

Team Lamp Team
Portfolio
Joe Slunt & Oscar
Mendoza
Professor Anthony
Piermarini
Studio 06



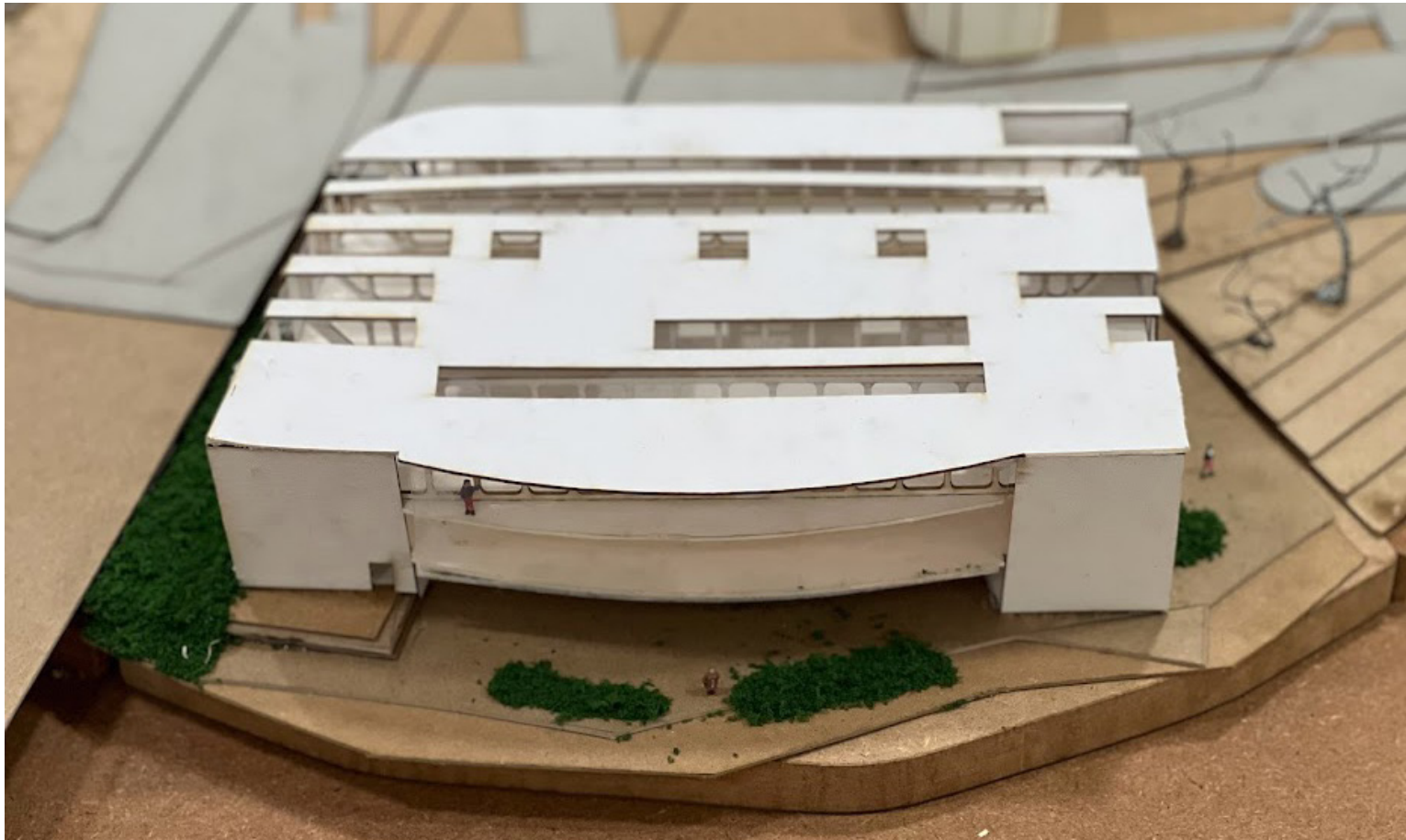
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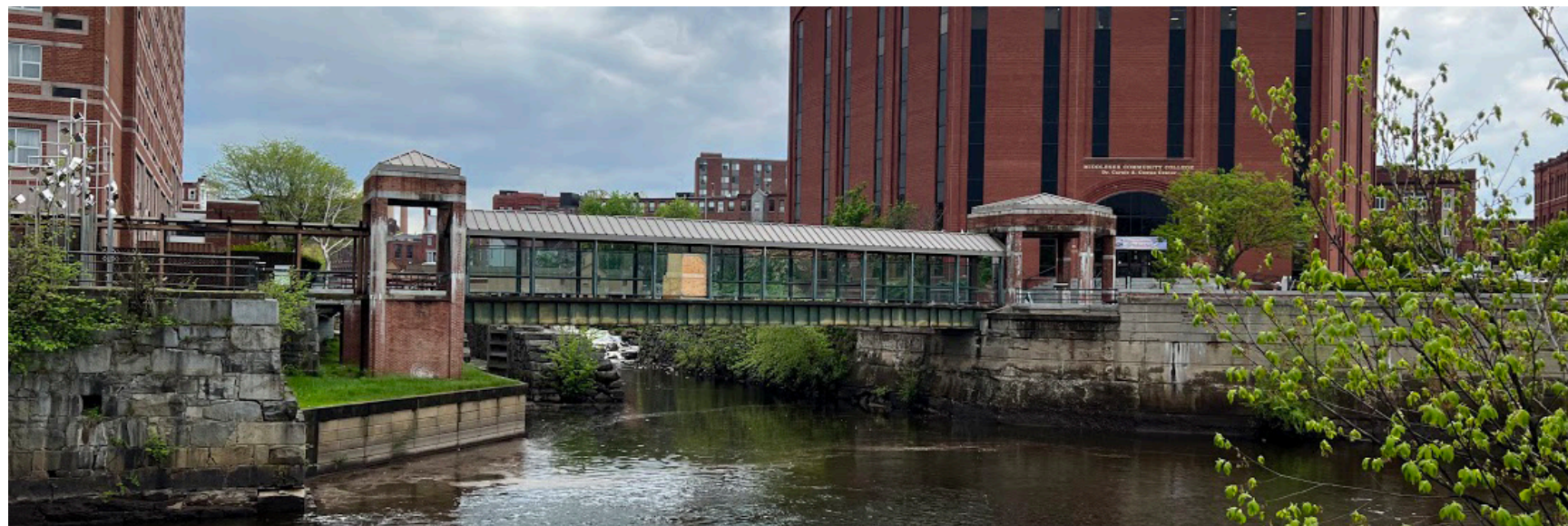
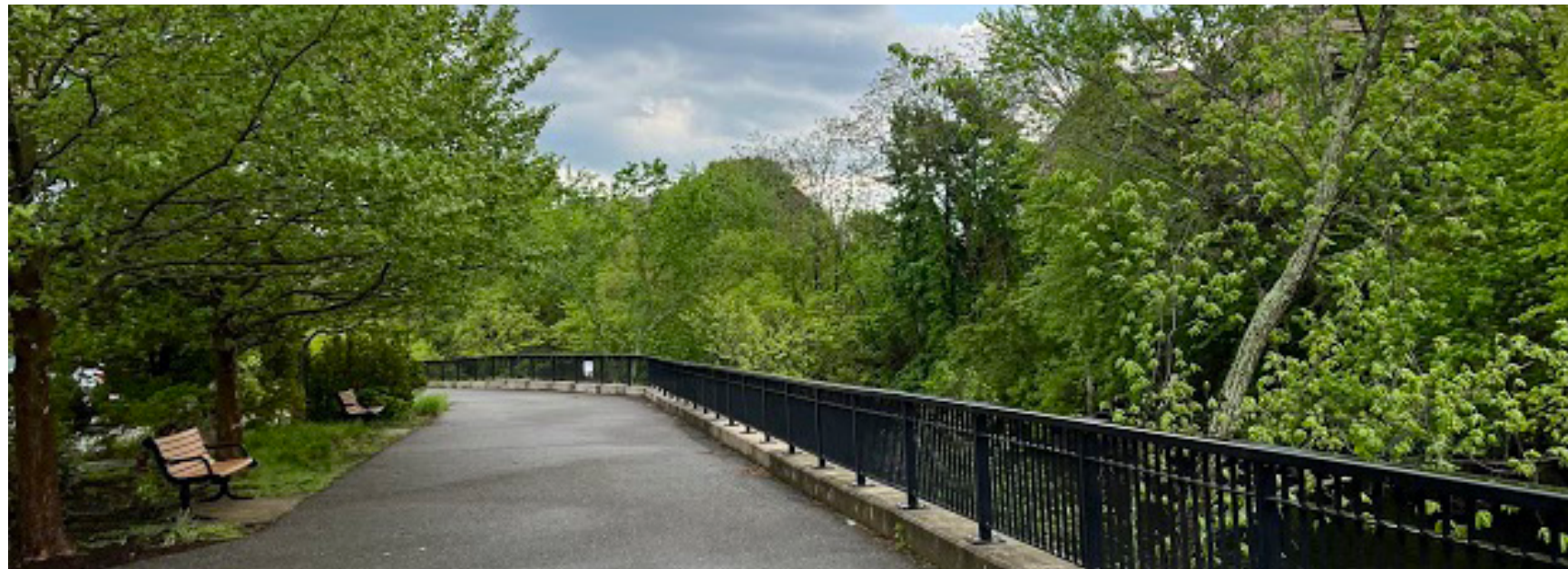


**Phase 1: Site Context
Documentation &
Analysis**

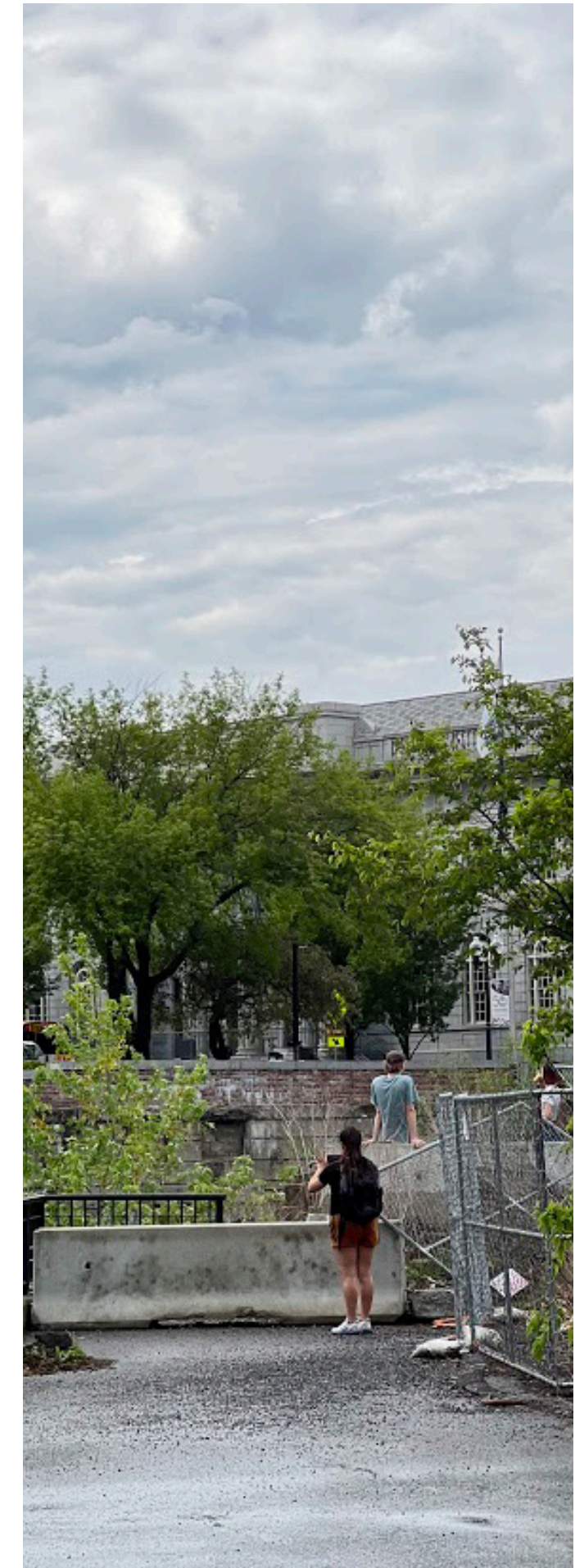
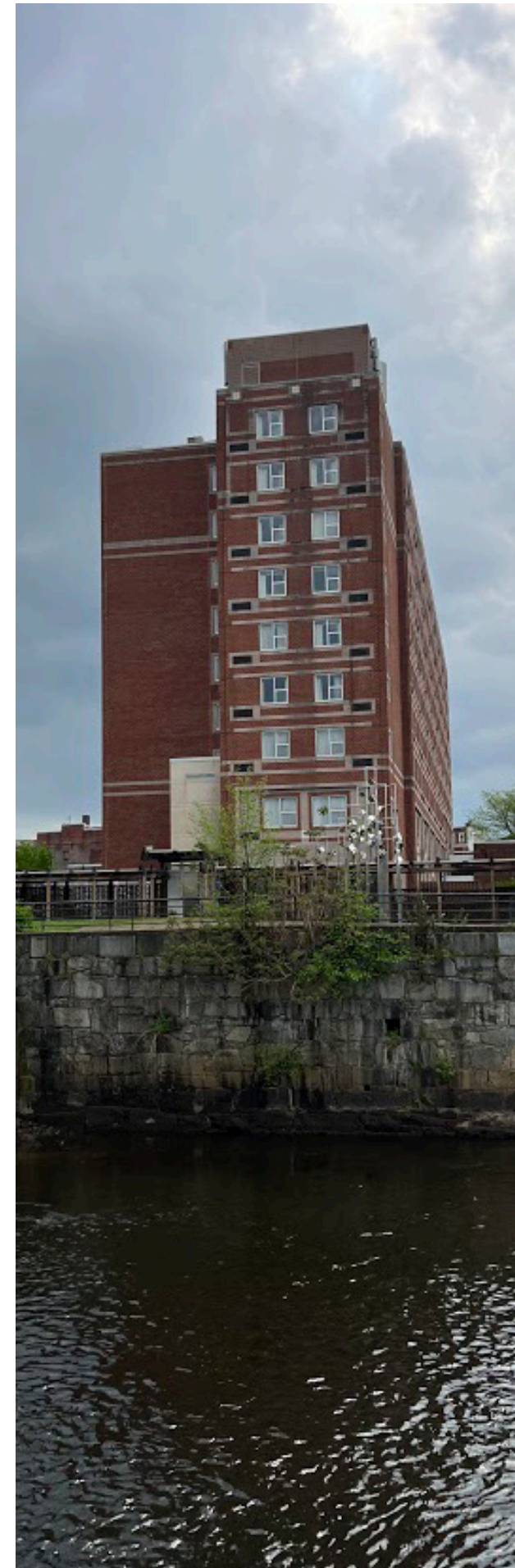
Site Summary

After spending a significant portion of the day in Lowell, we were able to understand and hone in on three major aspects that we as a team would want to address and focus on moving forward in our design. Located on 1 E Merrimack St, the first aspect that came to mind was establishing connections between the site and the rest of Lowell. With it being set right next to the water canal, surrounded by other large scale buildings (Lowell Auditorium), and it being along the end of the bridge, it opened up the possibility for us to take advantage of that. The second aspect that is similar to the first, given it's location, we knew we wanted to create an exterior that was visually appealing for the usual pedestrian and encourage them into our Maker Space building. The third and final aspect that we took away after this site visit was to maximize the square footage we were given by utilizing it to create cooperative workspaces between people using the same spaces, but also attempt to encourage users to learn from others who would be using other maker spaces in the same floor. Through group research, we were also made aware that the usual resident lacks the resources or space to hold certain equipment, whether that be because it's too expensive or too large to fit in a home. We aimed to provide access to these equipments and a comfortable space for any user.

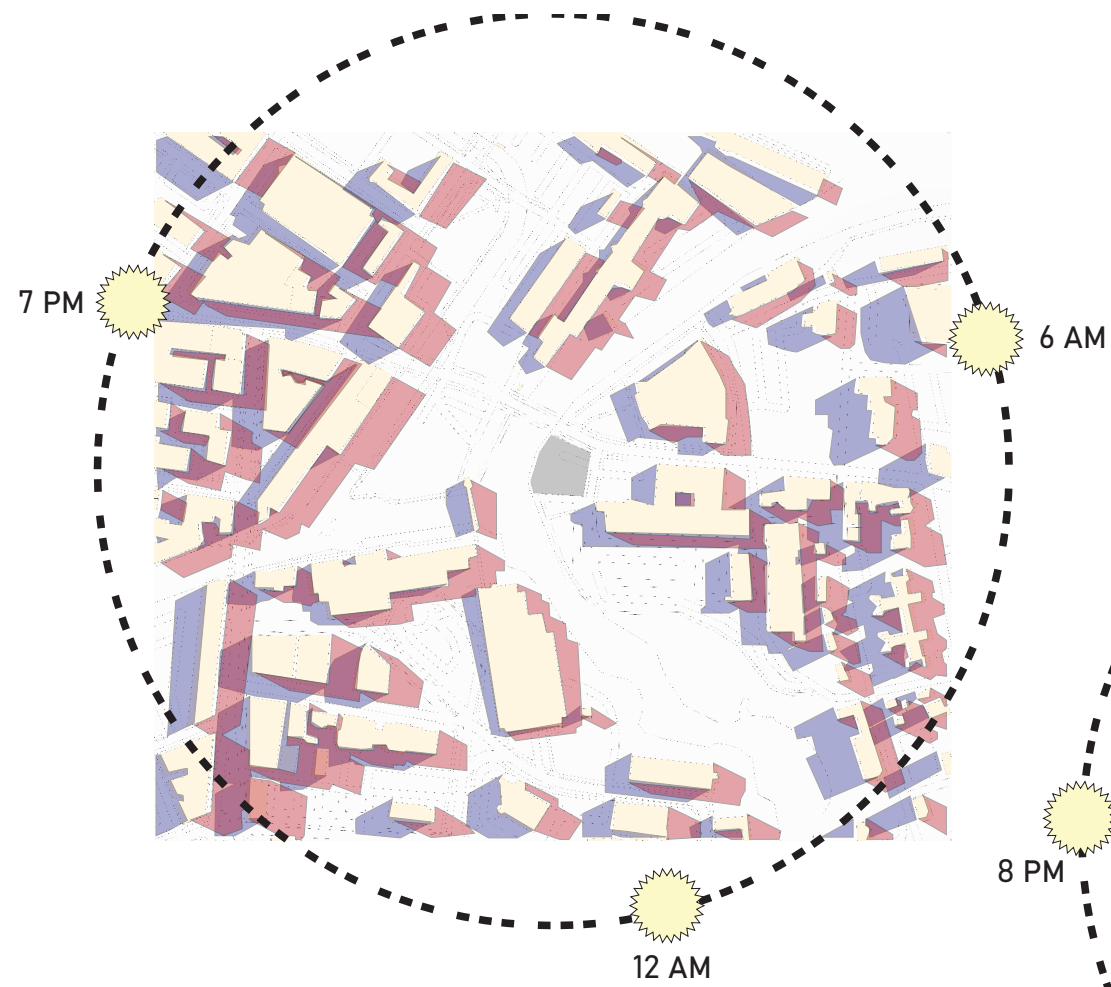
Site Photos



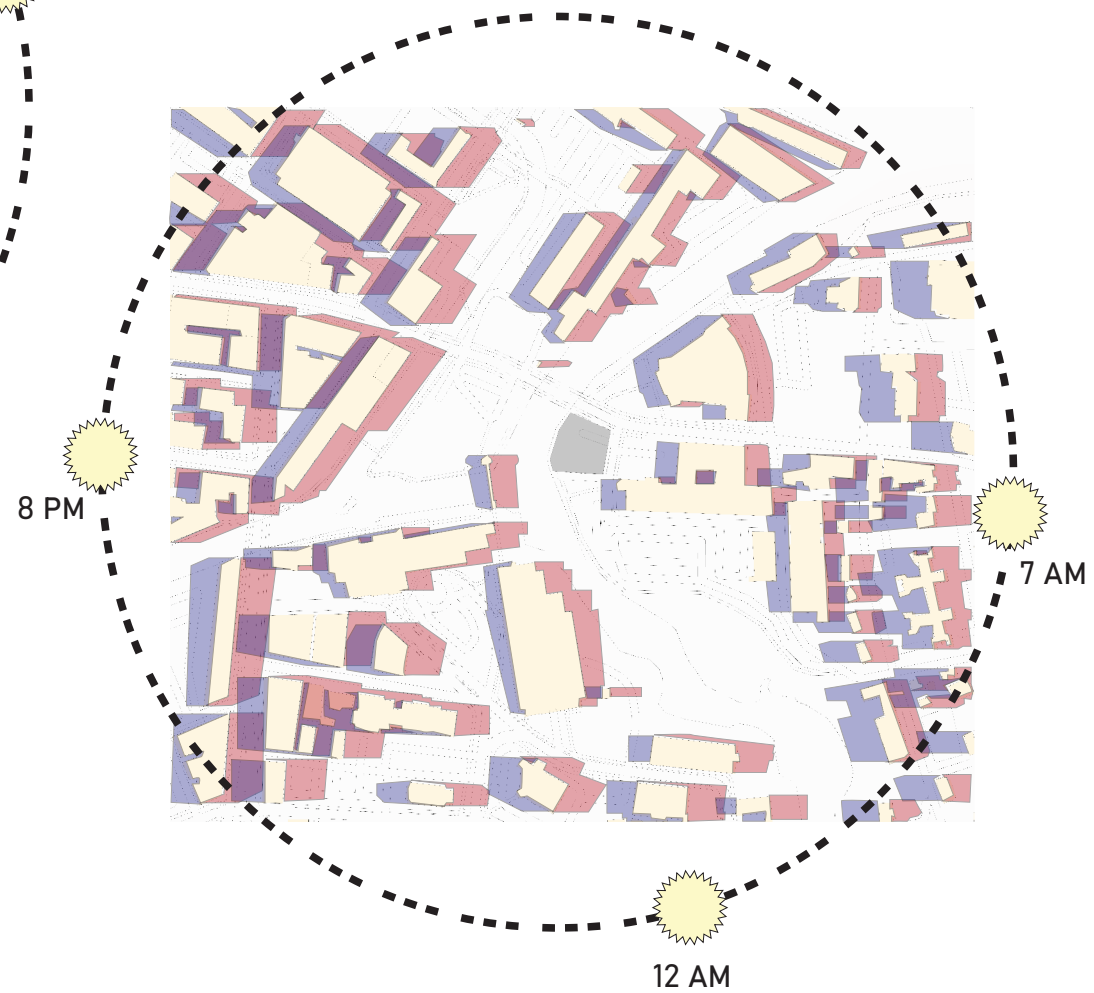
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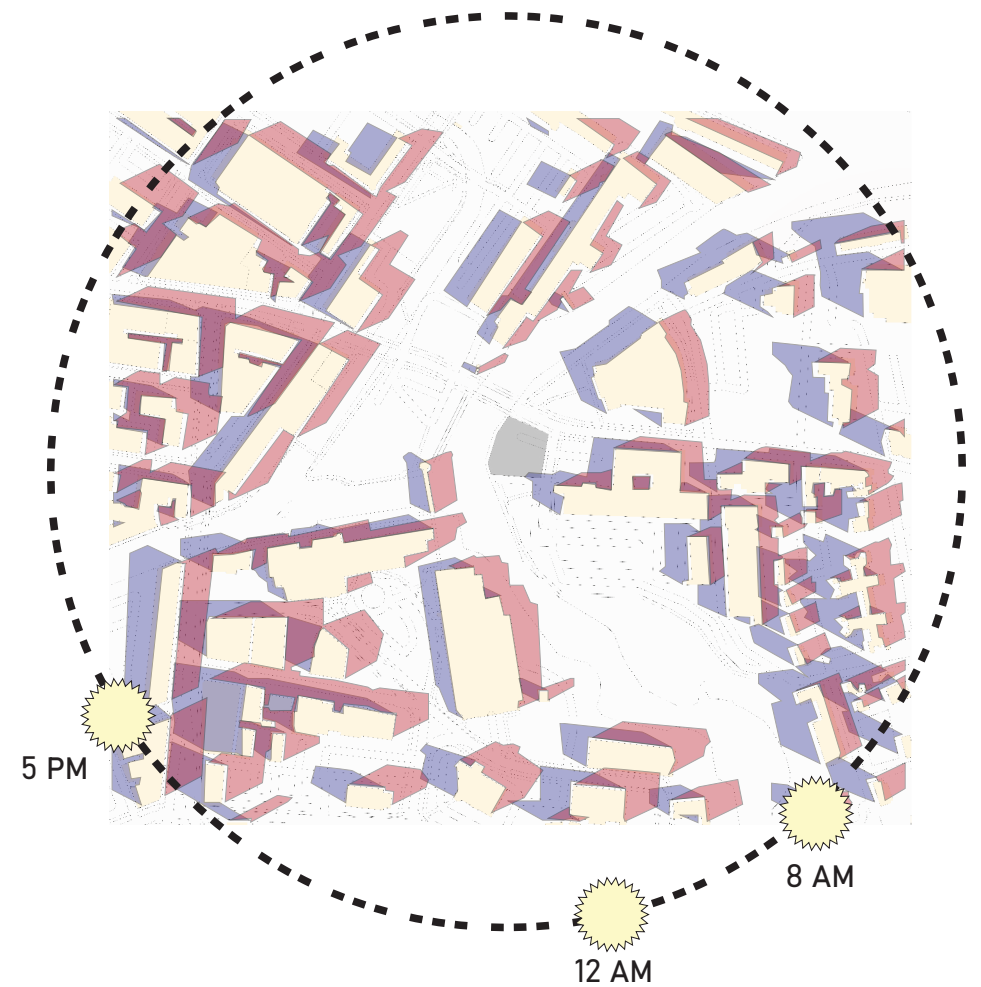
Sun Diagram (Joe Slunt)



SUMMER
SOLSTICE



AUTUMN
EQUINOX



WINTER
SOLSTICE

SHADING STUDY

- - SUN RISE
- - SUN SET

Community Members (Oscar Mendoza)

Lowell hosts a number of festivals and events throughout the year that celebrate the heritage and history of the city, as well as celebrating their growing community with festivals.

Lowell African Festival celebrates the growing African-American in Lowell and the surrounding areas as well. This year's festival will take place on June 18th in Pawtucketville.

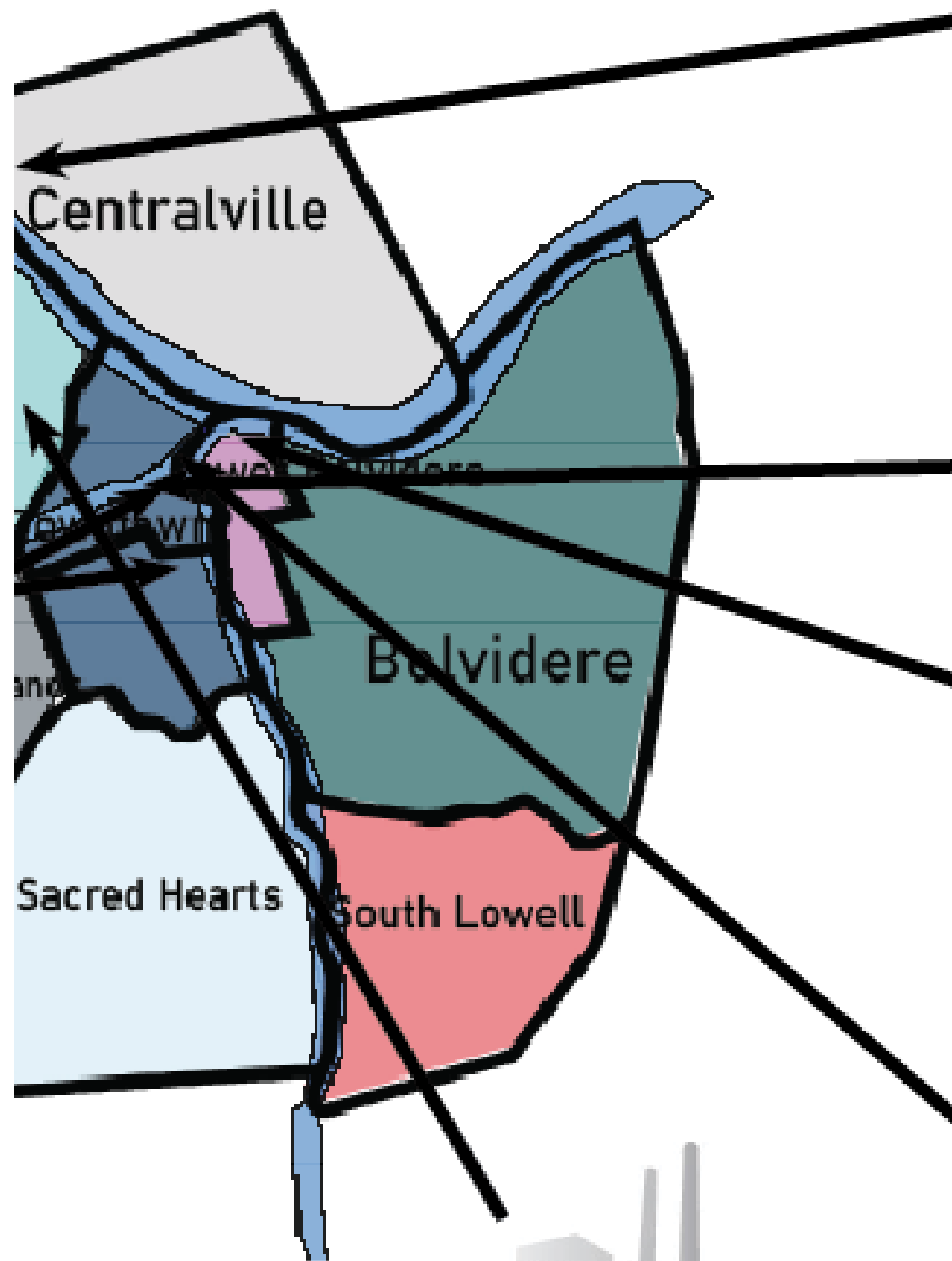
Lowell Irish Cultural Week is a celebration of the Irish culture and heritage of Lowell. Most of their events take place in the Highlands in the early weeks of March.

Lowell Folk Festival is a three-day celebration of folk music and traditional arts which boasts large attendances. It occurs in Downtown from July 29 to July 31.

Lowell Kinetic Sculpture Race takes place in the month of September. It is an event that promotes the STEAM field where various groups of people, engineering, tech, mathematicians, artists, science, come together to create a kinetic sculpture and race off against each other.

Lowell Celebrates Kerouac Festival is a celebration of Jack Kerouac's works and his roots to the city of Lowell. It takes place during October





Lowell Women's Week is a celebration that recognizes the achievements, struggles, and contributions of the women in Lowell's past and present community. Various of their events take place throughout the city. It takes place during the month of March



Doors Open Lowell is a celebration of preservation, architecture, and design where many historic buildings that usually have limited public access are open for anybody to view.



