

OASIS

Urban Greenhouse Park + Patient Housing for the Buffalo-Niagara Medical Campus in Buffalo, NY

In collaboration with Elizabeth Gilman

The project uses **sustainable** elements derived from greenhouse construction. Greenhouses take advantage of southern sun for heat during the winter, and open for cross ventilation in the summer. Rainwater is collected from the roofs, filtered through a green walls, and reused within the building. Air intake is also filtered and refreshed by a green facade, along with the indoor air quality being maintained by abundant gardens and plants within the buildings.

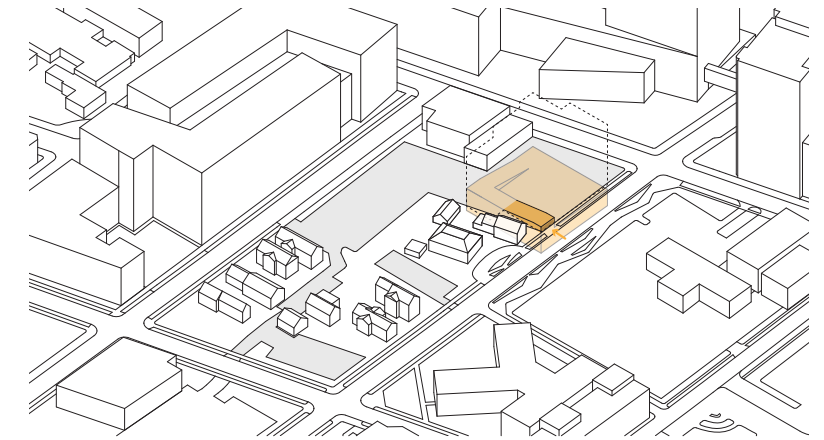
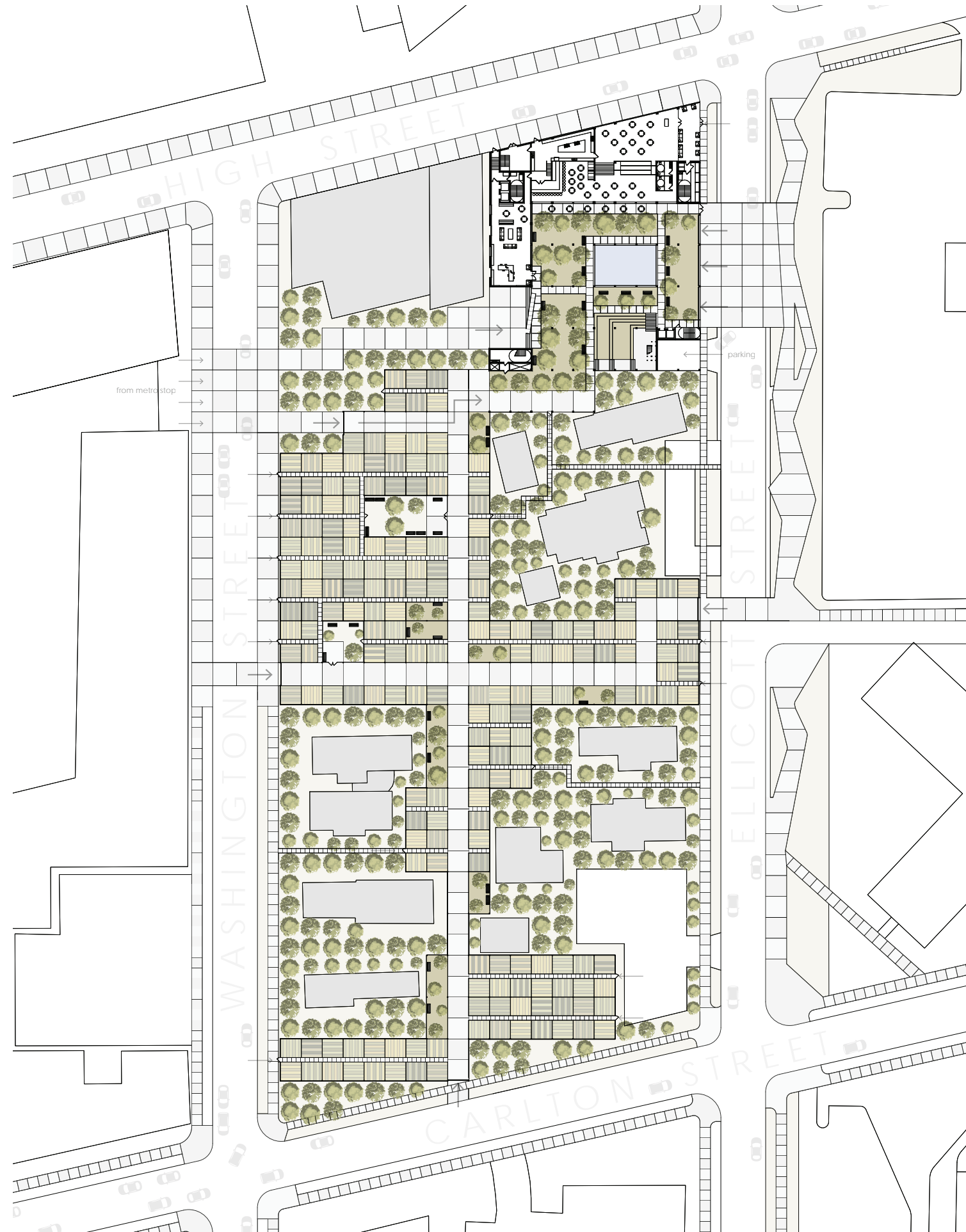
The project combats Buffalo's cold climate and provides a year-round green environment. It also produces economic **resilience**, as income generated by rentable greenhouse gardens, a restaurant, and a community center helps sustain the affordable patient housing.

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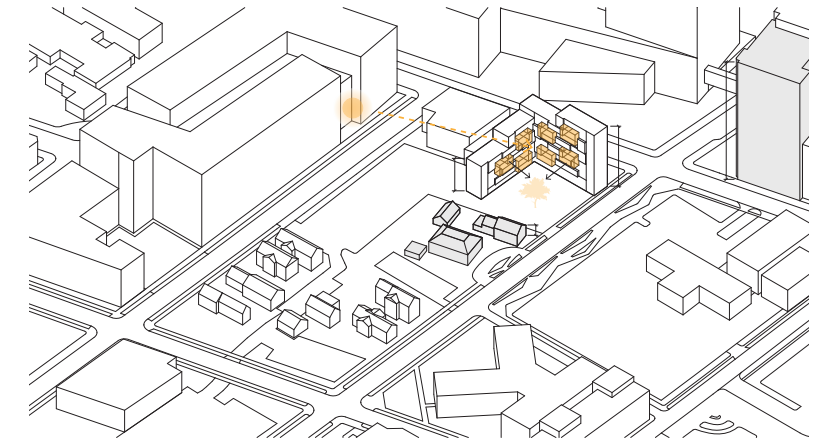
The project integrates greenery within the residences and in the urban greenhouse park, transforming the previously underused city block into a **beautiful**, year-round, urban oasis.

