

Portfolio

Jacob Dreier



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Awards and Honors

Dean's List - 2022-2025

EureCa 2025 - 1st Place in Architecture and Design
Playscapes Two (ARCH 374) - Studio Collaborative project under mentor Richard-Allen Foster

*See project 5

Education

University of Tennessee - Knoxville
Fourth Year Undergraduate Bachelors in Architecture
August 2022-Present

University of Arkansas - Rome Center
College of Architecture and Design
Study Abroad, Fall 2025

Work Experience

Student Research Assistant

Assistantship at the University of Tennessee under Prof. Micah Rutenberg

Jan 2025-Present

*See Project 2

Skills

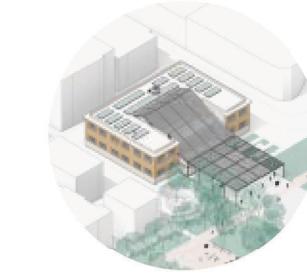
Representation
V-Ray Rendering
D5 Rendering
Rhino Rendering
3D Printing
Model Making
Sketching
Wood Working
Laser Cutting

Digital Modeling
Rhino 3D
Revit
Formit
Grasshopper
Adobe CC
Adobe Photoshop
Adobe Indesign
Adobe Illustrator
Adobe After Effects

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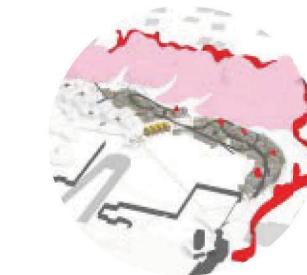
01

Villa Luigi Tosti



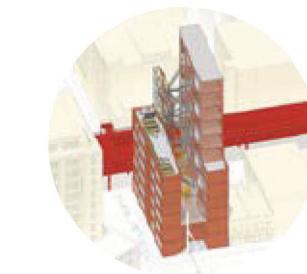
02

Mycroregional Futures



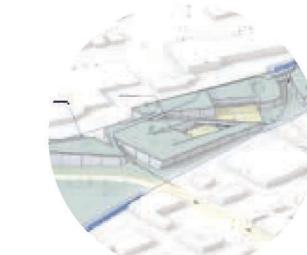
03

Shared Space



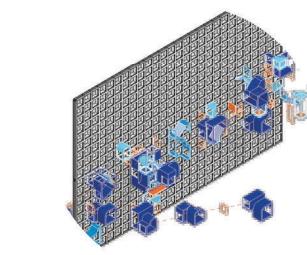
04

Urban Stitching



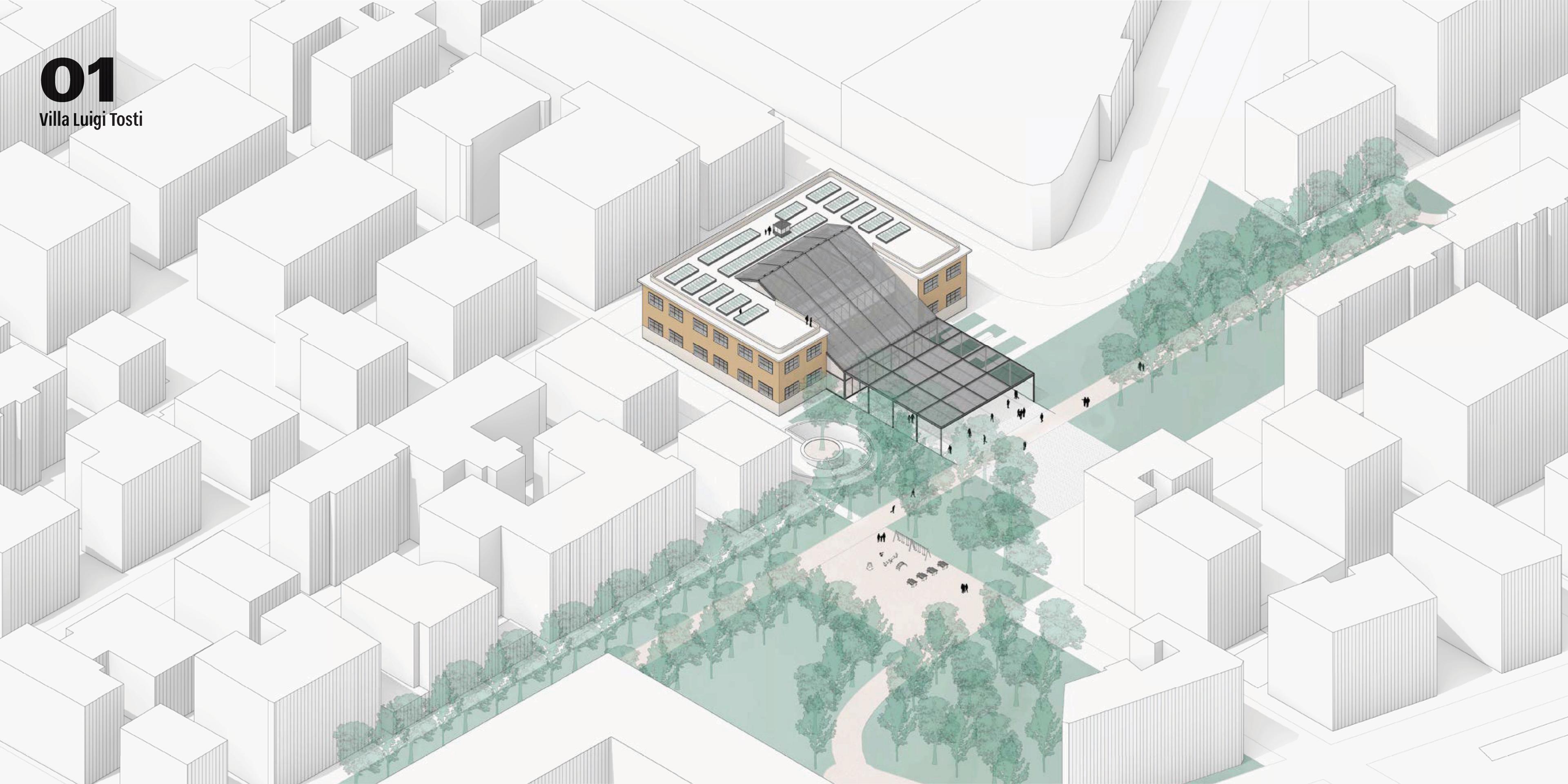
05

Playscapes



01

Villa Luigi Tosti



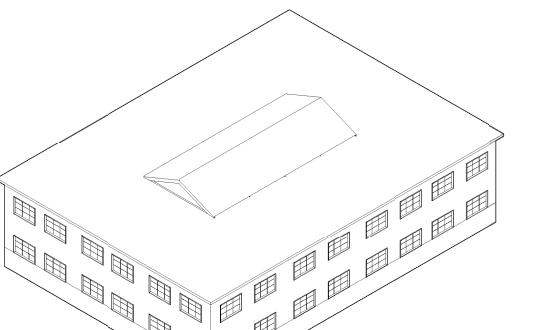
Villa Luigi Tosti

Site / Rome, Italy

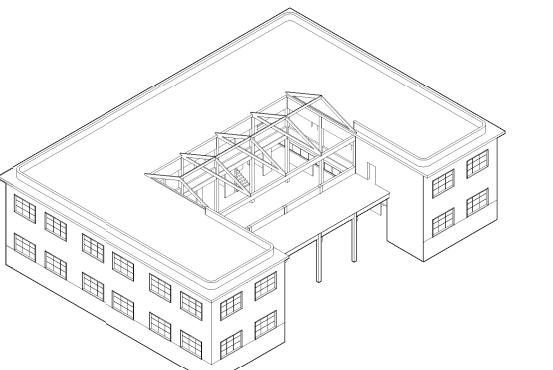
Instructor / Riccardo D'Aquino
Abroad Studio / Fall 2025

This adaptive reuse project transforms an abandoned currency paper warehouse into an artisan residency to reinvigorate the surrounding residential area. A new pedestrian walkway is introduced along the building's primary axis, connecting the site to an adjacent park. The design also adds a covered plaza that intersects the surrounding circulation axes, integrating the structure into its broader urban context.

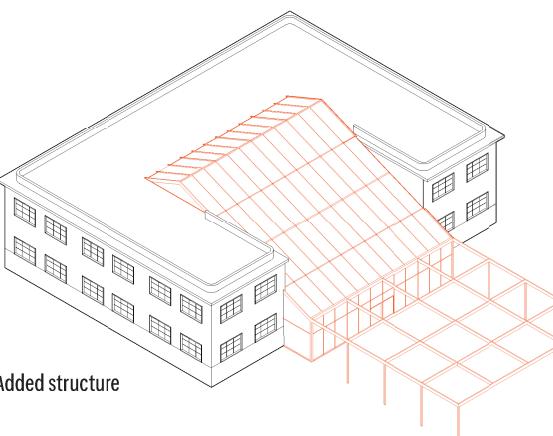
The building accommodates ground-floor retail spaces for resident artisans, with workspaces located on an added mezzanine above each shop. The artisans' living quarters are situated above the work spaces, creating a vertically integrated live-work environment.