Lowell Southeast Asian Water Festival is a celebration of the Asian community in Lowell, a community that is the second largest in the entire city. It's first fesitval took place in 1997 and has continued ever since, and it takes place around the month of August.

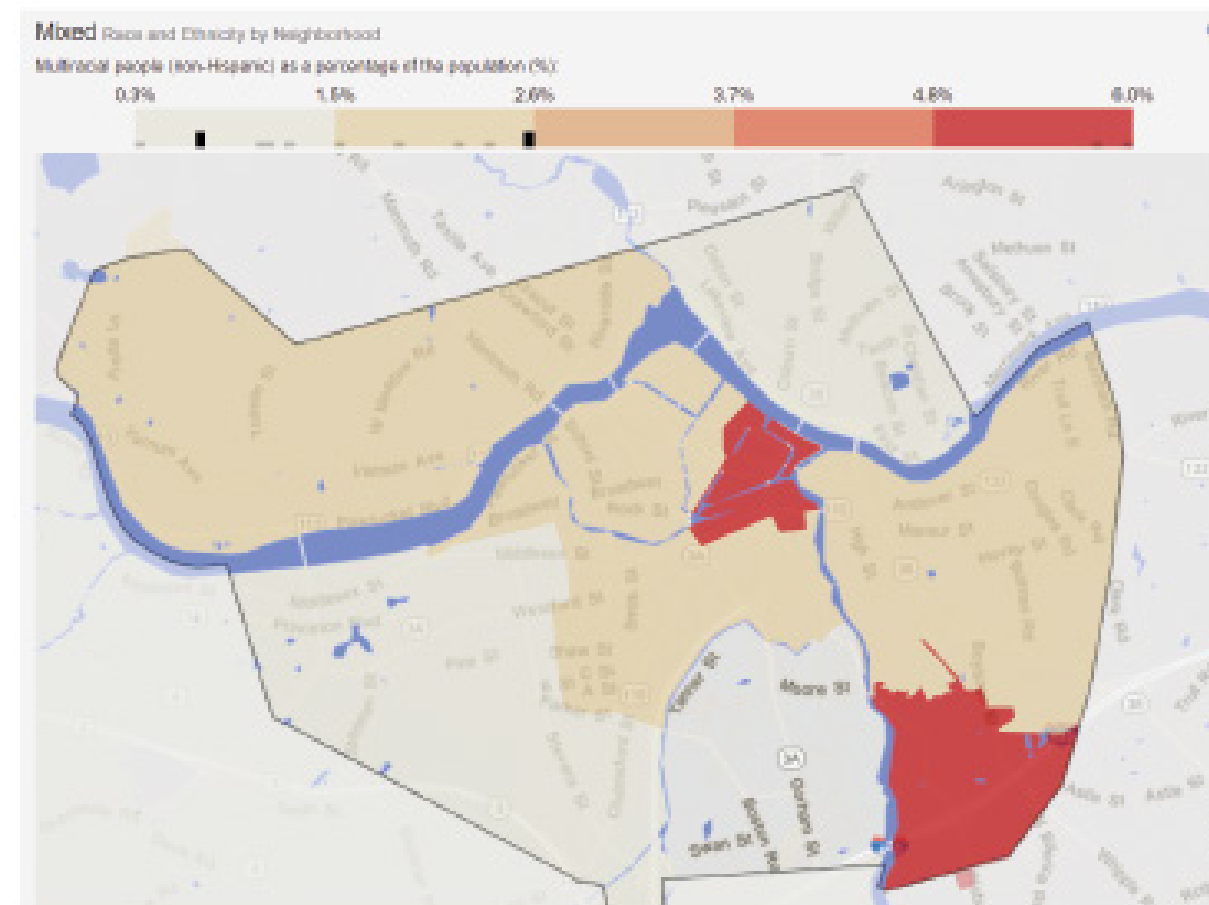
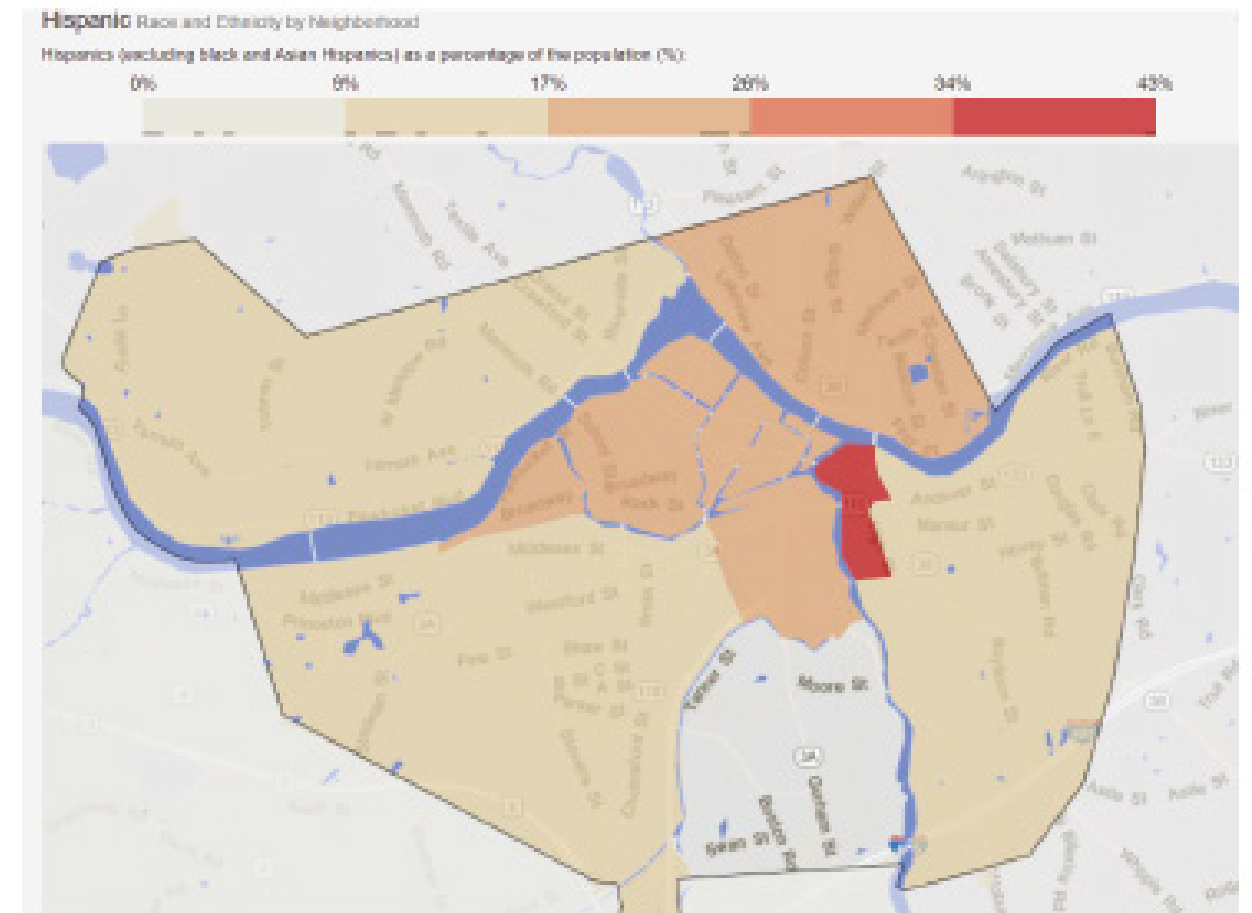
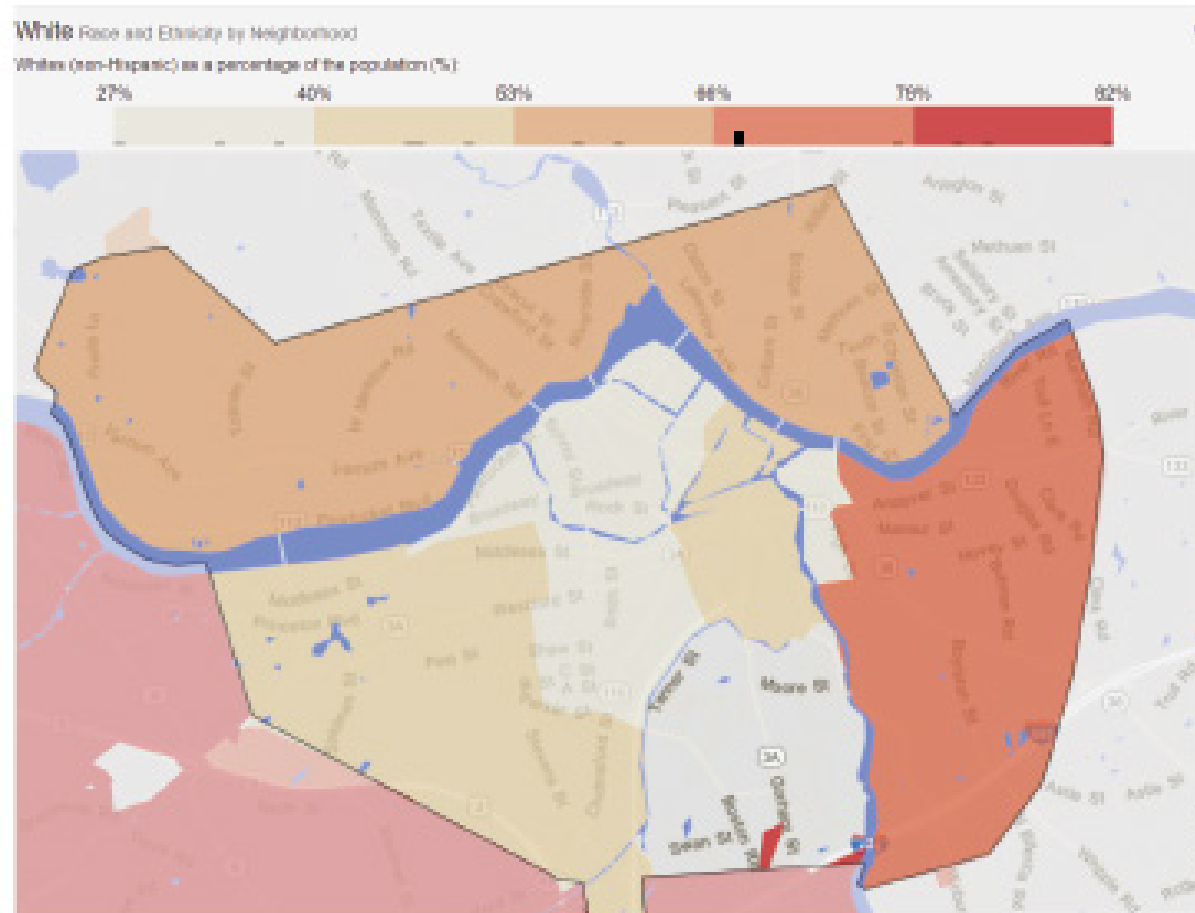


The Winterfest is hosted at the Lowell Memorial Auditorium in Downtown. It takes place in Feburary to celebrate the winter season and it coincides with the city's birthday.

The Lowell Film Festival takes place at the end of April where they showcase documentaries and feature-length films that focuses on topics of interest of Lowell



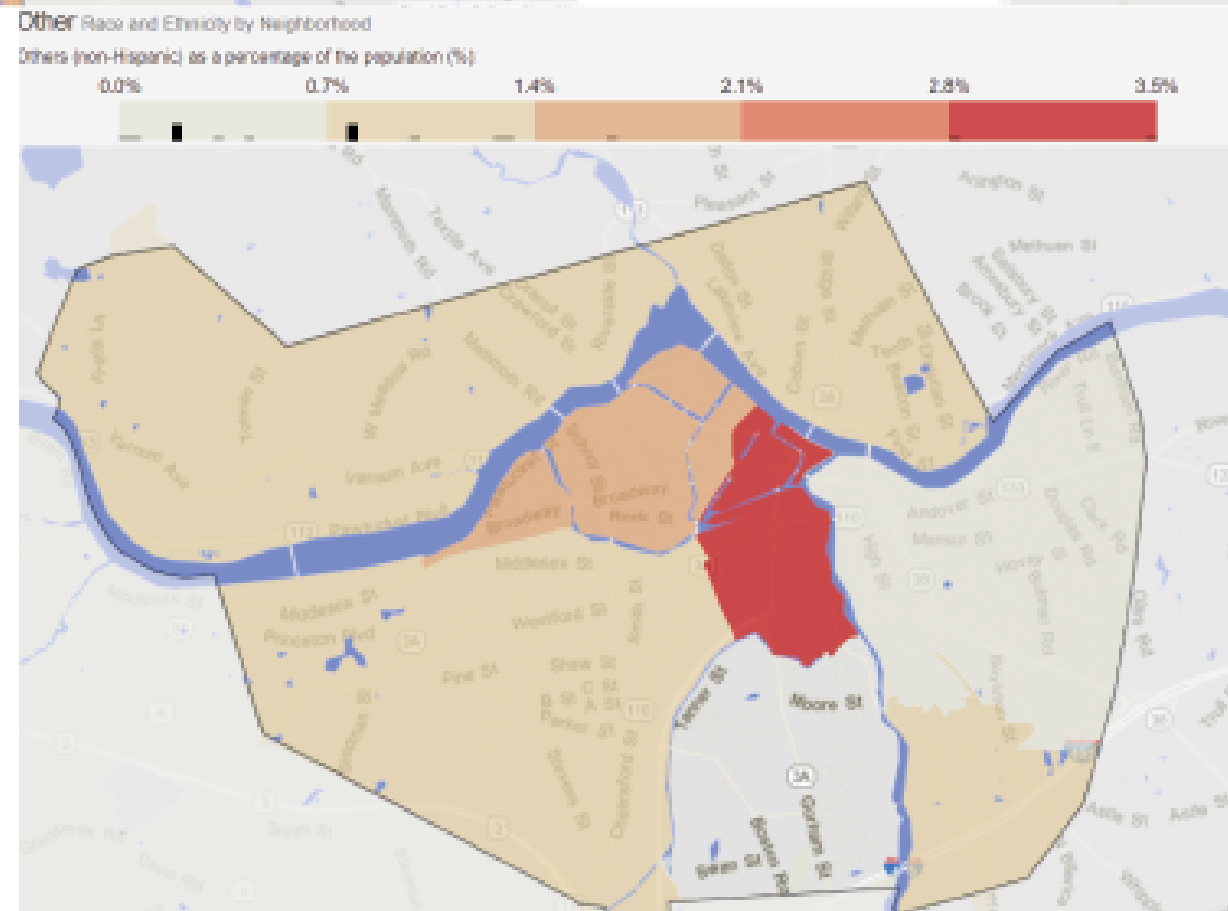
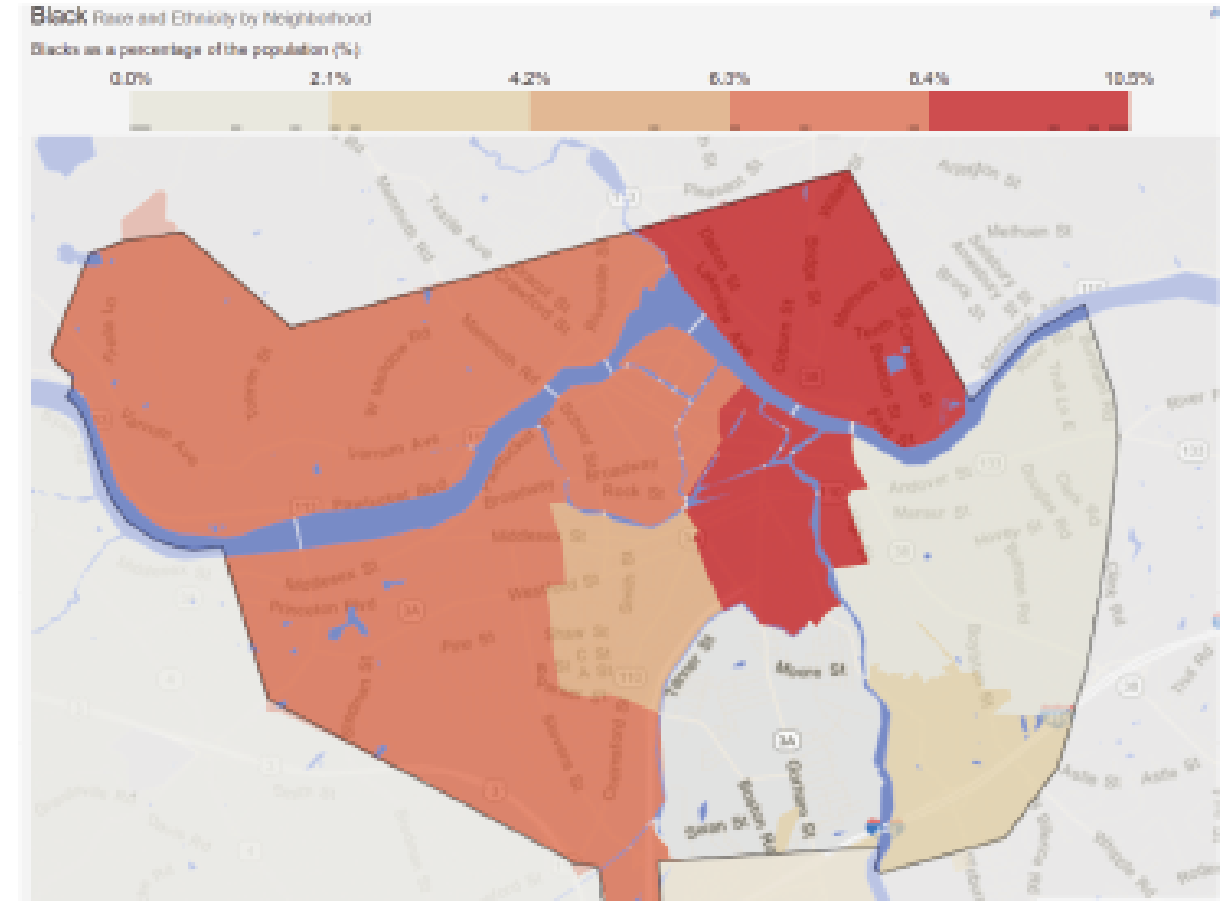
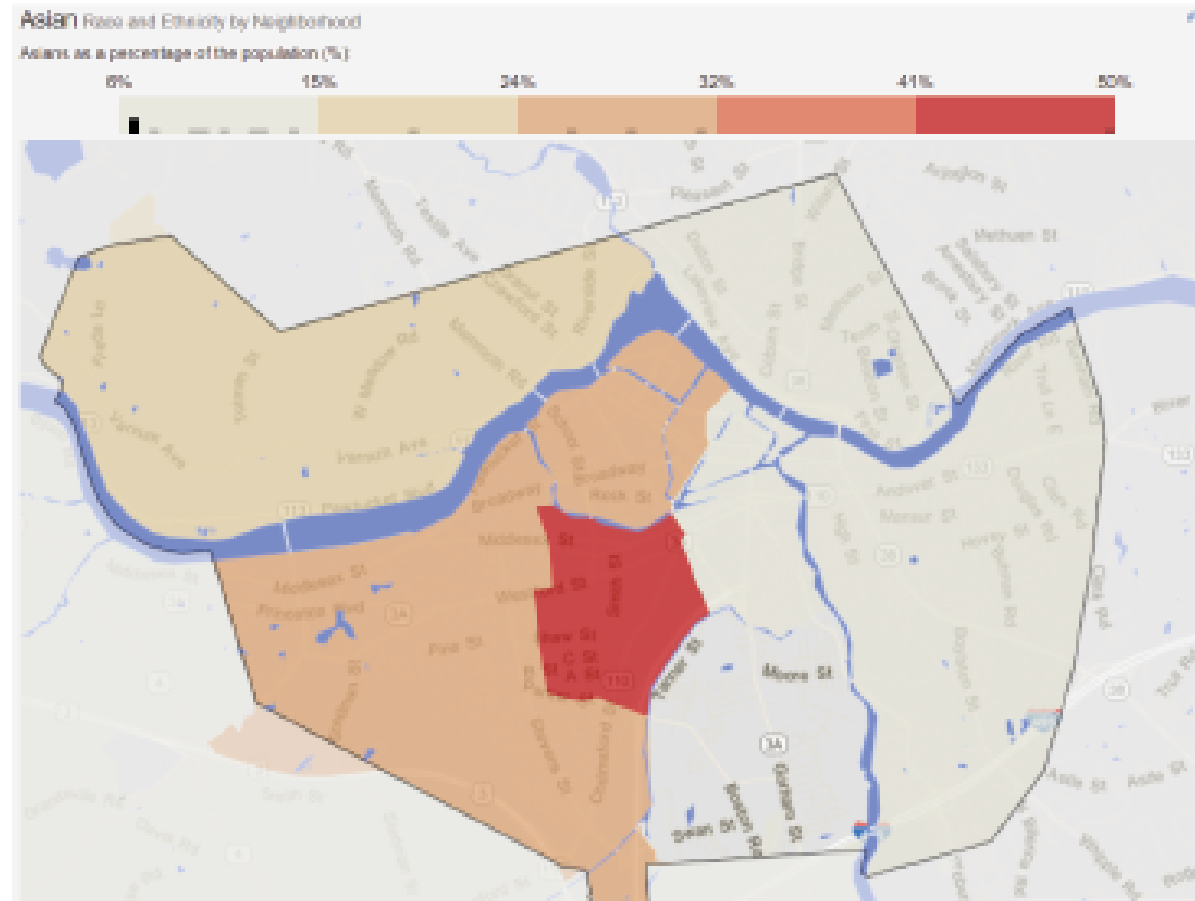
Cultural Demographics (Oscar Mendoza)



The majority population of Lowell is White at 49.4%. While it has largely remained like this, in recent years that number has slowly started to decrease as more people of different racial groups begin to move to the city. The neighborhoods where they are more populated (density-wise) are Belvidere & South Lowell, and Pawtucketville & Centralville

Lowell's Hispanic population sits at 18.7%. The population density is much more dispersed compared to the other maps. Lower Belvidere is the neighborhood with the highest density with all the other neighborhoods sharing a similar figure aside from Sacred Hearts


The mixed racial group makes up 2.1% and while they make up a small percentage, they occupy Downtown and South Lowell.



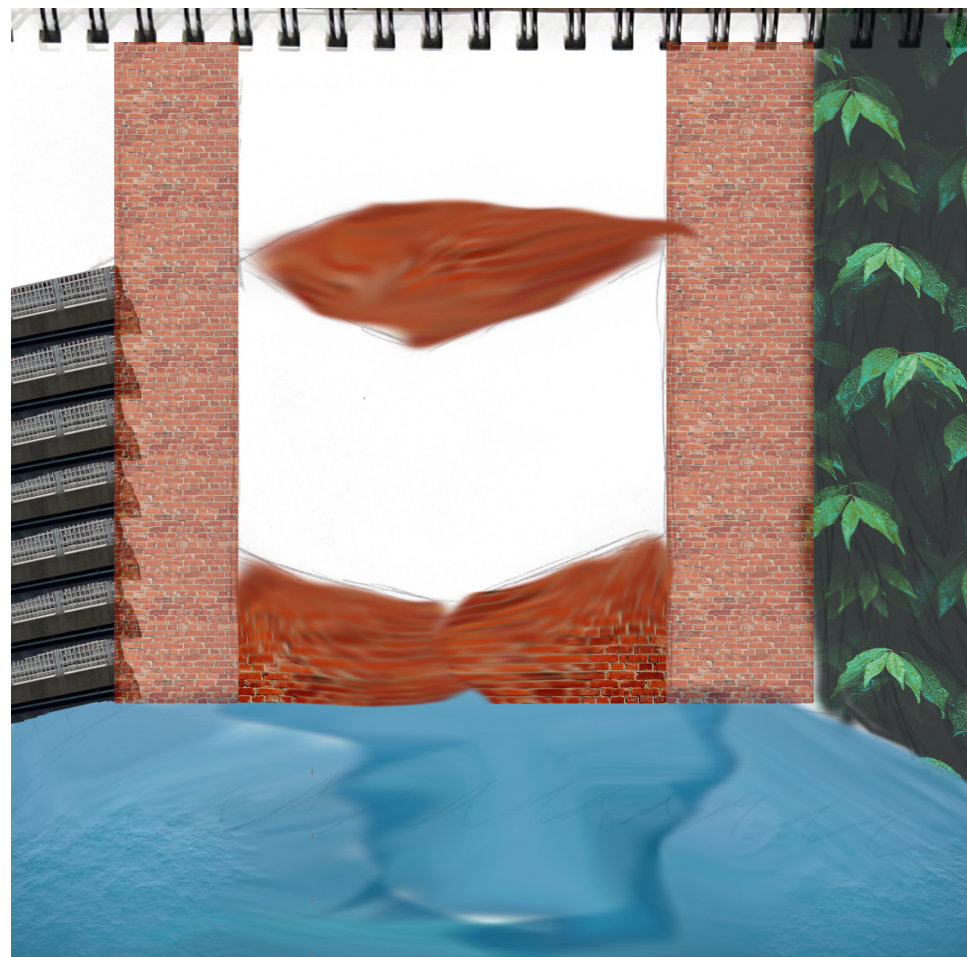
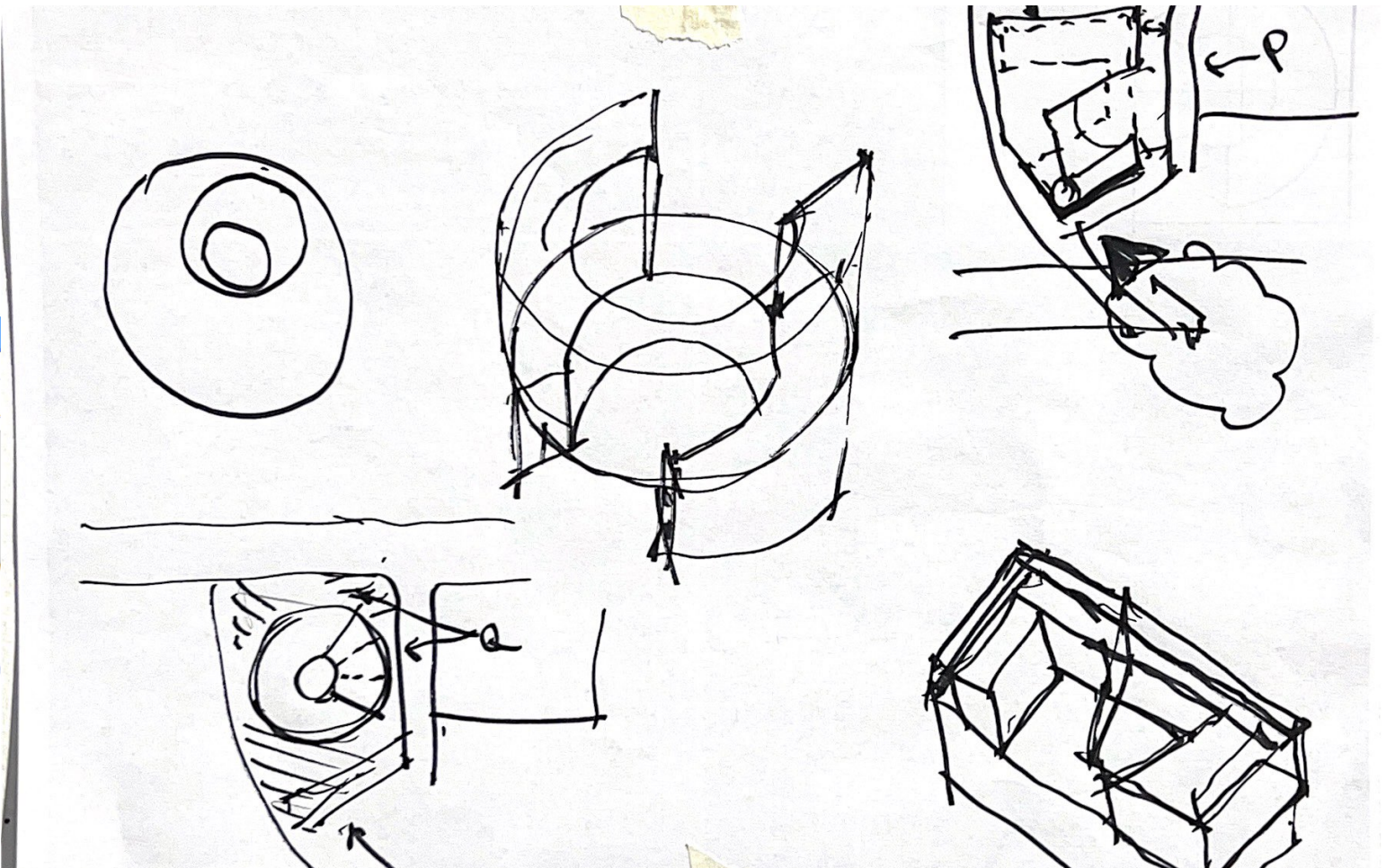
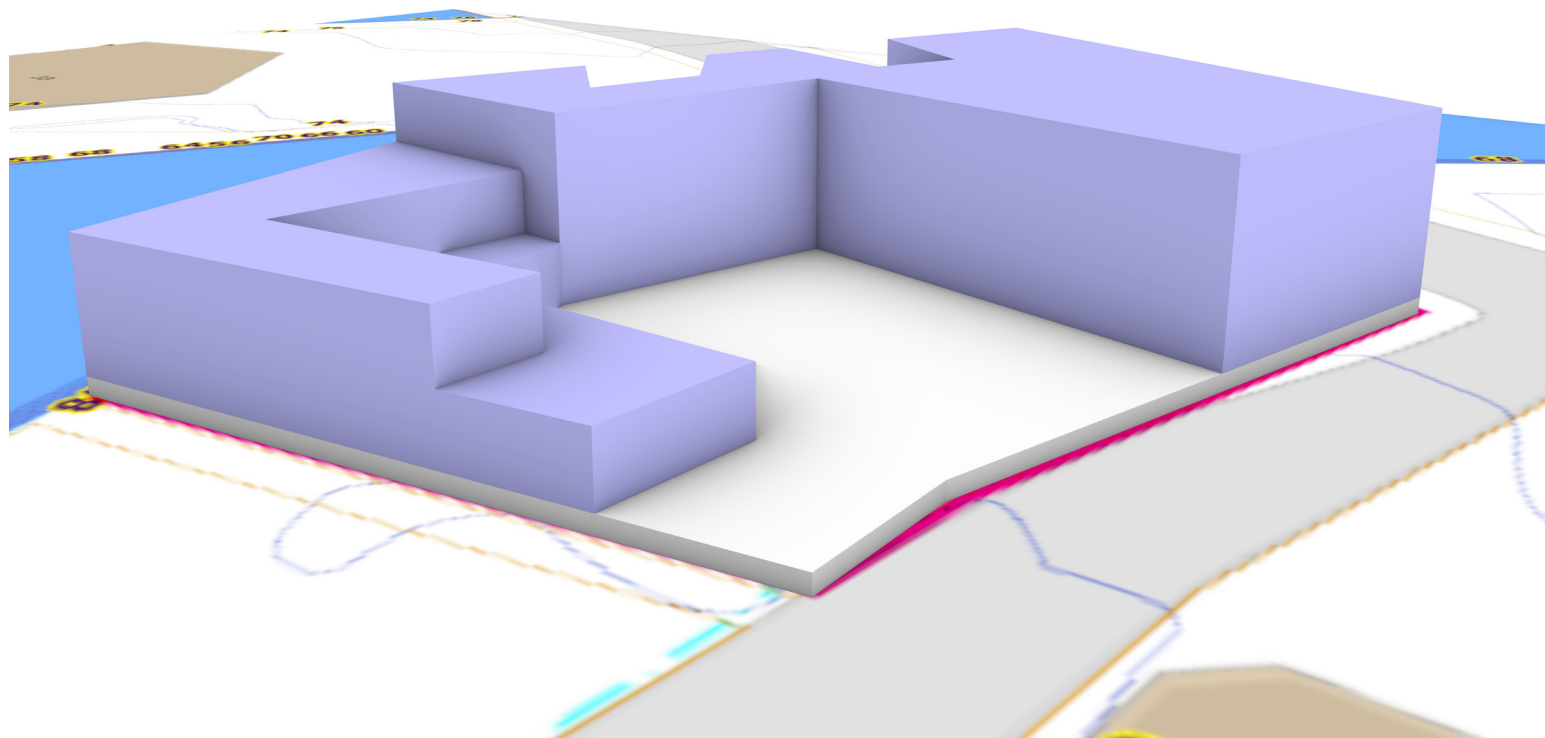
Lowell's Asian population makes up 21.2% and it boasts the largest Asian population that is of Cambodian origin in the U.S at 12.5%. The population density is primarily in the western region of Lowell which comprises of Lower Highlands (where we see the highest percentage), Highlands, Arce, and Pawtucketville.

