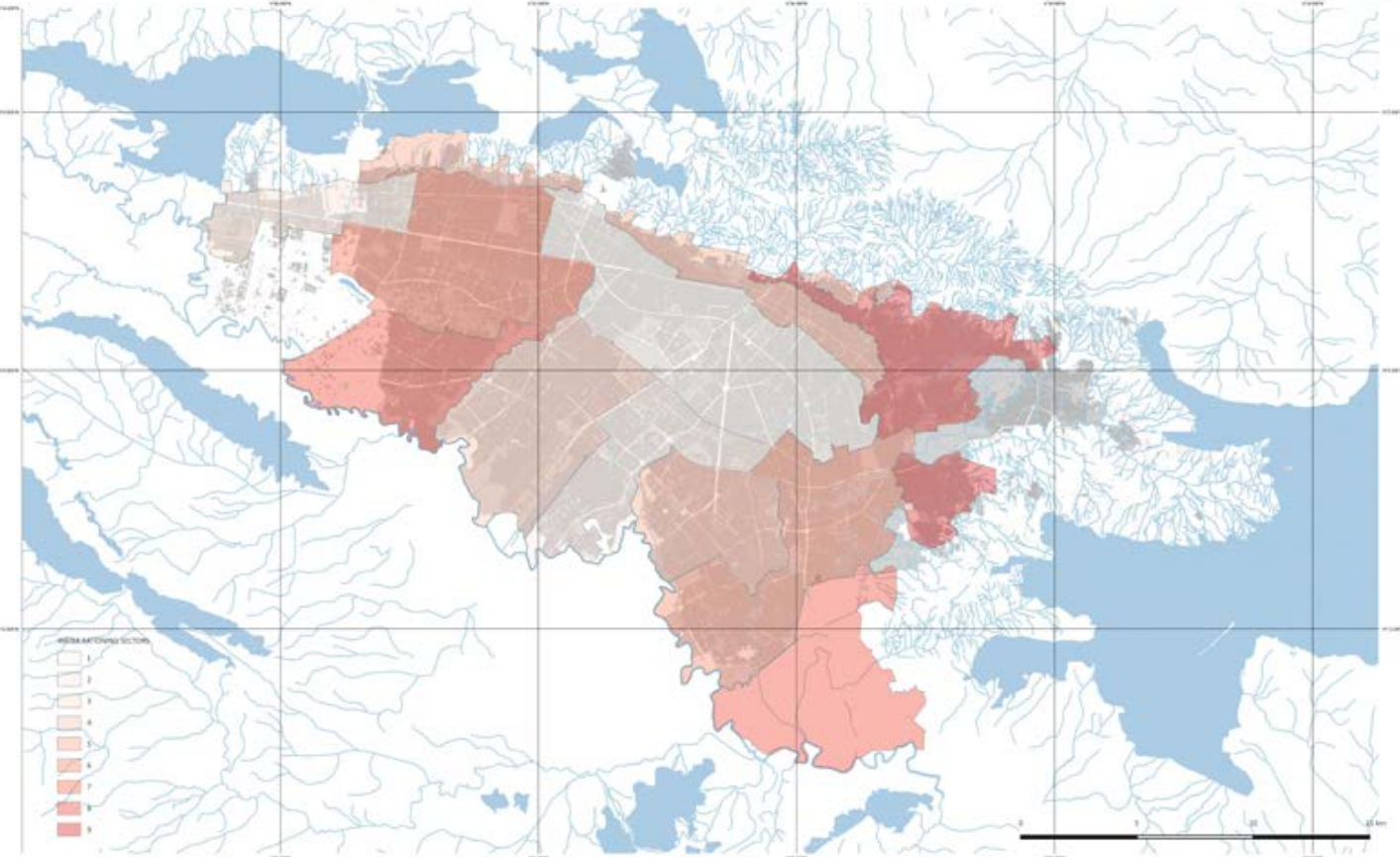


SOCIOECONOMIC OVERLAY

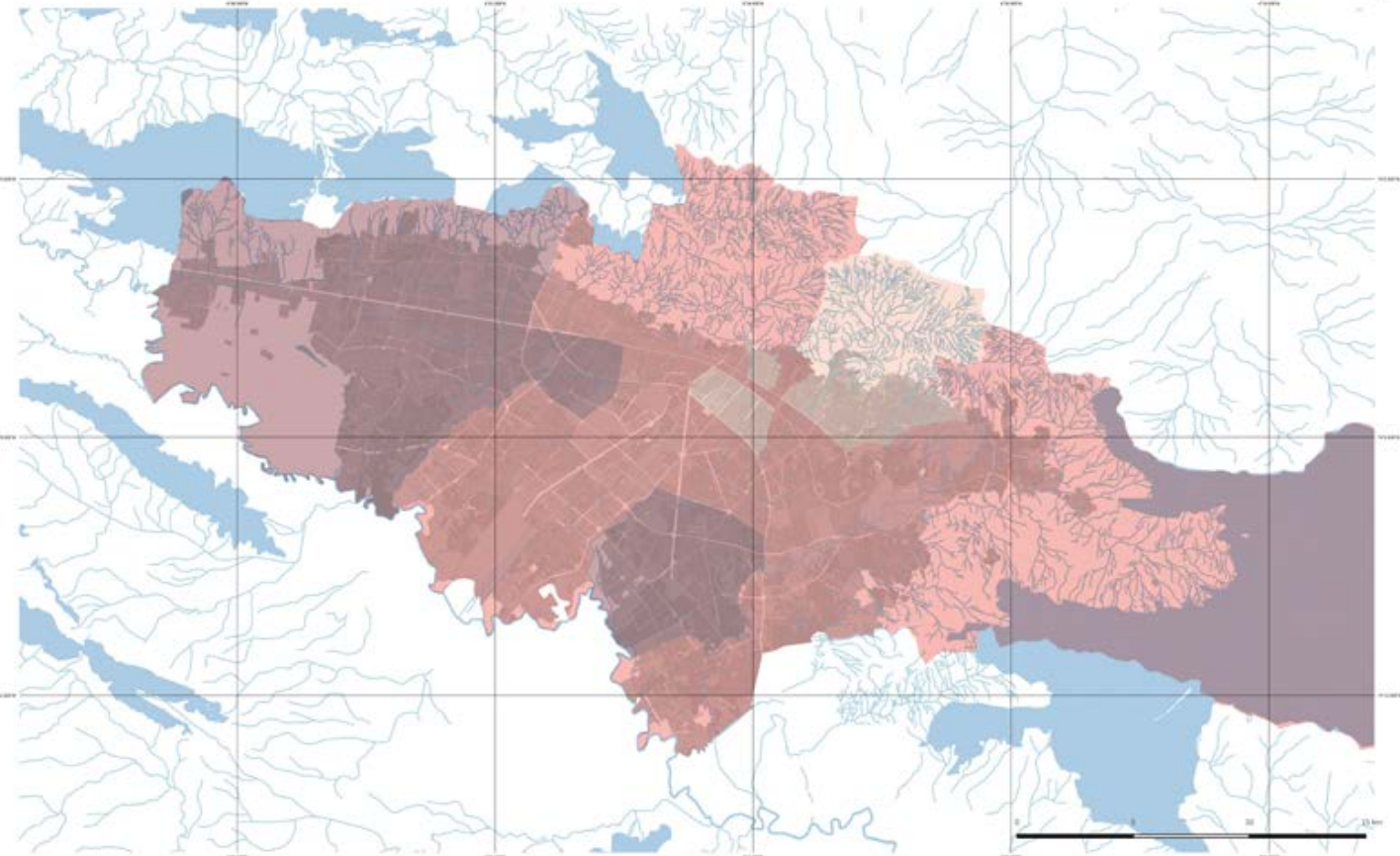


VULNERABILITY

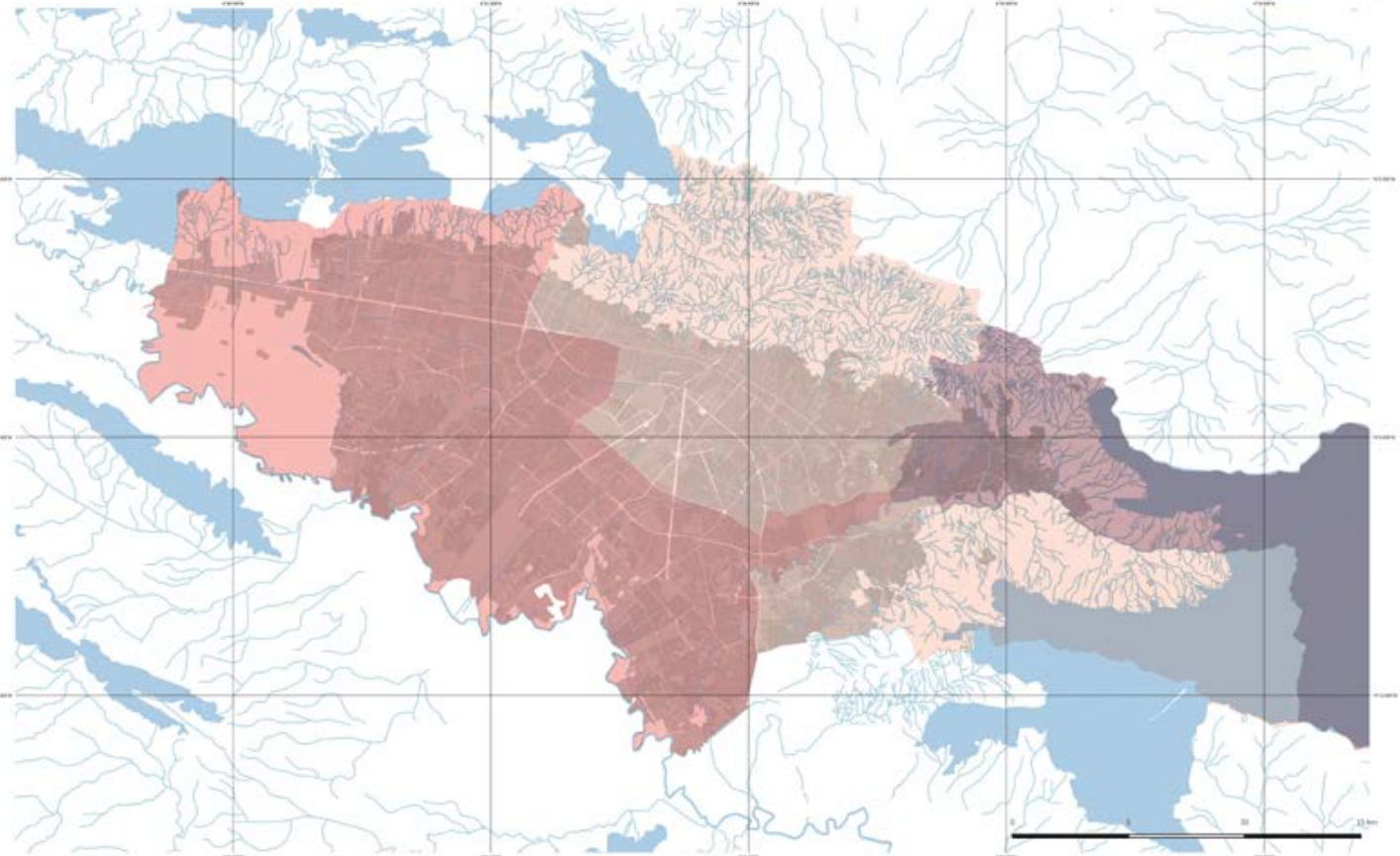
WATER RATIONING SECTORS IN BOGOTA (2024- 2025)



