

# QIANQIAN (Jo) WU

Architectural Portfolio



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# QIANQIAN (Jo) WU

Architectural Designer/Artist/Photographer

## WORK EXPERIENCE

WSP Architects - Architecture Intern, Summer 2023

- Produce site plans, floor plans, space plans, elevations, and renderings for 3 mixed-use projects
- Coordinate with client and complete detailed elevation penalisations drawing for 1 residential project
- Compile and organize bidding documentation and presentation for 1 industrial park project
- Assist with developing preliminary design scheme and 3D digital massing for 2 residential projects
- Participate in project meetings, contribute to discussions and the development of design solutions
- Prepare initial design documentation and presentations

Sally Swanson Architects - Architecture Intern, Summer 2020

- Collaborate on the development of floor plans for 1 educational project
- Prepare construction blueprints using AutoCAD for 2 urban renewal projects
- Develop narrative summaries and project program documents
- Support required code research

USC SOA - Class Assistant, Luminous and Auditory Phenomena in Architecture, Spring 2024

- Support the distribution of course materials, respond to weekly questions, and manage class recordings
- Prepare learning materials and evaluate assignments, tests, and exams

## EDUCATION

Master of Architecture, 08/2021 - 05/2024, University of Southern California, GPA: 3.58/4.0

Bachelor of Environmental Engineering, 08/2017 - 06/2021, Beijing University of Chemical Engineering

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## 01 USC SOCIAL JUSTICE CENTER

A key to social justice and to overlook dtda and chinatown

Instructor: Alejandra Lillo  
Jan - May, 2023  
Individual Work

The project started from a three week exercise of a Japanese woodjoint named Sumikiri-isuka-tsugi. It is categorized as a scarf joint, which is composed by a male part, a female part, and a key. Relating the joint to the project, the key symbolized the important value of the Social Justice Center and its location in the heart of Chinatown. This project is a comprehensive project where I get to learn about building code, mechanical system design, structure detail, materialities, etc. Designing this mid-rise also gave me a lot of experience in site engagement and Type IV construction.



## SITE ANALYSIS



Wind Direction

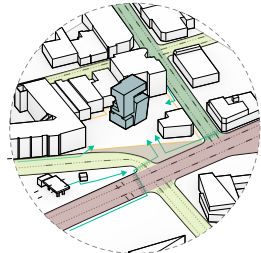


Vegetation



Heritage Vegetation

South African Carol  
Pepper  
Olive  
Grape Myrtle  
Indian Laurel Fig



Vehicle and Pedestrian Access



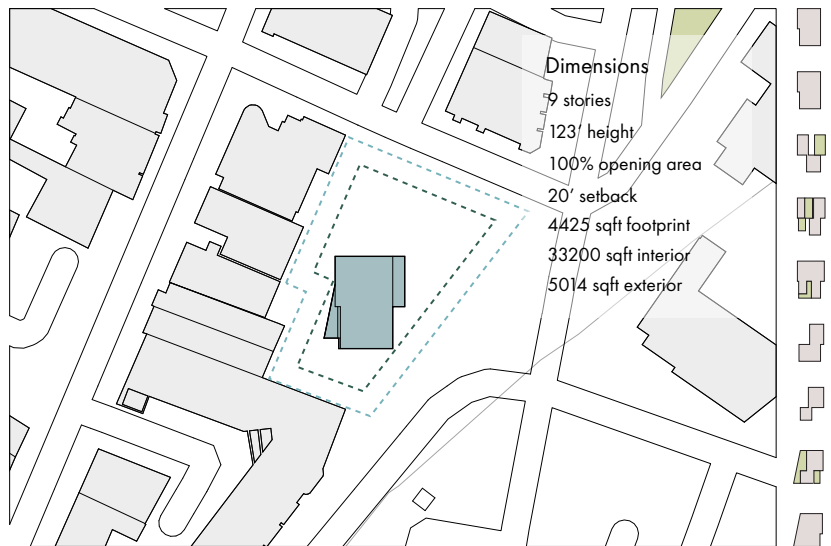
Public Transportation



City Landmarks

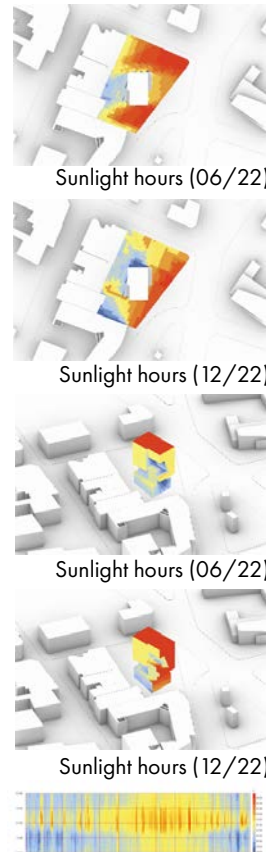
Homeboy Industries  
California Endowment Center  
USPS Los Angeles  
Chinatown Memorial Gate  
Union Station  
Social Justice Museum  
Chinese American Museum

## SITE PLAN



Dimensions  
9 stories  
123' height  
100% opening area  
20' setback  
4425 sqft footprint  
33200 sqft interior  
5014 sqft exterior

## CLIMATE STUDY



Sunlight hours (06/22)

Sunlight hours (12/22)

Sunlight hours (06/22)

Sunlight hours (12/22)

Dry Bulb Temperature

## SUSTAINABILITY GOALS

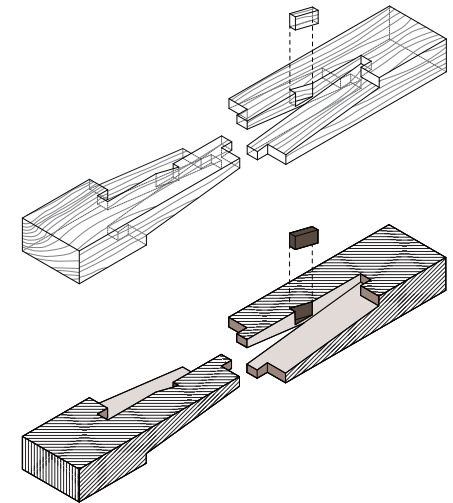
The project is a 123 feet tall timber structure with 9 stories and 33200 square feet interior area. The design intended to achieve its sustainability goals by the following strategies.

- 1 From the third floor to the seventh floor, maximum building depth is 39 feet, allowing the most natural ventilation for cooling and hygiene purpose. Also, the building is placed intersecting with the major wind direction to enforce cross ventilation.
- 2 Solar panels will be installed on the roof to provide solar energy.
- 3 Integrate rain water collection system.
- 4 5014 square feet of exterior area can be used to plant vegetation like trees or local species, the roof can also be designed as a green roof.

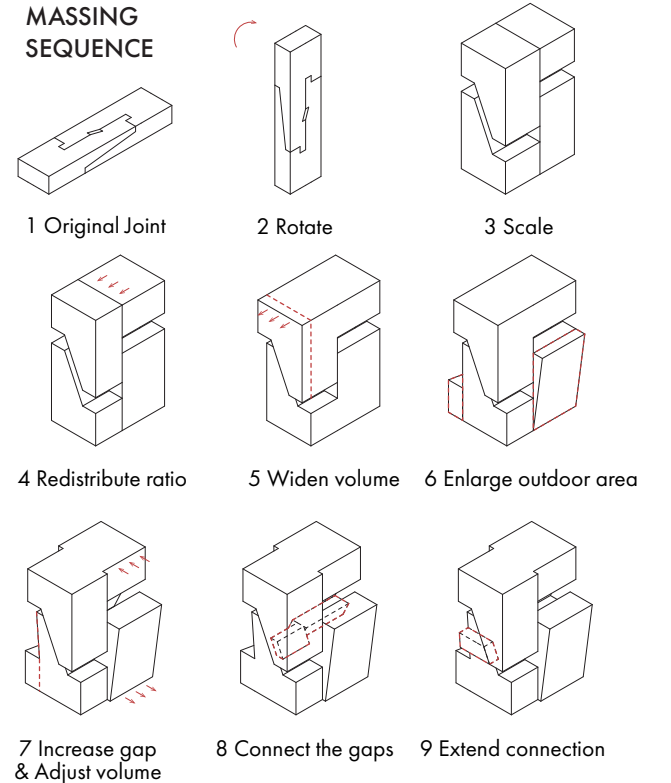
## WOODJOINT INSPIRATION

Sumikiri-isuka-tsugi joint is a simple scarf joint, often called a crossbill scarf because it resembles the open bill of a bird.

The scarf joint is used when the material being joined is not available in the length required. It is an alternative to other joints such as the splice joint and is often favored over these in joinery because it yields a barely visible glue line.



