NAAB Student Criteria 5:

Design Synthesis

NAAB Student Criteria 6:

Building Integration

ARCH 301 - COMPREHENSIVE DESIGN

STUDENT WORK
MERDER_ARCH 301

A1: **Analysis**
Market Precedent
Site Conditions
User Group Diagrams

A2: **Organizational Bldg. + Site Strategies**
Organizational Diagrams
Organizational Diagram Models
Site Plan 1/16" = 1'-0"
Floor Plans 1/16" - 1'-0"
Sections 1/16" = 1'-0"
Perspectives (NTS)
Project Model 1/16" = 1'-0"

A3: **Building Design Development**
Site Drawings 1/16" = 1'-0"
Plans 1/8" - 1'-0"
Sections 1/8" = 1'-0"
Elevations 1/8" = 1'-0"
Perspectives (NTS)
Project Site Model 1/16" = 1'-0"
Project Chunk Model 1/8" = 1'-0"
Sketch Models (NTS)

A4: **Initial Integration - Structural, Mechanical, Facade Systems, and Life Safety Egress / ADA Diagrams**
Structural Systems
Mechanical Systems
Life Safety Egress and ADA (Ground + 2nd Floor)
Facade Enclosure Systems
ARCH 361 - Building Environments *Final Boards*
ARCH 363 - Professional Practice *Assignment*
Environmental Impact Statement

A5: **Final Integration - Structural, Mechanical, Facade Systems**
Site Drawings 1/16" = 1'-0"
Plans 1/8" - 1'-0"
Sections 1/8" = 1'-0"
Elevations 1/8" = 1'-0"
Enclosure Drawings / Details 1/2" = 1'-0" or greater
Wall Section
Section/Elevation or Axon or Bldg. Assembly
Perspectives (NTS)
Model Documentation
Site Model
Partial Building Chunk Model

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DESIGN PROJECT ASSIGNMENT 1 (A1)

ANALYSIS: MARKET PRECEDENT + SITE CONDITIONS + USER GROUP DIAGRAMS

Time:	2 weeks (recommended – review one assignment each studio day)
Issue Date:	08/282023
Due Date:	09/11/2023
Format:	Teams

INSTRUCTIONS
The exercise aims to make drawings, diagrams, and models to communicate analytical research and observations discovered. An analysis is reviewing a complex topic or subject into smaller parts to understand better how it works and functions as a whole. To develop a final project, we design the elements from our investigations to be additive to an integrated final market proposal.
The assignment has three parts.

Part 1 – MARKET PRECEDENT
Each student team must select a Market Project Precedent from the list below and address the following investigations through diagrams, drawings, and models.

Precedent Diagrams – considerations listed are minimum; more questions may be asked.

Program Organizational Strategies:	Identify and Diagram the programmatic hierarchical parts and communicate the relationship between the seller (static) and buyer (dynamic), event sponsors to visitors, and educators and learners. What are the conditions of inside conditioned, unconditioned, and outside spaces?
Circulation Systems:	Diagram the system of circulatory organizations: mainly between the seller (static) and buyer (dynamic), linear, open spatial choice, wide to a narrow path (slow or fast pace), multiple entrances, various arrival areas, and vertical & horizontal relationships.
Spatial/Organizational Systems:	Sectional organization, outdoor space – solid/void, separation of conditioned vs. un-conditioned programs, and the thresholds between the thermal zones.
Structural Systems:	Long-span or columnar central space for roof systems, walls and floor systems, and materials.
Environmental Systems:	Opportunities inherent in the spatial configurations between thermal zones, passive systems – control of natural light and ventilation
Facade Systems:	Prefabricated components, sun control, fenestration patterns, color, the flexibility of skin, conditioned vs. unconditioned space.

List of Market Precedents: the faculty may have other precedents options for inclusion.
-Ataranzas Municipal Market Restoration, by Aranguren & Gallegos Arquiectos, Malaga, Spain, 2012
-Baltic Station Market, by Koko Architects, Taliun, Estonia, 2017
-Barceloneta Market, bu MiAS Arquitectura, Barcelona, Spain, 2007
-Barnone, by Dabartolo Architects, Gilbert, Arizona, 2016
-Dadad Market, by Bangkok Japan Architecture, Mai Mueang, Thailand, 2017
-Edificio Mercado Municipal Espacio Publico Rubi, by MiAS Arquitectos, Rubi, Spain, 2008
-Famalicao Municipal Market, by Rui Mendes Riberio, Vila Nova de Famalicao, Portugal, 2021

-Foodmet Abattoir, by ORU Architecture, Anderlecht, Belgium, 2015
-INCA Public Market, by Carlos Muro-Charmaine Lay, Majorca, Spain, 2011
-Les Halles, by Victor Baltard (Paris) + Horace Jones (UK), Paris, France, 19th Century
-Market in Niigata, by Takuya Hosokai, Japan, (year)
-Mercado Flores 26, by Obraestudio, Bogata, Columbia, 2015
-Mercado Roma, by MiAS Arquitectura, Ciudad de Mexico, Mexico, 2013
-Munciipal Market, by ARX Portugal Arqitectos, Abrates, Portugal, 2015
-New Market in Celje Slovenia, by Arhtectura Krusec, Celje, Slovenia, 2010
-Ninot Market Refurbishment, by Mateo Arquitectura, Barcelona, Spain, 2015
-Ostermalm's Temporary Market Hall, by Tengbom, Stockholm, Sweden, 2016
-Original Life Market, by Latitude, Beijing, China, 2015
-Reading Terminal Market, by various development, Philadelphia, Pennsylvania, resent renewal 1985
-Reform Mercado Municipal de Quiroga, by OLAestudio, Lugo, Spain, 2014
-Rehabilitation of Santa Caterina Market, by Miralles Tagliabue, Ciutata Vella, Barcelona, Spain, 2005
-Sant Antoni Sunday Market, by Ravetllat Ribas Architects, Barcelona, Spain, 2011
-The 'Forks' Market Food Hall, by Number TEN Architectural Group, Winnipeg, Canada, 2016
-Torrent Market and Civic Center, by Vazquez Consuegra, Torrent, Spain, 2015
-World of Food, by Harvey Otten + Ted Schulten, Amsterdam Zuid-Oost, The Netherlands, 2015
-Croixmariebourdon Architectures (architect), Cachan Covered Market (project), Cachan, France, 2014
-Maria-Jose Van Hee, Robbrecht & Daem (architects), Market Hall (project), Ghent, Belgium, 2012
-PULO Market, by A9A rchitects, Zhengzhou China, 2022
-Targ Blonie Market, Aleksandra Wasilkowska Architectural Studio, Blonie Poland, 2022
-Abasto Market, by Studio Metamorphosis, Tomelloso Spain, 2023
-Tainan Market, by MVRDV, South District Taiwan, 2022

Part 2 - SITE ANALYSIS AND CONDITIONS: study who uses the Park site and how it serves the community.

Site Visit:
Each student is to visit the project site and its surroundings precisely to make critical observations regarding the programmatic intentions of the design problem and its relationship to the urban context:
a) Notice topographic changes on the site.
b) Observe and record the materials of the surfaces around the area – hardscape (sidewalk/tile) vs. softscape (garden/landscape).
c) The relationship between the site and its solar orientation.
d) Traffic flow for delivery to the site

Site Analysis:
From the site visit, use photography and sketching to record observations while at the site. In the studio, transform the material into drawings and diagrams to communicate the site in the relationship semester project. Address the following:
1) Draw plans, sections, and elevation diagrams of the physical context of the immediate site (the neighborhood) and its relationship to the larger city scale.
2) Map the site conditions concerning transportation networks and patterns; car, subway, and pedestrian: Sun, shadow, prevailing winds, and orientation.
3) Environmental/Site Context: Sun/ Shadow and Orientation, Views.
4) Map the cultural and social conditions of the site: economic, infrastructural, historical mapping, and community outreach relationships.

Readings:
Carol Burns, "On Site: Architectural Preoccupations," in Drawing, Building, Text: Essays in Architectural Theory, ed. Andrea Kahn (New York: Princeton Architectural, 1991), 147-167.

Part 3 - USER GROUP RESEARCH: Who are you designing the project for, and how does USERS' flow move through the site and project during the day and over the season?
User Group Programmatic Study
See the Programmatic Requirements listed on **page 9** as a reference and investigate the program's relationship with the project's target users further develop the information from Part 1. We focus on diagramming the association in its horizontal (plan) and vertical (sectional) connection to the project's needs. Consider the following:
a. What are the levels of the various "public" spatial types to each other?
b. What are the variable densities of populations that circulate through the space? Understand this relationship to the time of day and occupation strategies.
c. What is the relationship to public spaces that can be conditioned or unconditioned spaces? What are the seasonal impacts on the program?
d. Create diagrams that address program and circulation hierarchical relationships; the circulatory relationship of the seller to the buyer, educator to the classroom, lecturers/events to guests, etc.
e. Observe and research the demographics of the local occupants and visitors.
f. Is it a heavy business district rather than a residential area or a combination?
g. Map various programmatic contexts, such as locations of food distribution centers in different economic neighborhood conditions.

PRESENTATION REQUIREMENTS - A1 **Due Monday 09/11/2023 Internal Section Review**
The number of drawings will be determined for each exercise with the faculty, studio section, and students(s) based on how to represent your analysis best. The sheet presentation **format is 11" x 17"** in landscape orientation. Listed below are the required minimums. Each item presented should be choreographed to be consistent across all sheets and topics.

Part 1 & 2 – Site and Precedent Analysis
All drawings to be measured analytical projections to make plans, sections, elevations, perspectives, axonometric, etc., communicate the research results. All diagrams require a 'key' of terms that classify the notational value of the material presented. For these exercises, it is recommended that a minimum of six6 diagrams that respond to the above are produced.

Part 3 - User Group Research
Each Team is to provide analysis, diagrams, scale variables, and sketch models (sectional organization)

Ghent Market Hall:

Fundamental Concepts & Urban Strategies

Robbrecht en Daem Architecten + Marie-Jose Van Hee Architecten
Located: Ghent, Belgium
Date: 1996 - 2012

Fundamental Defining Concepts:

1.) The height of the hall is defined by the lower buildings in the surrounding area in an effort to not overshadow the history and architecture of the three prominent towers of Ghent - St Nicholas Church, St Bavo's Cathedral, and The Belfrey. Further, the profile of the hall itself is mathematically derived from the adjacent city hall (Stadhuis Ghent), an effort which, once again, nestles the hall comfortably and respectfully in its surroundings.

2.) Modesty was at the forefront of the design approach in order to not overpower the existing historic buildings, one of which shares its lawn space with the market. To do this, materiality was extremely important. Wood was chosen to echo this aspect of subtlety and present a humble finish, while glass panels over top allow this finish to be seen, as well as a reflection of the sky. These panels double architecturally as a component of a rainwater collection system for the interior market below.

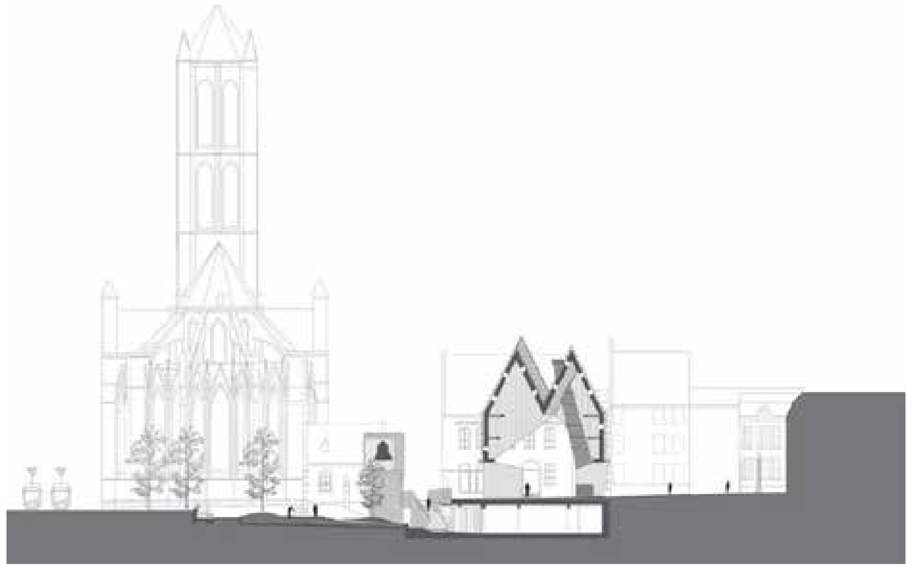
3.) The hall was designed and presented twice as a competition entry for Ghent's town centre. The goal of this competition was to revitalize the centre, which ultimately became a parking lot after demolitions for a world's fair in 1913 and an office building proposal in the 1960s that was never built. The outcome is a space for events and community gathering, as well as an indoor market with cafes and restaurants meant to re-socialize the town centre.

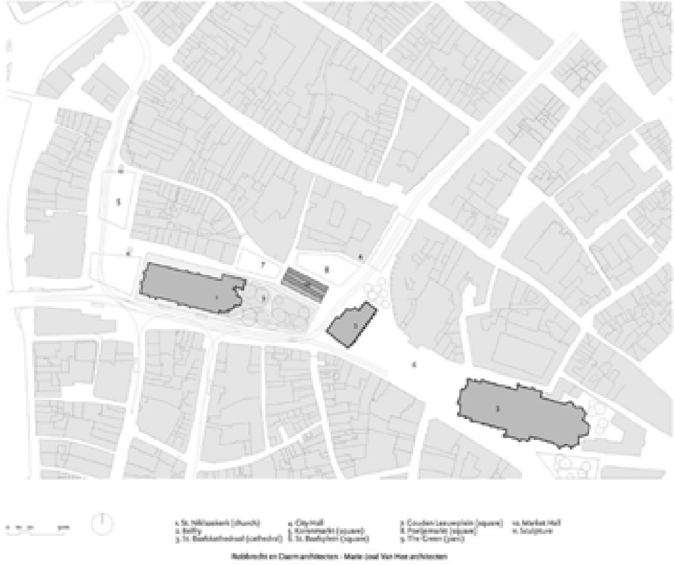
Urban/Architectural Strategies:

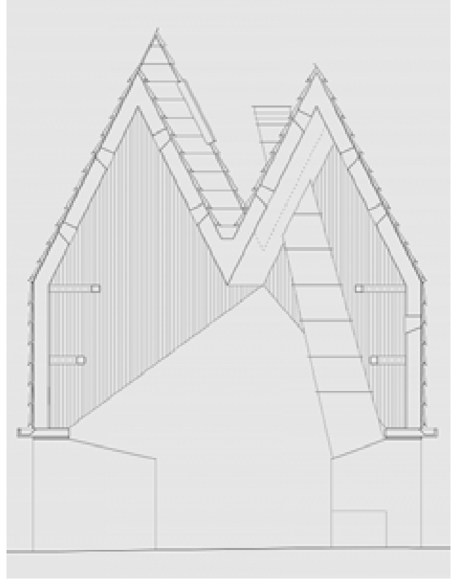
1.) Domestic (gable ends)/Urban Infrastructure (is a destination):
The gabled roof and fireplace incorporate a domestic house-like imagery and inviting feel. Yet, the scale of this civic project is an indication of its urban purposing and speaks to the adjacent historical structures. While each is a different motif, they easily coexist with one another.

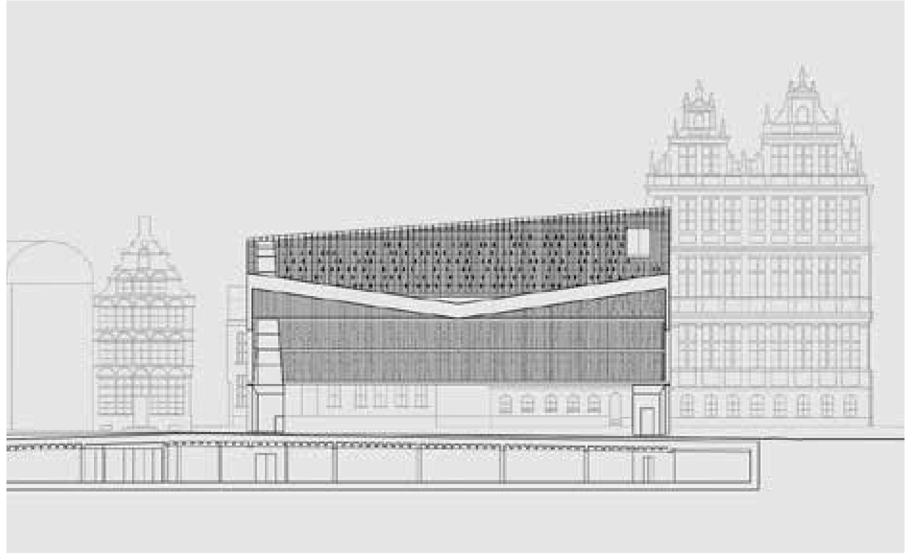
2.) Pierced Roof Construction:
During the say, the structure utilizes a series of windows to scatter daylight within the interior space. While at night, interior lighting transforms the roofs envelope with an array of subtle light.