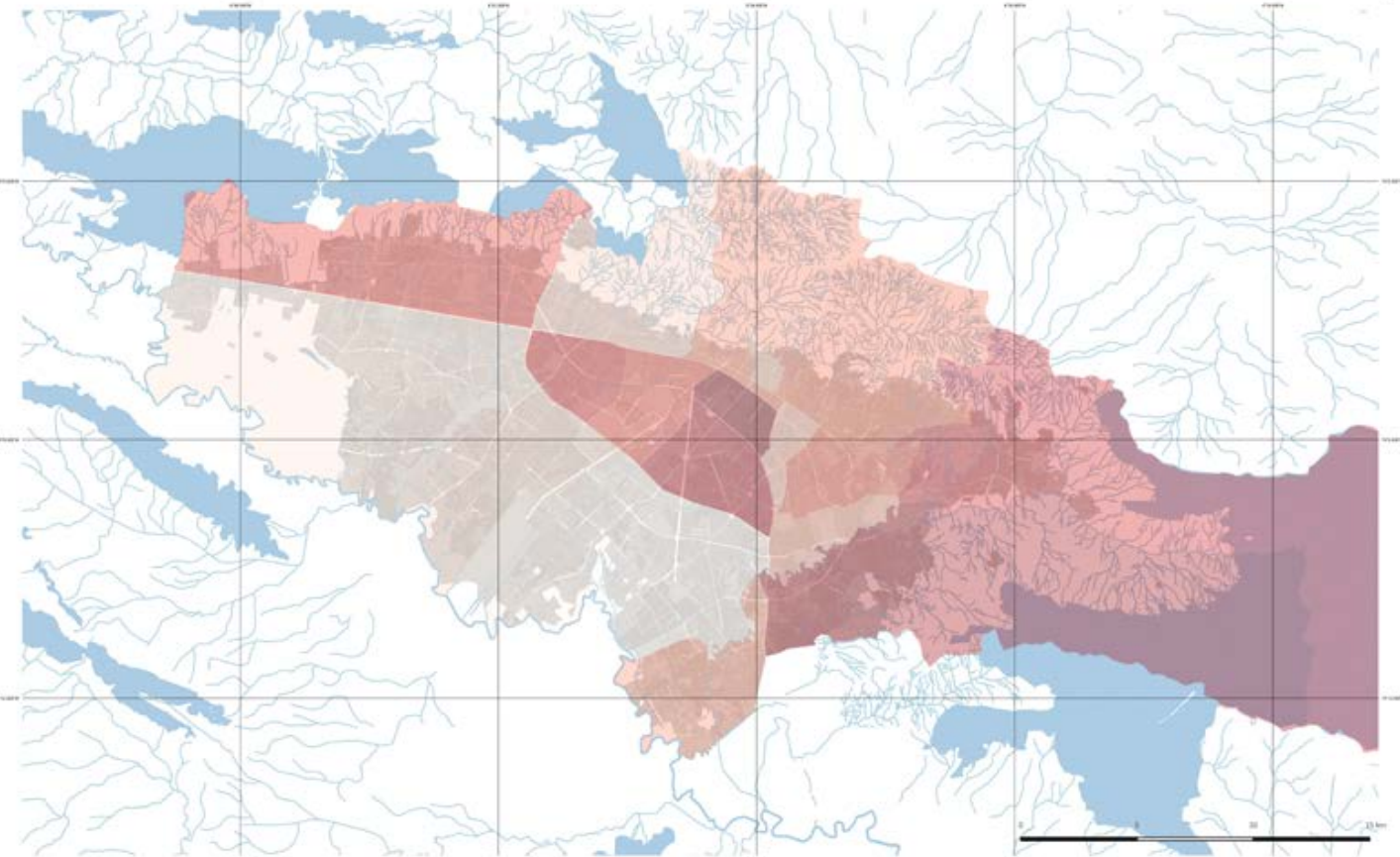
OVERALL WATER VULNERABILITY IN BOGOTA



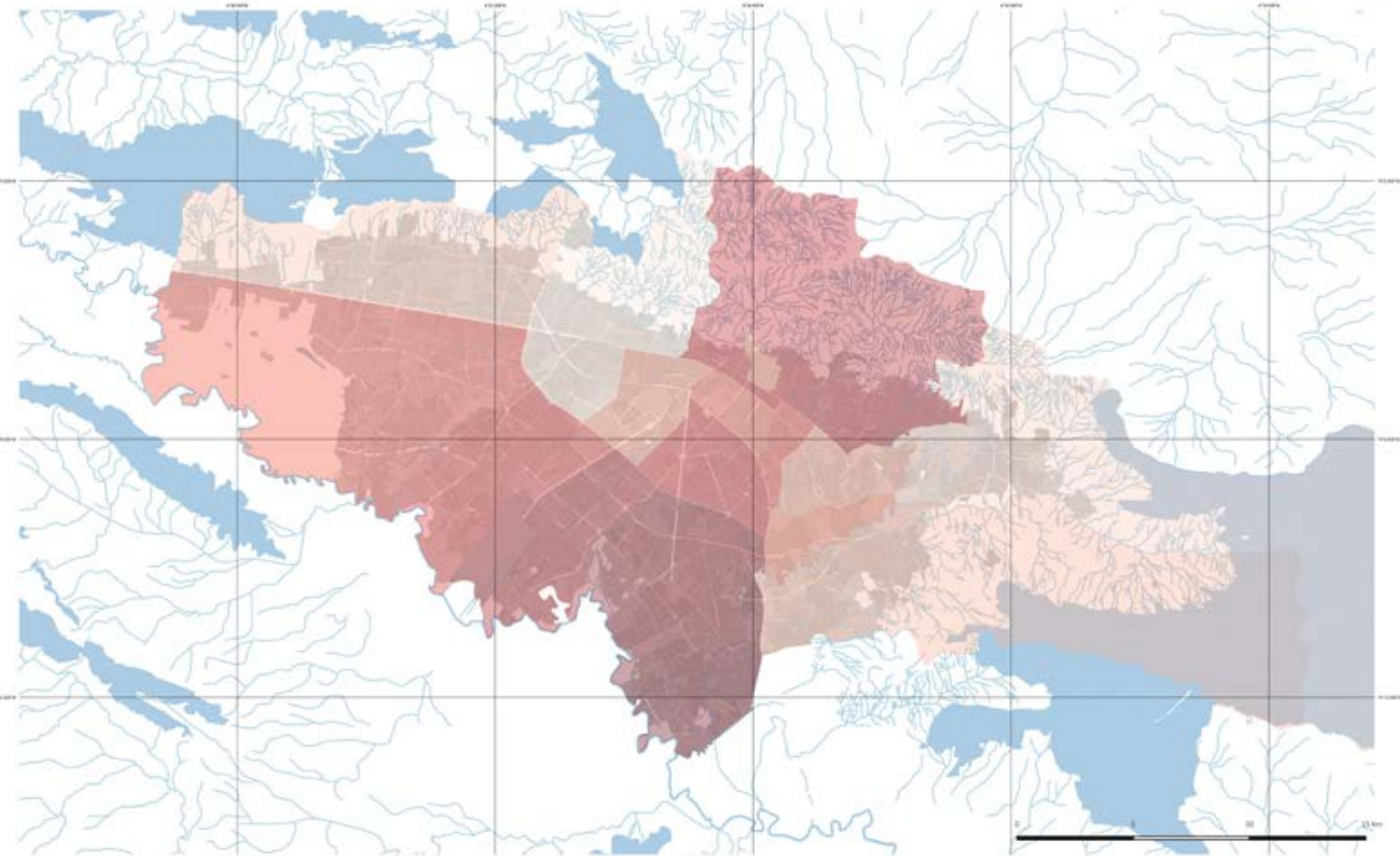
WATER SUPPLY VULNERABILITY IN BOGOTA



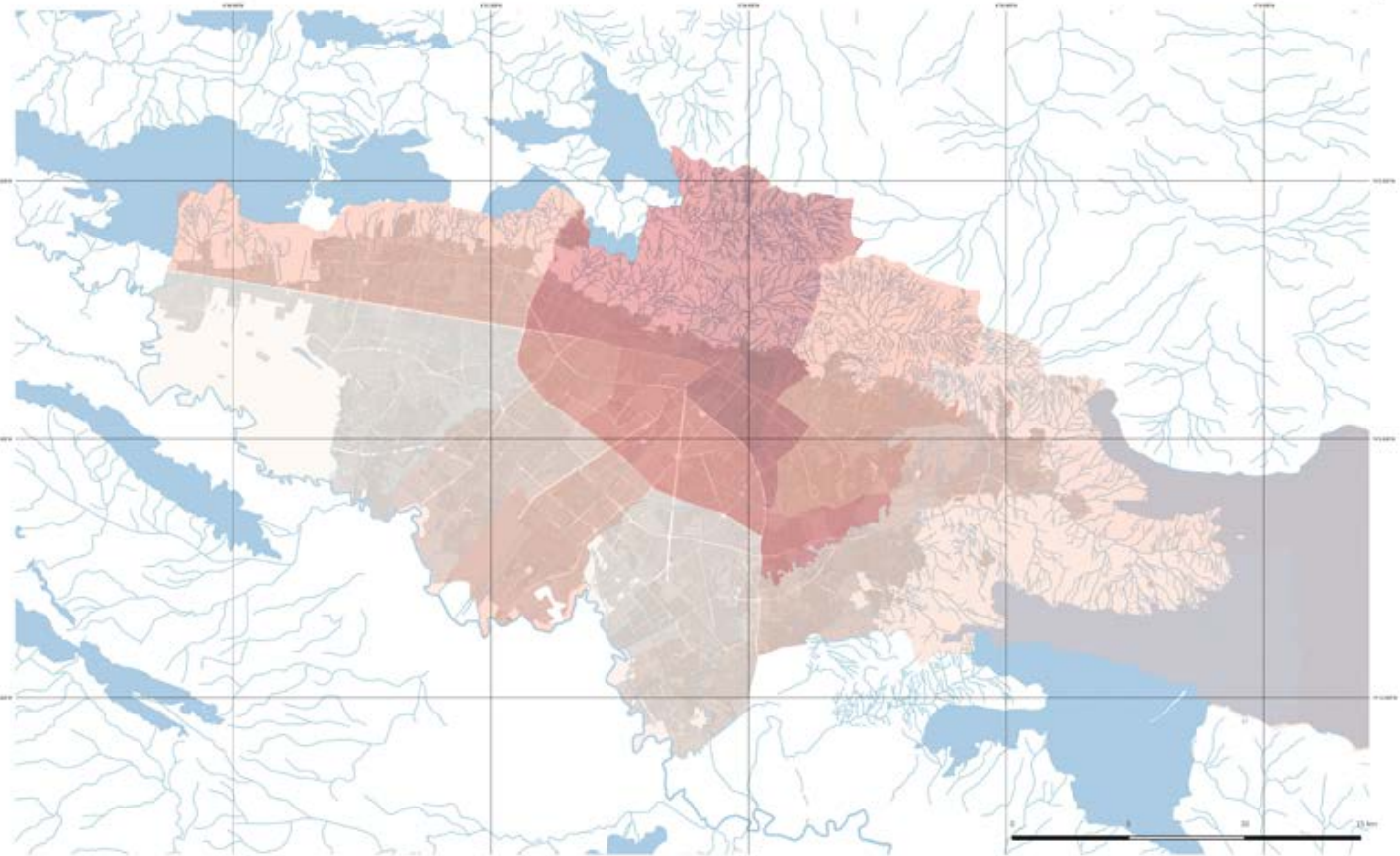
WATER QUALITY VULNERABILITY IN BOGOTA



WATER REGULATION VULNERABILITY IN BOGOTA



VULNERABILITY TO SOIL DEGRADATION IN BOGOTA



LIVING ARCHIVE OF SOUNDS

JING LIU
ALESSANDRA CHIANCHETA

AMOR MUNDI

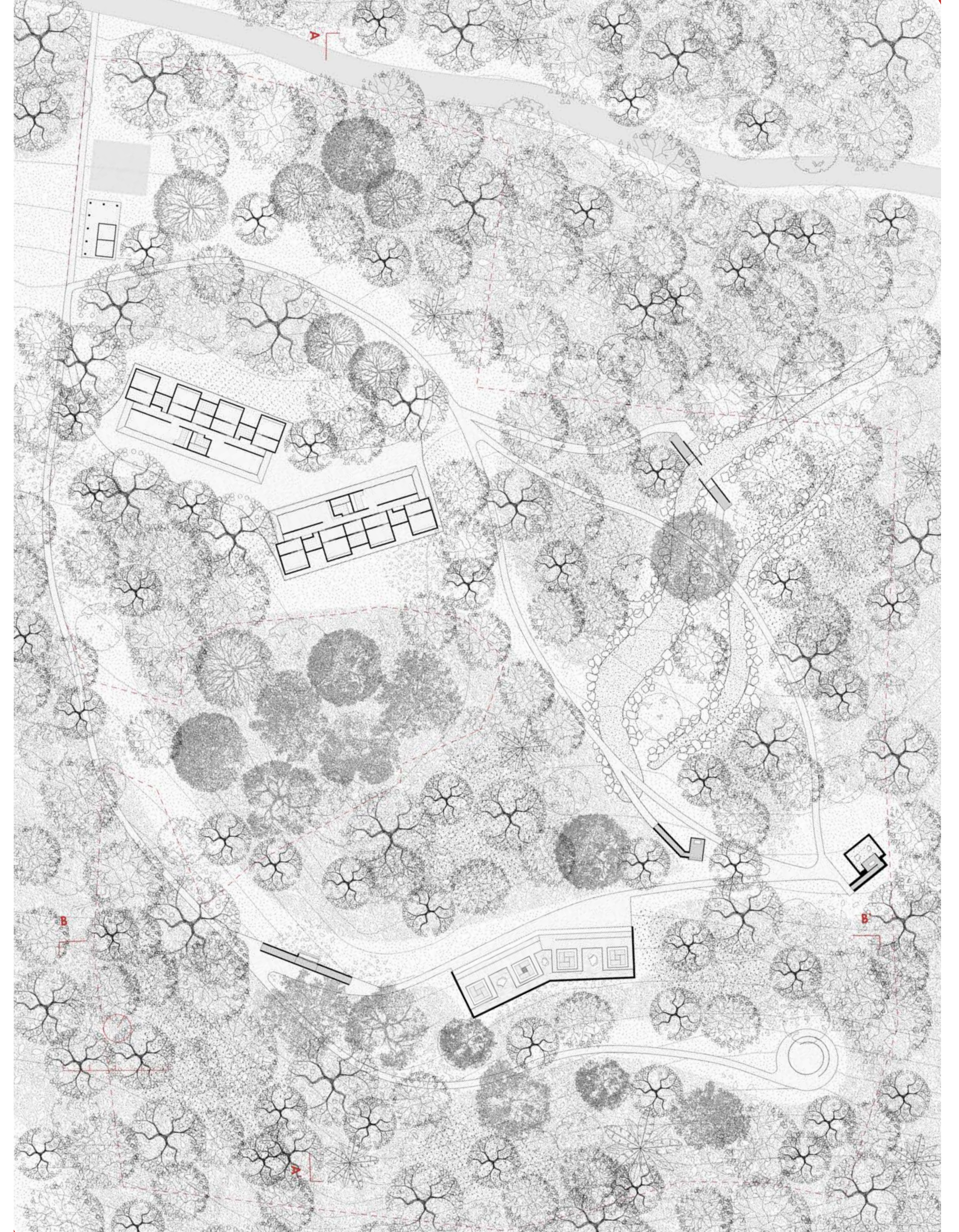
SPRING SEMESTER 2026

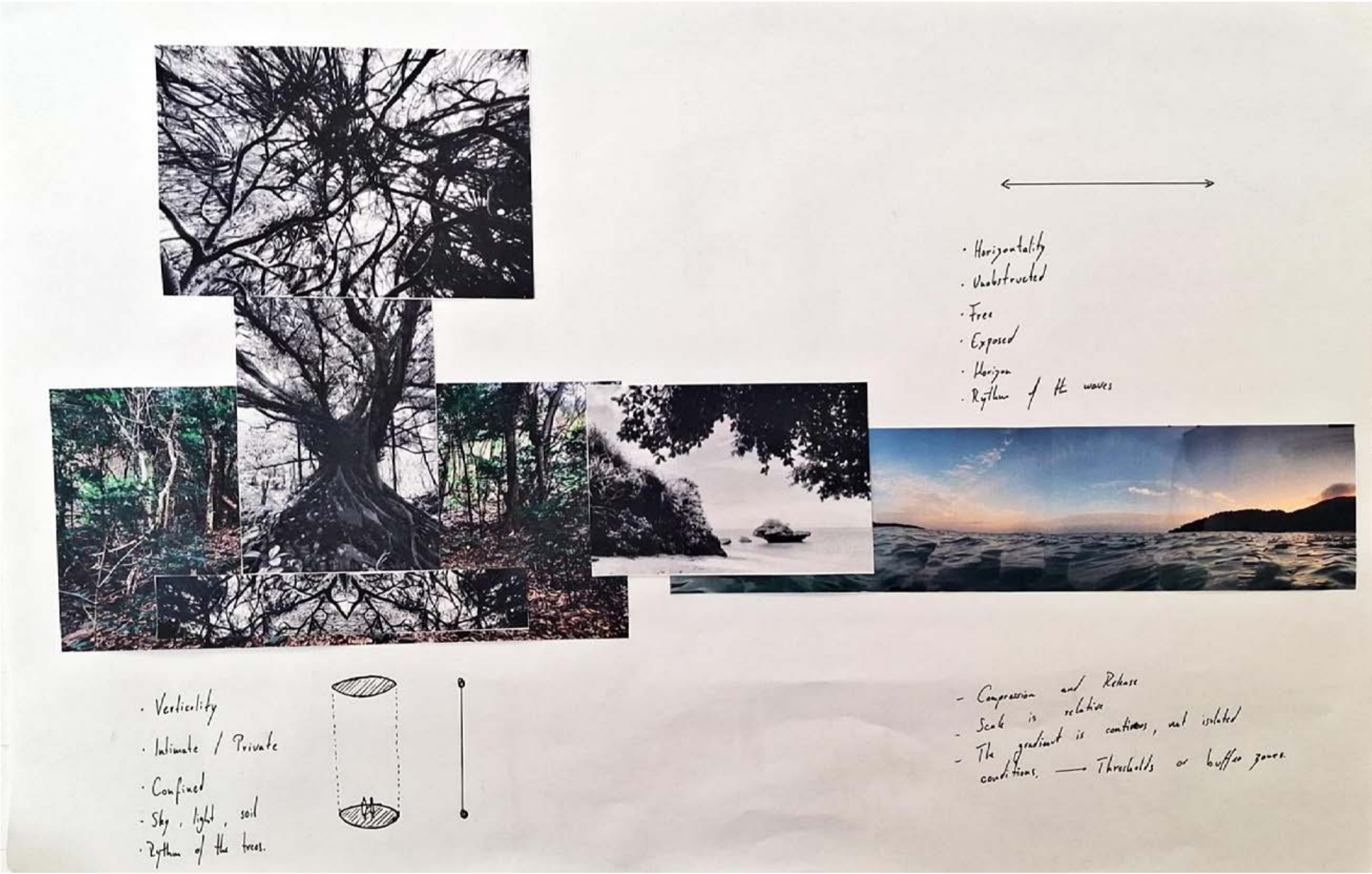
Situated on the northern Hirakubo peninsula of Ishigaki Island, this project serves as a “Living Archive” that spatializes the fragile environmental and cultural resonances of the Yaeyama archipelago.

The architecture is conceived as a series of “Choreographic Objects” designed to draw the island’s latent sensory data out of the background to become the protagonist of the space. A sequence of specialized pavilions dedicated to the wind, the water, rain, the soil, and the mountain functions as a set of soft, permeable thresholds that attune the body to the sensory presence of the landscape.

