



# Jeffrey Li, LEED AP BD+C

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Driven architecture licensure candidate who is passionate about sustainable transportation design. Proficient in architectural drawings and environmental analysis. Seeking opportunities to contribute to transportation and infrastructural projects in all stages.

## EDUCATION

**Carnegie Mellon University, Pittsburgh, Pennsylvania**

May 2025

Bachelor of Architecture, Minor in Human Computer Interaction, GPA: 3.84/4.00

Courses: Design Studio, Environmental Systems, Materials & Assembly, Structures & Statics

**École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland**

Sep 2024 - Dec 2024

Courses: Urban Landscape Studio, Design in the Circular Economy, Urban Green Spaces

## EXPERIENCE

**Fausto Cortese Architects, Student Intern - Toronto, Canada**

Jun 2023 - Aug 2023

- Drafted permit drawing sets for residential and industrial projects (20 000 sqft)
- Created renderings for client presentation and review using Enscape and Photoshop
- Attended site visits for client consultations
- Organized paperwork and documentation for permit set submission

**LMS Engineering, Student Intern - Toronto, Canada**

Jun 2022 - Aug 2022

- Drafted structural drawing sets for permit submission using AutoCAD
- Revised structural details and sections for new and existing industrial buildings
- Attended site visits for site inspections and client consultations

**Studio JCI, Student Intern - Toronto, Canada**

Jun 2021 - Aug 2021

- Drafted full architectural drawing sets for single family home building permit submission
- Created 3d Sketchup models for quick design visualization
- Reviewed building code for residential limiting distance

**Teaching Assistant, Carnegie Mellon University - Pittsburgh, Pennsylvania**

Jan 2023 - Dec 2023

- Facilitated lab sessions to teach students technical workflows for building energy analysis
- Answered technical questions from students in class sessions
- Graded and provided feedback on student assignments

**Co-Head of Booth, Carnegie Mellon University Spring Carnival - Pittsburgh, Pennsylvania**

May 2022 - May 2023

- Coordinated the design-build process from a construction administration perspective for 20+ booths
- Evaluated and verified building plans for compliance with structural and safety standards
- Presented to university stakeholders and student groups

## SKILLS

3D Modeling: Revit, Rhino, Grasshopper, ArchiCAD, Enscape, Vray, Twinmotion

2D Drawing: AutoCAD, Adobe Creative Suite (Photoshop, Illustrator, InDesign), QGIS

Physical Modeling: Woodworking, casting, ceramics

Languages: English, Mandarin, French

## AWARDS

**LEED AP BD+C**

Aug 2024

**Payette Prize in Building Science**

Apr 2024

Student award from Carnegie Mellon University

Awarded for Building Systems Integration Project - McKinley Park Environmental Center

**Measuring and Monitoring Services Inc. Internship Fund**

Nov 2023

Student award from Carnegie Mellon University



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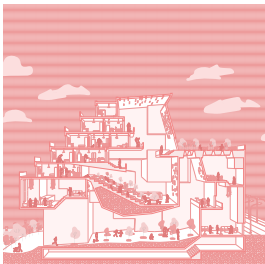
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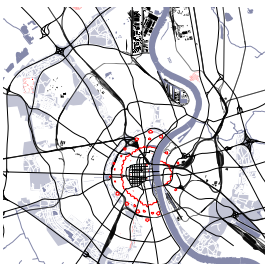
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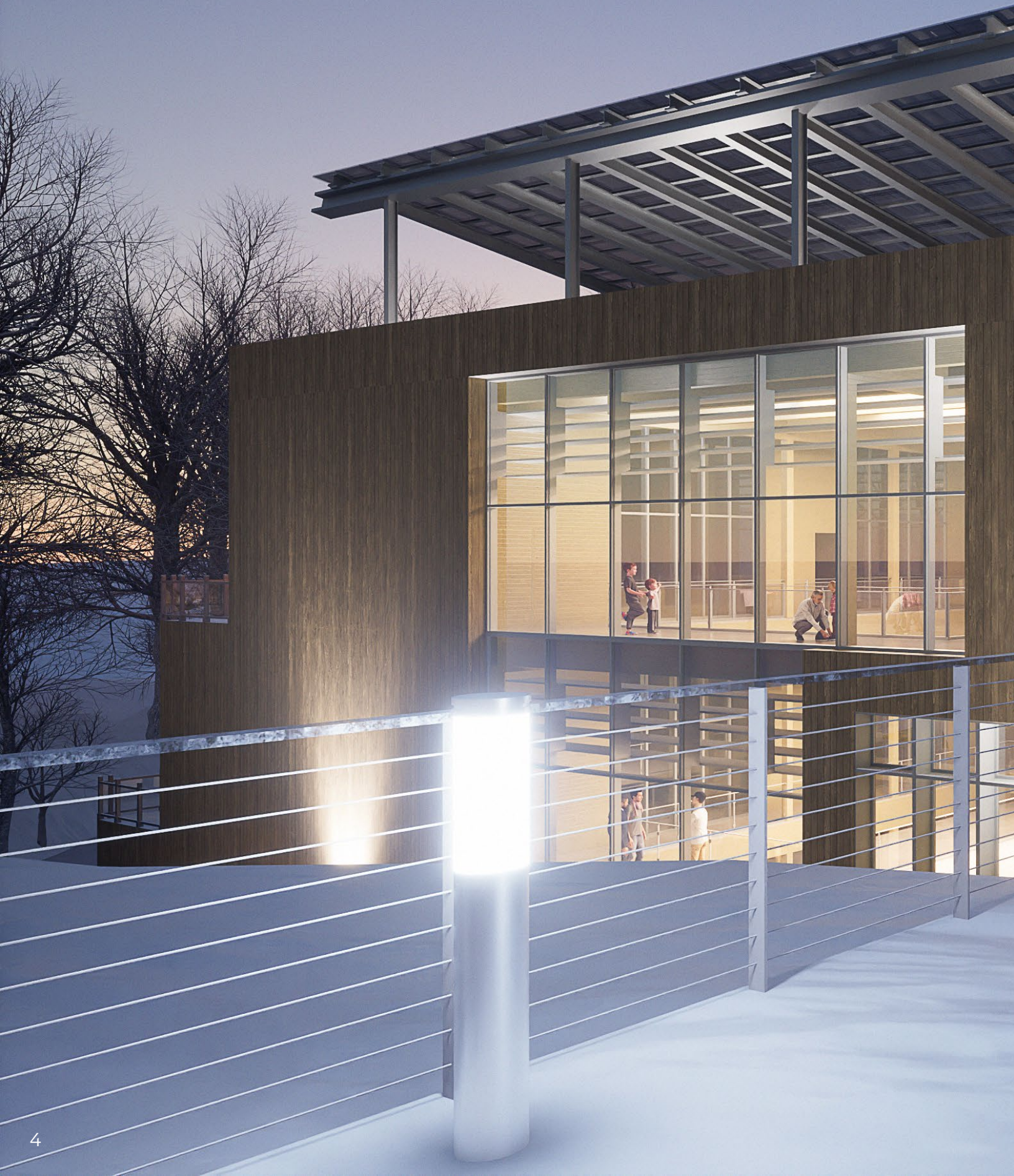
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Cartography  
Fall 2024

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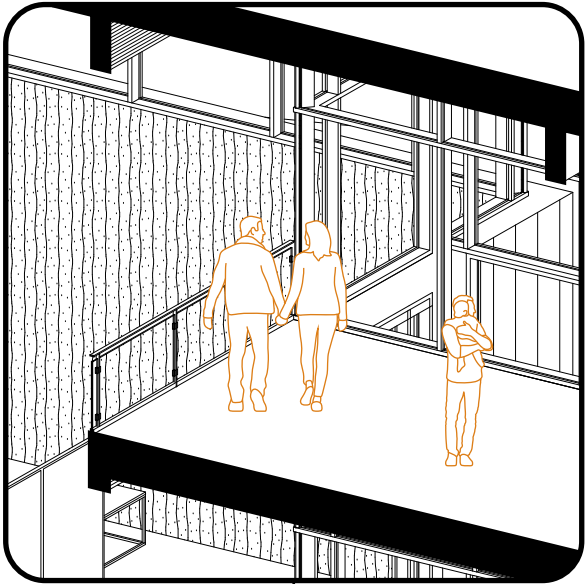
## McKinley Park Environmental Center

Fall 2023, with Carleigh Cusick, Alexia Tan

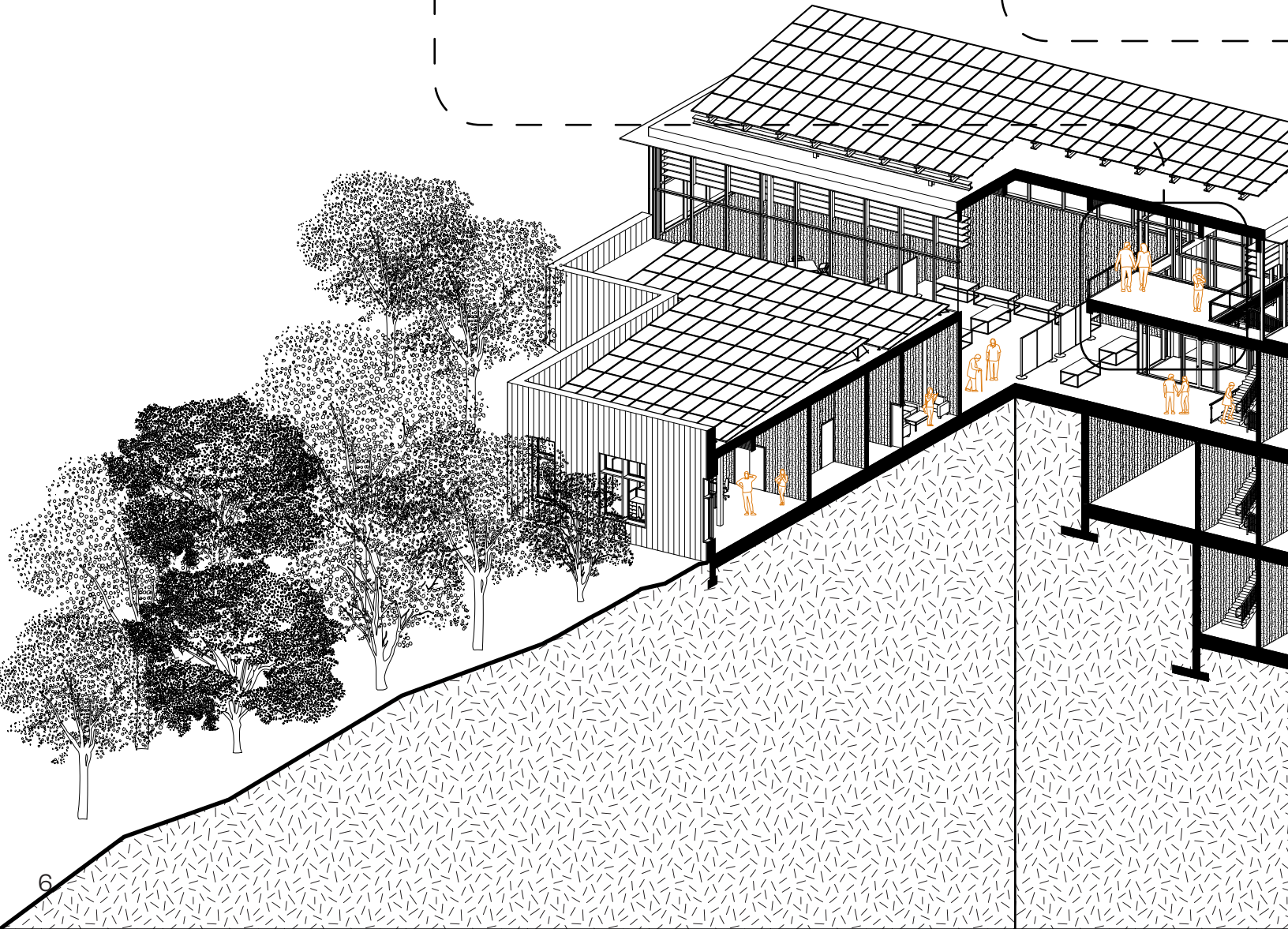
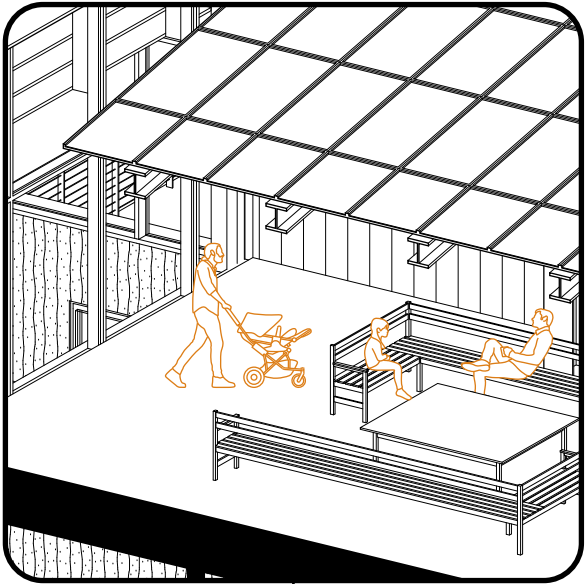
Situated on the steep slopes of Pittsburgh's Beltzhoover neighborhood, the McKinley Park Environmental Center is a place for the community to gather, learn, and celebrate. It acts as the starting point for the revitalization neighborhood, serving both visitors and locals. The environmental center acts as a gateway into the park, encouraging visitors to wander and discover nature.



Mezzanine

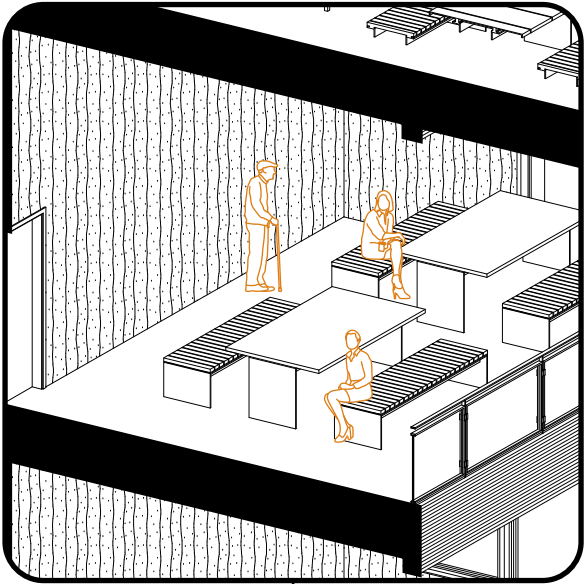


Rooftop Patio

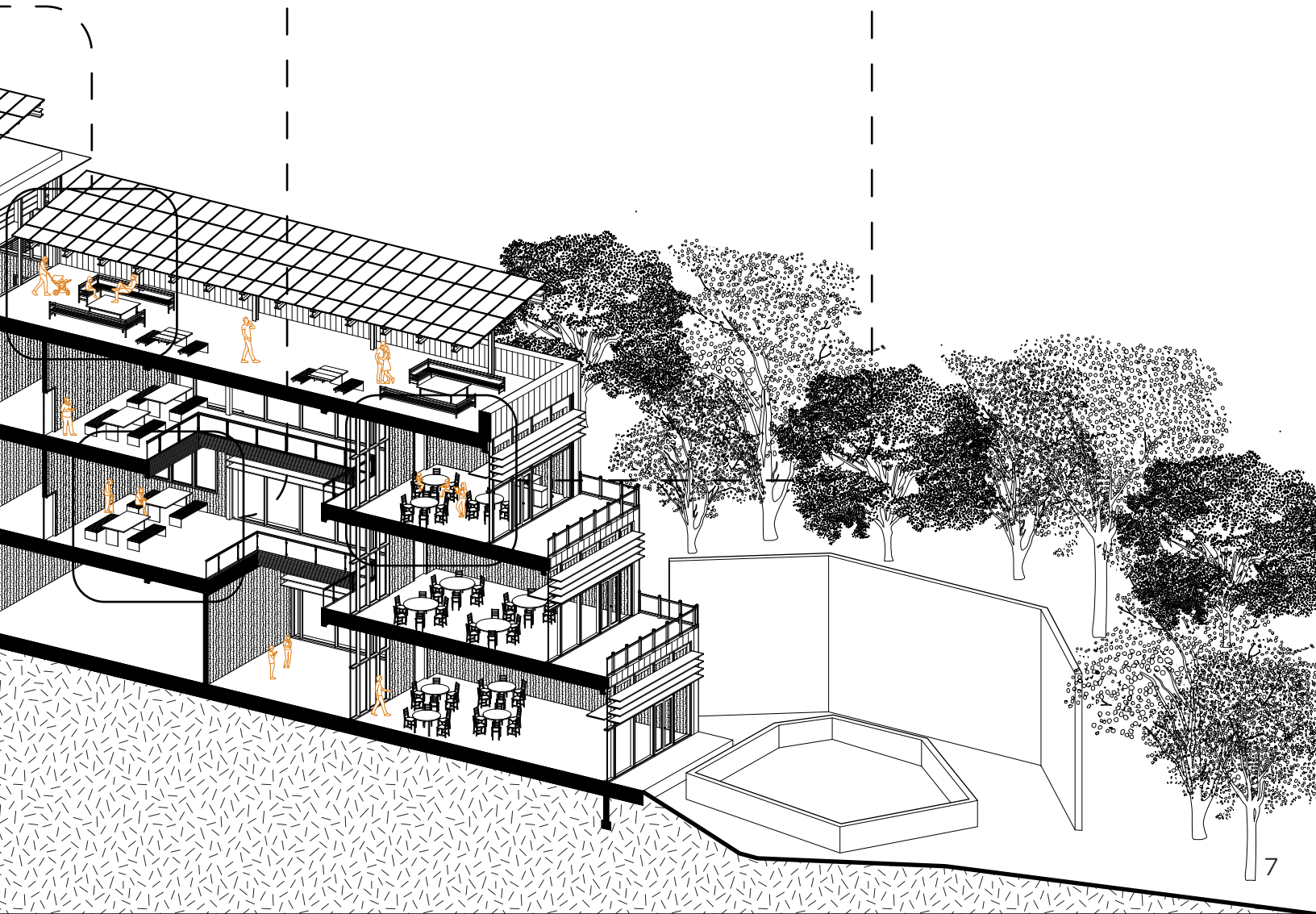
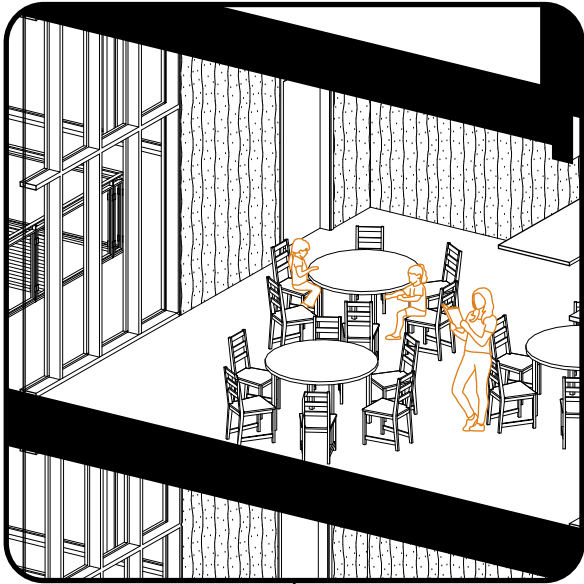




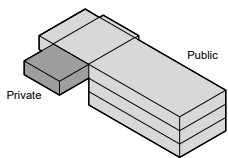
Atrium Living Space



Classroom

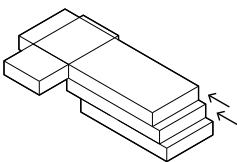






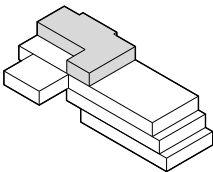
**Step 1: Overlapping Wings**

Public and private wings overlap at the entrance, close to the corner of the park