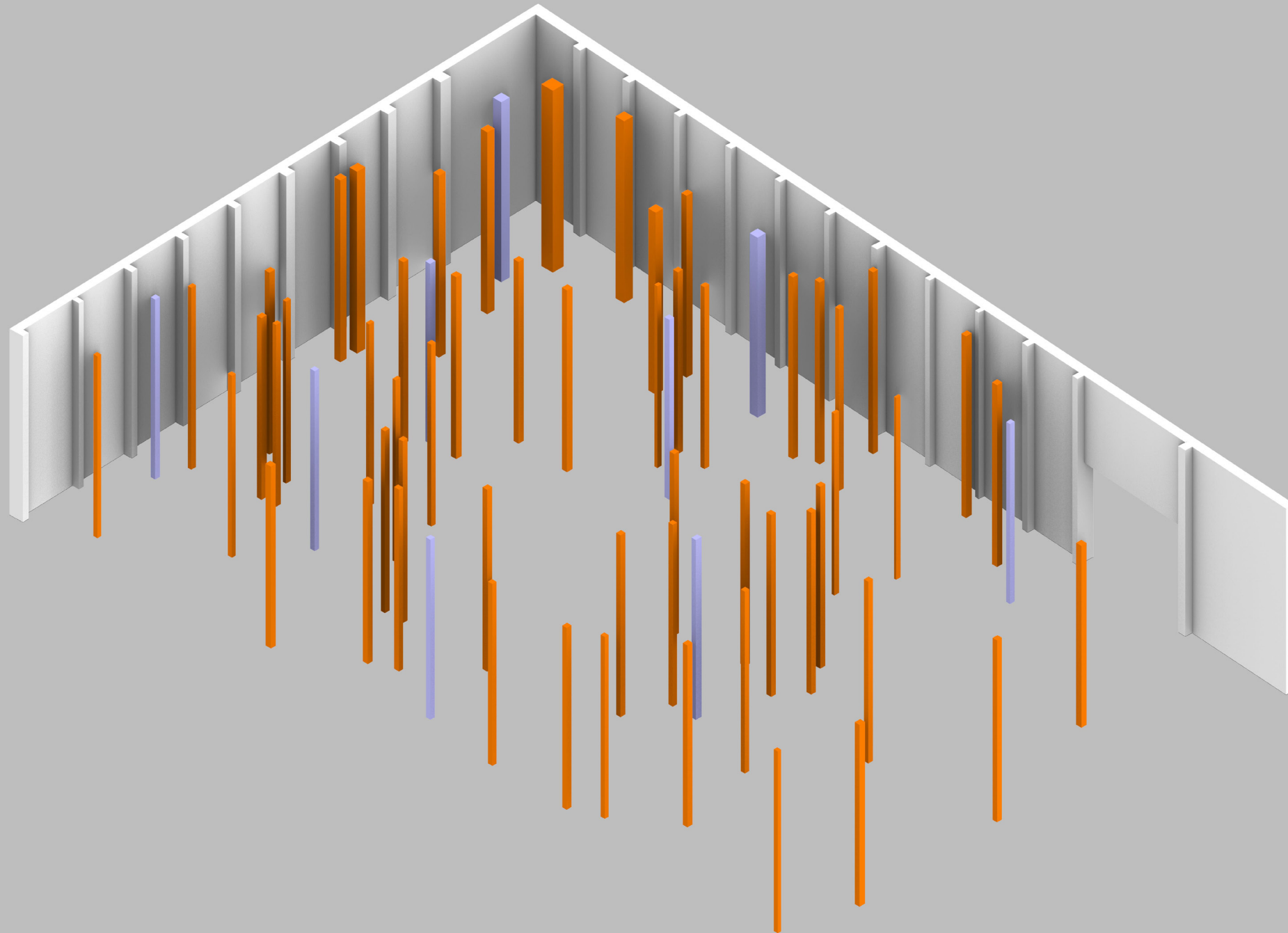
Lowell's African American population makes up 7.2%. While they make up a small percentage of the overall population, they are similarly disbursed as the Hispanic racial group. The neighborhoods with the highest density percentage is Centralville, Downtown & Lower Belvidere, while Pawtucketville, Acre & Highlands also have a large density percentage.

Groups classified under "other" makes up 1.3% and can be pinpointed to Downtown & Lower Belvidere, similarly to the Mixed racial group.

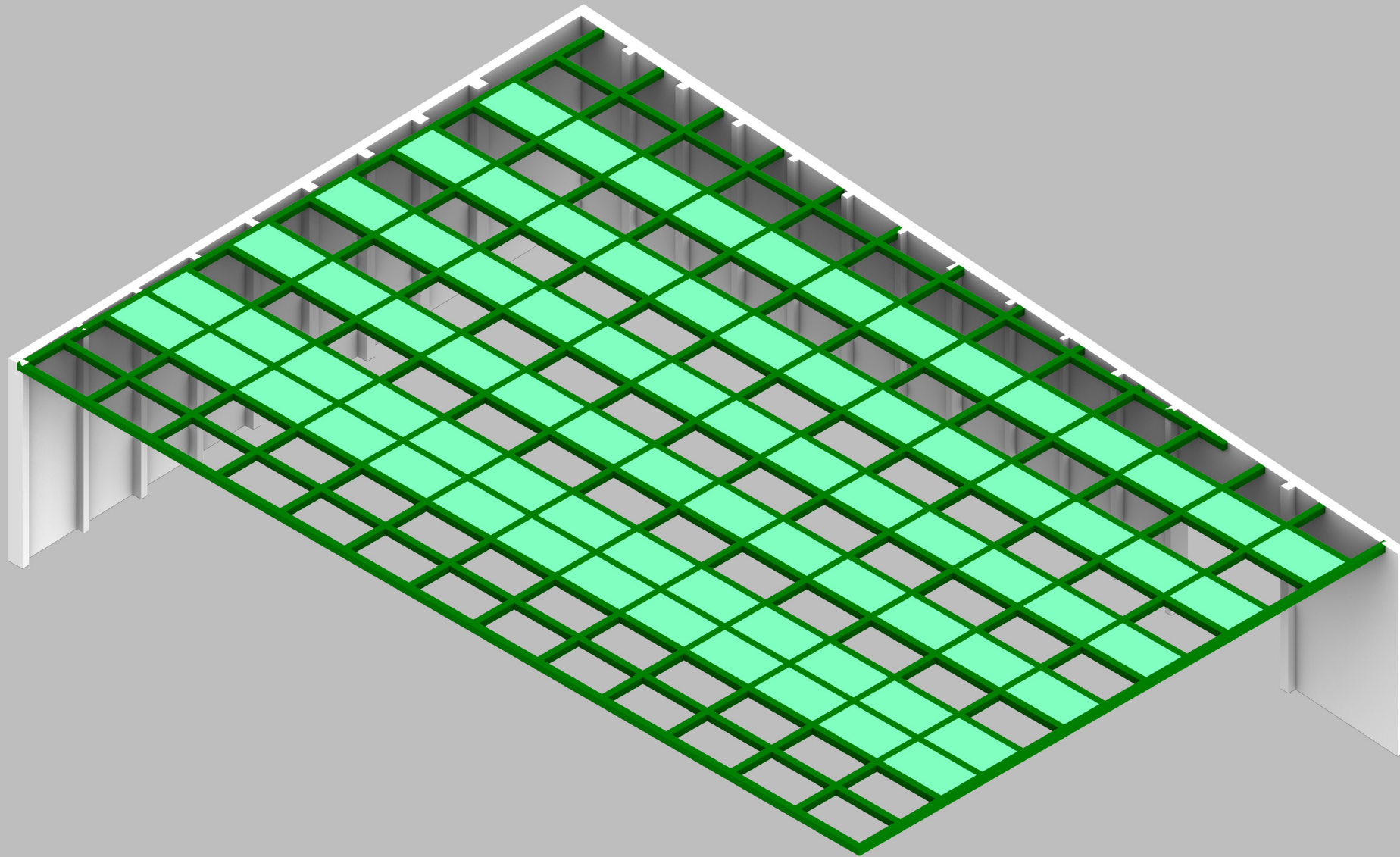


**Phase 2: Precedent
Analysis & Initial
Concepts**

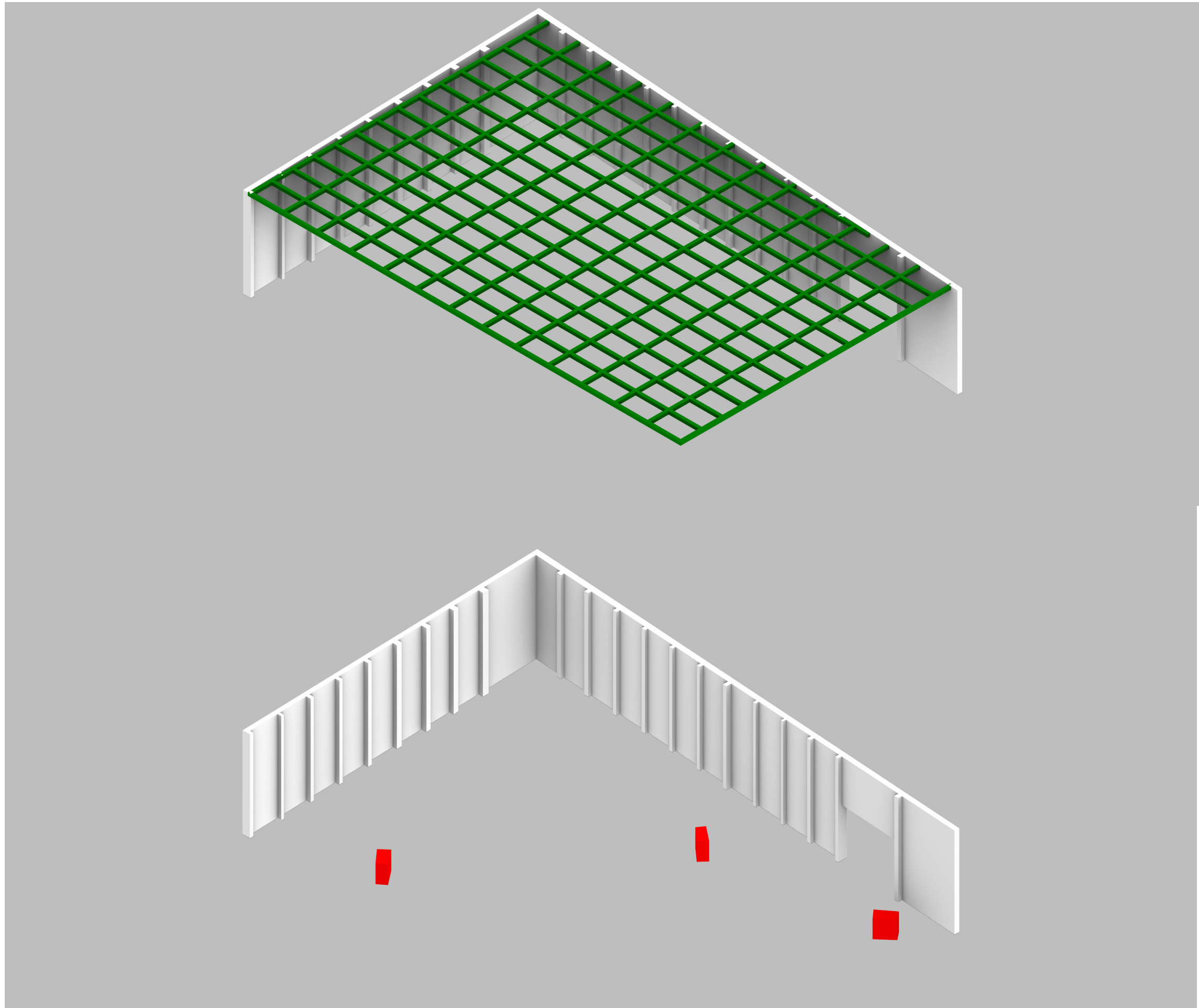




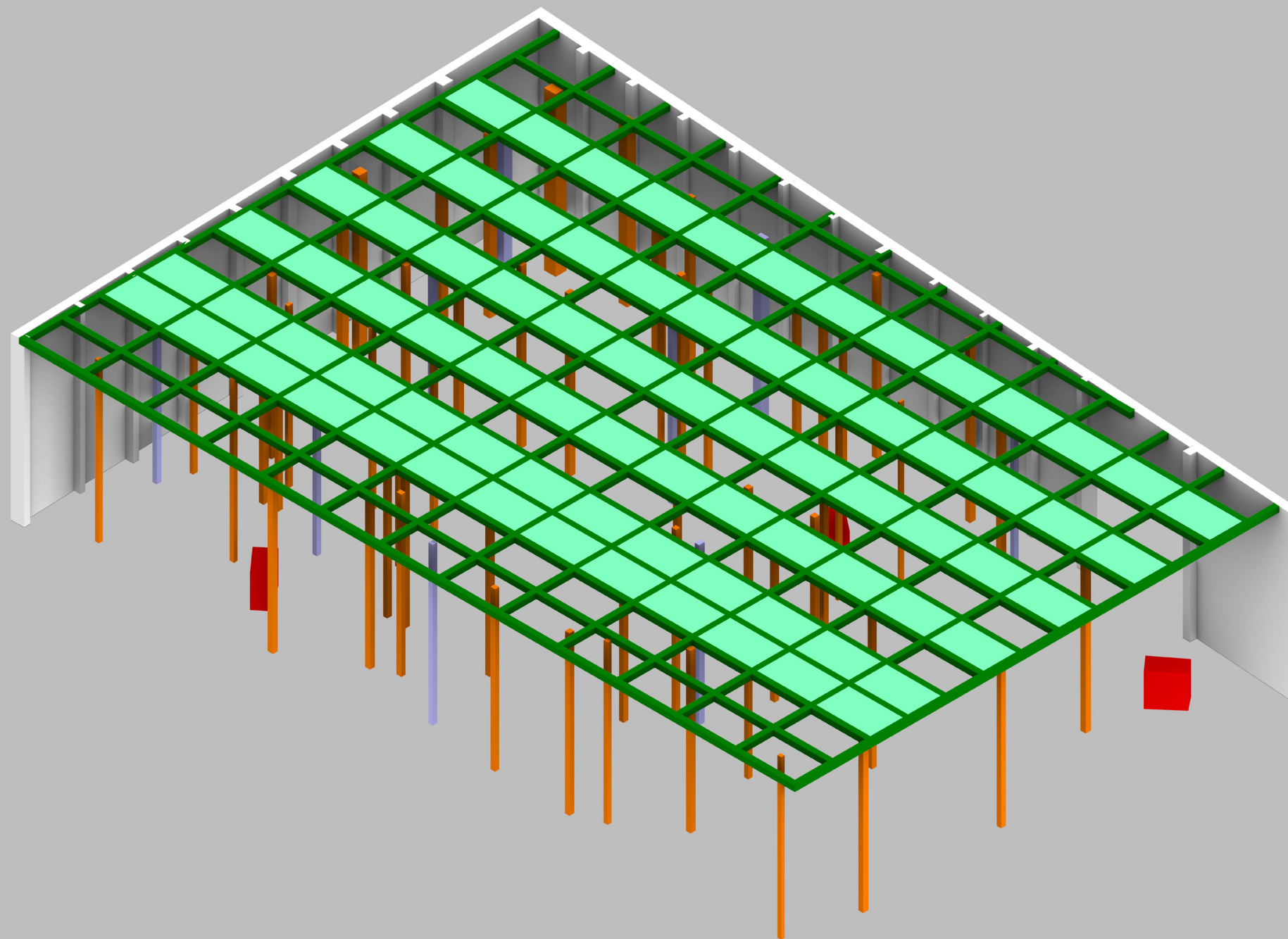
Enclosure

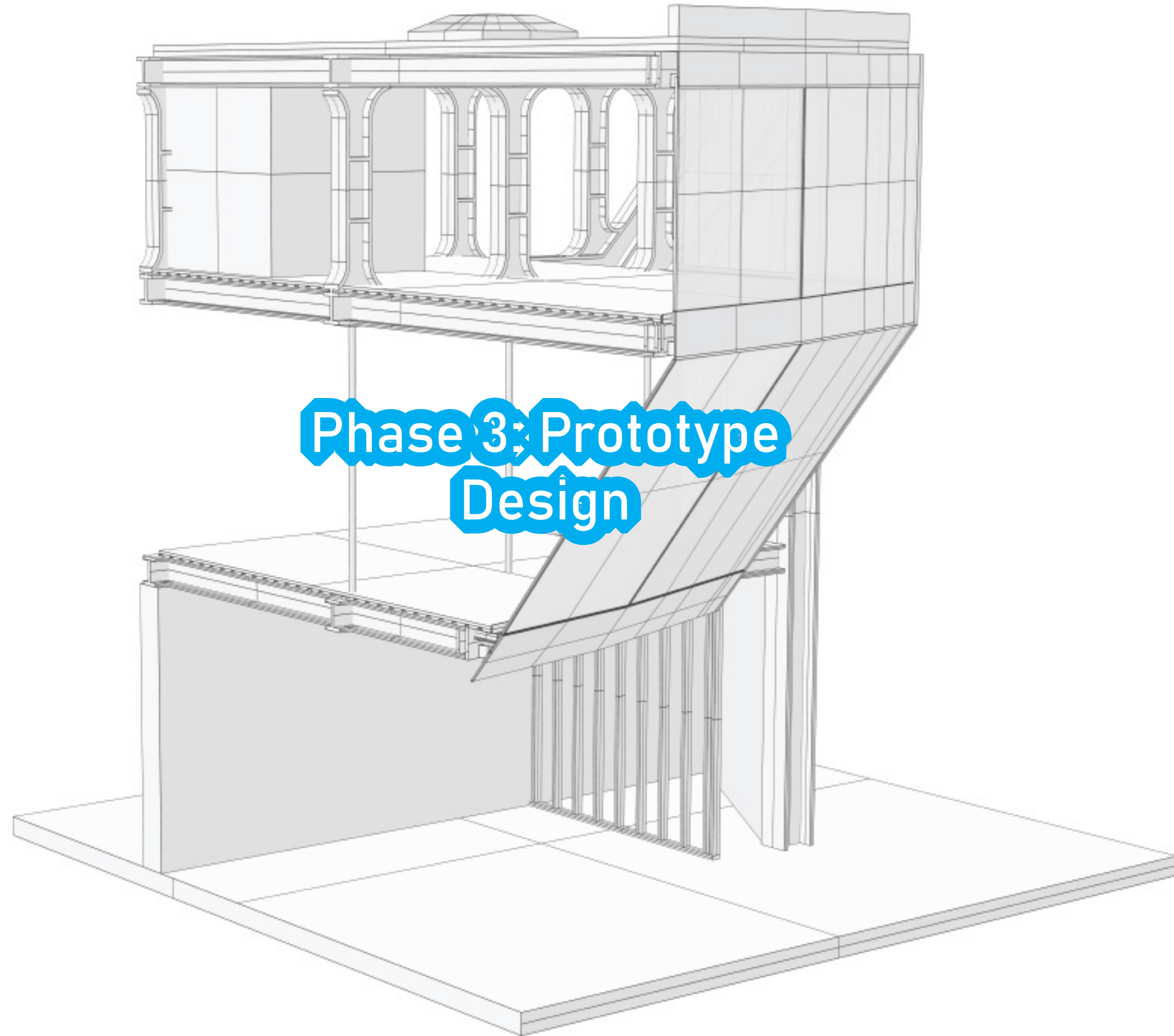


Environmental Control Systems

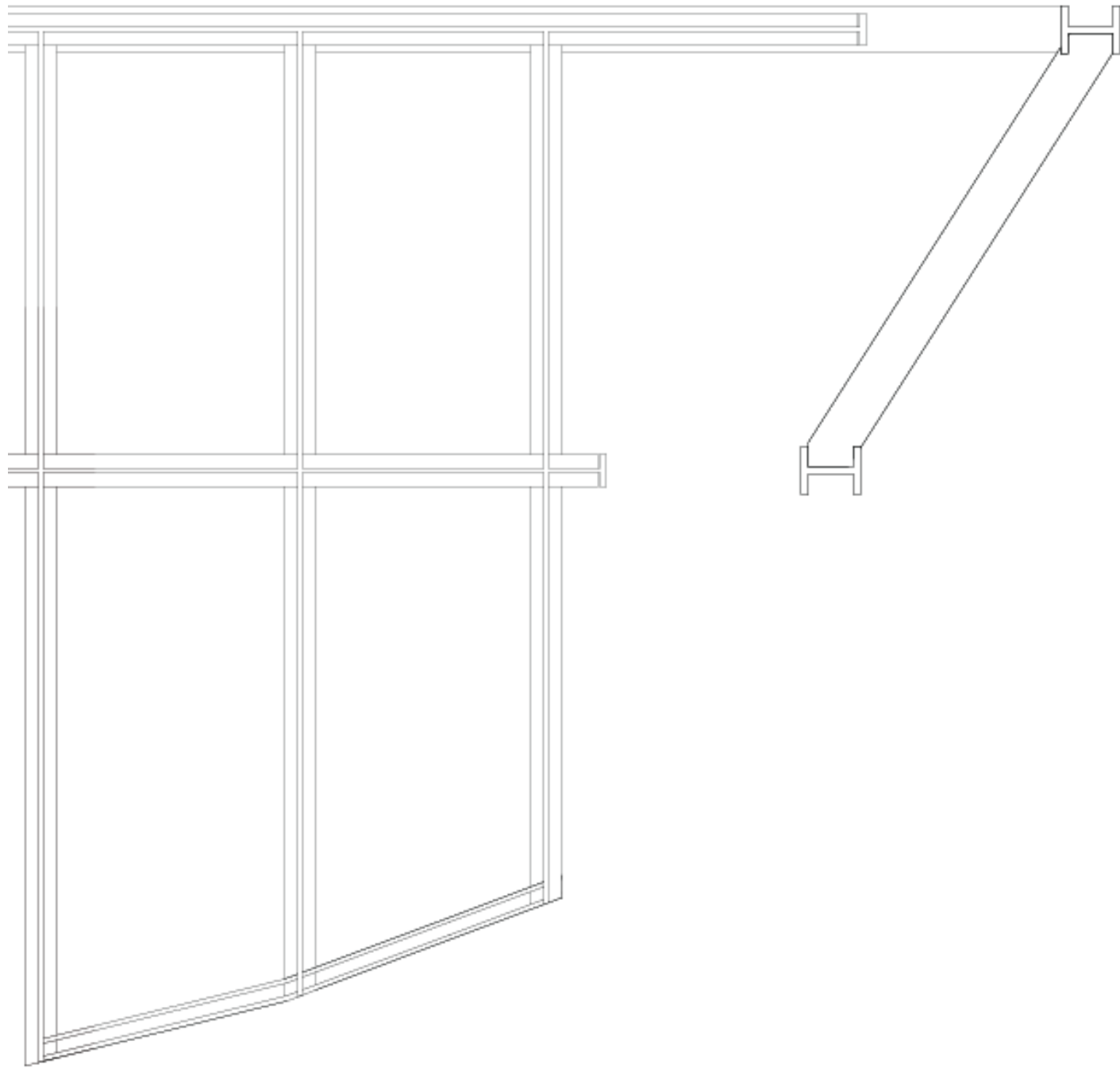


Composite Model



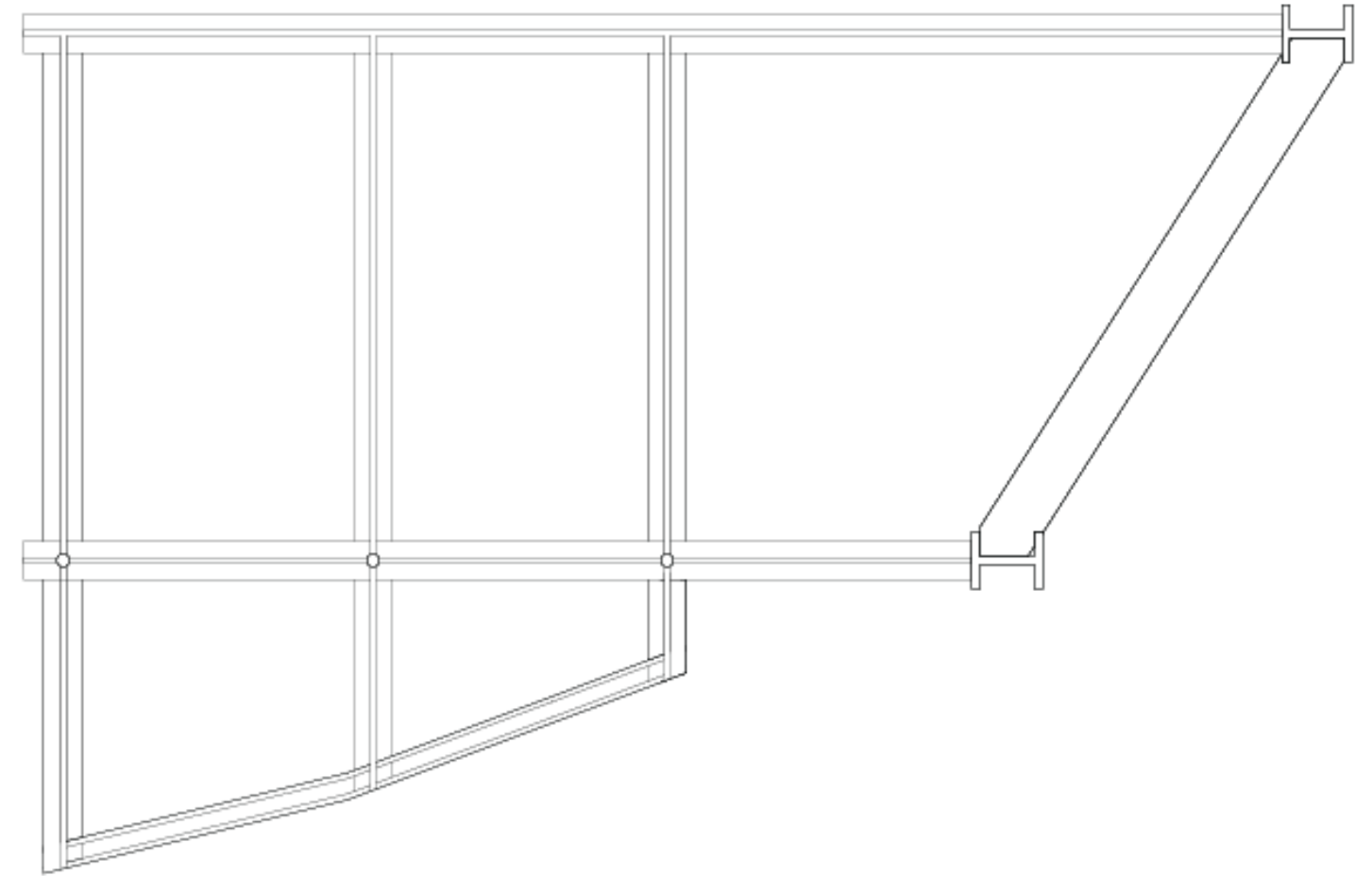


Prototype Floor Plans



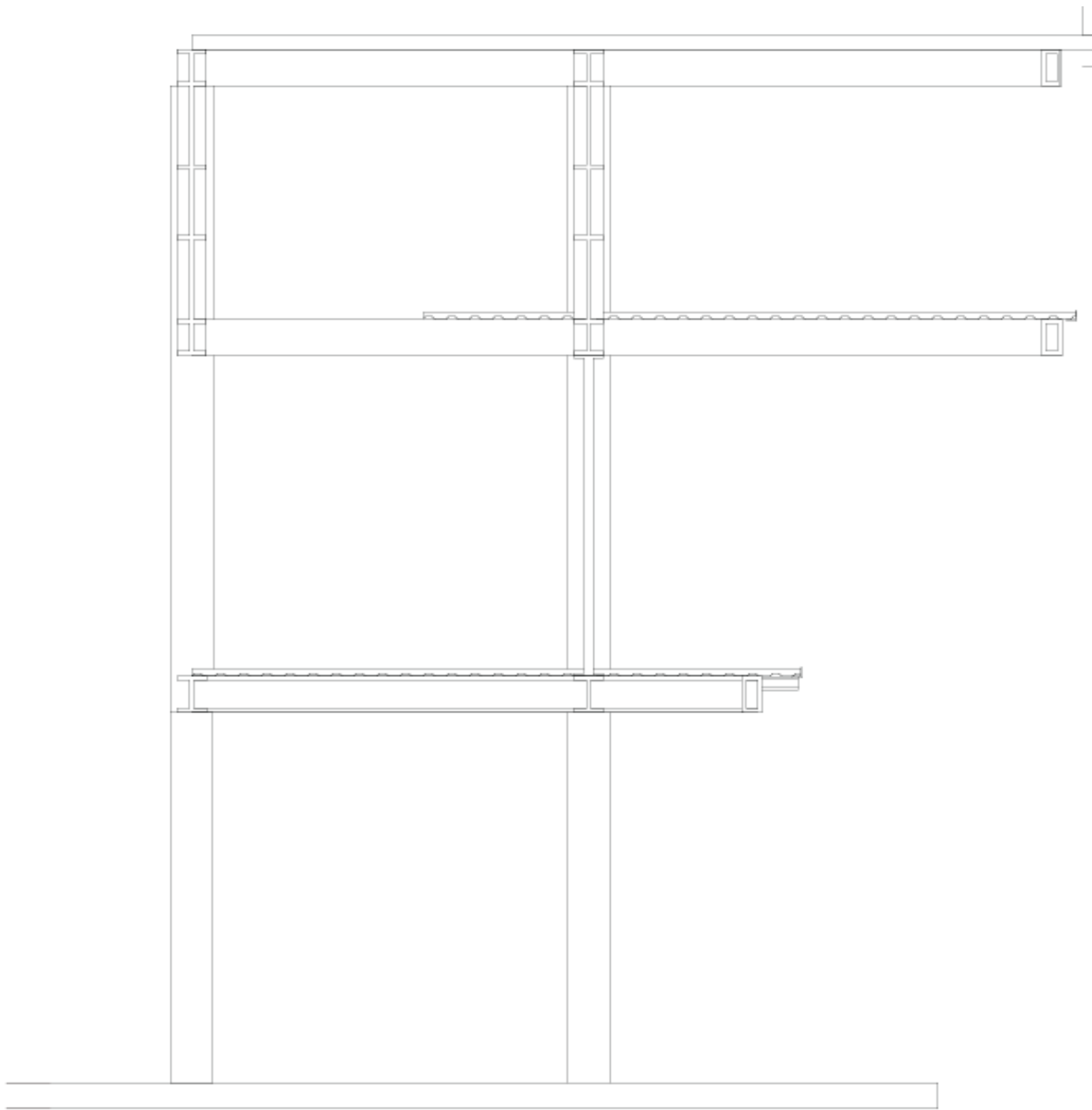
First Floor Plan
Scale: 1' = 1/4"