3.) Folded Roof atop Large Piers, Engaging the city.
The hall will be used for events throughout the warmer months of the year and is the opposite of a more conservative city center. Additionally, the pitched roof creates a relationship with this center to the other historical structures surrounding the site.









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A1.1: Market Precedent

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Ghent Market Hall:

Structural Material Systems

Componentry

1. Rain buffer basins on the long (north/south) edges, collect, rainwater for brasserie reuse.
2. Four large concrete feet, provide structural and mechanical support for the canopy above. The architect drew inspiration for these piers, based on Victorian-era viaduct piers in Newcastle
3. Hundreds of skylights on the roof of the structure light the pavilion during the day and reflect the interior, artificial light out at night.

Span

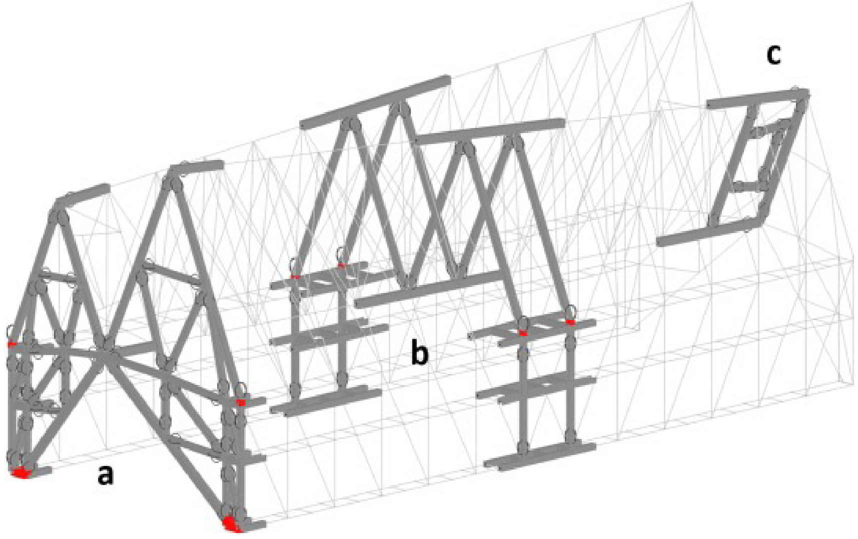
1. Steel beams provide support for long span and materials on all edges.
2. The floating roof structure is created using a steel frame, which provides support for facade components.

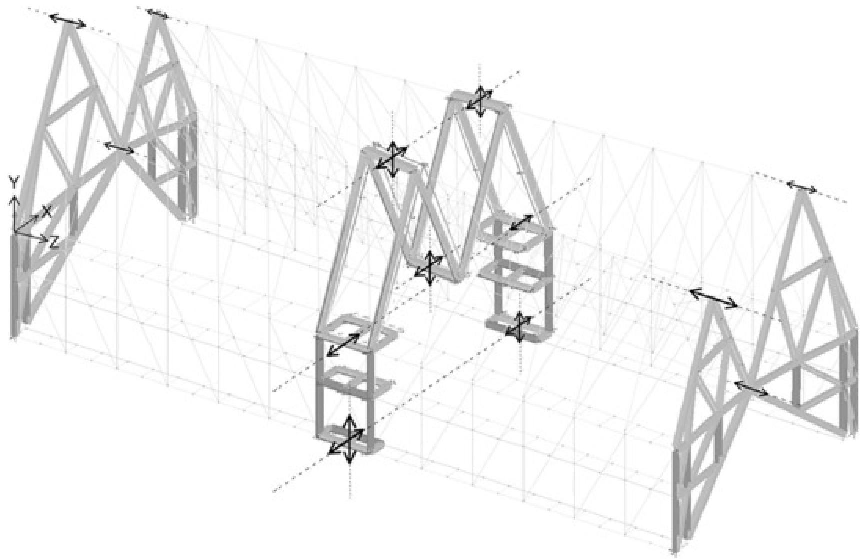
Materials

1. Small glass panels were attached to the facade to completely cover the exterior faces of the pavilion. These panels reflect natural lighting, and the sky, softening the view of the pavilion to not distract from the monuments and historical structures in the surrounding area.
2. The canopy itself is clad in wood panels to provide a natural and non-invasive finish. Wood tones reiterate the facade of the adjacent town hall

Conditions

1. The size of the structure creates a heavy and dramatic tone, but open size and materials light in the pavilion's feel.
2. The use of the small skylights scattered across the roof structure open up the interior space for a more open feel when underneath the structure.





Ghent Market Hall:

Environmental Systems Checklist

Environmental Systems:

Service/Served Spaces

- There isn't much of this in terms of the market hall. It has a relationship to the lower level area, which is more of a served space with food services and restrooms, via the corner pillars. Where as the Market hall becomes a service space based on the type of market or event that occupies the space.

Back of House/Front of House

- These areas within the market are more relevant to the lower level. Where spaces such as changing areas for performers and spaces for parking bikes both cater to the public and privacy element that different events bring to the market hall.

- The lower level is still public, but does create a more private setting for dining an potential event performers, with dining spaces at the opened edge of the lower space and the restrooms, cafe, and changing rooms towards the back, more hidden edges of the basement.

Enclosed/Conditioned & Open/Unconditioned

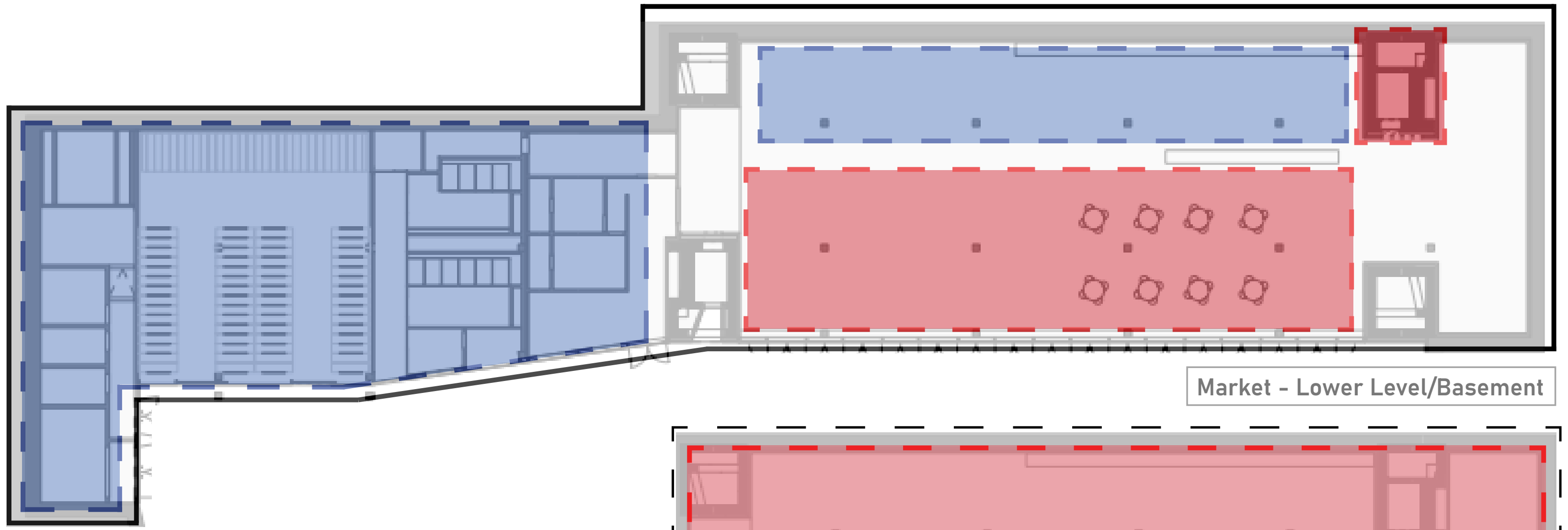
- Enclosed areas are located at the pillars and lower basement level.
- The upper open market feeds into the smaller basement via the pillars and elevators, while the lower basement feeds into the green and utilizes stairs to further connect the whole structure to site.

Orientation Relative to Solar Paths:

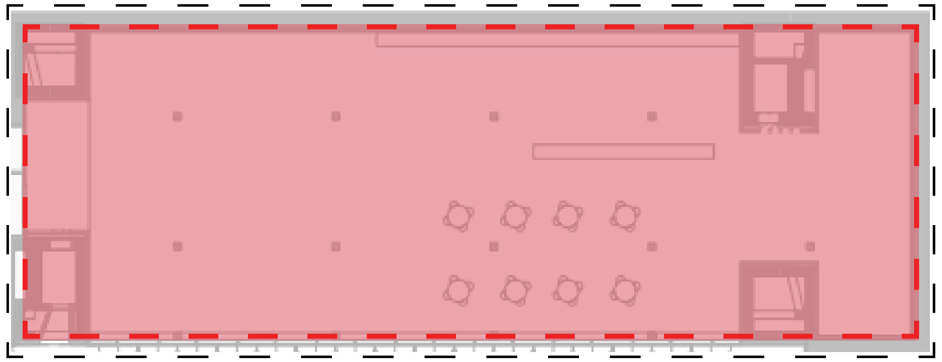
- The sides of the market hall are oriented to the North and South
- The Gabled ends are facing more East and west
- The sun moves over the structure so that the skylights are receiving an equal amount of sunlight during the day, having the gables face the East and West allows for more than one side of the roof to be prioritized.

Prevailing Winds:

- In Ghent winds are strongest during the fall to early spring months, moving toward the south, and west during the early spring months.
- The basement segment of the market would be affected by the southern winds as it faces south.

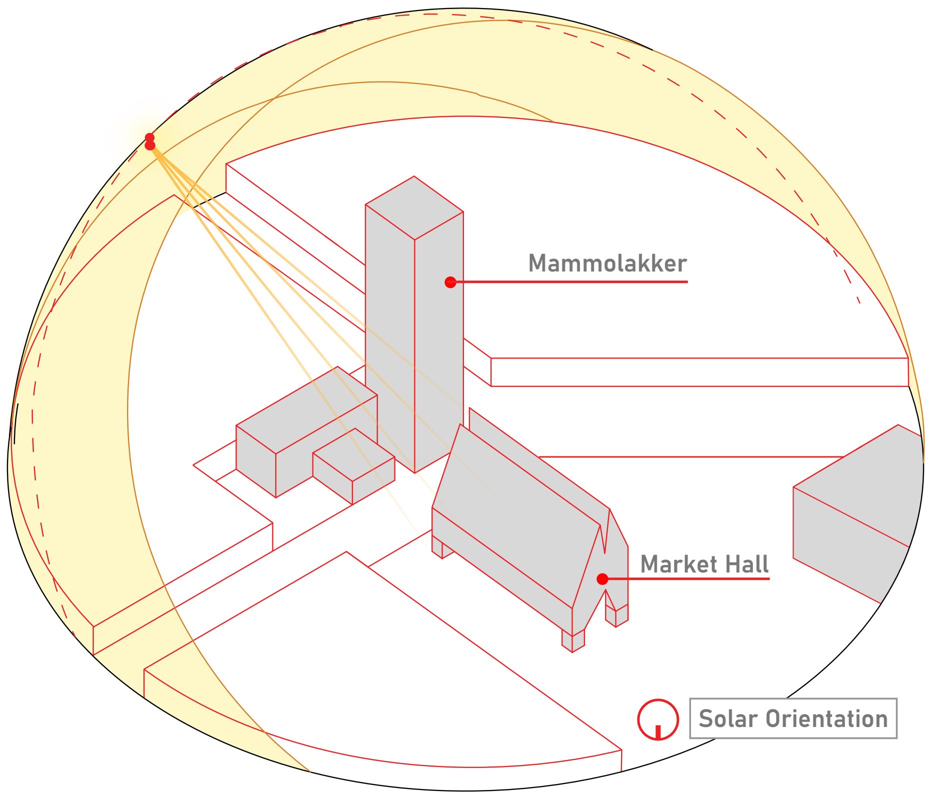


Market - Lower Level/Basement

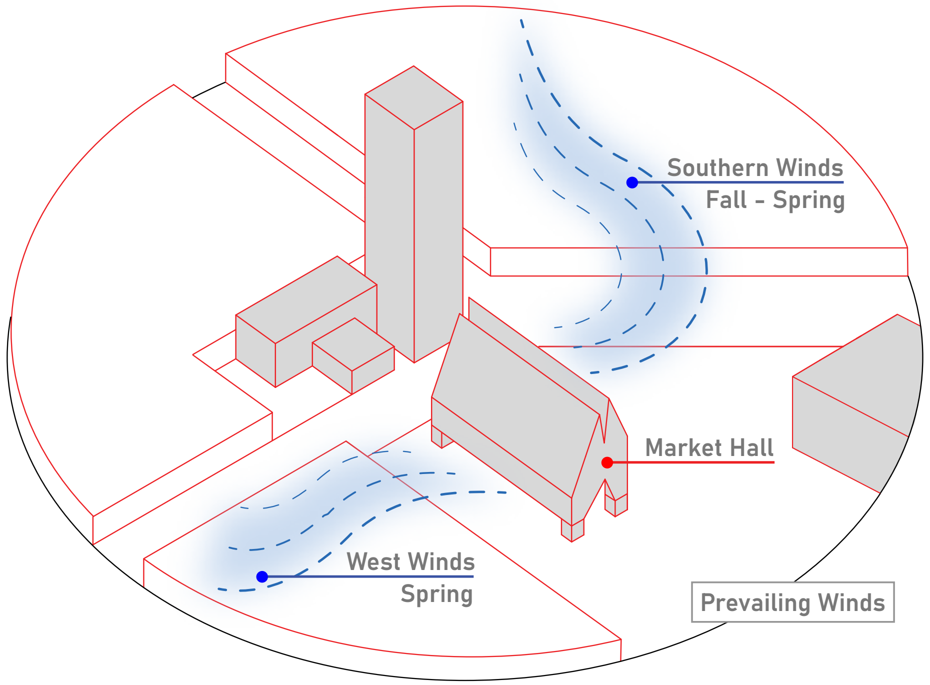


Open Market - Above Ground

🟥 Served Spaces/Front of House
🟦 Service Spaces/Back of House
- - - Enclosed / Conditioned
— Opened / Un-Conditioned



Solar Orientation



Prevailing Winds

Ghent Market Hall:

Environmental Systems Checklist

Views:

- The Gable faces:

West: Facing the church and smaller open square, with businesses and structure surrounding the square.

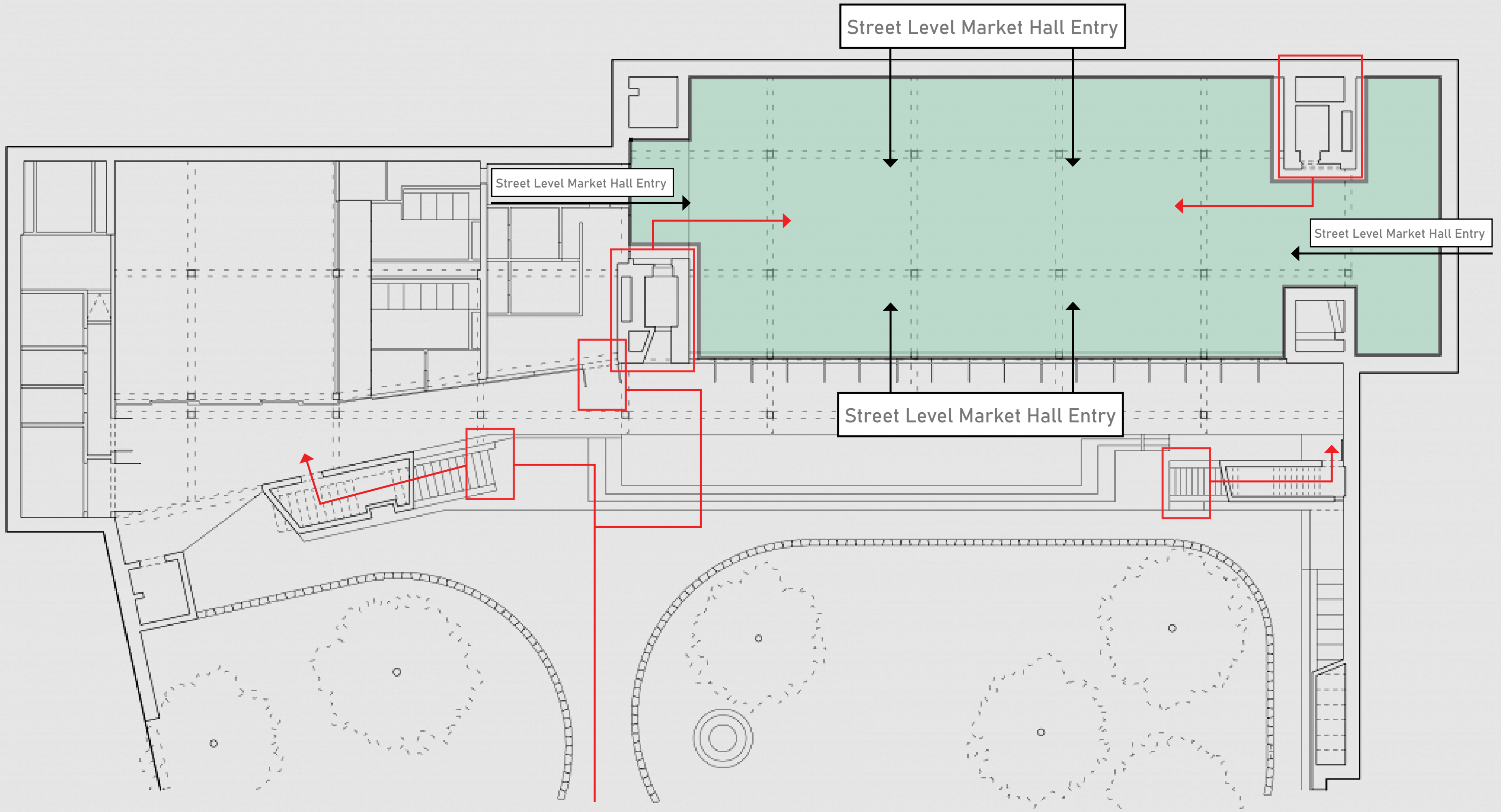
East: Facing a more open square and leading towards a walkway leading to other areas and businesses

North: Facing residential units

South: The south is facing the green and a more open walkway through the area, and has a wider view of the church.