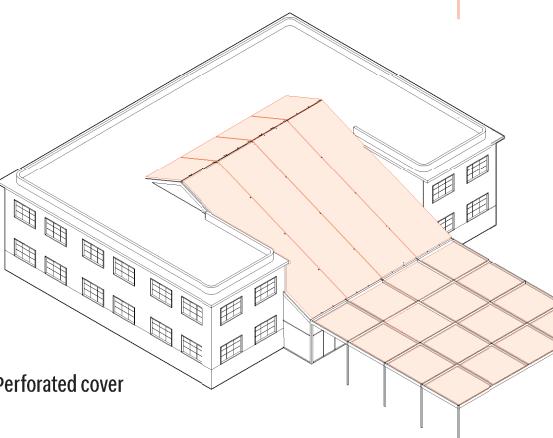
Existing Structure



Demolition



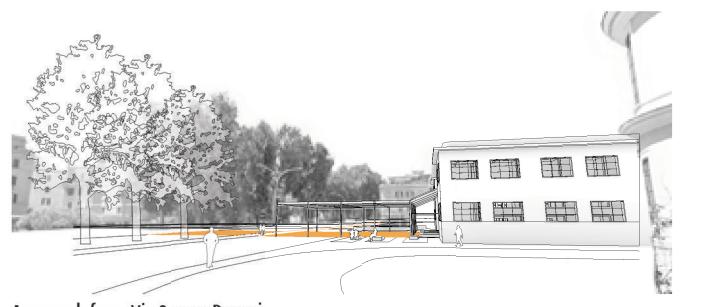
Added structure



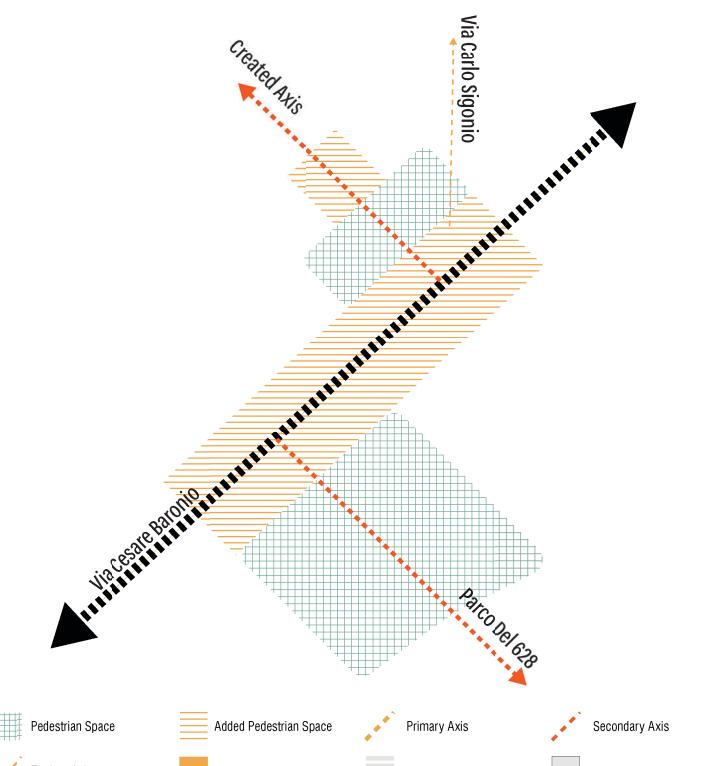
Perforated cover

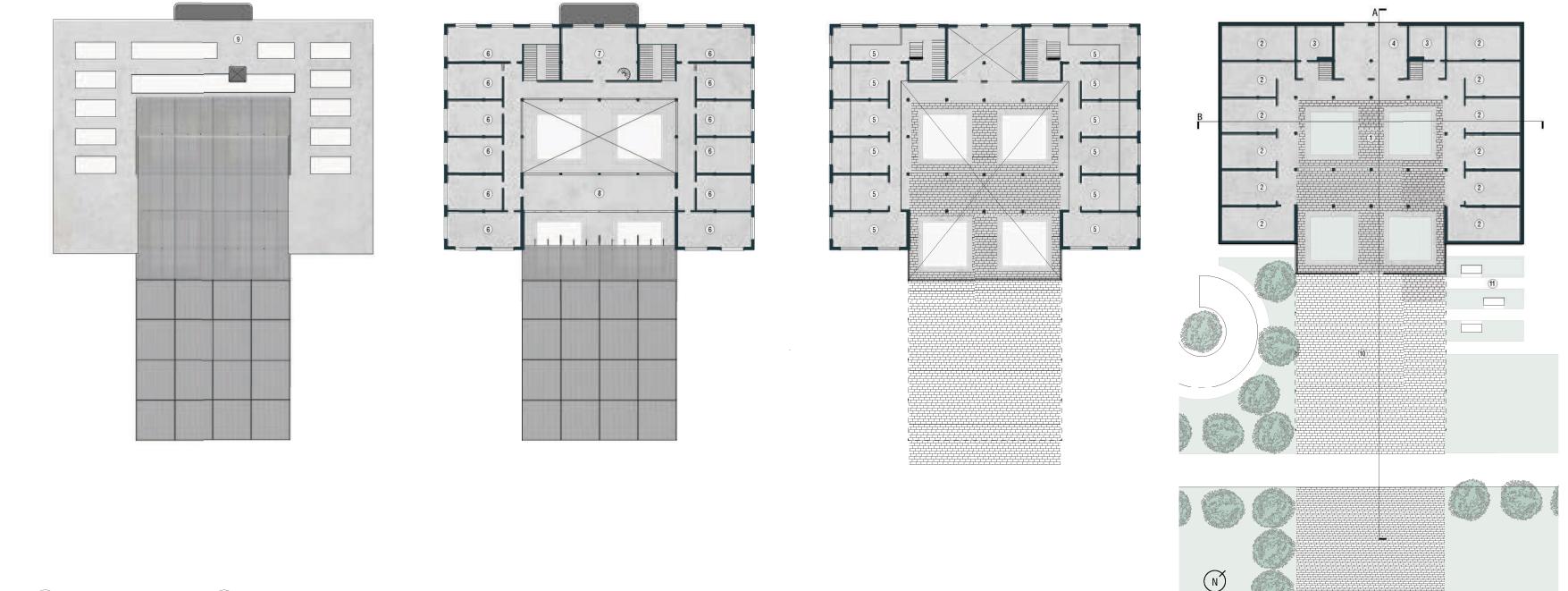
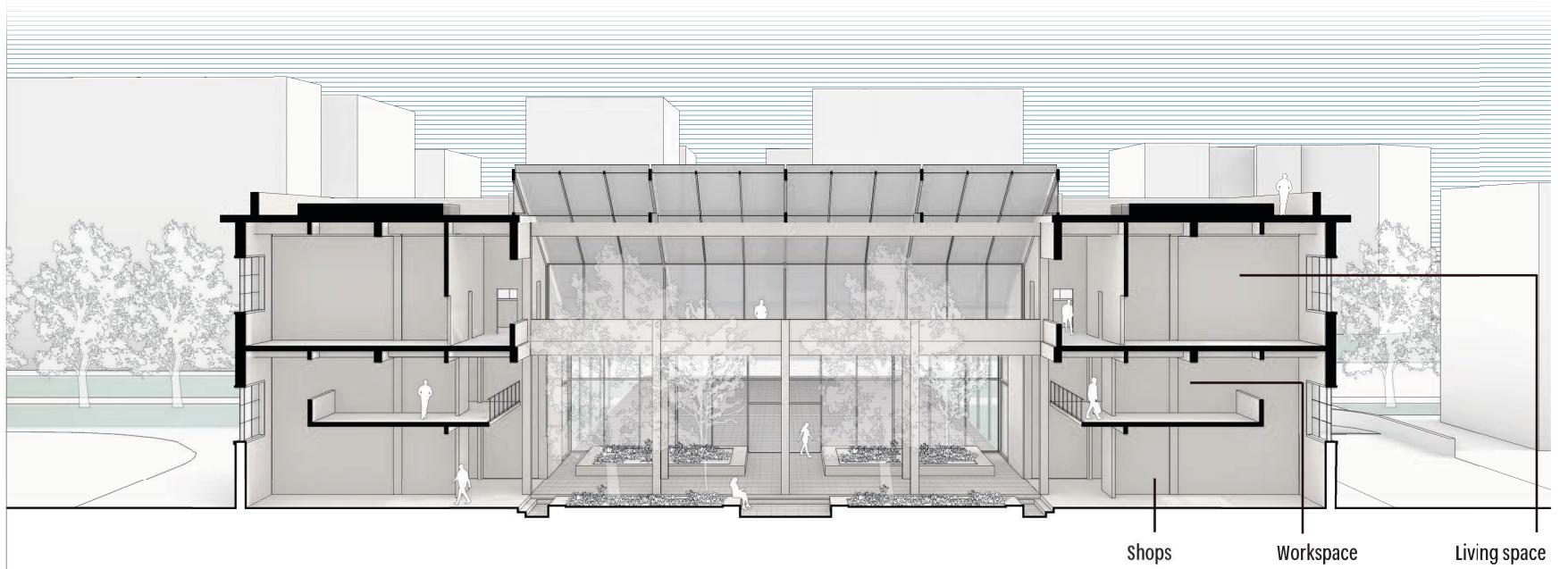


Approach from Via Cesare Baronio



Approach from Via Cesare Baronio



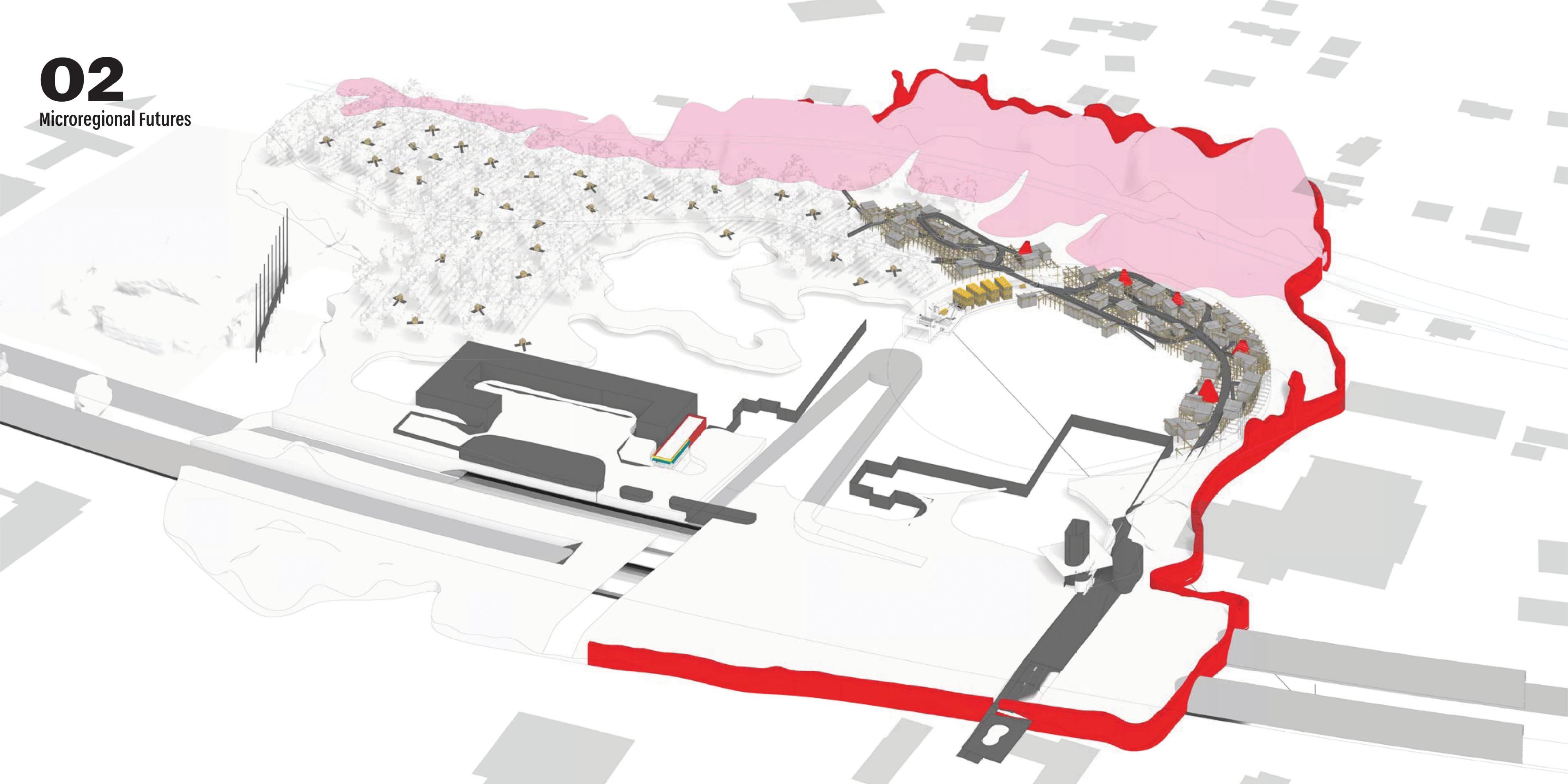


- 1 Interior atrium
- 2 Artisan shops
- 3 Bathrooms
- 4 Reception
- 5 Artisan shop workspace
- 6 Apartments
- 7 Resident common space
- 8 Office space
- 9 Resident garden roof
- 10 Piazza
- 11 Exterior seating