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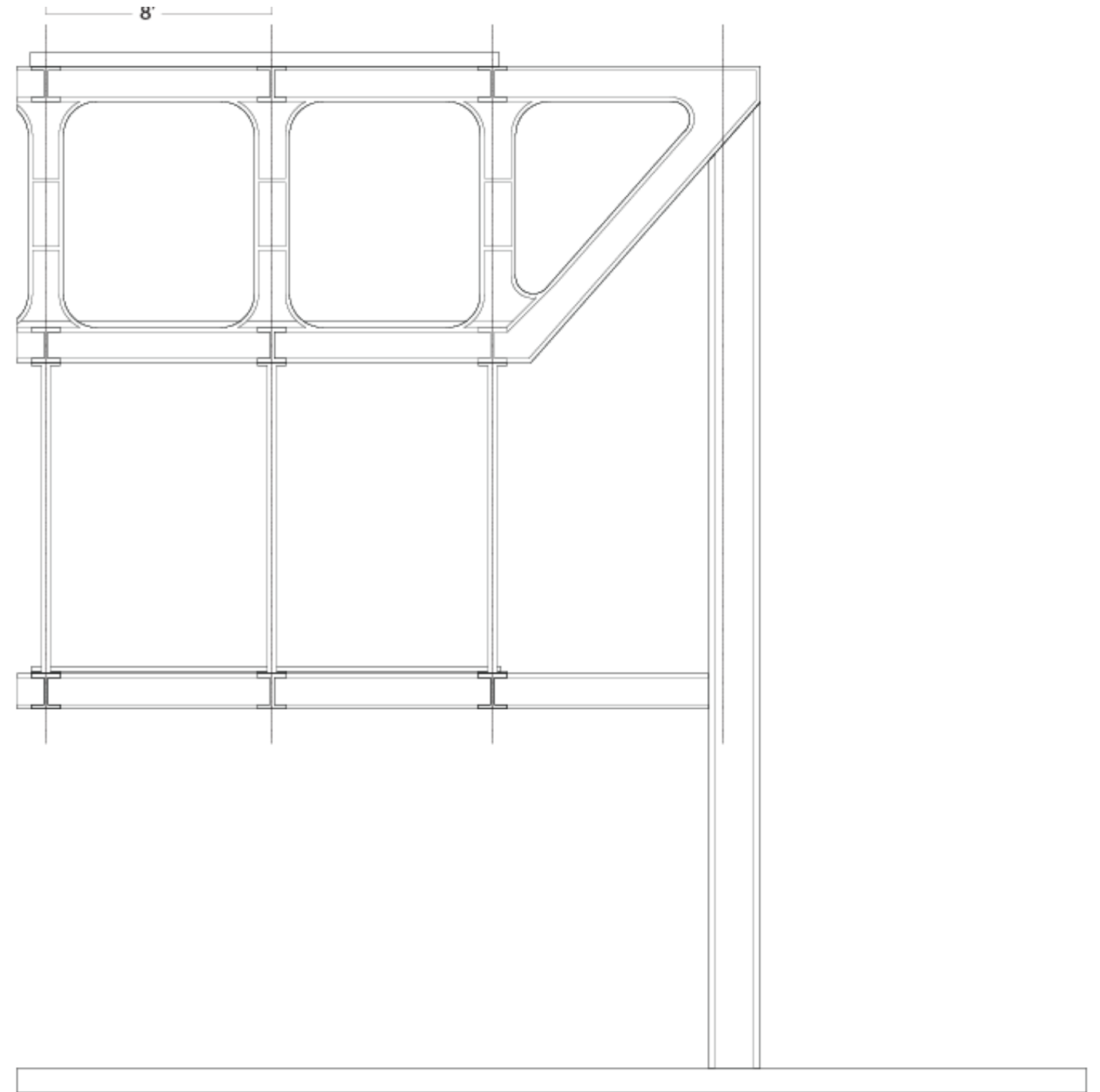


Second Floor Plan
Scale: 1' = 1/4"

Prototype Sections



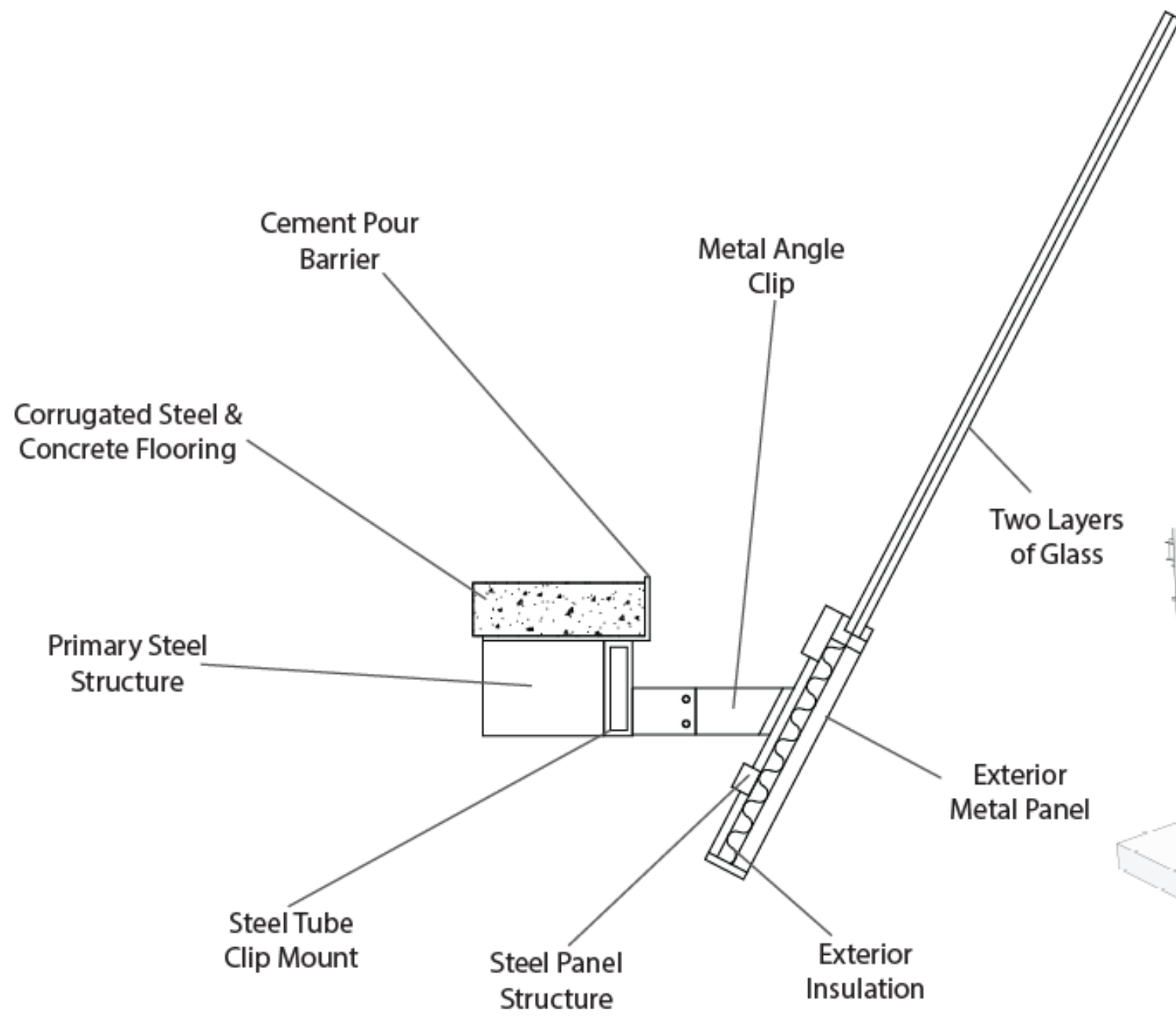
Left Section
Scale: 1' = 1/4"



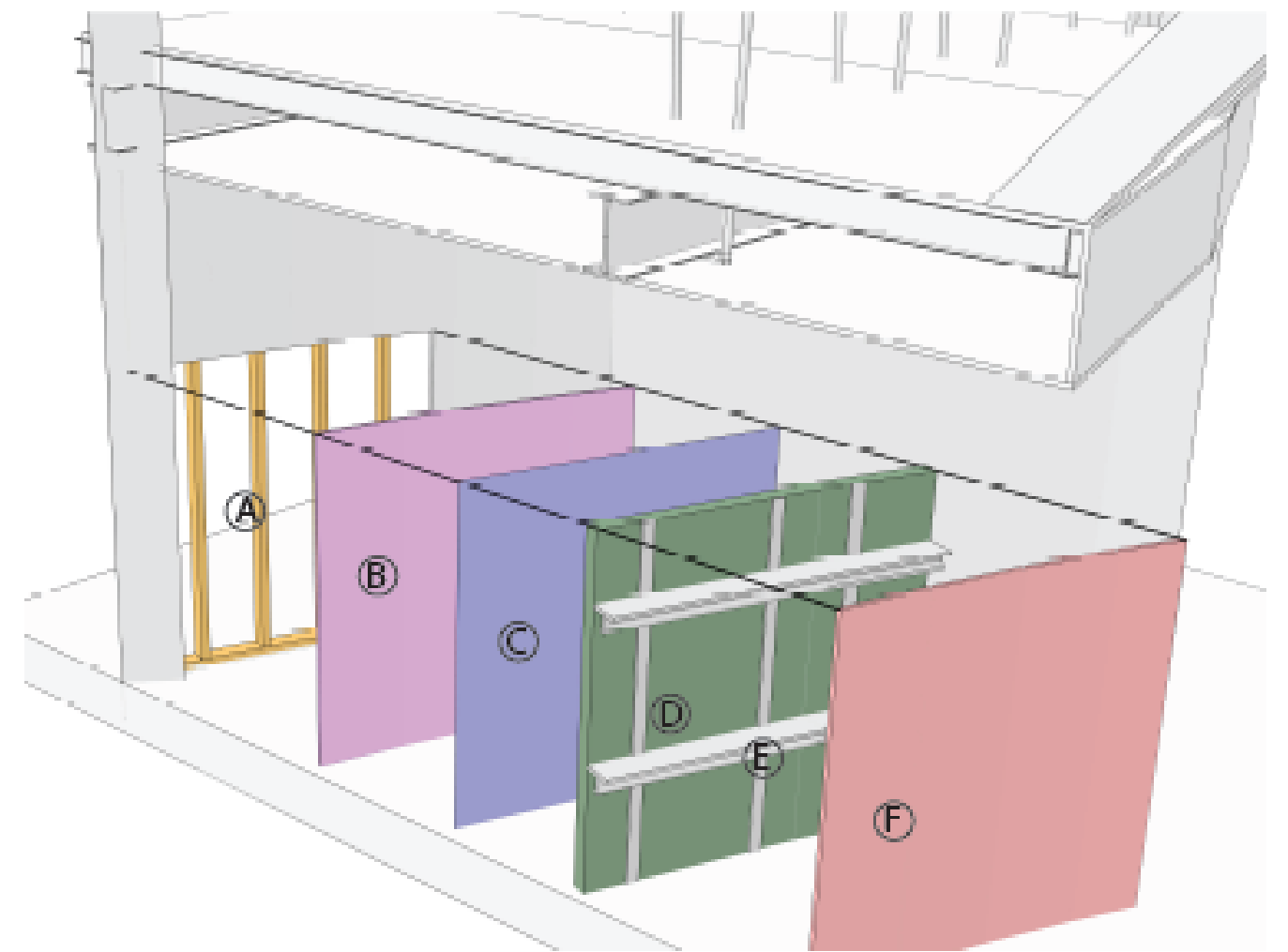
Front Section
Scale: 1' = 1/4"

Prototype Curtain Wall & Metal Panel Enclosure

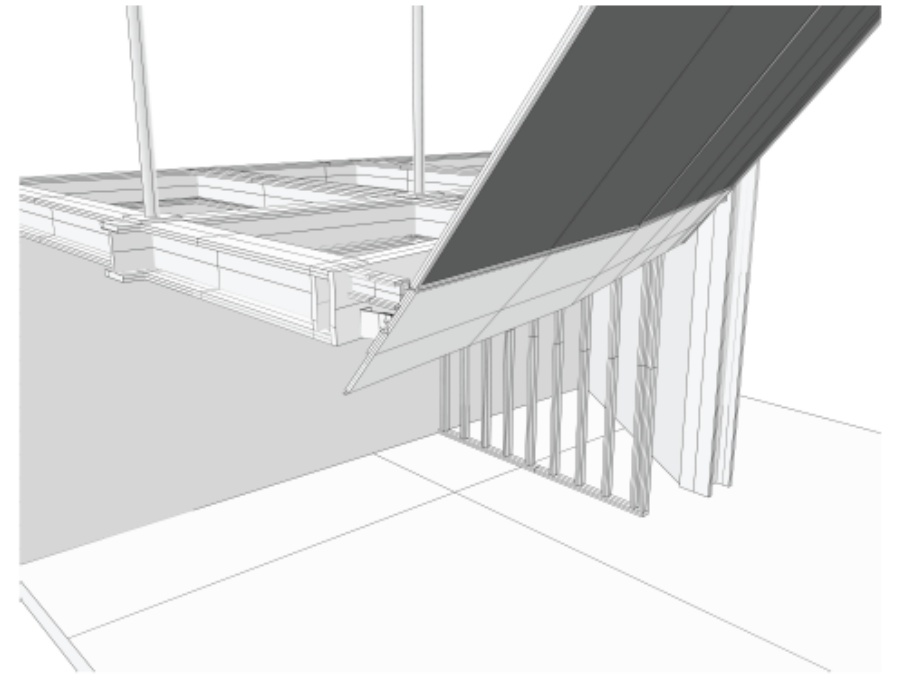
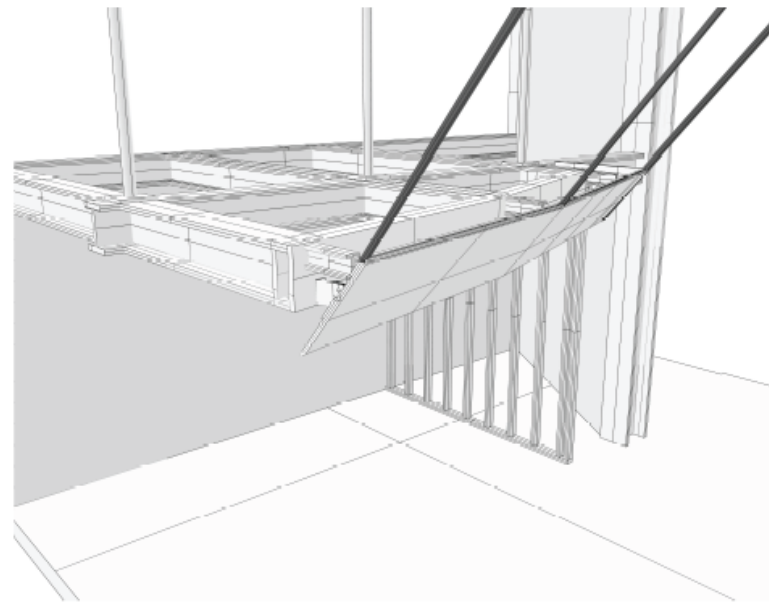
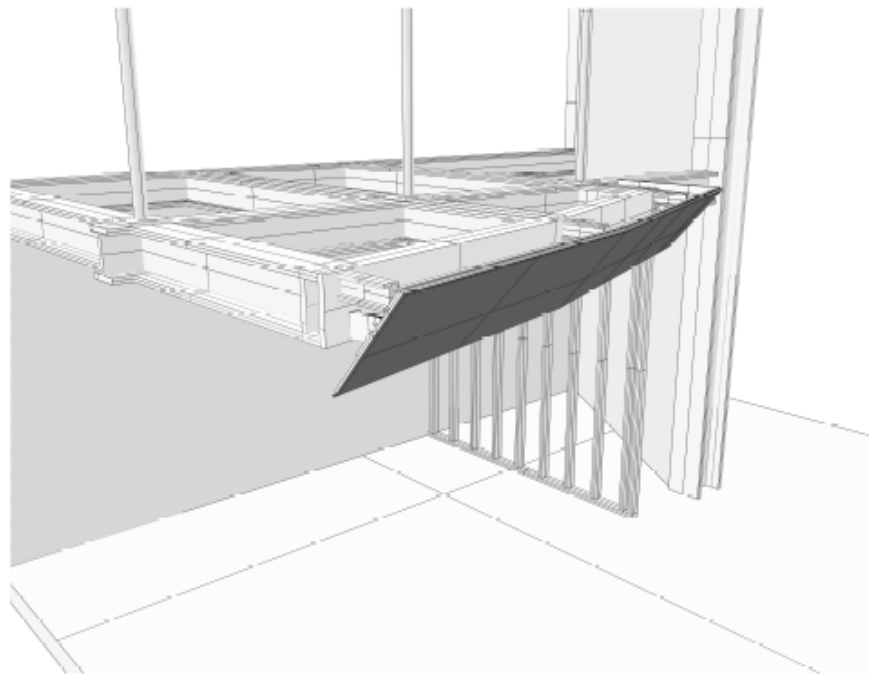
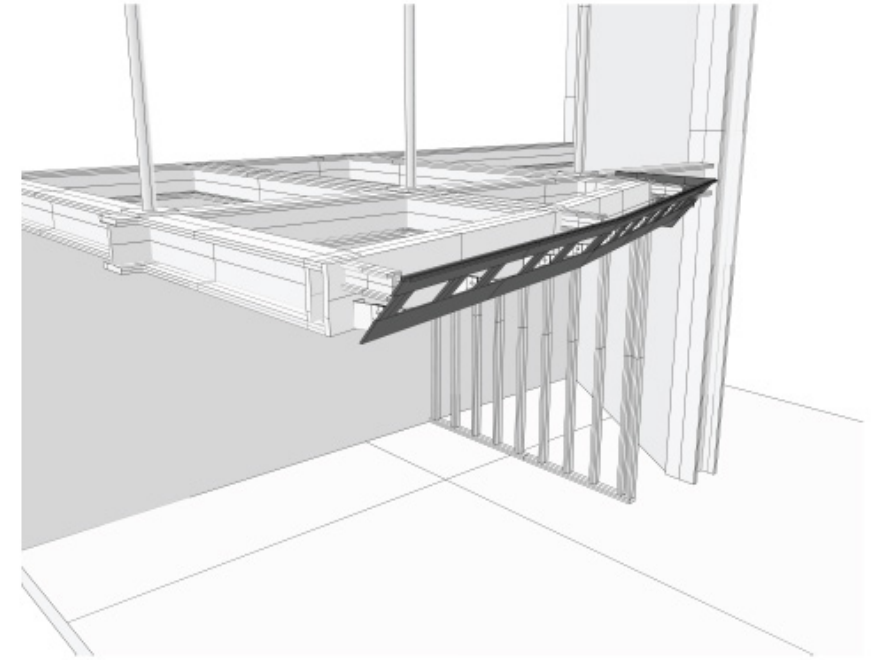
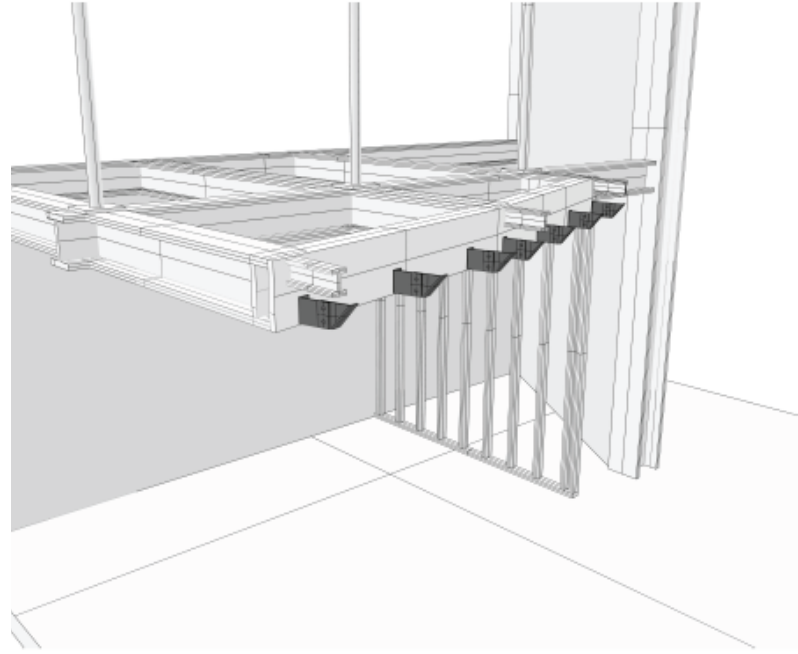
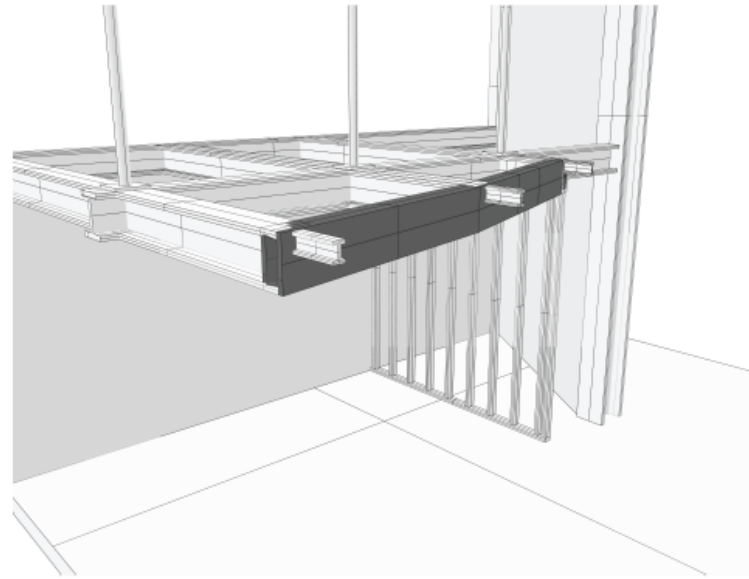
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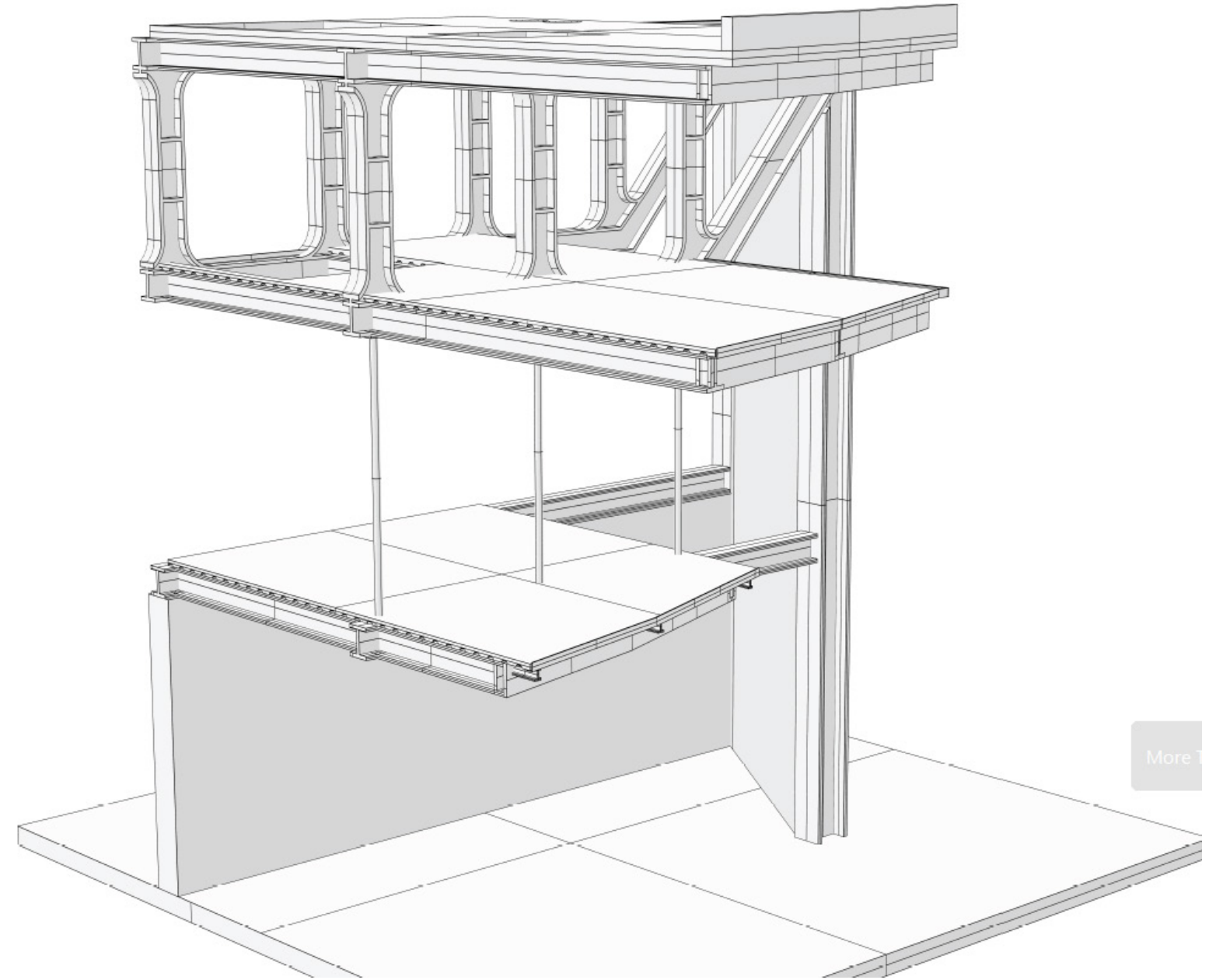
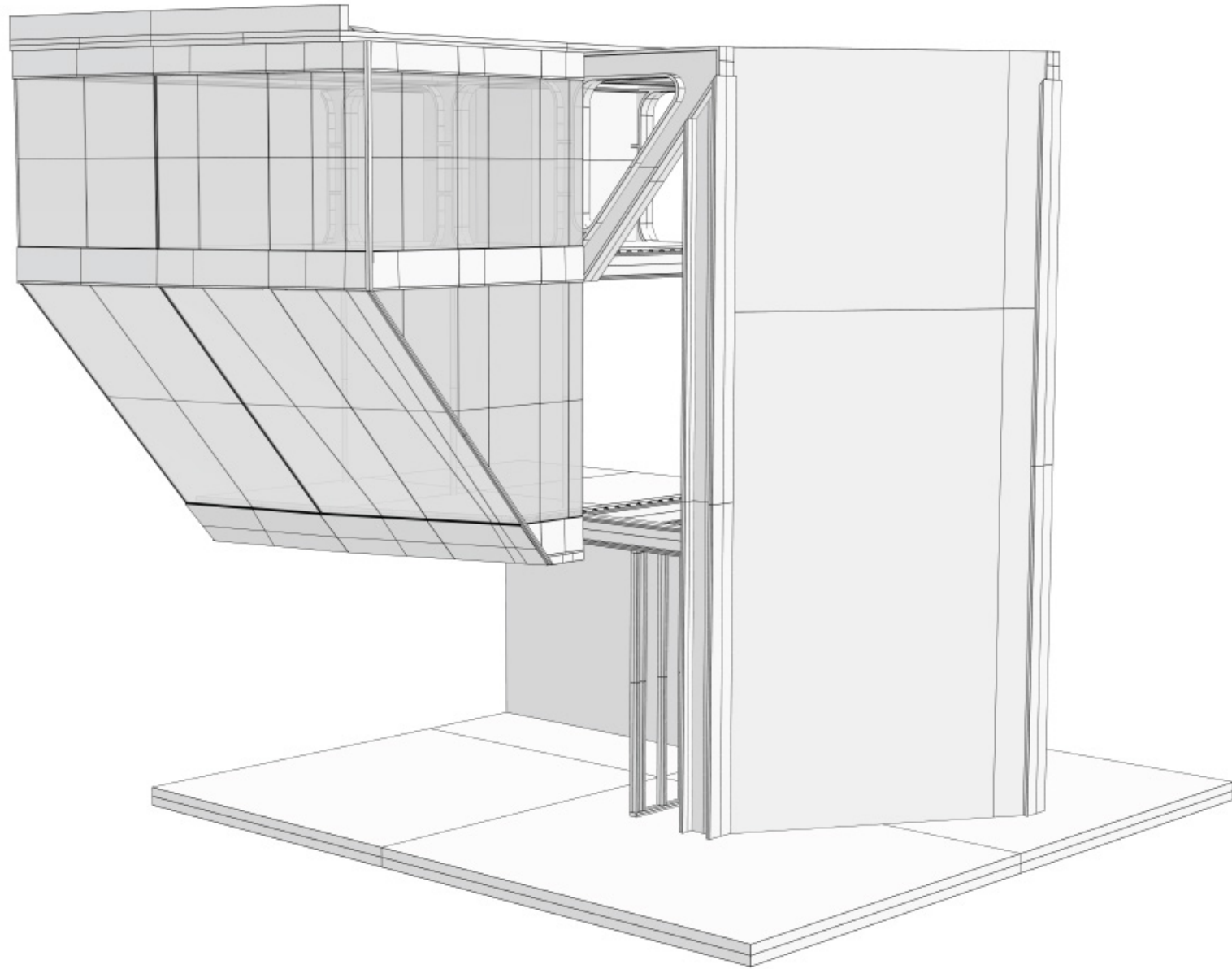
- A) Steel Stud Framing
- B) Sheathing Layer
- C) Water Proof Layer
- D) Thermal Control Layer
- E) Panel Mounting Z-Clip
- F) Exterior Metal Panel