## MASSING SEQUENCE



1 Original Joint

2 Rotate

3 Scale

4 Redistribute ratio

5 Widen volume

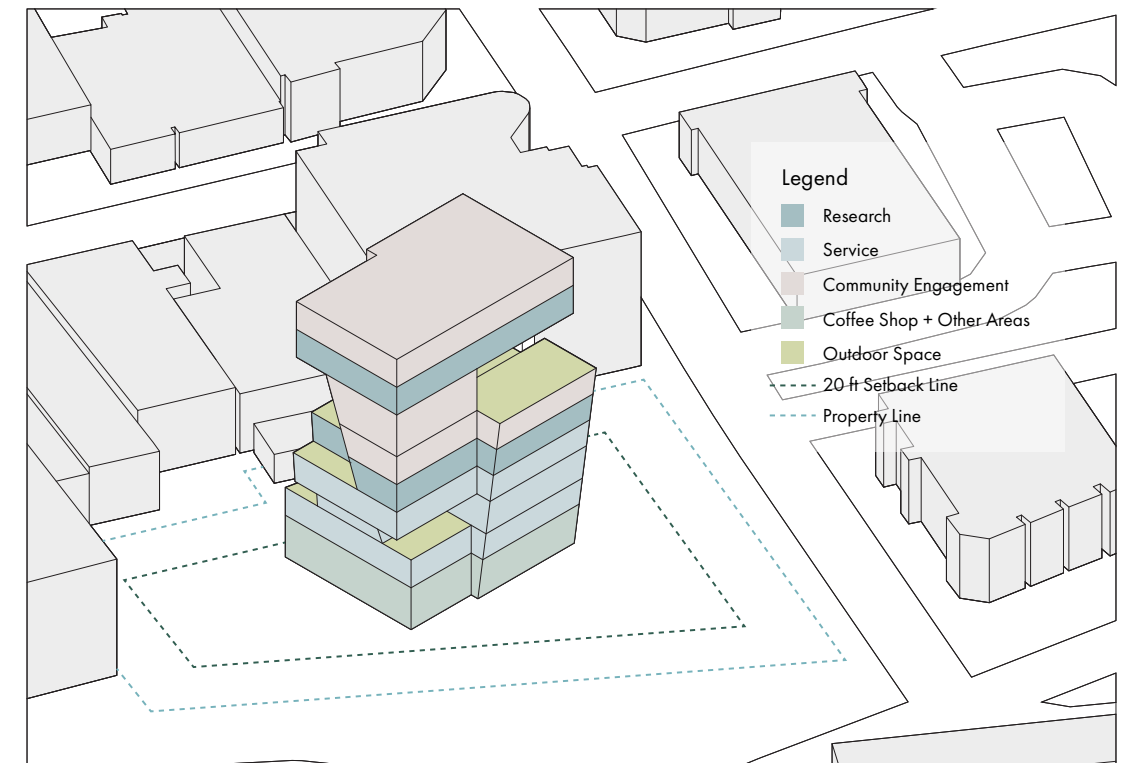
6 Enlarge outdoor area

7 Increase gap & Adjust volume

8 Connect the gaps

9 Extend connection

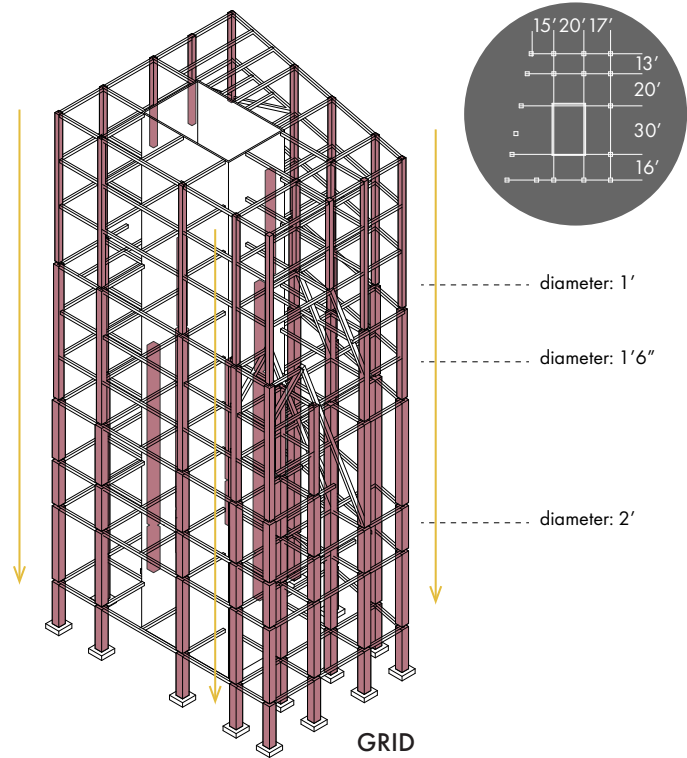
## SITE AXON & PROGRAM



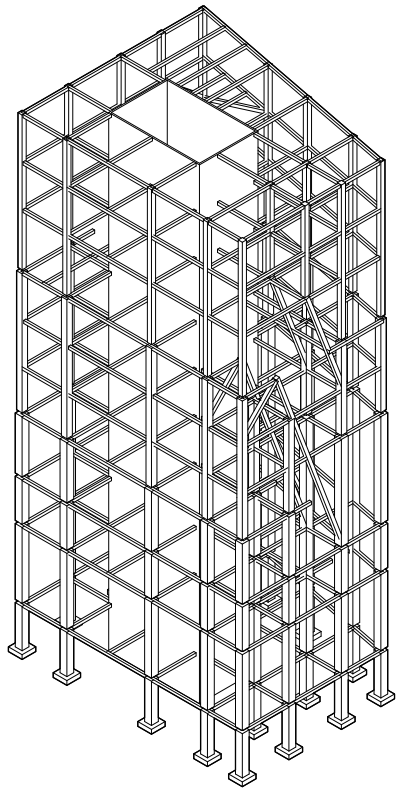
- Legend
- Research
  - Service
  - Community Engagement
  - Coffee Shop + Other Areas
  - Outdoor Space
  - 20 ft Setback Line
  - Property Line

## STRUCTURE SYSTEM

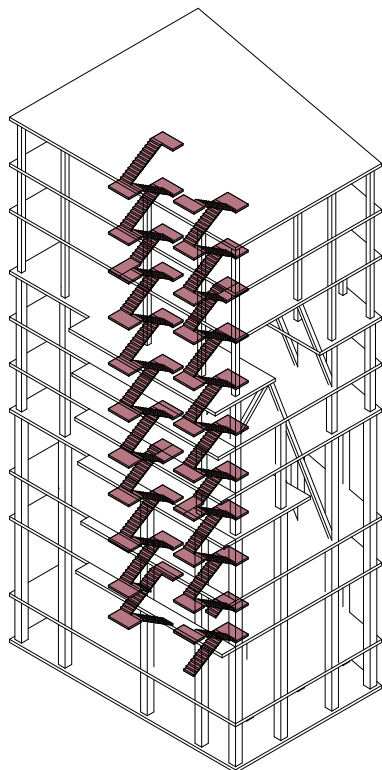
The structure system design starts from the grid design. The building have a footprint of approximately 80' by 50' size. I used 20' by 20' grid as the base, and the building have a central concrete core to resist lateral loads. Two sets of staircases are located within the core along with one ADA restroom, one gender neutral restroom, a janitor's room, and two elevators. The size of the columns in the building reduces when located in higher levels to remain the maximum efficiency of both structure capacity and materiality. Bracings are used at three cantilever locations to distribute load to nearby columns, secondary system are used to connect and support the facade (perforated metal sheets), especially the curved surface above the main entrance of the building.



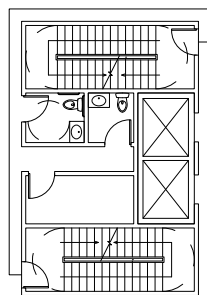
GRID



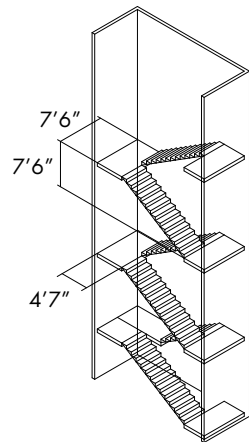
OVERVIEW



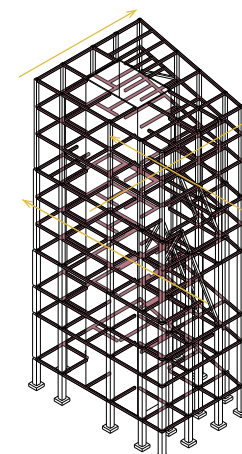
EGRESS DESIGN



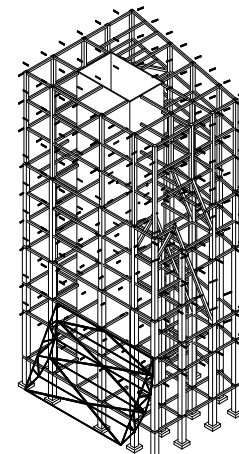
60'