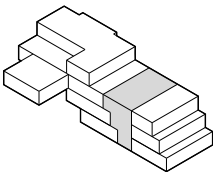
**Step 2: Stepped Massing**

Massing is stepped back to match the topography and create outdoor space



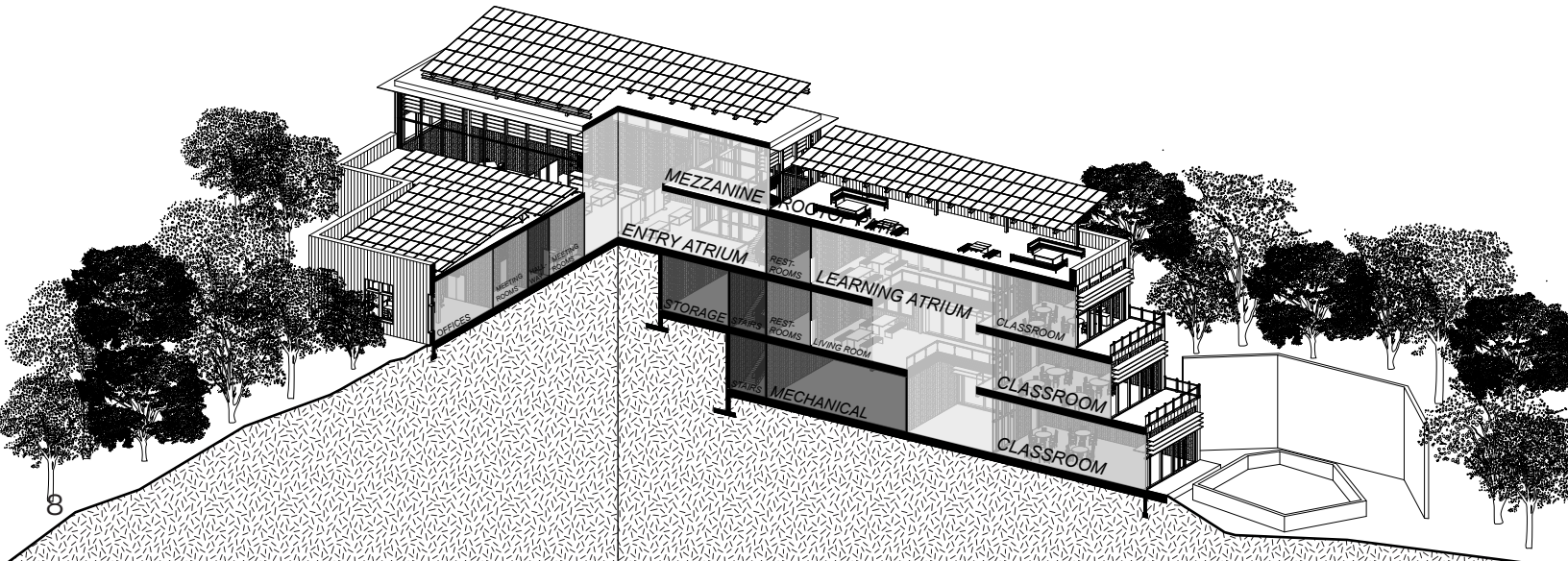
**Step 3: Extruded Entry Atrium**

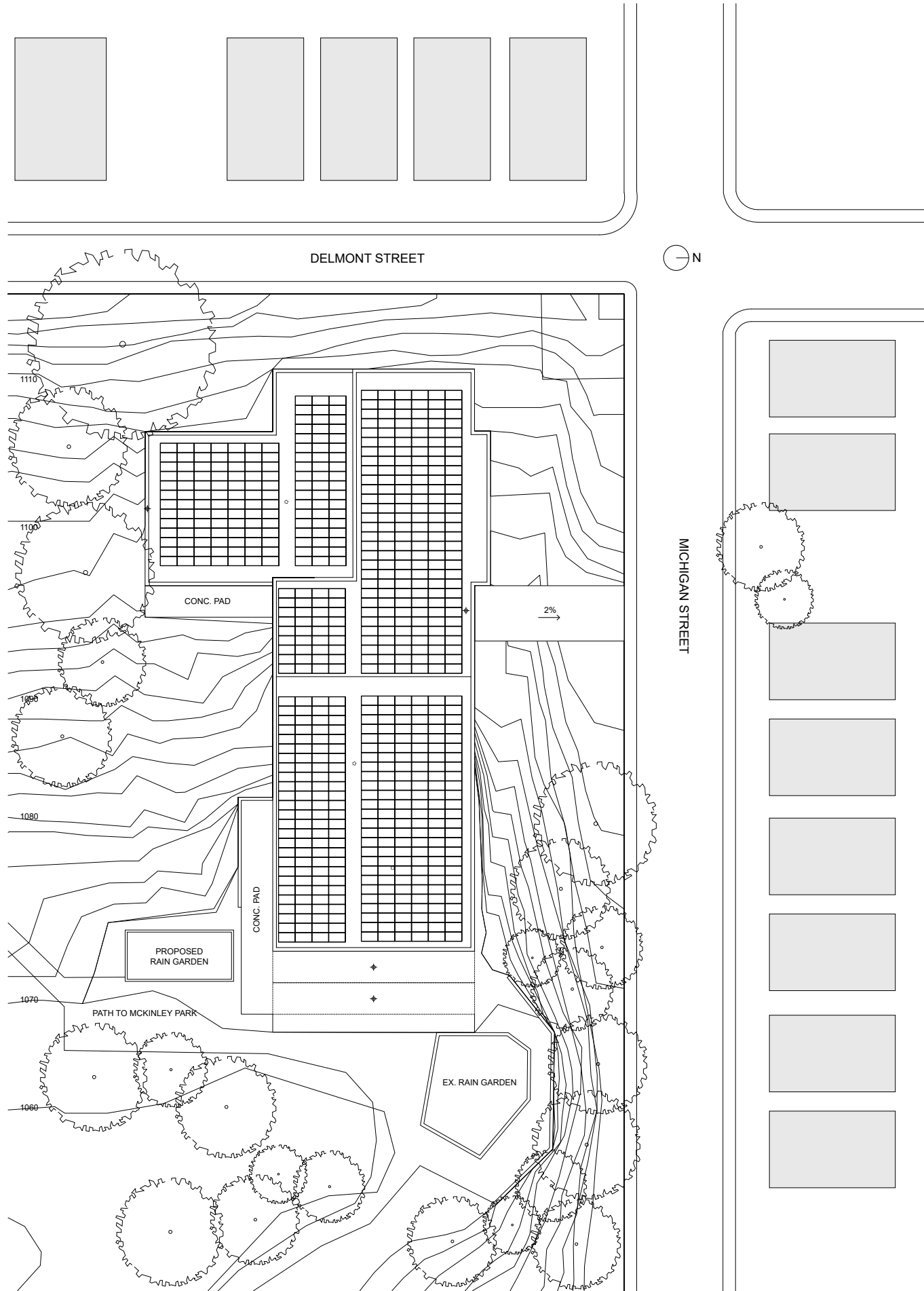
Space over the entry is raised to create a mezzanine and allow for daylighting



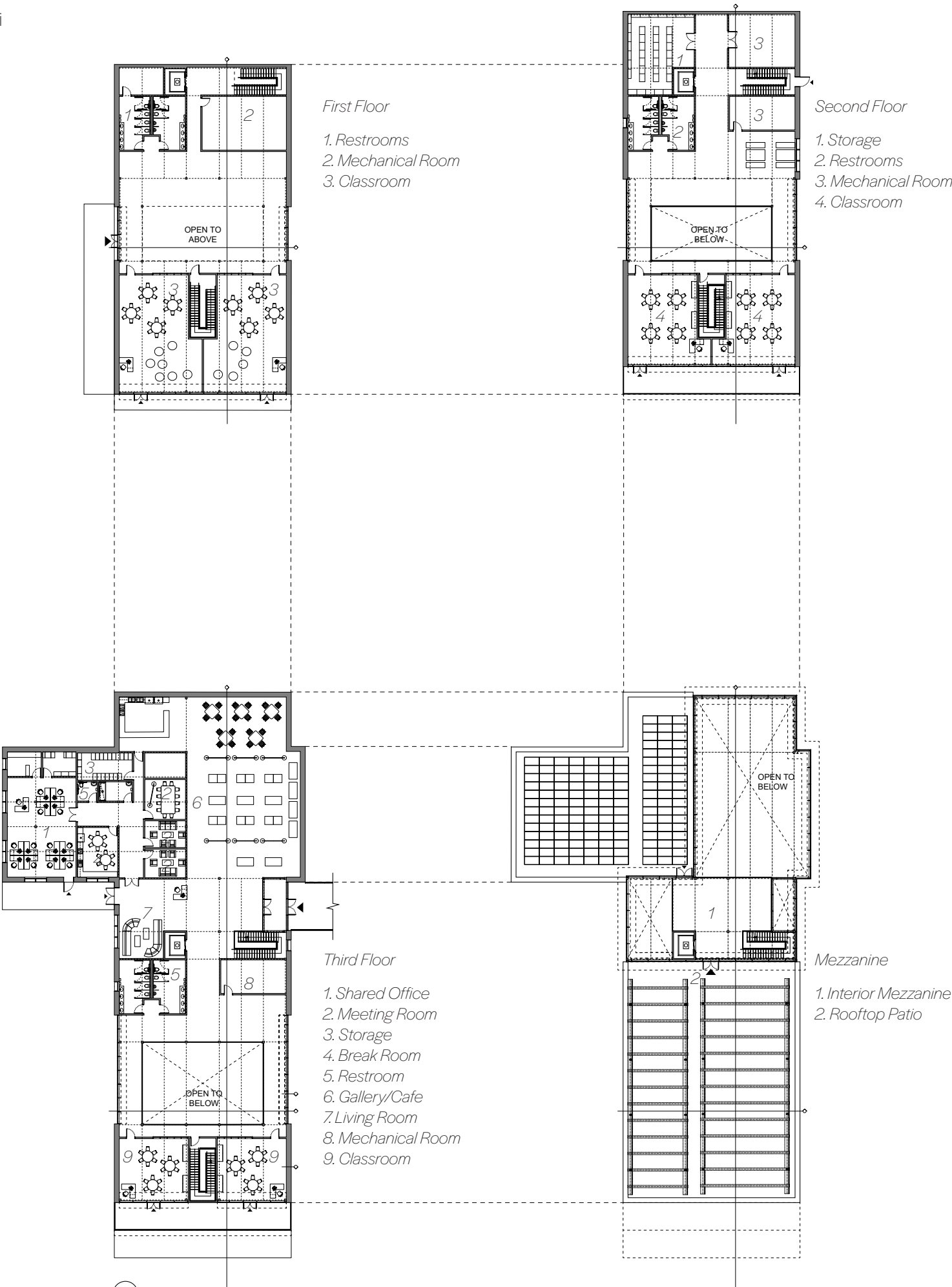
**Step 4: Learning Atrium**

Three story atrium is placed in front of the classroom spaces to emphasize education

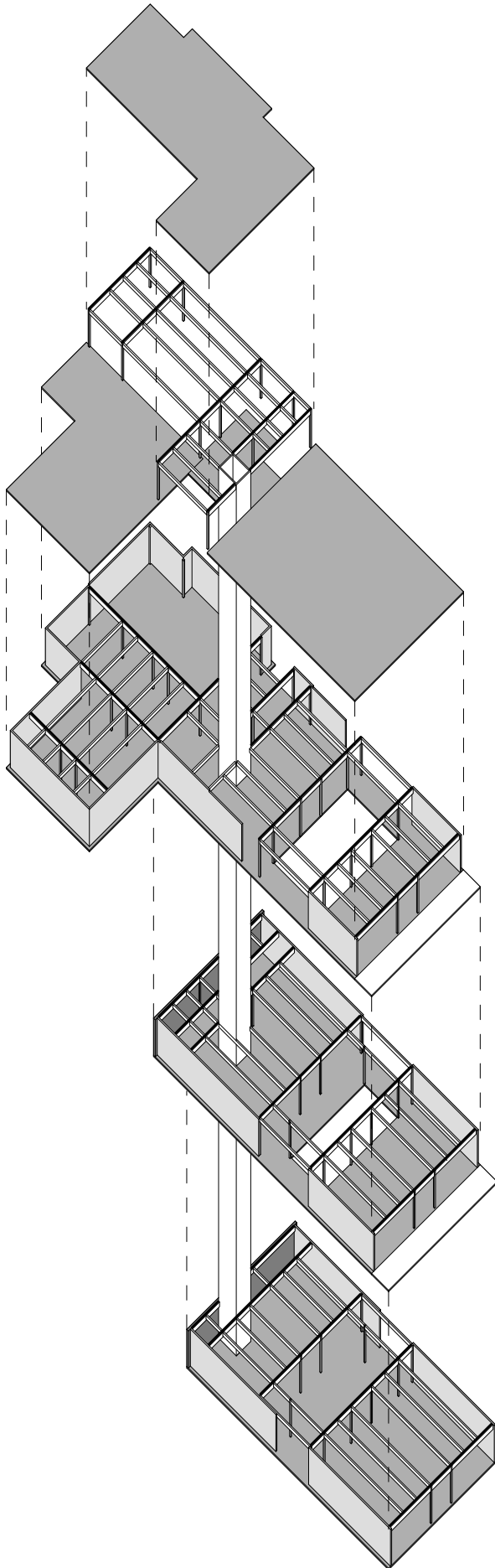












In response to the steep slope of the site and existing park elements, McKinley Park Environmental Center takes on an L-shaped configuration, creating a public and private wing. The building is sited to address the northwestern corner of the site, which is closest to nearby public transportation. In response to the steep slope of the site, the building is stepped outwards, to minimize site impact.

— 7" x 18" Glulam Girder

— 7" x 24" Glulam Girder

■ Poured Concrete Wall

■ 3-ply CLT Floor / Roof

■ 5-ply CLT Wall

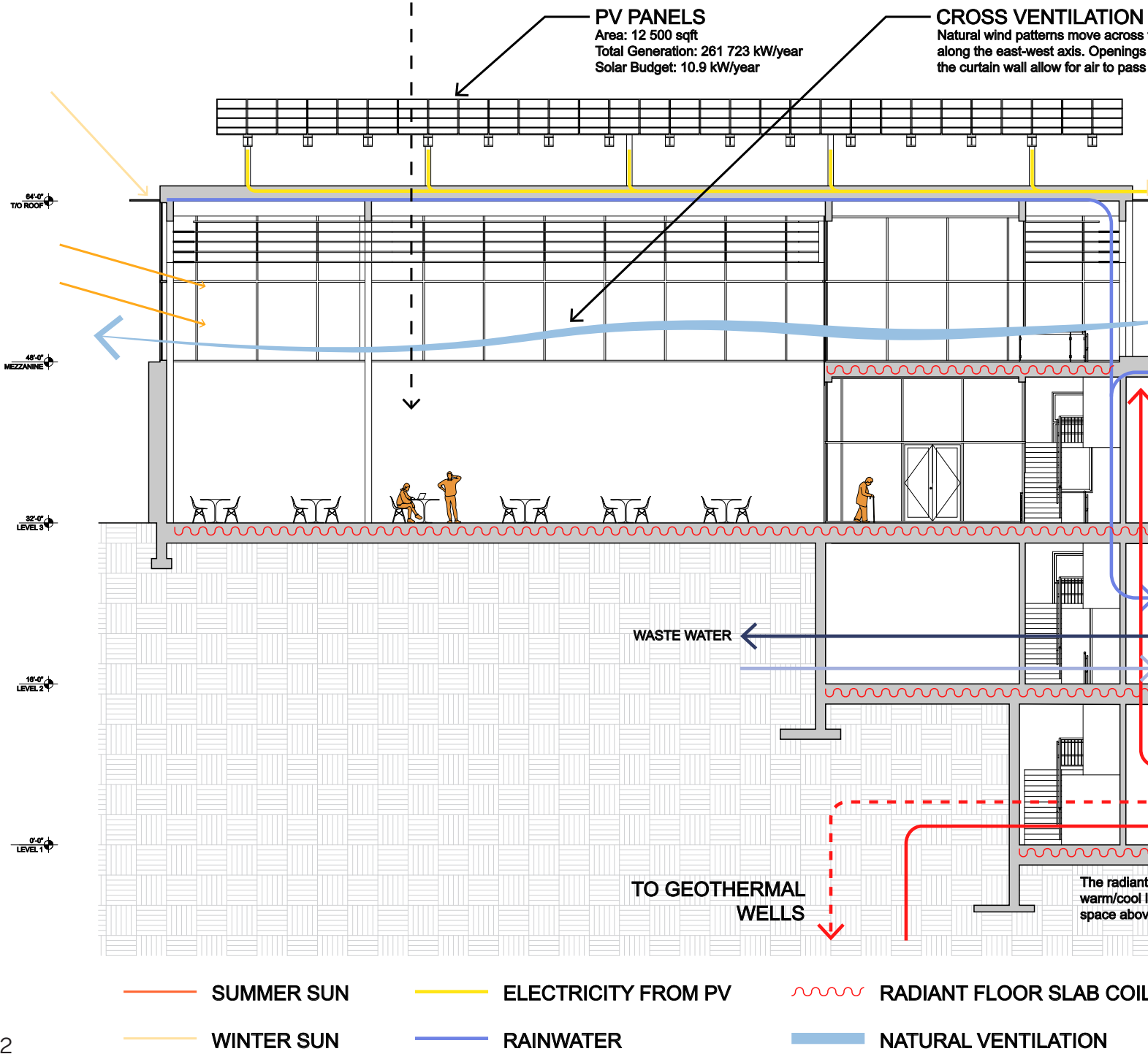
Entry Atrium



Learning Atrium



WEST (3 PM SUN)

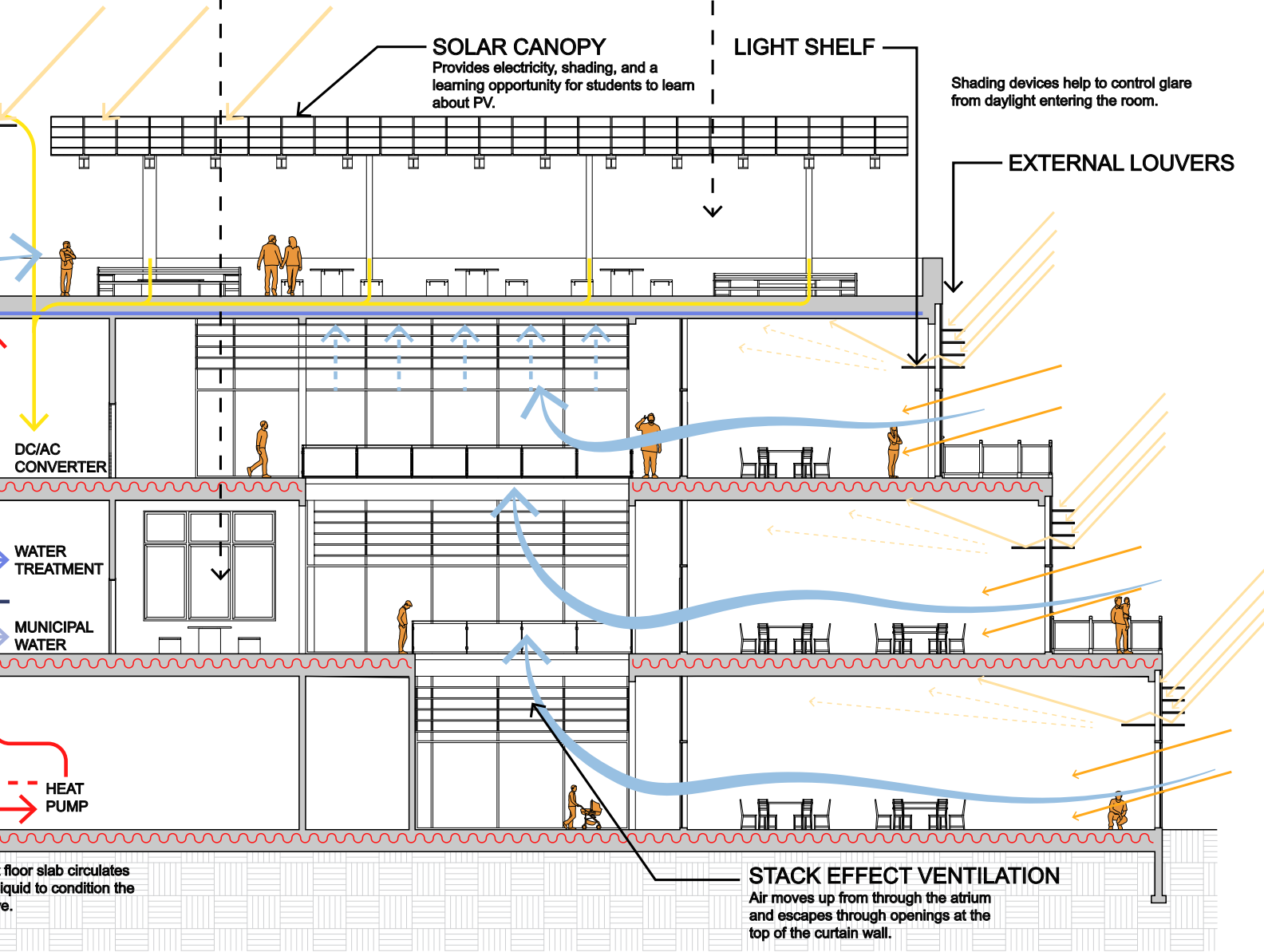


Rooftop Patio



EAST (9 AM SUN)