Prototype Curtain Wall Assembly

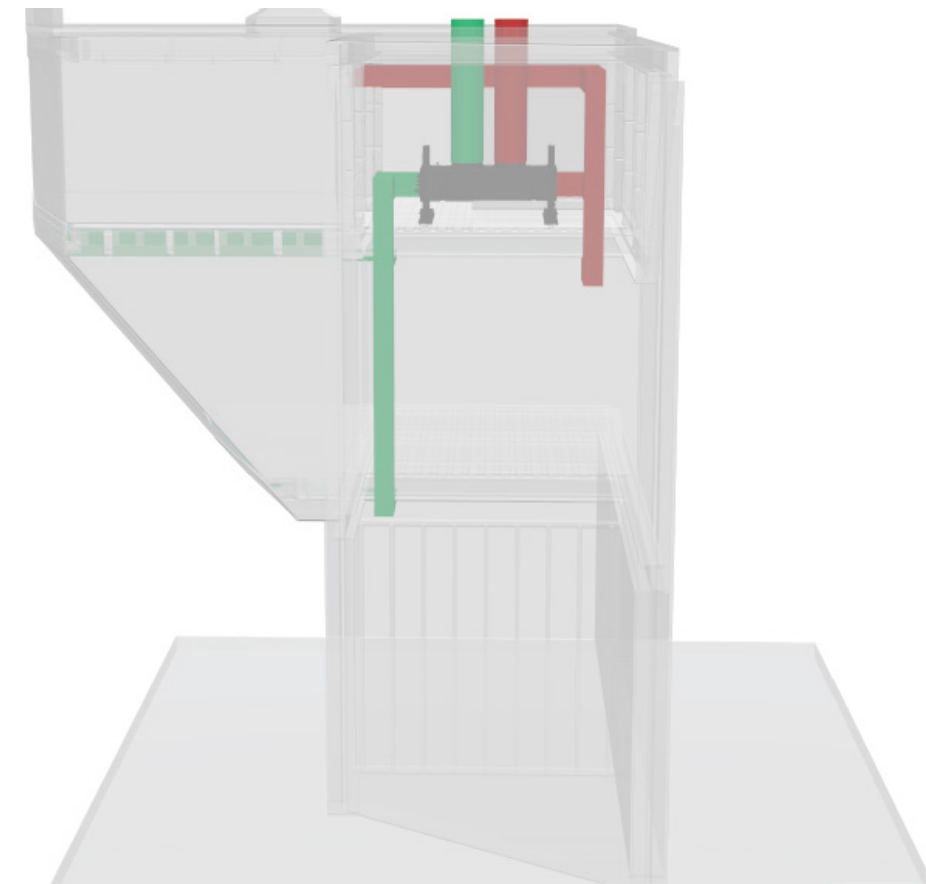
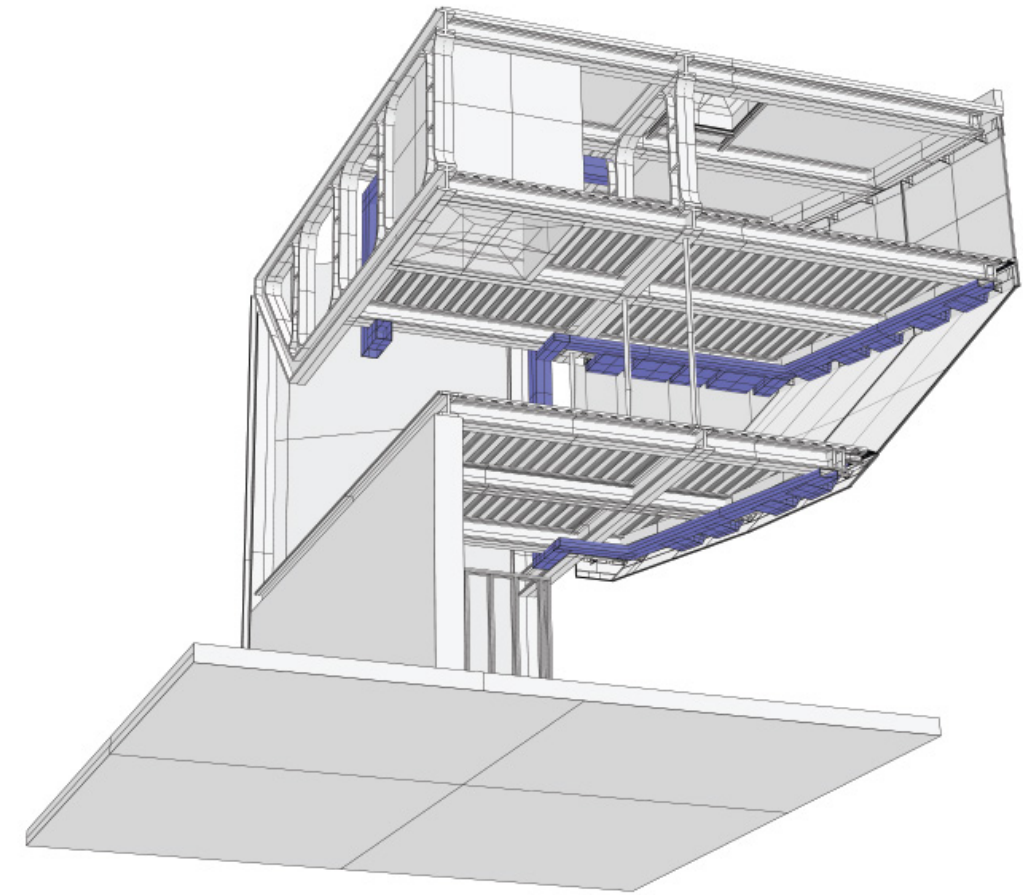
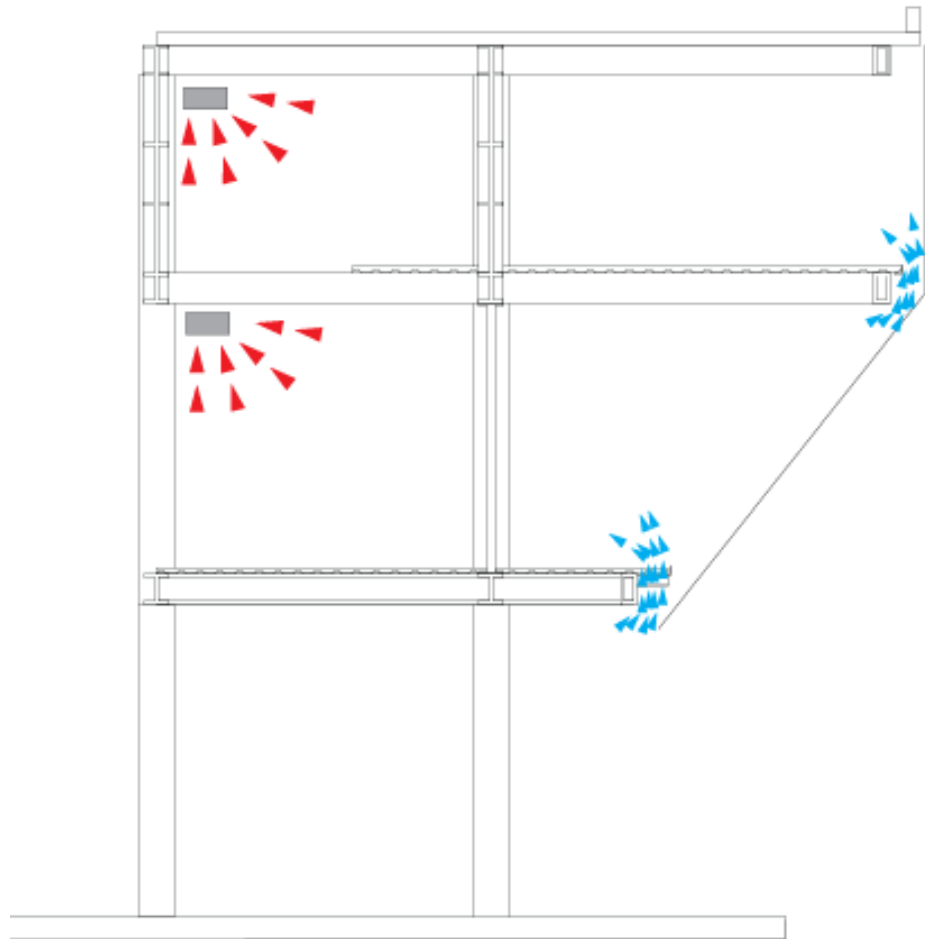
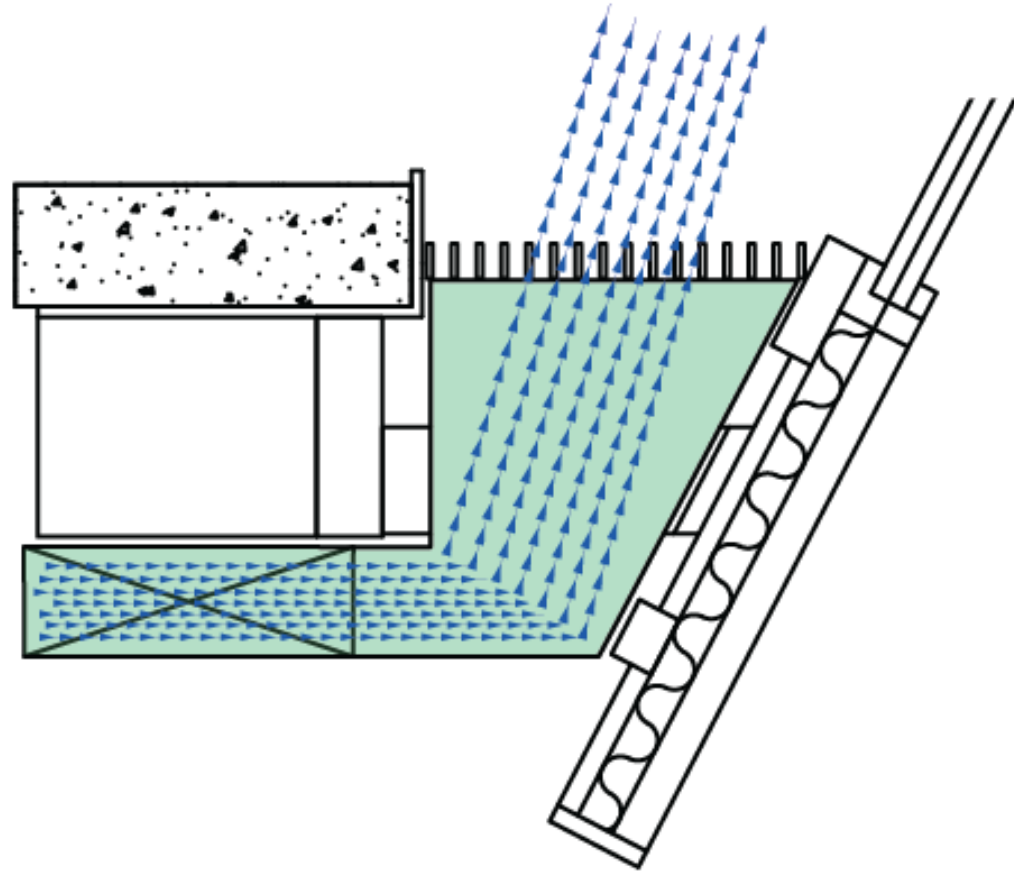


Prototype Model



More T

Prototype Passive & Active Systems

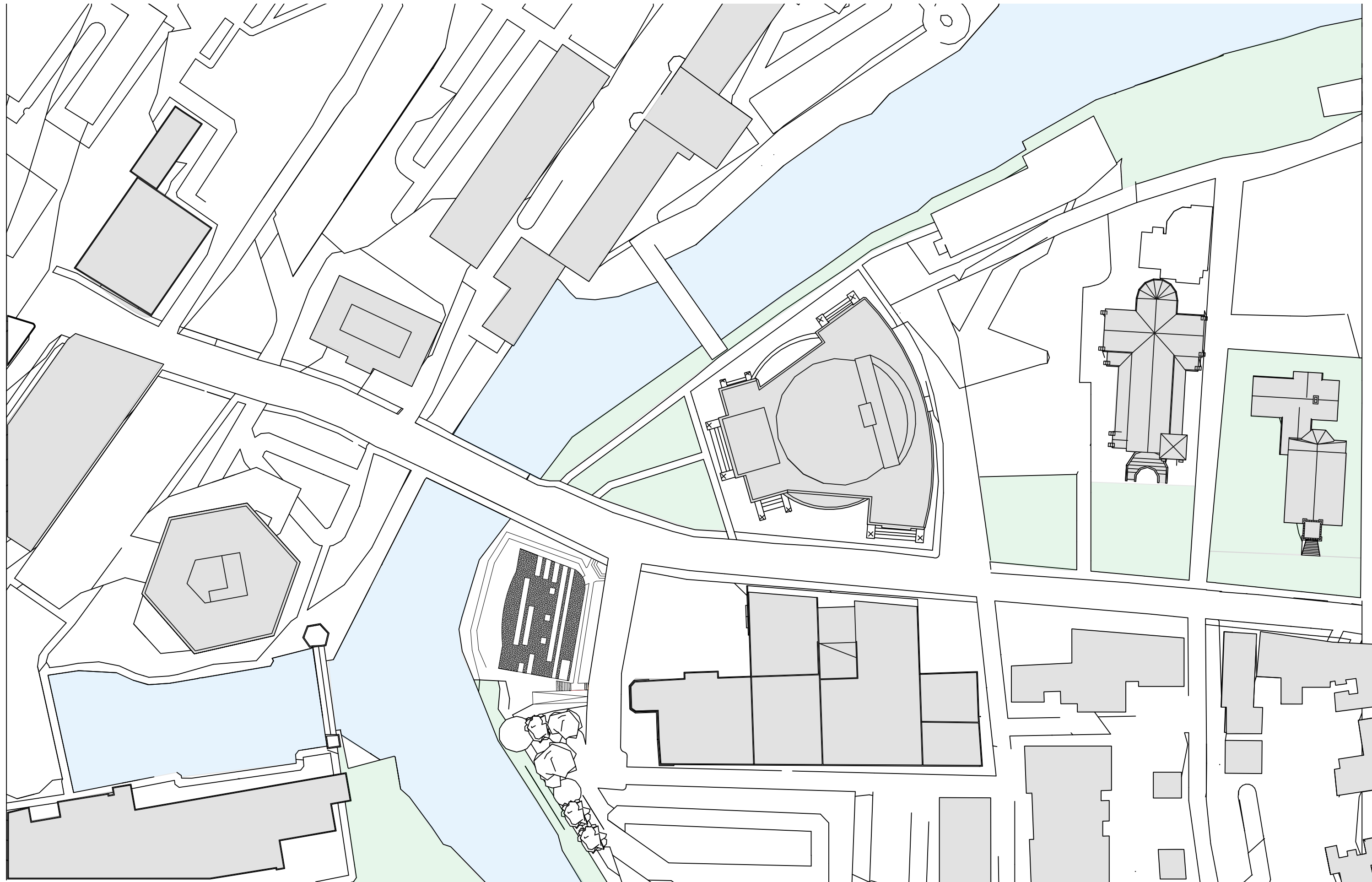




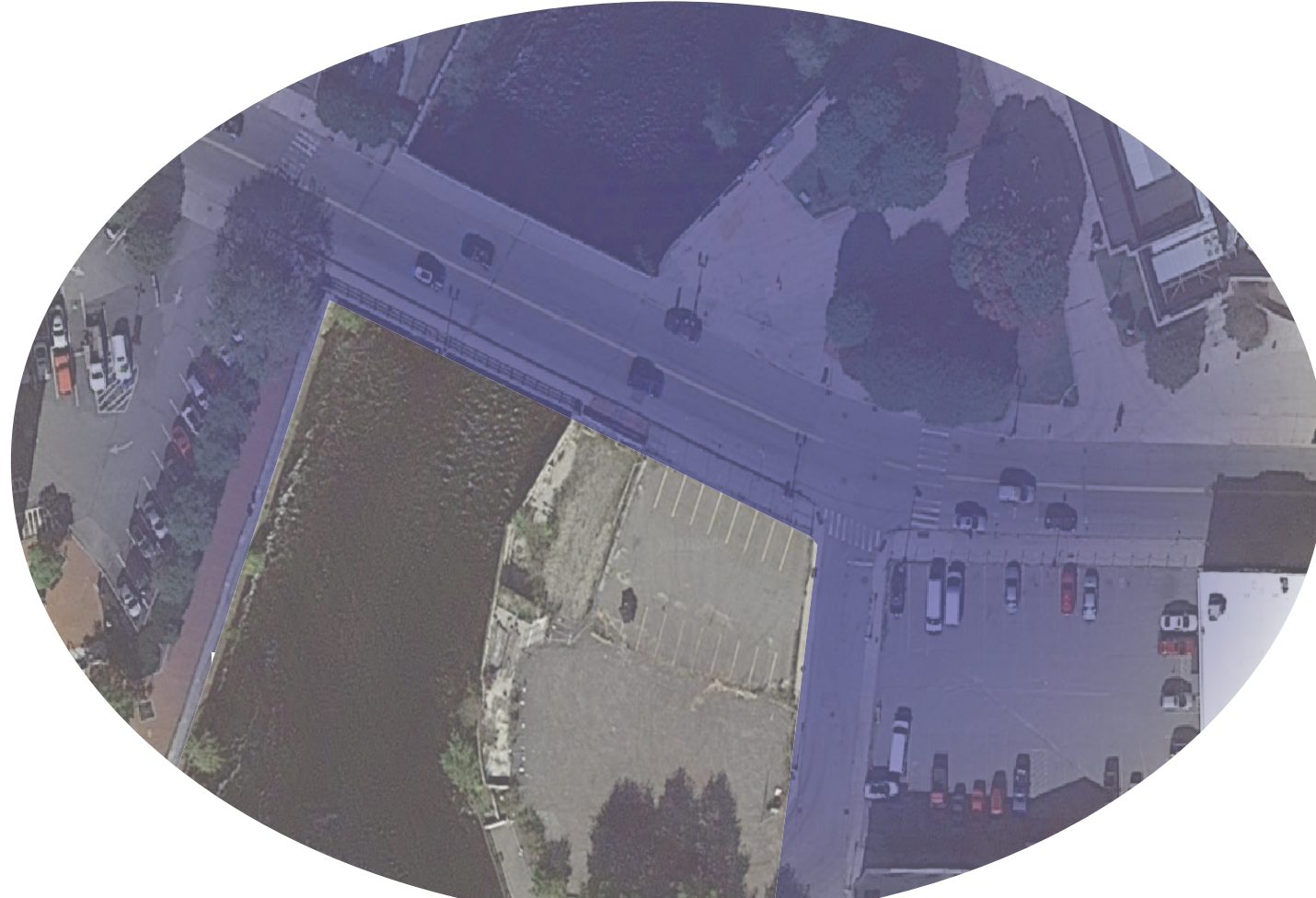
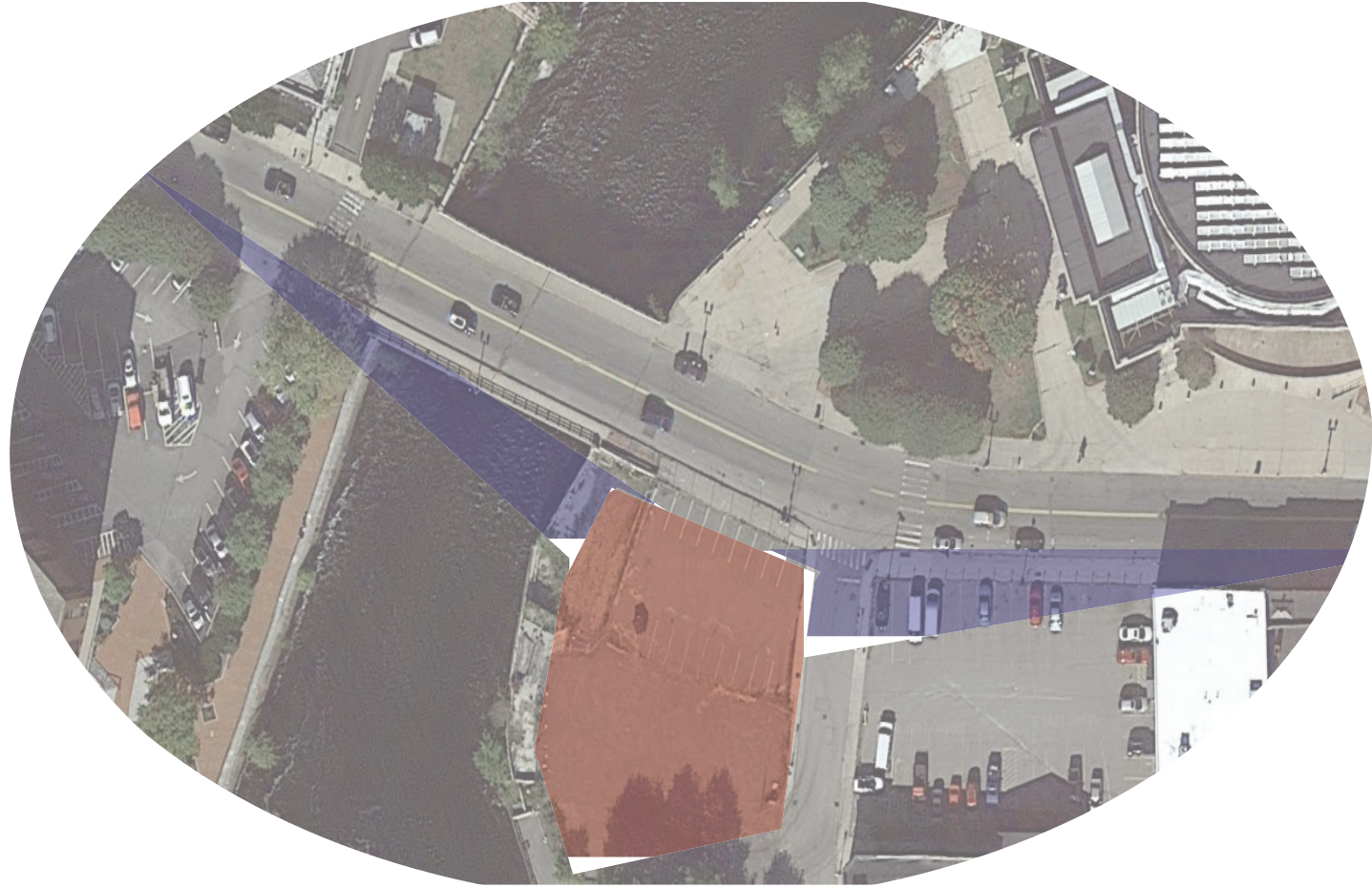
Final Project Introduction Statement

We were tasked with designing a makers space in Lowell, Massachusetts. We spent a lot of time researching the site and realized there were three key points we wanted to tackle during this project. We wanted to incorporate the views of not only out of our building, but also the views into our building. We wanted people to be enticed to enter our space with certain design aspects and then once they entered, they would then benefit from the beautiful views of the river and a heightened unobstructed view of the surrounding area. Next we want to emphasize the importance of thresholds and the division of space. This is slightly contradictory to our focus of being welcoming, but having a space which can function as a welcoming community space, but also act as a private space to work, learn, and thrive, was an important aspect to us. Finally, we wanted to focus on the community and the way people interact inside our space. We wanted to create a space that holds tools and machines that people simply could not have in their own home whether that be because of price or size limitations. However, along with providing the tools, we also wanted to make a space that encourages learning from one another and growing as makers together instead of just individually like most other makers spaces.

Urban Site Plan



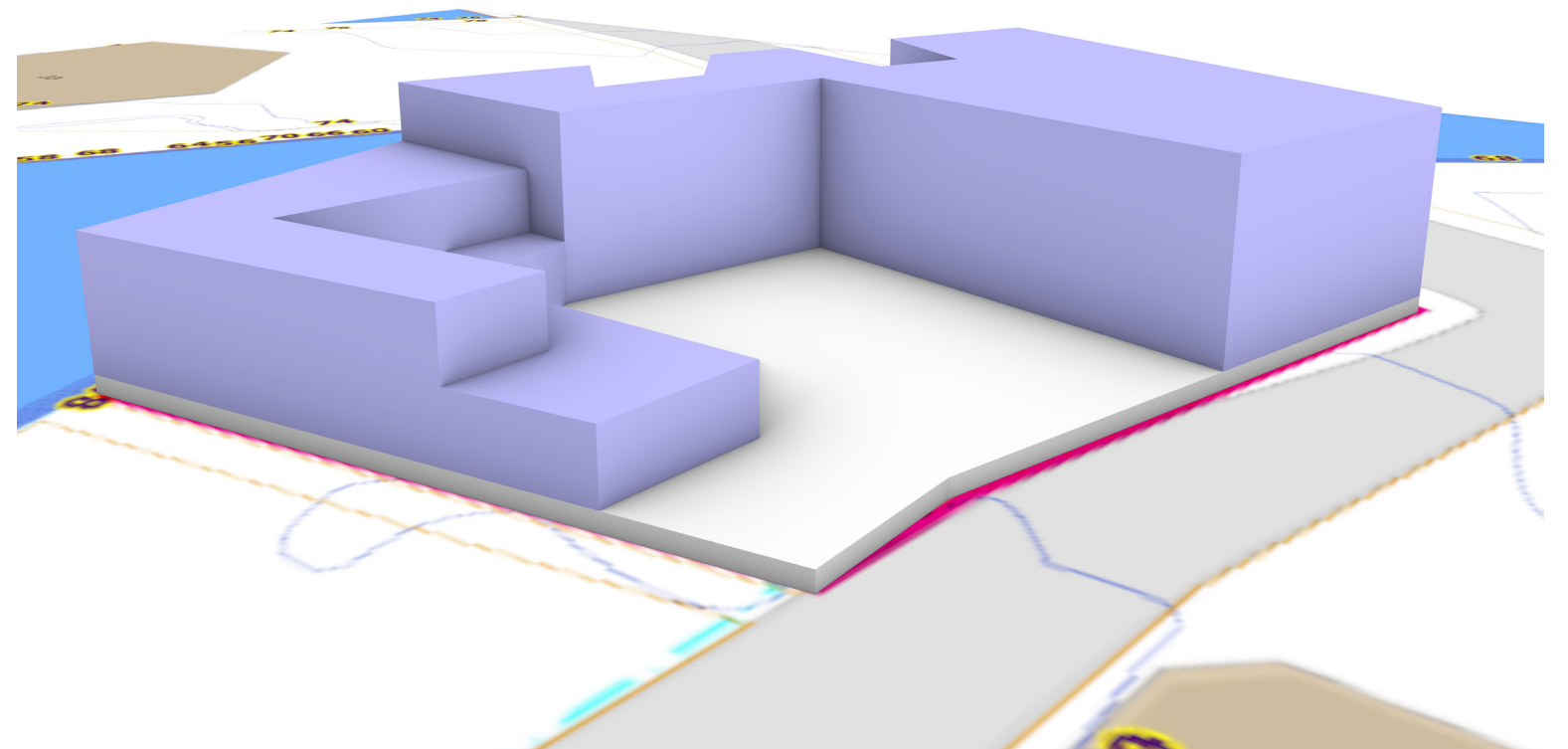
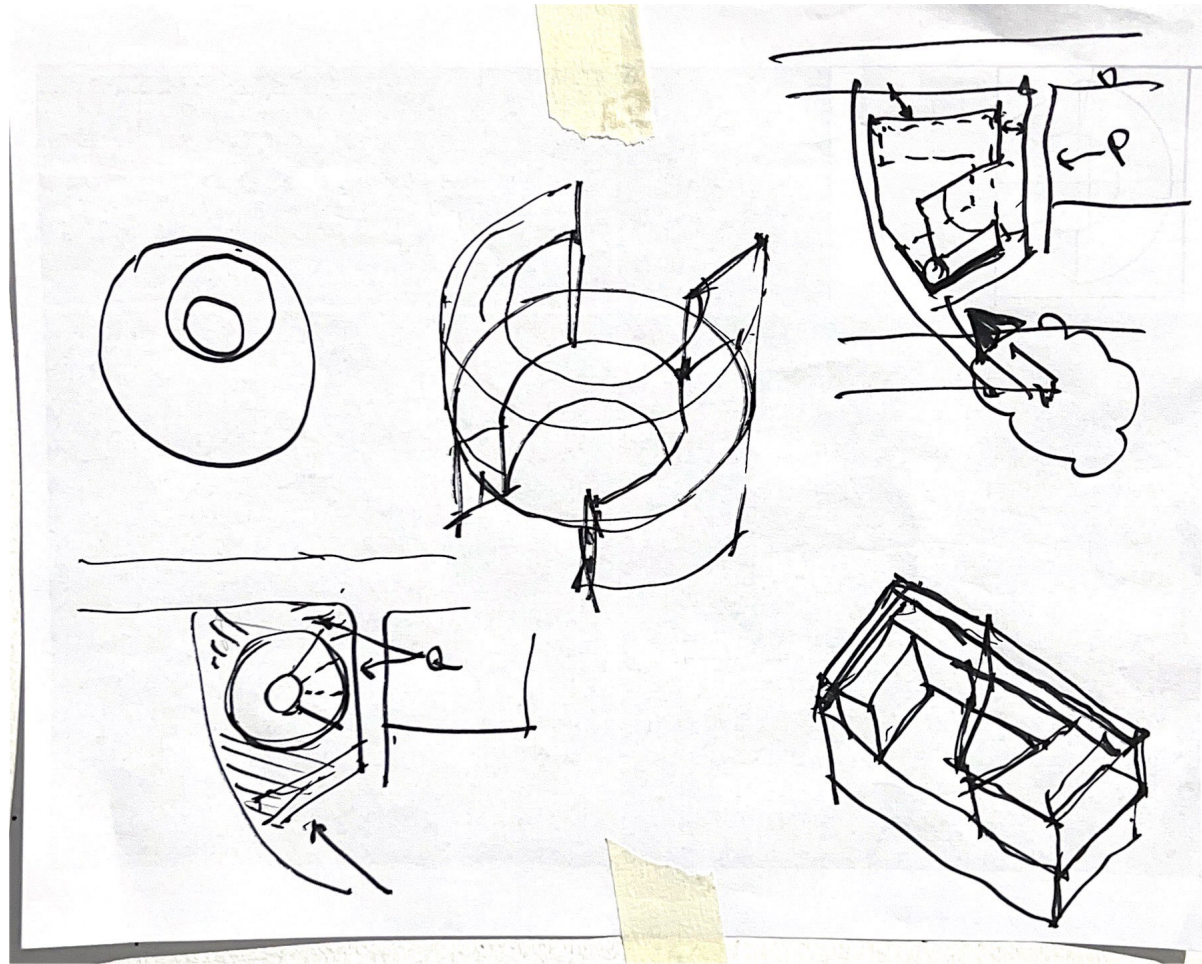
Site Context: Approach | Community Spaces | Public Arrival