02

Microregional Futures



Mycroregional Futures

Site / Sevierville, TN

Employer / Micah Rutenberg

Research Assistantship / Summer 2025 - In Progress

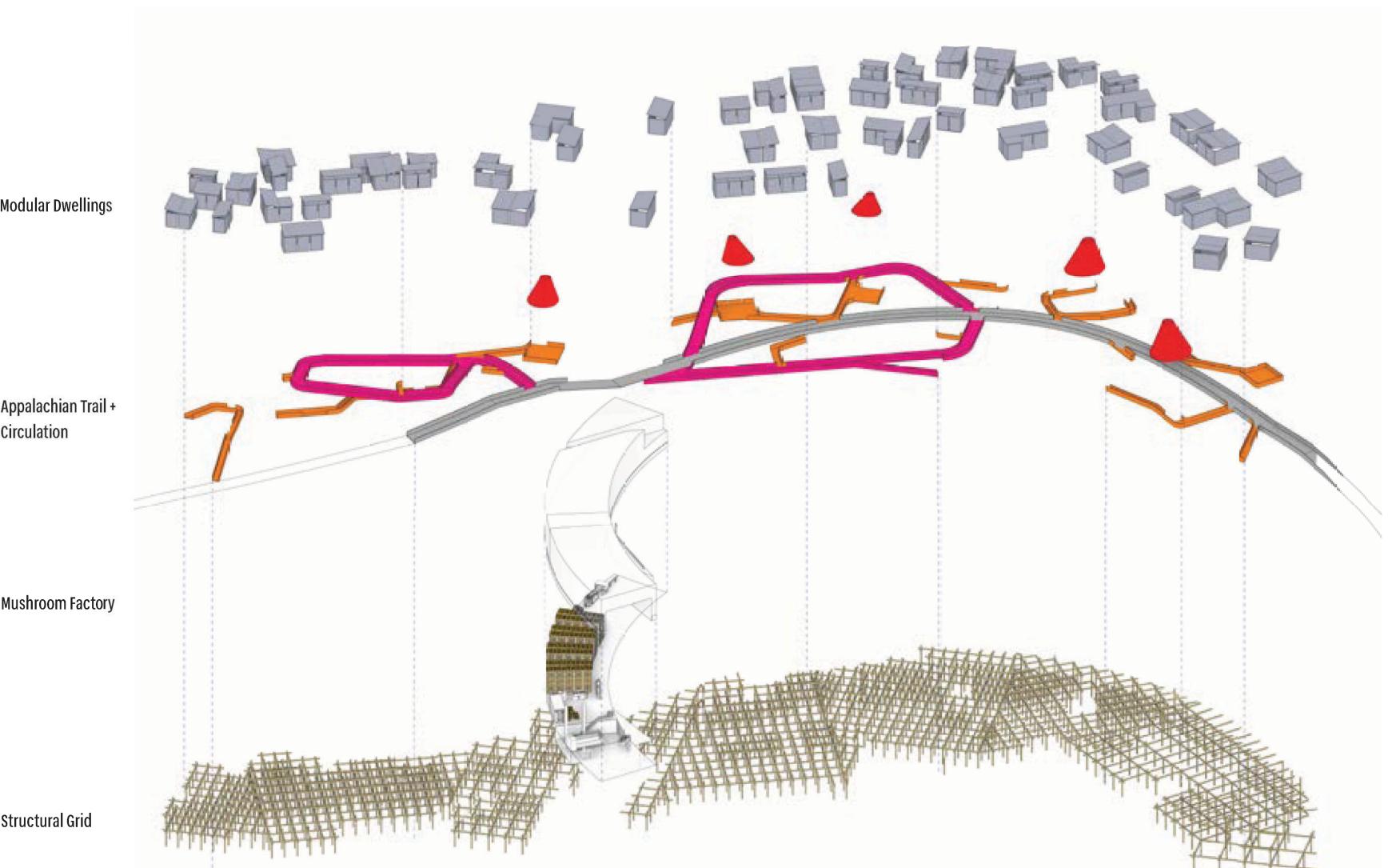
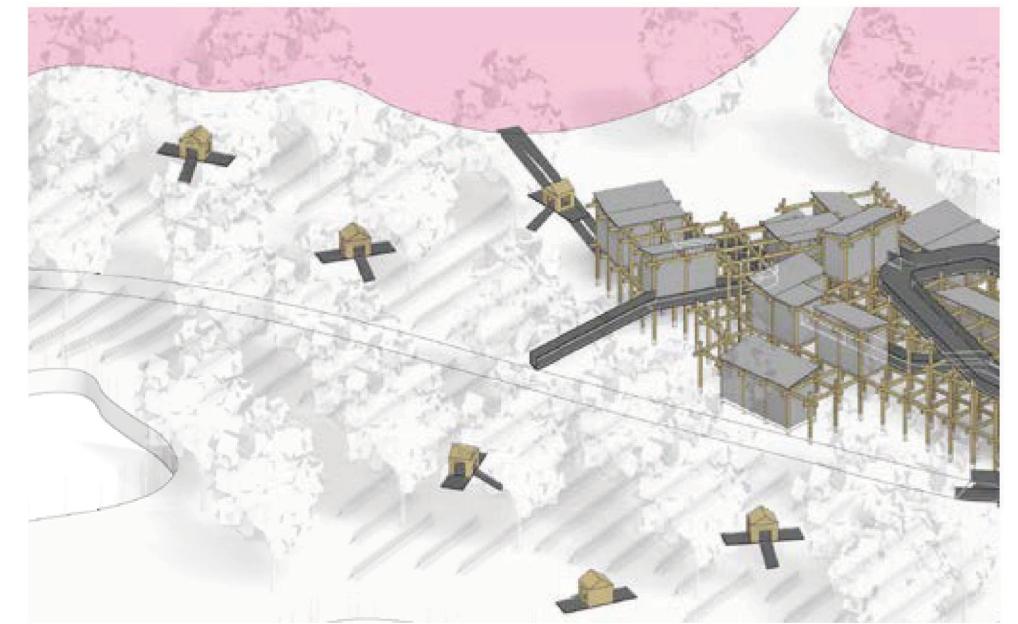
Mycroregional Futures is a speculative design proposal that reinterprets Benton Mackaye's 1921 vision for the Appalachian Trail as a bioregional infrastructure supporting cooperative, regenerative communities. Focused on a connection to the Appalachian Trail to Gatlinburg in Sevier county, Tennessee, the project introduces mycultural camps - cooperative hubs focused on mycelium based textiles, food, and medicinal production - that integrate hikers, local labor, and underutilized agricultural and sylvicultural resources. Responding to the country's heavy dependence on tourism, the proposal advances a bioregion-based economy rooted in import replacement, planned degrowth, and regional material ecologies, positioning the AT bioregions as an alternative framework for organizing socioeconomic life.

Conceptual framework developed by Micah Rutenberg

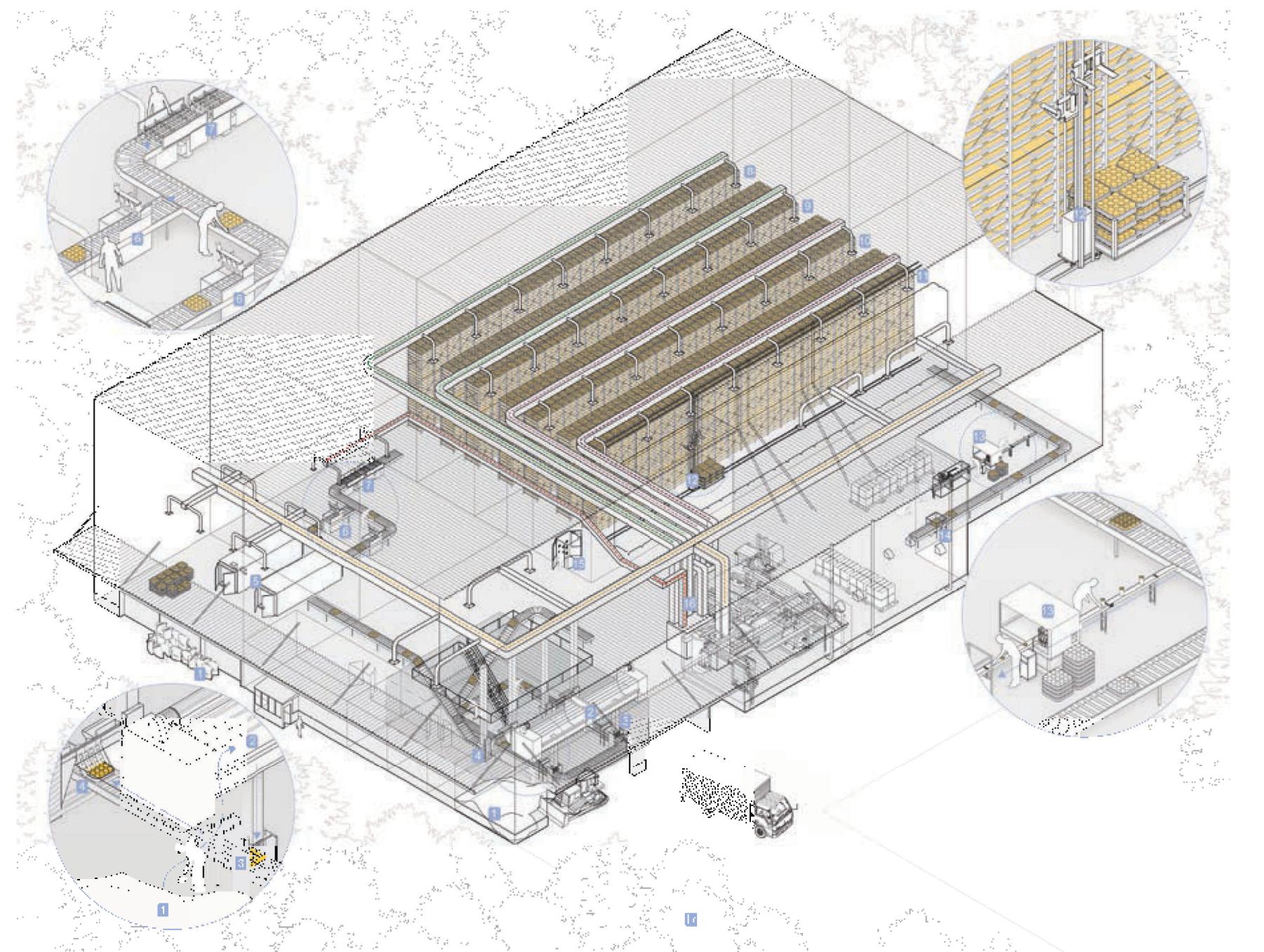
Research analysis, and design development by Jacob Dreier