AN URBAN OASIS [SITE PLAN + DIAGRAMS]

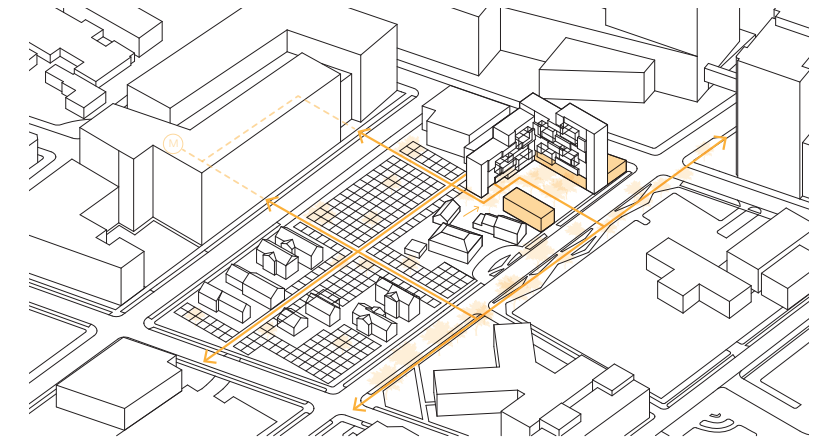
The overall site strategy replaces existing surface parking with public greenhouses. Within them, rentable gardens and a series of pathways creates a year-round public park within the medical campus, complemented by patient housing on the north end.



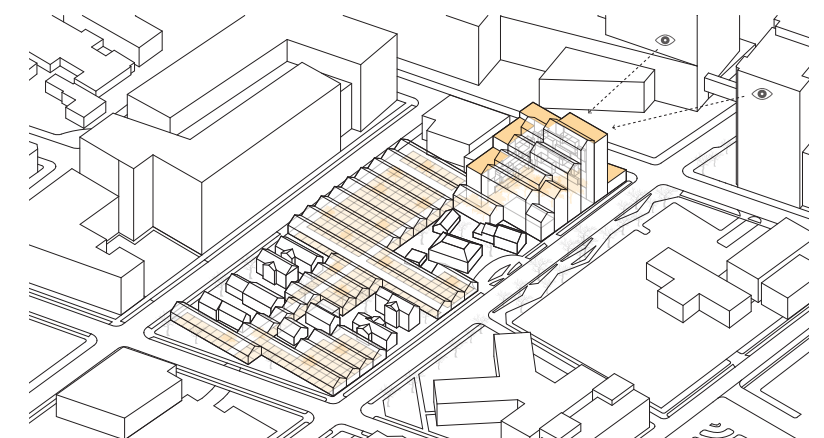
1_Surface Parking Reallocation



2_Housing: Orienting Greenhouses



3_Allotment Garden + Public Integration



4_Community Greenhouse

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A COMMUNITY AMENITY [RENDERING]

Rentable greenhouse allotments across the site provide a premium amenity in Buffalo's cold climate. In addition to providing a publicly-accessible indoor green environment, the allotments generate revenue which helps offset the cost of the patient housing.