User Control:

- Users have the ability to exit from multiples areas and move between the above level and lower levels.
- Both the lower level and upper level have some level of modularity in the sense that the space can be reconfigured for different types of market inhabitants and purposes.
- This would include the type of programming, stall set-up and equipment, and any type of seating or temporary stage design depending upon the event.



🟥 Exit Locations/Movement Between Space

🟩 User Controlled Space

User Control - Movement & Controlled Space

Ghent Market Hall:
Organizational Strategies

Organizational Systems

Site Scale:

Overall, Area: 24,000 m2
Adjacencies: St. Nicholas church, two open square (NE & SW Corners), Town Hall,

*Site takes up an area that housed medieval style structures and a series of homes. Each of which were apart of two separate demolishment projects. One was in 1913 and the other in the 1960's for a world fair. Stadshal: a 40 meter (131ft) porch that signifies a shift from the square to the semi-basement.

Internal Relationships:

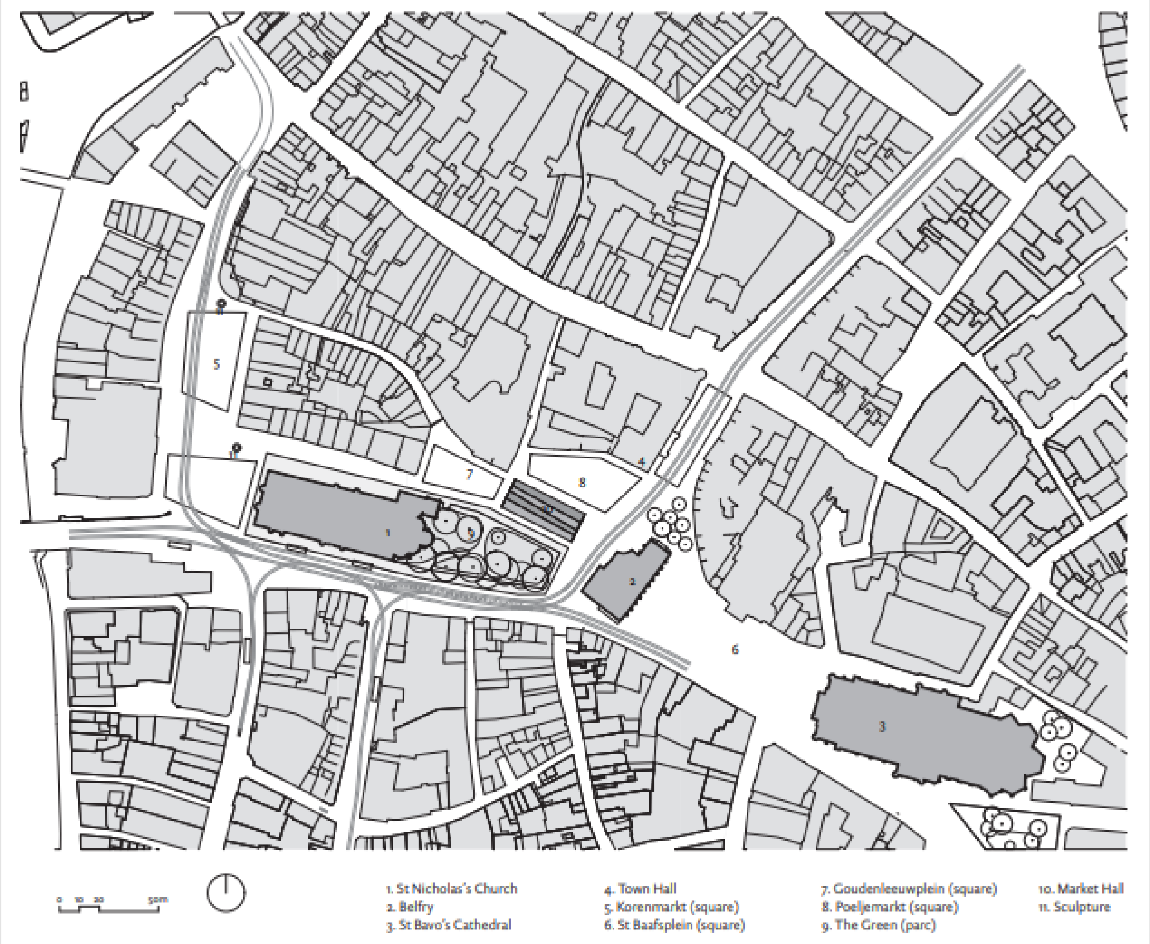
Material Relationships:
- Wood & glass shingles, concrete & wood
- 1,600 skylights that create a unique daylighting
- A change in level between the canopy and basement allows for daylight to seep into the lower areas.

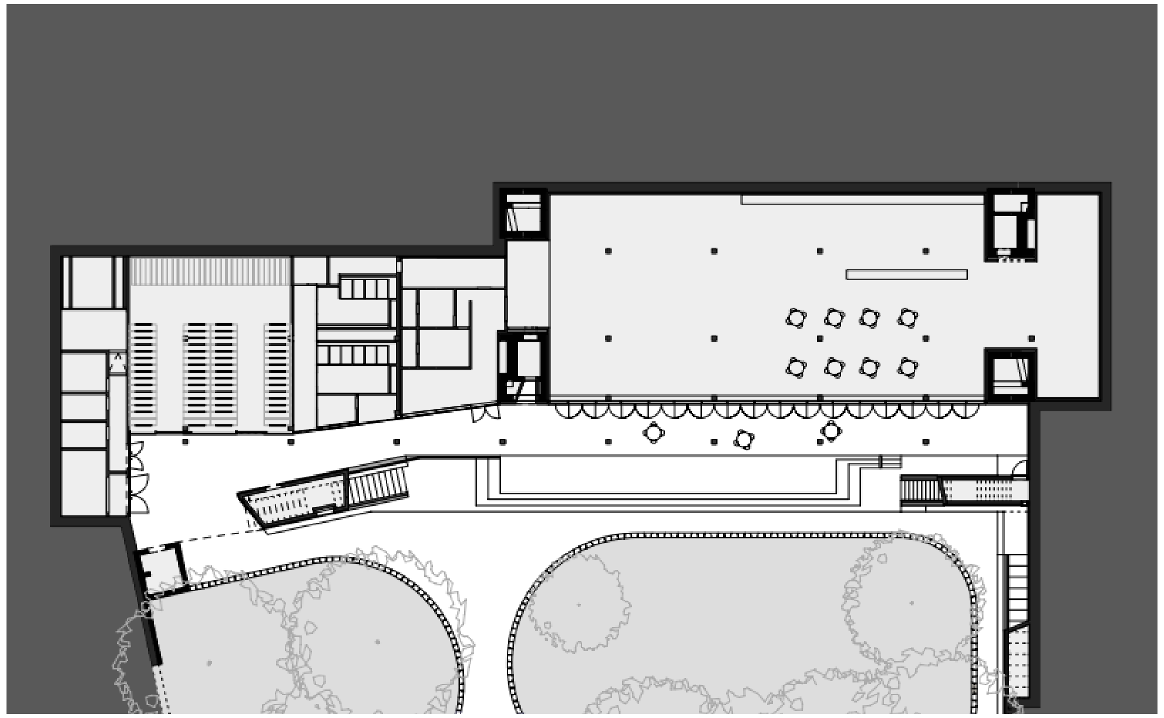
Functions Group Zones:

Market Place Zone:
- Overlooks the garden in the Emile Braun square
- Two large fireplaces within the large piers
- Two elevators
- Market zones would be determined based on the event due to the open floor plan.
- Semi-basement:
  - Housing public facilities
  - Bicycle parking station
  - Cafeteria
  - Two elevators
  - Public toilets
  - Grand Cafe
  - Dressing room for artists
  - Technical area
  - Covered outdoor area
  - Storage rooms
  - Park

Buyer/Seller Group Zones:
- These would exist on the days the hall hosts markets, and these could potentially be arrayed in anyway depending on the event function.
- A more definitive zone would be below the canopy where there is a cafeteria and cafe.

Public/Private Spaces
- Canopy & whole of semi basement is public with the exception of dressing rooms, storage and bathrooms as private spaces.





Jake Merder + Gabby Chavez-Courtney :: Arch 301 :: FA 23

Ghent Market Hall, Ghent Belgium :: Precedent Information

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Ghent Market Hall:

Movement & Circulation, Buyer, Seller Employee Relationships

Time

1. The streets surrounding the Ghent Market Hall, namely Catalonië Straat (St. Nicholas' Church), Sint-Baafsplein (The Belfry and Saint Bavo's Cathedral), and Sint-Jacobsnieuwstraat (St. James Church), all contain pieces of architecture dating back to as far as the 13th century. This establishes a historic presence in the surrounding area and, as such, creates a contradiction to most pieces of modern architecture.

Speed

1. Botermarkt/Emile Braunplein/Catalonië Straat are the major (and only) designated roadways with access to the site. By running vehicular traffic along the site's eastern and southern borders, this is increasing movement speed along these edges.
2. Key slow zones on the site would be the lawn, seating spaces, and neighboring blocks to the north and east for their cafes and restaurants, forcing customers to pause and breathe.

Movement Type

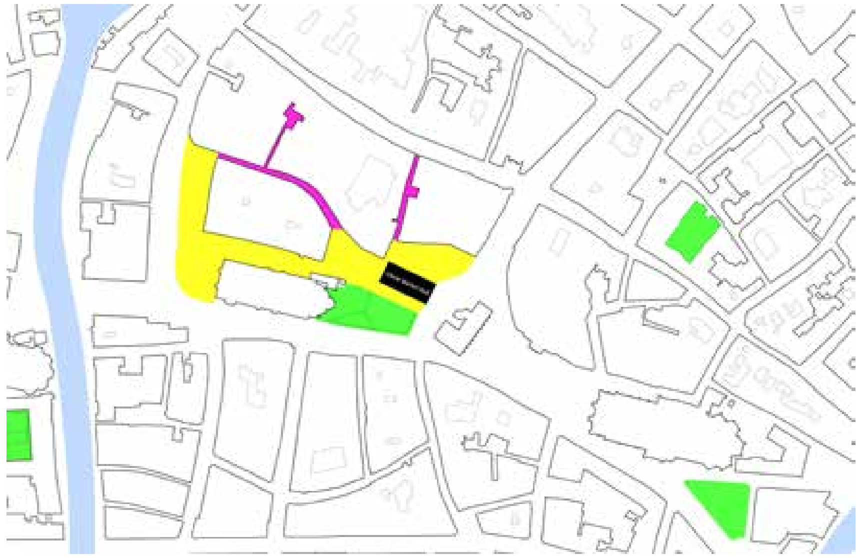
1. Botermarkt/Emile Braunplein/Catalonië Straat are the site's only roadway connections. The portion of that roadway that is Emile Braunplein/Catalonië Straat is tram line, with the Korenmarkt stop on the 1 and 4 tram lines stopping on the southwest corner of the site. Both lines connect largely residential areas to the city center, as well as service the Gent-Sint-Pieters Rail Station, connection to major areas such as the Brussels International Airport.
2. The pavilion and open space flanking its sides are open for pedestrian and cyclist movement, while the softcapes of Emile Braunpark are pedestrian.
3. In terms of vertical movement, there are 5 stairways on the site, 1 to the northwest, 1 to the northeast, one to the southeast, one to the south, and one to the southwest. There are also 2 lifts integrated into the pavilion's base structure, one on the northeast corner and one on the southwest corner.

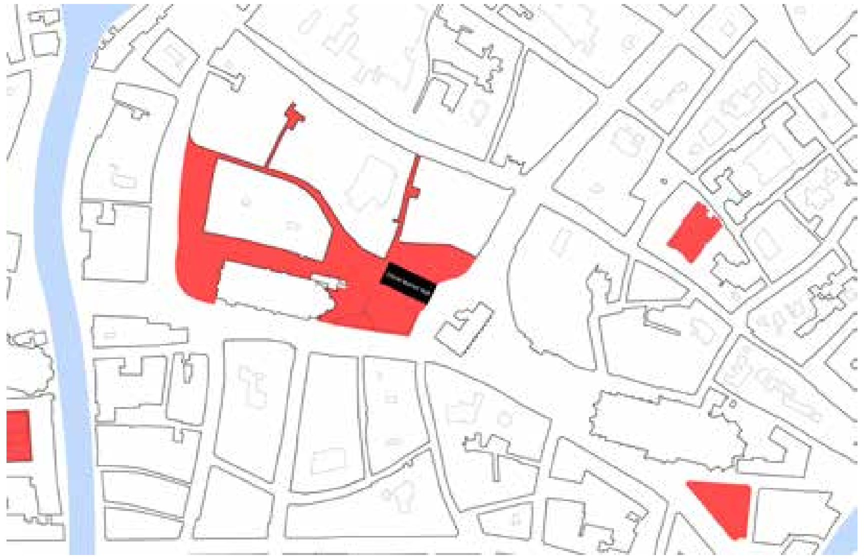
Vehicular/Pedestrian

1. All the streets immediately north and west of the site are pedestrian only. This creates a slower zone of all commercial buildings, catering to visitors and tourists, as well as residents, enticing them and making the area surrounding the market busier and more entertaining.
2. The open space just north of the pavilion between the Ghent Town Hall is large enough for delivery trucks to back into and park, servicing the surrounding businesses and market hall. This can also apply to local vendors on market days.

Buyer/Seller/Employee

1. Most people will use the same means to enter the site, either using the staircases or walking into the pavilion due to the open nature of the above ground space and the below ground market hall.
2. Travelers to the site can use different means of reaching the site, and each has their own implication:
   - Coming via transit, the 1 or 4 tram lines into the Korenmarkt stop have a first impression of St. Nicholas' Church and The Belfry.
   - Coming via cycling, one must enter the site via the south, east, or west. The same contrast occurs here from the east and west, however the south is largely commercial, thus not a large difference to the area of the market.
   - Two carparks are in the area, each about 2-3 blocks from the site in the north and west. The remaining approach is via foot.
   - Coming via foot, overall site impressions are forced depending on the approach direction. Less extreme to the north and south, more extreme from the east and west.
3. Large commercial districts to the south and north impact pedestrian and visitor flow into the area, and dictate which means (cycle or foot). Large residential areas to the east and west impact seller and employee flow to the market, typically by means of car or transit.





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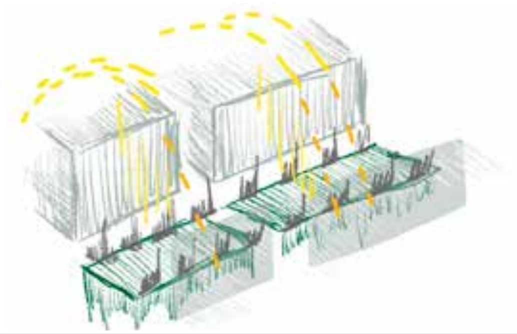
FIELD MANUAL

ENVIRONMENT AND CLIMATE

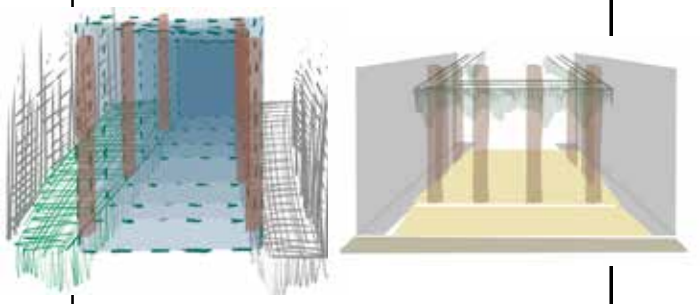
How is the site oriented?, how does the sun move across the site? Where are lit and shaded areas? how do you expect they change across a day, a year?