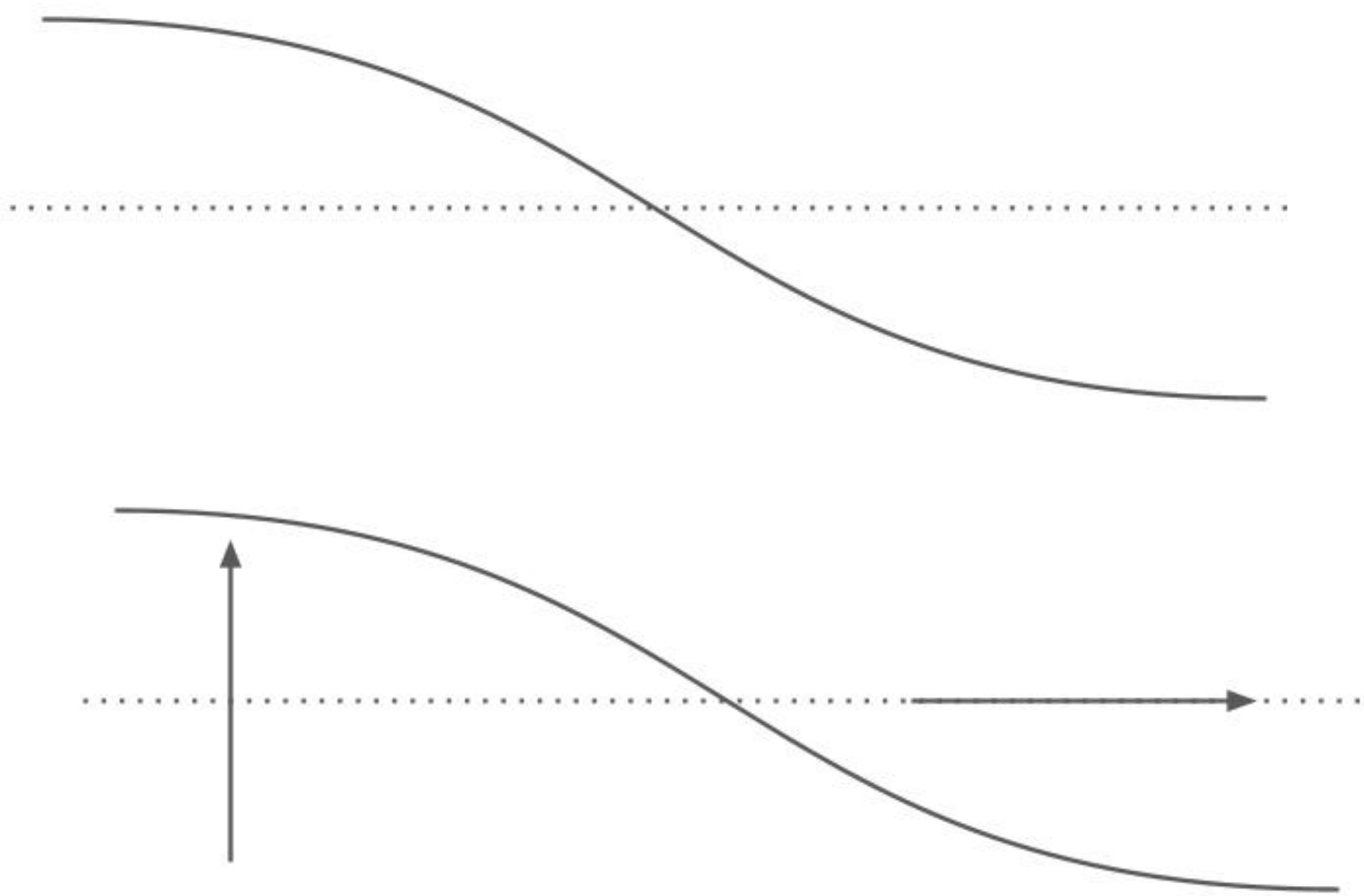
Central to this archive is the Language Pavilion, a dedicated site for the preservation of Yaiyamuni, a vanishing local language whose whispers and prayers still linger at the island’s sacred utaki. Integrated into this acoustic landscape are communal dwellings for village elders, whose lived memories and rituals co-constitute the milieu.

Utilizing a technical system of ultra thin carbon fiber reinforced concrete and engineered bamboo, the structures are designed to negotiate extreme tropical forces, adopting a philosophy of utsuroi—a subtle hollowing out and shifting that allows the architecture to breathe and change alongside the forest.

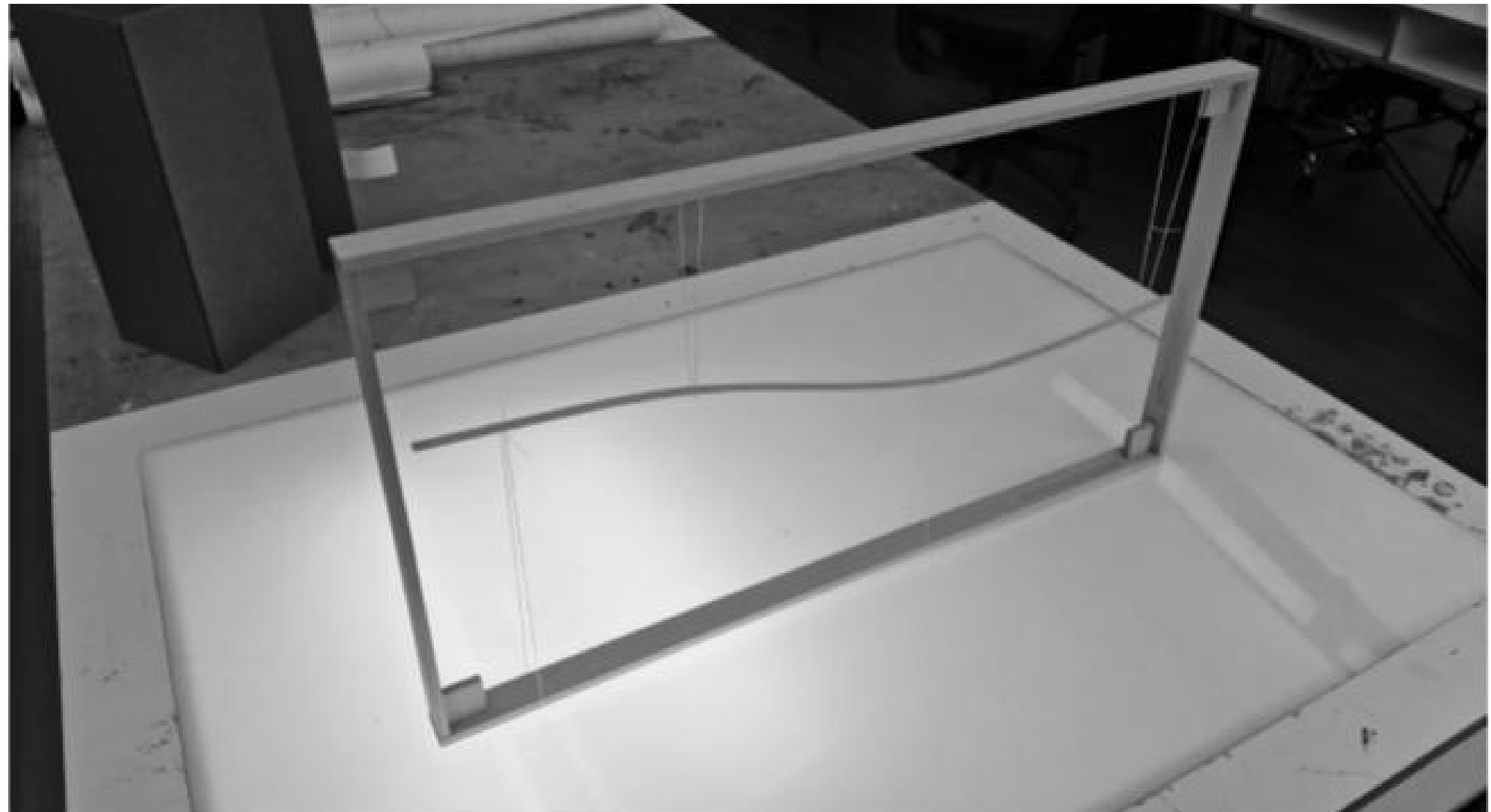
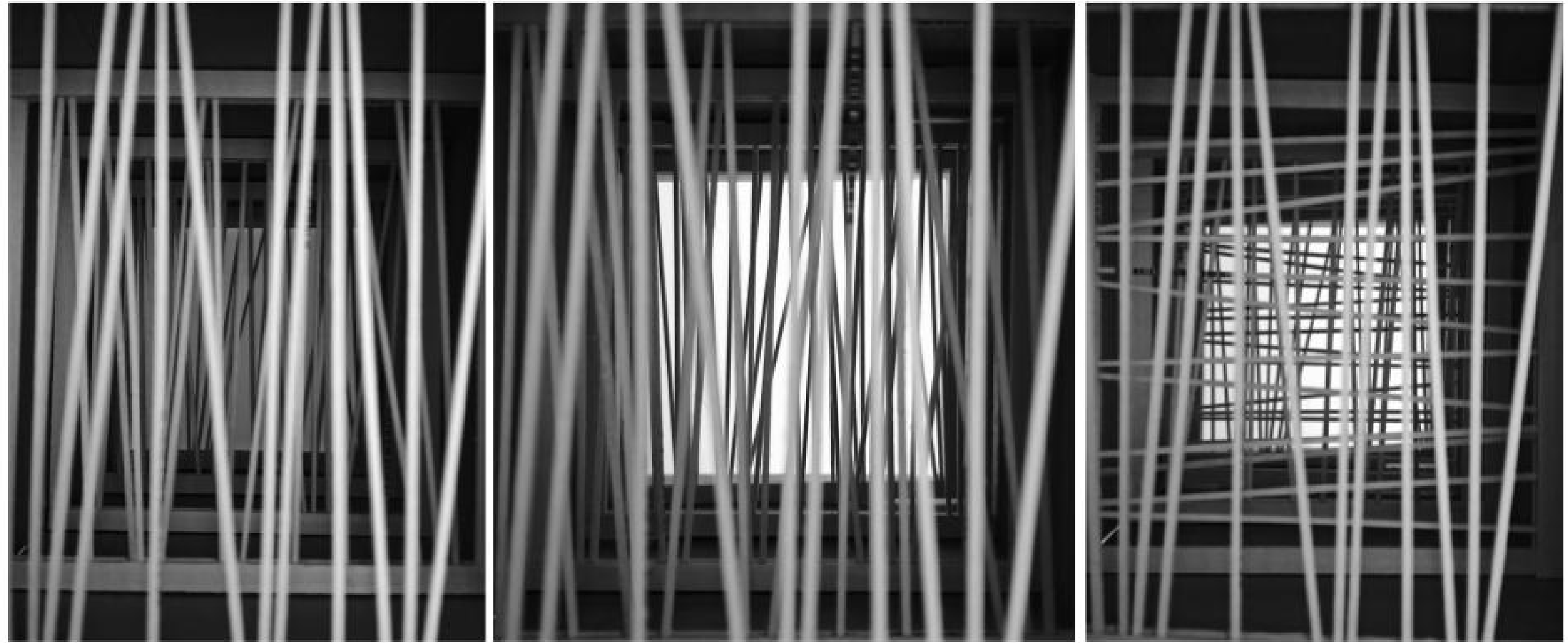




COLLAGE



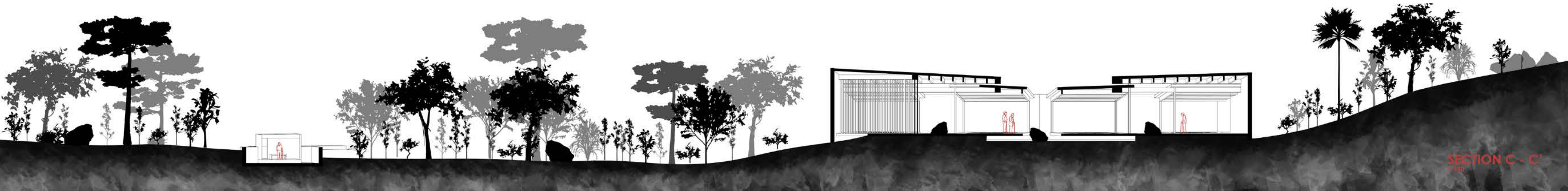
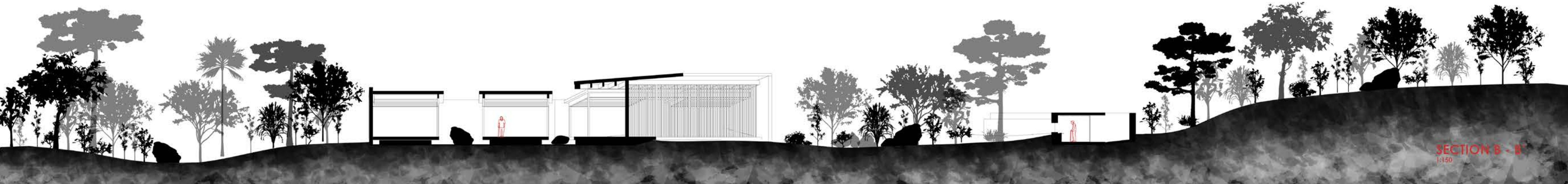
CONCEPTUAL DIAGRAMS