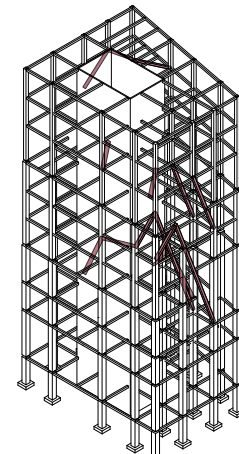
CORE DESIGN



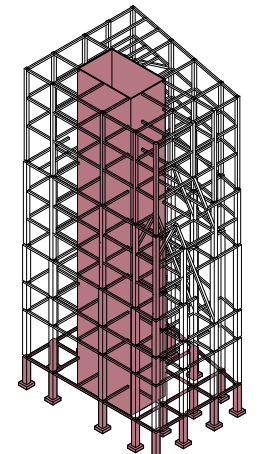
BEAMS



SECONDARY



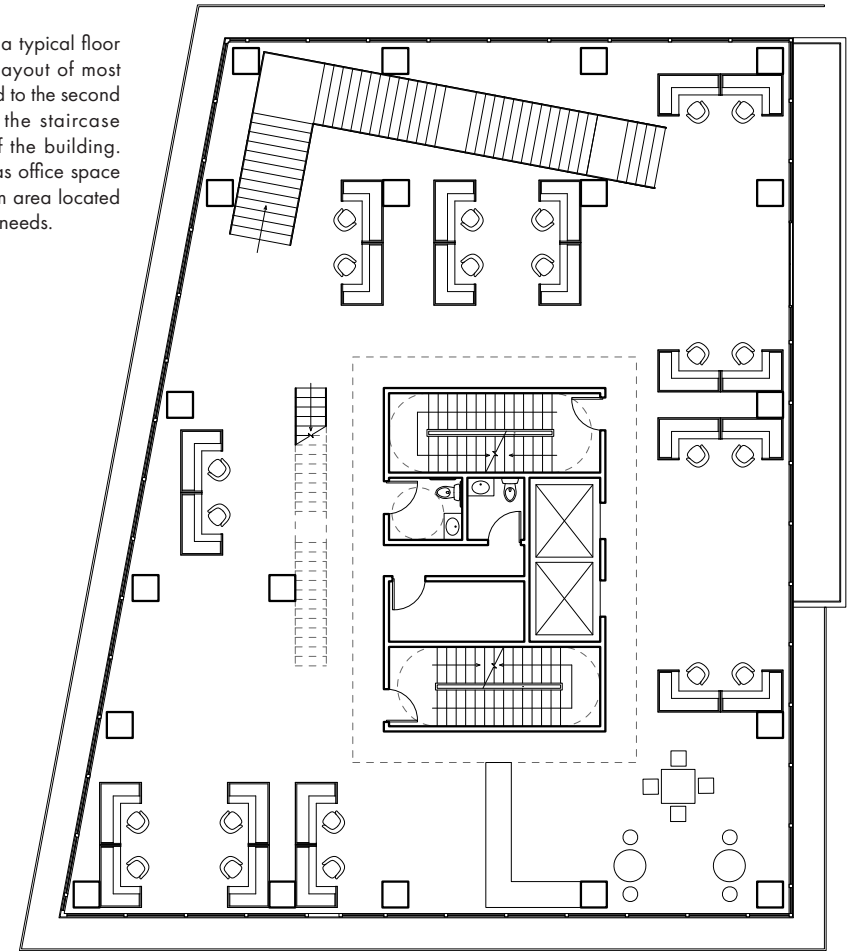
BRACING

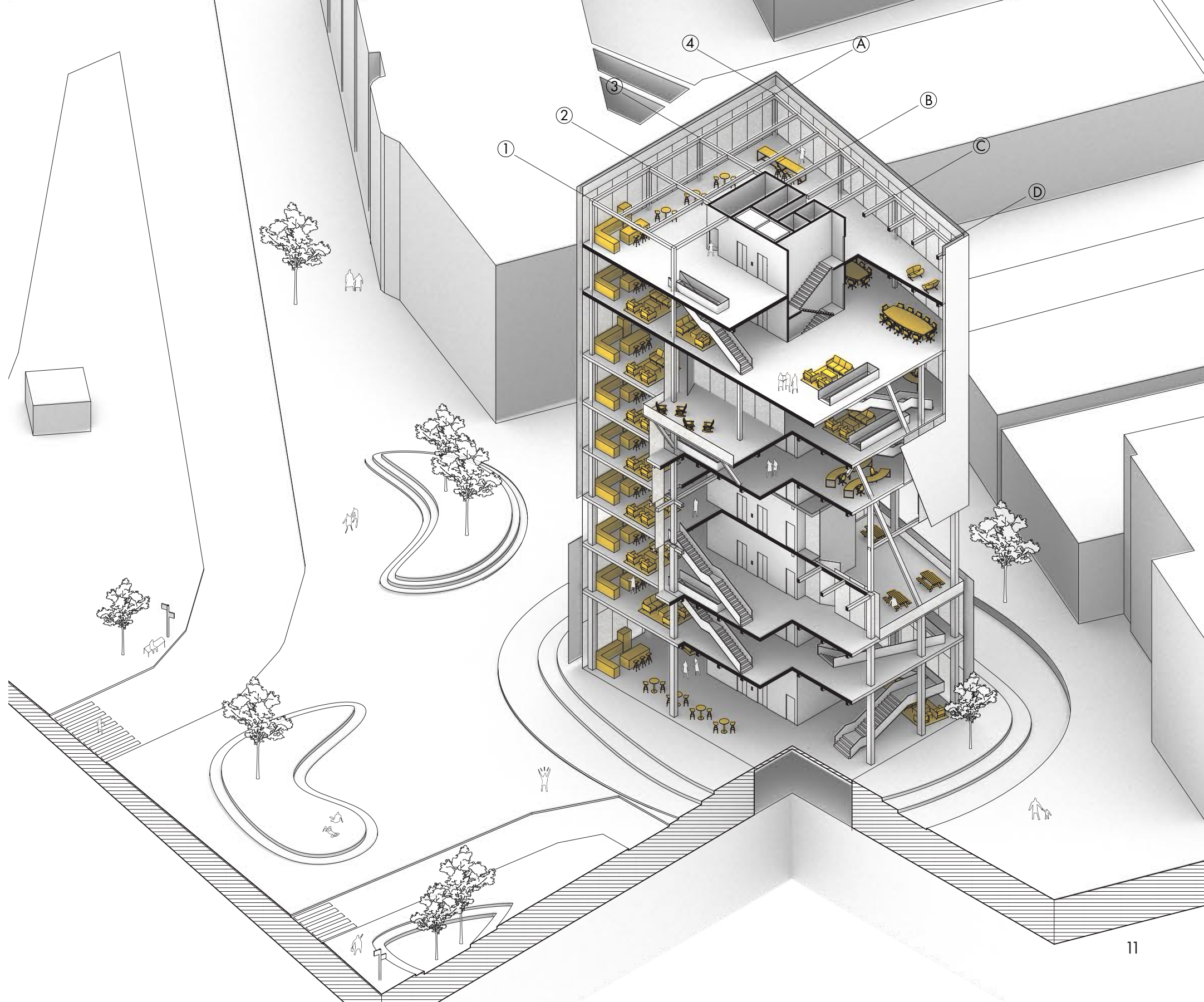


FOUNDATION

## FLOOR PLAN

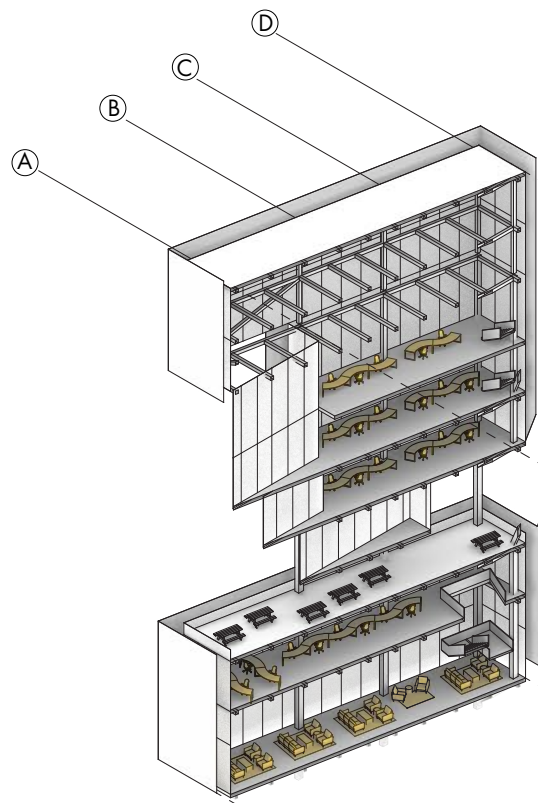
This 2nd floor plan serves as a typical floor plan that can represent the layout of most floors. The visitors can proceed to the second floor from the lobby using the staircase located on the north side of the building. Most of the building is used as office space and there's a small breakroom area located on each floor for the workers' needs.





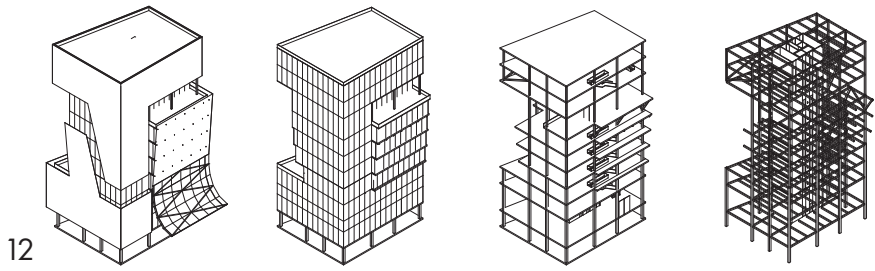
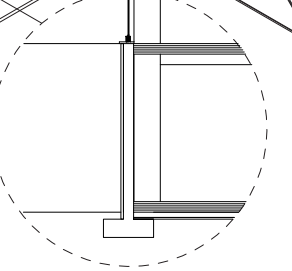
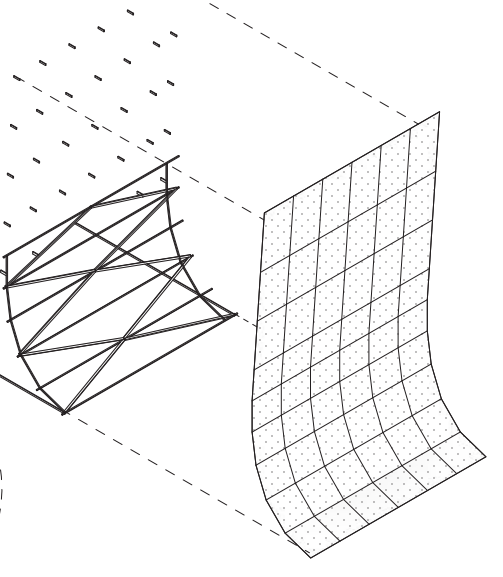
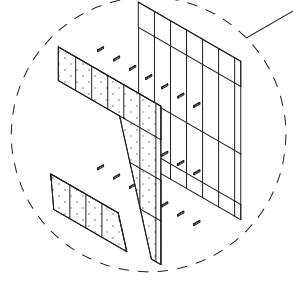
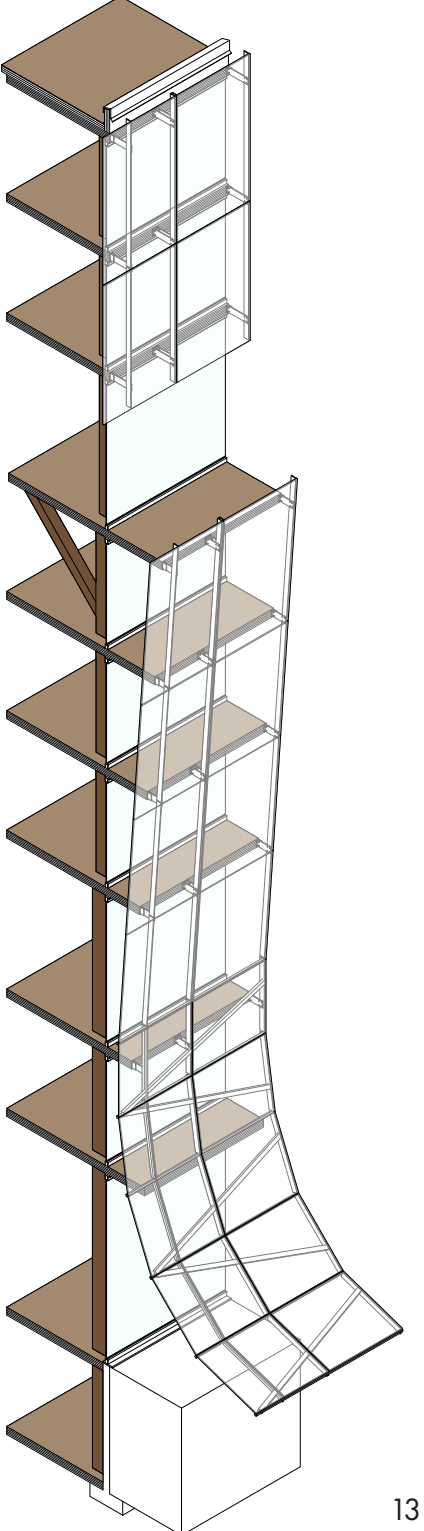
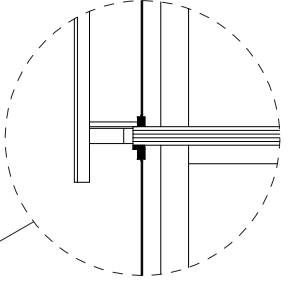
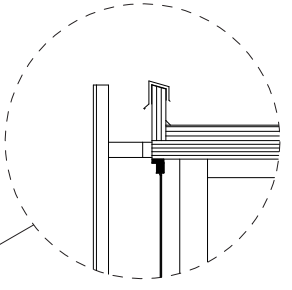
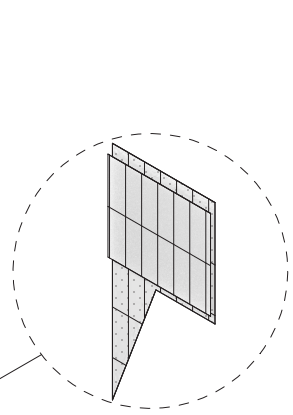
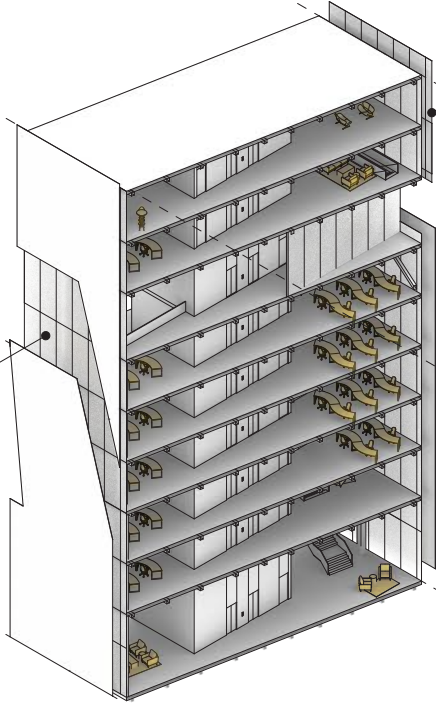
### SUPER CHUNK DRAWING