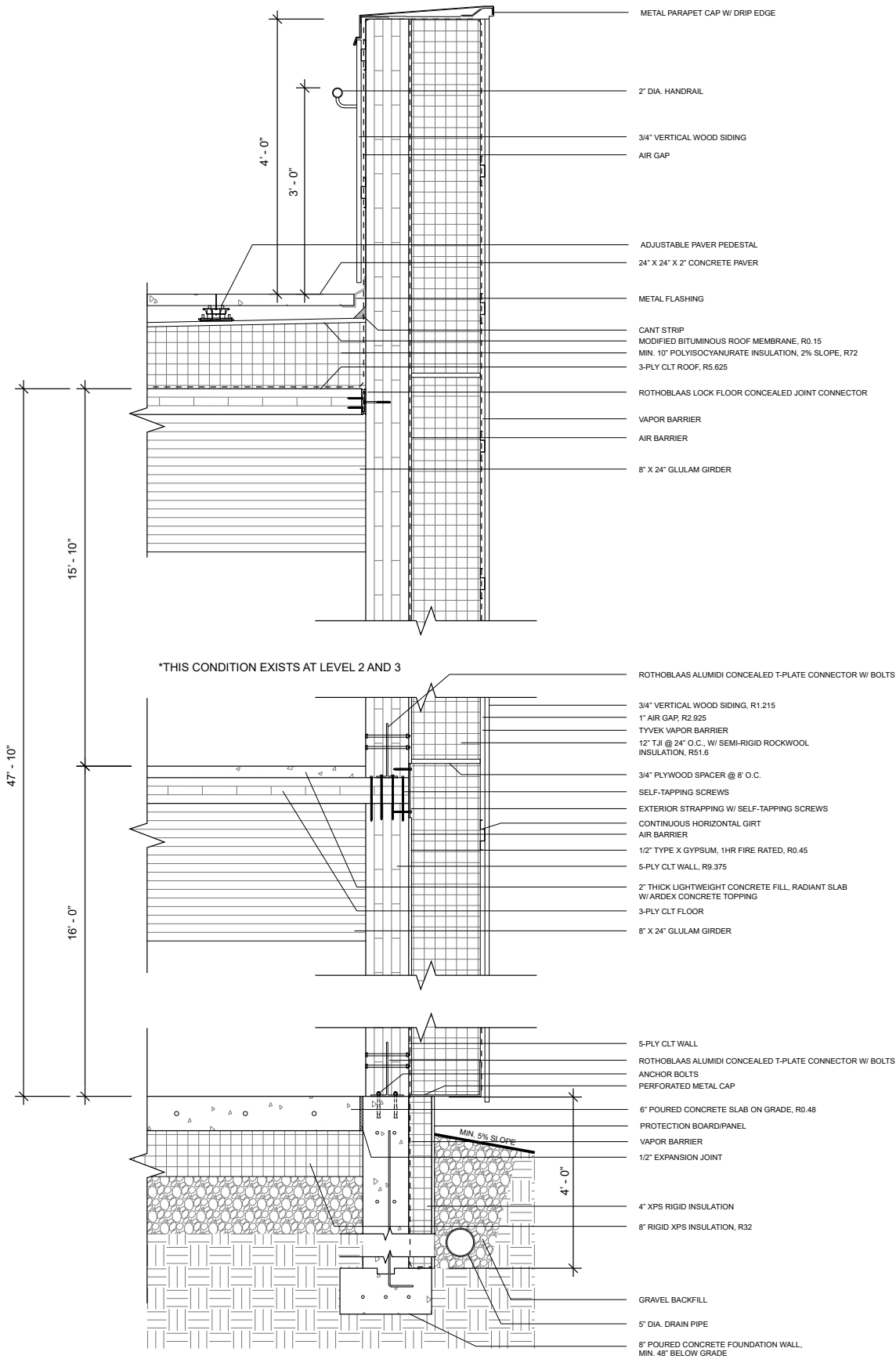
the site  
at the top of  
through.



TOTAL ROOF R-VALUE: 77.78

TOTAL WALL R-VALUE: 65.57

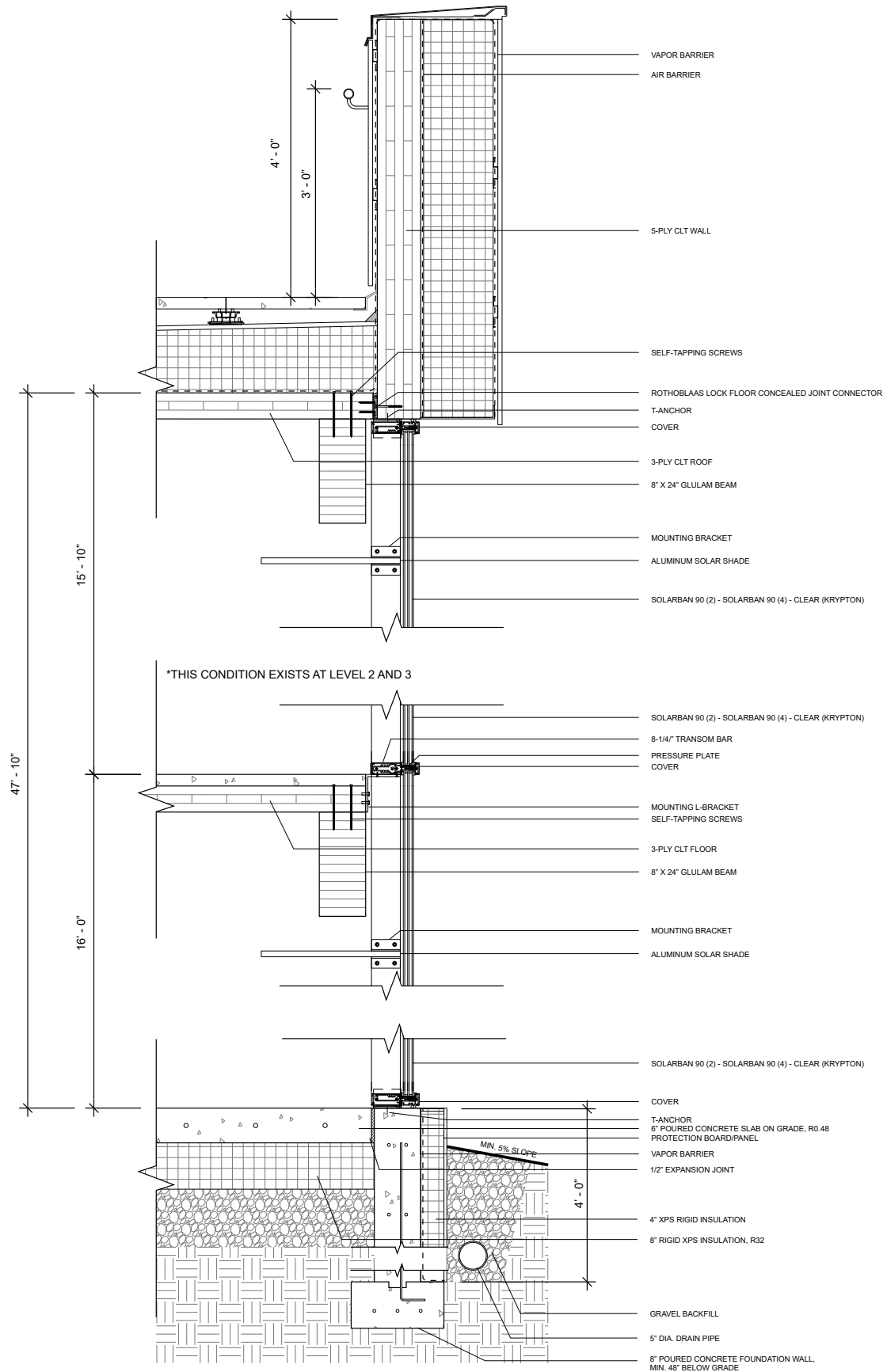
TOTAL FLOOR R-VALUE: 32.48



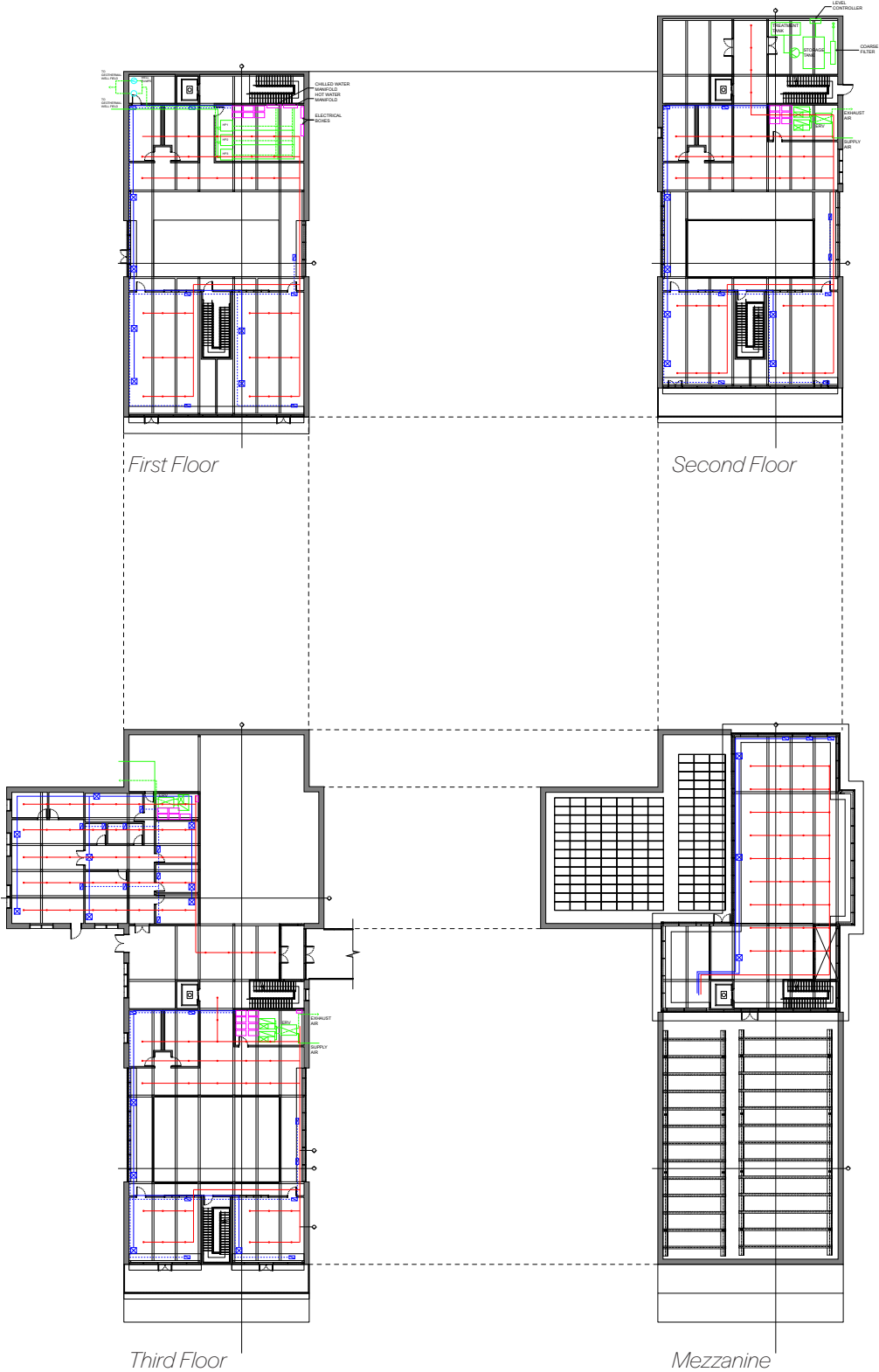
OPAQUE WALL ASSEMBLY



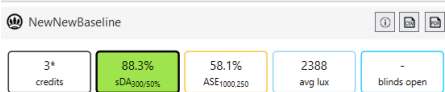
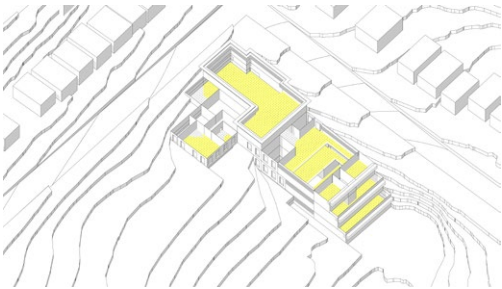
*Opaque Envelope Detail*



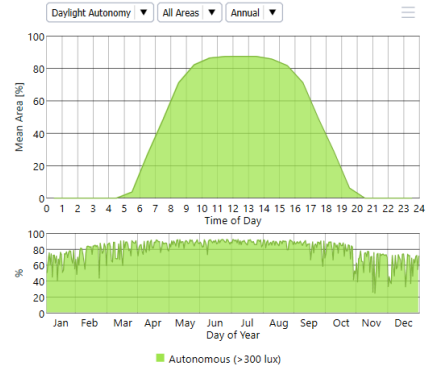
CURTAIN WALL ASSEMBLY



- Supply Air
- Supply Air
- Outside Air
- HP = Heat Pump
- Sprinkler Pipes

Return AirReturn AirExhaust AirChange Over ZoneSprinkler Head

\* ASE > 10% in one or more spaces. Glare control strategy must be explained.

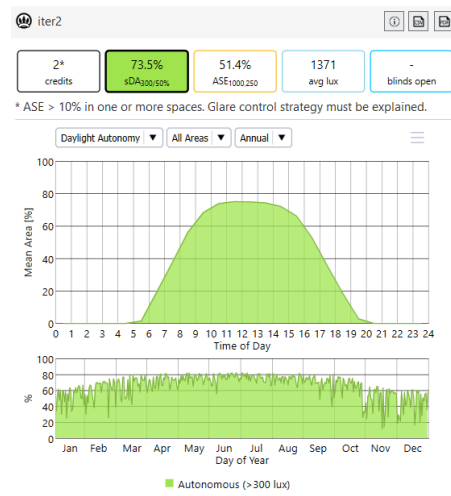
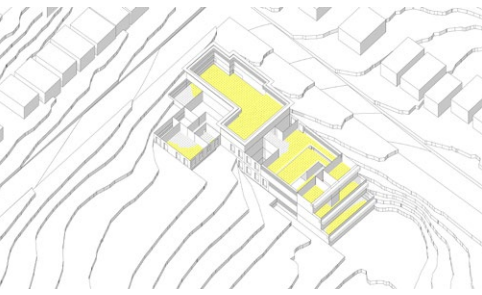


Baseline

Solarban 90 on Pacifica - Clear

Concrete floors

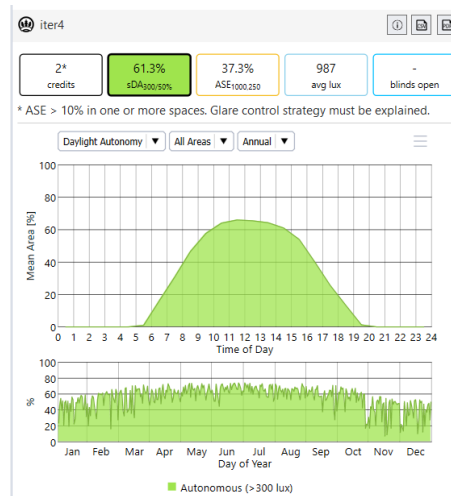
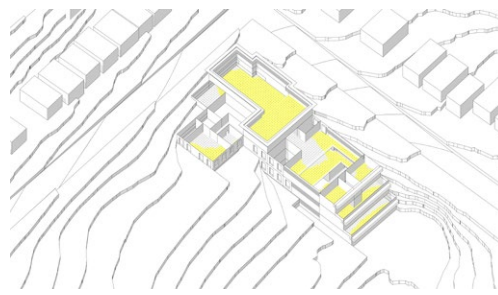
Generic wall finish



### Iteration 1

Switched glazing material to lower Rvis and Tvis

Added overhangs at a 30 degree angle over classroom windows facing east

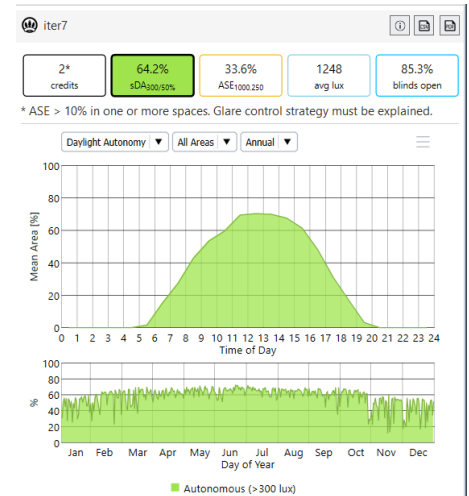
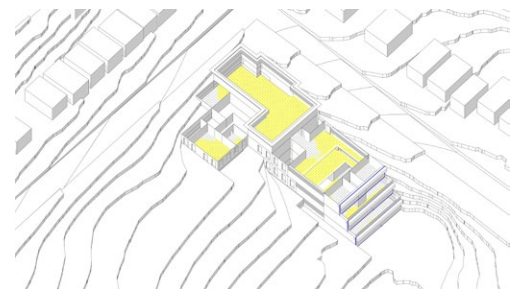


### Iteration 2

Added light shelves to all atrium spaces, spaced at 2' apart vertically, aluminum finish

Exterior overhang on all atriums

Added light shelves to classroom spaces



### Final

Switched glazing material back to initial material

Classroom glazing material to lower SHGC, lower Tvis

Switched wall finish to maple

Added manual shades to classrooms

Removed lowest light shelf in classrooms







## Upham's Corner Library

Spring 2023

Located in a suburb south of downtown Boston, the Upham's Corner Library is an inviting space that for everyone in the community. Its mass timber structure creates open community spaces that allow everyone to feel connected and at home. The unique structure helps to create large open spaces, but also create dynamic lighting conditions for all programs that the modern library is home to.