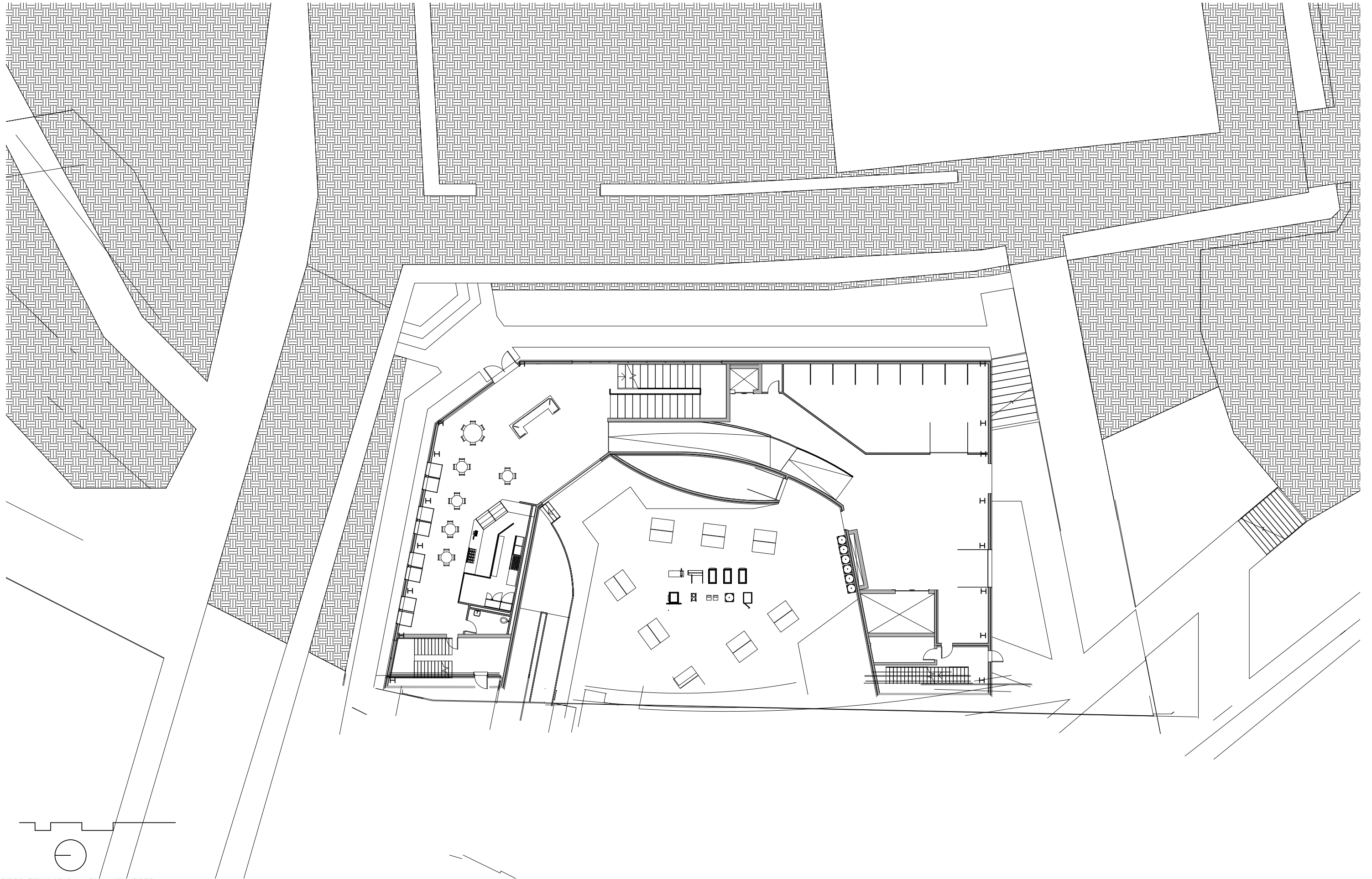
Site Image



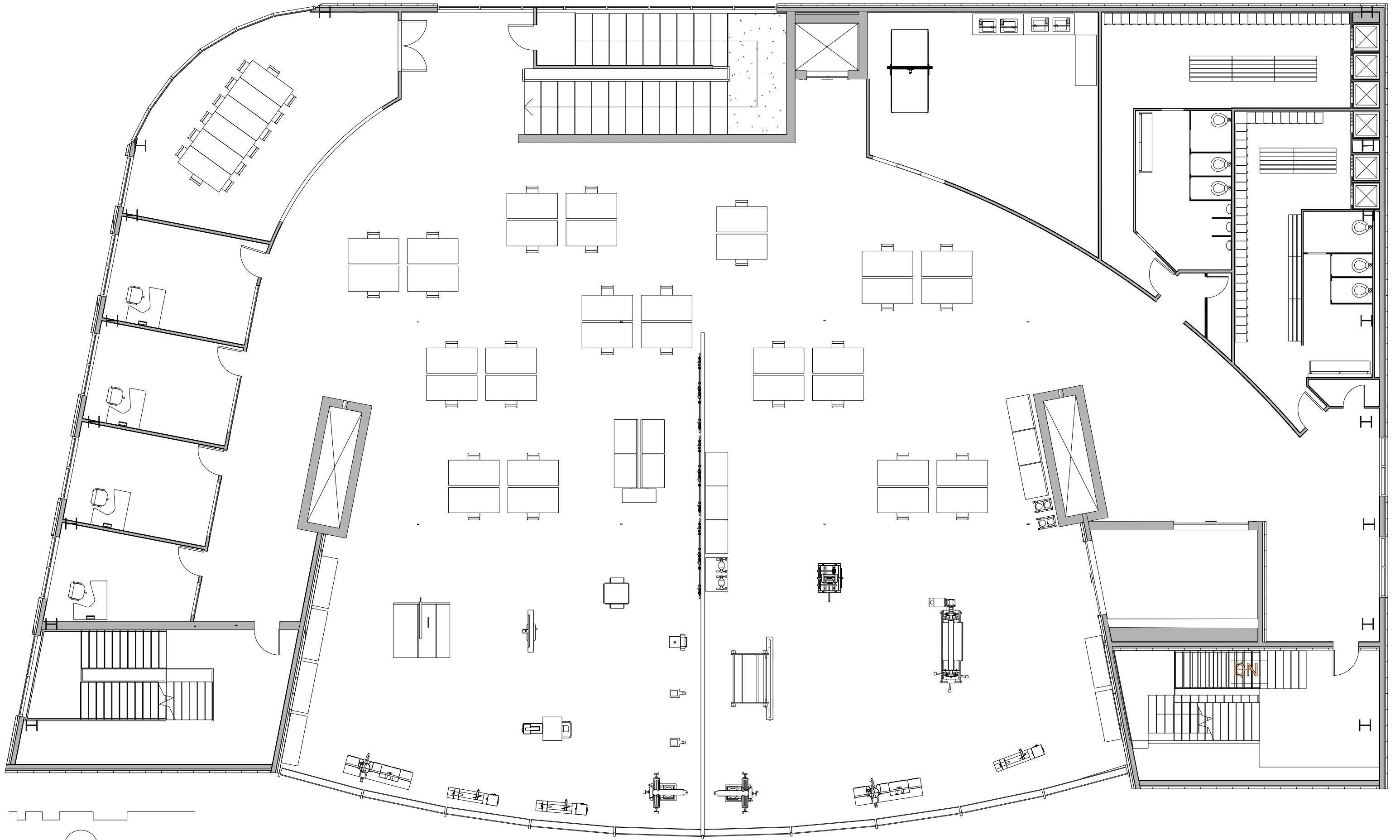
Early Concept Thinking



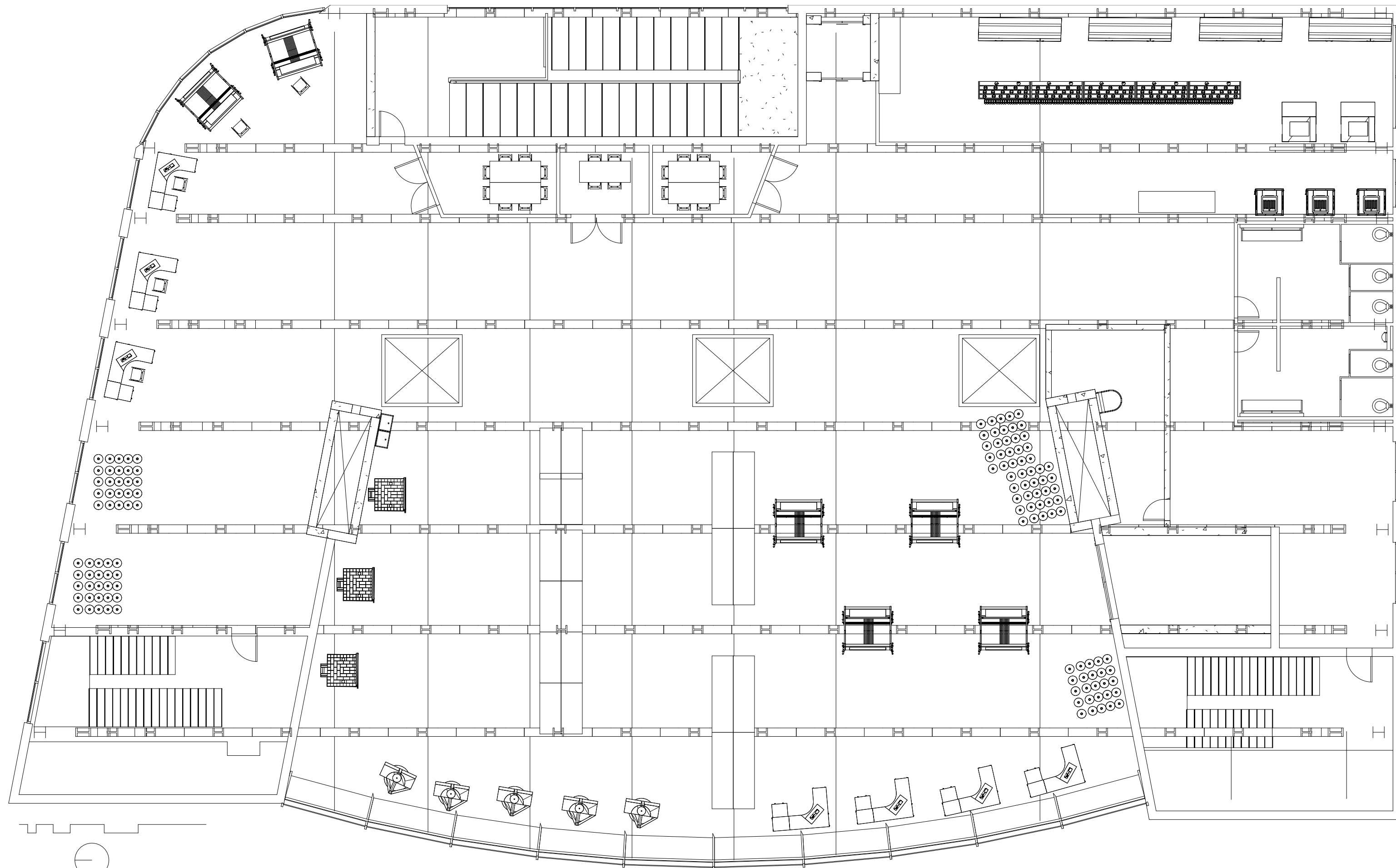
Ground Floor Plan



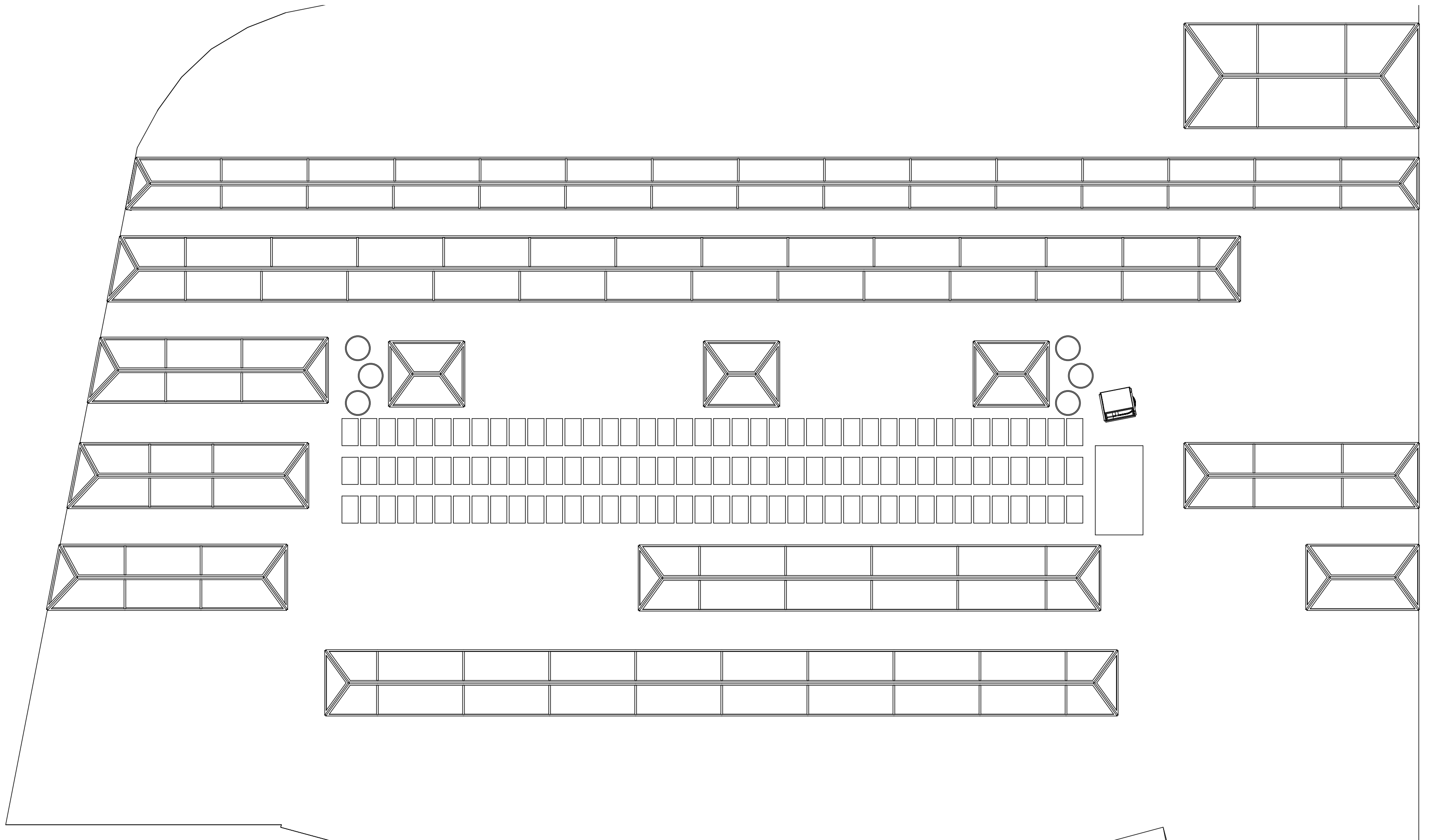
Second Floor Plan



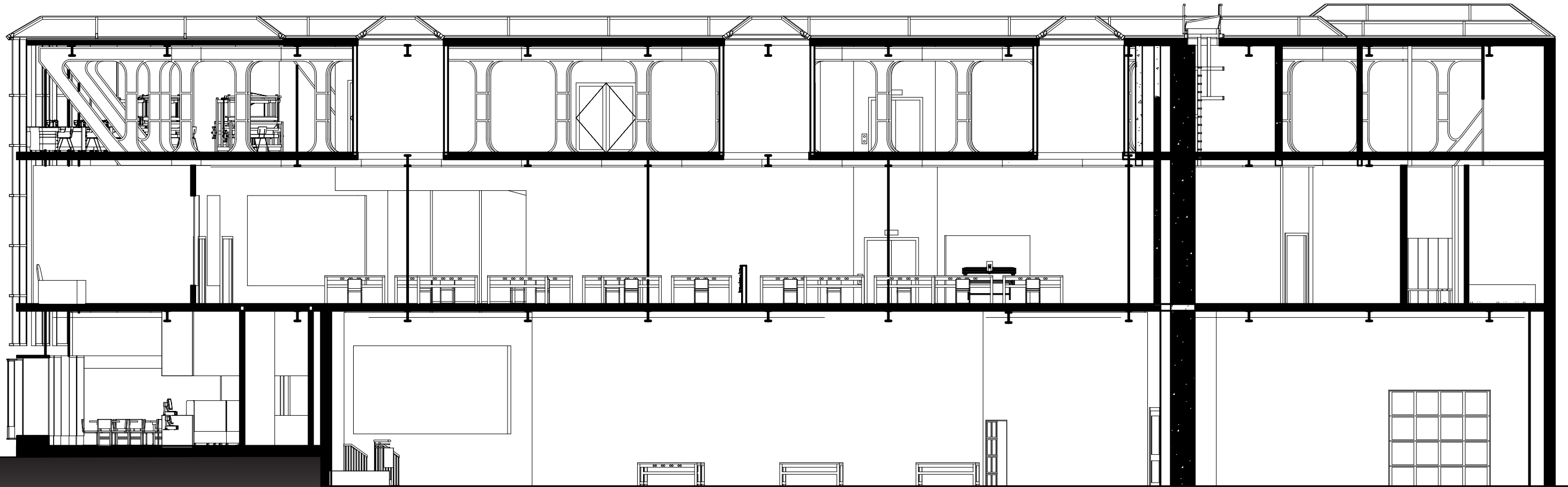
Third Floor Plan



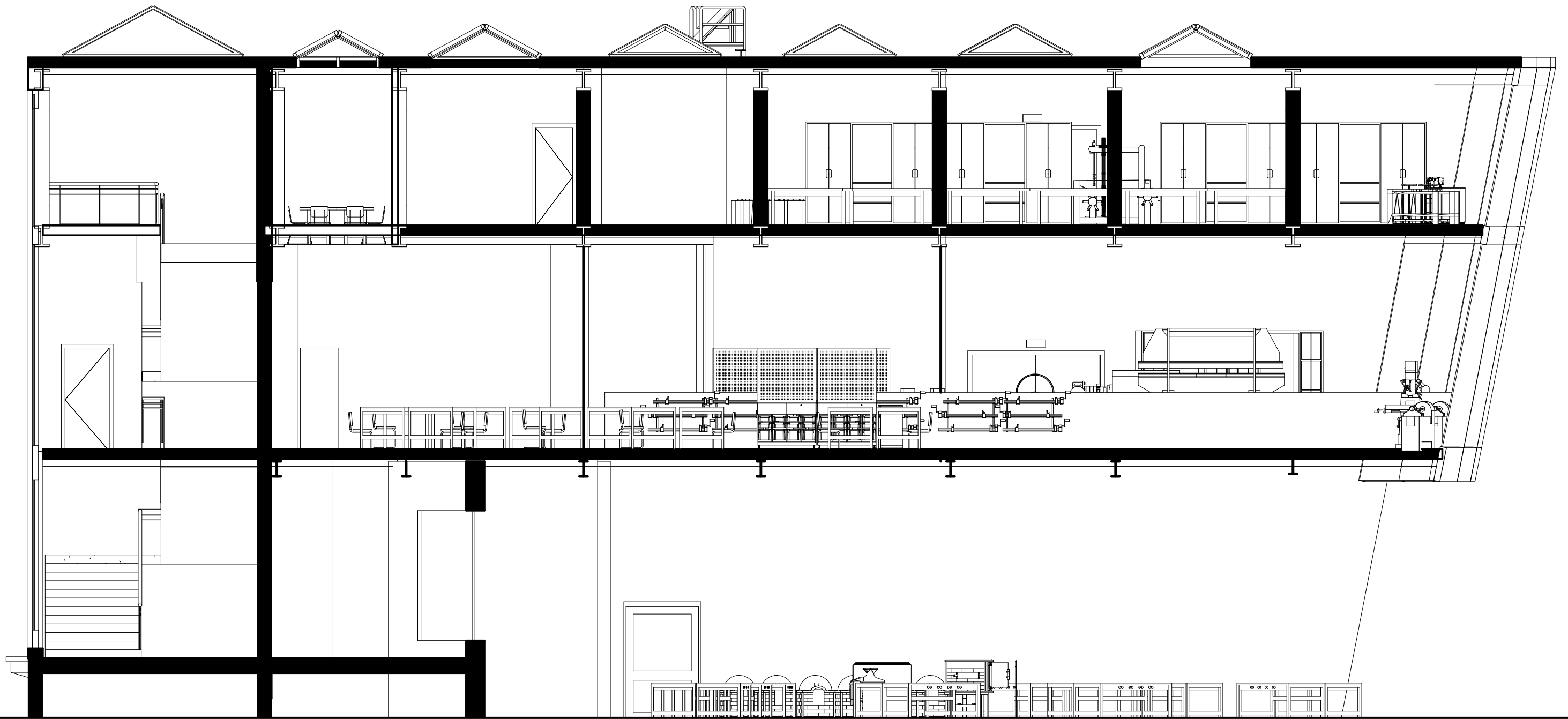
Roof Plan



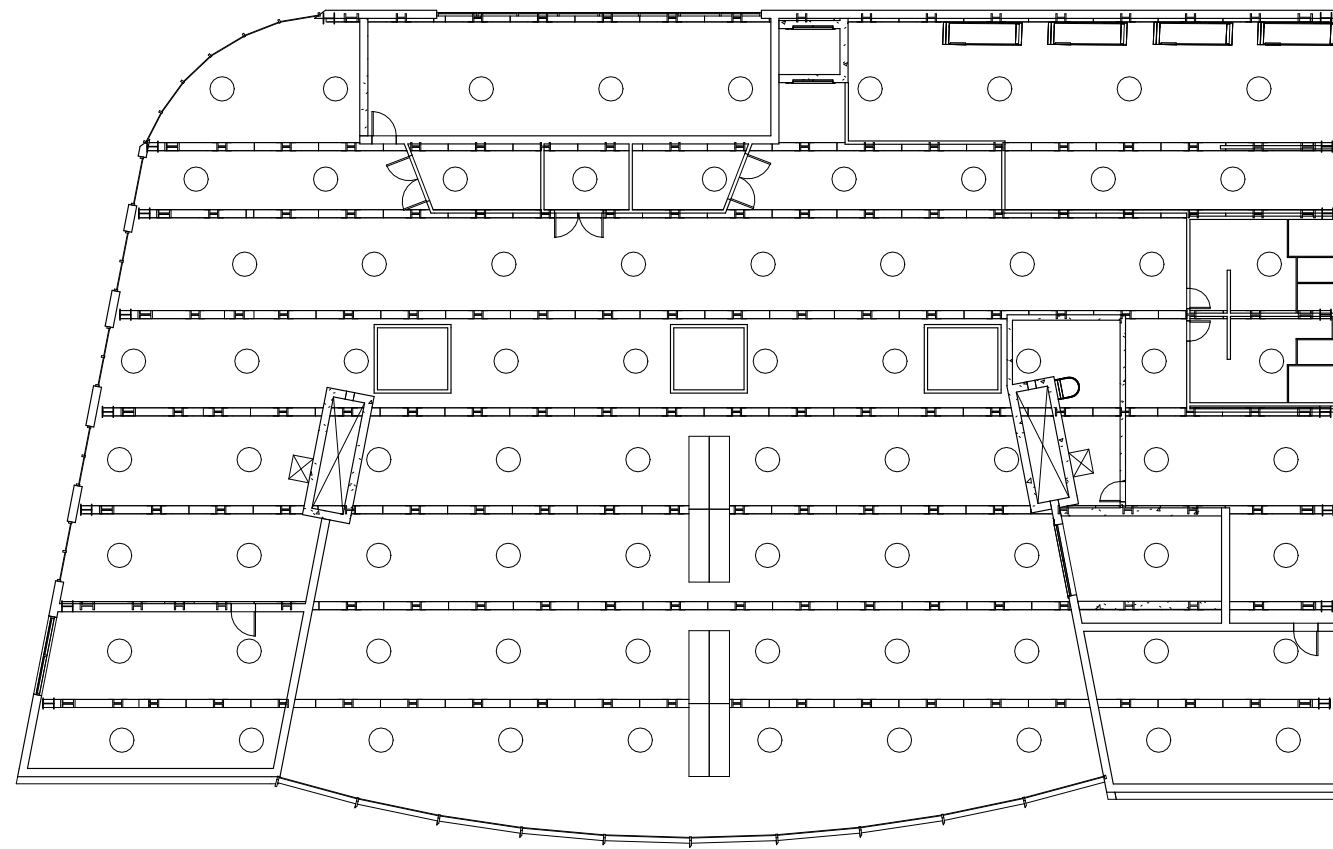
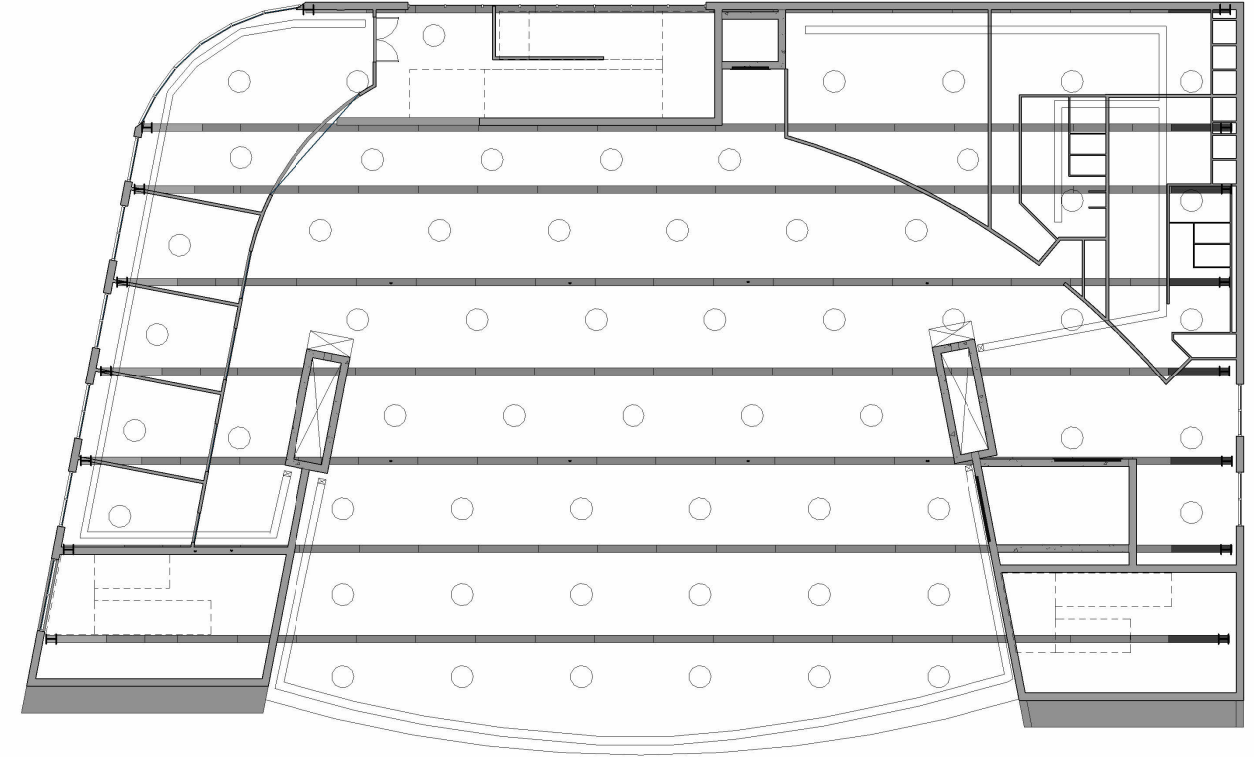
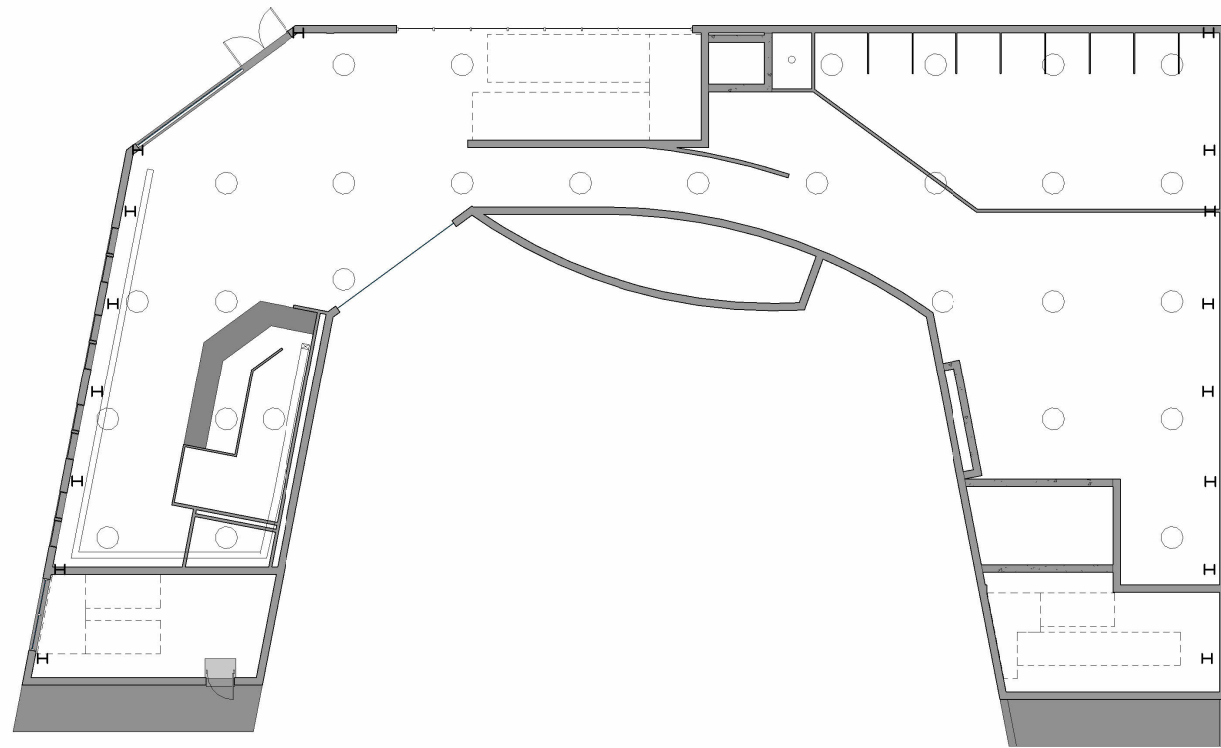
Section A-A