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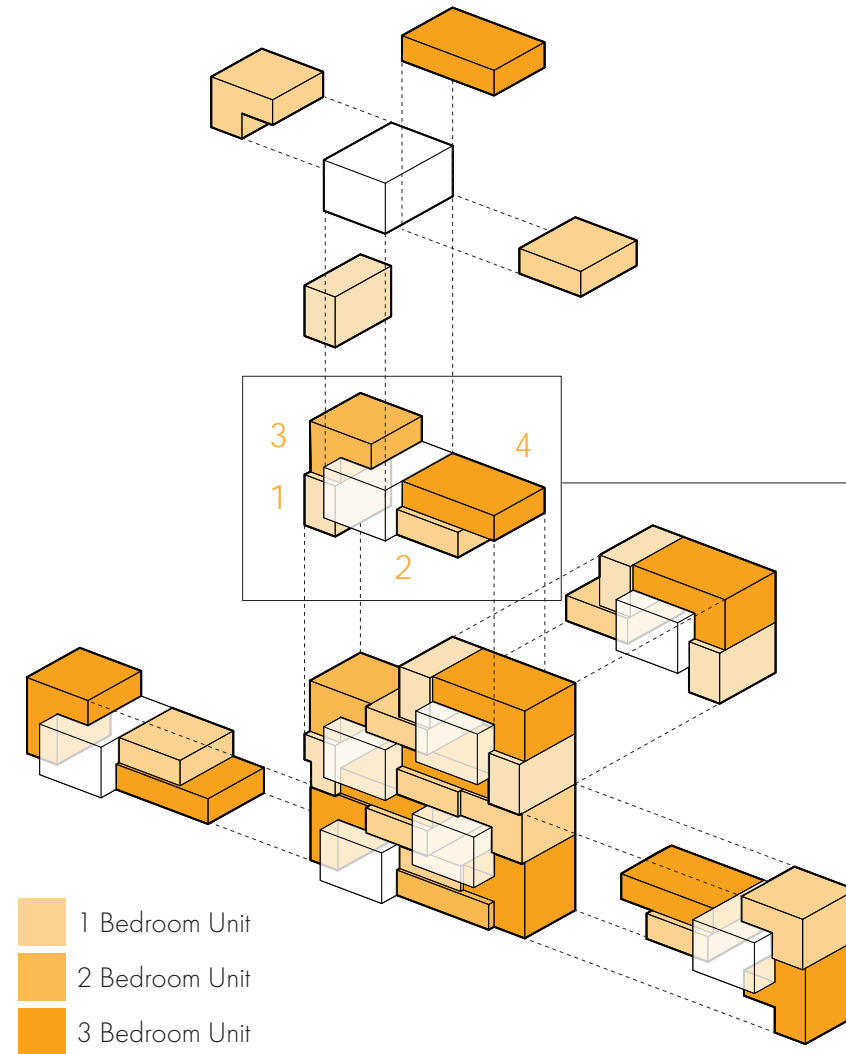
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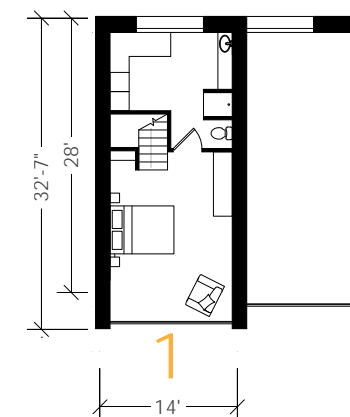
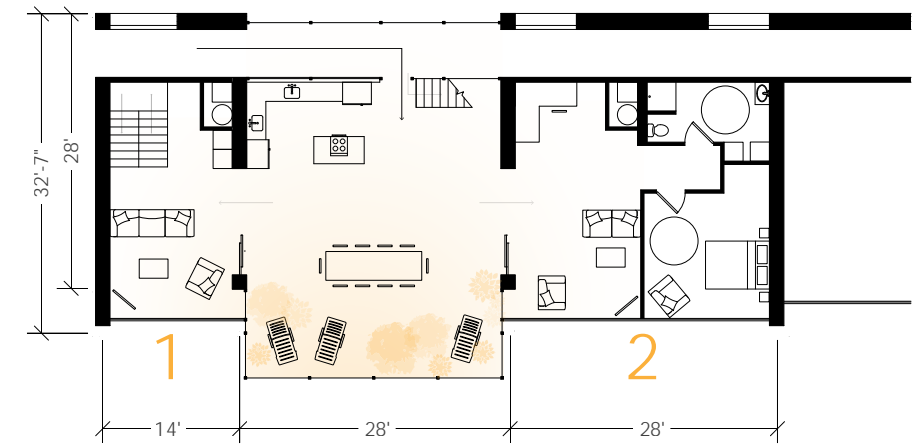
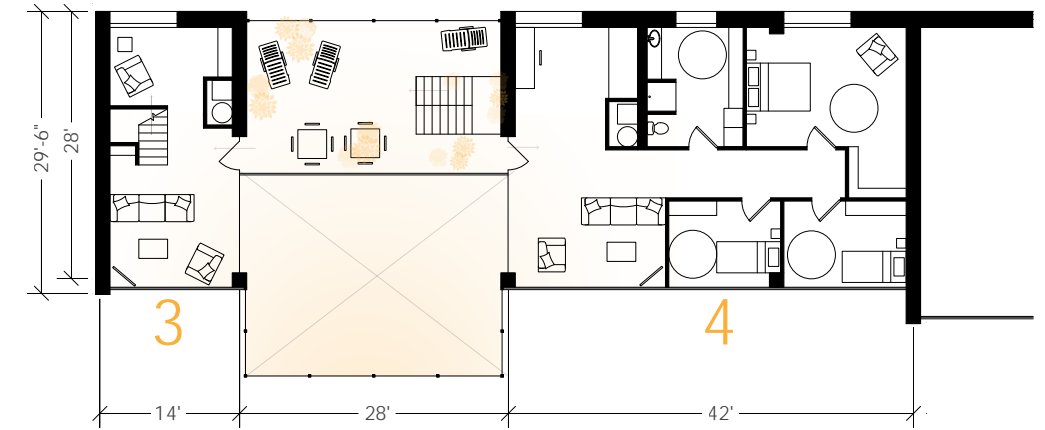
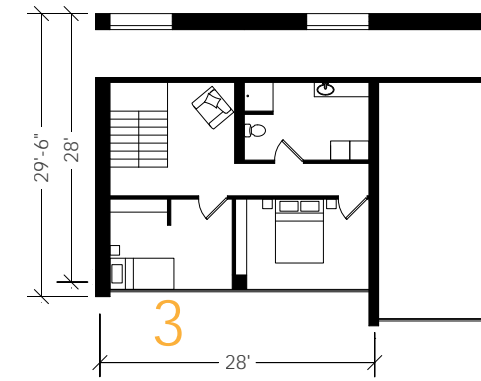
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COMMUNAL CLUSTERS [DIAGRAM + PLANS]

Patient housing units puzzle together, providing variety that counters the repetitive nature of hospital and hotel residences. They are arranged in clusters around greenhouses, where shared kitchen and dining spaces are located.