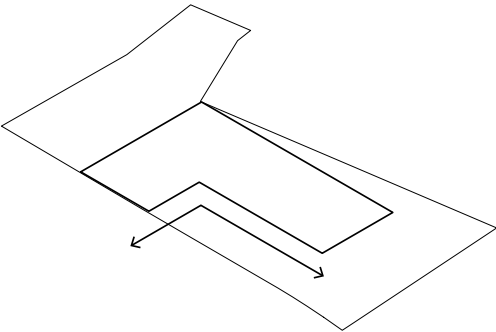




The form of the building is intended to pull visitors off from the edge of the street, guiding them to the entrance tucked in the corner. An additional entry provides access to community facing program spaces outside of normal library hours. There is a focus on providing community gathering spaces, which is achieved with a double height lobby and a grand stair with seating.

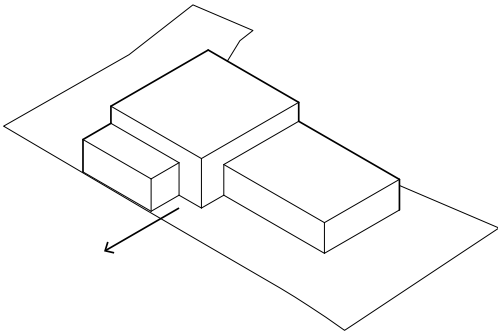
South West Approach  
Comfort Kitchen

- Circulation
- - -> Vertical Circulation
- Public Space
- Service
- Stacks



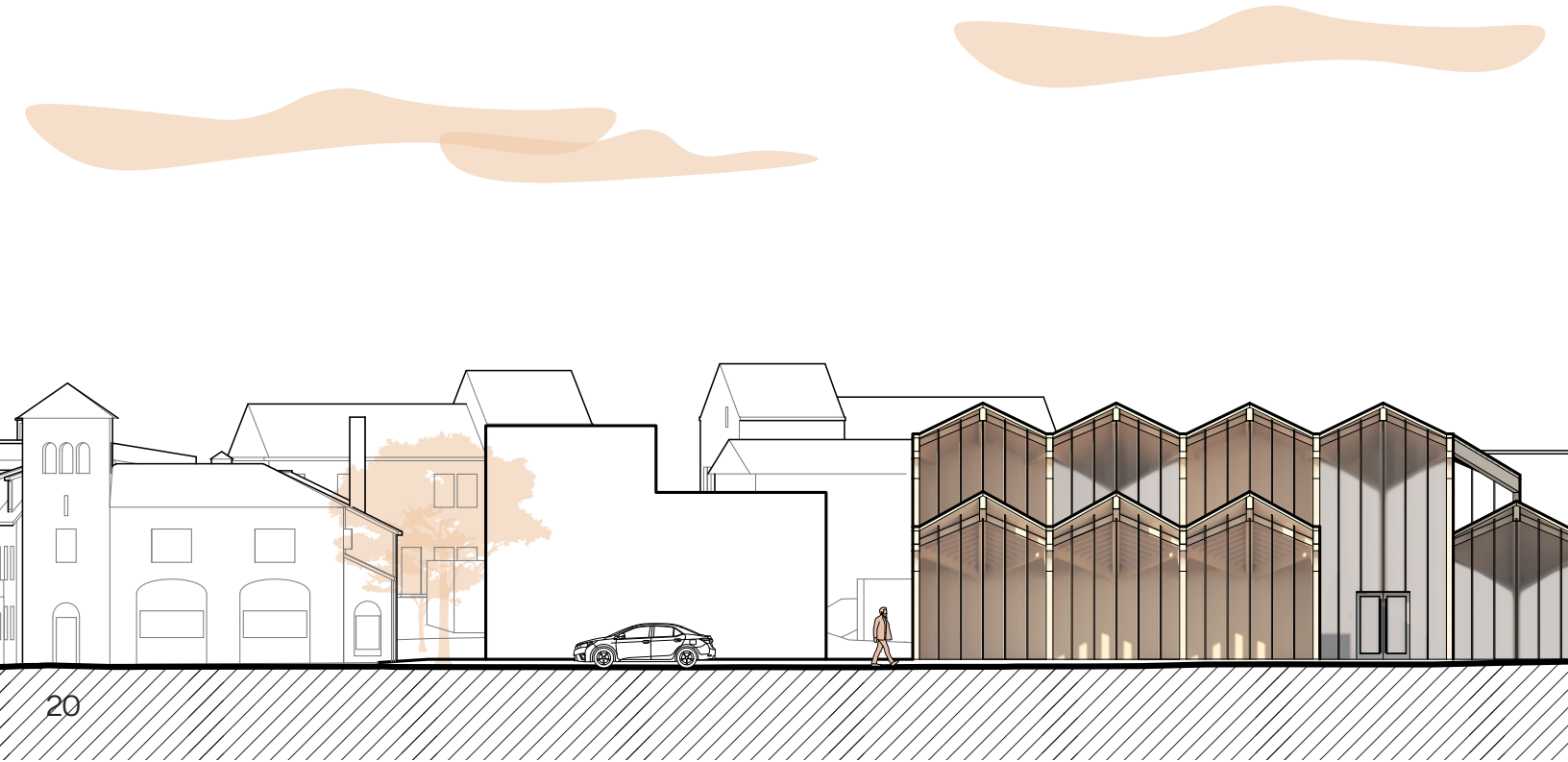
Step 1: L-shaped Plan

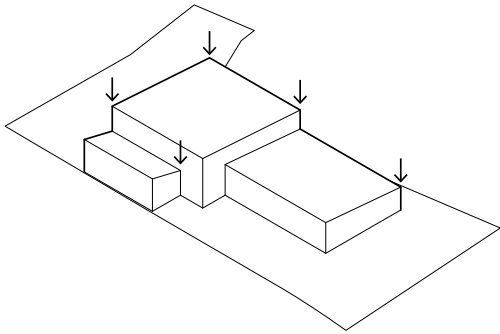
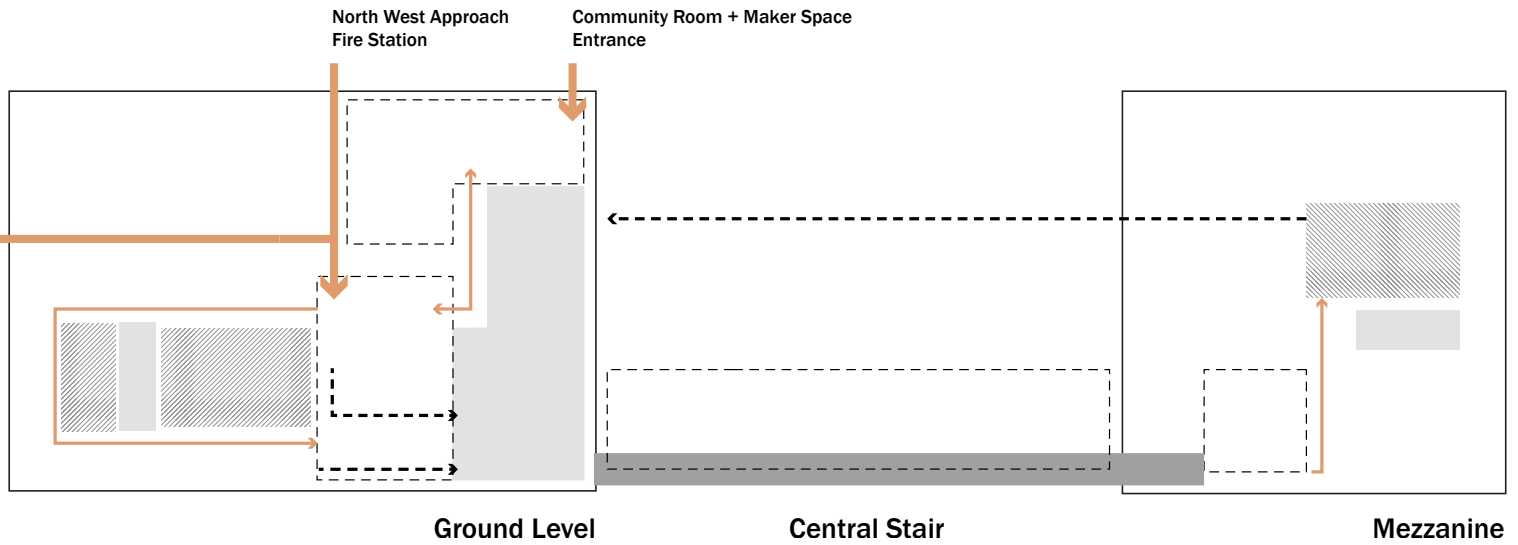
Create public outdoor space, extended public arm towards street edge



Step 2: Initial Massing Blocks

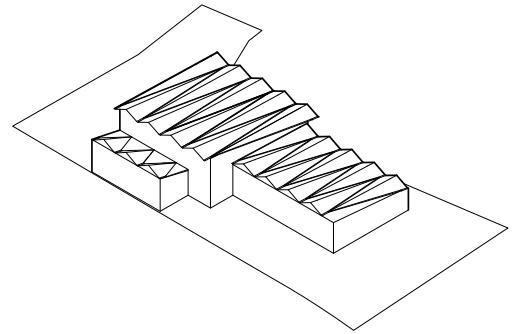
Entry alignment with street, raised massing at overlap





### Step 3: Open Building to Street

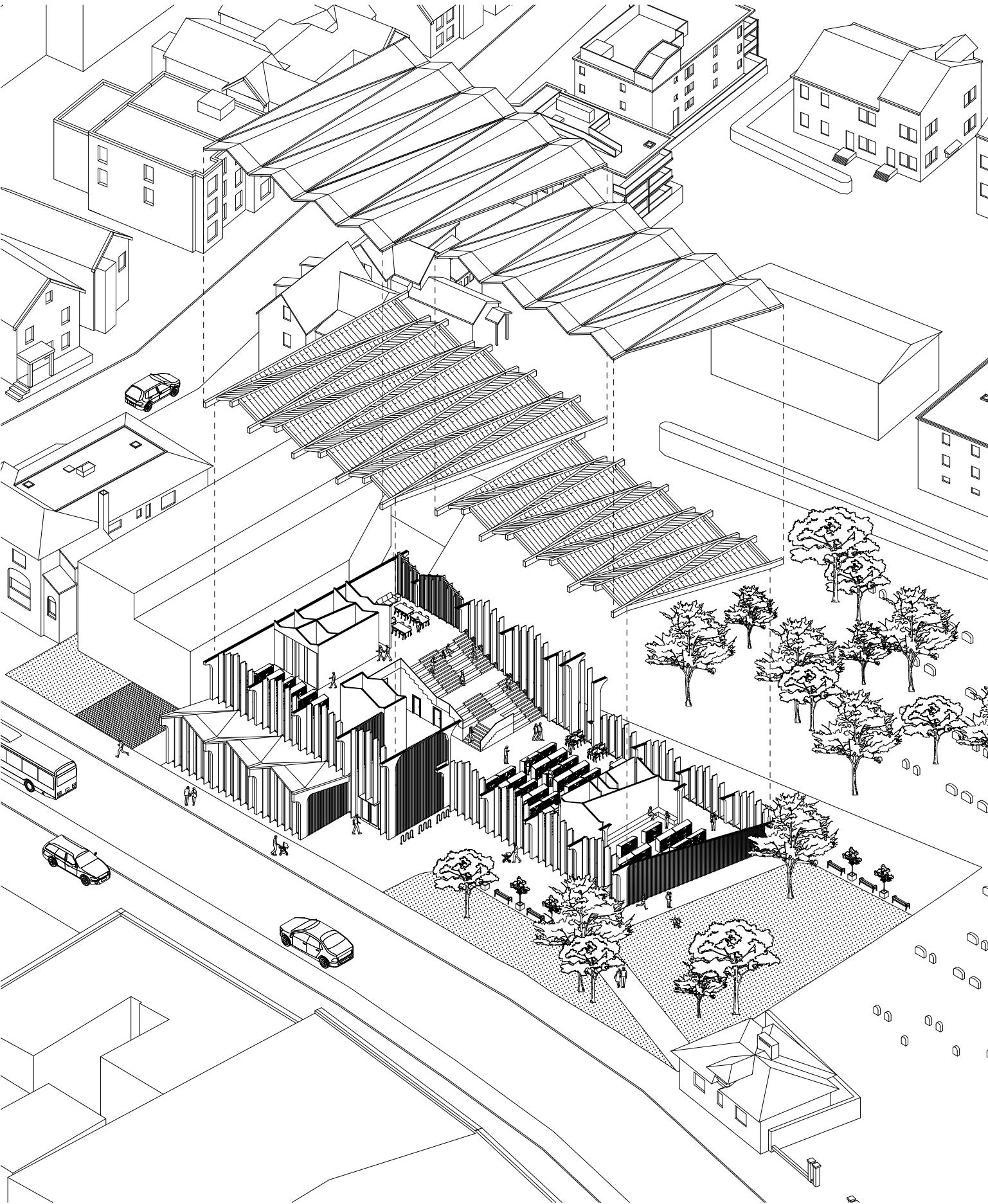
Lowered wall heights towards cemetery



### Step 4: Roof Ridges

Roof ridges created by diagonal beams, offset column grid, and trusses

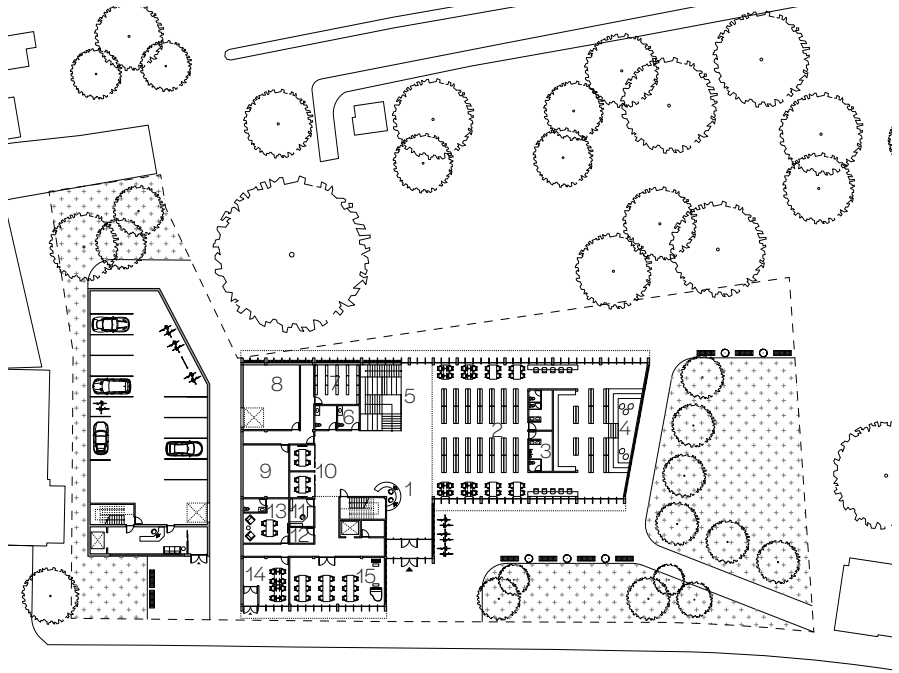






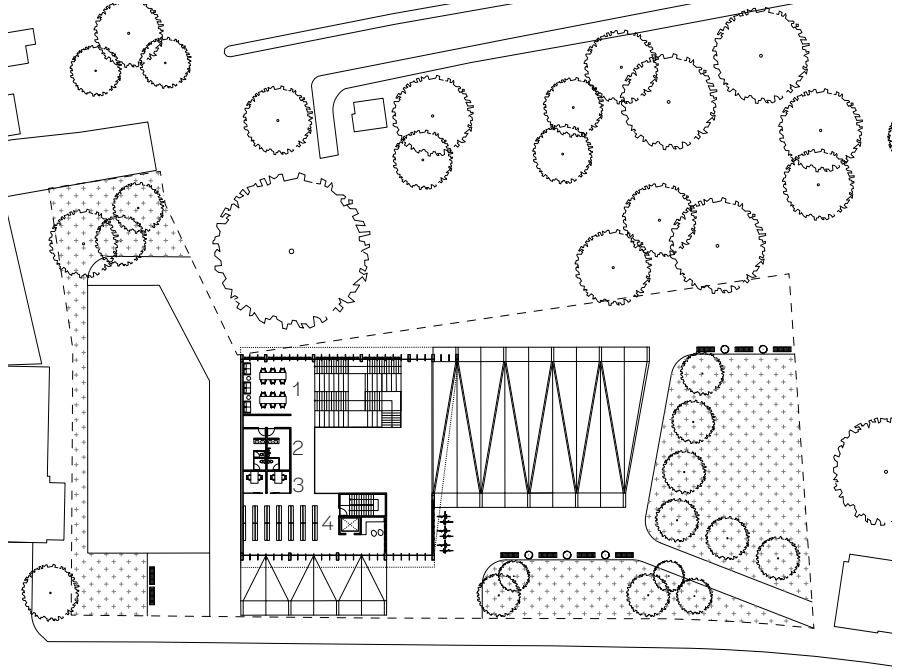
Ground Floor

- 1. Lobby
- 2. Adult Book Stacks
- 3. Restrooms
- 4. Children's Area
- 5. Central Stair
- 6. Accessible Restrooms
- 7. Storage
- 8. Loading + Receiving
- 9. Mechanical
- 10. Study / Meeting Rooms
- 11. Librarian's Office
- 12. Custodial Closet
- 13. Staff Lounge
- 14. Maker Space
- 15. Community Room