The drawing cut off the north-east corner of the mid-rise and reveals the activities and interior structures of the building, along with the immediate site surroundings showing access to the building. There's a nearby bus stop located across the street for public transportation access, a driveway is also designed for vehicle access. Circulation and egress can also be clearly read in this drawing.



EXPLODED AXON DRAWING

ASSEMBLY AXON



## 02 THE FLUID CHURCH

A flowing journey towards sacredness

Instructor: Valery Augstin  
Oct - Dec, 2023  
Individual Work



Sacredness is a profound journey within ourselves, it is a path of inner transformation and spiritual growth that intertwines with our connection to nature. It begins with the whisper of the soul, urging us to seek deeper meaning and purpose. Sacredness serves as the meaning, the purpose, the guidance, the comfort, and even the fulfillment in our life journey. Along this sacred journey, we shed old beliefs and embrace new insights, evolving as individuals. Our connection with nature becomes a source of inspiration and reverence on the way, as we recognize the divine in the world around us. Through meditation or mindfulness, prayer, and journaling, we nurture our spiritual growth, fostering a deeper connection to the sacred within and beyond. This sacred journey is a lifelong pursuit, a quest for profound understanding and a harmonious existence with the universe.



**Site : 2124 Venice Blvd**

The project site locates next to a major boulevard within a neighborhood of 66.3% Latino population and 16% African American population. Within 1 mile radius of site, there're several christian churches including church of christ, pentecostal, methodist, presbyterian, and other/non-denominational religious institutions.

**C1-1VL-HPOZ-CPIO**

C1: Limited Commercial  
 1VL: One Story Very Low  
 HPOZ: Historic Preservation Overlay Zone  
 CPIO: Community Plan Implementation Overlay District

**R2-1-HPOZ**

Max.Height: 33'  
 FAR: 3:1

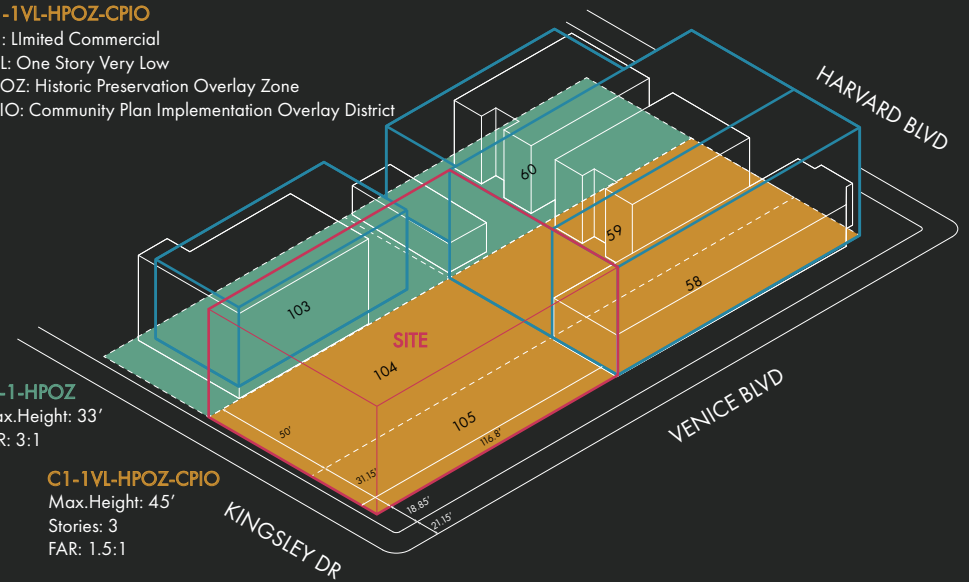
**C1-1VL-HPOZ-CPIO**

Max.Height: 45'  
 Stories: 3  
 FAR: 1.5:1

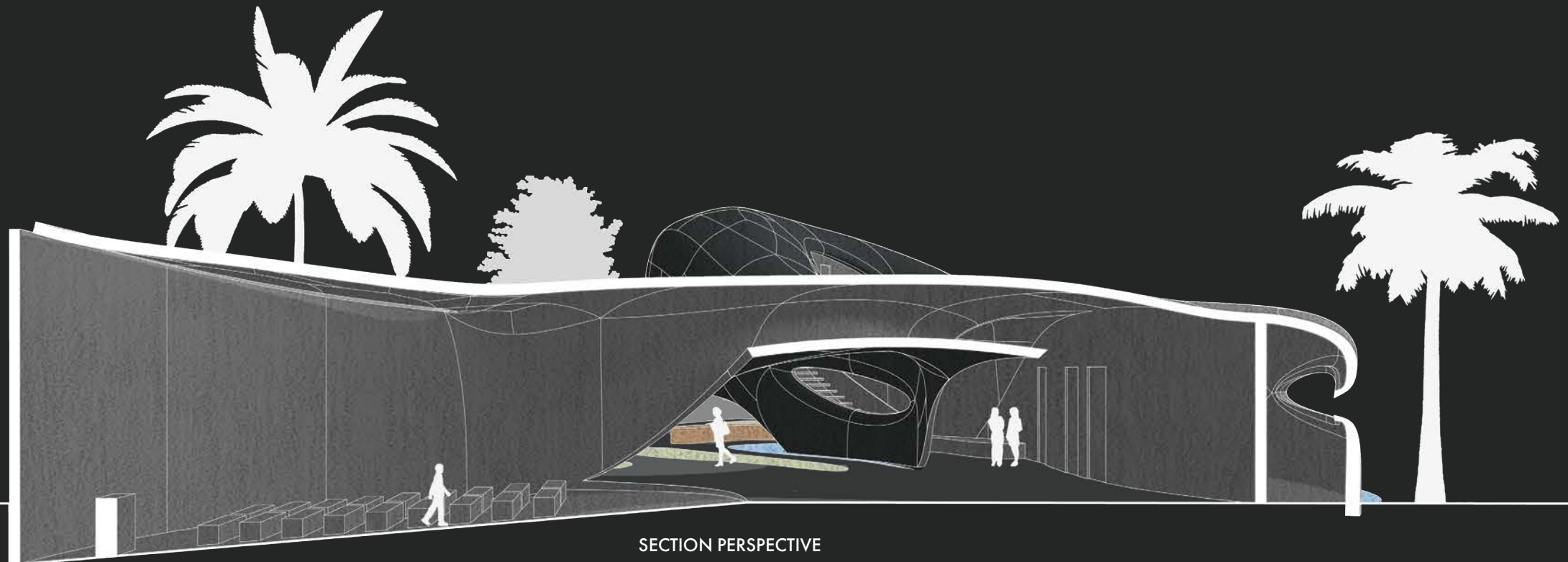
**LEGEND**

- Lot division
- Existing building
- Maximum volume for adjacent lots
- Maximum volume for site