A: The entrance of the site begins facing North towards 2nd Ave, while typical circulation from the entry to the otherside of the park is towards the South along Chrystie St. (North to South). The sun moves across the East and West sides of the parks; the park entrance would be getting direct sunlight beginning around 10am from the East, and between 5-6pm the park is mostly shaded. Additional shading comes from surrounding trees, mainly around the side pathways and seating areas. During the winter direct sunlight would be an hour later, and the shading an hour earlier. In addition, more sunlight will come through given that the surrounding vegetation will lose leaves during the fall.



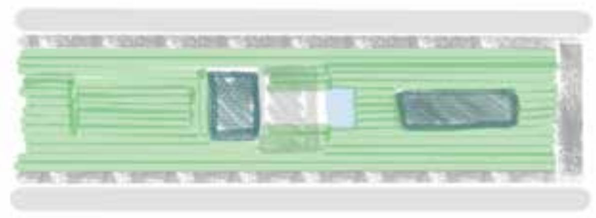
What are desired views, what are views to be de-emphasized?

Desired views may be from the park entrance as you approach the park stairs. I would say from moving in the North and South direction on the pathways is an ideal view based on the overhanging vegetation. As well as being able to see the view down 2nd ave. De-emphasized views could be around the comfort station and children's playgrounds.



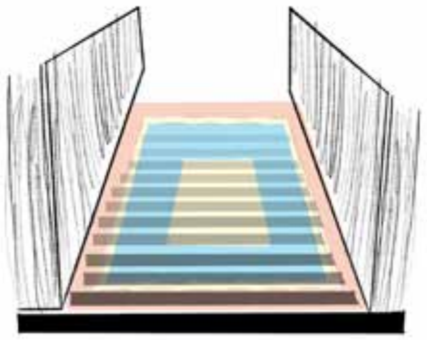
What and where are existing hardscapes, sotftscapes, water, vegetation, trees? How are they related to each-other?

Hardscapes include surrounding structure, sidewalks, roads, the cobblestone pathways and basketball top. Softscapes would include vegetation in the park, grass, and I would say the recreation turf field is sort of a combination, although it is not vegetation. Any water comes from the fountains between the comfort station and the children's playground. Water also seems to pool up in larger puddles where the site grading is uneven. They all are related to one another in the way that the vegetation seems to compliment the hardscapes and provides a contrast to the otherwise buddy streetway and mostly residential buildings.



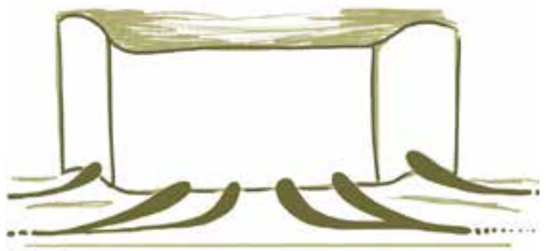
What micro-climates occur at the site and what micro-climates does the site itself produce for its adjacencies (wind, noise, heat/cool other)?

Micro-climates that exist would include the areas covered by existing vegetation in the park and overhead the pathways, where the areas are cooler due to shade. The streetside would be where there is more heat coming from the direct sunlight and heated pavement. The street brings in noise from traffic which is somewhat damped once you're further into the park.



How could you imagine locating or articulating a building or planting the site to augment one or more of the above conditions?

We discussed potentially making a closed entry to the market so as to block noise from the street. But we additionally discussed the possibility of curving the entrance so that the foot traffic could easily feed into the existing structure. Or this could make the structure more inviting as well. Or potentially shifting the structure so as to have an overhang over one of the passageways to create a fully shaded walkway.

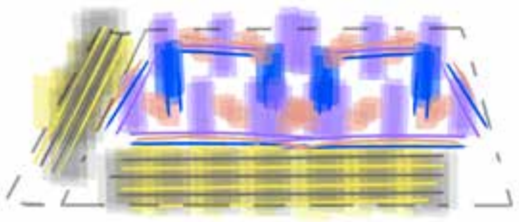


FIELD MANUAL

USES AND USERS

Who currently uses the site, who uses the spaces adjacent to the site, who passes by the site?

The people that utilize the site would be individuals who partake in recreational activities, from soccer to basketball (summer sports leagues), students from the surrounding school, homeless in the evening and at night, pet owners. Adjacent users include students, consumers (whole foods/cafe), residents who live in the area, business owners. Those who pass by the site would be tourists, anyone within and using vehicles or public transportation, cyclists, people shopping.

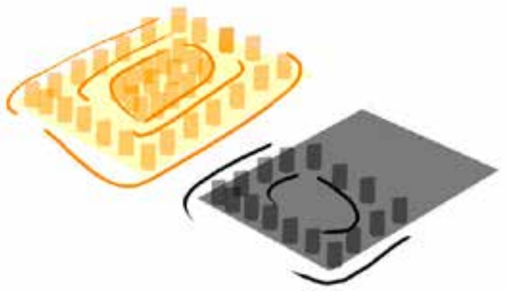


How is the site part of a neighborhood, or multiple neighborhoods (or not)? How does the site serve its' community(ies)?

I would say the site is more a part of the neighborhoods, or rather signifies a shift in neighborhoods from the lower east side, soho, chinatown, and little italy. It stands as a sort of crossroads of multiple neighborhoods. The site serves its communities as a recreational space and an area to mildly retreat from the busy street and indoor areas as an area to enjoy vegetation, exercise and lounge.

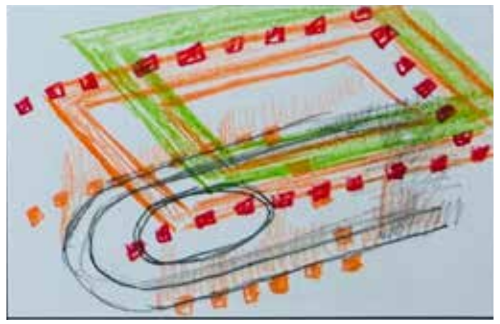
How does the site function during the day, how does the site function during the night? How similar or different are these modes from each other?

During the day the site functions as mainly a recreational area for activities such as walking, cycling, dog walking, and for children. It also serves as a point between neighborhoods where people walk through or alongside the park. At night the park seems to serve as a place where homeless individuals gather and could possibly be a crossing for restaurant or bar patrons. The park could potentially be an unsafe area at night. The two modes are different in the way that during the day it is very lively and full of activity, while at night it is calmer, but potentially not as safe as during the day.



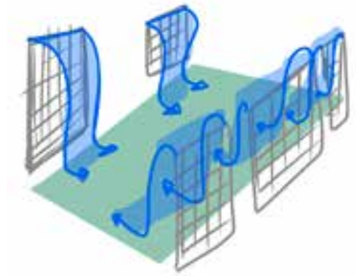
How has this site changed physically, functionally, culturally, economically over its history? How is it currently changing?

Currently the park is still a part of the original seven parks built near the lower east side. The original design called for "wading pools, a roller skating rink and a perimeter of benches and shade trees." Those elements are still in play at the site with the exception of the wading pools and roller skating rink. The original intent for the park seemed to be a rest area for mothers and children, whereas it seems to function now as a mostly recreational area. Since its establishment the park has been repaired from sunken earth to street level passageways; basketball courts were added as well as sidewalks and cobblestone paths.



Which users would you propose the project is primarily for (a market patron, a student from Forsyth Academy, a market seller, an Edible Schoolyard employee, a neighborhood resident)? How could you imagine this might manifest itself architecturally?

I would say the park best served the neighborhood resident, as it seems they are those who occupy the space the most and may have the most time and best location to best enjoy and utilize the site. This could manifest itself architecturally into better seating areas and shaded ones at that. As well as a market that would provide a more dynamic circulatory pathway.

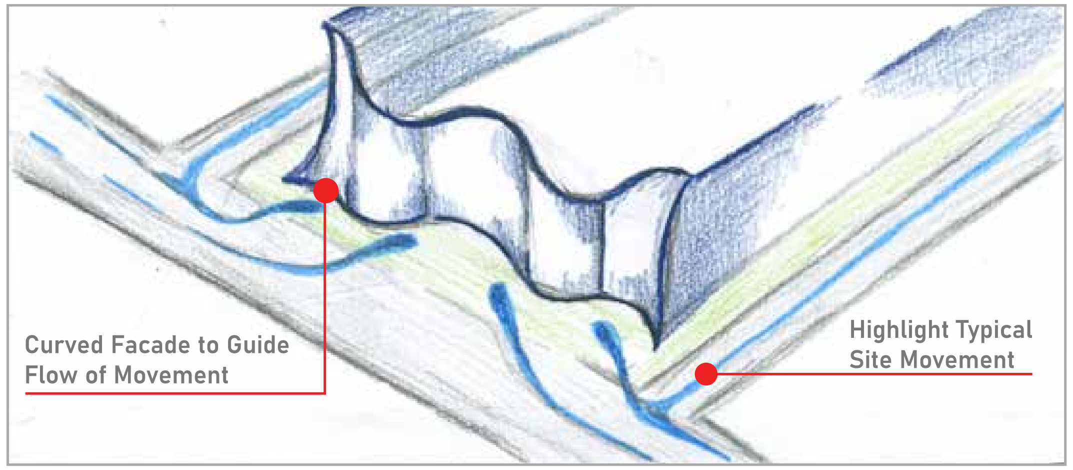


ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A1.2: Site Conditions

Pratt Undergraduate Architecture

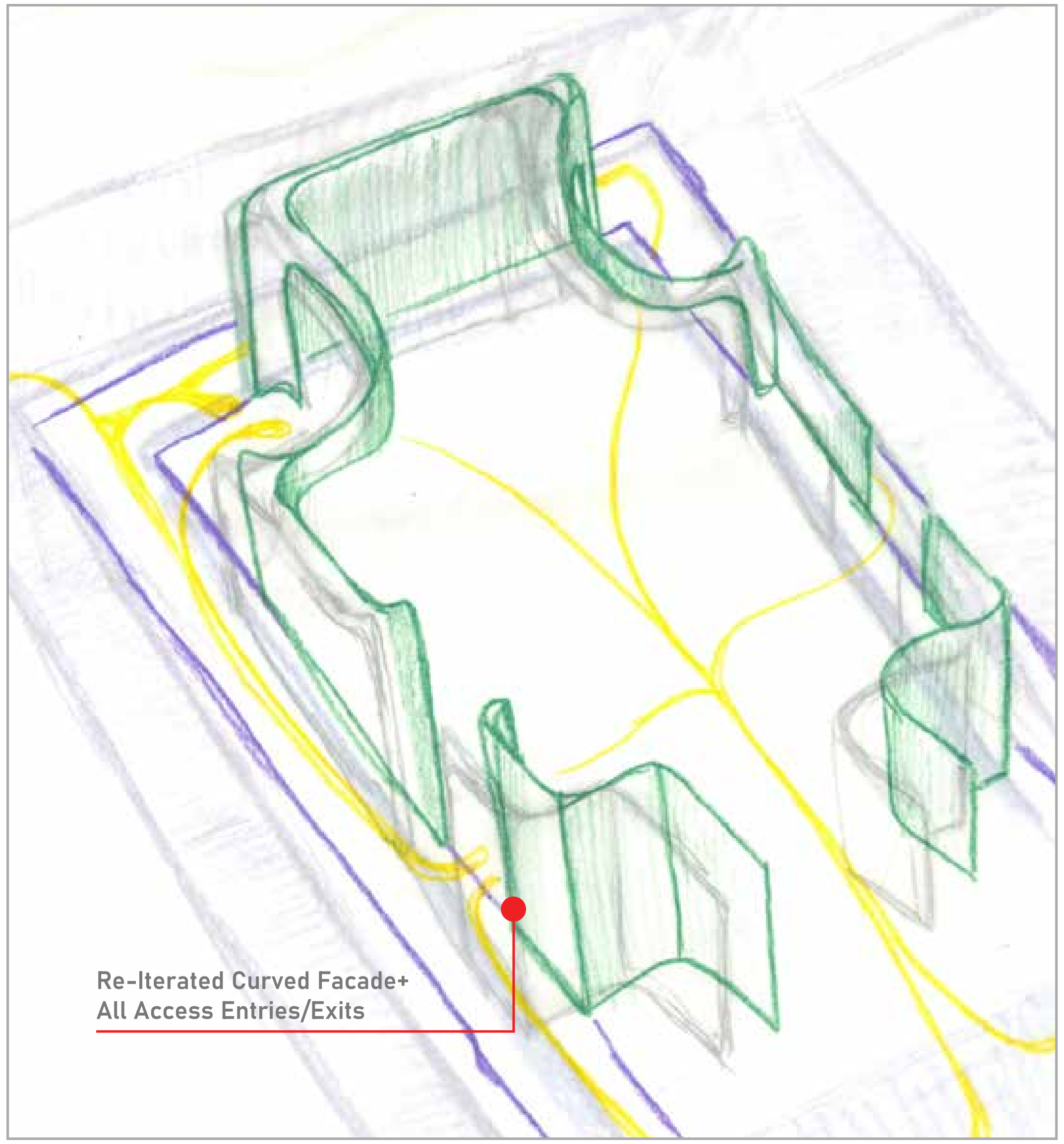
V2: Site Analysis Iteration

How Could You Imagine Location Or Articulating A Building Or Planting the Site to Augment One Or More Of The Above Conditions?



Curved Facade to Guide Flow of Movement

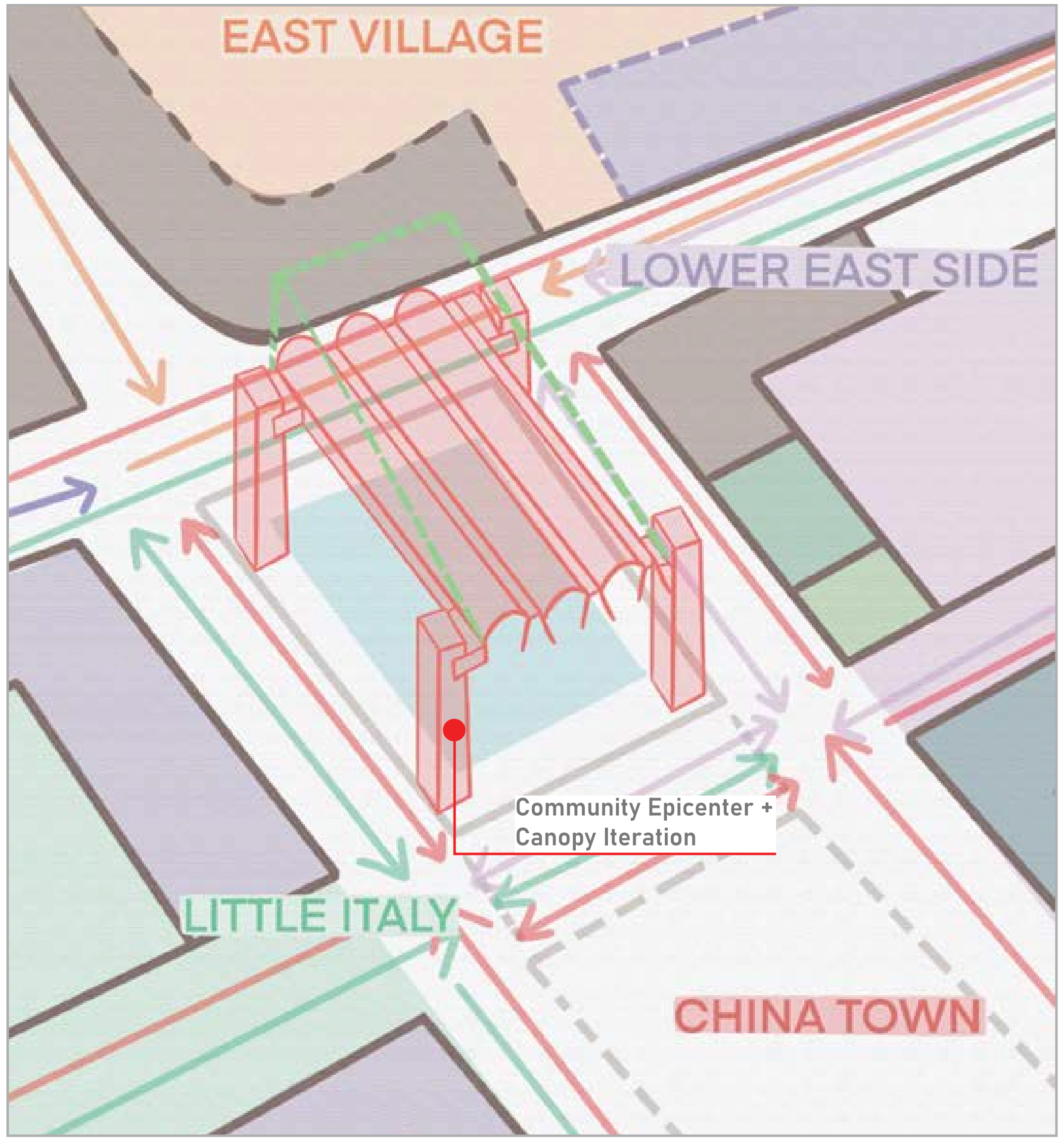
Highlight Typical Site Movement



Re-Iterated Curved Facade+ All Access Entries/Exits

How Is The Site Part Of A Neighborhood, Or Multiple (or not)? How Does The Site Serve Its Communities?