Upper Level

- 1. Adult Reading Area
- 2. Restrooms
- 3. Study Rooms
- 4. Teens Section

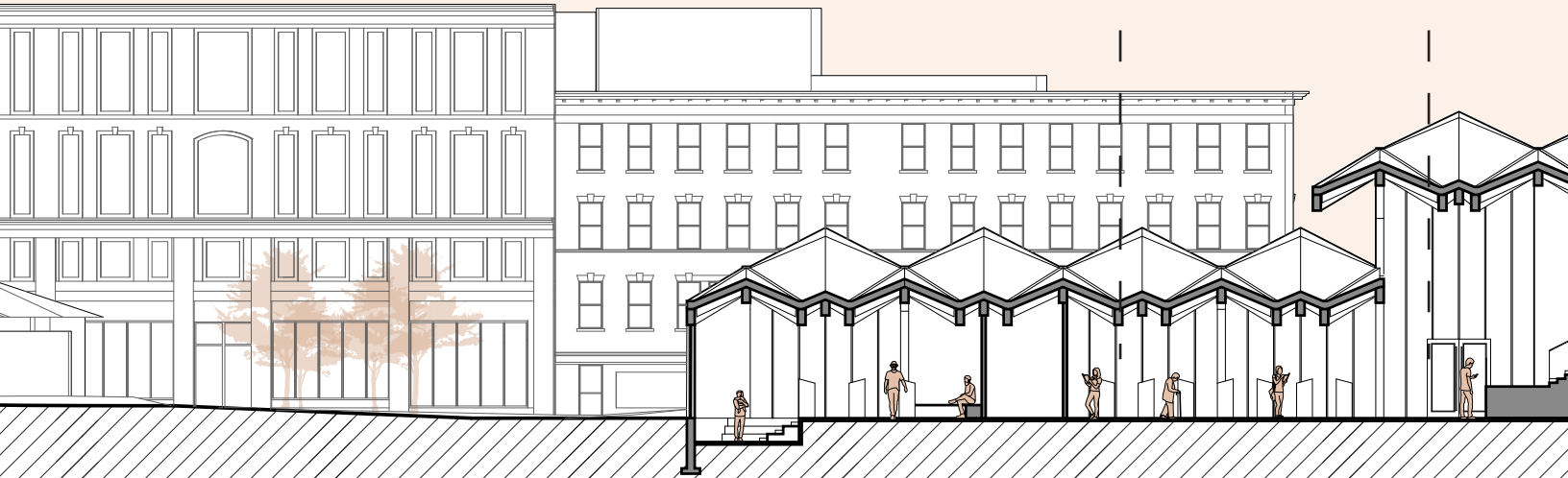




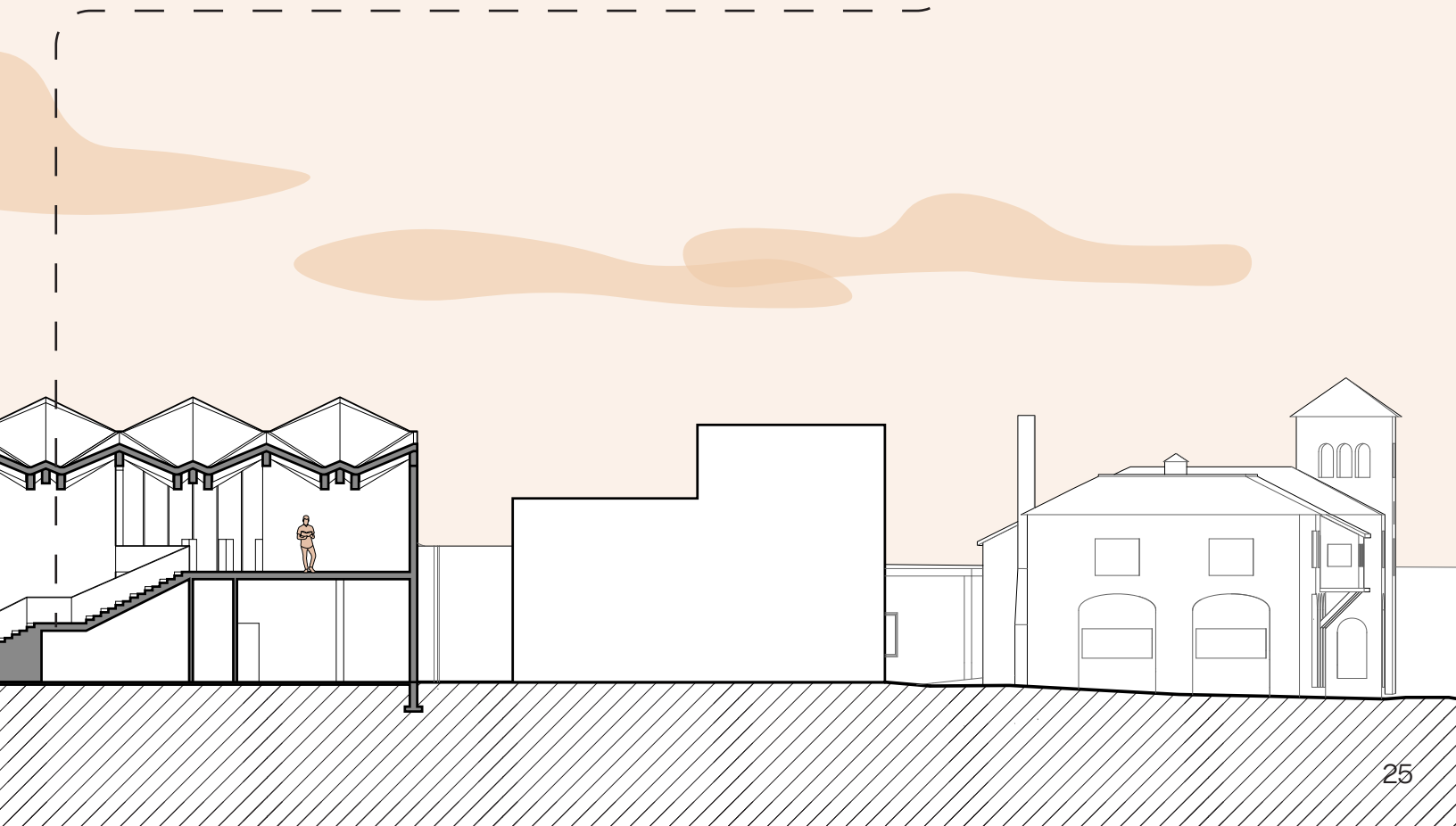
Adult Book Stacks

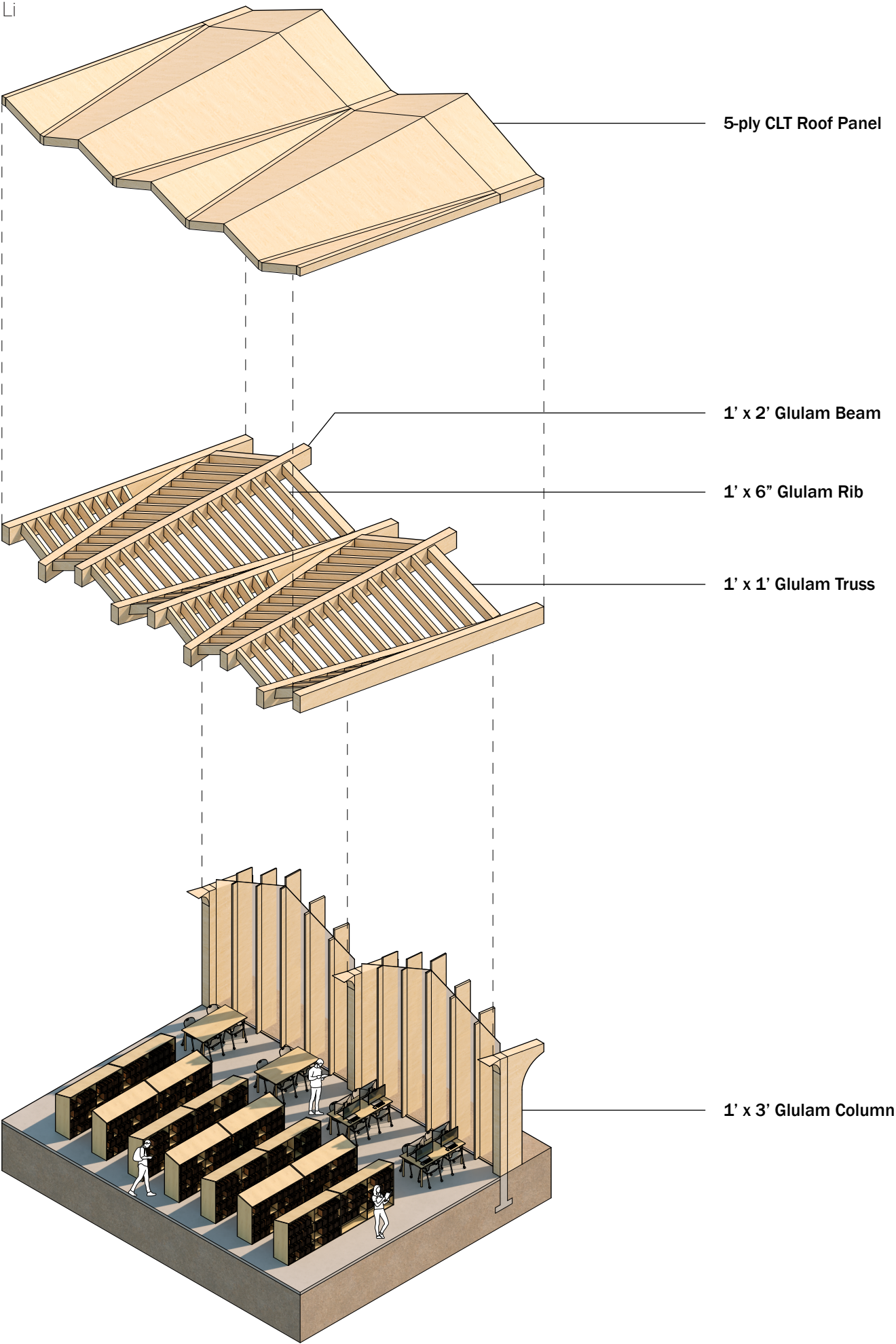


Main Lobby

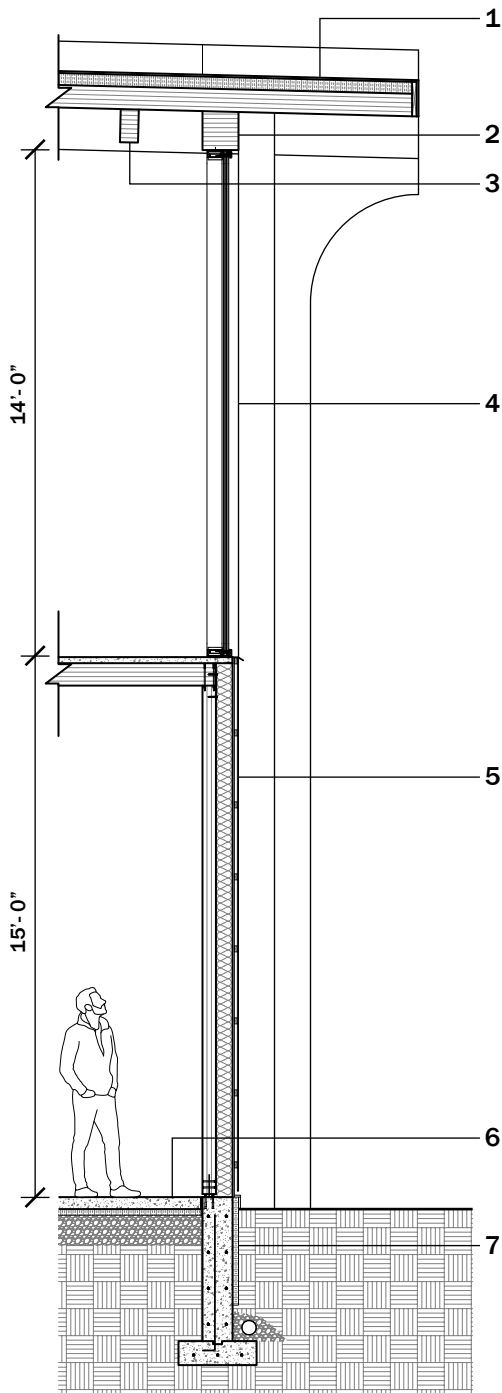


Central Stair







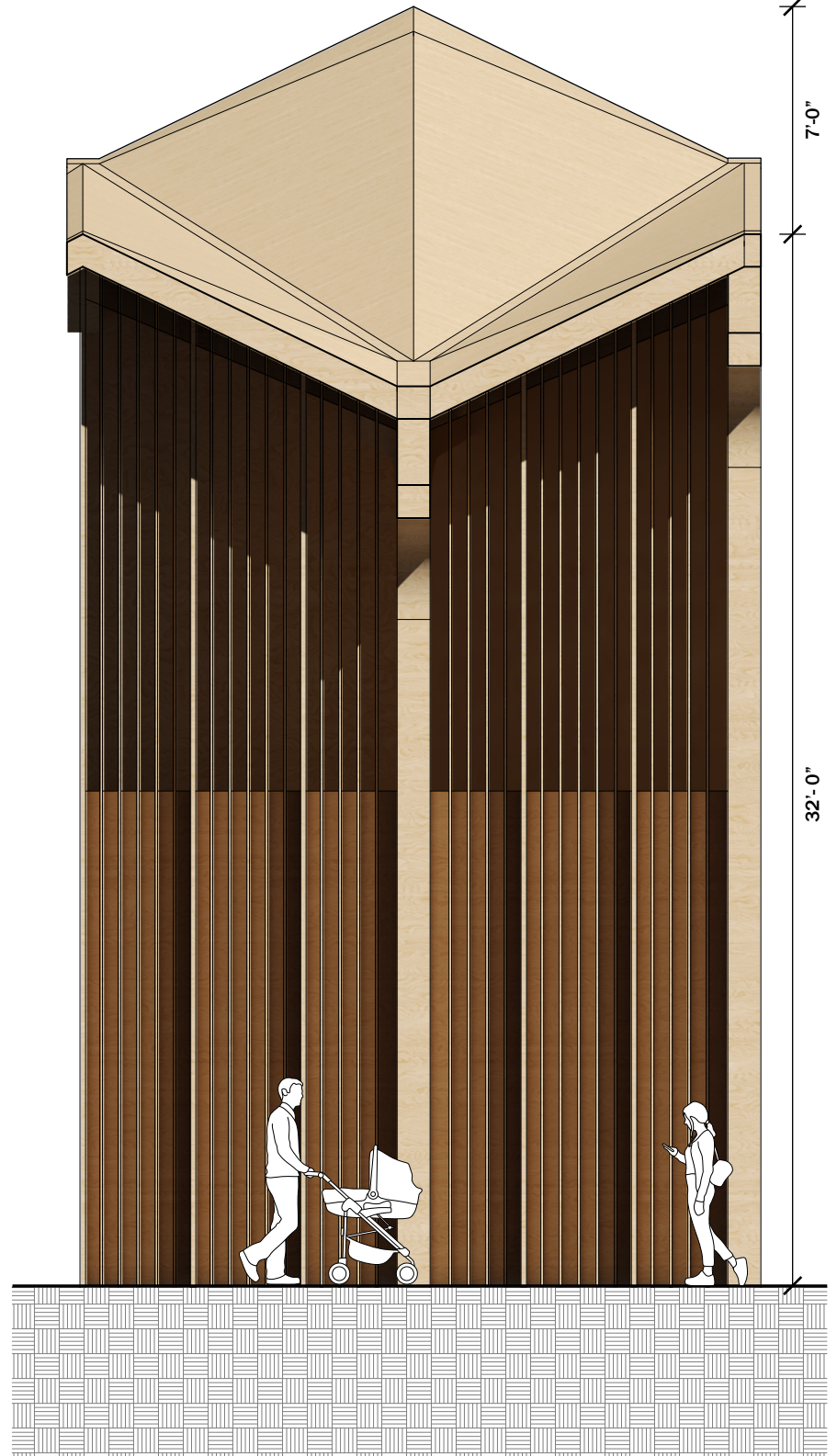


Wall Section

**Roof Assembly // 1**  
zinc roof paneling  
metal roof flashing  
fascia  
vapor barrier  
4" rigid insulation  
5-ply CLT panel

**1' x 1' Glulam Roof Truss // 2**  
**1' x 6" Roof Rib // 3**  
**Glazing Assembly // 4**  
vertical wood screen  
typ. triple pane window assembly

Elevation



**Opaque Wall Assembly // 5**  
vertical wood siding  
strapping @ 24" o.c.  
1" air gap  
5/8" fiberglass mat gypsum board  
vapor barrier  
6" semi-rigid insulation  
3-ply CLT wall

**Slab on Grade // 6**  
4" poured slab on grade  
2" rigid insulation  
10" gravel backfill  
undisturbed soil  
**Foundation Assembly // 7**  
12" poured concrete foundation wall  
2" rigid insulation  
drainage pipe





## Terraforming

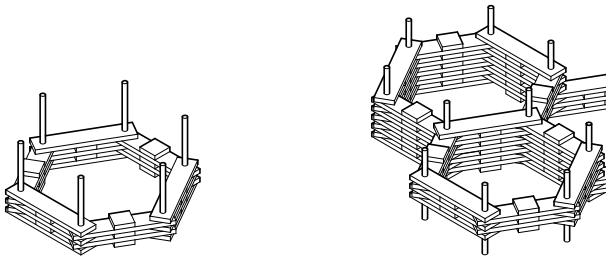
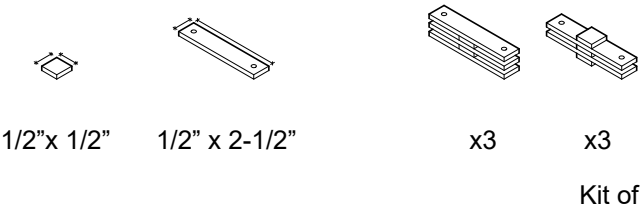
Spring 2024, with Sarah Kwok

Inspired by the formation of igneous rocks and the process of columnar jointing, this terracotta assembly is a speculation into how we might imagine forming and joining terracotta. Taking the formal language of basalt columns and using a casting process inspired by rotation, terracotta shells are cast through a process of rotating formwork. The final model was inspired by an initial speculative assembly that was the tool for making. This speculative assembly was an adjustable tool that could be imagined at various scales, and applied with various drivers.

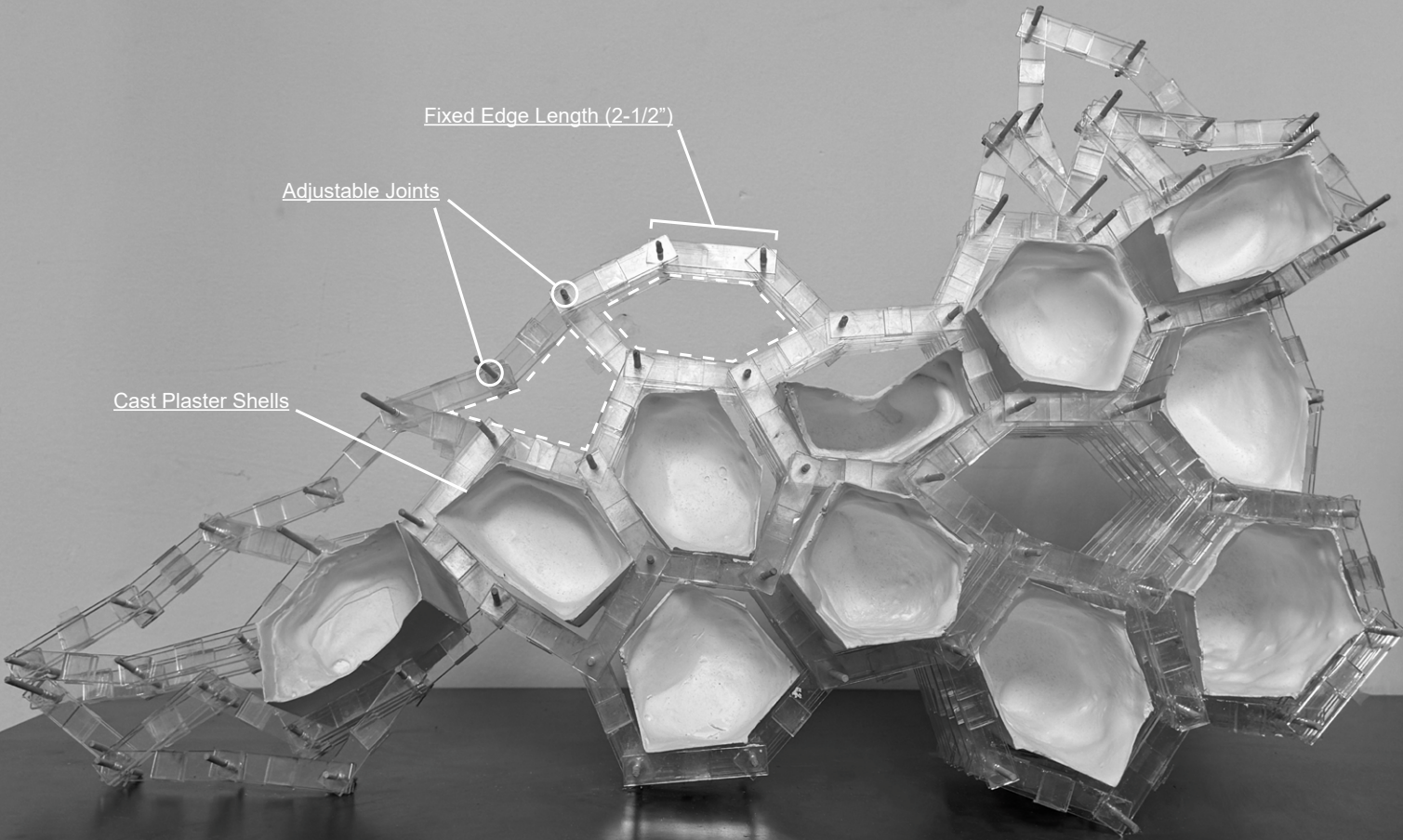


Speculative Assembly

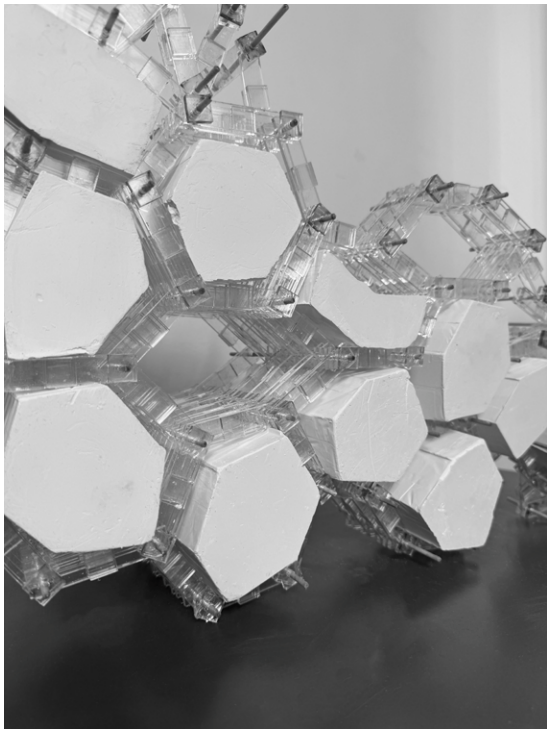
This assembly is a tool that is comprised of a system of shells and framing, each of which respond to various drivers. The frame is a hexagonal grid, with adjustable joints. Each column of the grid is built up to a different height to give depth in various directions. The flexibility of the tool allows it to respond to various drivers, such as program or site. The infinite scaling nature of the tool also allows it to be imagined at any scale, from the city-wide urban planning scale, down to a wall facade assembly. Once the frame is given a form, plaster shells are cast, using a rotational casting technique that allows the shell to take on qualities from the shape of the frame.