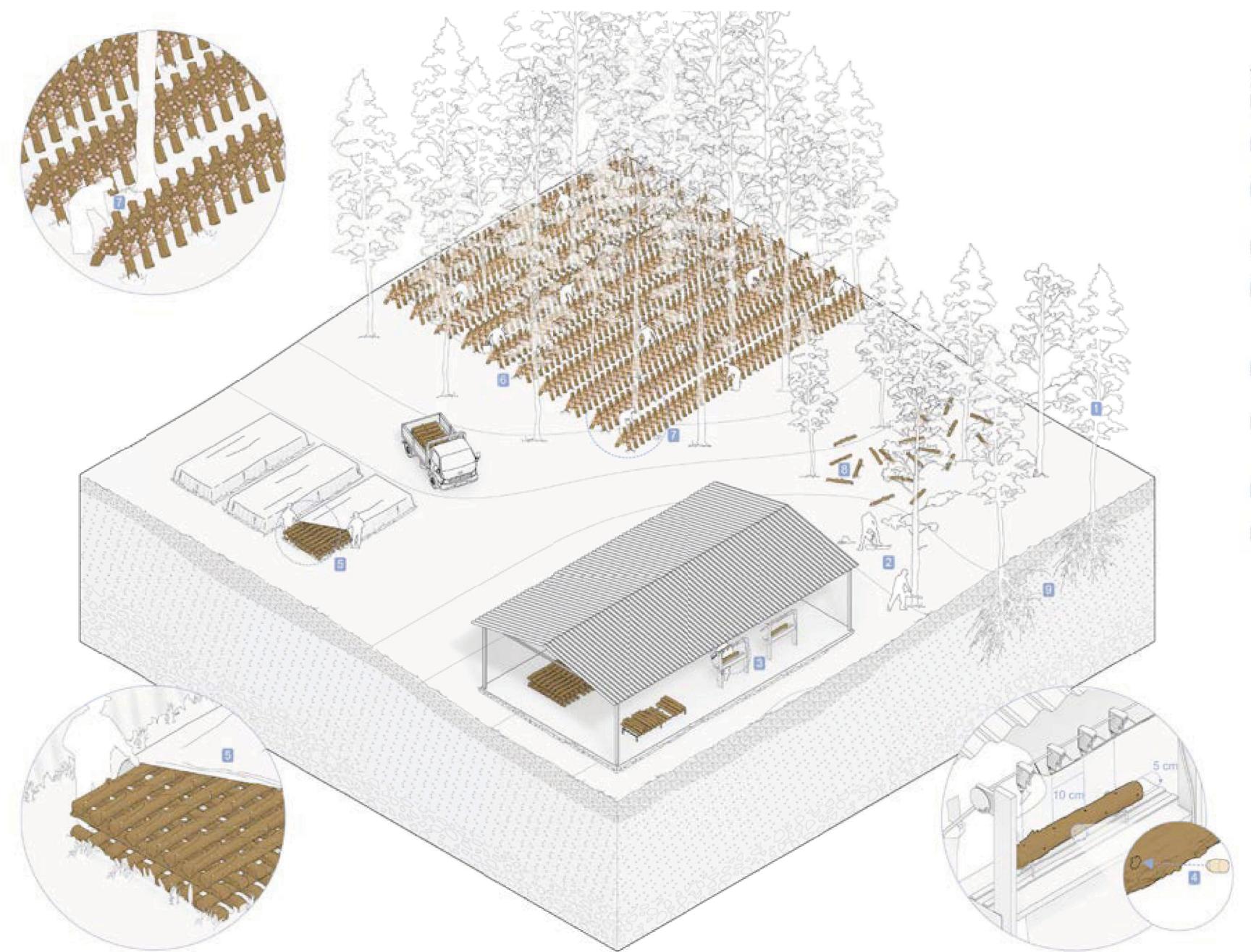
Chicken coops for maintaining mushroom cultivation



The design shown is a community camp that operates as a cooperative production and living environment centered on mycelium cultivation. It uses modern factory based mycelium production along with traditional log cultivation. Chickens are integrated into the shiitake farms to control pests, while residents collectively manage housing, cultivation, and infrastructure as a shared system.



Nameko Mushroom Factory Representation

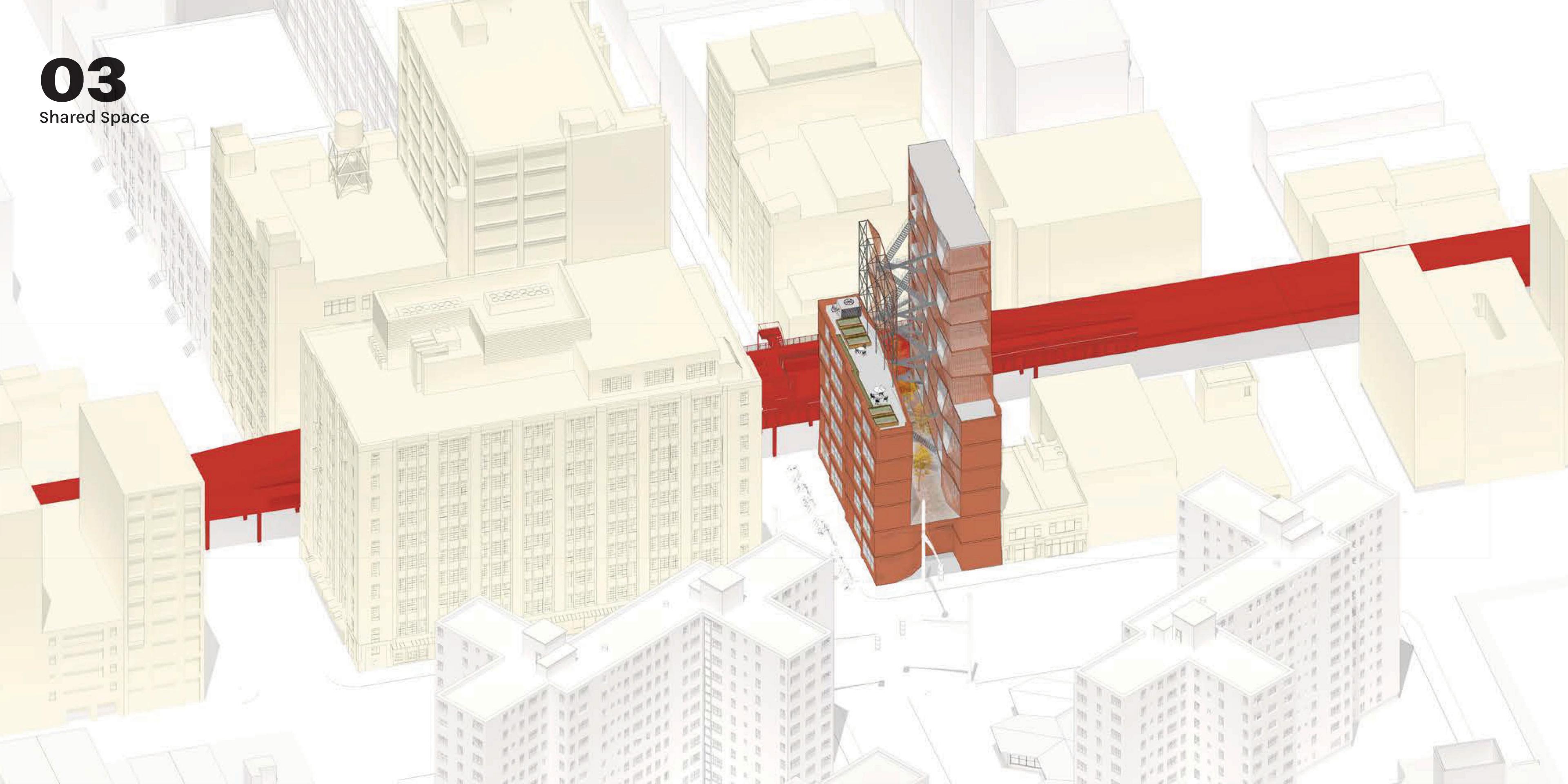


Traditional Shiitake Cultivation Representation

The design of the camps is based on research of traditional shiitake cultivation and modern cultivation of Nameko mushrooms.