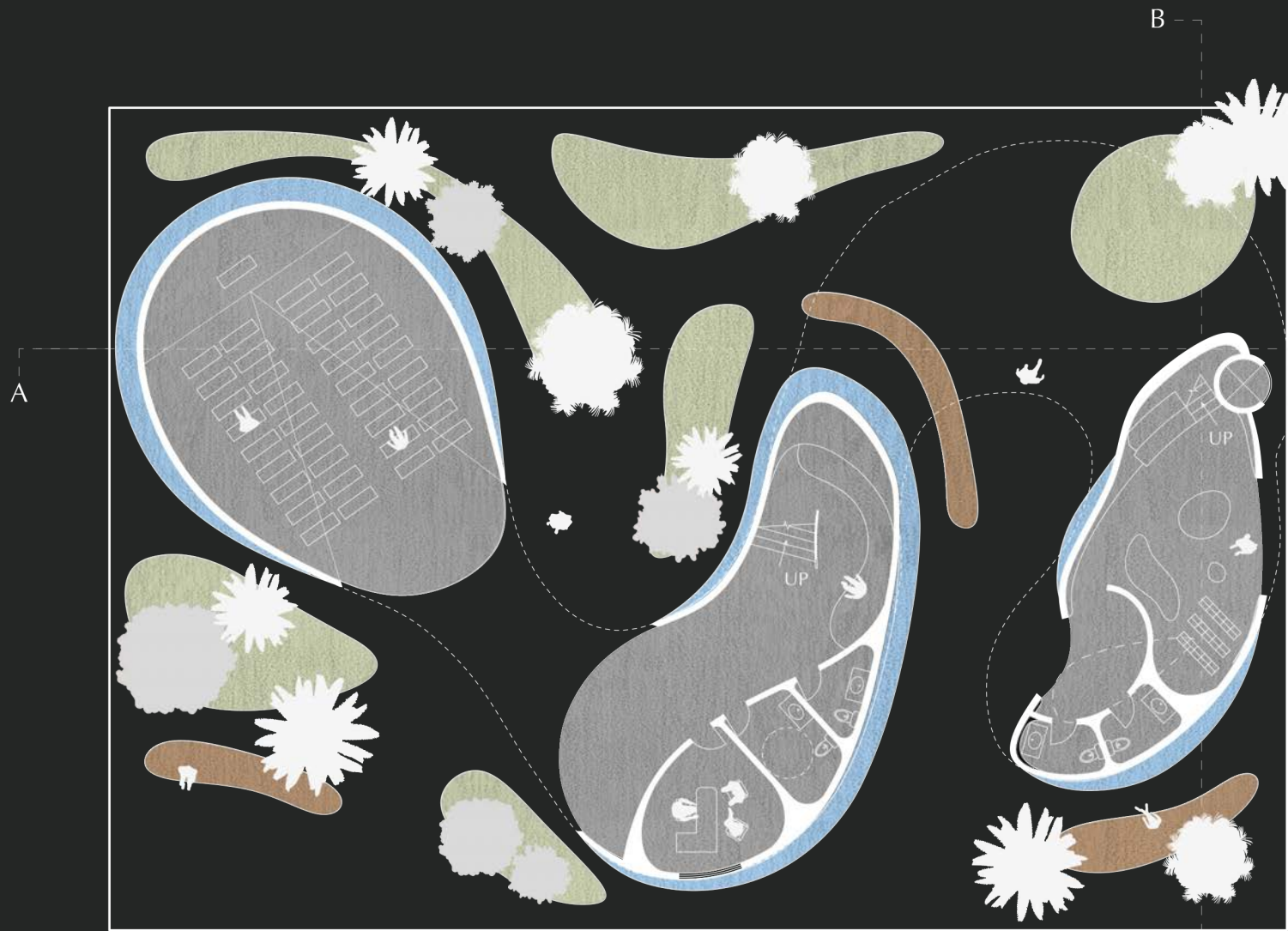
Note: Site have no setback requirement and pipeline easement



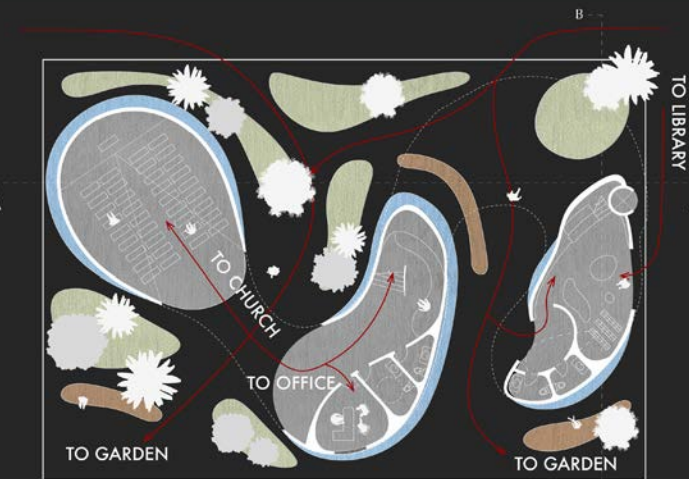
By looking up zoning requirements of the site, specifications are clarified to direct design schemes. With the maximum height of 45 feet, the building can go up to 3 stories. The lot boundary indicates the furthest point the building can go next to the sidewalks. No setback requirement and pipeline easement provide bigger space for potential design.



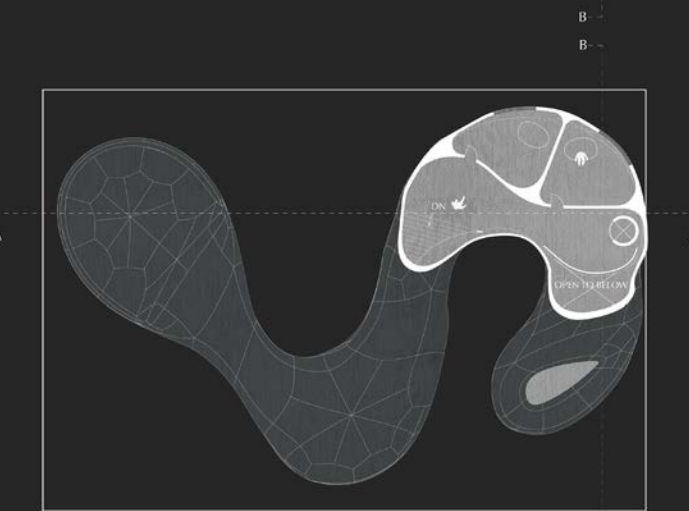
**SECTION PERSPECTIVE**



GROUND FLOOR PLAN



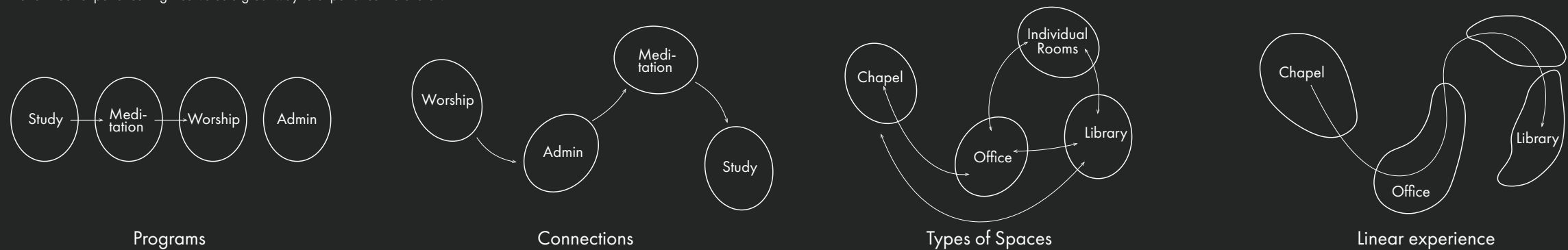
CIRCULATION DIAGRAM

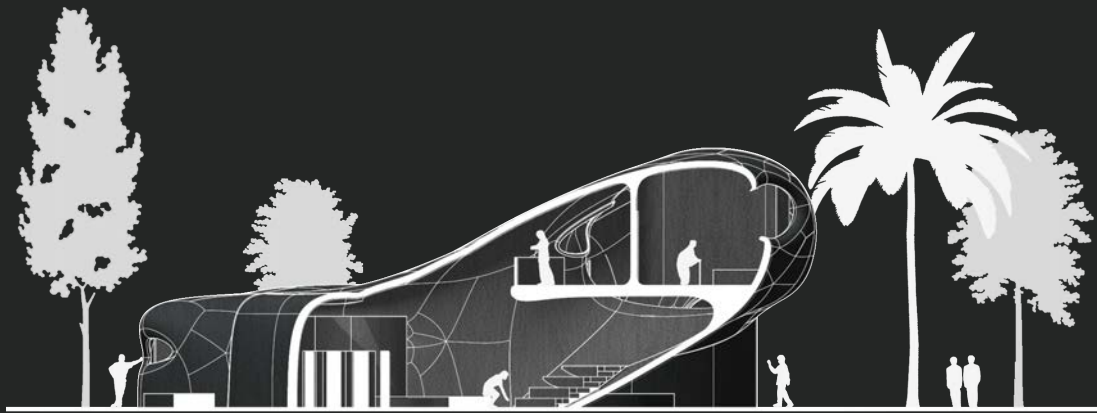


2ND FLOOR PLAN

DEVELOPING DIAGRAMS

Main elements for a church includes worship, self-reflection, administration. These functions can be turned into programs like chapel, meditation rooms, offices and a library for reading and studying. After exploring the potential connections between these spaces, I discovered that a linear experience might serve as a great way to experience the church.





SECTION B



SECTION STUDIES

Simple field diagram studies are a good strategy to develop spaces arrangements in elevation. By separating indoor/outdoor space, the relationship between interior and exterior becomes clear.



SECTION A

### 03 ROSE.65

A Co-Dividual Housing for 50 film workers and students

Instructor: Lisa Little  
Sep - Dec, 2022  
Individual Work

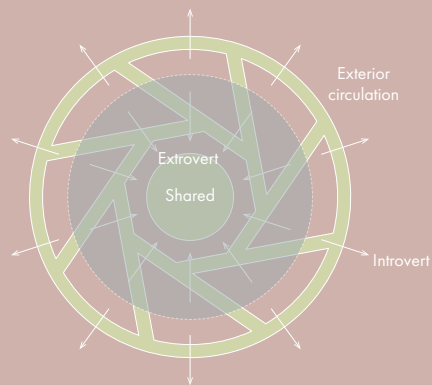


Located five miles away from Hollywood Circle, the site made a perfect space for a housing project provided to the upcoming workforce of the movie industry. The project developed with a “two bars” strategy and created a center park in between for residents to relax and organize some film-related activities for the rest of the community members. The “bridge” connects the bars either horizontally or vertically, allowing people to circulate from the ground level to the fourth level, from one side of the building to another. The staircases are designed not only for circulation but also for exercise purposes. Living pods are located on the lower levels and upper levels while all the public programs including the costume workshop and the digital lab are placed on the middle level for easy access. The sound stage is placed on one side of the building for soundproofing purposes. A garden is on the rooftop of the soundstage, providing an exclusive recreational area only for the 50 residents living in the building.