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A SOCIAL GREENHOUSE [RENDERING]

The shared greenhouses are places where the residents cook, eat, socialize, and garden together. The combination of social elements within a green environment creates a place of healing and fosters a sense of community among the residents.



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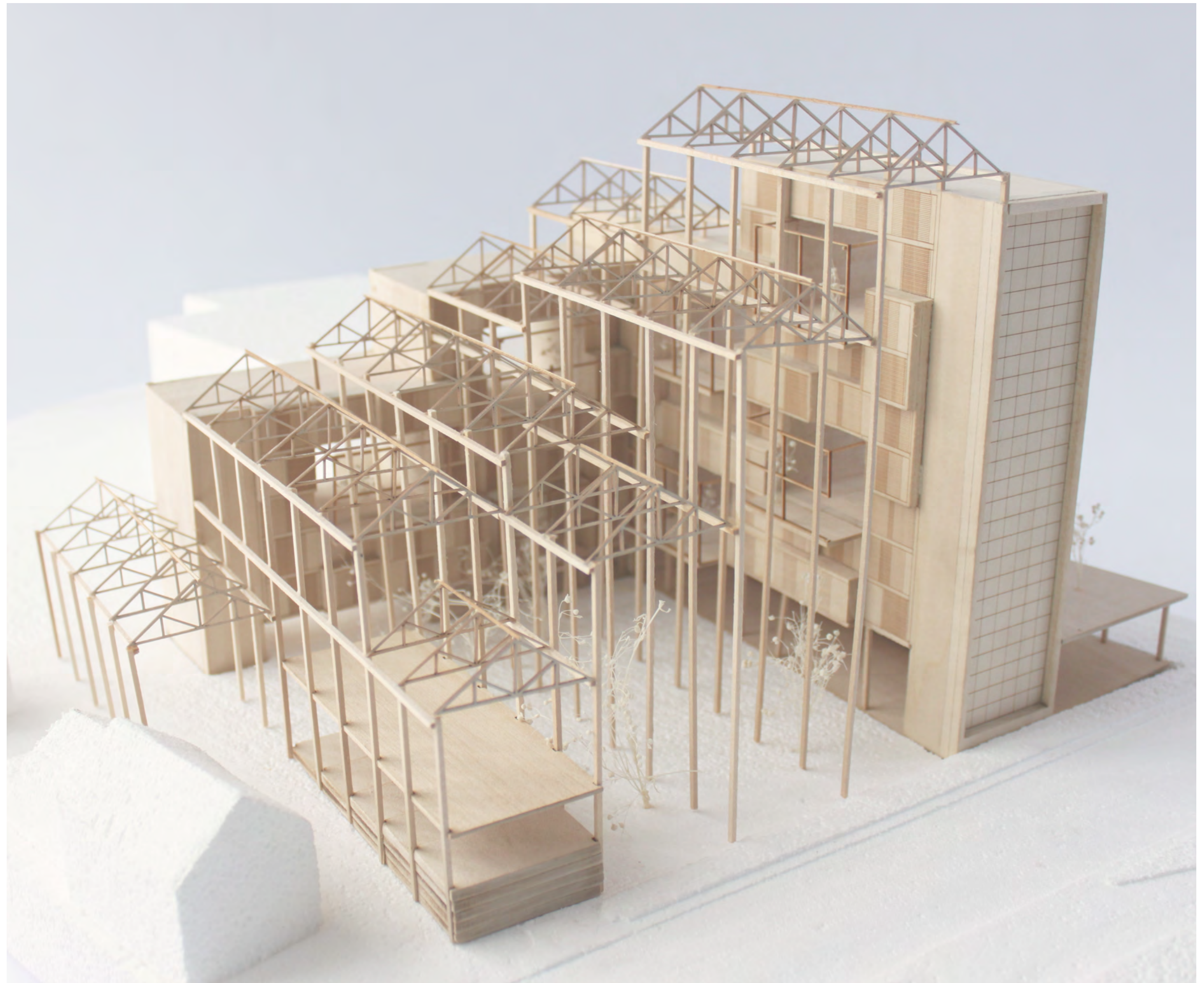
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GREENHOUSE TYPOLOGY [MODEL]