03

Shared Space



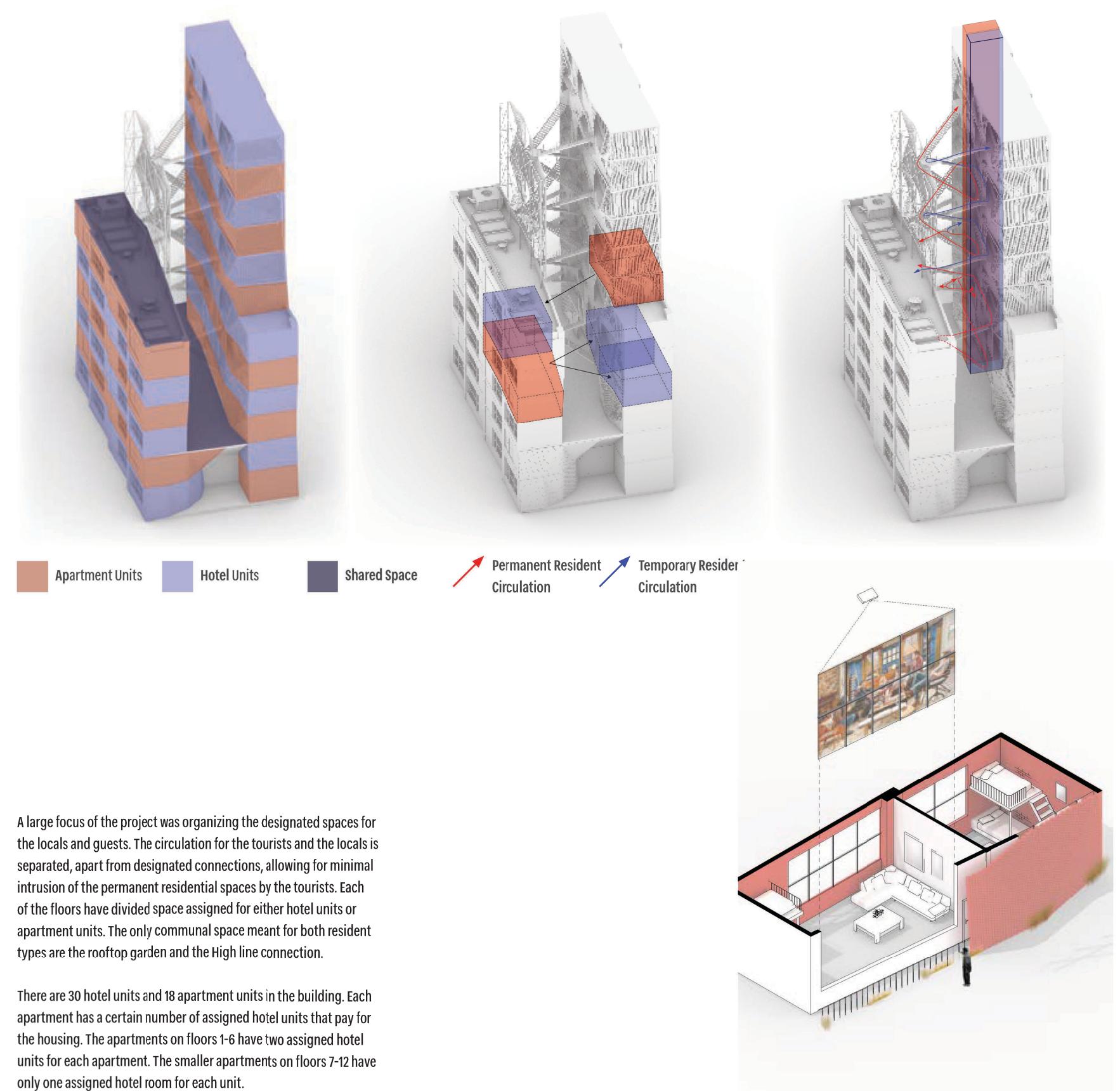
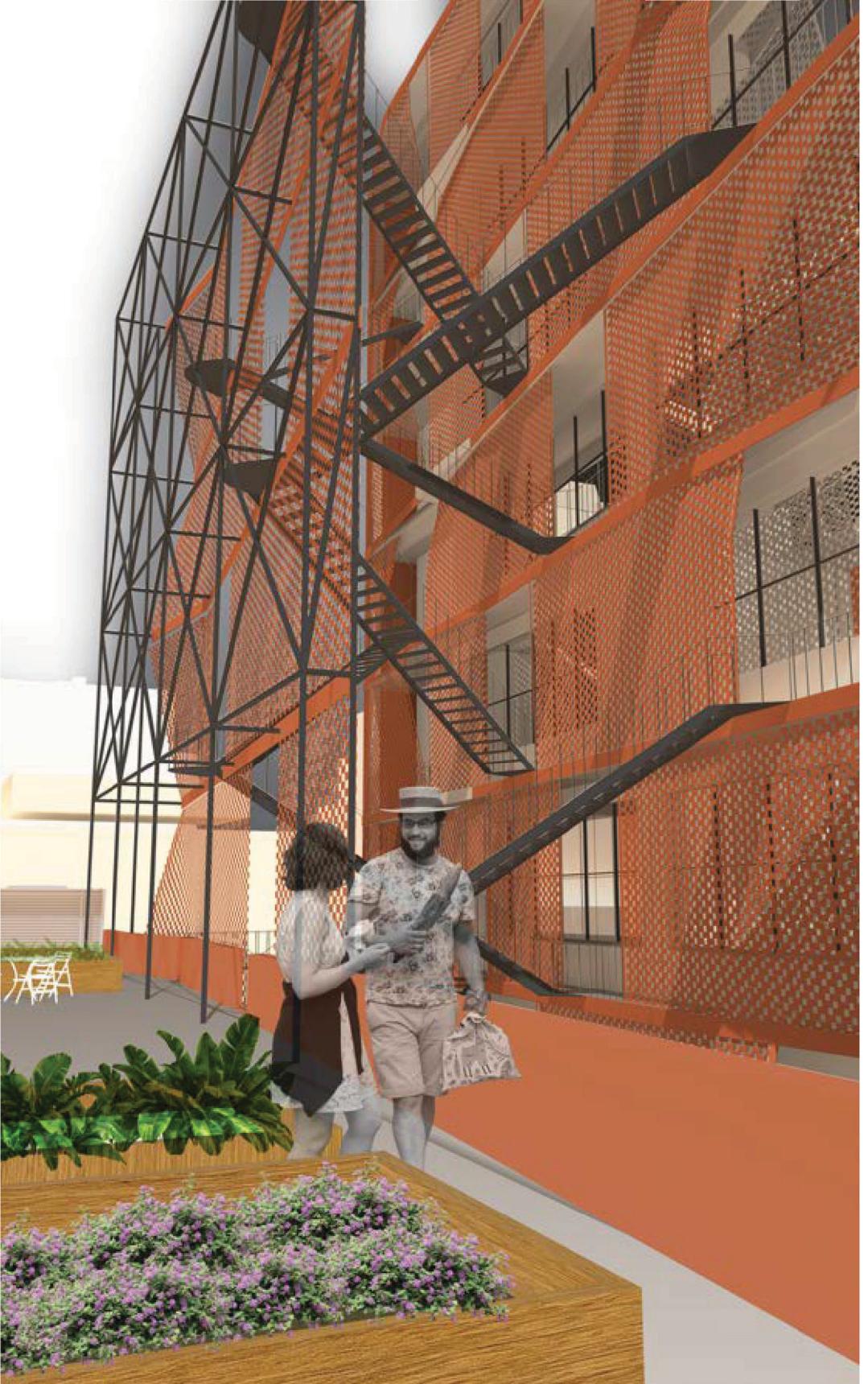
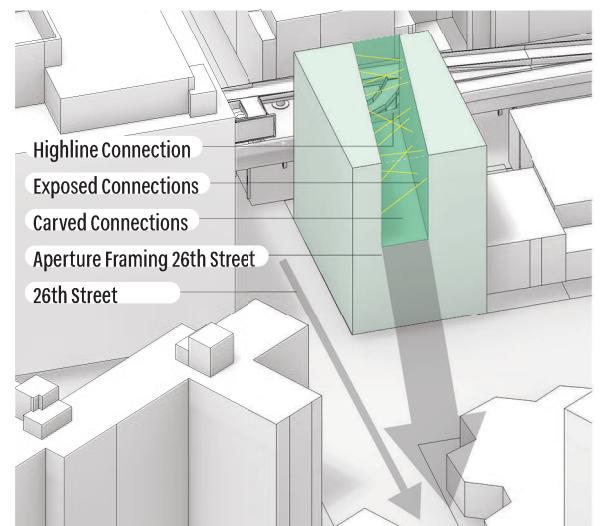
Shared Space

Site / West Chelsea, New York City
Instructor / Mark Stanley
Third year studio / Fall 2024

Within this building, both temporary and permanent residents are housed. The project allows for affordable housing for locals, funded through the hotel units for tourists. Oftentimes, tourism in New York City can cause problems for locals, such as displacing residents and raising rent prices. This hotel takes advantage of this unfortunate reality by turning the antagonist into a catalyst for supporting residents.

The project is connected to the High line, with an alleyway moment between the two towers, designed to attract pedestrians into the courtyard space. This courtyard space captures the spirit of New York through stairs resembling New York fire-stairs, screened brick, allowing visibility of the scenes of local life inside, and an aperture framing a view down 26th street. This environment is curated in order to attract visitors who want an 'authentic' traveling experience, living like a resident.

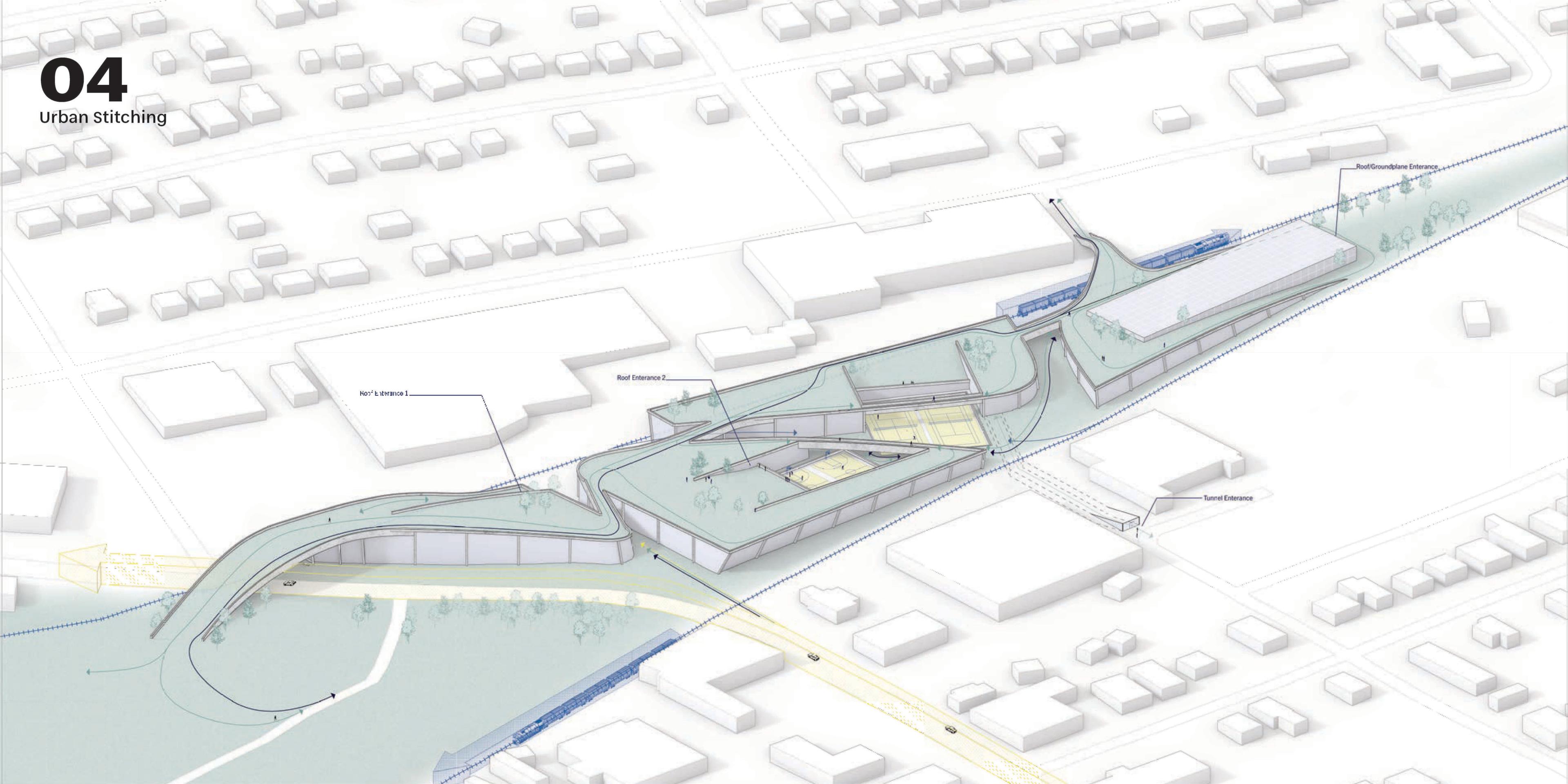
The building's windows facing the high line connection feature video projections that enhance the exterior perception of the interior environments of the rooms. These panels display a curated series of scenes depicting life in a New York- both as it is and as it is often idealized. The scenes portray everyday moments within an apartment, with everyday activities, adding interest through theatrics. The intention behind these panels is to immerse passersby on the high line in the essence of New York, creating an atmospheric experience that draws them in.