Movement Amongst Burough Communities

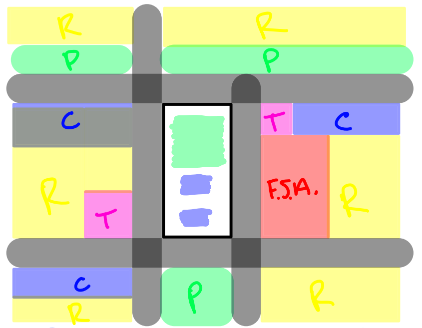


Community Epicenter + Canopy Iteration

FIELD MANUAL
ORGANIZATION AND SPACE

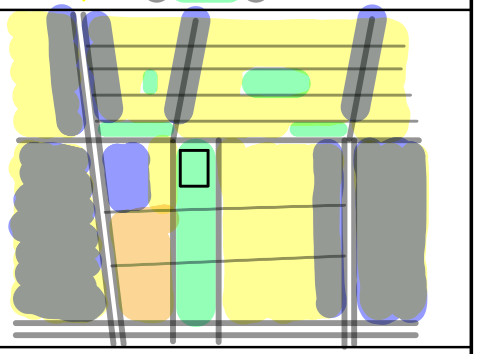
What functions exist at and around the site and where are they? What landmarks or important insitutions exist at and around the site?

Directly on the site currently is public space (basketball courts and rest space), and directly behind the site is a playground and comfort station. To the west of the site is a Whole Foods (upscale grocery), and a luxury apartment building, and a luxury hotel. To the east is the Forsyth Satellite Academy, a budget hotel, and residential walk-ups. To the south is more of the Sara Roosevelt Park, namely a soccer field, and to the north, just across E Houston St, is cafes, restaurants, bars, and residential walk-ups. Notably, Stanton St and Rivington St, cutting through the park just south of the site, are non-vehicular, non-paved roads.



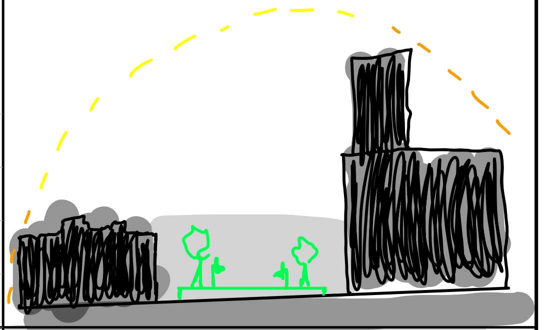
How and where can you identify different zones (residential, commercial, cultural, recreational, open space) and how do they relate to one-another?

Looking at the area on a wider scale: To the north, 1st through 4th streets are mostly residential with occasional restaurants. There are also small gardens and parks and a larger open space on E 2nd St occupied by an old cemetery. To the east, most commercial space is taken up by bars and restaurants, attracting people who live in other neighborhoods and in the units above (most prominent between Allen St and Essex St). To the south, Chrystie St is largely a mix of residential and industrial, and Forsyth is largely residential. Delancey Street is large and heavy-traffic, and feeds into Williamsburg via the Williamsburg Bridge. To the west, Bowery is a large, heavy traffic street, however most commercial spaces are occupied by restaurant supplies, furniture, and appliance suppliers. Further on Elizabeth, Mott, and Mulberry Streets, the space is similar to the East in that it is largely bottom floor commercial shops and restaurants and top floors apartments. These four areas blend as one through the dispersal of different zones and the continuous flow of people from one area to another, leaving the site as a sort-of "middle-ground."



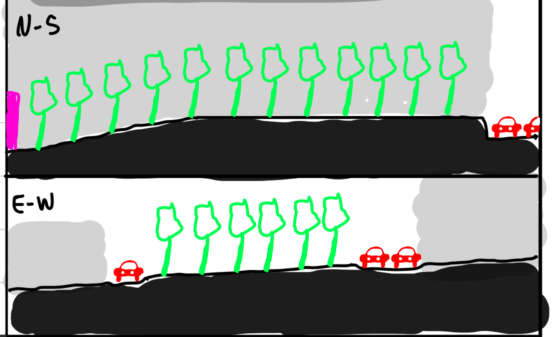
How do buildings vary in scale adjacent to the site and how do they relate to one-another? What other spatial conditions can you read at the site (open/closed, vertical/horizontal etc)

For the most part, the surrounding buildings are a low to moderate height (4 to 6 stories). There is an exception immediately to the west, which would be the luxury apartments below Whole Foods, and the luxury hotel directly behind it, both of these being notably higher than the surrounding buildings (15 and 25 floors, respectively). Spatially on the site, however, there seems to be an emphasis of North-South circulation via the two large pathways that run from E Houston Street to Stanton Street, framing in the basketball courts. Most of the site is open space, however the comfort station appears to be closed off. The playground is sort of a grey area, where it is closed at certain times and open in others. In terms of visibility, it is open with clear sight lines through the fence.



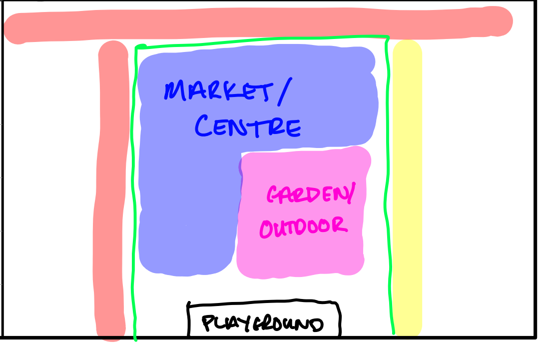
What are the changes in and and what are the implications of the topography and section of the site? From South to North? From East to West?

The site is more elevated in the west than it is in the east, however, it is not extremely noticeable walking through the area. Elevation change is noticeable however, from East Houston Street to the start of the park, where 5 steps (and 2 ramps flanking either side) are necessary to reach the level of the courts, where the ground remains relatively level. This means ease of access to the site is more difficult and planning for all people to be able to functionally use the site as it is intended will be required. Also, the site and buildings which sit on it should be designed in a way that welcomes everyone from whichever direction or mode of entry they use.



How could you imagine locating a market? a community center? a classroom? a garden? on the site (choose 1) to augment one or more of the above conditions?

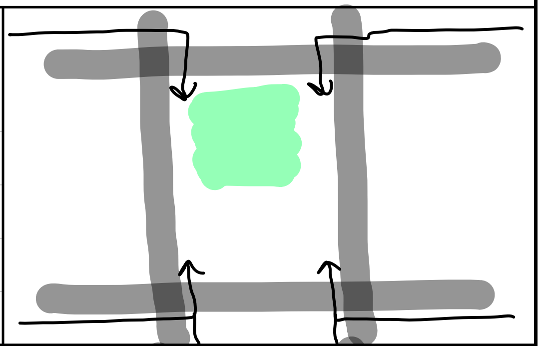
Just looking at the site, it appears a market would best be suited for the front (East Houston Street) of the site. This can allow for space in the back where sound and visible sightlines of the busy roadways can be blocked. Because this is on the north portion of the site, there is no fear of blocking sunlight to the outdoor and garden areas of the site which would effectively be located in the back. Also, this allows clear access to the existing playground area and the Forsyth Satellite Academy, who would most likely use the pathways on Stanton St to approach the building. Further elaborating on the garden, because of the taller buildings to the west, a garden would better be suited for the eastern side of the site to take full advantage of morning sunlight, midday sunlight, and get the most afternoon sunlight. We observed the western portion of the park begin to be shaded by those buildings around 3:30 pm, with the eastern portion remaining lit.



FIELD MANUAL
MOVEMENT AND NETWORKS

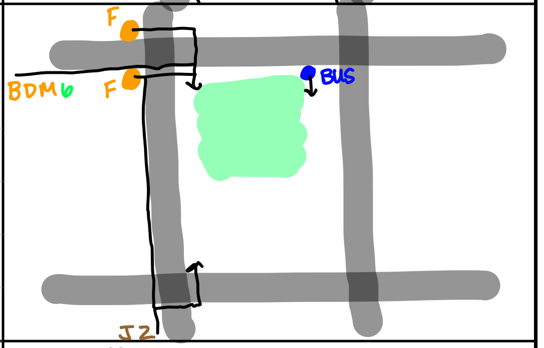
What are the modes and paths with which a local user (regular patron, neighbor, student) would access and move through the site? What are their qualities?

Most local users would access the site directly by the two main pathways running from East Houston Street to Stanton Street. To get there, however, they would either have to navigate through the Lower East Side, Soho/Little Italy, or the East Village. Each of these pathways offer various mini-marts, delis, and restaurants which could provide some competition to the market. Once on the site, there is not much circulation options besides an east-west pathway at the top of the stairs and in-between the courts and playground.



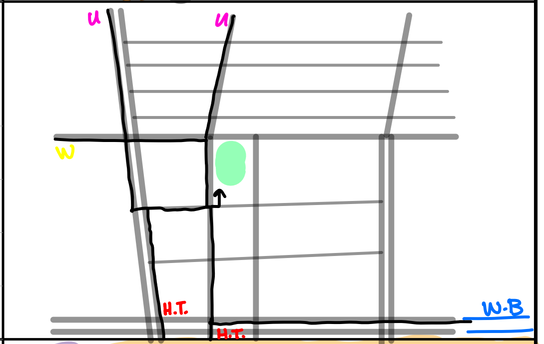
What are the modes and paths with which a city user (occasional patron, employee) would access and move through the site? What are their qualities?

A city user would likely access the site via the F train at 2nd Avenue on the corner of E Houston and Chrystie, the M15 and M21 buses on E Houston between Chrystie and Forsyth, the B, D, M, and 6 trains at Broadway-Lafayette just 4 blocks to the west, or the J and Z trains at Bowery, 2 blocks south. The first two options Drop patrons and employees directly at the side of the market. This provides extremely easy access from the areas served by those trains and buses. The trains serving the Broadway Lafayette station will drop patrons on East Houston Street just above Broadway in Soho. This allows for patrons the option of walking east on East Houston Street to the site or maneuvering through the commercial zones in Soho. Finally, the train serving the Bowery station drop patrons in a largely industrial and residential zone, thus patrons will walk up Chrystie Street and into the site via the pathway on Stanton Street.



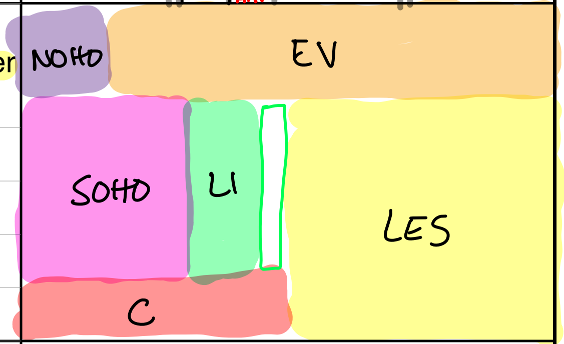
What are the modes and paths with which a regional user (seller, teacher) would access and move through the site? What are their qualities?

A regional user would most likely access the site in a similar way as a city user, either via train or bus at any of the previously named stations. A regional user, however, could enter the site through the dedicated on-site parking lot to be constructed. This allows for a very direct mean of access to the site and its amenities. This approach would most likely be executed via East Houston Street (if coming from the North) or Chrystie Street (if coming from Delancey Street feeding in from Williamsburg, or Canal Street feeding in from the Holland Tunnel).



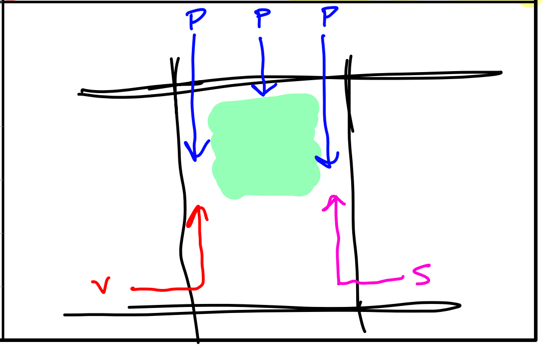
How is the site connected to the adjacent neighborhoods, to the borough of Manhattan, to other markets? to the larger city?

The site is at a very awkward yet interesting position in the area. It is a convergence zone for the Lower East Side, East Village, Soho/Little Italy, and Chinatown. These are all very busy and popular areas of Manhattan, attracting large numbers of tourists, young renters, and older residents. This site would also not be far from the newly open/renovated Essex Market (Delancey St and Essex St), which offers a selection of family-owned business, selling anything from international goods to fresh produce and fruits, to butchers and delis. There is also a selection of restaurant stalls on the lower level. This market could provide a bit of competition for our proposed market. However, it is void of the learning opportunities that come with a community centre, classrooms, and educational garden.



How could you imagine developing the pedestrian and/or vehicular flows of movement into and across the site to augment one or more of the above conditions?

One potential solution could be by dedicating the northern portion of the site (coming from East Houston Street) to pedestrian entrance, while focusing on vehicular and student entrance from different directions in the south (coming from Stanton Street). The multitude of public transit options, and the fact that a large portion of Manhattan lies to the north and west of the site, makes this set-up for pedestrian entrance ideal. Stanton Street, which runs from west to east, connects into Bowery, which is two directional. This offers an opportunity to force vehicular traffic coming into the site to come from Bowery, onto Stanton, and into the site from the south-western corner. This leaves is the south-eastern corner to remain pedestrian, primarily servicing the Forsyth Satellite Academy, which sits on the corner of Forsyth Street and Stanton Street.