Assembly Dia

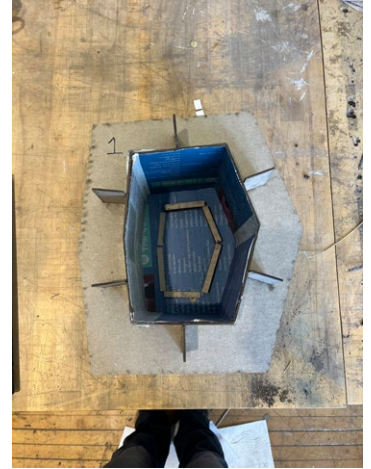






## Building Formwork, 2 days

The final formwork was more standardized across each module. The mold was switched from a square to an offset. Three molds were 7" tall and five were 5" tall. Chipboard offsets were also added to the base plate on the interior to provide indents for clips to be attached from behind. All other aspects of the mold remained the same from the test.



## Rotational Casting, 16 hours

From our test cast, we decided that we needed to allow the slip to rest for longer before each rotation. We began with 25 minutes on each side, starting with the bottom. Once a wall was established on each side, we continued to rotate on specific intervals, gradually decreasing the amount of time spent on each side. Due to the new shapes of the molds, the casting process resulted in much more even walls. Additionally, the offsets at the bottom posed a challenge because we needed to build up a thick enough layer of slip to cover them, while maintaining the structural integrity of the entire model.







## Demolding, 2 days

The target level of dryness for demolding was “leather dry”, which was earlier than the test mold was demolded. This resulted in much more newspaper sticking to the sides of the module. Once the vertical portion of the mold was removed, the molds were allowed to sit for a day, with plastic wrap over the top to help prevent too much moisture from leaving the edges. This was to allow them to dry out more before removing the base plate. When the base plates were removed, the offsets were stuck in the module, and had to be individually removed. The modules were then allowed to dry for one more day before being assembled.





## Assembly, 2 hours

The grooves for the offsets were designed with the intention that they would shrink as the modules dried out. We measured the distances from the modules before laser cutting the clips. The clips were cut to two different lengths to support the various size modules. Because the modules were not fired, it was possible to attach the clips by chipping parts of the modules.



## Potential Facade Applications



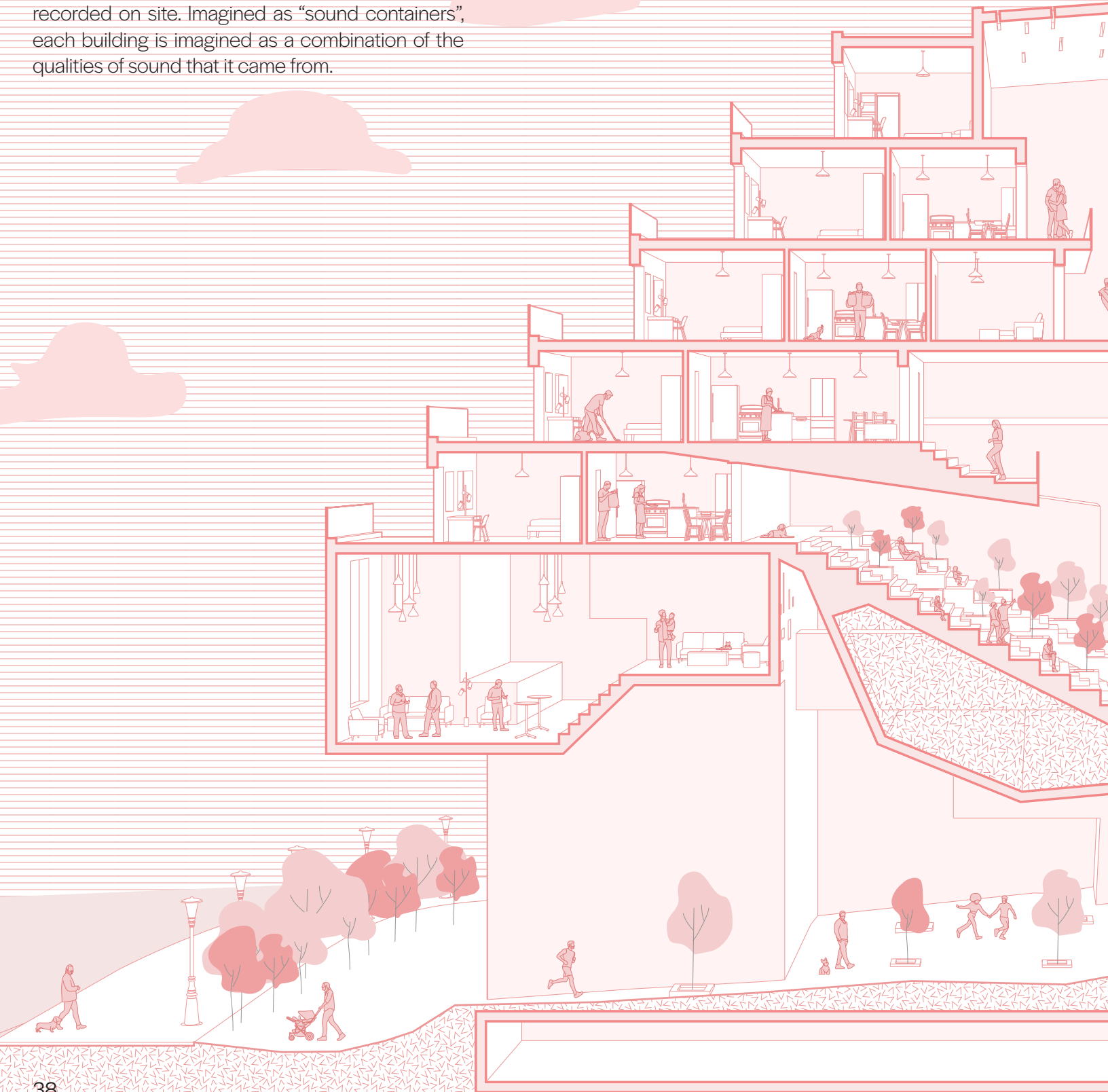




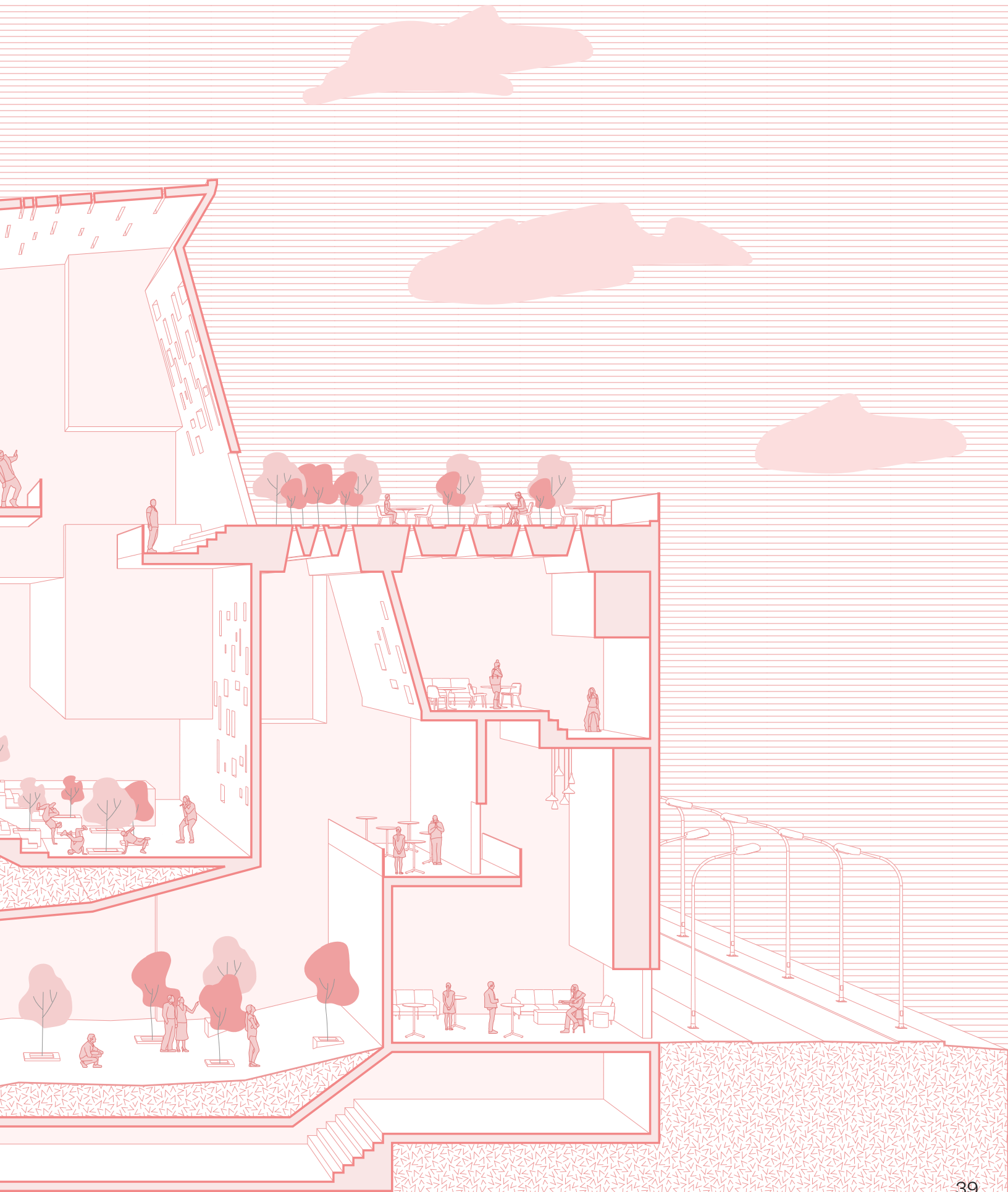
## Pittsburgh Symphony

Fall 2022, with Carleigh Cusick

Pittsburgh Symphony uses sound as a driver for creating a generative necklace of interventions across the city of Pittsburgh. Spread across three sites, each building is designed through clustering physical forms that are generated from sounds recorded on site. Imagined as “sound containers”, each building is imagined as a combination of the qualities of sound that it came from.







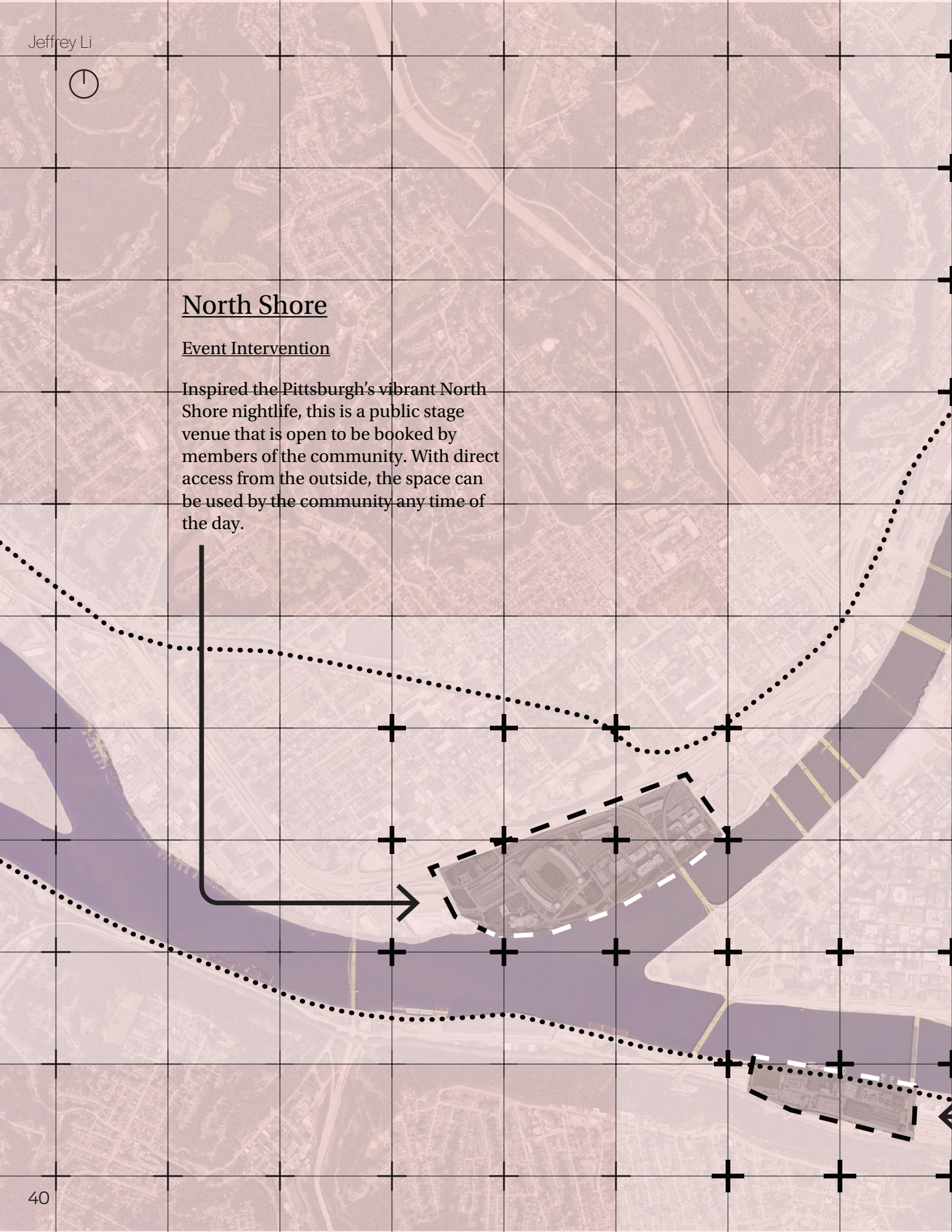




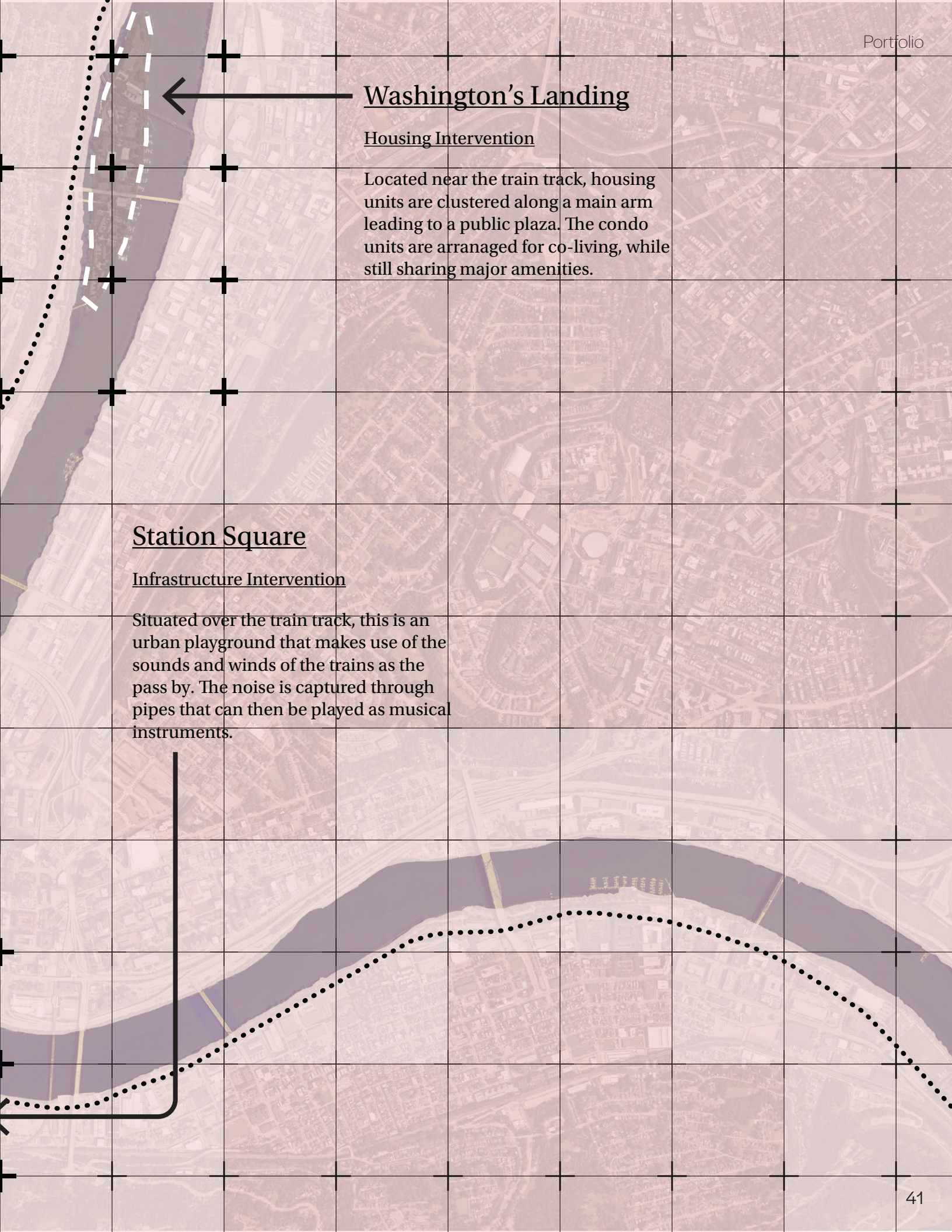
## North Shore

### Event Intervention

Inspired by Pittsburgh's vibrant North Shore nightlife, this is a public stage venue that is open to be booked by members of the community. With direct access from the outside, the space can be used by the community any time of the day.







## Washington's Landing

### Housing Intervention

Located near the train track, housing units are clustered along a main arm leading to a public plaza. The condo units are arranged for co-living, while still sharing major amenities.