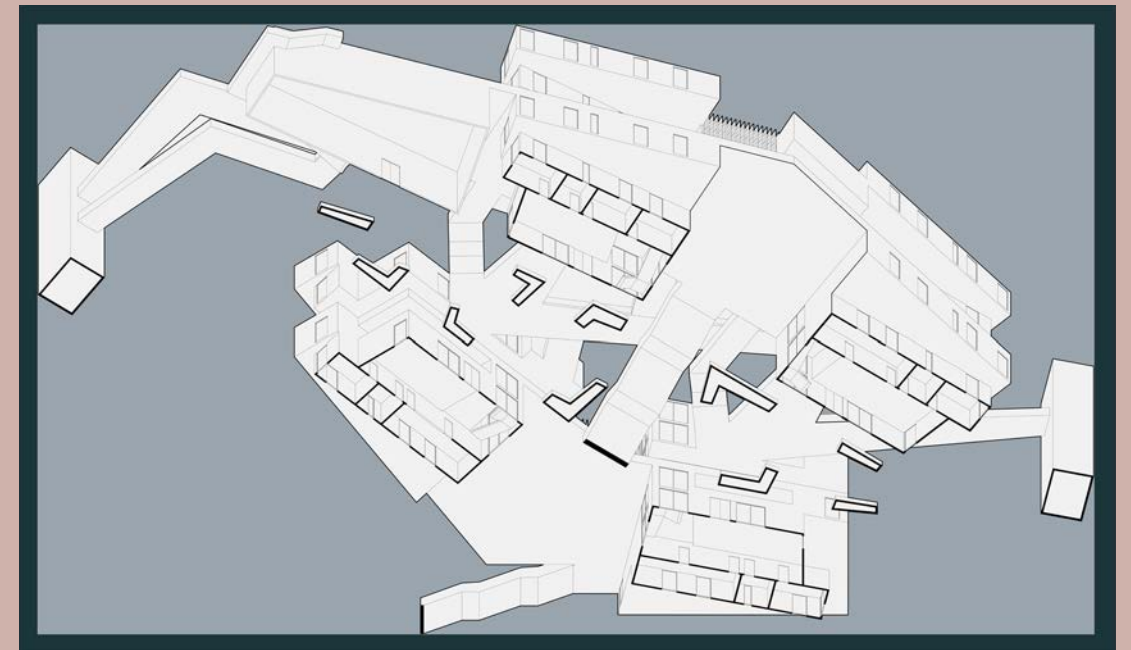
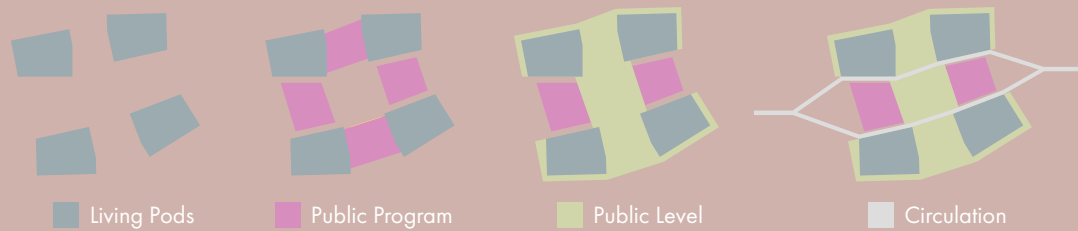
SECTION PERSPECTIVE

CONCEPTUAL DIAGRAM



By looking into people with different personalities in the film industry, I noticed that there's a significant tendency towards both extrovert personality and introvert personality. Therefore, the design aimed to create a co-living environment that people with any social preference can find their own space and peace. Due to the nature of the industry heavily relies on team cooperation, the connection between each zone is designed to intertwine to make circulation convenient. Extrovert zone is provided with better view and closer distance to the shared program area, while introvert zone mainly faces the outskirts of the building which provides more privacy.

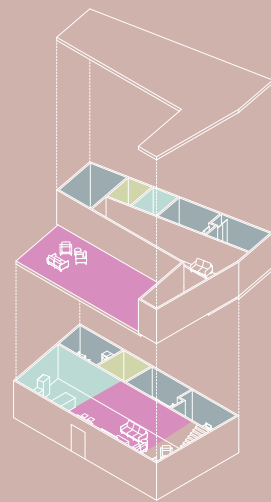
PROGRAM DIAGRAM



WORMEYE OBLIQUE



GROUND FLOOR PLAN

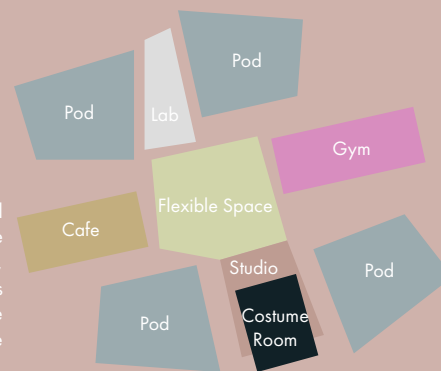


**PRELIMINARY POD DIAGRAM**

Each pod is designed to have two stories with three living units located on each floor. The first floor living units have direct access to the share living room and the kitchen, making it easier for extroverts to social. The second floor have a more private kitchenette that can be a second choice for kitchen use for introverts.

**PRELIMINARY LAYOUT**

Based on the conceptual diagram, the living pods are located at the four corners, while public/shared programs are located in between the pods and gathered in the middle.





SECTION PERSPECTIVE

## 04 THE CHAPEL

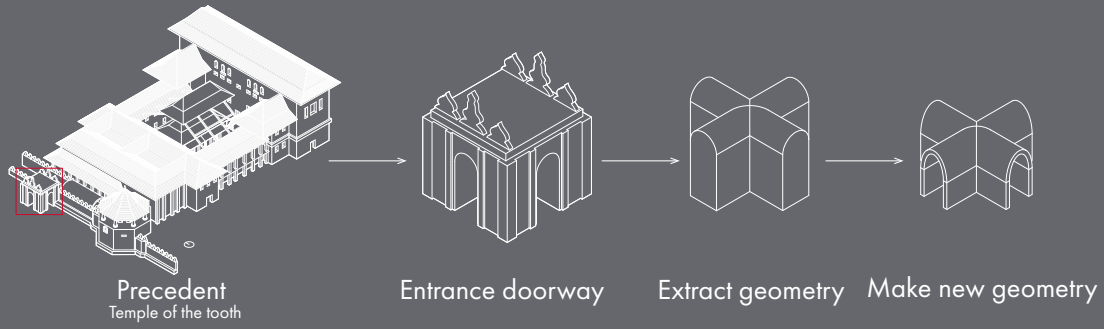
A previous study for the church design

Instructor: Valery Augstin  
Oct, 2023  
Individual Work

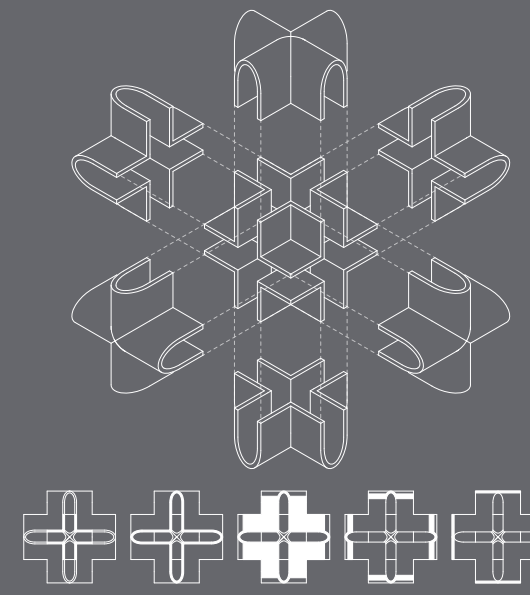
Served as a previous study of the church design, the chapel was dedicated to explore the spatial conditions that create the sense of holyness and different lighting conditions. The site is located on USC campus. I choose a location close by a major pathway yet have vegetation surrounding it. One of the challenge that I was facing is how to create a sense of privacy while provide connection between visitors and the nature.



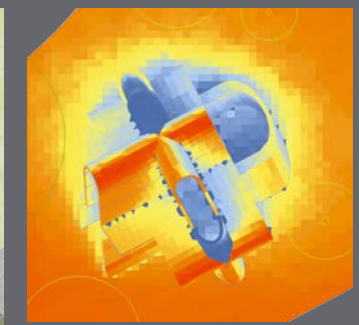
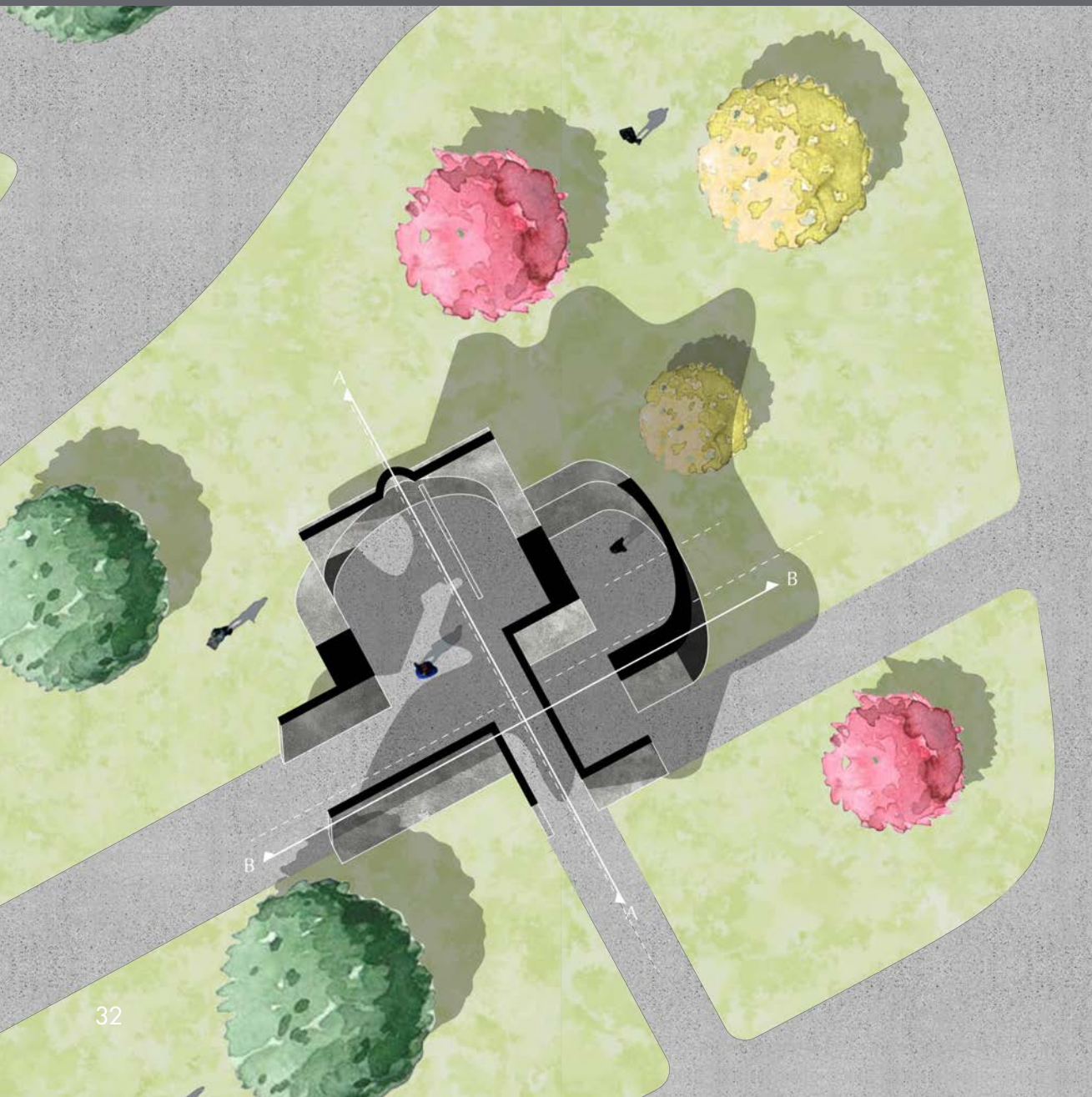
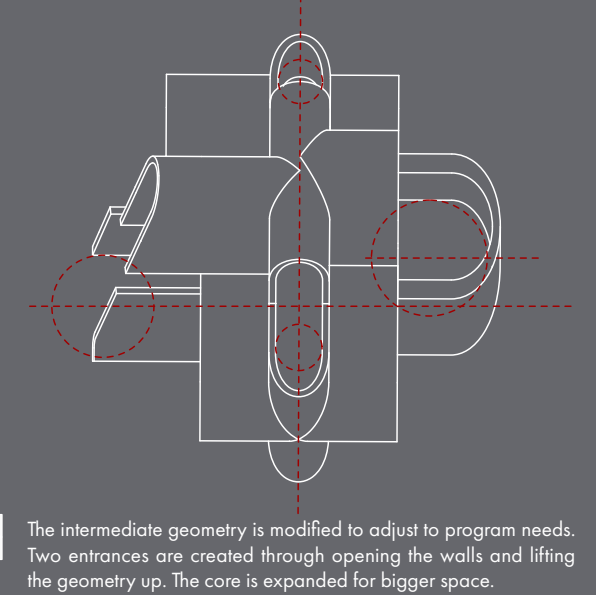
GEOMETRY FORMATION