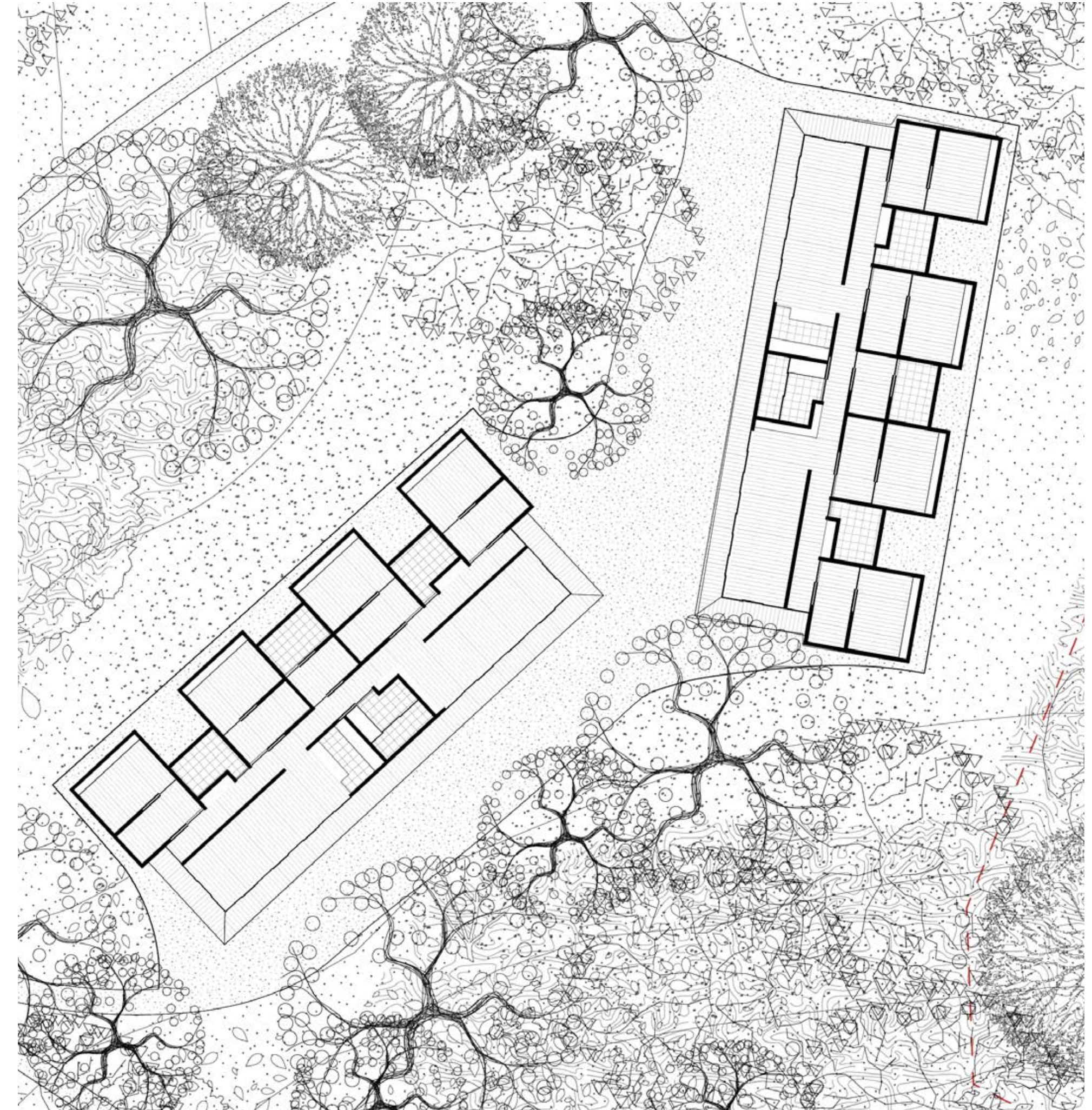


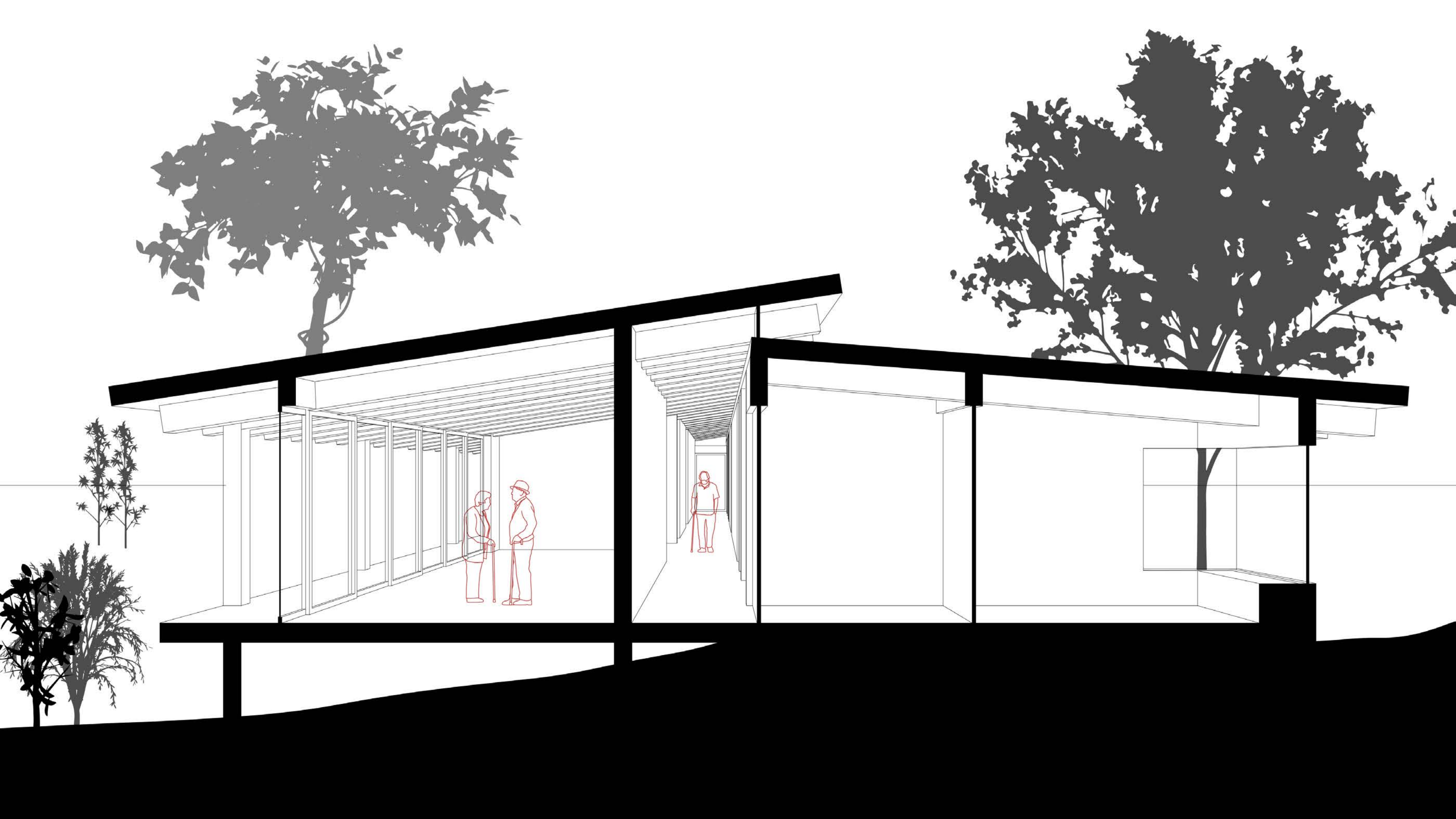


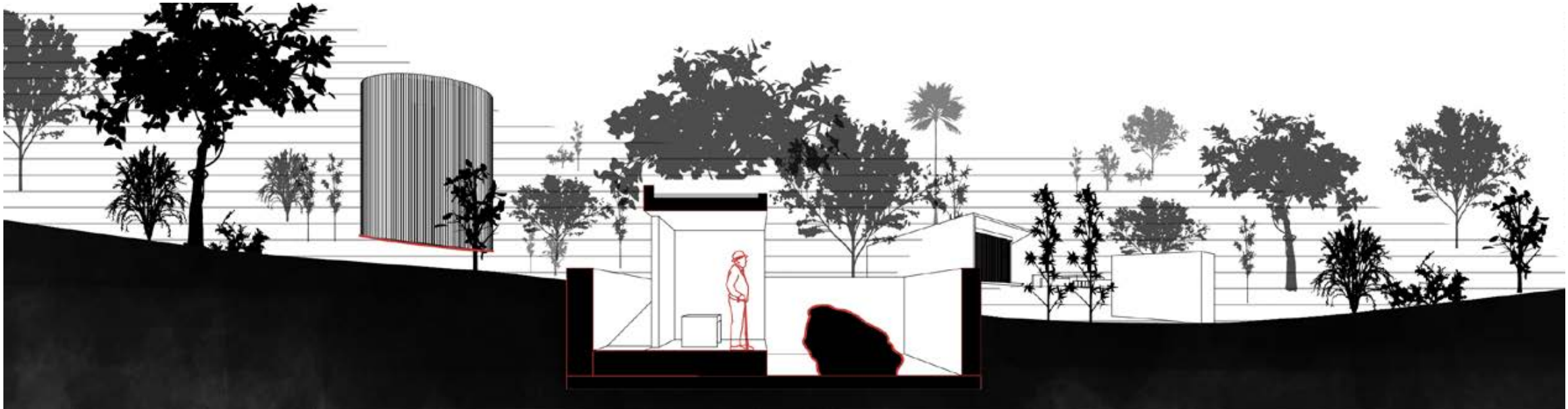
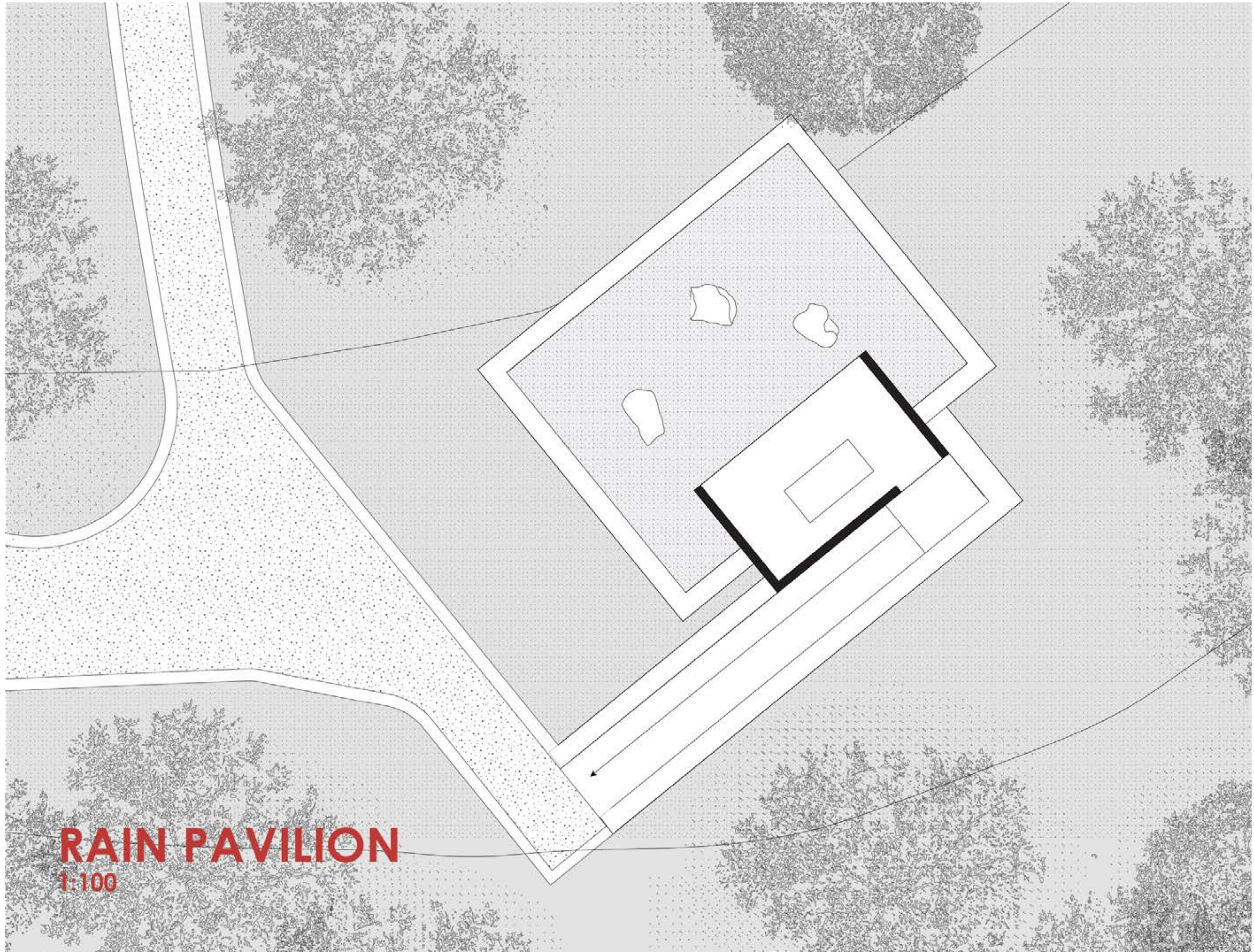