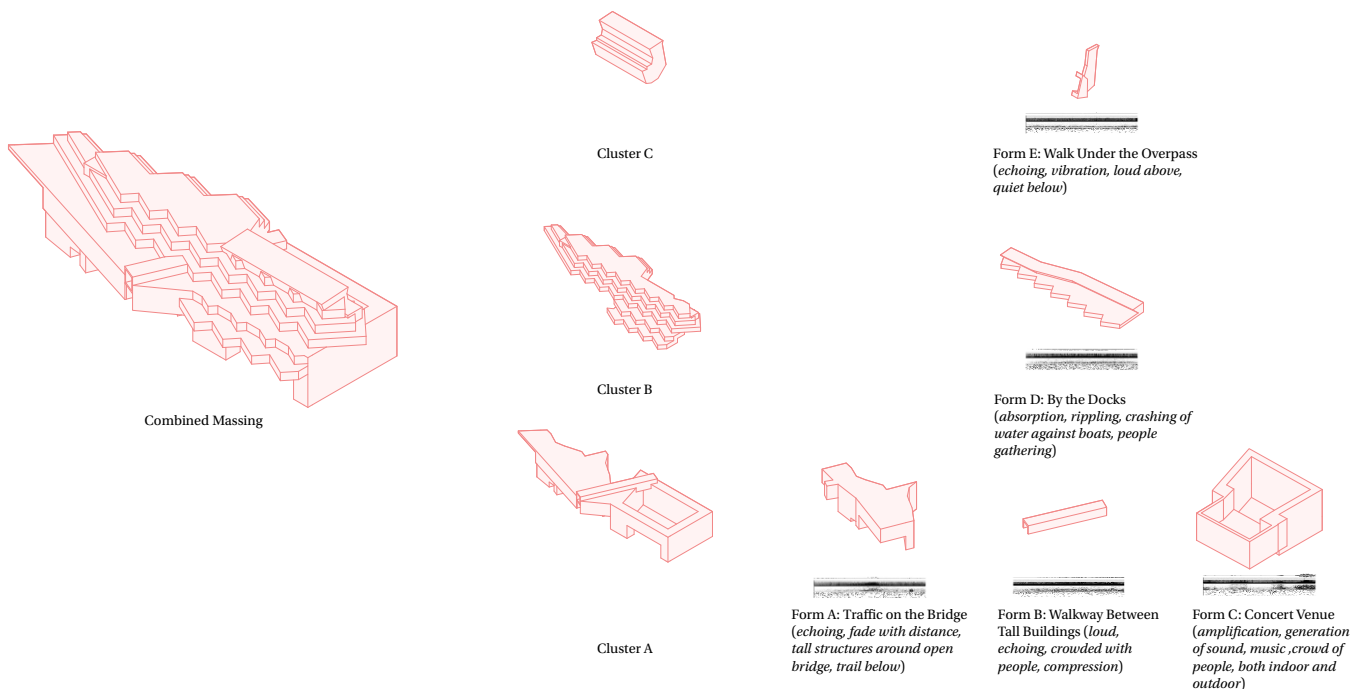
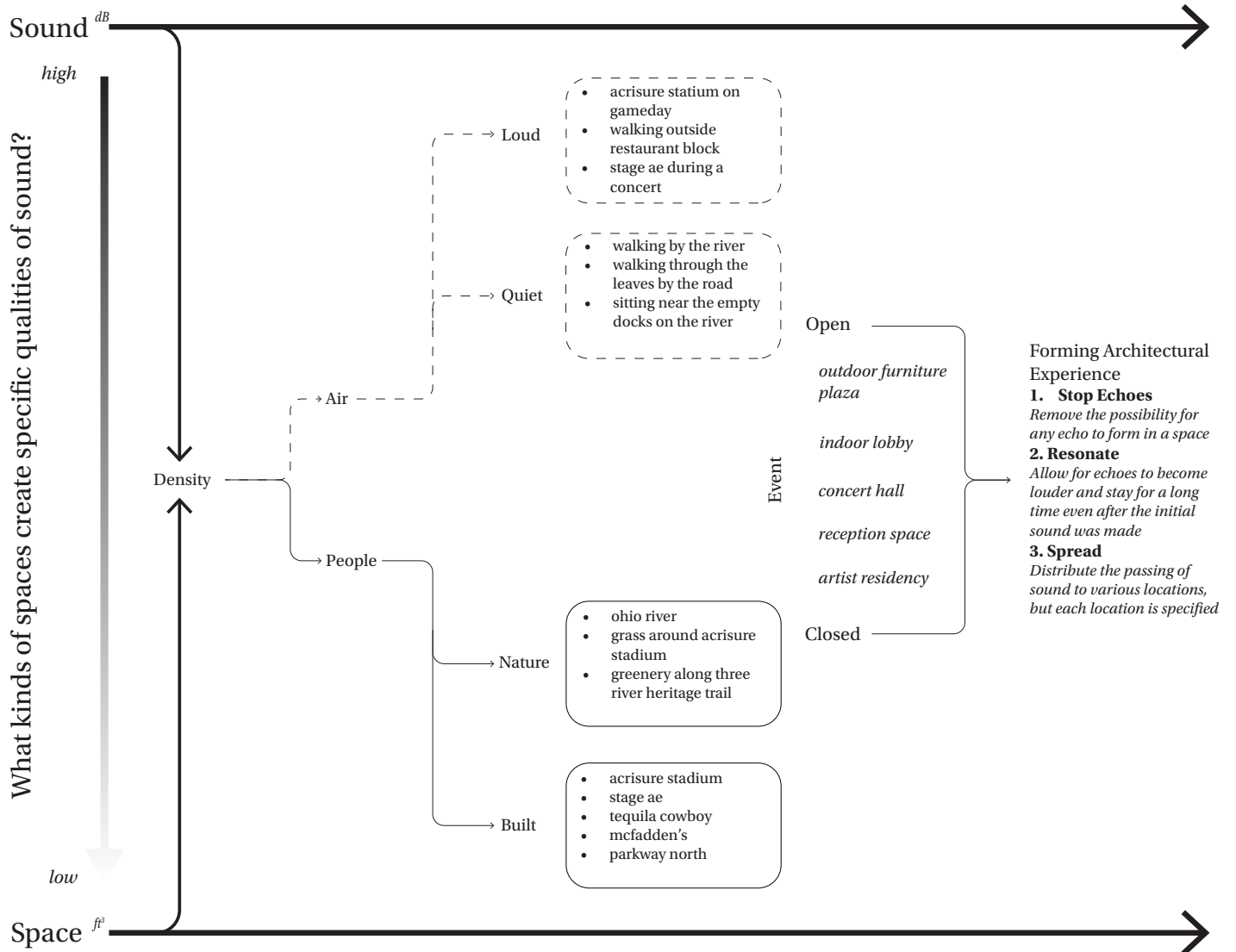
## Station Square

### Infrastructure Intervention

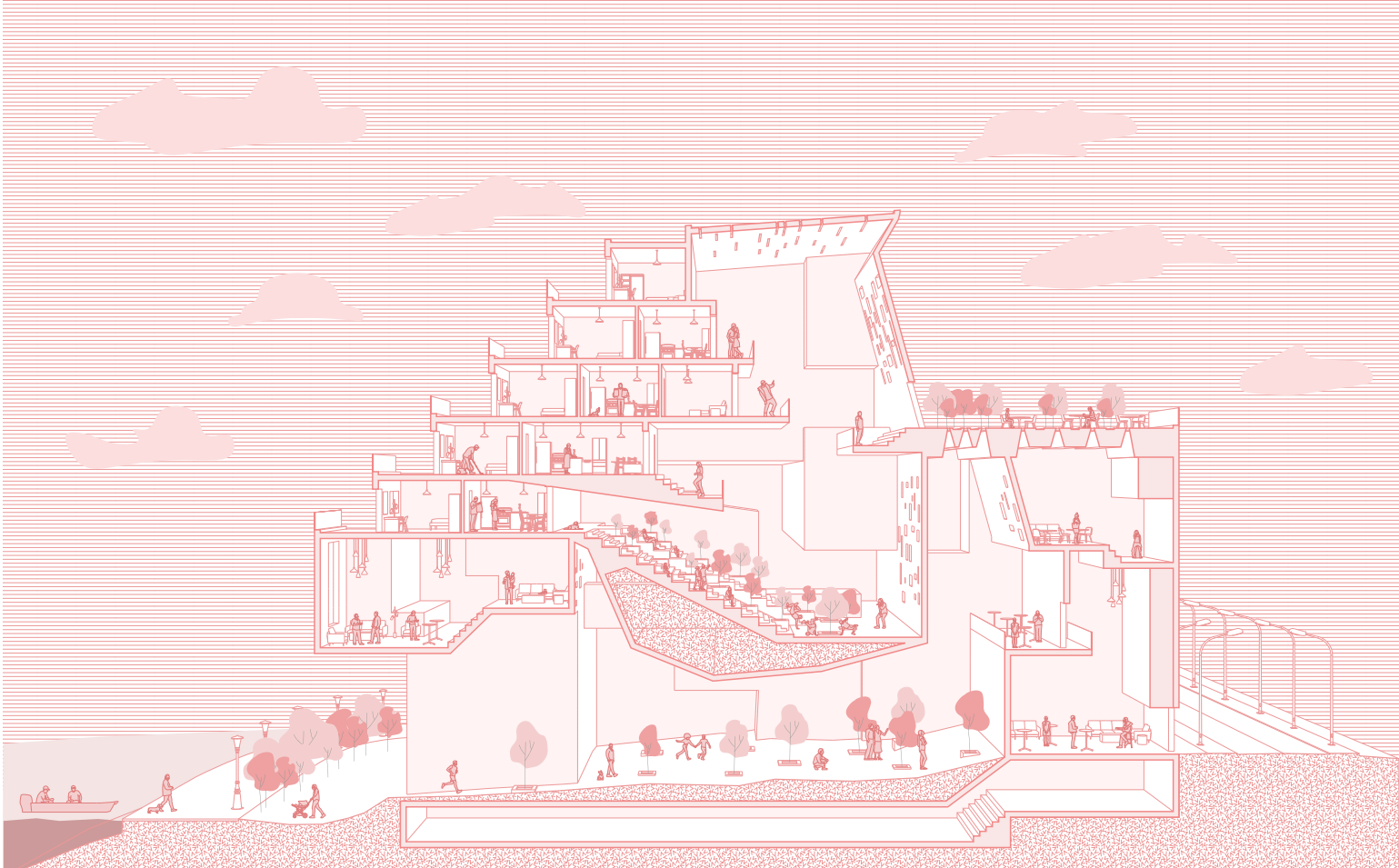
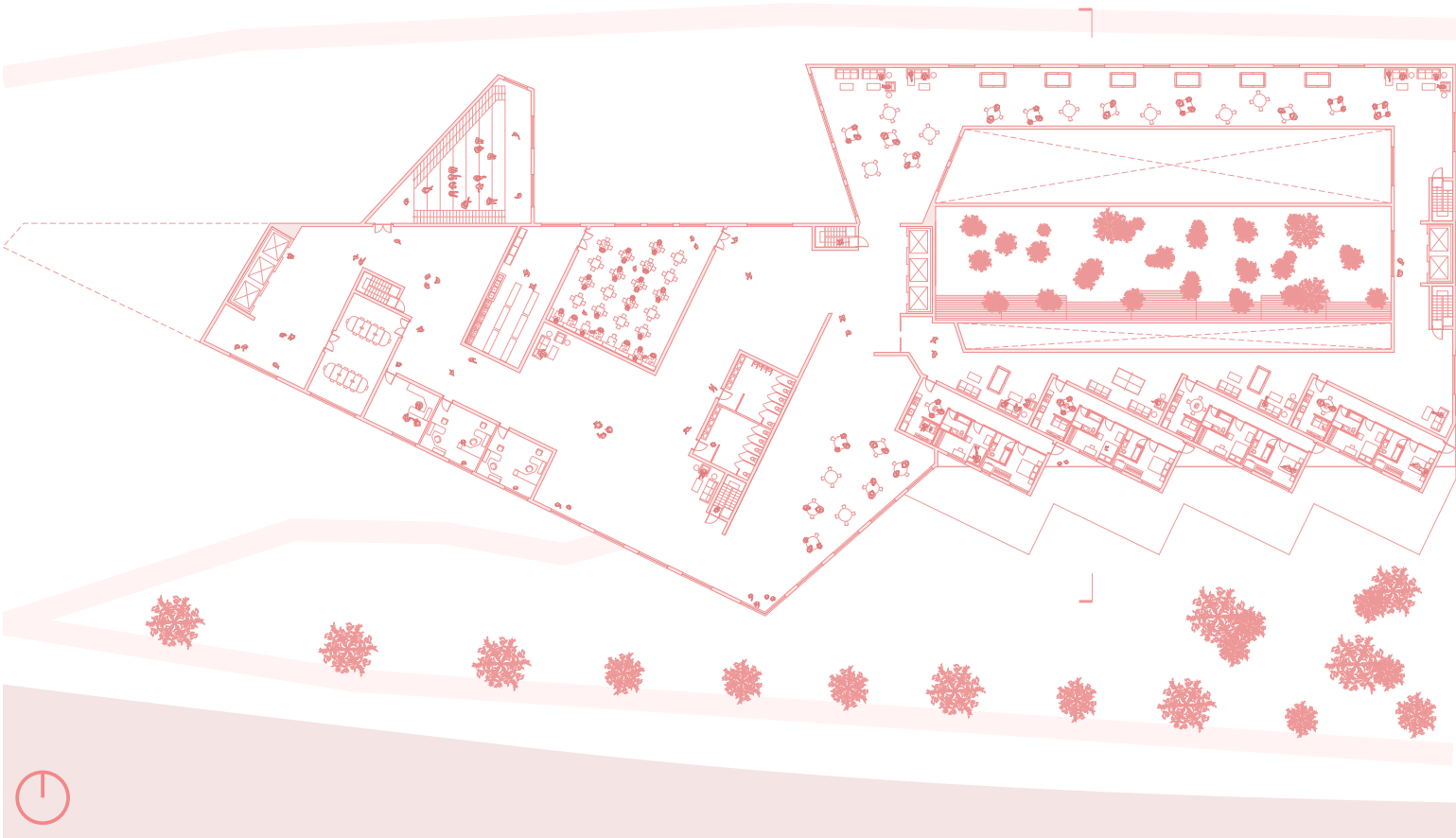
Situated over the train track, this is an urban playground that makes use of the sounds and winds of the trains as they pass by. The noise is captured through pipes that can then be played as musical instruments.



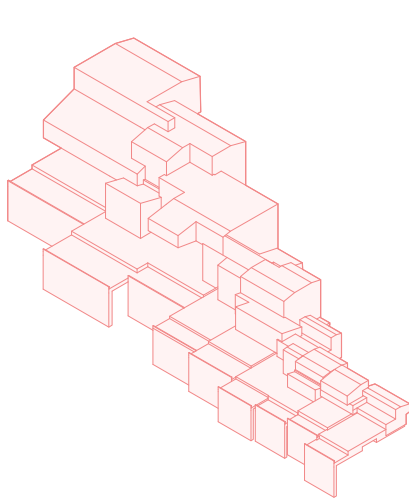
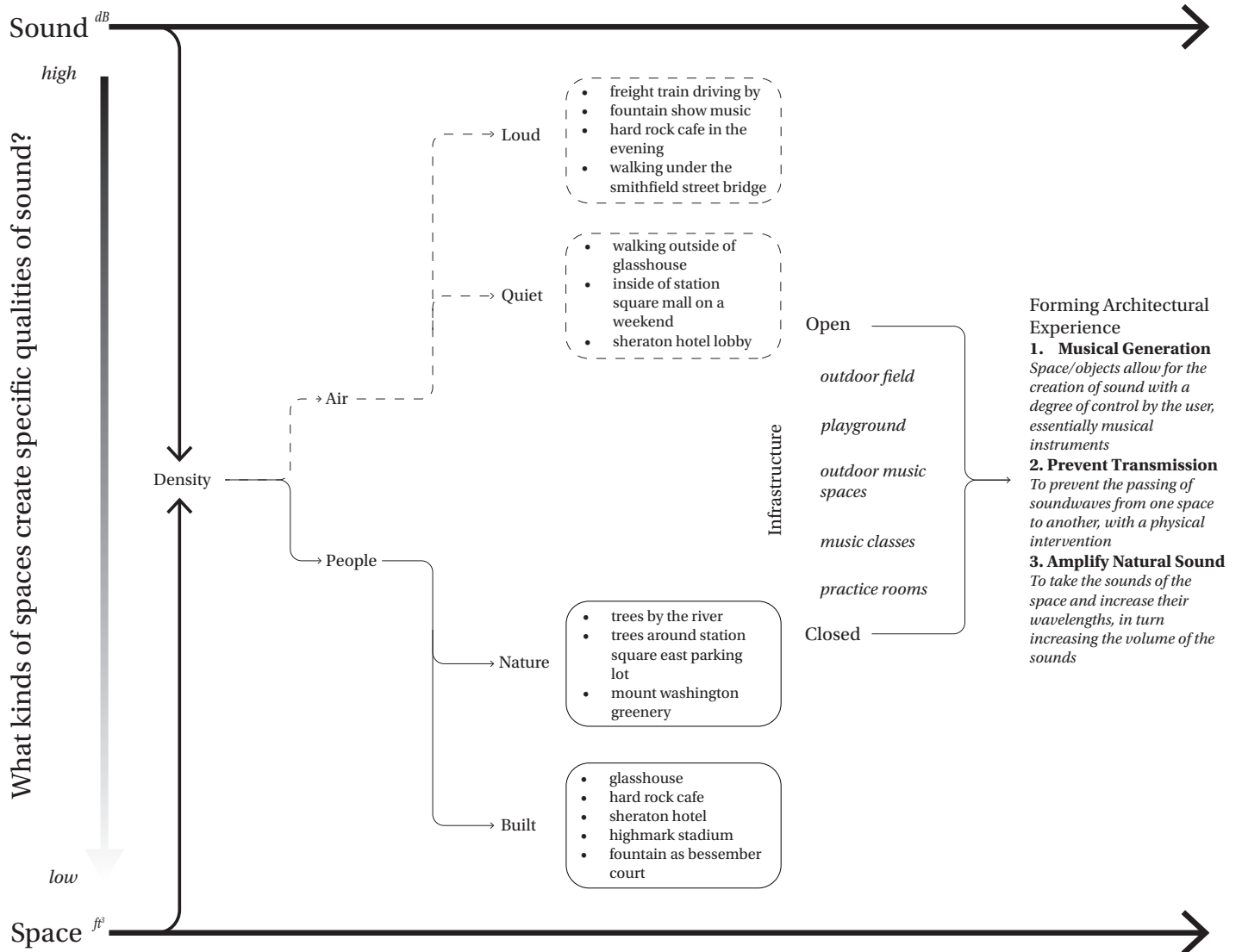
# North Shore



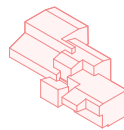




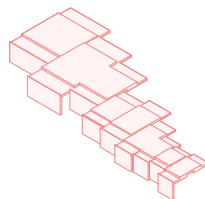
# Station Square



Combined Massing



Cluster B



Cluster A



Form B: Hotel and Office Building Lobby (minimal sound, echoing, empty, double height space)