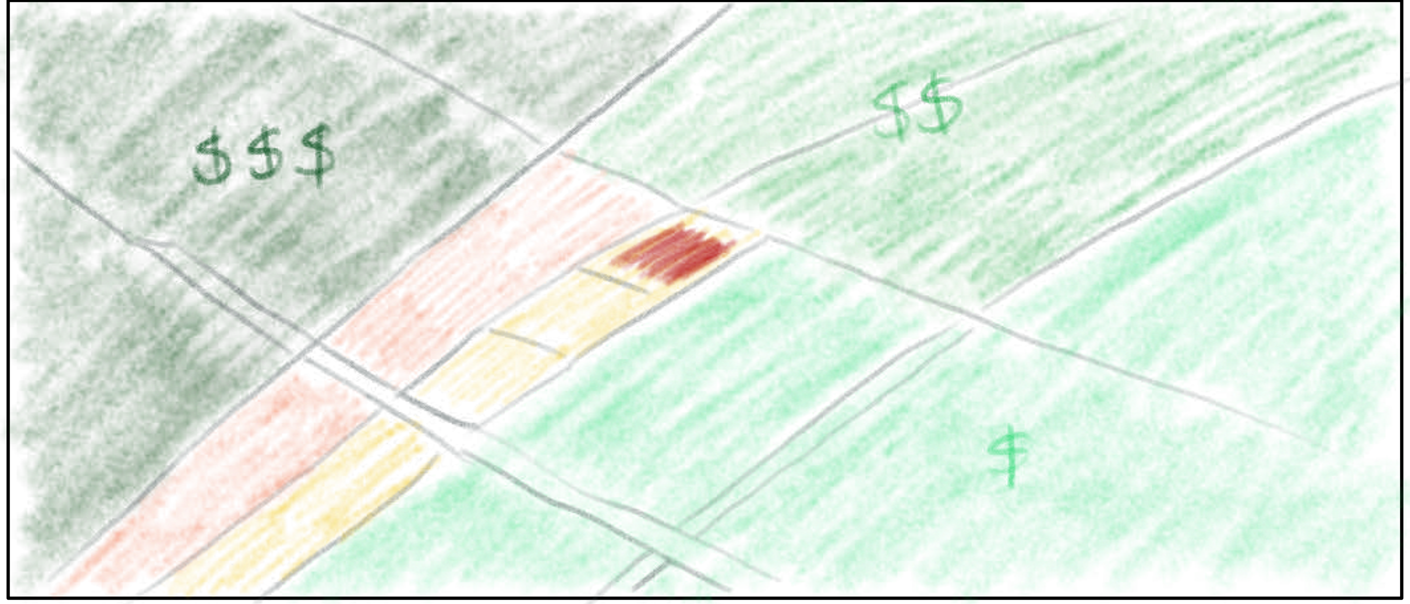
ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A1.2: Site Conditions

Undergraduate
Architecture

FIELD MANUAL v2

Going deeper into the area, we can investigate the different zones and their relation (and division) to one another. Directly on the site currently is public park space. This amenity tends to attract neighborhood residents over city and regional residents due to the ease of access and local gathering opportunities, as well as abundance of parks elsewhere in the city. In the summer months, basketball tournaments are held to engage local individuals with those from other neighborhoods, a process that begins the interaction of our site with other parts of the city. Directly to the north across East Houston Street, is many cafes, restaurants, bars, and residential walk-ups. Looking a bit further, we begin to see mostly residential zones with occasional restaurants and shops on busy avenue streets. There are also small gardens and parks in the area. To the east is the Forsyth Satellite Academy, a budget hotel, and residential walk-ups, and the closer we get to the East River, the more commercial space we see, primarily taken up by bars and restaurants, attracting people who live in the units above, as well as from other neighborhoods (most prominently between Allen St and Essex St). To the south is more of the Sara D. Roosevelt Park (a soccer field, playground, garden, and more basketball courts). Chrystie Street is largely a mix of residential and warehouses, and Forsyth is largely residential. Delancey Street is large and heavy traffic, feeding into Williamsburg via the Williamsburg Bridge. To the west of the site is a Whole Foods (upscale grocery), a luxury apartment building, and a luxury hotel. These buildings have the site to the east and Bowery to the west. Bowery is a large, heavy traffic street, however most commercial spaces are occupied by restaurant supplies, furniture, and appliance suppliers, making them borderline industrial. Further on Elizabeth, Mott, and Mulberry Streets, we enter Soho. This area is similar to the East in that it is largely bottom floor commercial shops and restaurants, and top floors are apartments. These four areas blend as one through the continuous flow of people - be them residents, customers, employees, or tourists - from one area to another, leaving the site as a sort-of "middle-ground" and penultimate spot in the intersection of all 4 neighborhoods. As a contrast, however, an overlay of transportation lines in the area highlight an ever-present divide of people despite this back-and-forth flow. These transit lines act as division lines in the immediate area, yet also connect areas beyond Manhattan to the site. For example, the F train stops at our site, nearby to Chinatown in Manhattan, and connects Chinatowns in Brooklyn (Sheepshead Bay and Bensonhurst) as well as Chinatowns in Queens (Elmhurst) to our site. This contributes to a constant movement of people from outside Manhattan into the site.

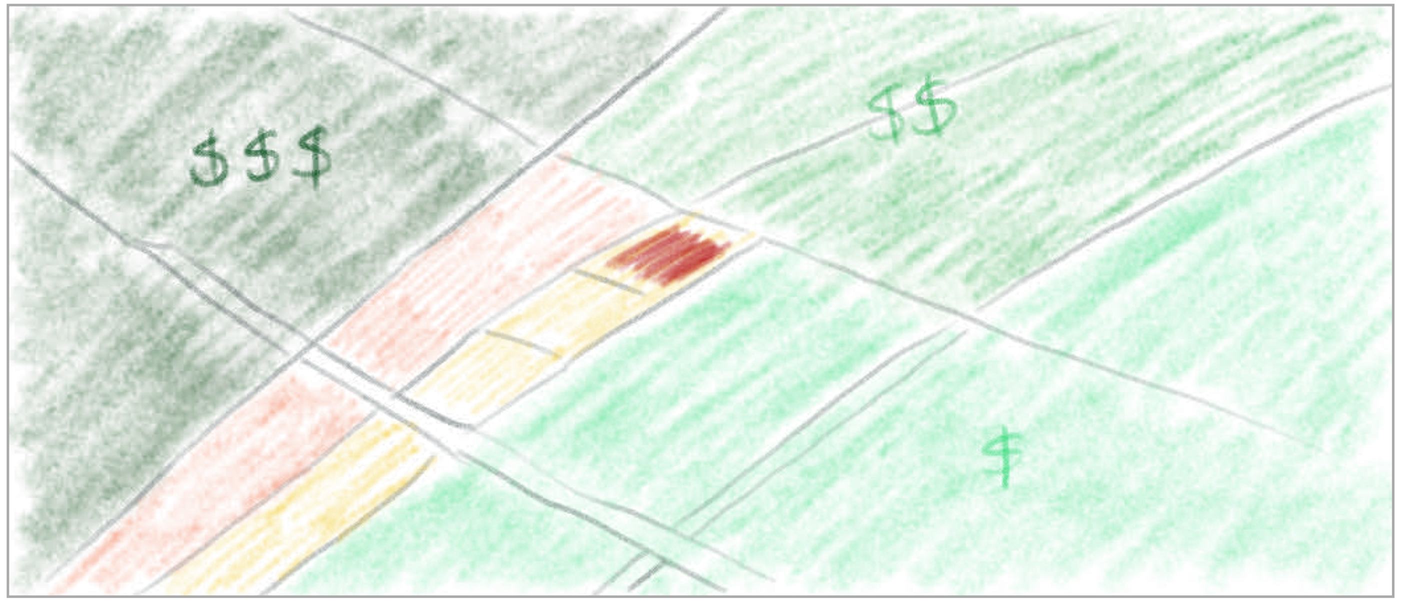
The site is at a very complex, yet interesting position in the area. It is a convergence zone for the Lower East Side, East Village, Greenwich Village, Soho/Little Italy, and Chinatown. These are all very busy and popular areas of Manhattan, attracting large numbers of tourists, young renters, and residents. The area is split in economic stability, with the western neighborhoods being wealthier, and in turn healthier, and the eastern neighborhoods being more poverty-stricken and unhealthier. For example, 7.9% of Greenwich residents are in poverty while 24.9% of residents in the Lower East Side are in poverty. As a direct result, Greenwich has a bodega to supermarket ration of 7 while the Lower East Side has a ratio of 18. Compared to the Borough of Manhattan, the Lower East Side has the highest ratio of bodegas to supermarkets and the second highest poverty rate. As such, this market could prove an invaluable resource to the education and health improvement of the area. The site is not far from the newly opened Essex Market (Delancey St and Essex St), which offers a selection of family-owned business, selling anything from international goods to fresh produce and fruits, to butchers and delis. Within this market is also a selection of restaurant stalls on the lower level. This market could provide a bit of competition for our proposed market. However, it is void of the learning opportunities that come with a community centre, classrooms, and educational garden, all intended to shine light on the situation in the area and offer citizens a resource to accessing healthier food options.



V2: Site Analysis Iteration

Transit, And Zones in Relation To The Site

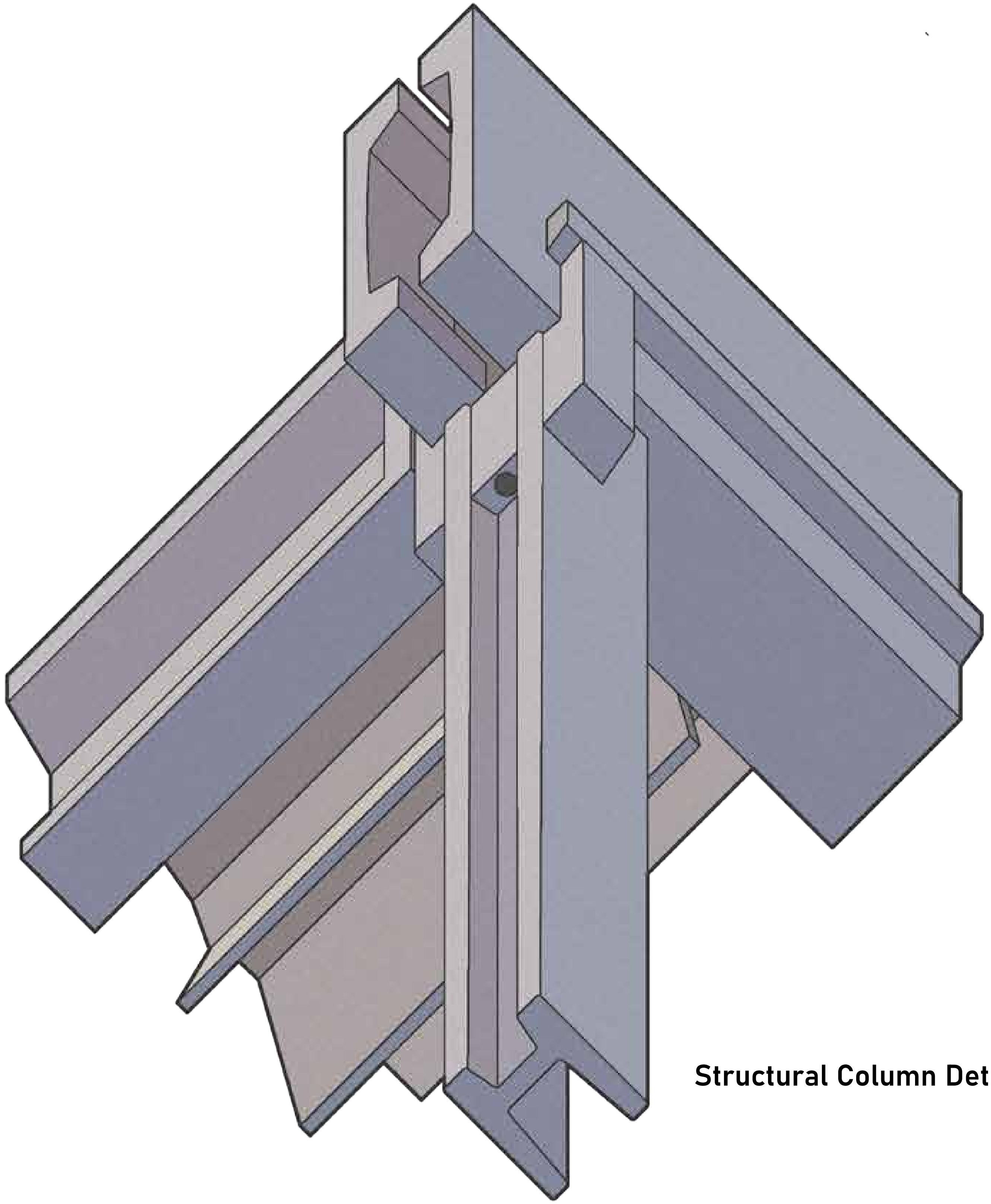
Economic Stability & Convergence Zone of Buough Communities



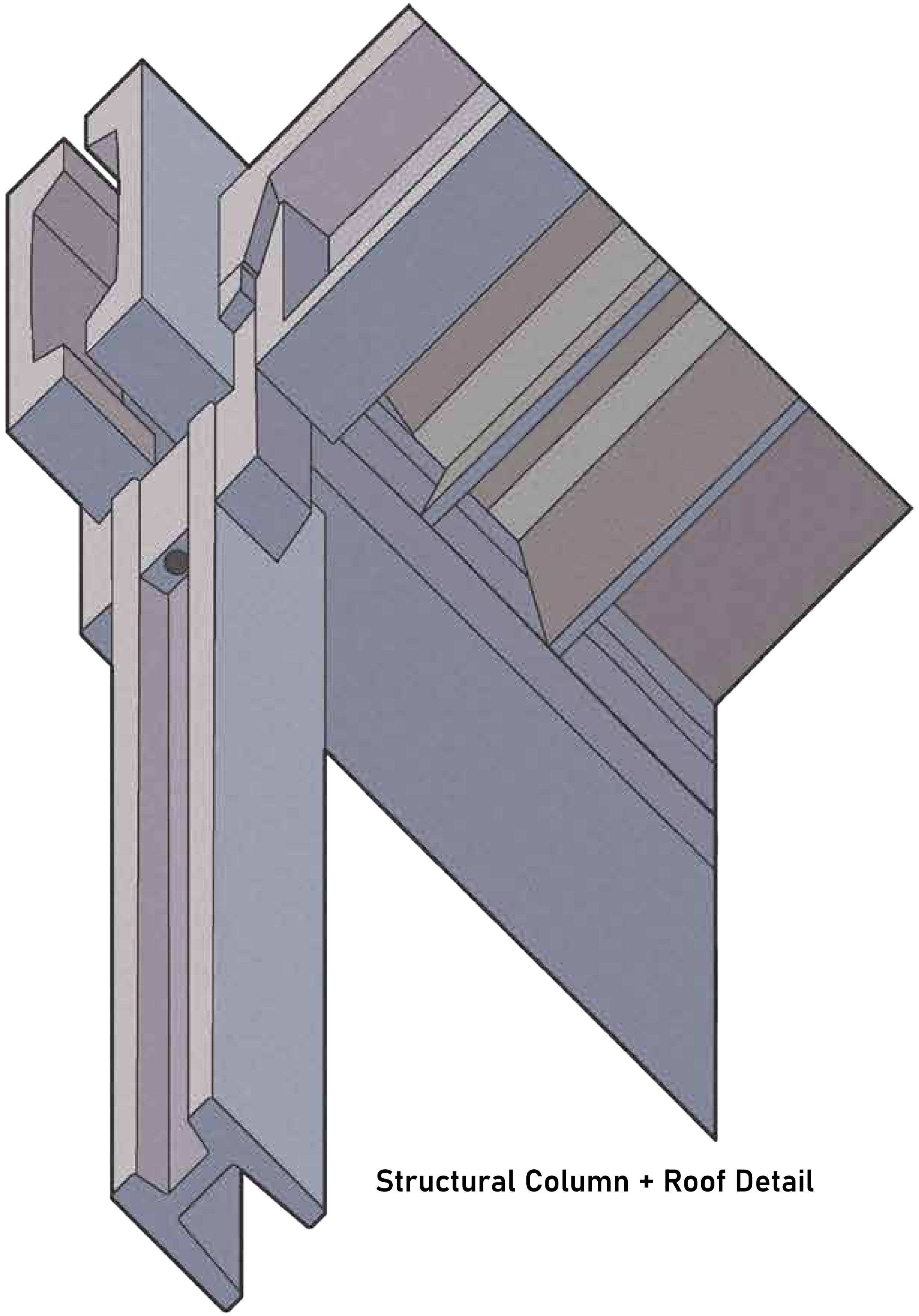
SC.5+6

WORMS-EYE AXONOMETRIC

SCALE: 3/8" - 1'



Structural Column Detail



Structural Column + Roof Detail

Jake Merder + Gabby Chavez-Courtney :: Arch 301 :: FA23

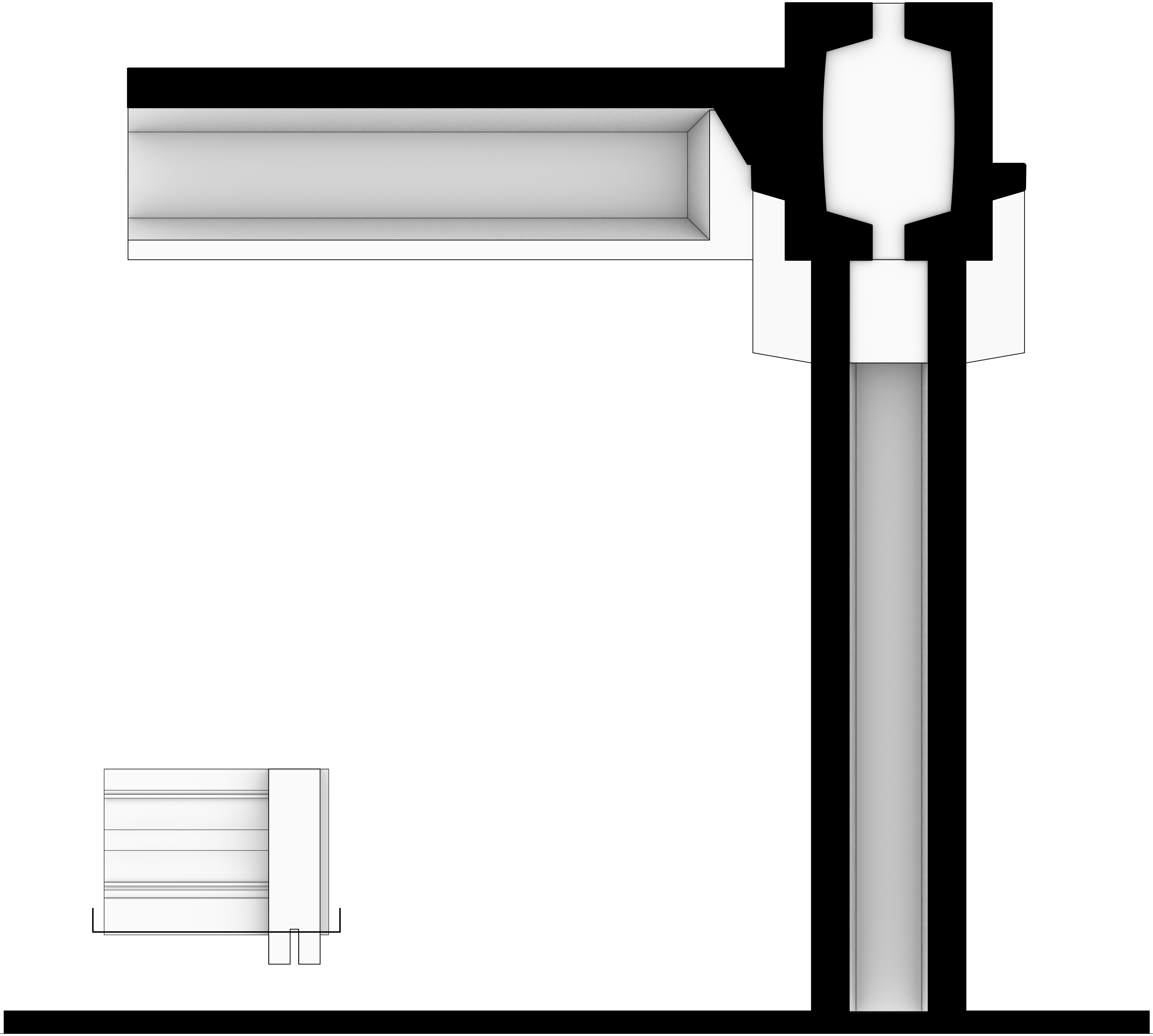
Canopy Precedent :: A Favini- Kodak Factory, Marcianise IT, 1975

ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A1.Additional Studio Deliverable: Canopy Precedent Study

Pratt
Undergraduate
Architecture

CANOPY SECTION: INTERIOR SECTION

SCALE: 1/2" = 1



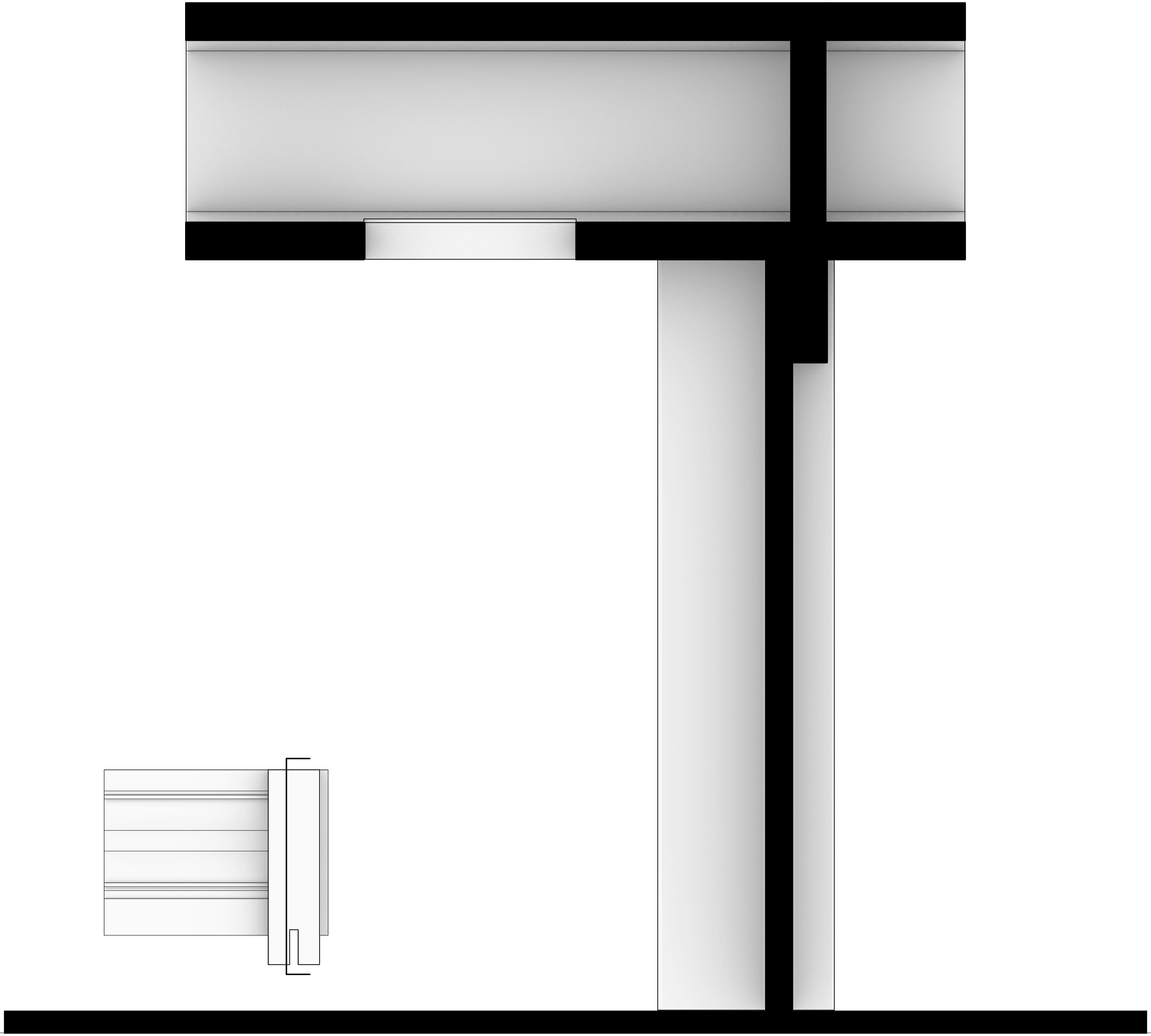
ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake

A1.Additional Studio Deliverable: Canopy Precedent Study

Pratt Undergraduate Architecture

CANOPY SECTION: INTERIOR SECTION 1

SCALE: 1/2" = 1



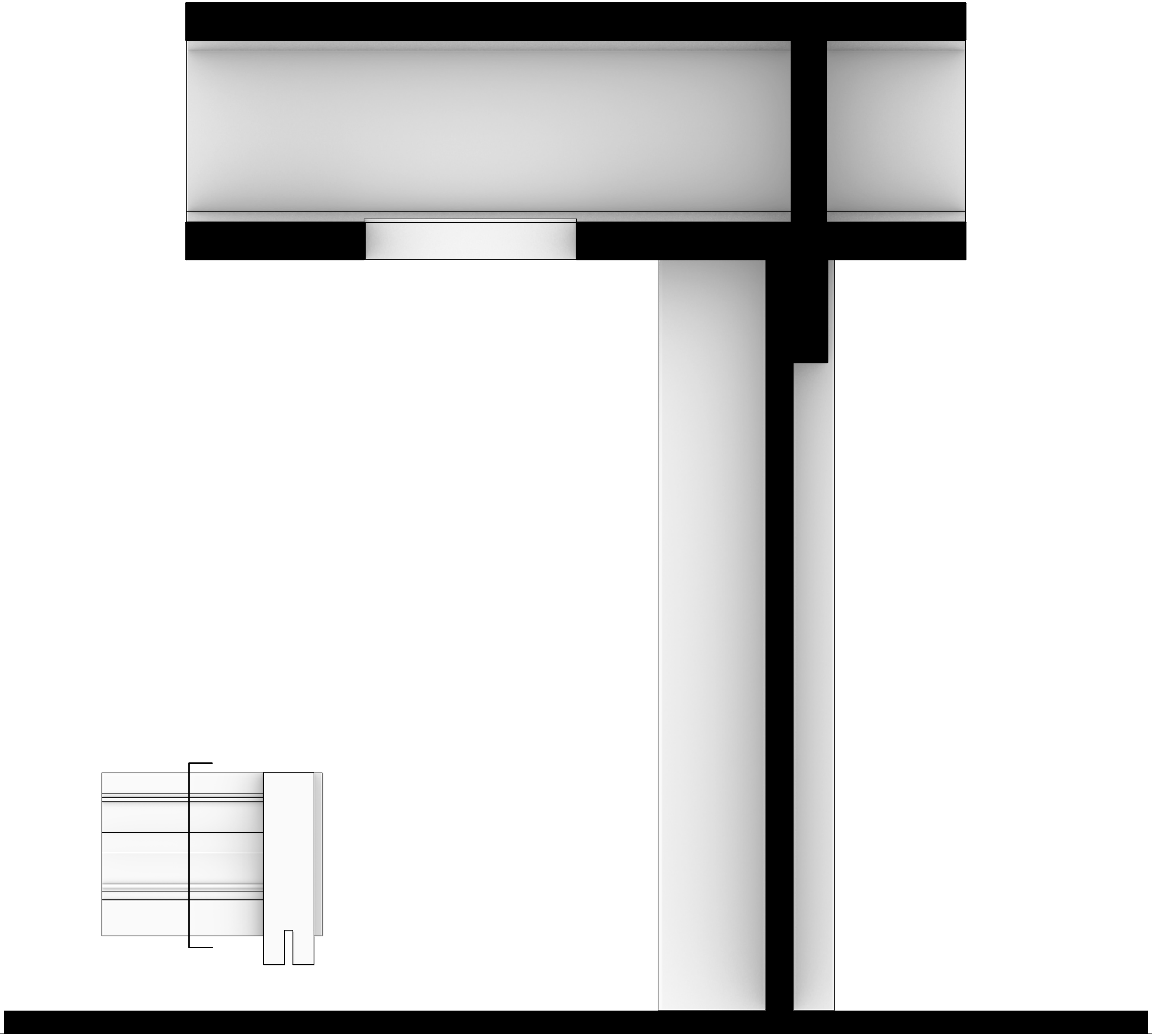
ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake

A1.Additional Studio Deliverable: Canopy Precedent Study

Pratt Undergraduate Architecture

CANOPY SECTION: INTERIOR SECTION 2

SCALE: 1/2" = 1



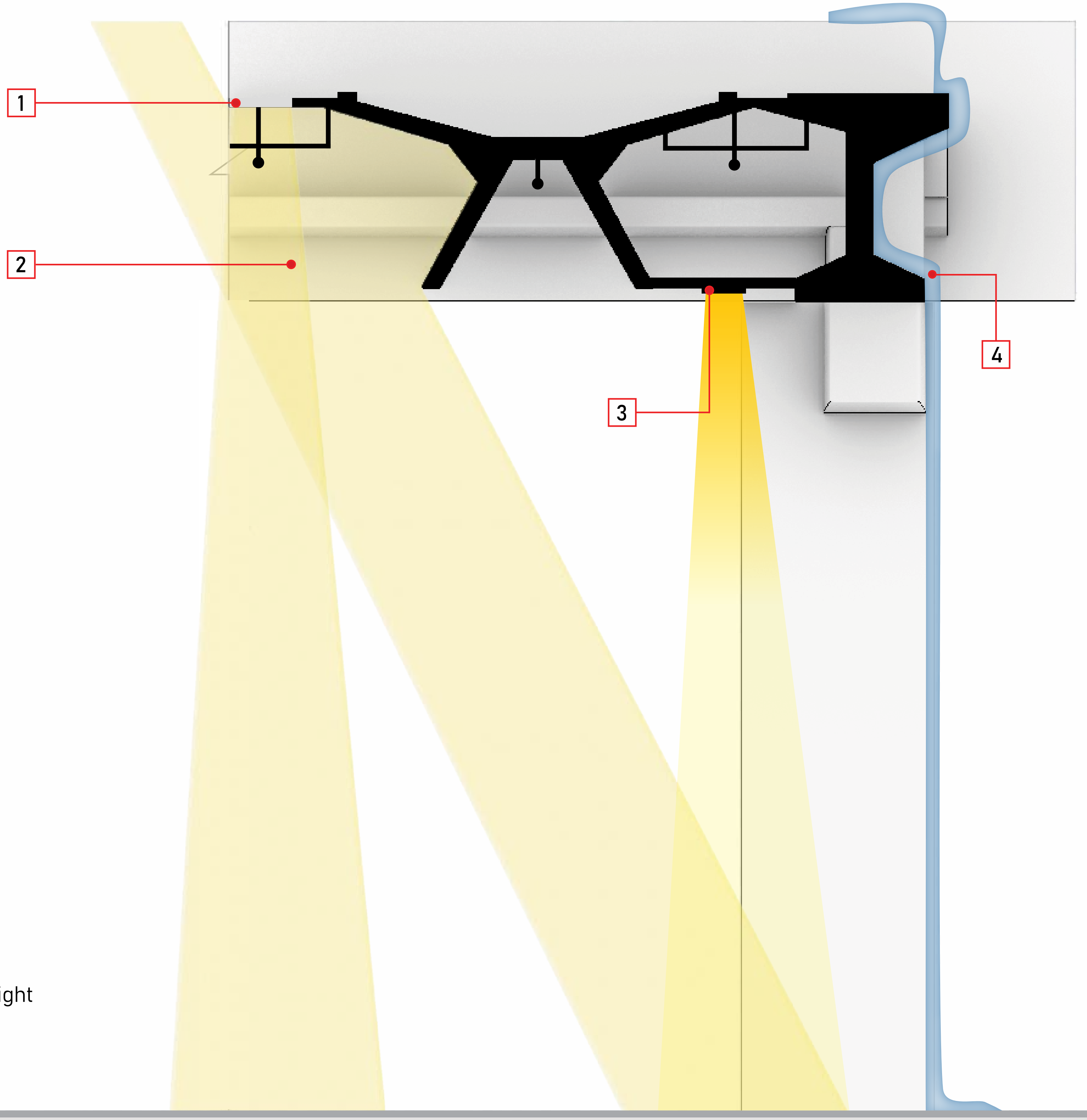
ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake

A1.Additional Studio Deliverable: Canopy Precedent Study

Undergraduate
Architecture

CANOPY PRECEDENT OVERLAY DIAGRAM

SCALE: 1/2" - 1'



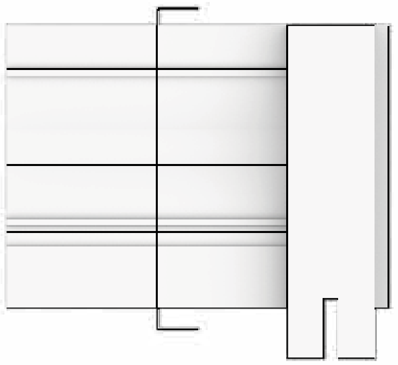
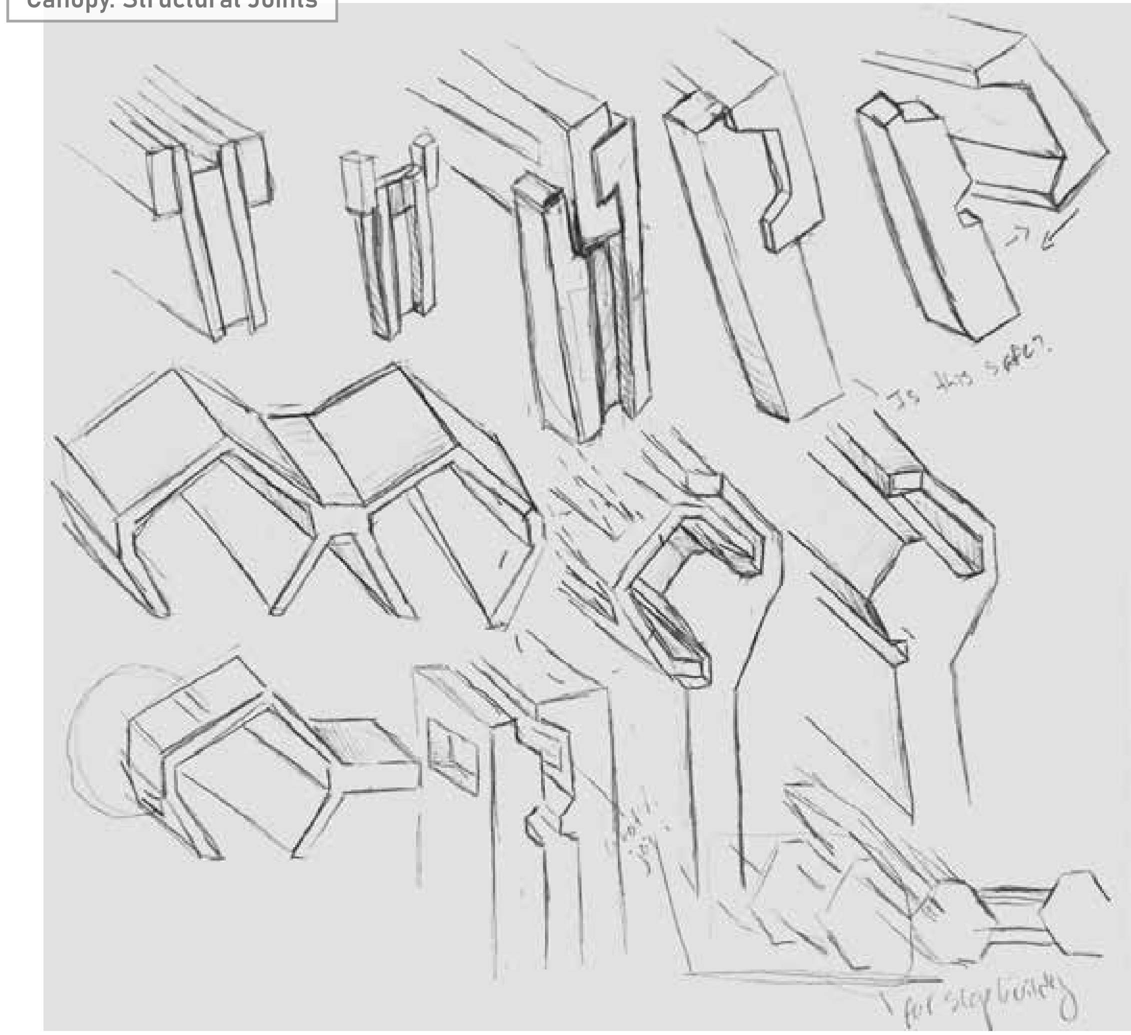