Section B-B



Reflected Ceiling Plans



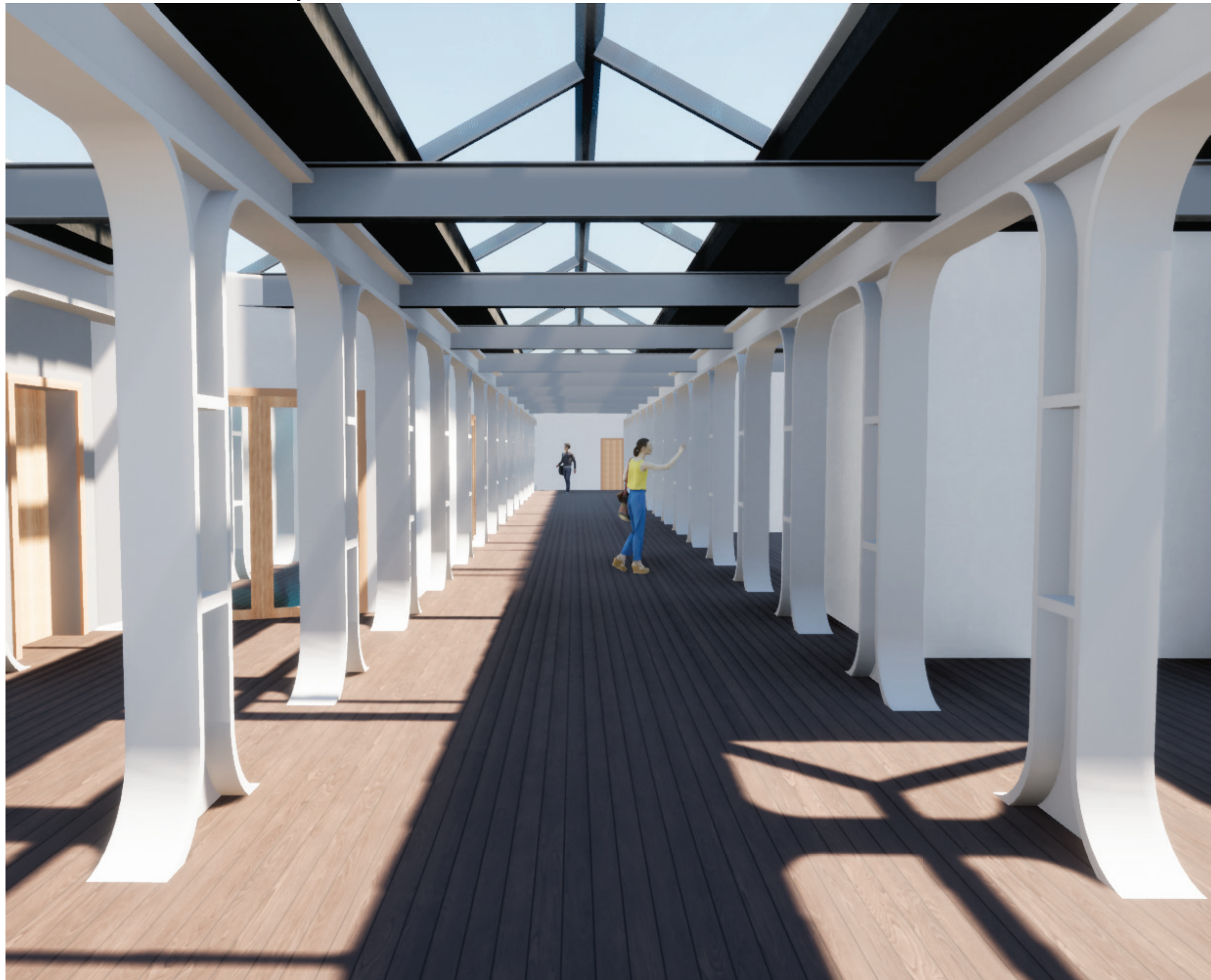
Entrance Perspective



Second Floor Maker Spaces Perspective

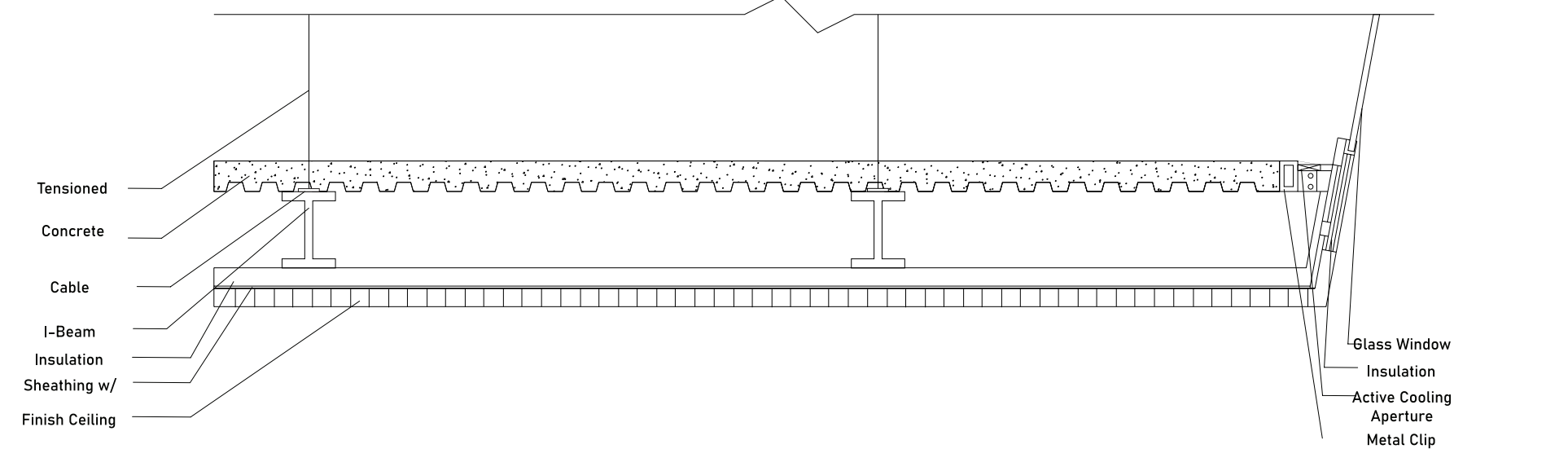
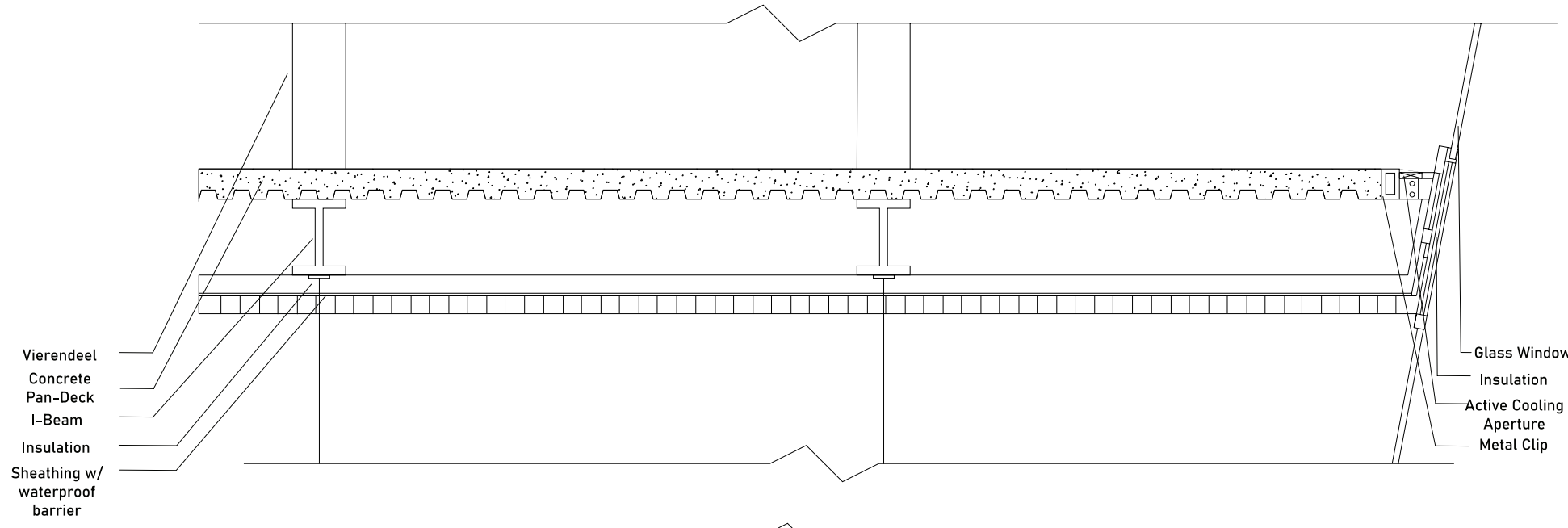
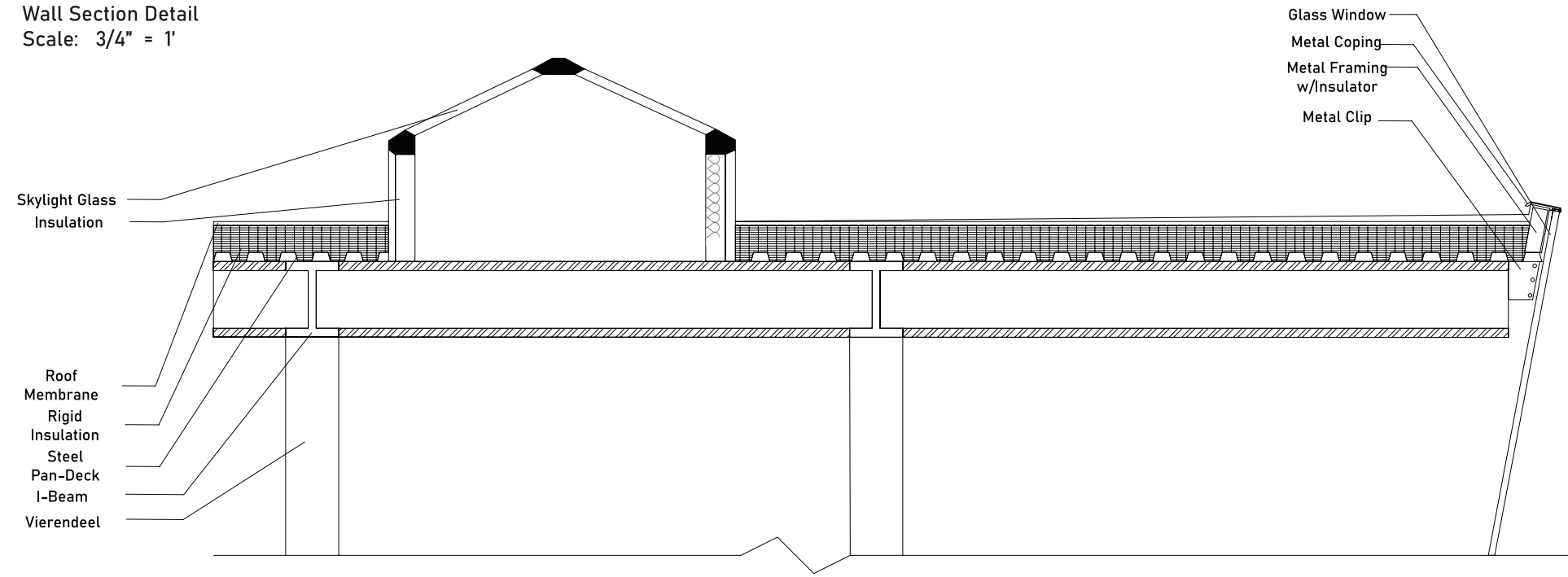


Third Floor Vierendeel Trusses Perspective



Detail Wall Section

Wall Section Detail
Scale: 3/4" = 1'