04

Urban Stitching



Urban Stitching

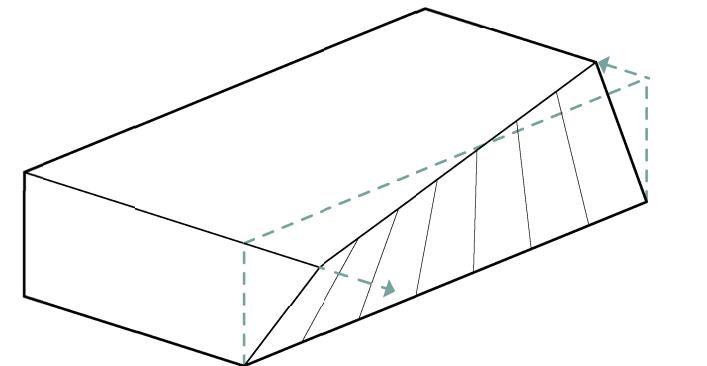
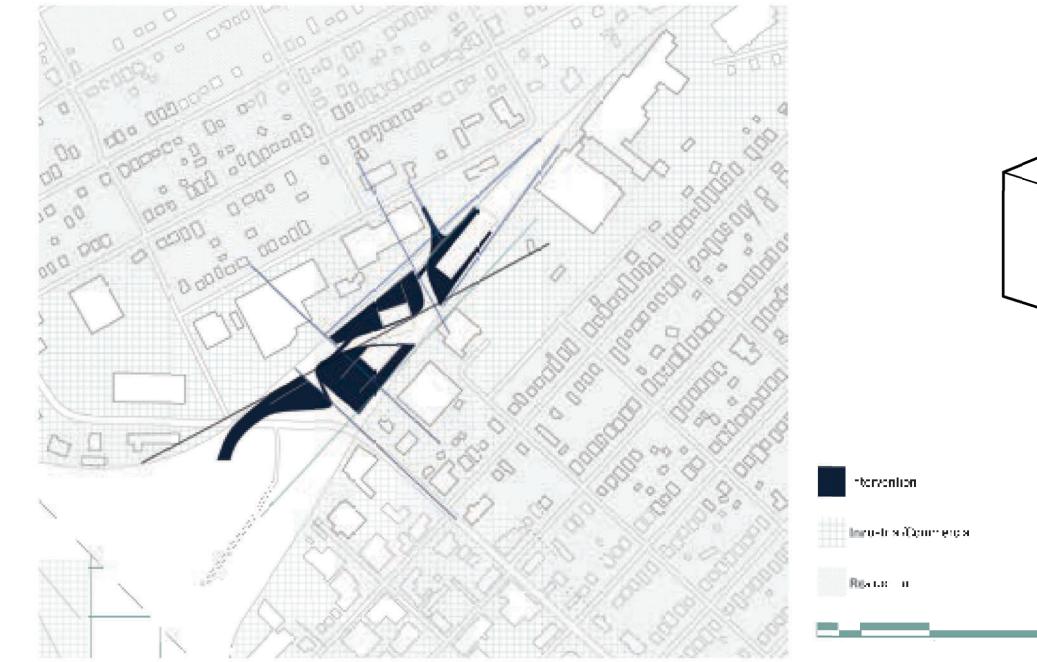
Site / Knoxville, Tennessee

Instructor / Micah Rutenberg

Second year studio / Spring 2024

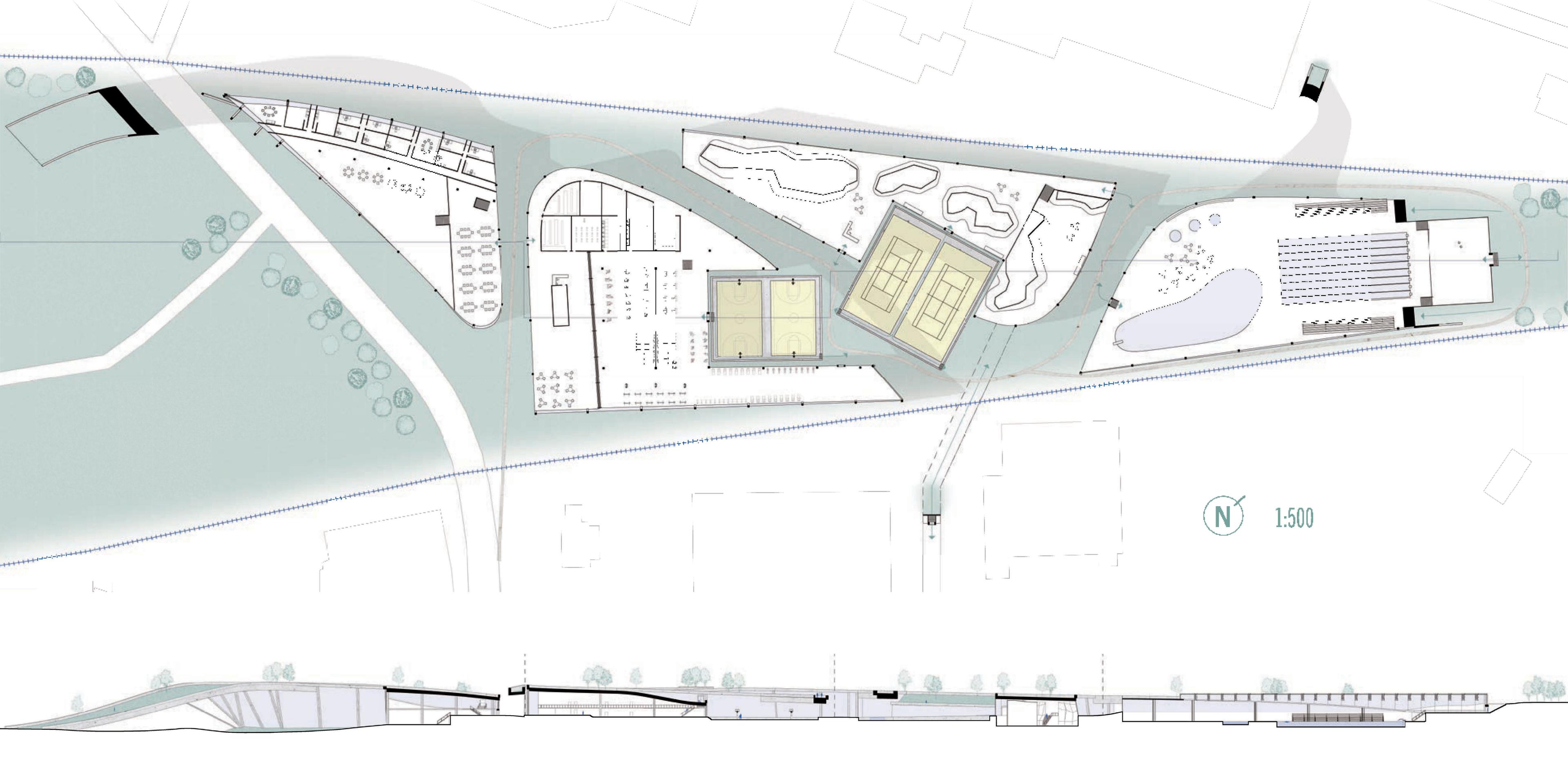
This four-building center for recreation lies in northern Knoxville, nestled in a post industrial area that divides two neighborhoods. The site of the project is unique due to its large surface area, seemingly fragmenting the two neighborhoods at each side due to its shape, along with the railroad bordering the site. The project makes an effort to stitch together these different areas to allow for community engagement between those living in the adjacent neighborhoods and working in the industrial areas.

The project has separate structures holding an event space, a fitness center, a rock climbing gym, and a pool. Each of the buildings have connected green roofs that are accessible from the ground at 3 separate points, along with access from the interior for 2 of the 3 buildings, and are accessible to both pedestrians and cyclists. For access from outside the site, there are three separate points that span over the railroad on the north, over the road to the southwest, and under the railroad to the southeast.



The design for the project's footprint was created to be referential to the surrounding area. Each edge of the structure runs parallel to one of the surrounding streets. The gaps between the buildings are placed to guide one's eye into the site, along the railroads and the intersecting road.