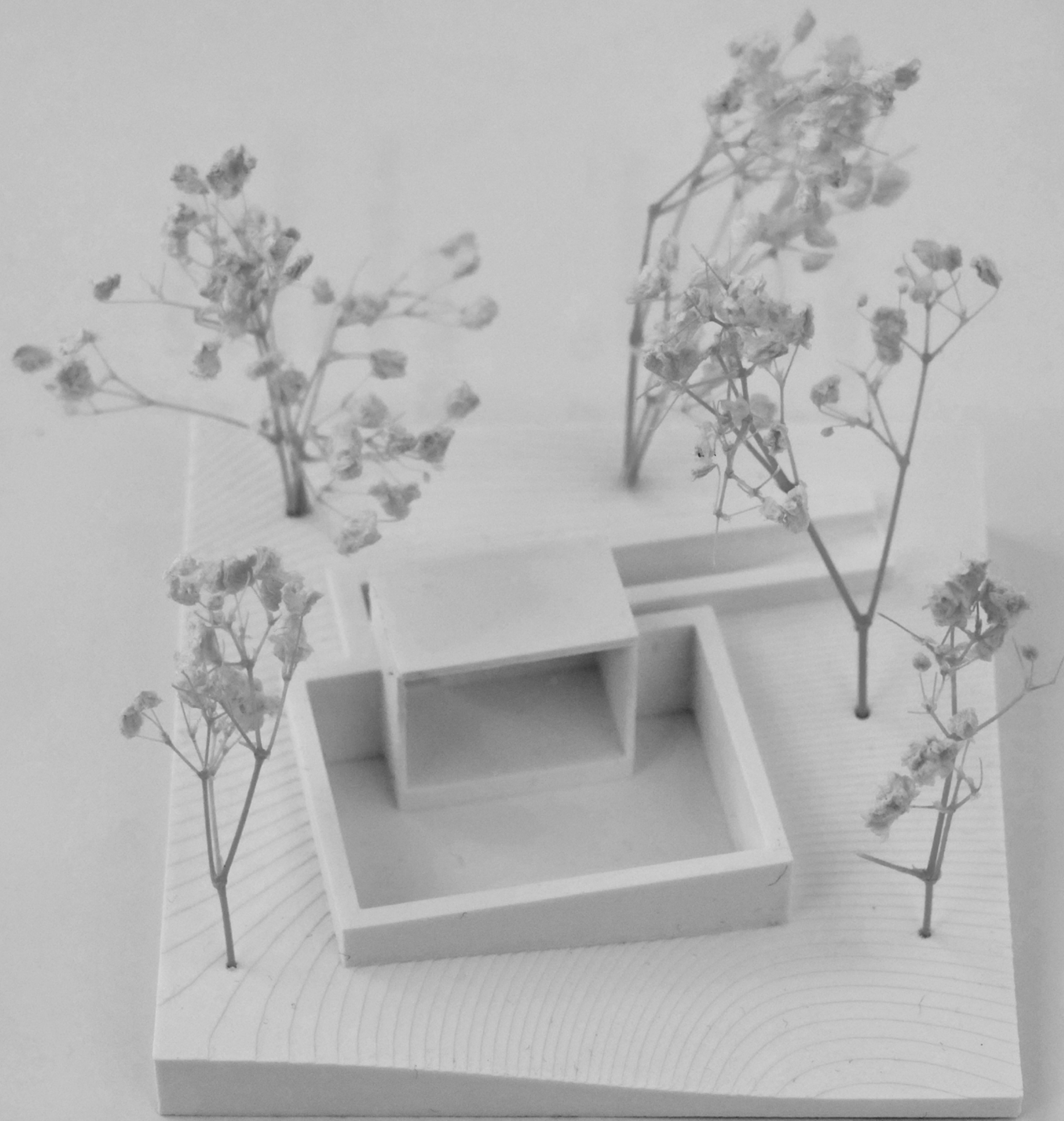
SECTIONS

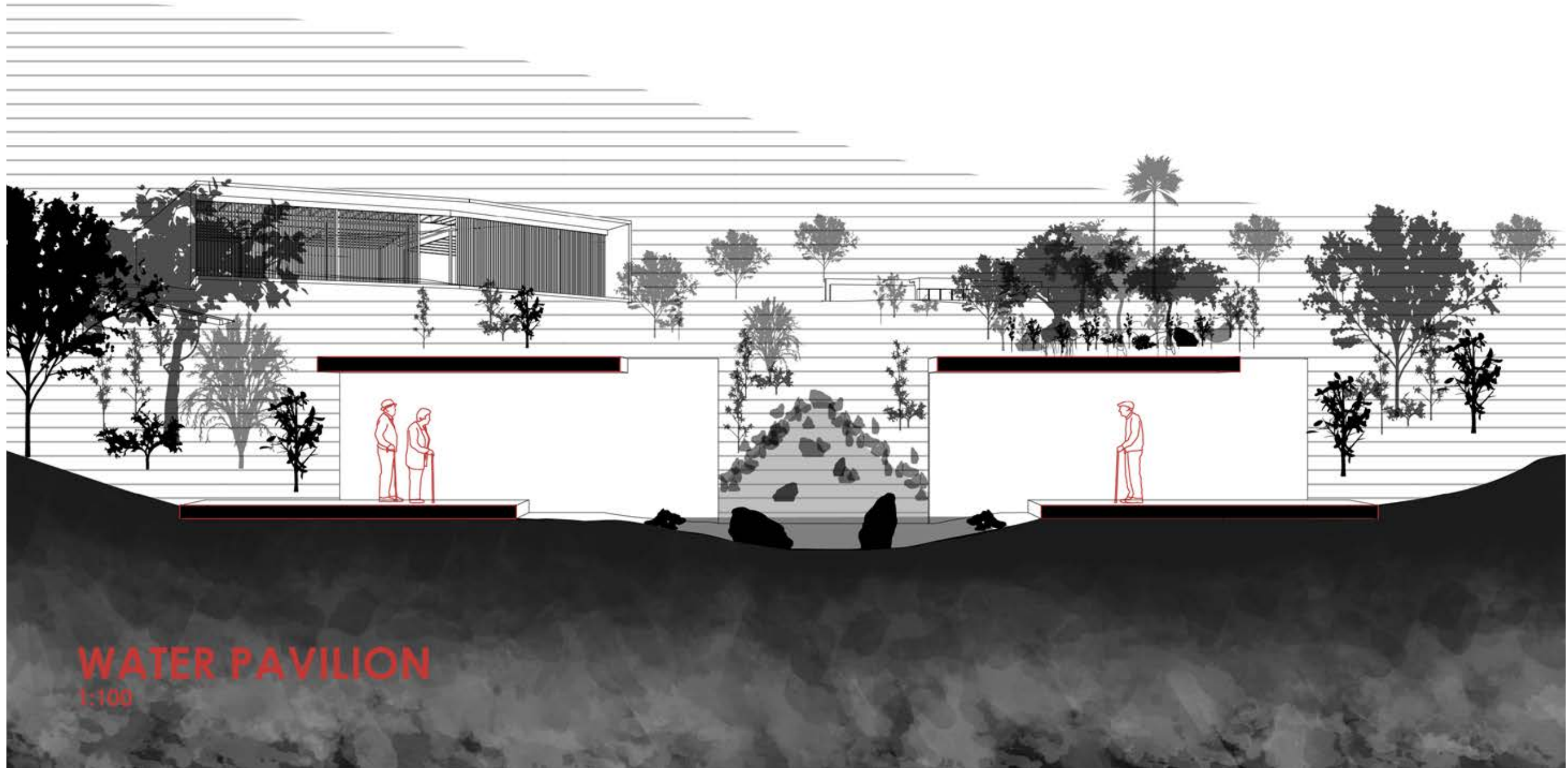
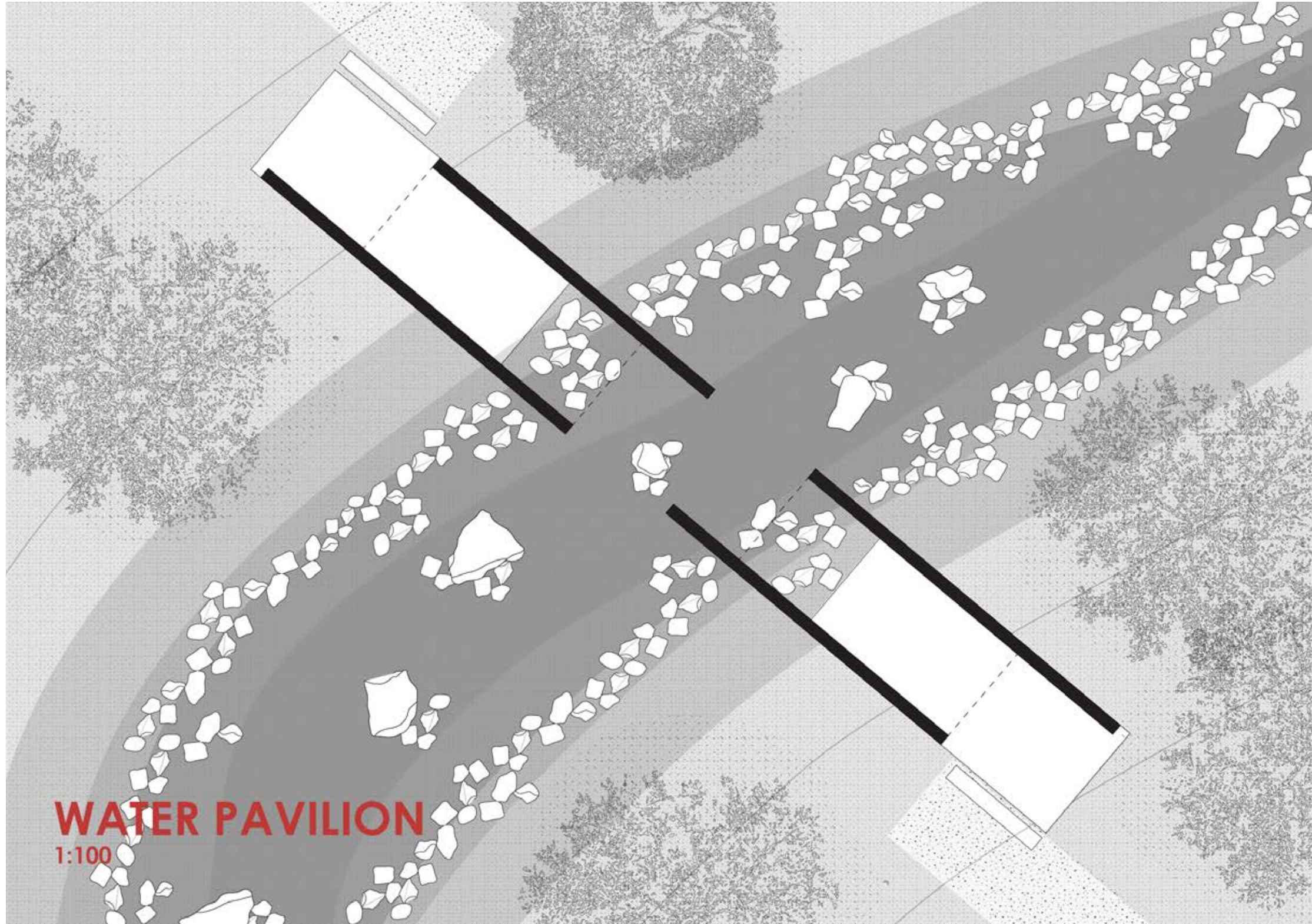