The intersection of the patient housing building and public greenhouse results in a stepping greenhouse form. This creates an atrium space that accentuates the public park at the bottom floor, which is activated by a restaurant and community center.



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SUSTAINABLE PERFORMANCE [SECTION]

The greenhouse atrium creates a stack effect in the summer, generating passive cooling. In the winter, the greenhouse allows the building to retain as much heat from the sun as possible. The north green wall passively filters rainwater collected on the roof.



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COMMUNITY CONNECTION [RENDERING]

The patients in the housing building are intimately connected to the larger community at the bottom floor through the greenhouse atrium. It houses a resilient ecosystem for both the patients and others at the medical campus to enjoy all year.



REGROWTH

Urban Bamboo Memorial, Bamboo Center +
Social Housing in Mexico City, Mexico

In collaboration with Laura Stargala

The project's **sustainable** characteristics revolve around the planting, cultivation and use of bamboo. The bamboo memorial forests help stabilize the soil and regenerate the aquifers below the city. Once harvested and processed, the new locally sourced building material has a very low embodied energy, as opposed to concrete and brick. In the factory and residences, bamboo construction allows for the collection of rainwater and passive cooling.

The many processes generated by the planting of bamboo provide **resilience**. The project generates a solution for how to reactivate sites destroyed by earthquakes in Mexico City, while preserving their memory, and generating cultural, social, and familial growth.

The project addresses **wellness** by providing homes that have an abundance of natural light, ventilation, and connection to the outdoors. Even further, the housing prototype empowers Mexican families to build onto their own homes, generating a sense of pride and ownership.

The sites of building collapse across the city, which currently act as urban scars, are turned into **beautiful**, lush bamboo memorial forests. Additionally, the harvested bamboo in turn is used to create elegant homes and dynamic structures, demonstrating new possibilities for a previously stigmatized building material.

COLLECTIVE MEMORY [COLLAGE]

This project uses bamboo as a way to address the collective trauma and memory of the 2017 earthquake in Mexico City. Bamboo replaces the disaster sites across the city, and catalyzes new ecological, cultural, and social growth.



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A MEMORIAL NETWORK [DIAGRAM]

The proposal begins by planting bamboo forests at each collapsed building site in the city, creating an urban network of memorials. The bamboo that grows would be harvested every year and shipped to the site to be processed into a building material.



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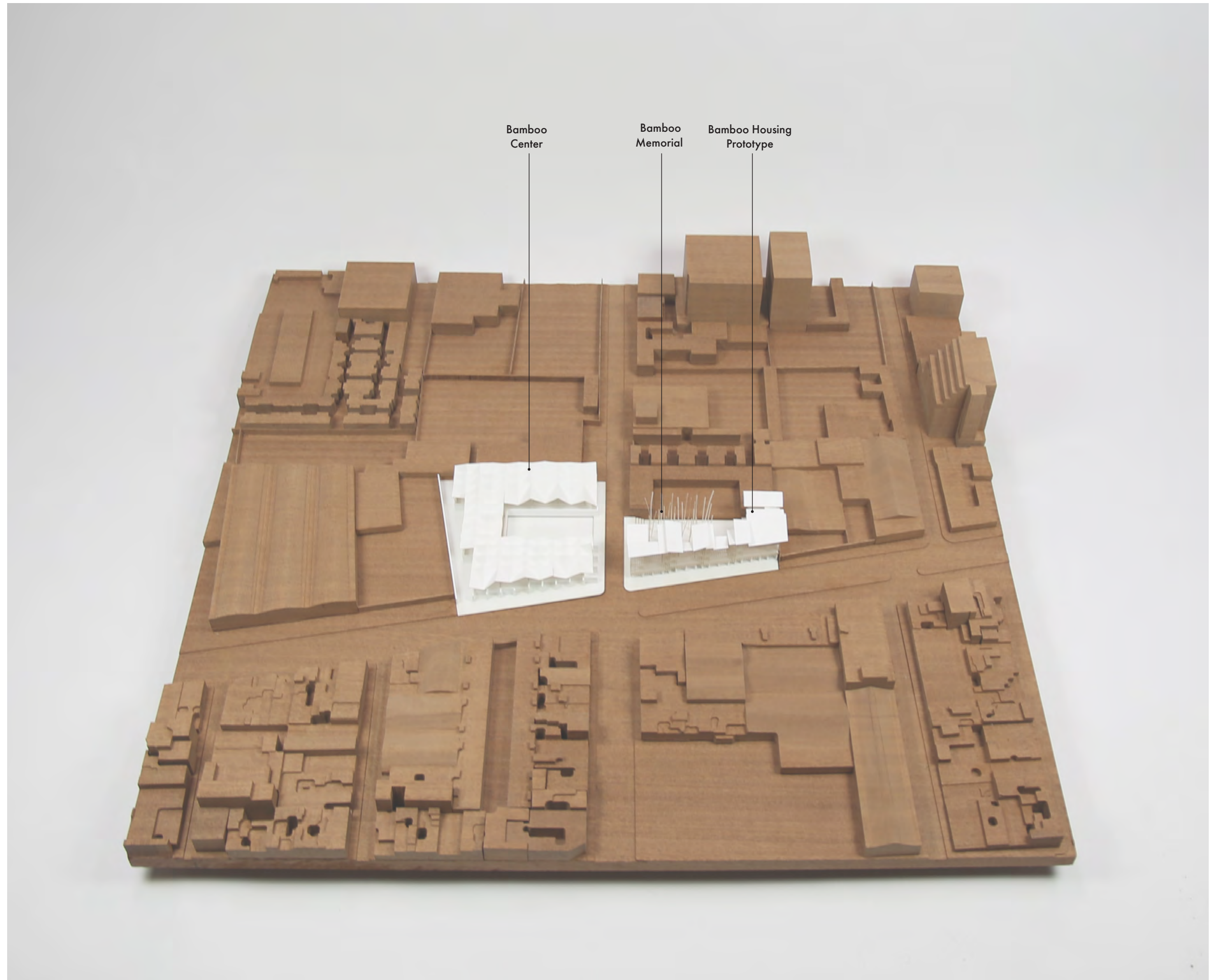
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A BAMBOO COMPLEX [MODEL]