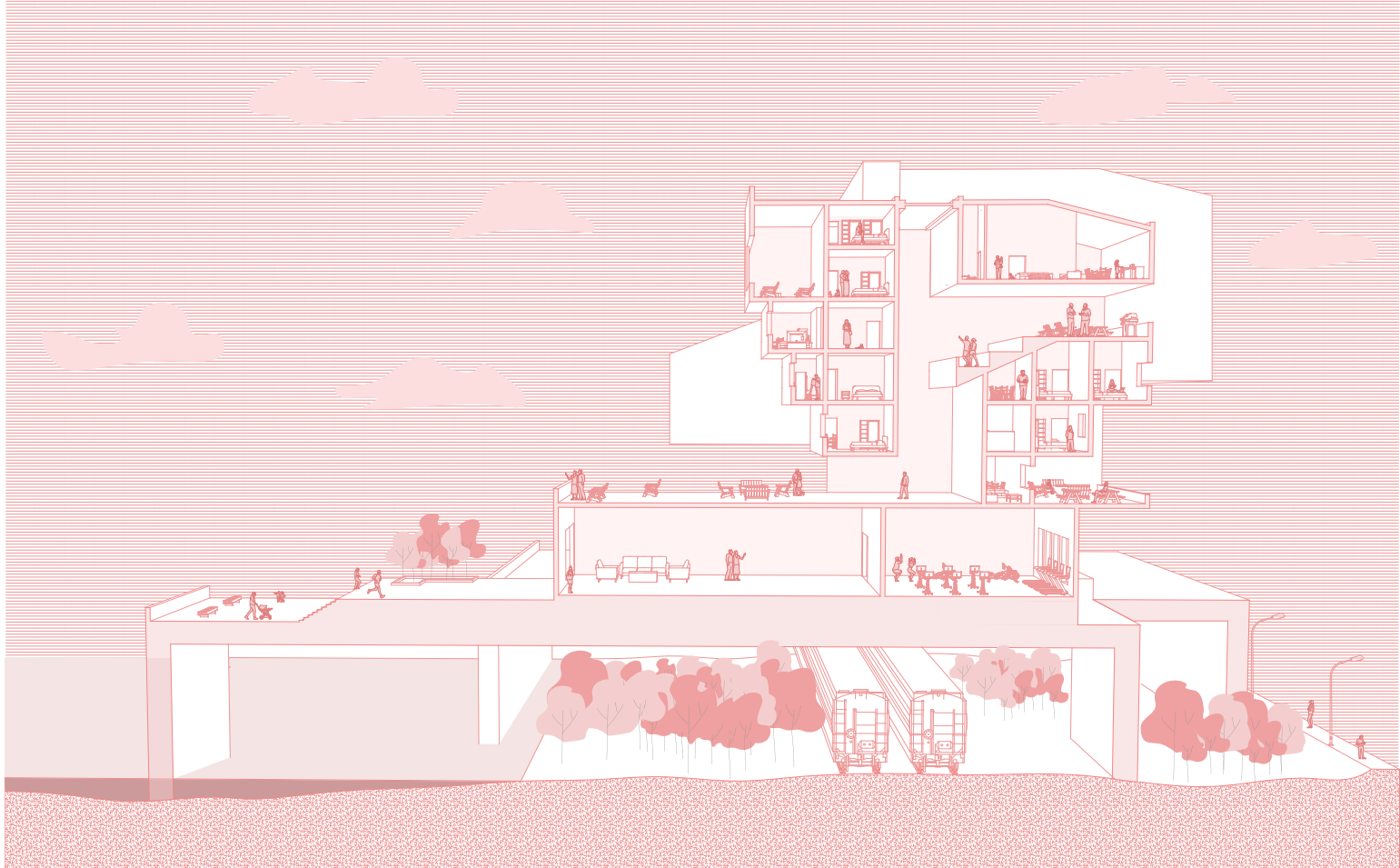
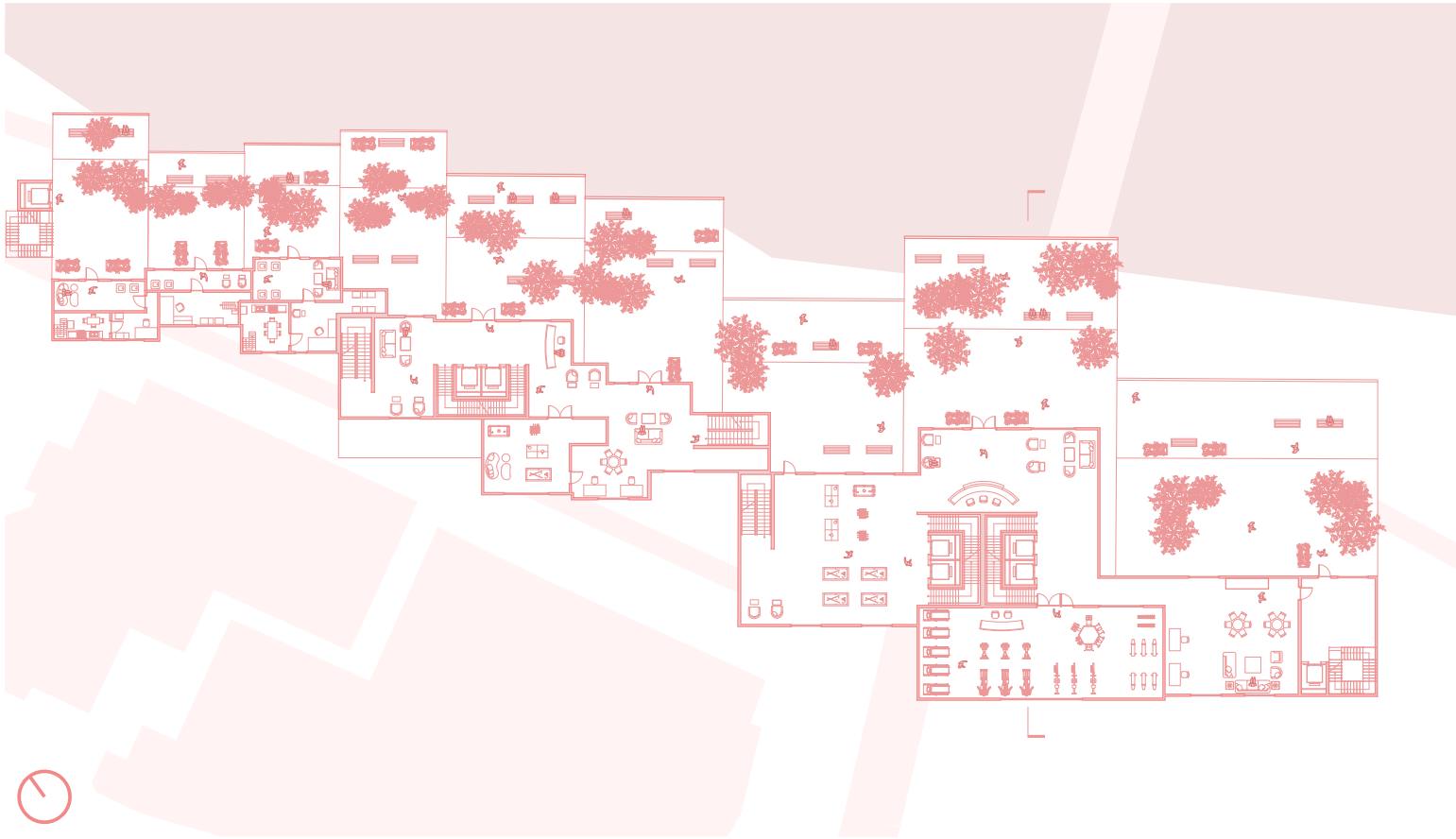


Form C: Restaurant Outdoor Seating (sound generation, people gathering, adjacent to street, vegetation)

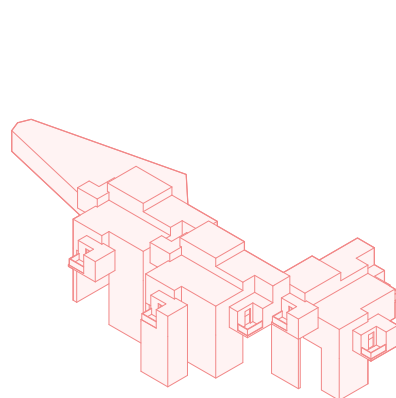
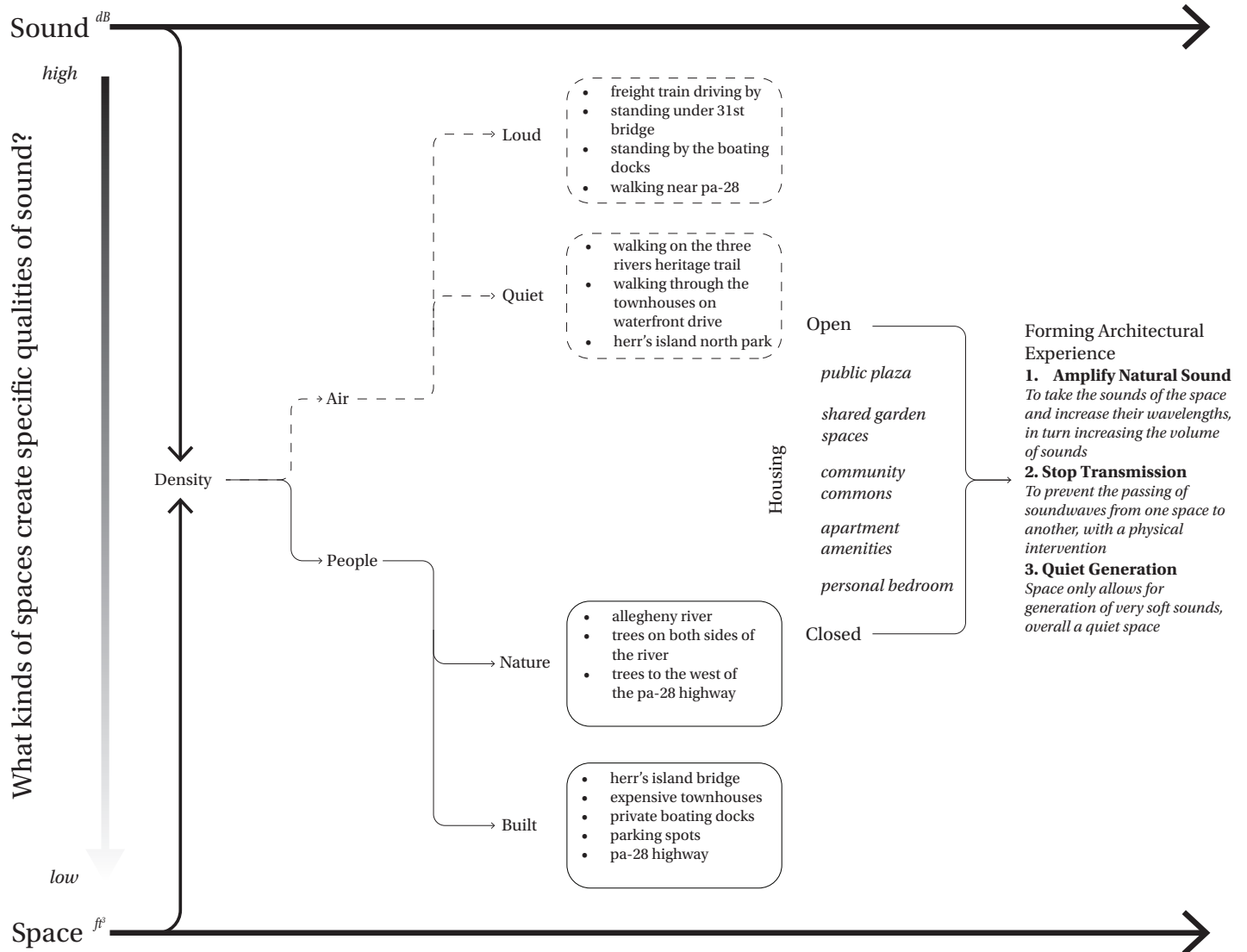


Form A: Tunnel Under Bridge (loud, echoing, vibration, conditions above and below)





# Washington's Landing



Combined Massing

Housing Block A



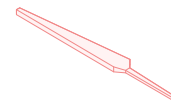
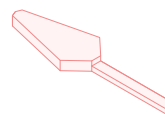
Housing Block B



Housing Block C



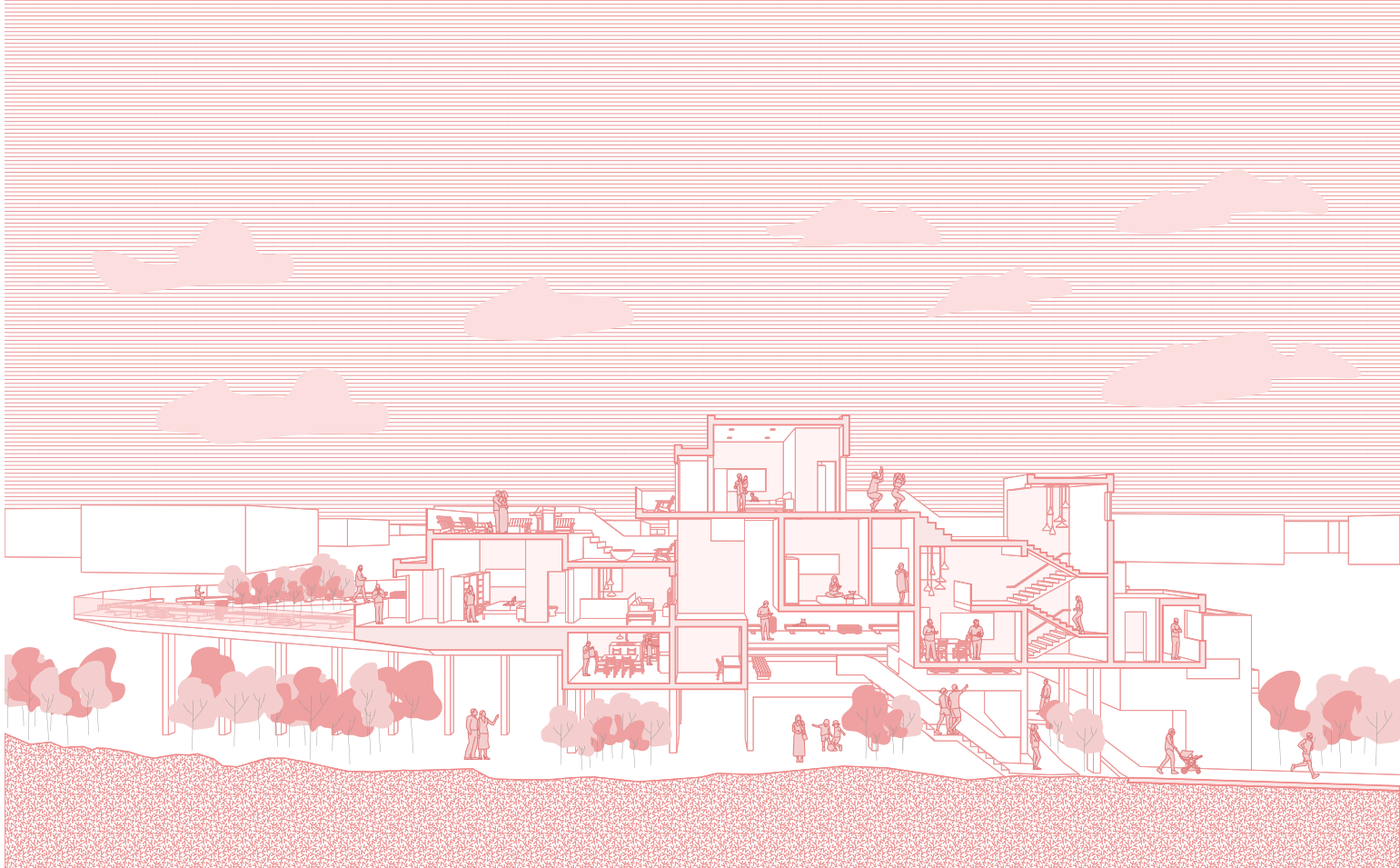
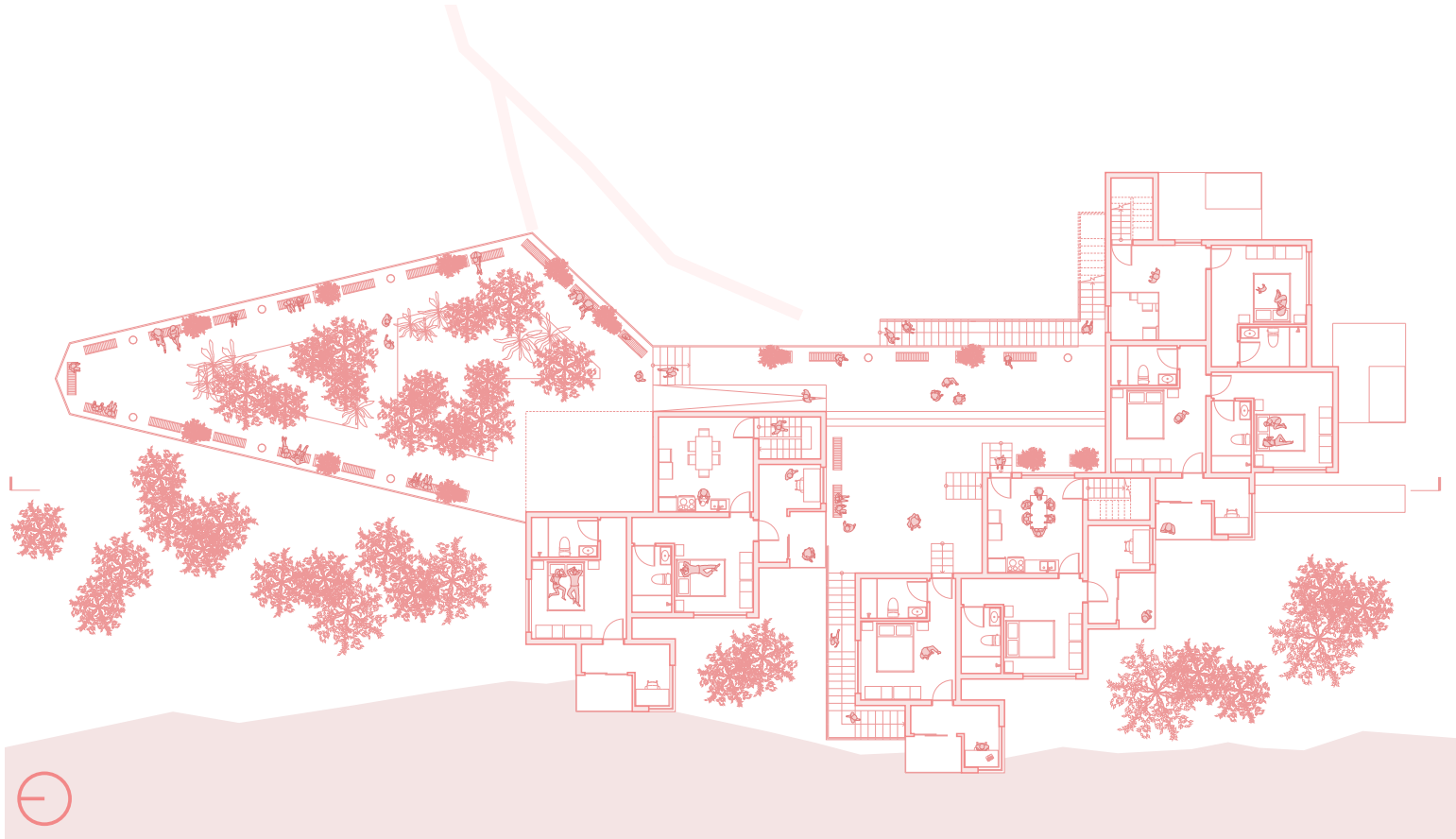
Form B: Neighborhood Block  
(minimal sound, vegetation, absorption, similar typology, every-day movement of people)



Form A: Train Passing By (loud, echoing, gush of wind, vibration, break in silence)









# Cartography

Fall 2024

This project is a mapping of Cologne, Germany through its historical figures. Starting from its initial Roman roots, with its axis, the city grew radially, expanding outwards with city walls and fortresses. The industrial era brought about the heavy presence of railroads, along with new highways to support the new industries that were appearing. The final map tells the story of a Cologne that rapidly grew west of the Rhine river, but only slowly came to life on the east with the industrial era.