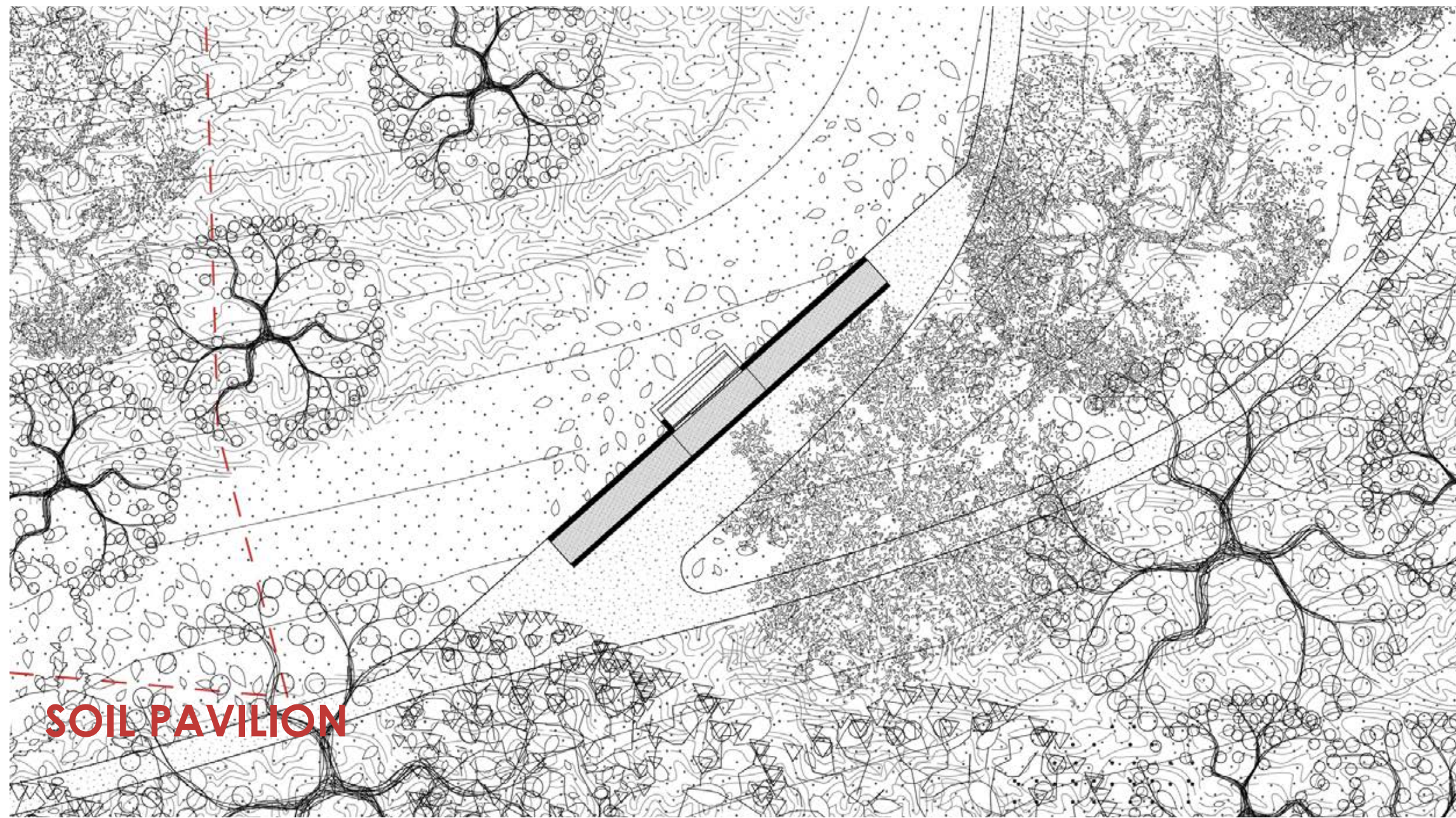




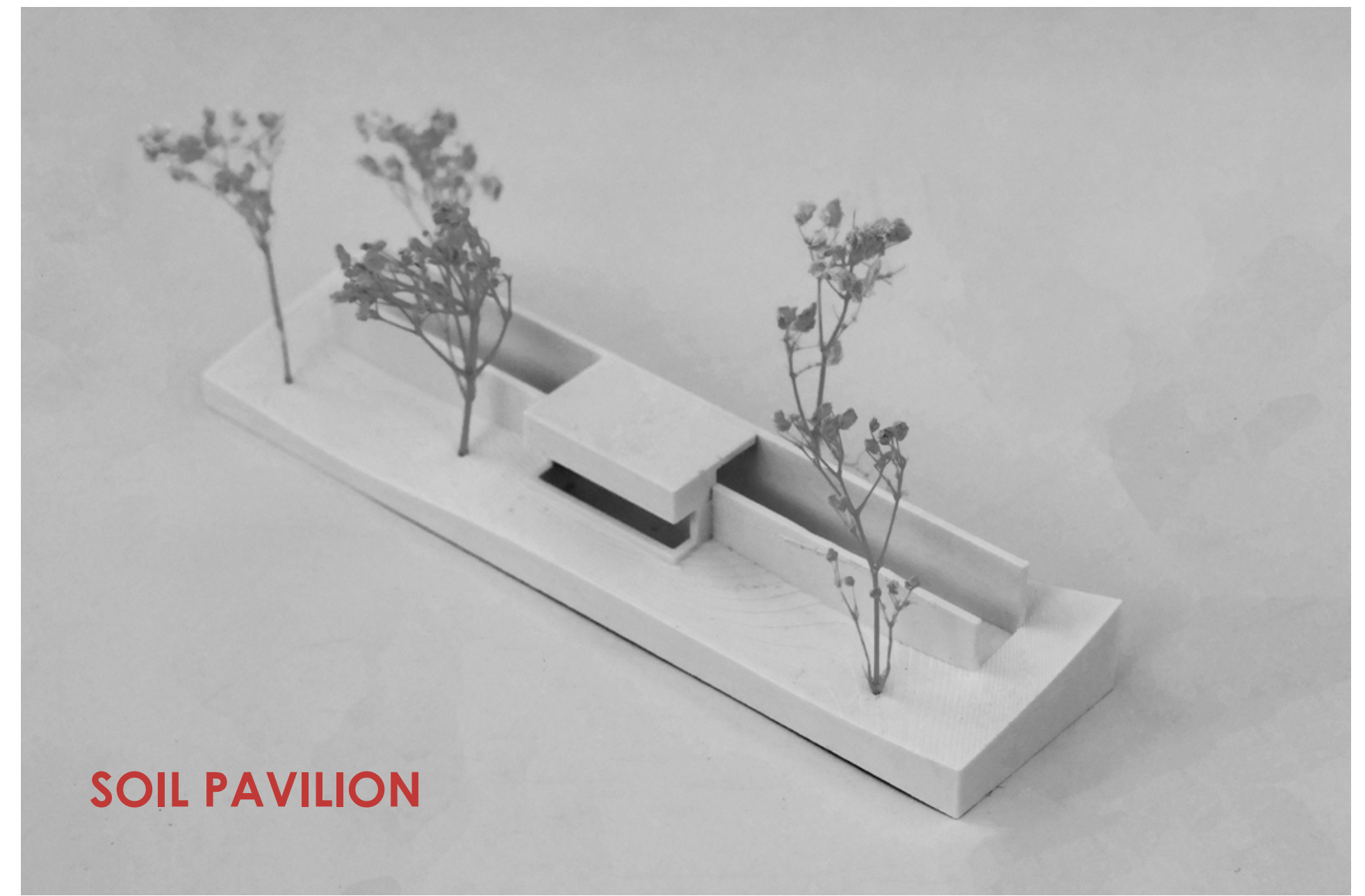








SOIL PAVILION



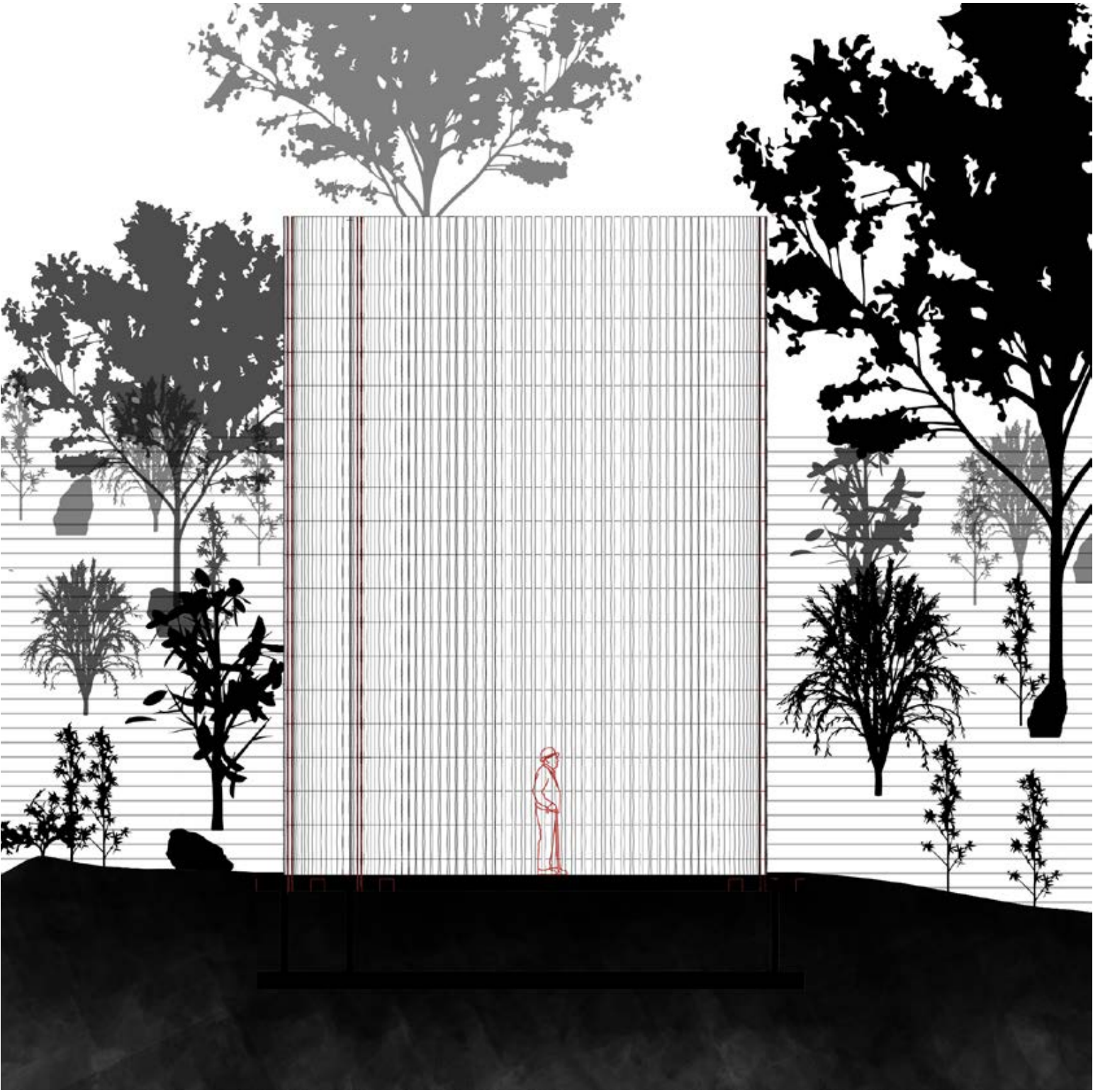
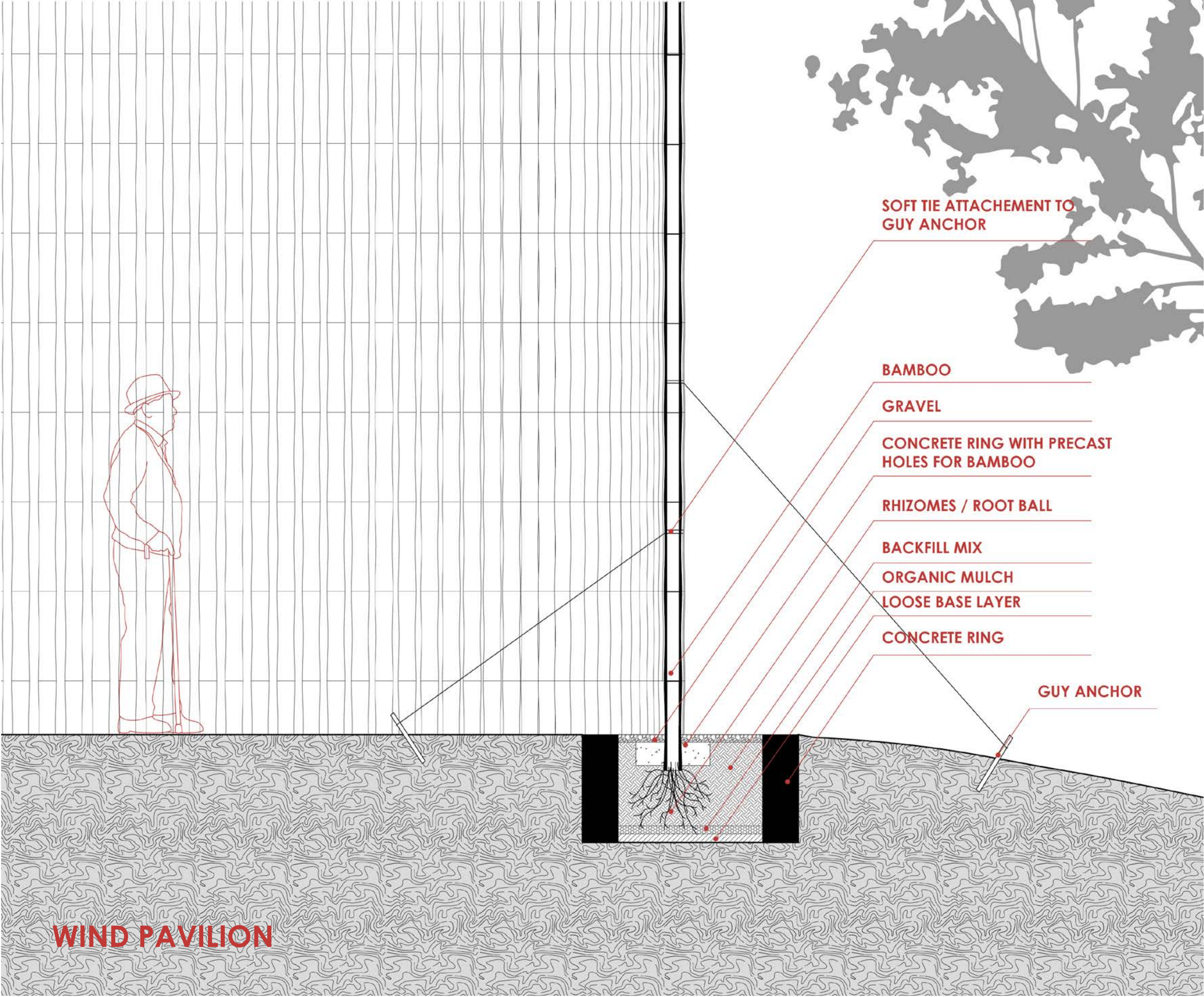
SOIL PAVILION

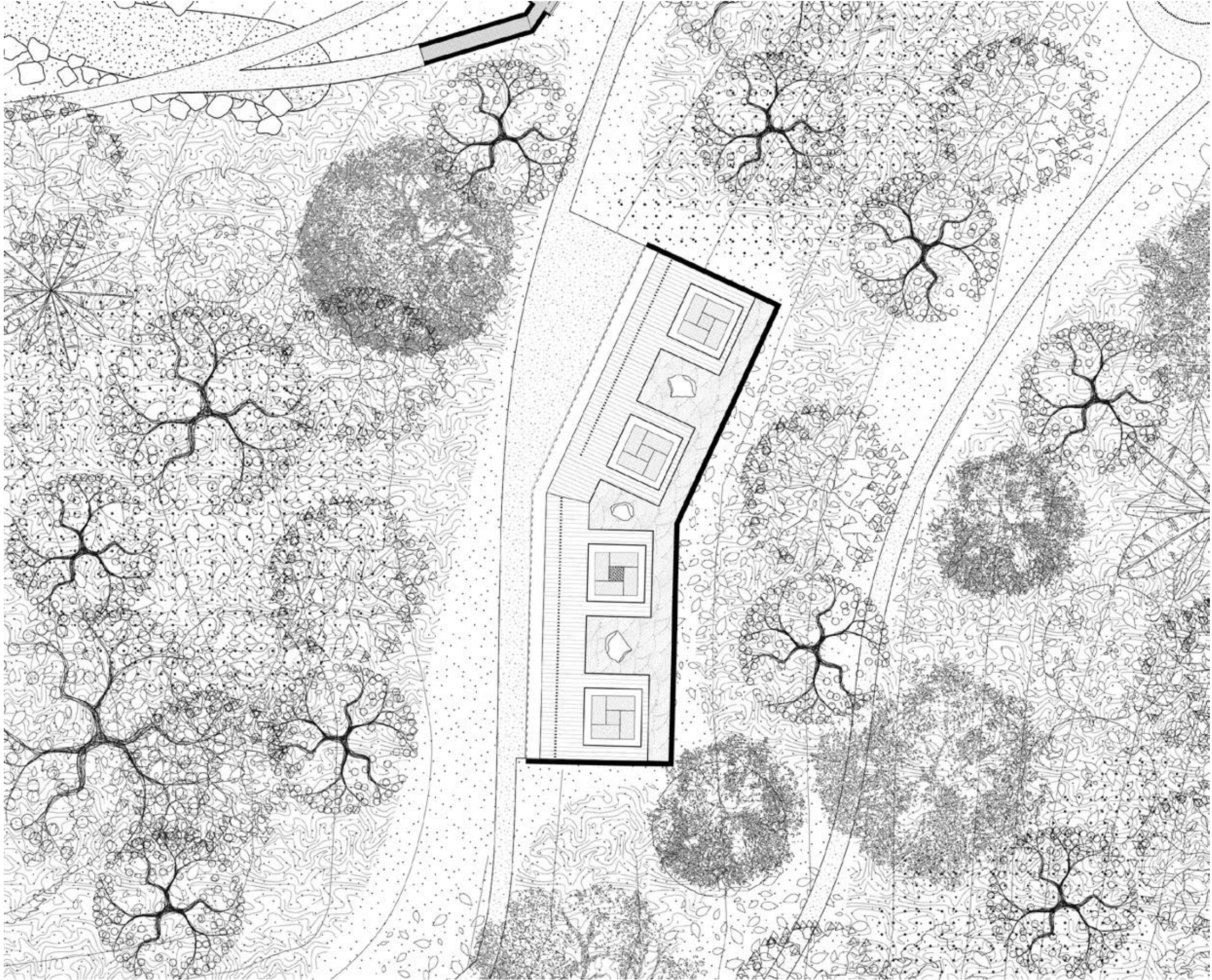
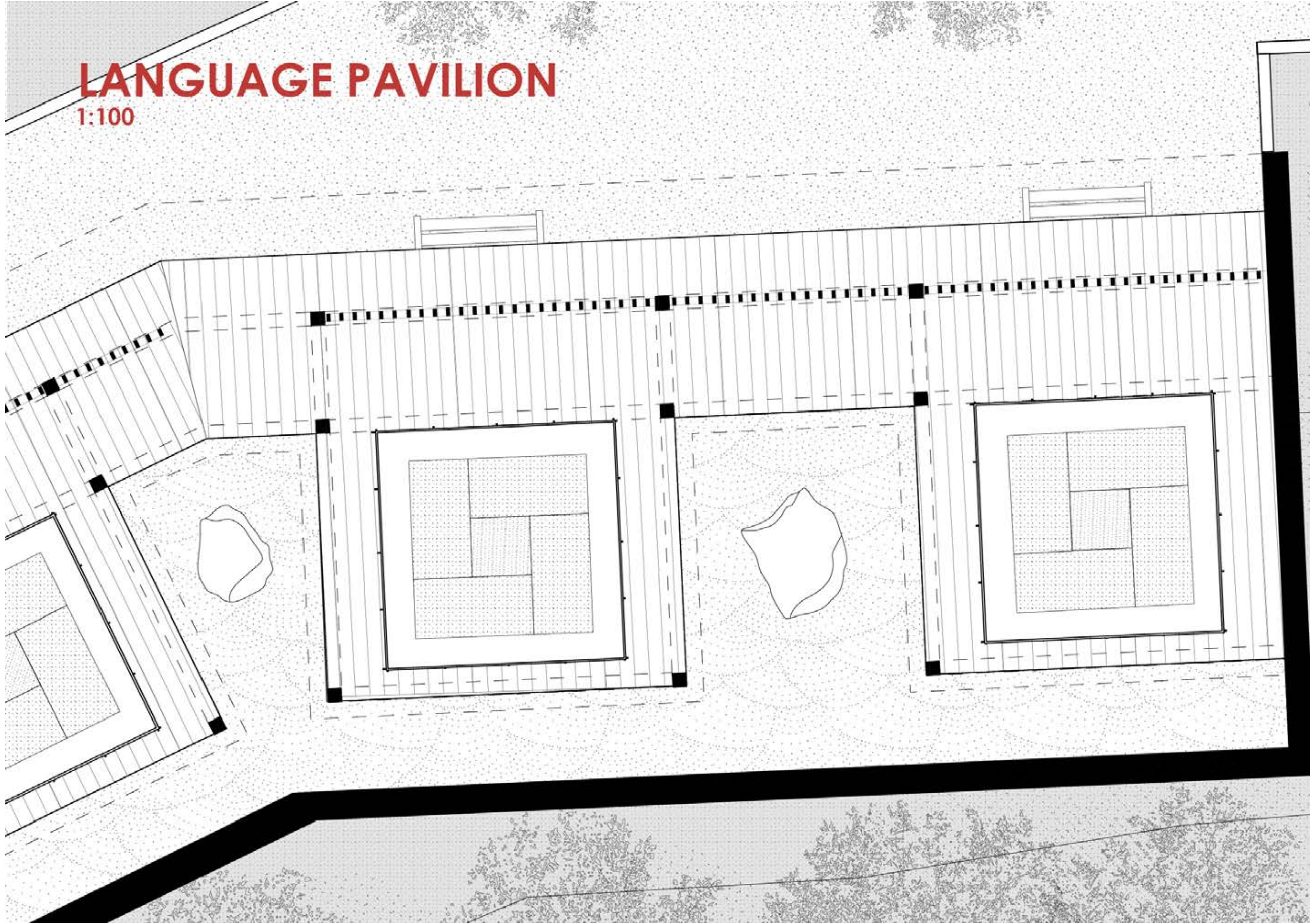