The project contains a bamboo memorial, a Bamboo Center for processing and selling bamboo, and a housing prototype to demonstrate its use. These programs compliment each other, and collectively define a beacon for working and living with bamboo.



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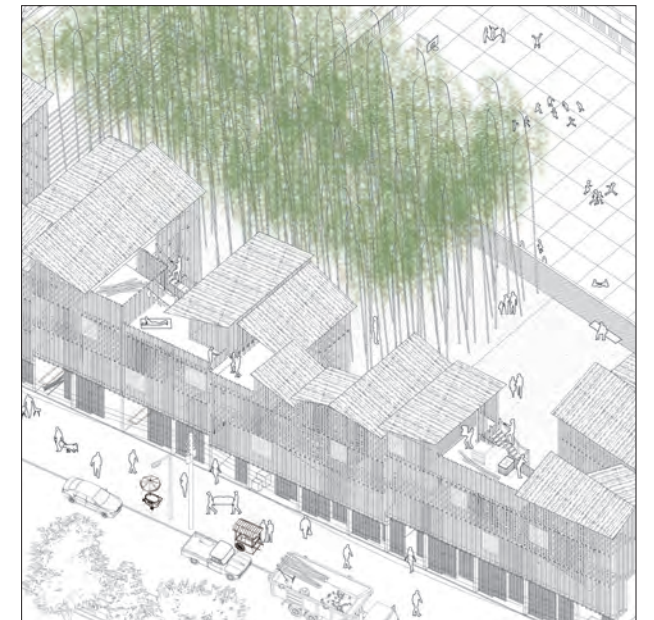
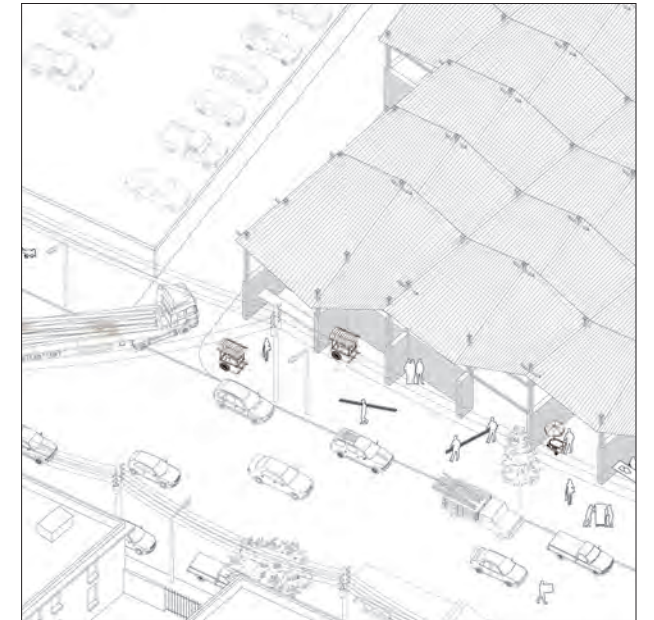
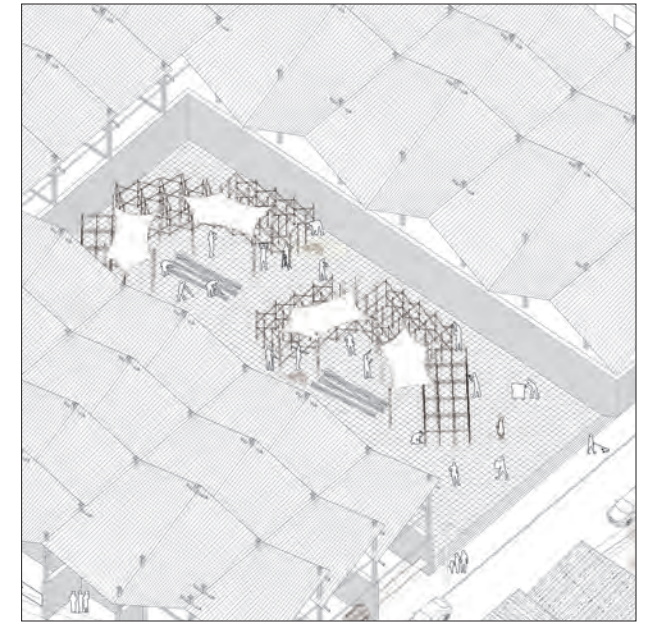
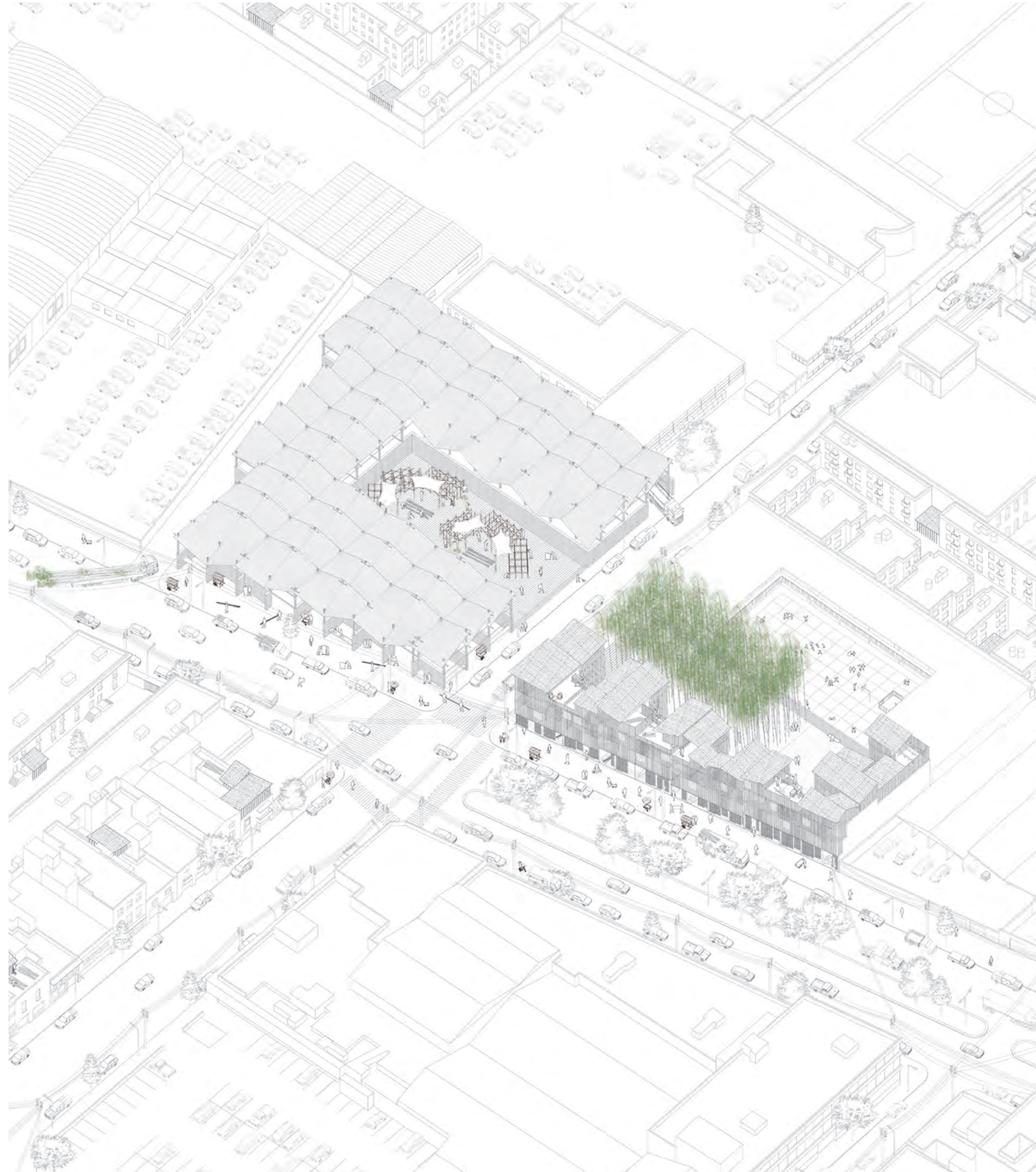
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URBAN ACTIVATION [AXONOMETRIC]