05

Playscapes

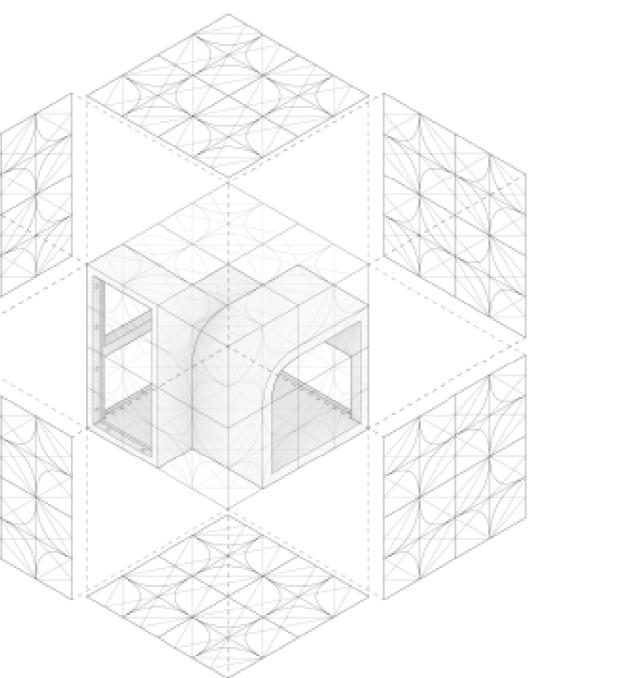


Playscapes

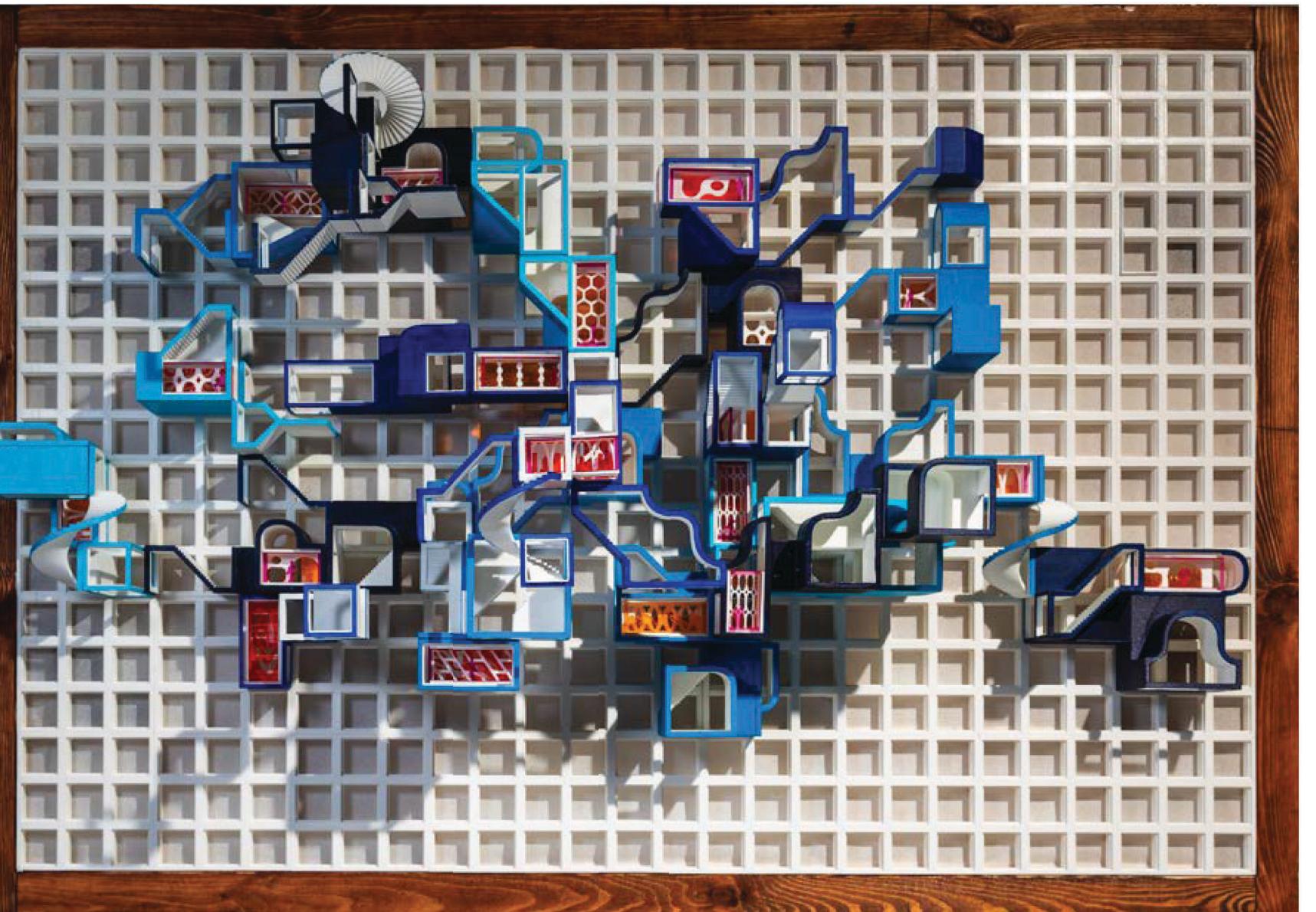
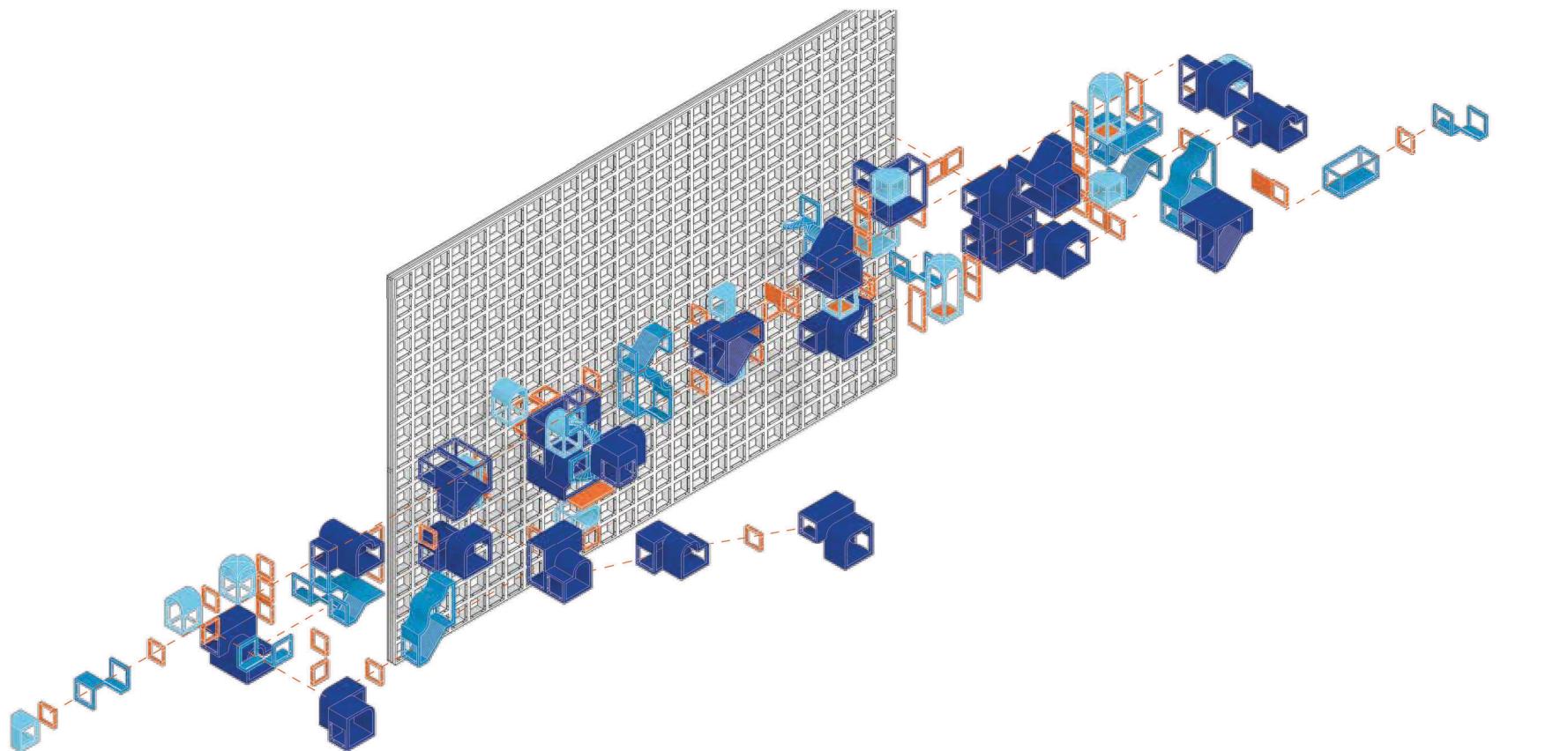
Instructor / Richard Allen-Foster
Third Year Studio / Spring 2025
Collaborators / All Studio Members

Playscapes is a project centered around systems thinking and collaboration. The objective was to design a game that generates architectural structures through modular components. These pieces are based on a 3-dimensional grid to allow connections across any part of the board while maintaining a consistent design language. Players construct structures through 7 different types of connector pieces.

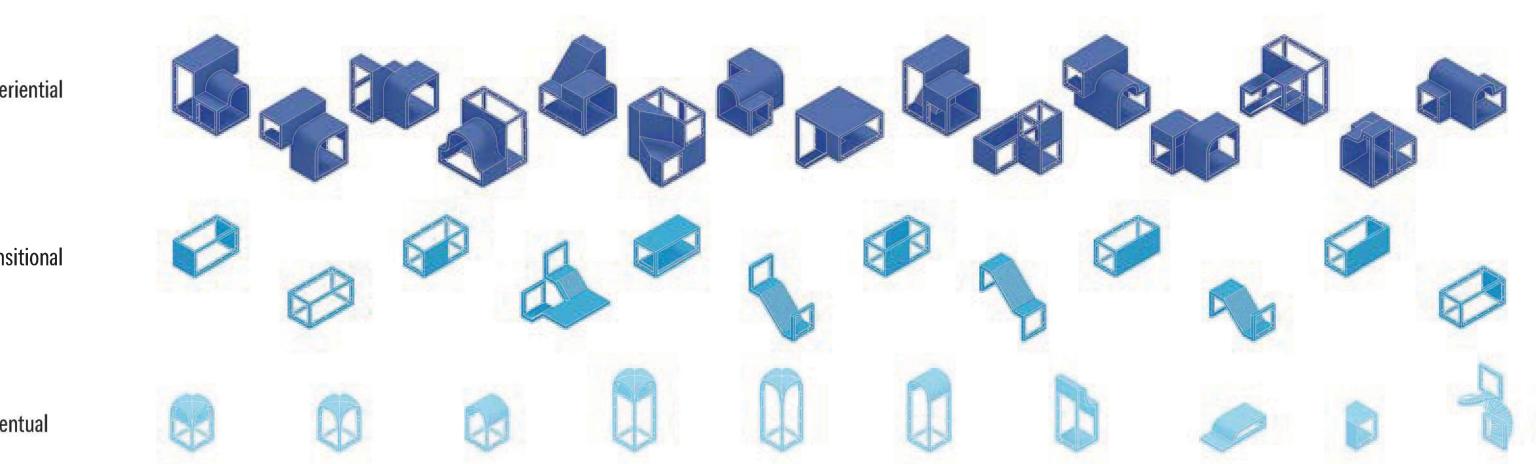
The development of the game followed an iterative design process, with pieces and connections prototyped through 3D printing and refined through think-tank style discussions and collective testing within the studio.