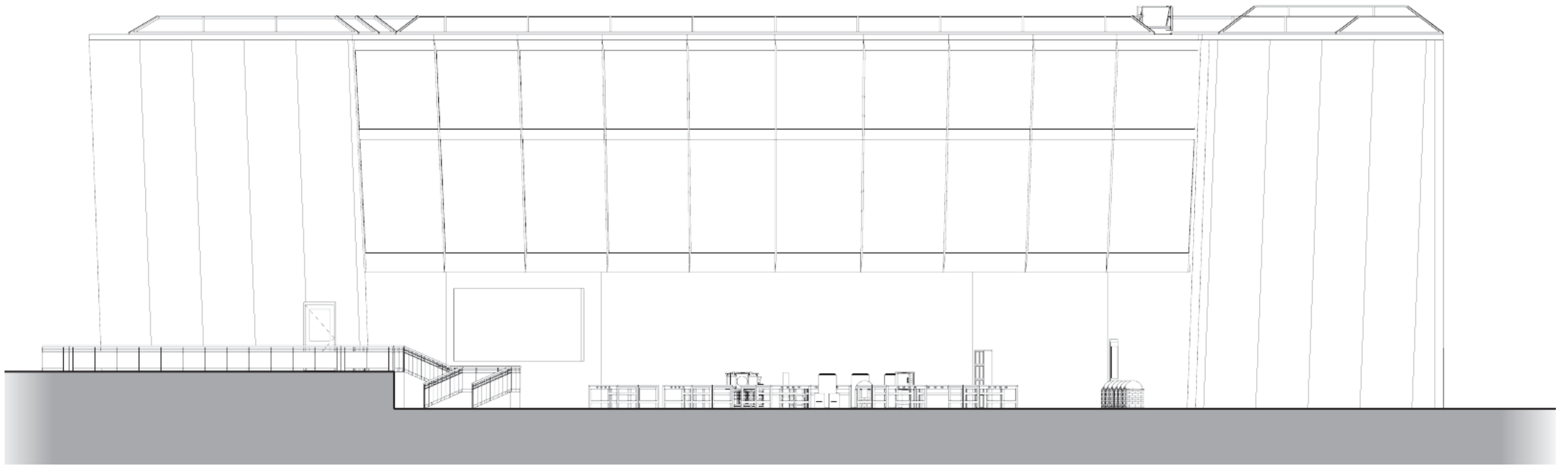


Greenway Elevation





Canal Elevation



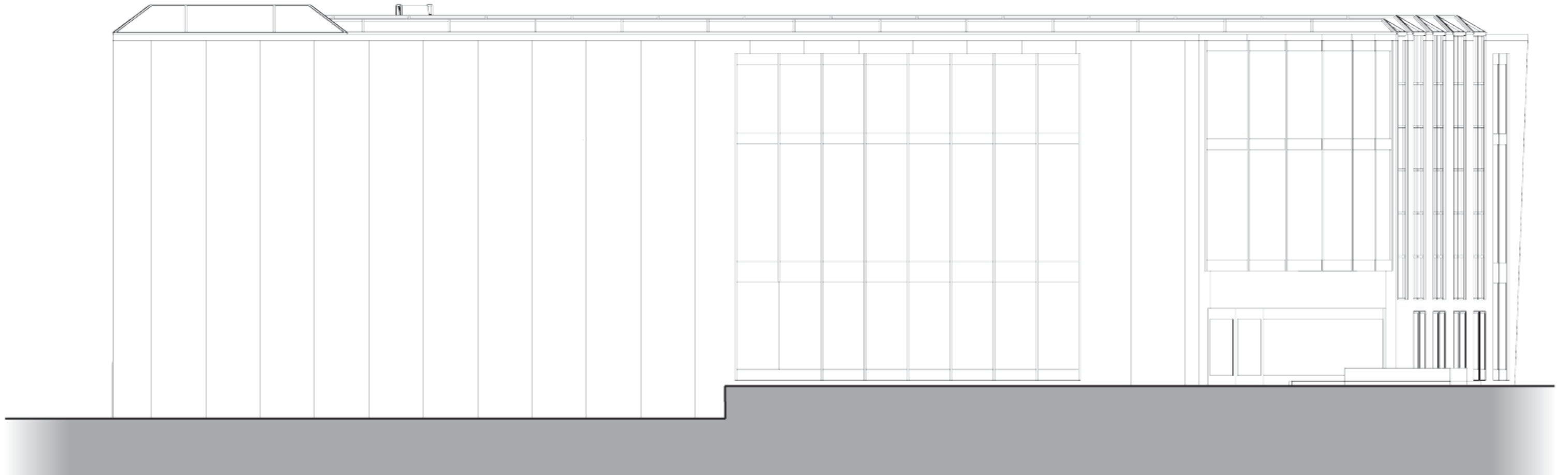


E Merrimack St Elevation



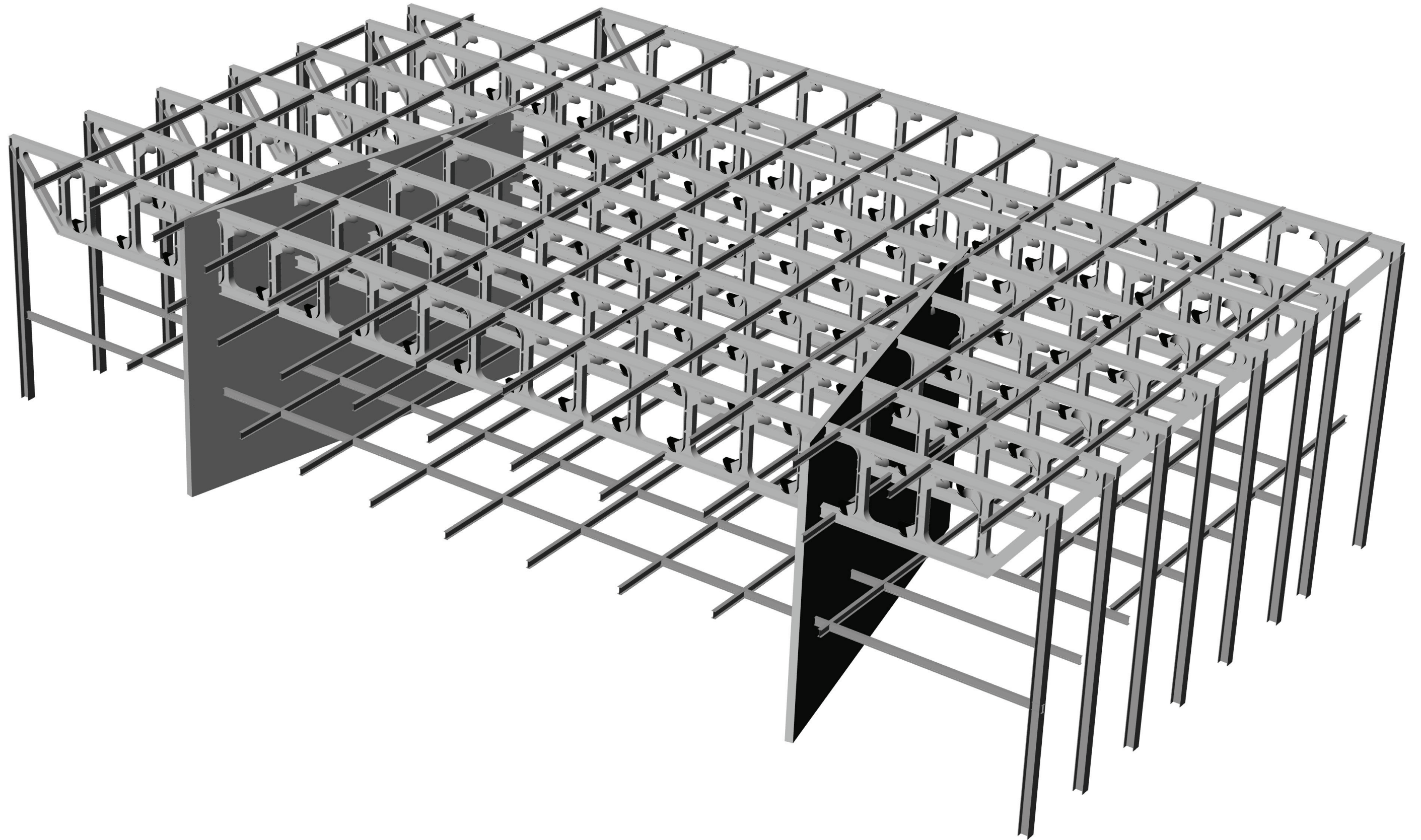


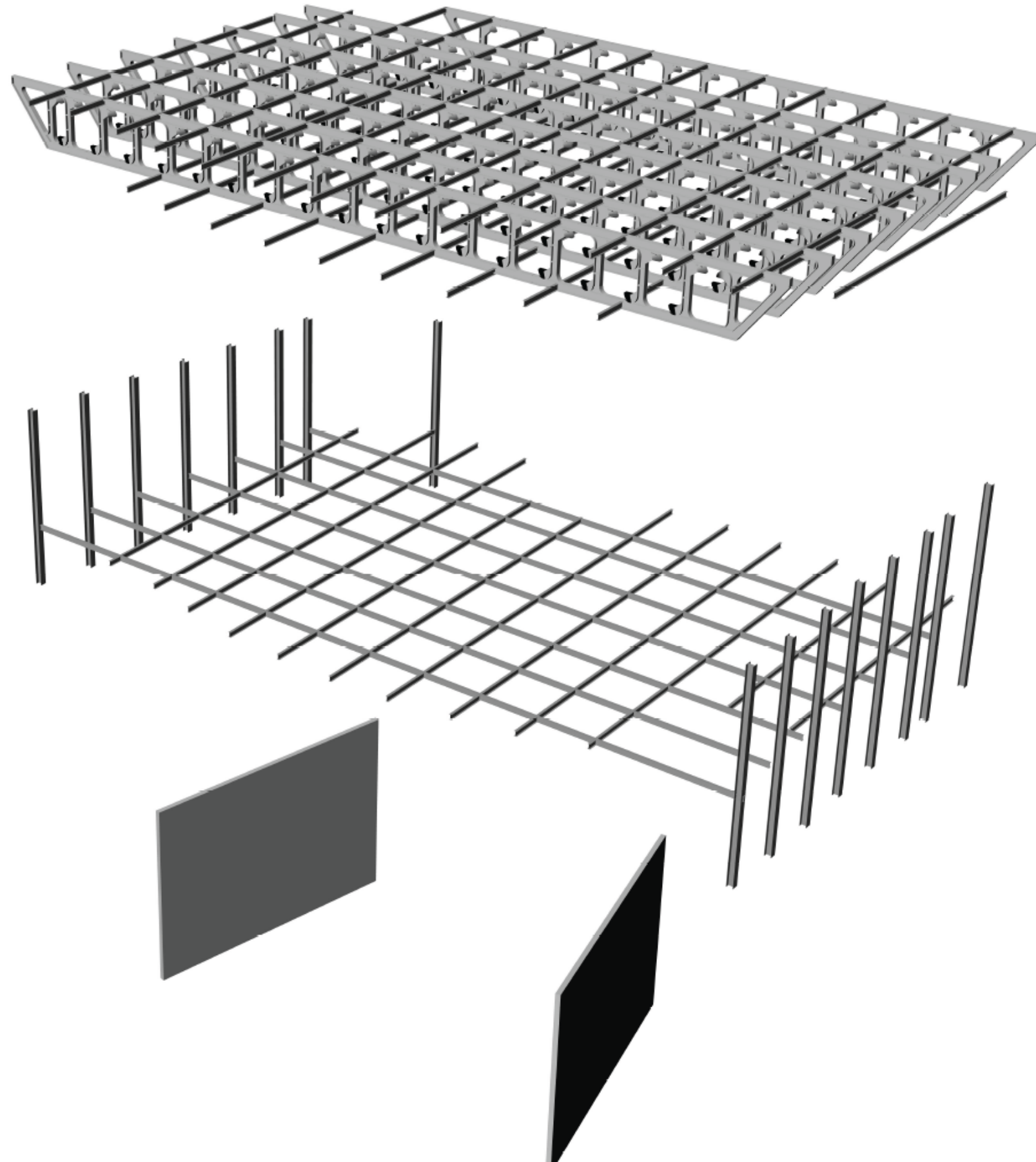
Davidson St Elevation



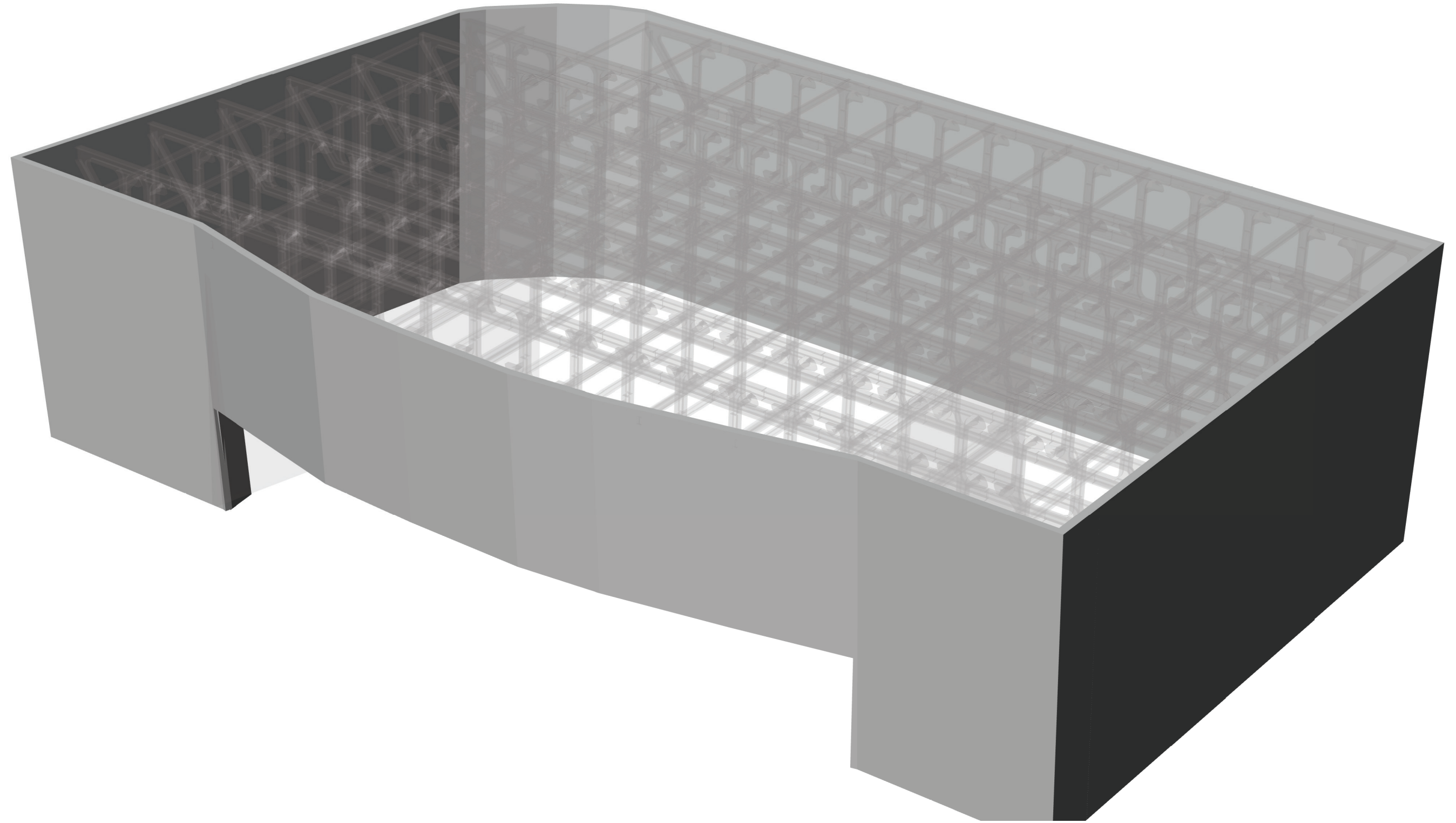


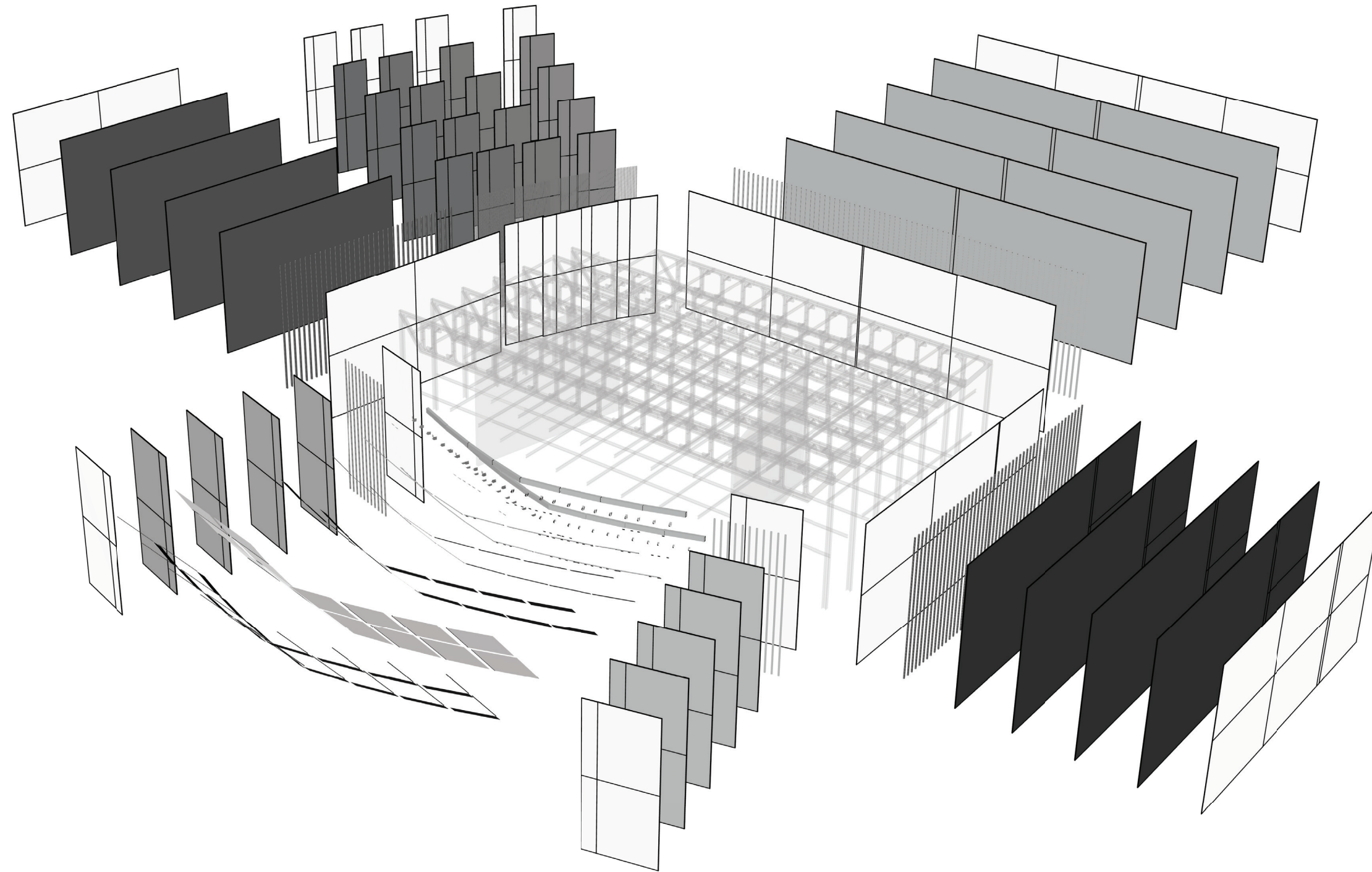
Structure Diagram



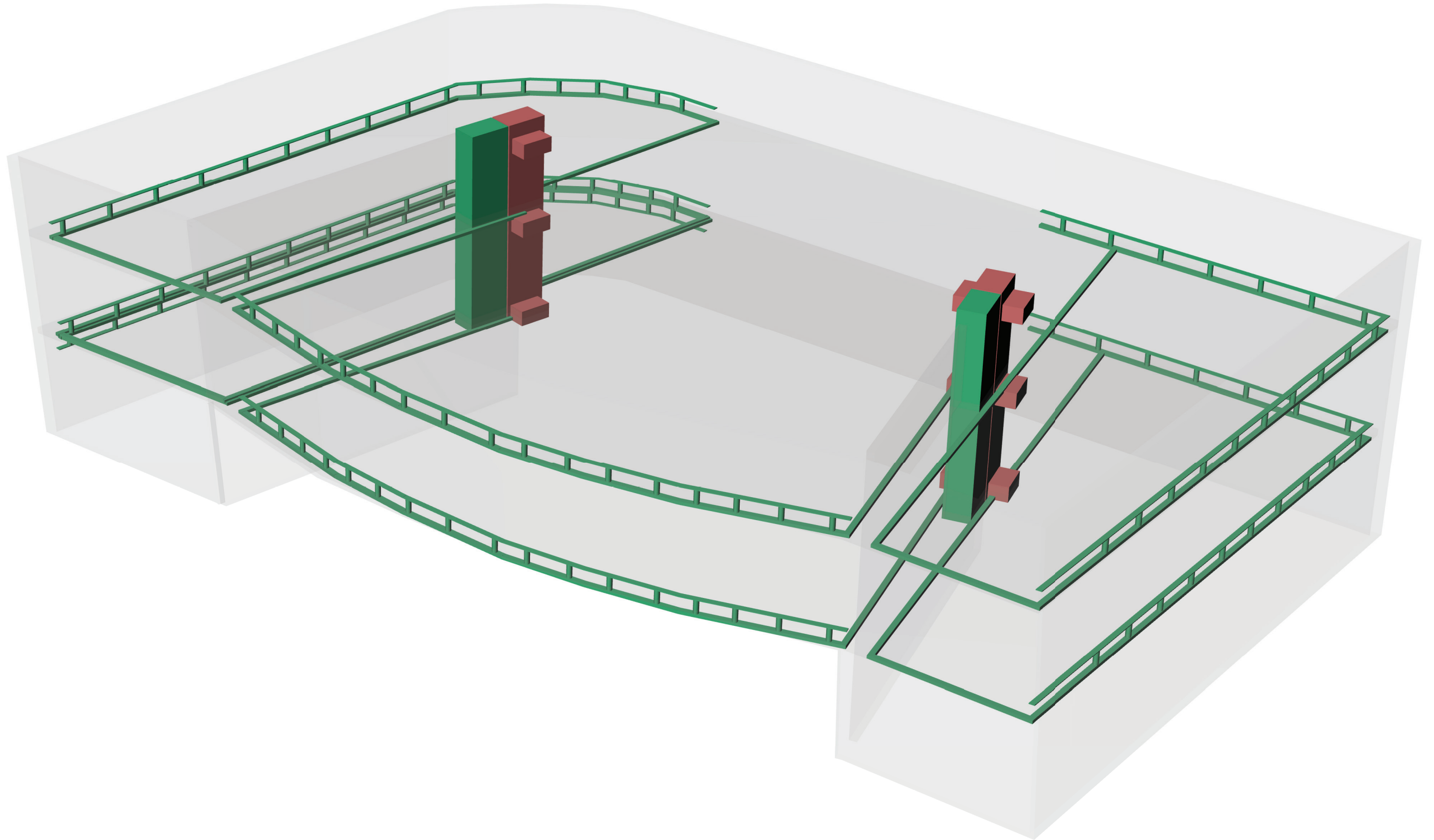


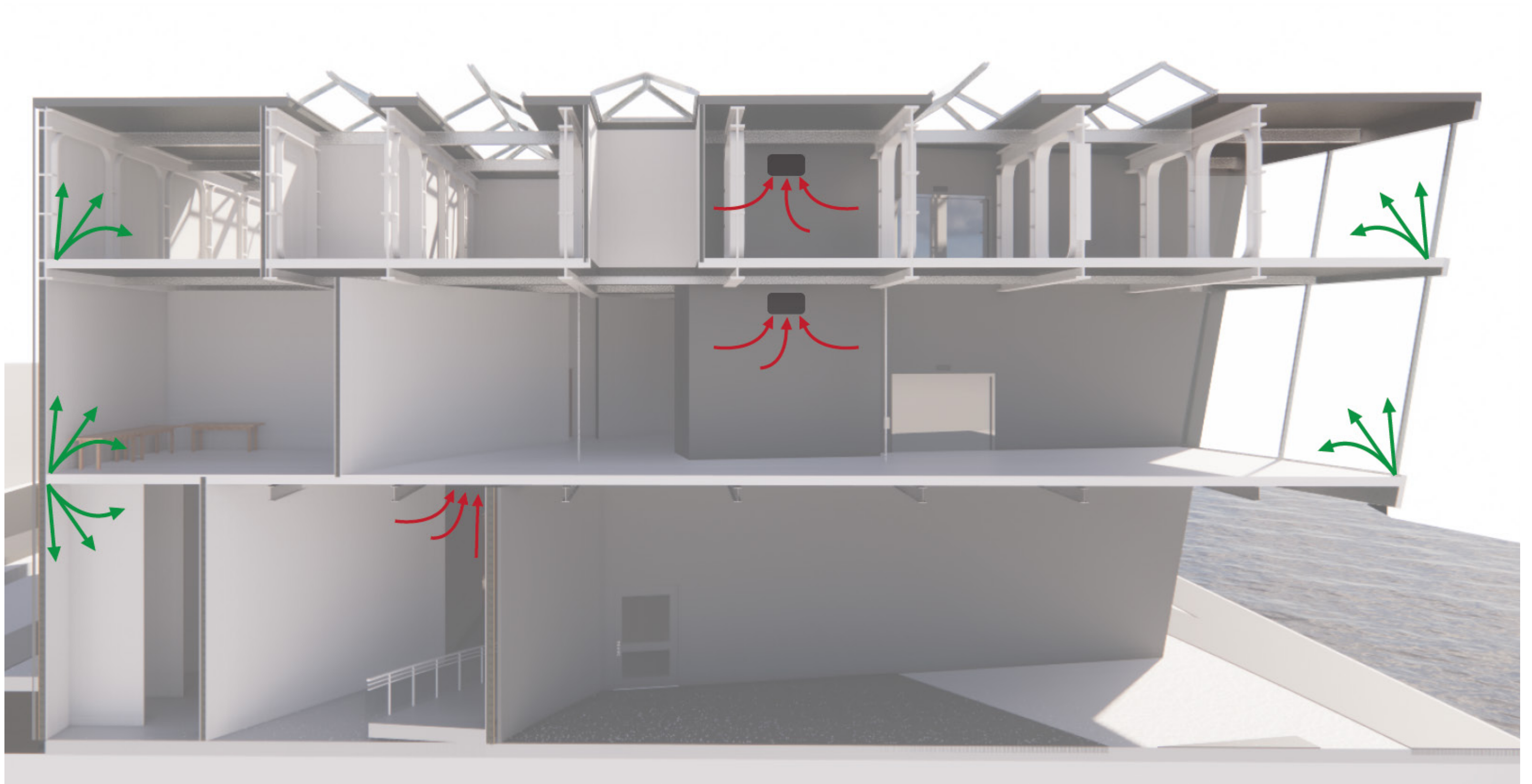
Enclosure Diagram



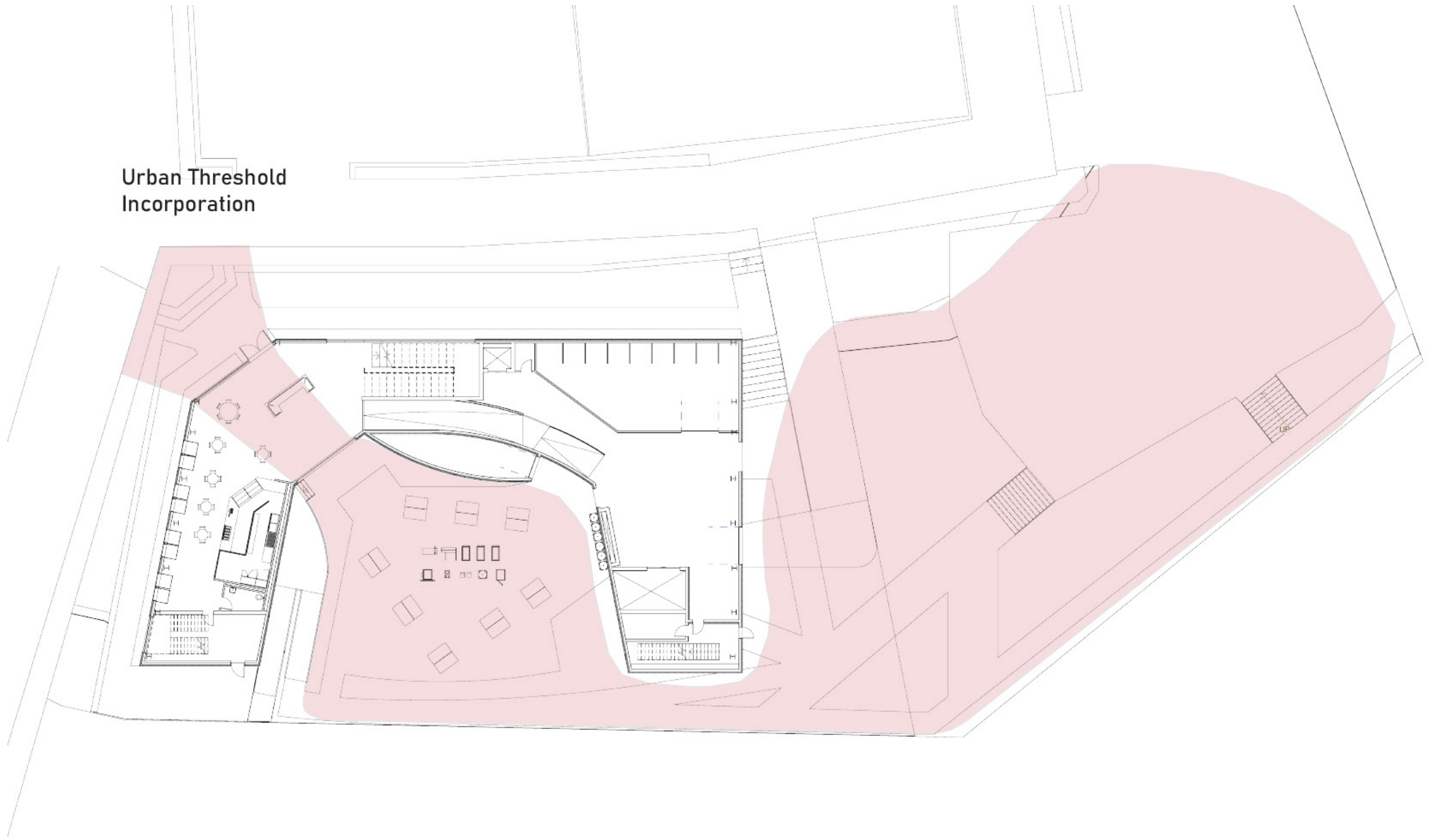


Active Cooling Diagram



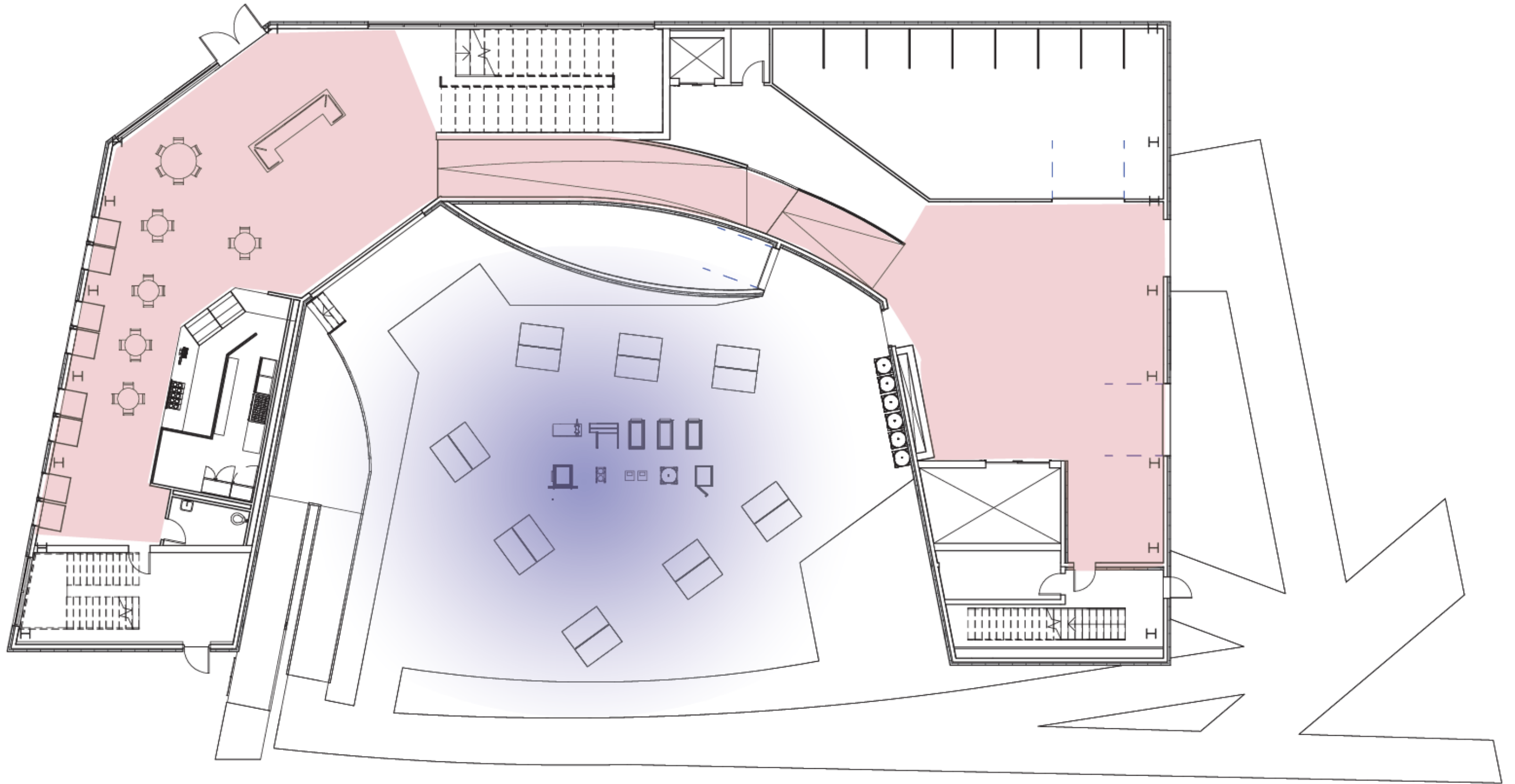


Urban Threshold Diagram

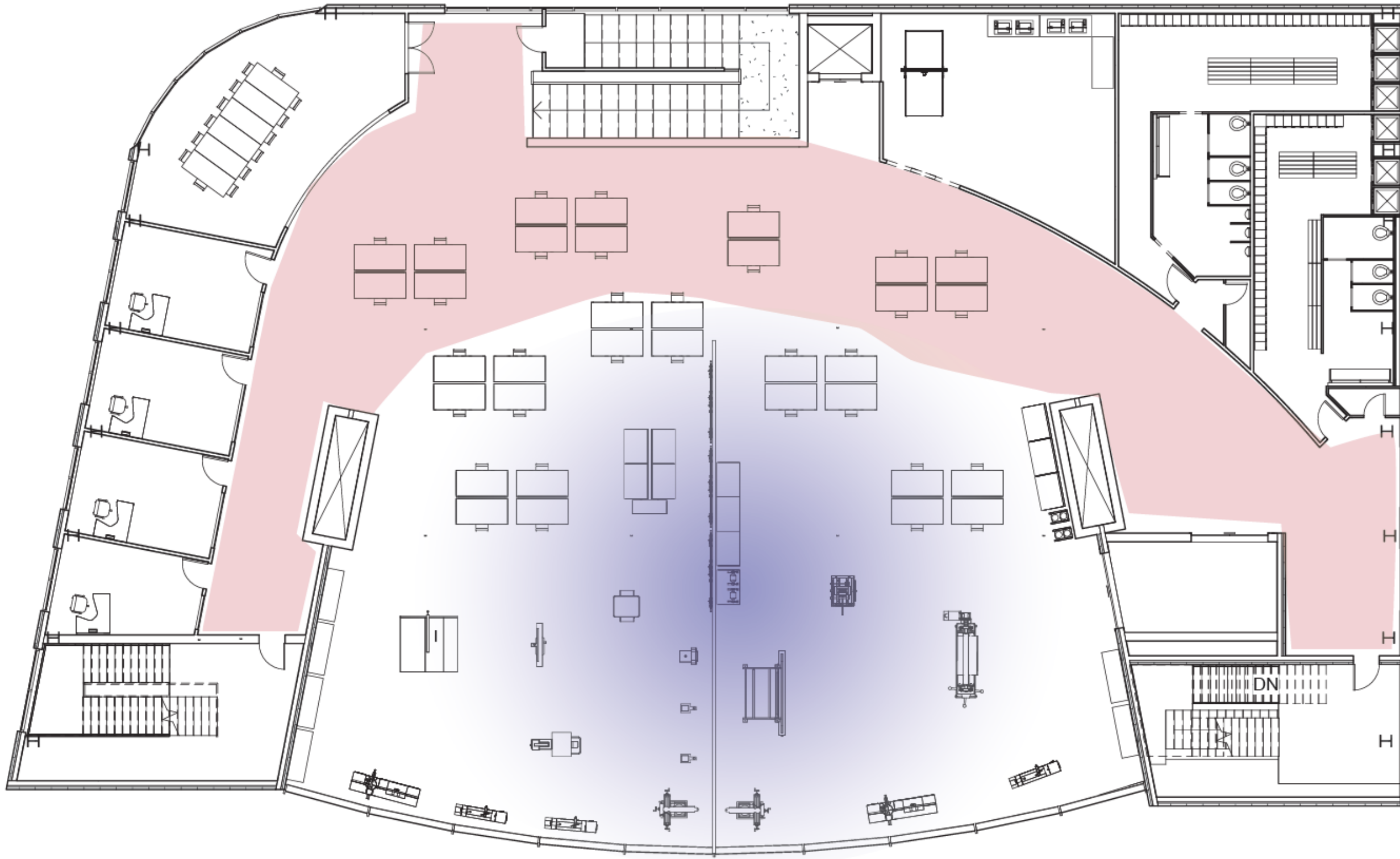


Urban Threshold
Incorporation

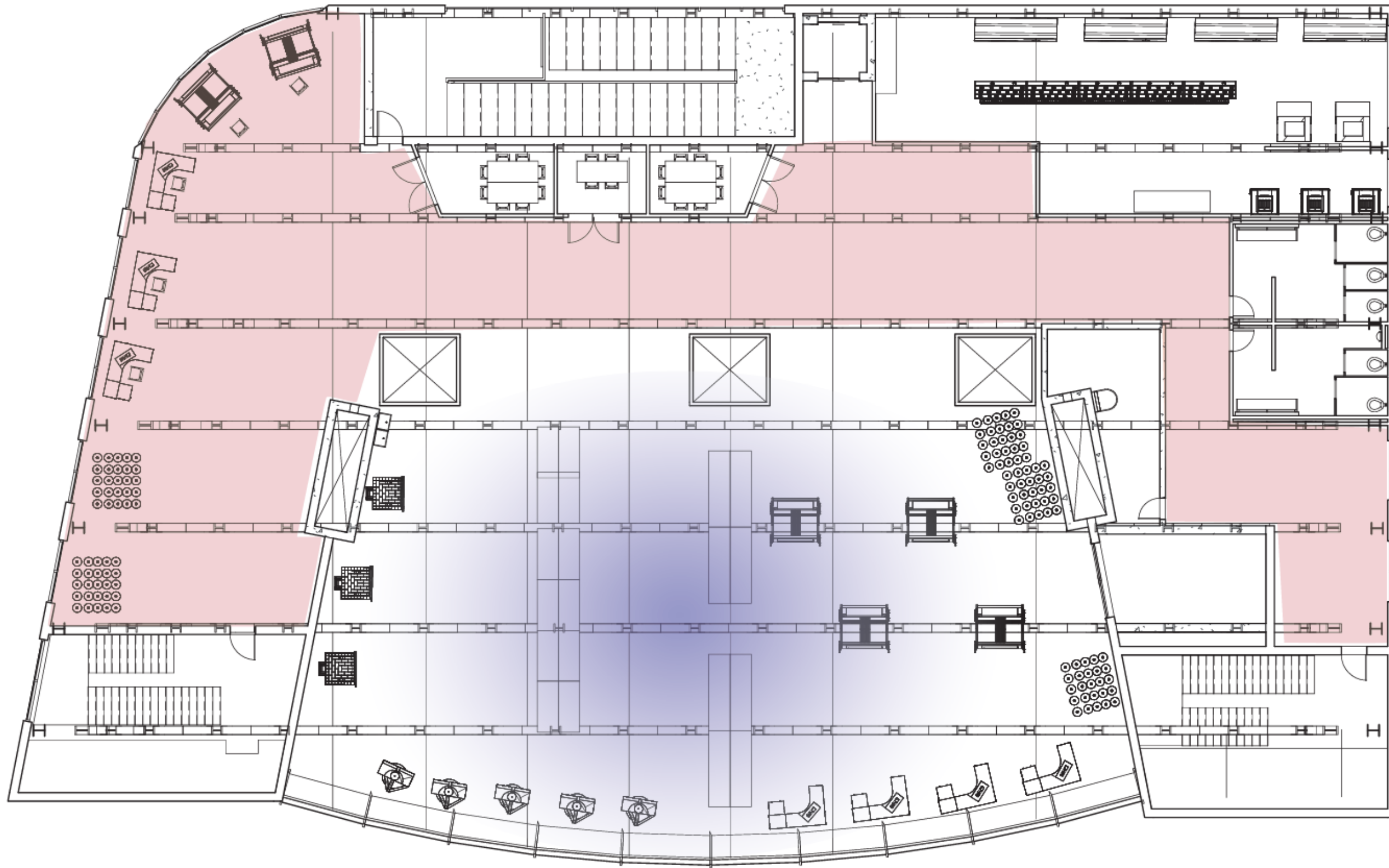
Circulation Diagram



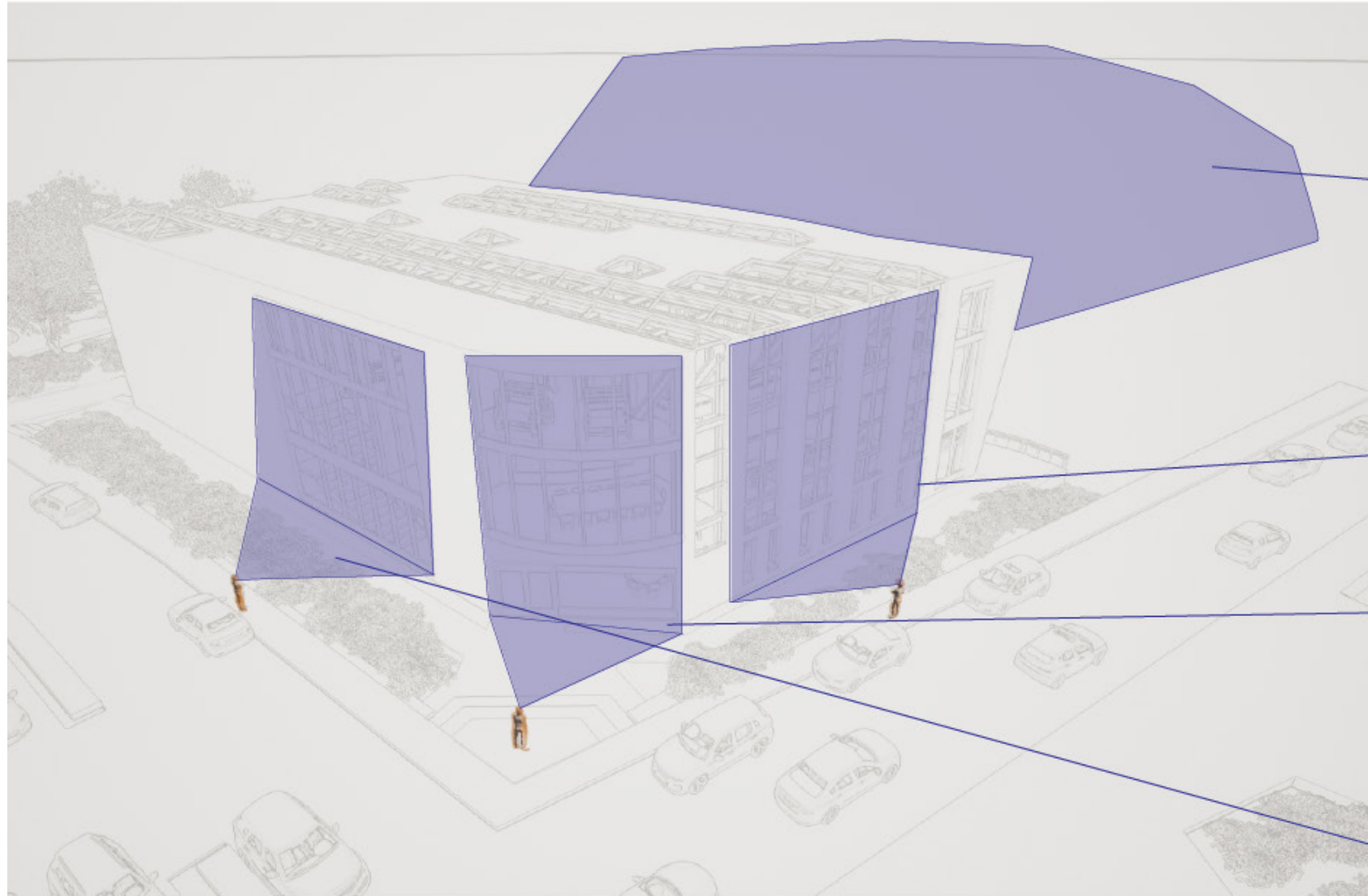
Circulation Diagram



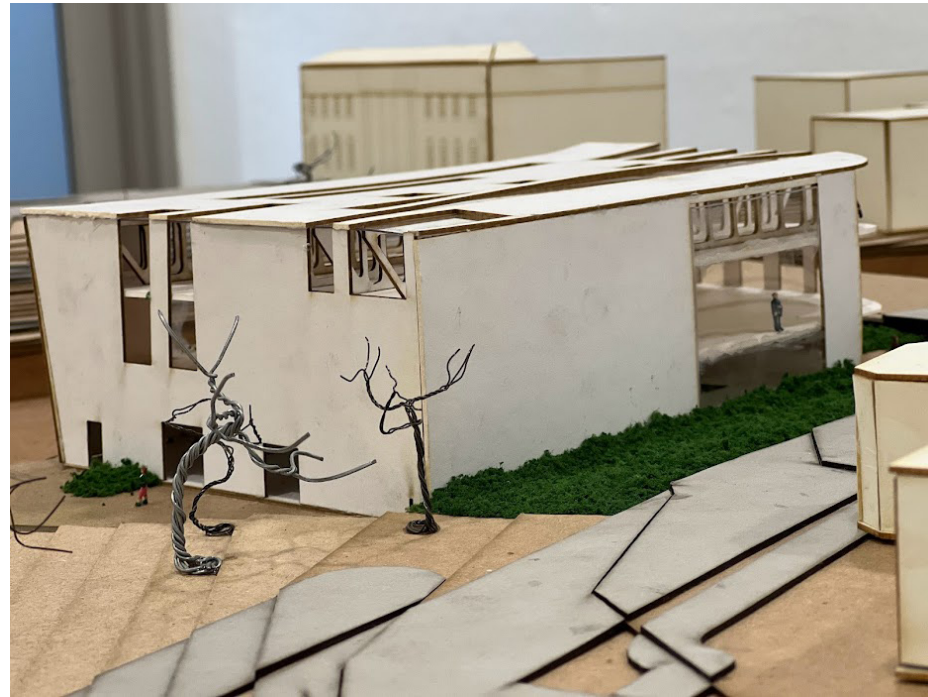
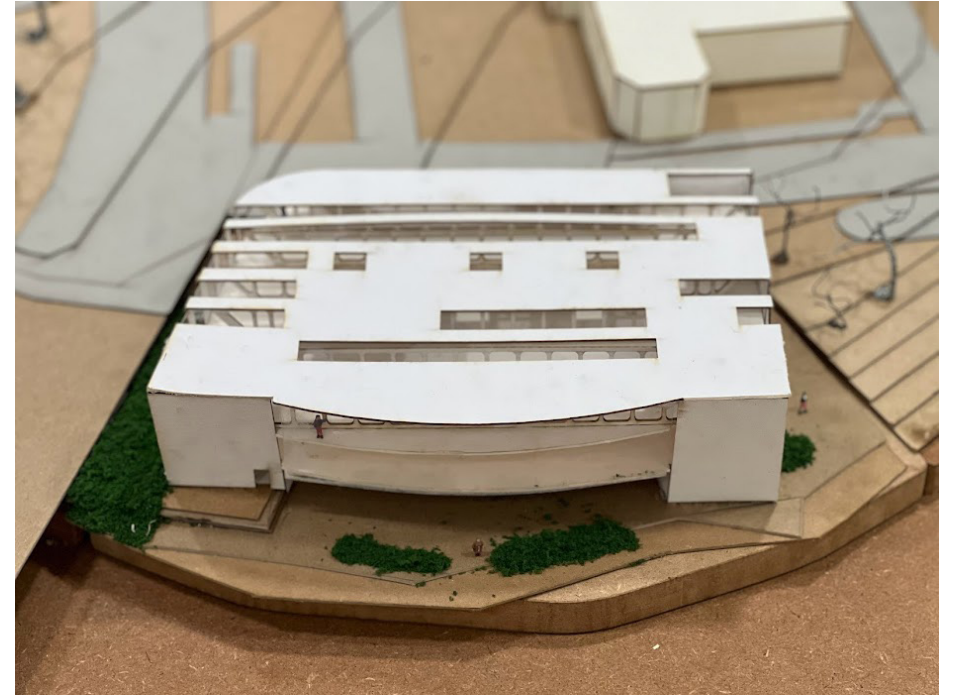
Circulation Diagram



Critical Views



Physical Model 1/16 Scale



Physical Model 1/2 Scale