MOUNTAIN PAVILION



MOUNTAIN PAVILION







GOEXISTENCE BENCH

MIREIA LUZÁRRAGA

ARCHITECTURES OF AND FOR
THE MORE-THAN-HUMAN

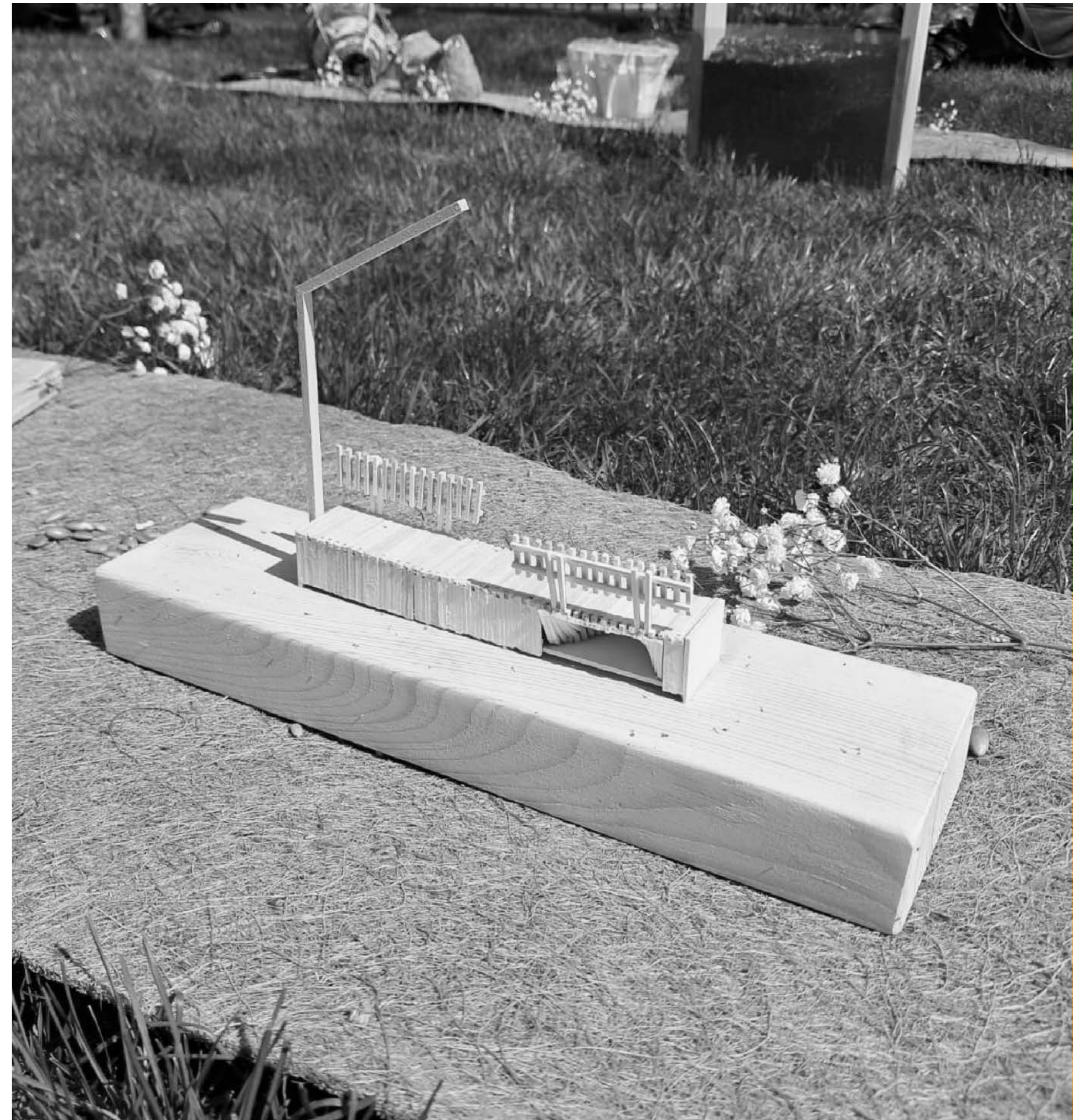
SPRING SEMESTER 2026

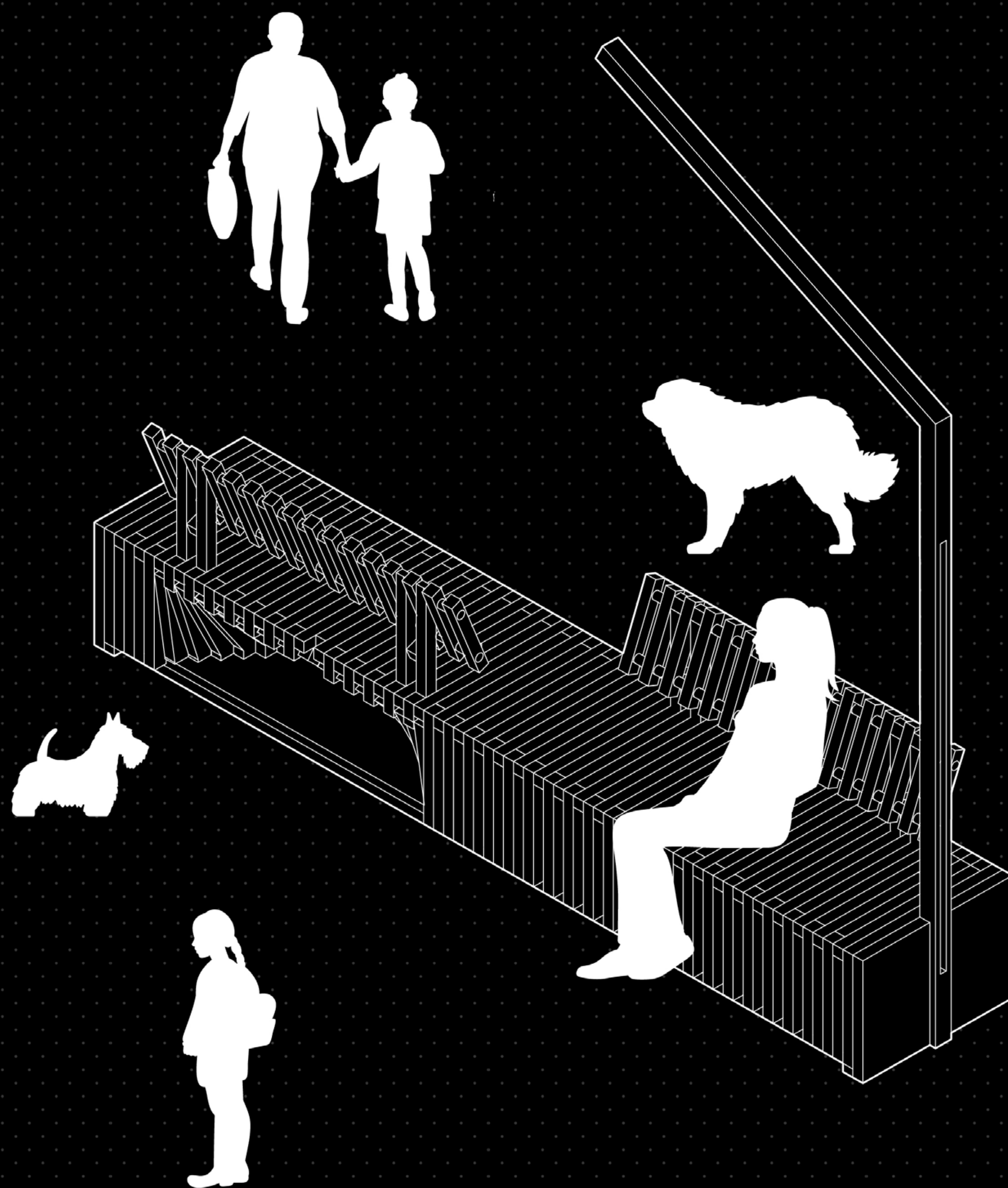
This project is a bench that uses its geometry to simultaneously provide seating for people and temporary shelter for stray dogs. Rather than separating these functions, the design resolves both within a single continuous form. Angled planes and folded surfaces create an ergonomic seating surface above while forming protected cavities below. These lower spaces act as small-scale refuges, offering enclosure, shade, and protection from environmental exposure.

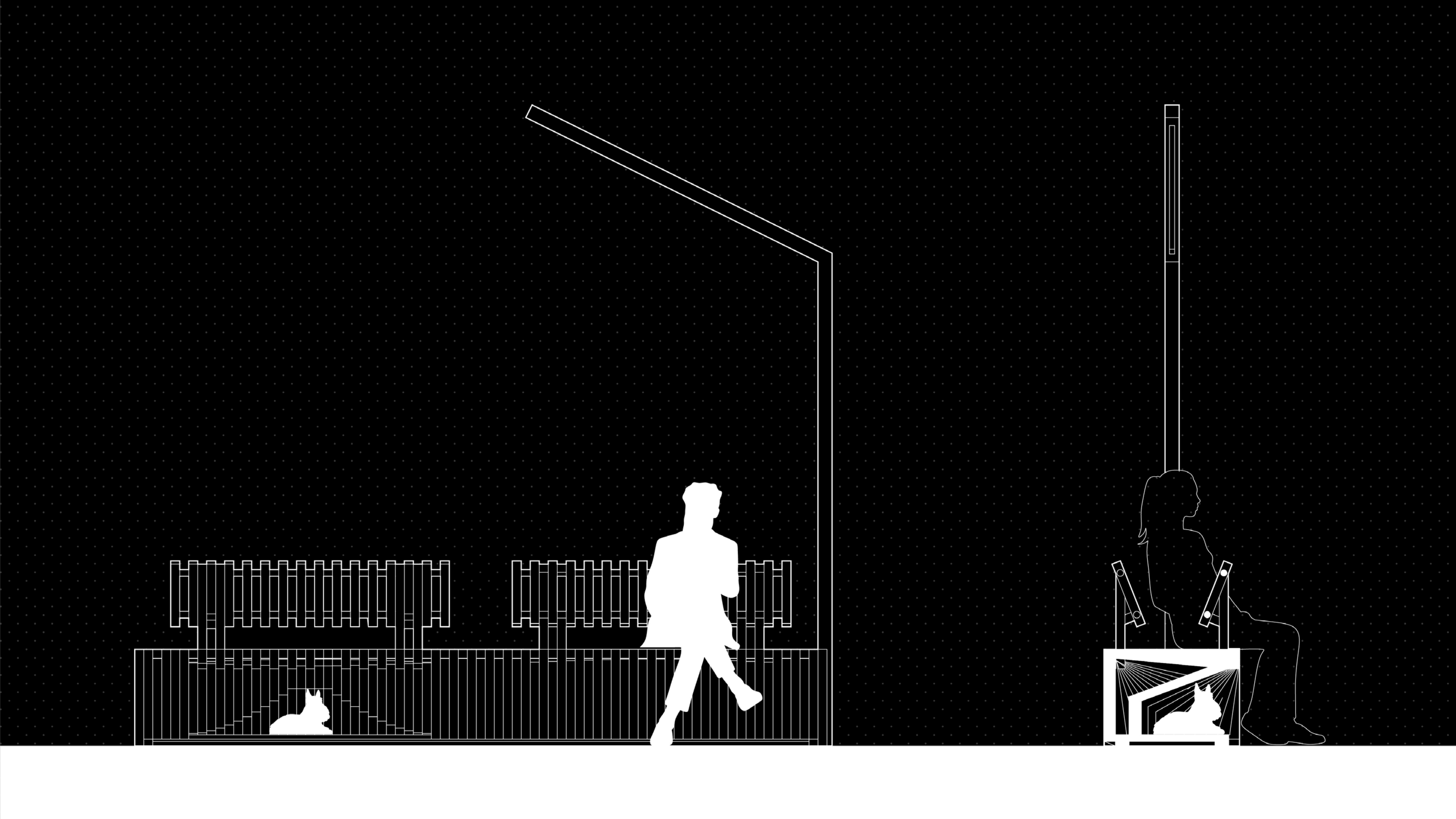
The bench is slightly elevated from the ground, improving thermal performance by reducing direct contact with cold or damp surfaces and allowing air to circulate beneath. This elevation also reinforces the distinction between human use above and animal occupation below, while maintaining a cohesive structural system.

The refuges are conceived as nest-like spaces, prioritizing comfort and security. Their geometry, combined with the incorporation of warmth through integrated lighting, is intended to make them inviting without imposing use. The design also integrates a street light, extending its function into the public realm by providing illumination for both people and animals while reinforcing safety and visibility at night. Animals are not forced into the structure; instead, the design encourages voluntary occupation.

Beyond its physical function, the project operates as a social proposition. It aims to foster a shift in perception, where human communities become active stewards of stray dogs—supporting coexistence rather than neglect or exclusion. In this way, the bench becomes both an architectural object and a catalyst for more inclusive urban relationships.