The three complimentary programs work together to activate the neighborhood and street. The bamboo memorial provides a quiet place for contemplation and healing, while the street front becomes a market place bustling with activity and life.



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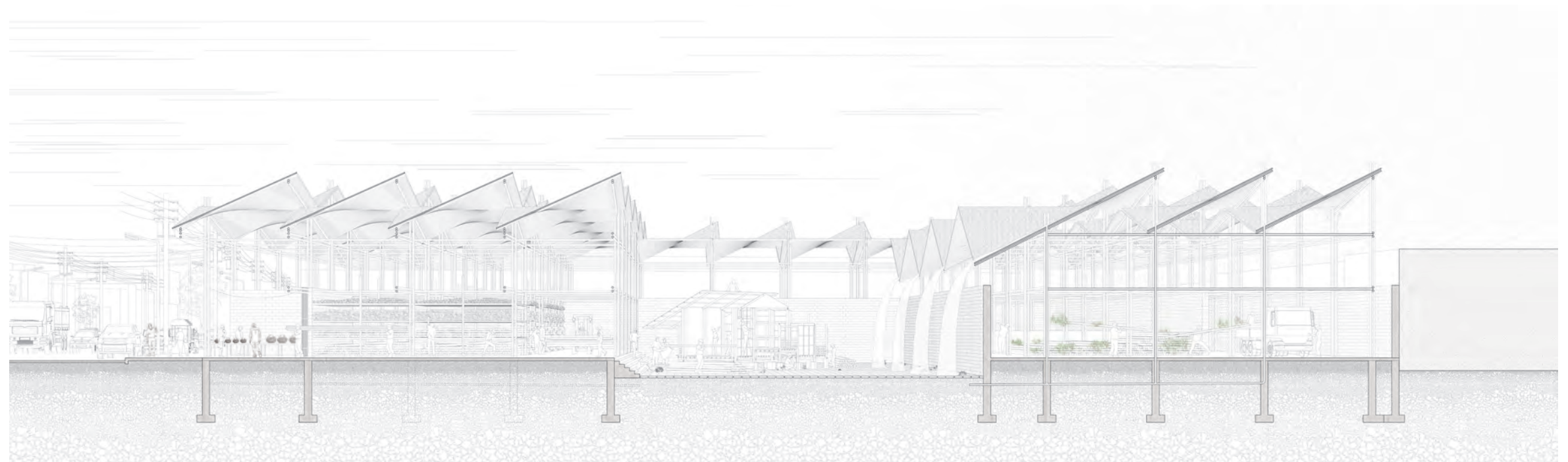
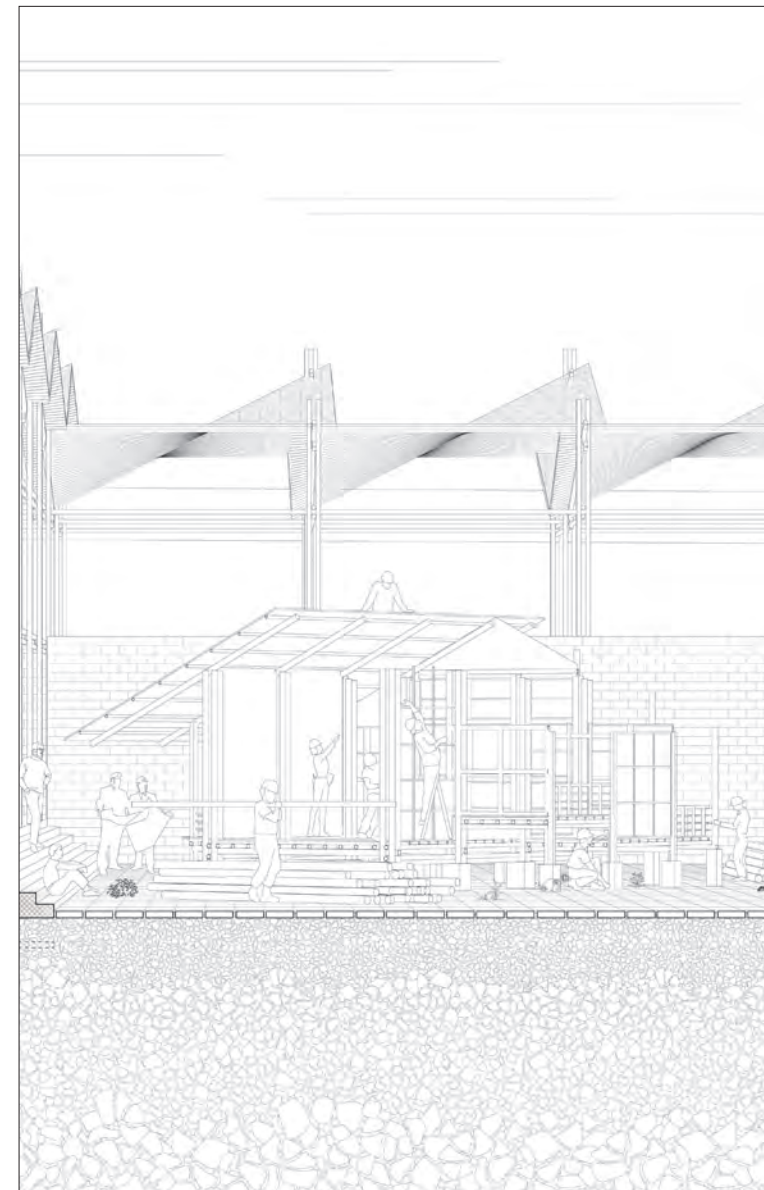
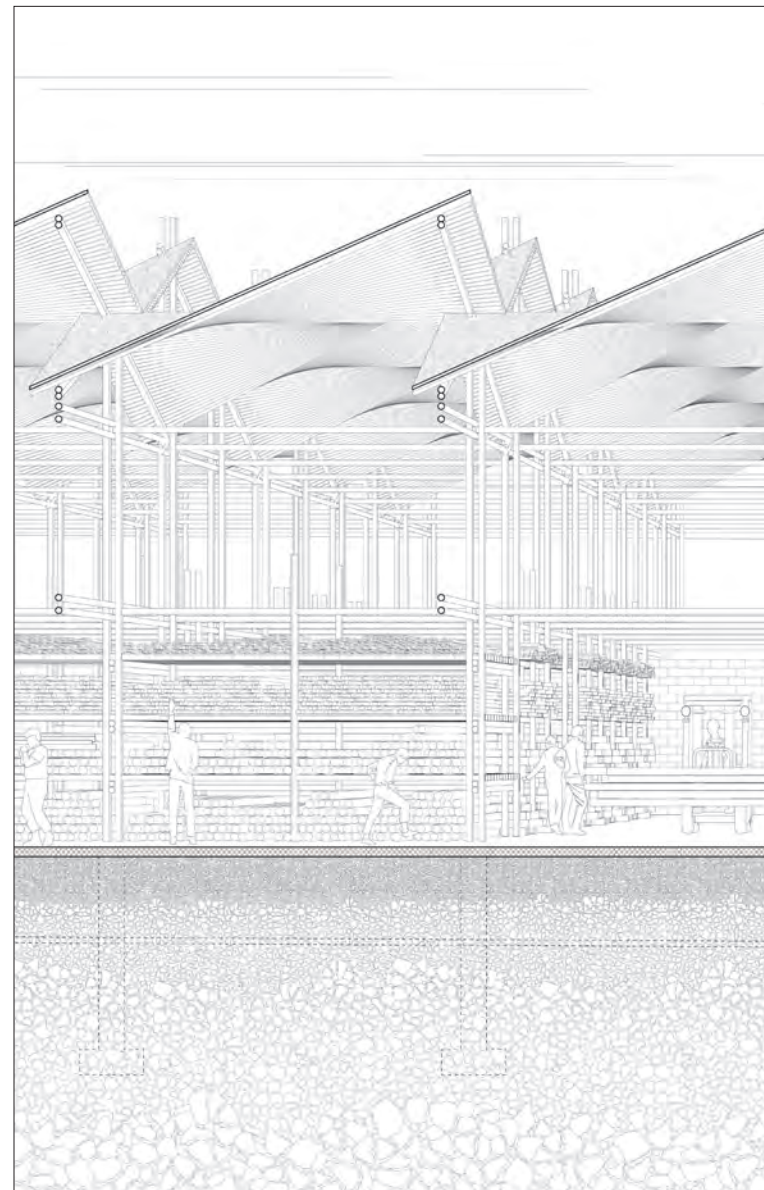
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A NEW FACTORY TYPOLOGY [SECTION]

The Bamboo Center treats the harvested bamboo and sells it to the public - all under a continuous dynamic bamboo roof structure. The factory surrounds a plaza where building workshops are held to educate the community on working with bamboo.