Grid organization



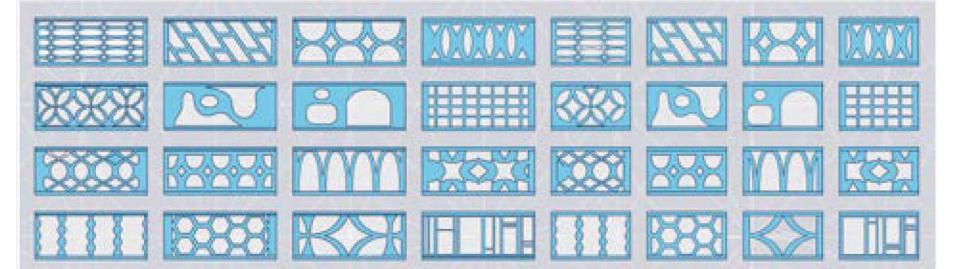
Played-Through Game



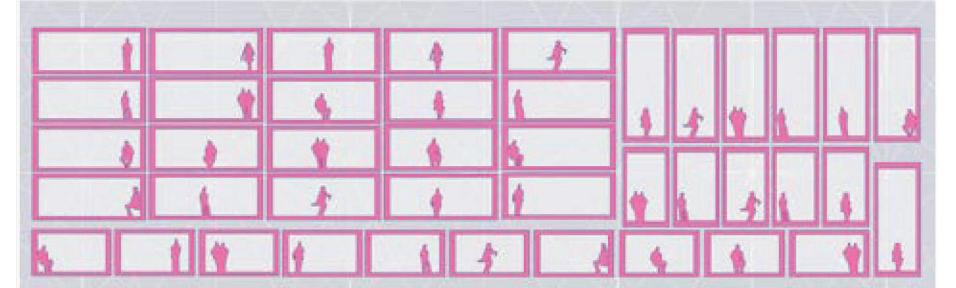
The gameplay was designed to have players to create structures in response to drawing prompts on cards. These prompts allow players to create distinct architectural conditions through play. The players make sectional scenes, composed through sliding components that allow control over spatial imagery. Through the layering of these elements, sectional compositions enrich the depth and narrative of the structure.



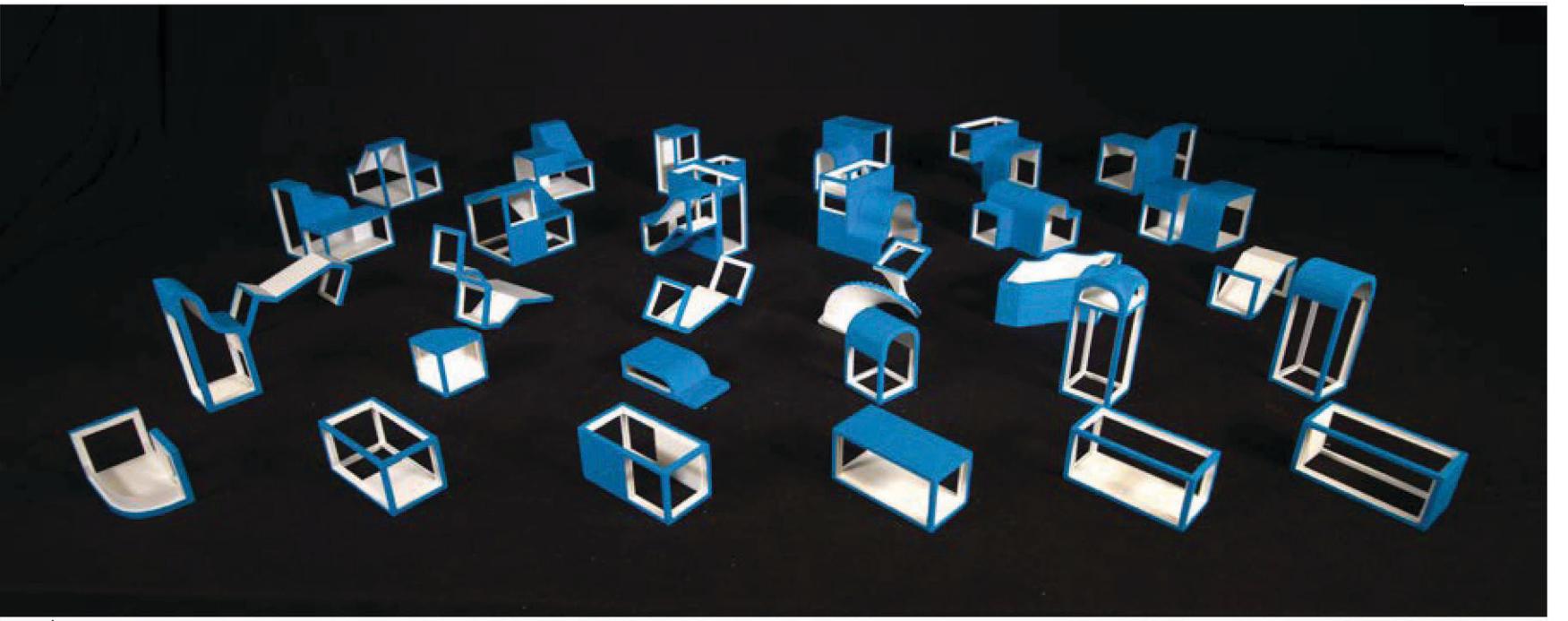
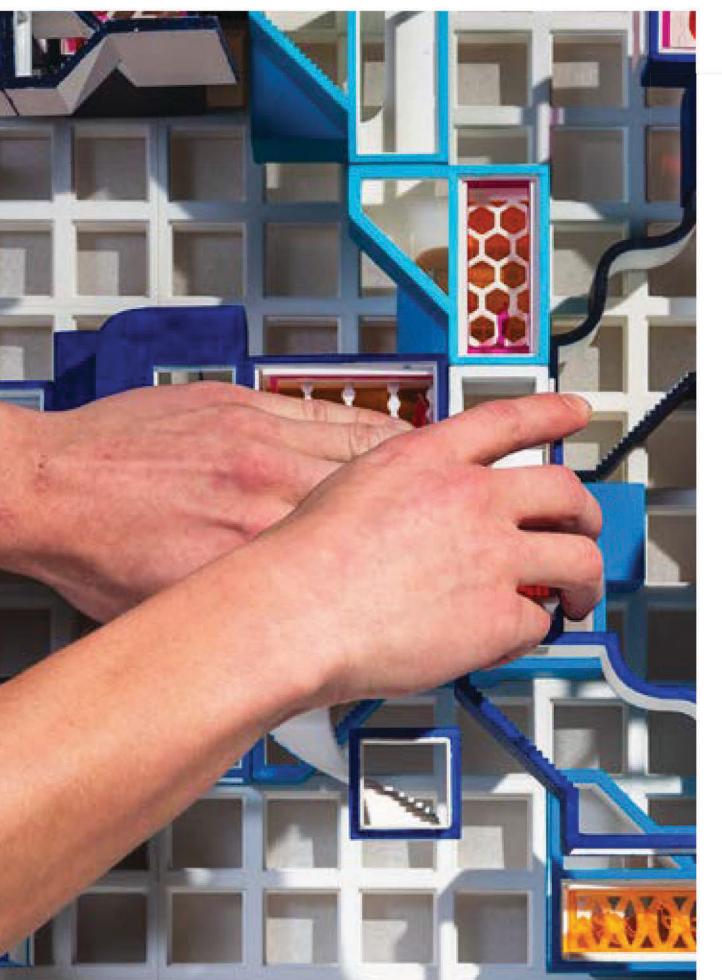
Scene Background



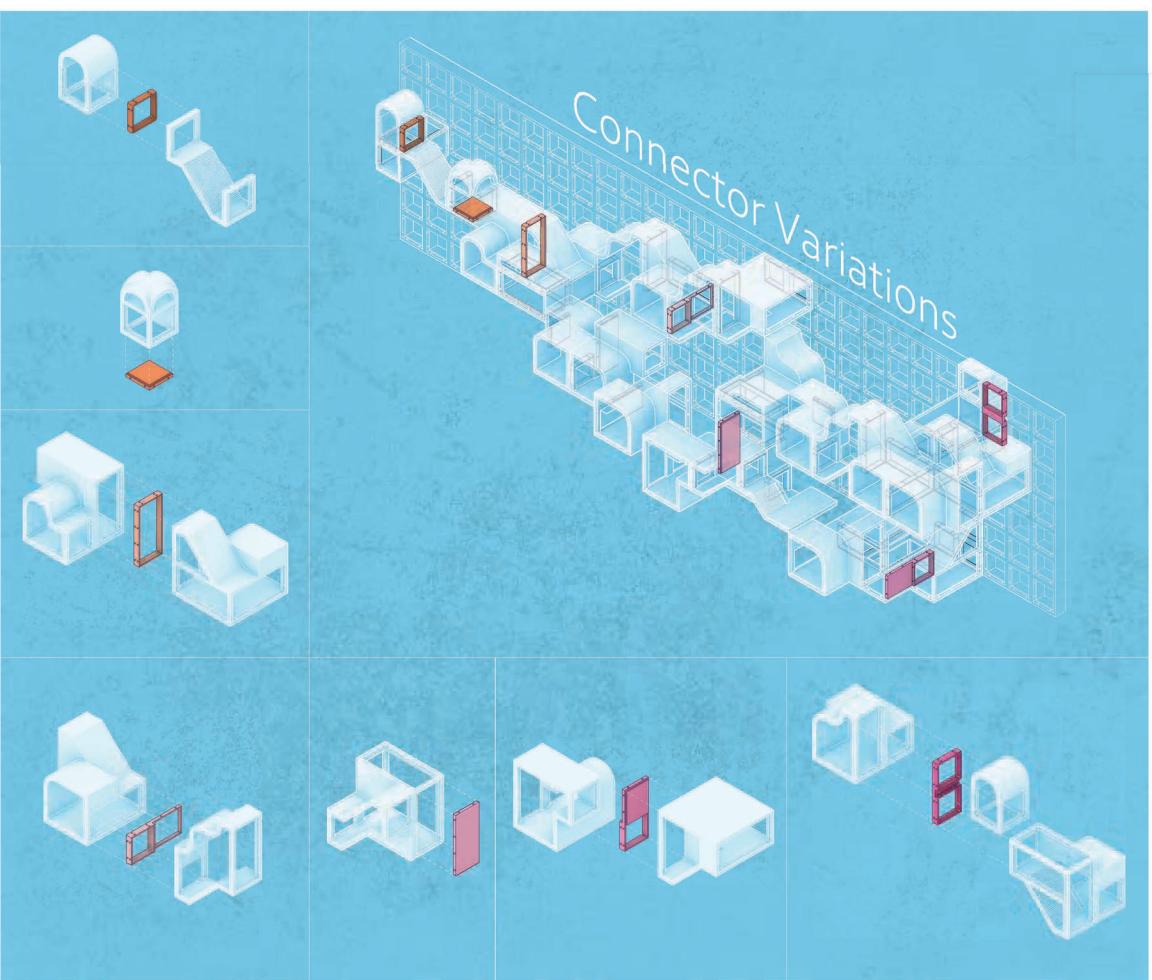
Scene Foreground



Scene character



Game Pieces



The game is designed for four players. On each turn, players roll dice to determine which cards they draw and which pieces they may use. Players earn points by completing structures that respond to the given prompts. Each completed structure is added to the board, contributing to a growing collective composition. When a player reaches the maximum point threshold and wins the game, the result is a collaboratively constructed architectural system shaped by four distinct interpretations of architecture.