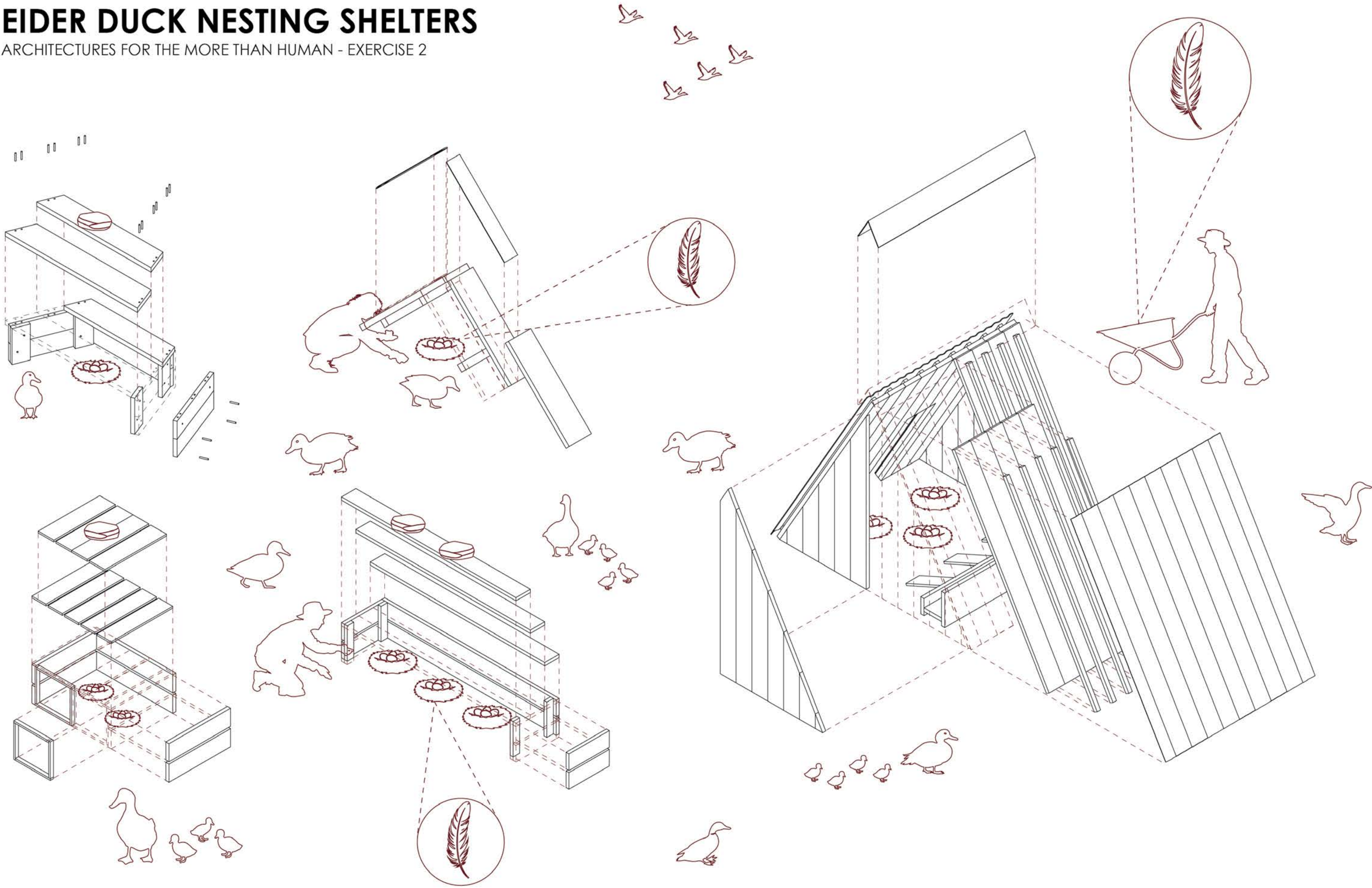






EIDER DUCK NESTING SHELTERS

ARCHITECTURES FOR THE MORE THAN HUMAN - EXERCISE 2



LUNUGANGA ESTATE

JING LIU
ALESSANDRA CHIANCHETA

AMOR MUNDI

SPRING SEMESTER 2026

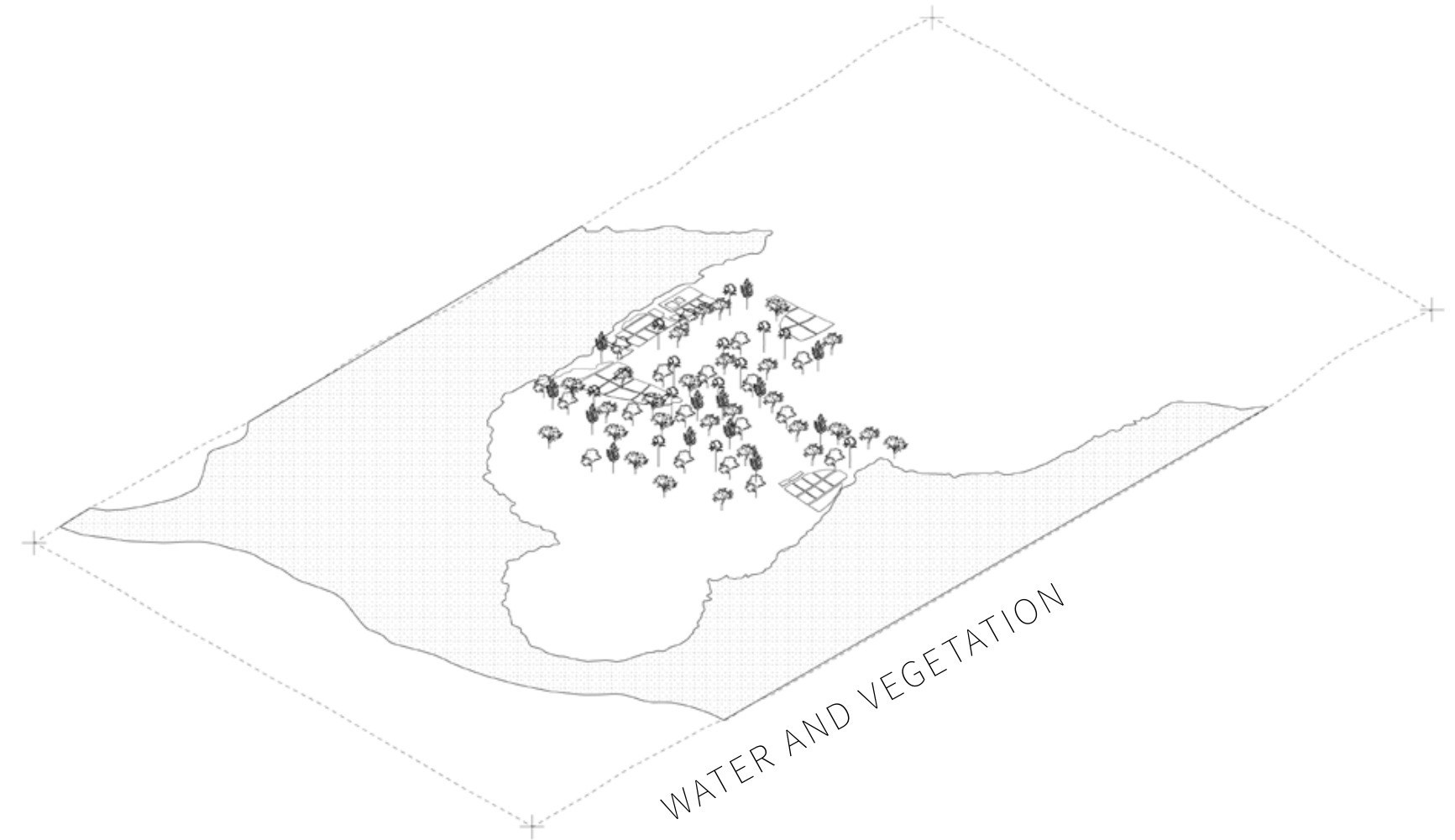
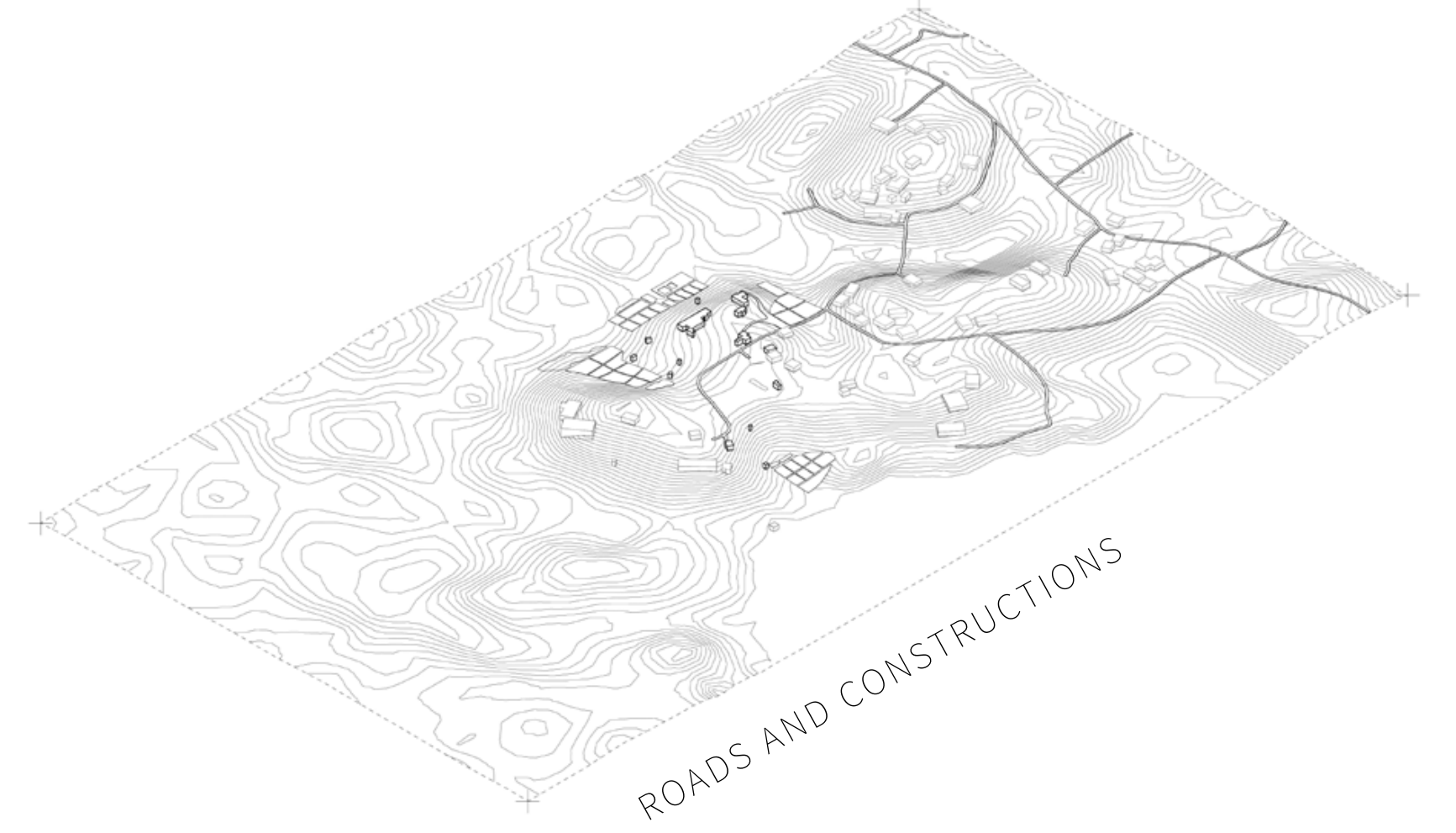
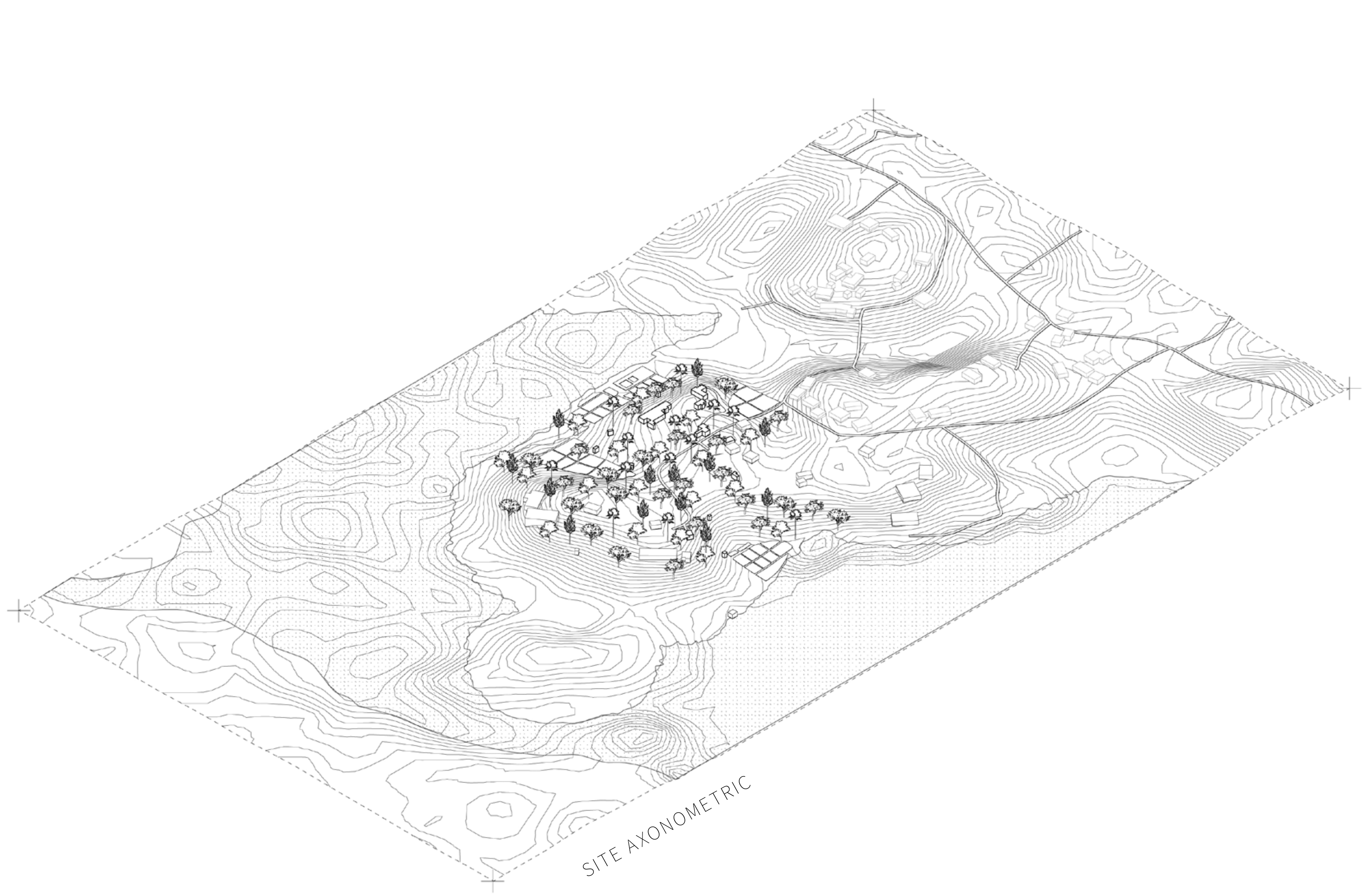
This spatial analysis explores the Lunuganga Estate, the celebrated country residence and private laboratory of the Sri Lankan architect Geoffrey Bawa. Begun in 1948 and developed over five decades, Lunuganga stands as the seminal expression of Bawa's "tropical modernism," a philosophy that seeks to dissolve the boundaries between interior and exterior spaces.

The research examines the estate as a lifelong experiment in transforming a former rubber plantation into a meticulously composed landscape where built form and nature co-exist in a state of mediation.

Through site axonometrics and exploded diagrams, the work maps the delicate relationship between topographic contours, dense subtropical vegetation, and the precise network of architectural interventions. Specific attention is given to the Plan of the Watergate and its symbolic markers, such as the stone ball and the leopard statue, which serve as visual anchors and thresholds within the broader garden.

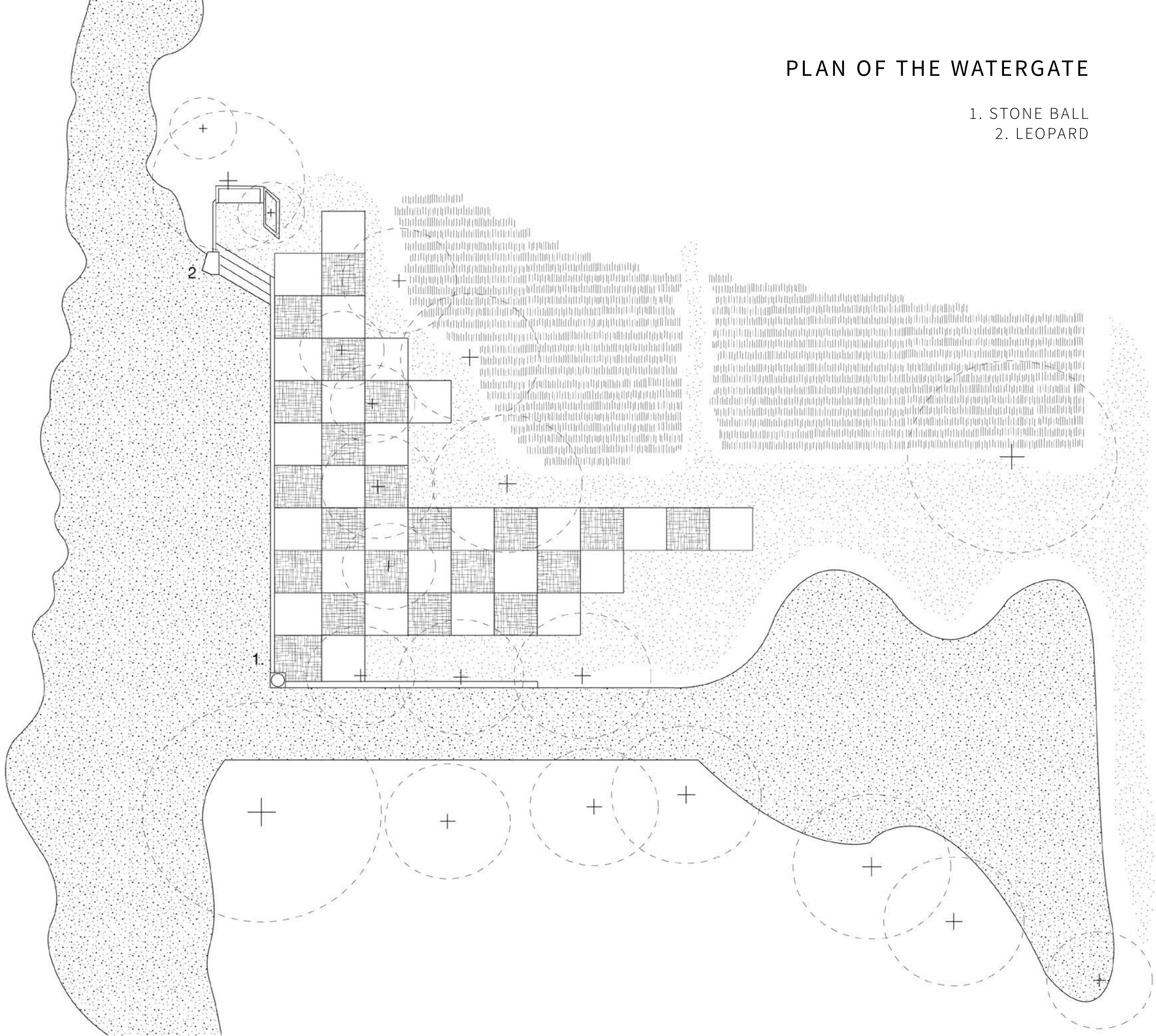
The analysis serves as a cartographic record of Bawa's approach to "civilizing the wild," illustrating how human habitation can be orchestrated as a continuous dialogue with the environment where every path, rill, and pavilion settles with humility into the surrounding ecosystem.





PLAN OF THE WATERGATE

- 1. STONE BALL
- 2. LEOPARD





NICOLAS GARCIA

COLUMBIA - GSAPP - 2026