GEOMETRY ANALYSIS



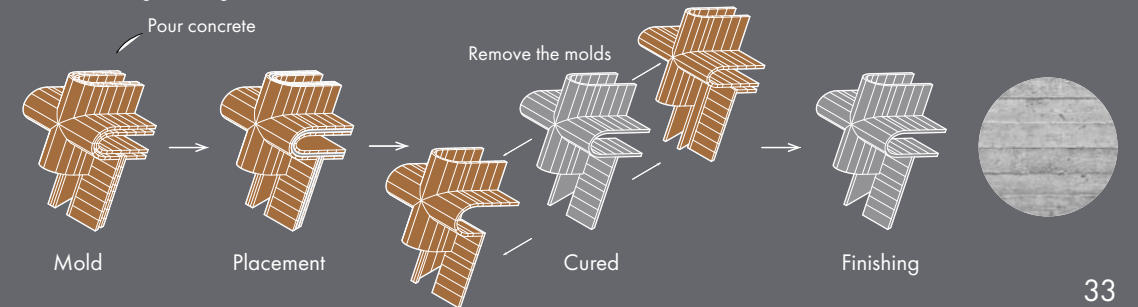
GEOMETRY TRANSFORMATION



**SITE PLAN**  
After running the solar analysis on the site, it is clear that the north pocket of the chapel is usually cool and is good for a private section. The south corner is usually the warmest spot, it is also close to the main entrance of the chapel. Therefore, a bench is designed to serve the visitors for a short rest and trees are planted purposely to provide shade for them.

TECTONIC DETAIL

I chose board form concrete to be the building material of the chapel as it provides a cool interior wall for physical experience while there's no sunlight shining to the inside.

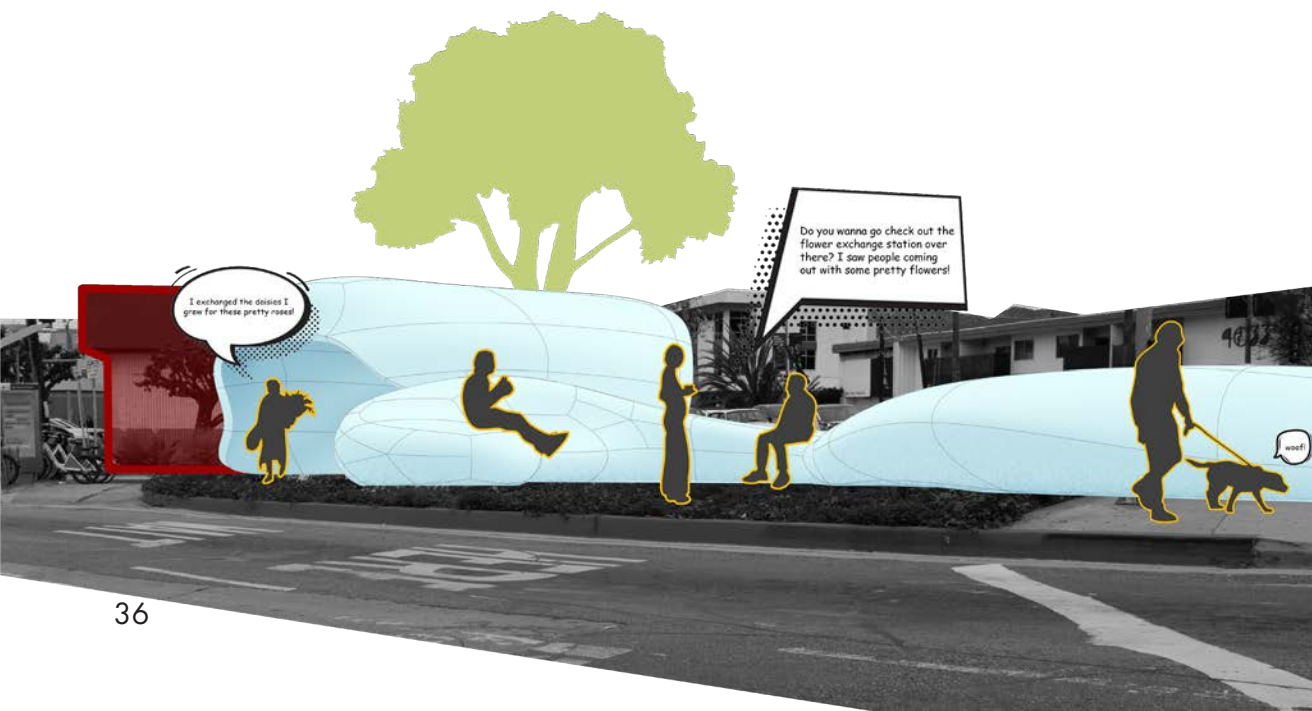




## 05 SUNSET INVASION

A radical approach to respond to gentrification

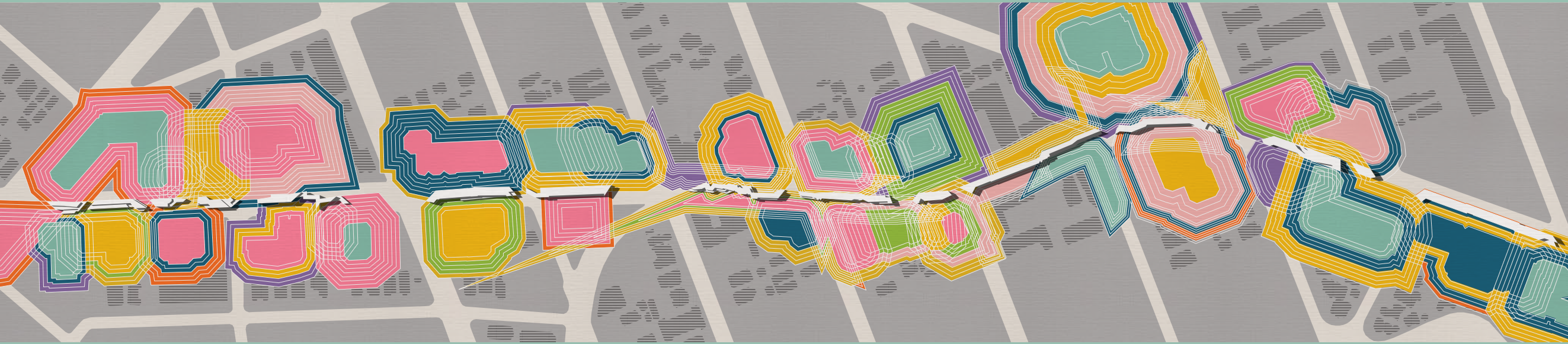
Instructor: Lisa Little  
Sep, 2023 - May, 2024  
Individual Work



As the economic conditions of cities have chosen to favor capital interests over egalitarian needs, low-income communities have been displaced for the benefit of stakeholders. Hyper-development of trendy business models and unaffordable housing have forced residents to give up their agency, resulting in them being stripped from their habitats. How can design reclaim the lost lands in a gentrified urban context?

Sunset Junction in the city of Los Angeles provides an opportunity to explore how design can be used as a form of resistance against inequity in affordable housing. By taking advantage of the low density of LA relative to other cities, this thesis proposes to eliminate five lanes of traffic and occupy that territory with housing, local businesses, and promenades.

The proposal therefore serves as a prototype to be deployed in neighborhoods with similar infrastructures and patterns of displacement.



SITE PLAN



ELEVATION



## FLOOR PLANS

On the street level, crosswalks are integrated into the promenade, accommodating pedestrian circulation. Adjacent street intersections are blocked for vehicle traffic to protect pedestrians and bikers.

In the interior, local businesses are located on the ground floor, in dialogue with the boutique stores on Sunset Blvd. Lobbies containing access to the living units on the upper levels are also located on the ground floor. The pattern of the co-living layout is shared bathroom - private bedroom - shared kitchen - private bedroom - shared bathroom, maximizing the capacity of the housing. Shared living rooms are placed intentionally to meet communal and personal needs.