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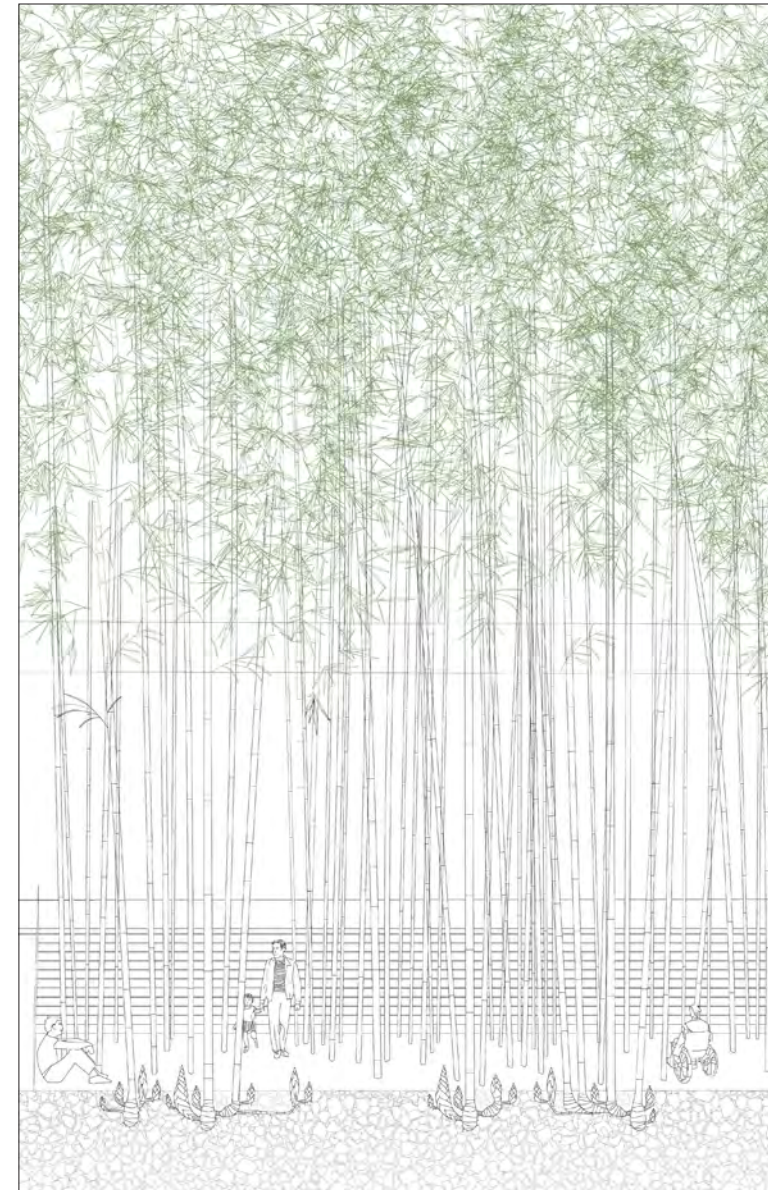
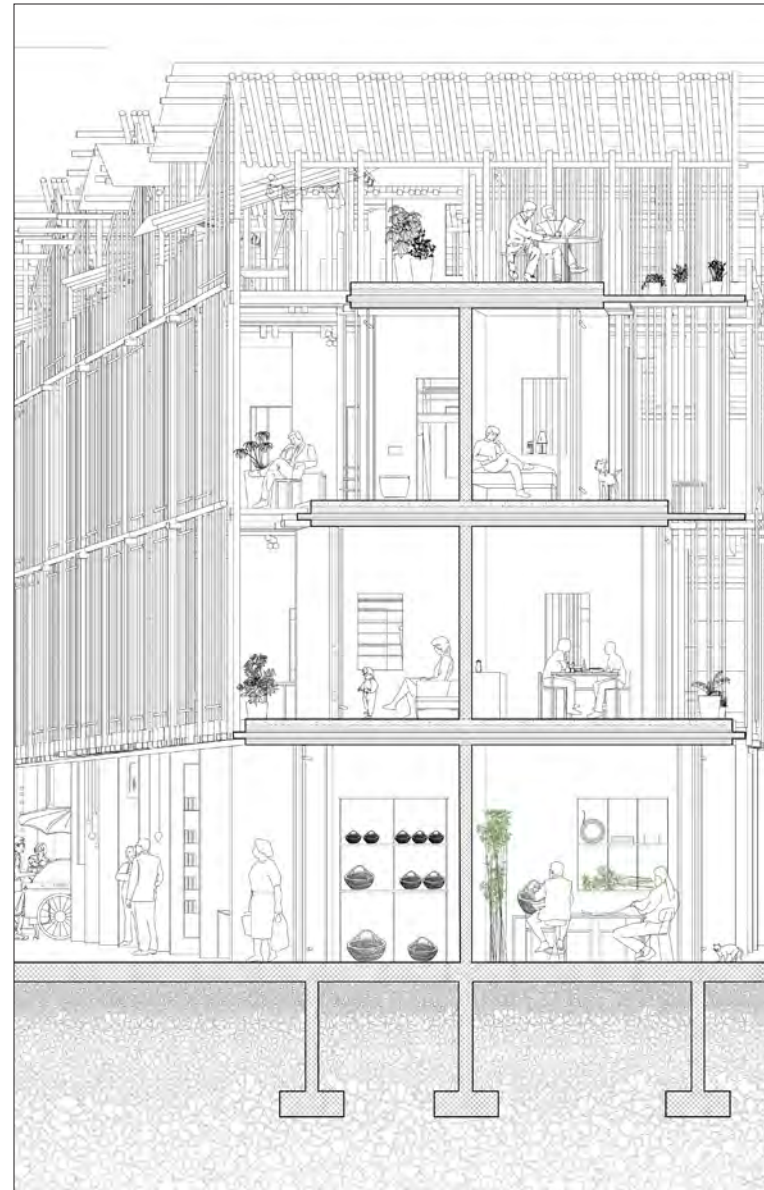
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FROM SCAR TO SUTURE [SECTION]

The bamboo memorial generates new life around it, providing a place for respite and a beautiful view for the residents and for the children at the elementary school next door. The housing separates the memorial from the bustle and activity of the street.

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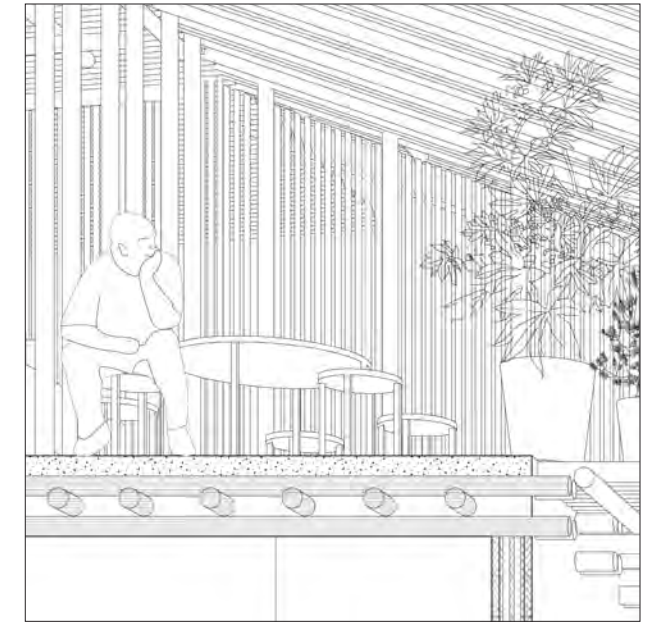
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AN ADAPTABLE HOME [PERSPECTIVE]

The housing is designed for expansion by the residents using bamboo. The private zones of the home are on the upper floors, while work space exists on the bottom. Adjacent units share a courtyard, becoming essential space during construction.



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BAMBOO CONSTRUCTION [MODELS]

The housing uses a hybrid CMU/bamboo base construction, which is then added onto by residents using bamboo screens, walls, floors and roofs. The factory is a large bay structure comprised of neatly joined bamboo poles and an undulating roof.