SECTION PERSPECTIVE

## 06 DESERT VILLAGE

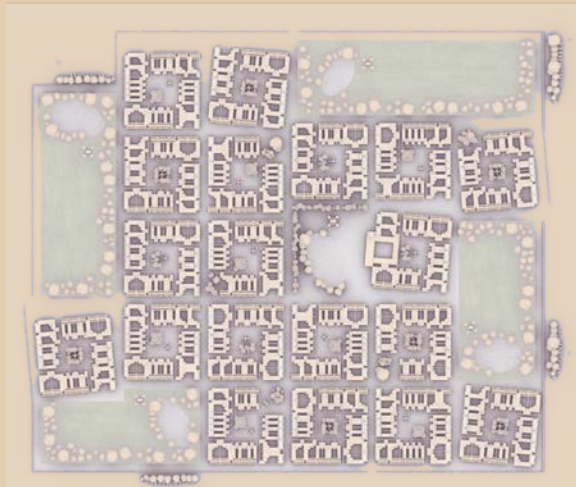
A vernacular village design adapted to local climate

Urban design project (Ongoing)

Instructor: Vinayak Bharne

Mar, 2023 - Aug, 2024

Individual Work



Often, we design and build in an urban context, how different would it be if the site is located in a desert instead? There're multiple factors that a designer should consider under this case: climate, building materials, water engagement, etc. This desert village is designed to become a self-sustaining community, including multi-family housing and single housing, a mosque, agriculture, etc.

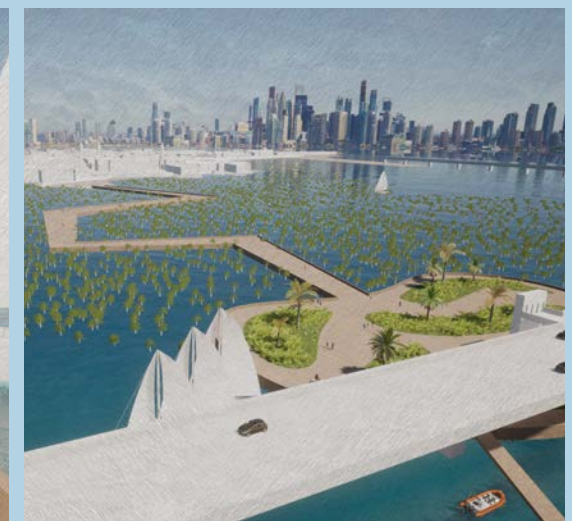
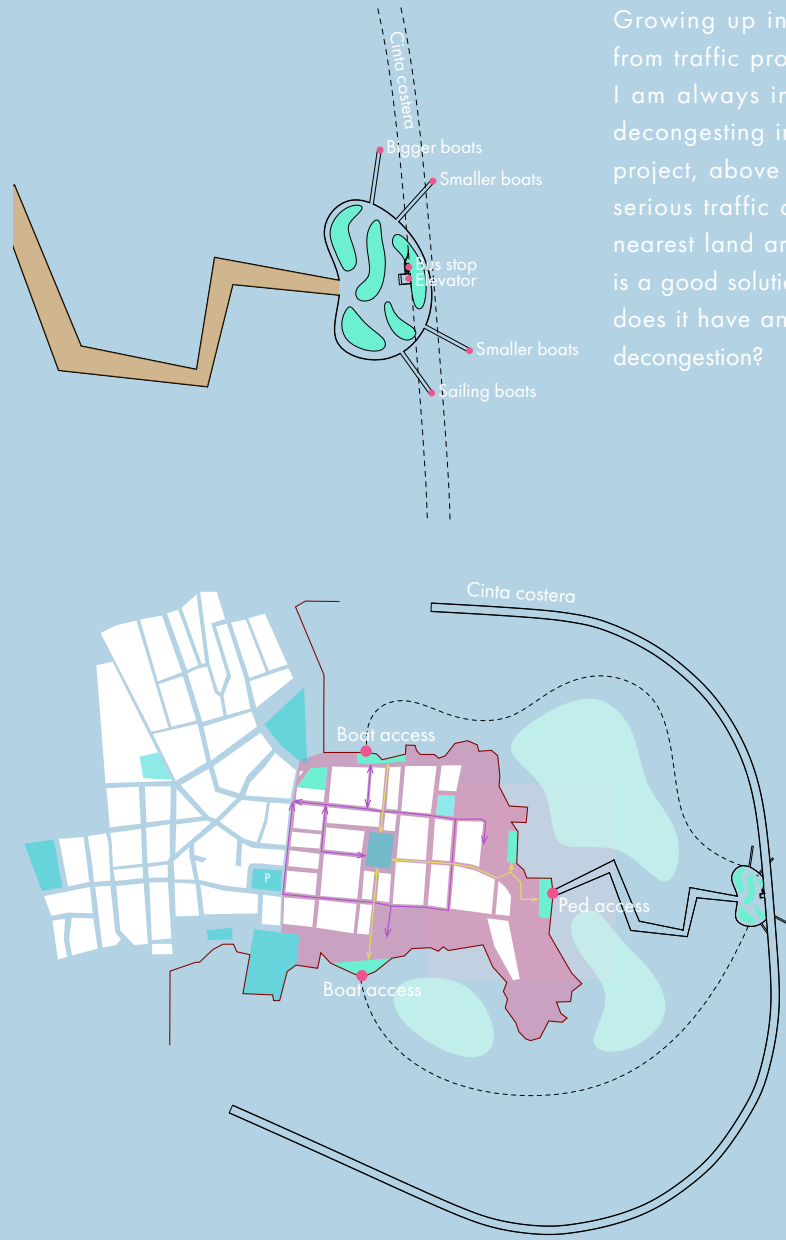


# 07 PANAMA TRANSPORTATION HUB

A way to decongest traffic through old town panama

Urban design project (Ongoing)  
 Instructor: Vinayak Bharne  
 Aug - Dec, 2023  
 Individual Work

Growing up in Beijing, a city that suffers from traffic problems just like Los Angeles, I am always interested in and wondering decongesting infrastructures. The site of the project, above the Panama canal, is facing serious traffic on Cinta Costera and at the nearest land area: old town Panama. What is a good solution to decongest the area and does it have any reference value to on-land decongestion?



## 08 OTHER WORKS

Other works including fabrication, c# coding in grasshopper, model photos and photography

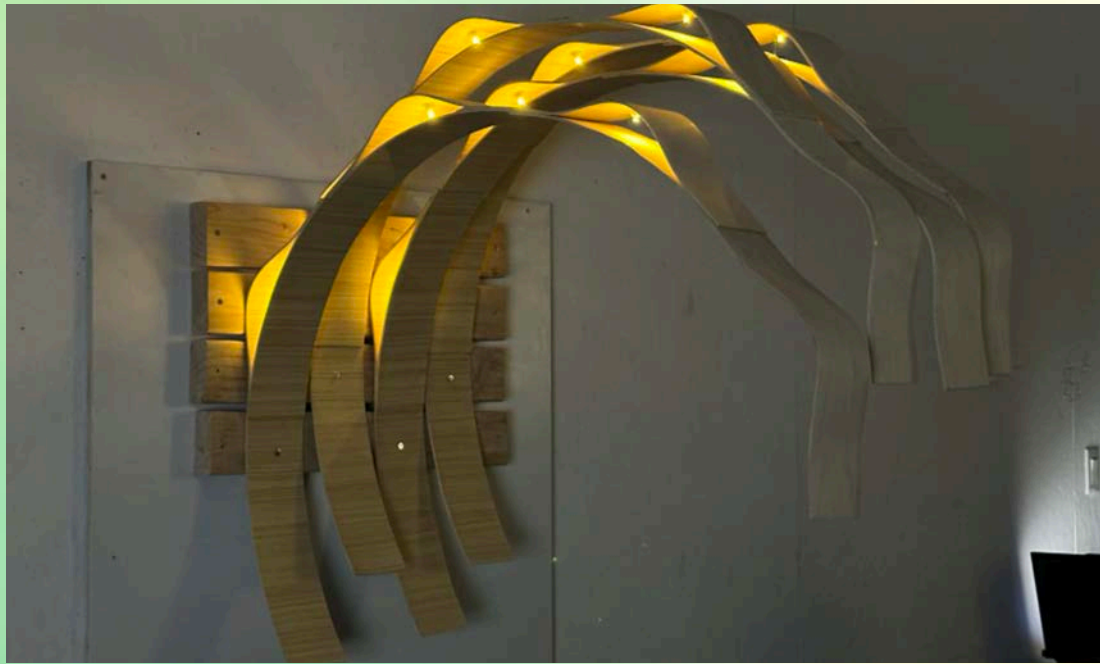
This section includes my works from fabrication, c# coding., some model photos and photography. I believe that an architect need to have some basic skills outside of architecture design. Fabrication and model making are really interesting fields that I'd like to explore more. Besides designing and rendering on computers, I also value these hands-on abilities.

Grasshopper have always been an useful tool when comes to parametric or customized design. I have some experience using c# coding language within grasshopper to remodel Zaha Hadid's Kartel Masterplan project.

I've always have interests in photography and how beautifully it can capture the charm of architecture. With a good choice of lighting and angle, architecture can be experienced in a completely unusual way.



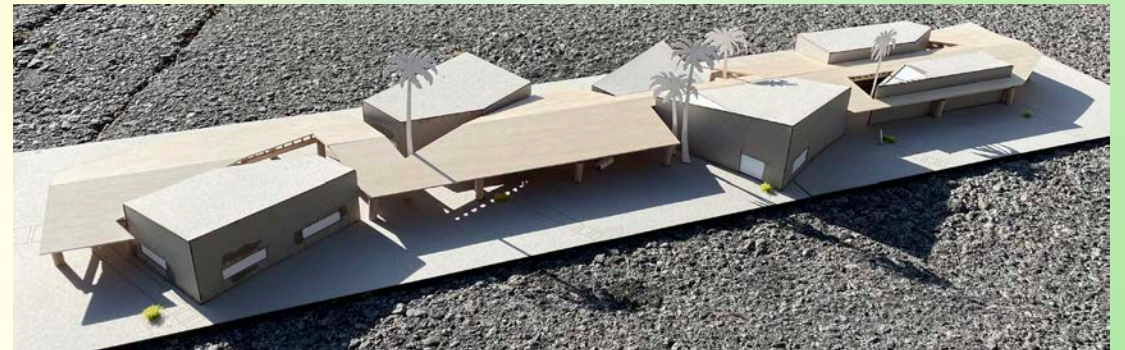
RENDER



RESULT



DETAILS





THANK YOU!