Diagram Key

1. Existing Sunlight
2. Potential Natural Light
3. Artificial Light
4. Drainage

Canopy Iterations

Canopy: Structural Joints



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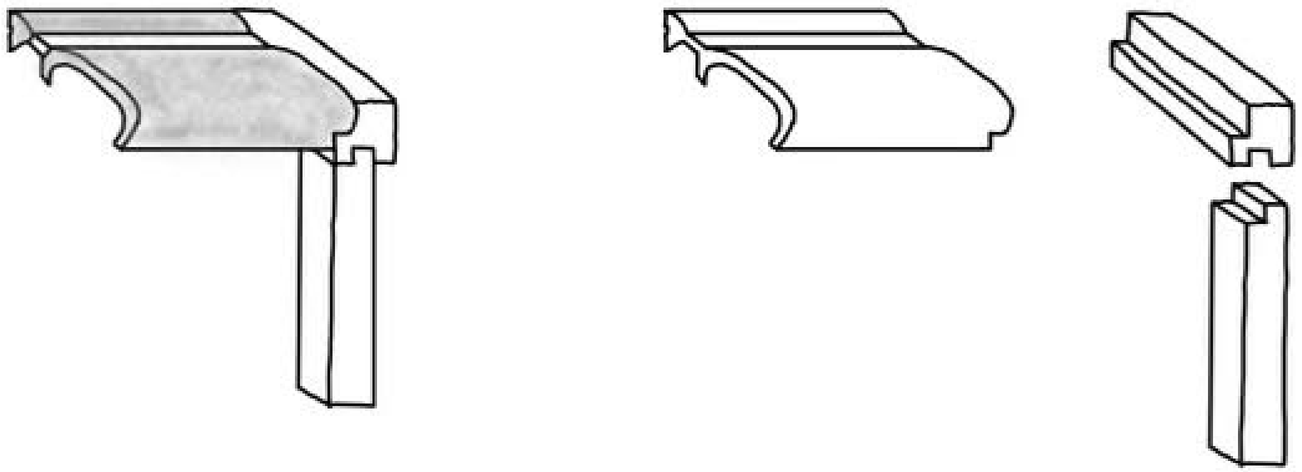
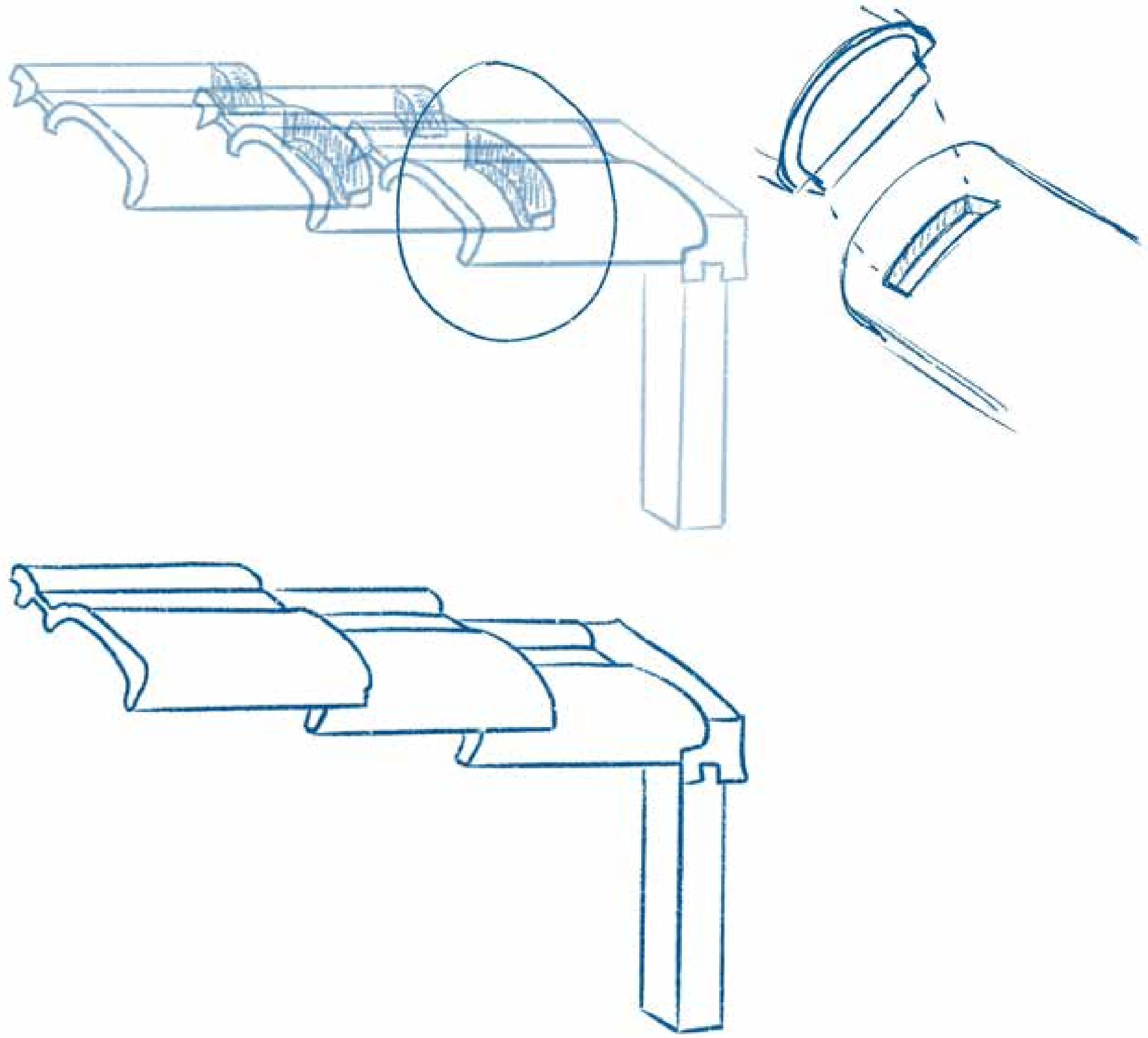
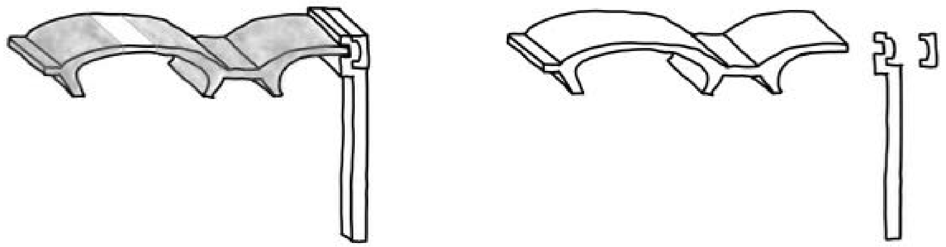


Stacked Canopy Joint



Alternate Canopy Joints

1



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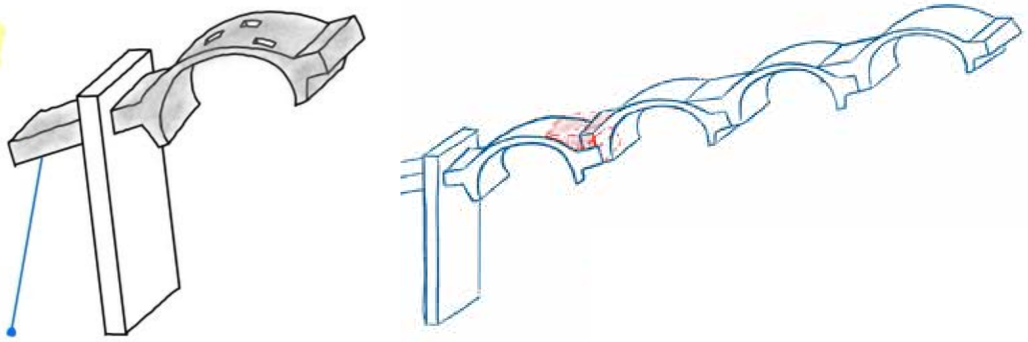


Canopy Precedent & Iteration Models

1/2" = 1'

A Favini, Kodak Factory Canopy

Barrel Vault Precedent Iteration

Arching Vault Precedent Iteration

DESIGN PROJECT – ASSIGNMENT 2 (A2)

ORGANIZATIONAL BUILDING AND SITE STRATEGIES

Time: 2.5 weeks
Issue date: 09/11/2023
Due Date: 09/28/2023
Format: teams of two

INSTRUCTIONS

Students are to apply their research conclusion from Assignment 1: site analysis, precedent analysis, and user group to Assignment 2 by advancing the project's prototypes with complete program requirements for the Fresh Food Market and Community Learning Center (see page 11 of syllabus). This phase of organizational strategies is to develop both the **Building Strategy** and the **Site Programmatic Organization** in the selected site. In this assignment, the development of the project plan and section is to understand the relationship and adjacencies of the programmatic elements. Consider the following:

1) The design should be, at minimum design, a two-story structure with programmatic relationships established.
2) Understand the relationship of the three thermal zones in the section/plan: conditioned and unconditioned interior spaces with the exterior program. The internal program organization is the inverse of the external site program and requirements.
3) Begin to address the mechanical, structural, and façade systems.
4) Address the complexity of the exterior site and internal building circulation system in the organizational strategies.

INTRODUCTION – create a series of prototypical drawings and models which combine the program and site relationships. These investigations are to be **scaled** 3D diagrams which provide horizontal and vertical morphological examples to test the exercises in A1. (Minimum of three model studies)

AREAS OF DEVELOPMENT:

Conceptual statement/analog of ideas
Ground floor plan strategies
Passive ventilation and natural light:
Skin, roof, and façade systems: Performative
Circulation Systems: pedestrian entry sequence, seller & buyer relationship to the Market, and the Community Learning Center relationship (classrooms and lecture event space).
Site Design Program: Options – Exterior Dining, Exterior Market, Experimental Garden
Site Design Support: parking area, delivery & waste removal.
Site Relationship: neighborhood to city scale relationships, social & cultural

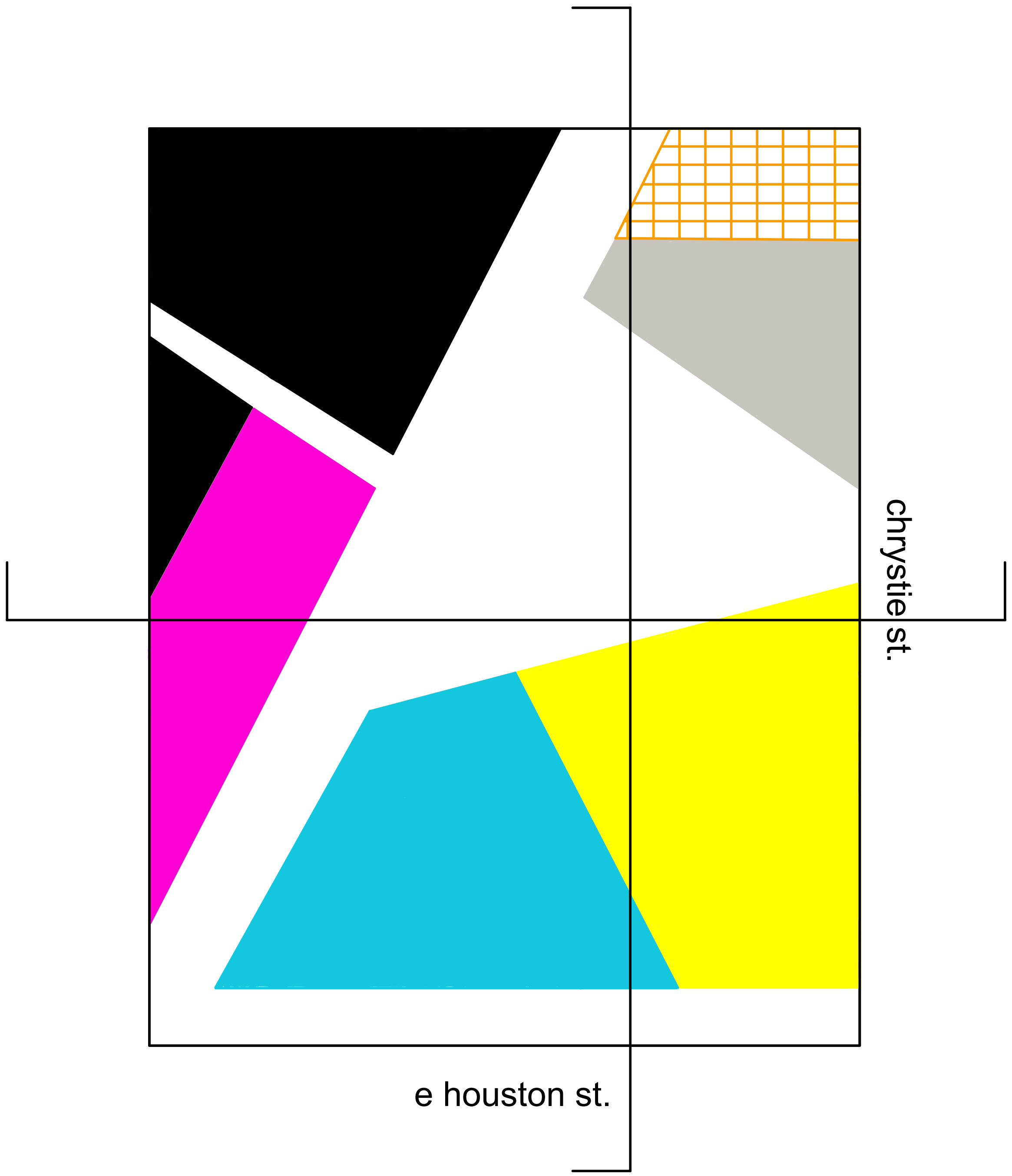
PRESENTATION REQUIREMENTS – A2 **Due Monday 09/26/2023 SHARED Studio Review**

The number of drawings determined by the faculty instructor, studio section, and students(s) that best represent your building design and site organizational strategies. The sheet presentation **format is 22” x 34”** in landscape orientation. North arrow to face the right edge of the sheet. Listed below are the required minimums. Each item presented should be choreographed to be consistent across all sheets and topics.

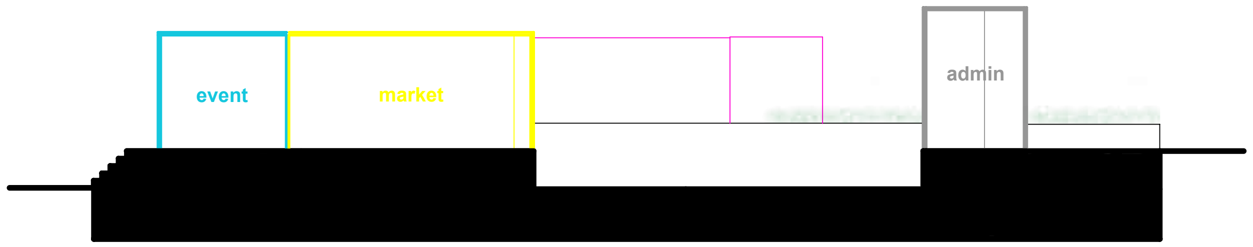
- Site plans 1/16” = 1’-0”
- Plans 1/16” = 1’-0”
- Cross sections 1/16” = 1’-0”
- Perspectives showing enclosure materials
- Diagrams and study models at scale
- Prototypes Introductory Exercise
- Building & Sketch models 1/16” = 1’-0”
- Overall Site Model at 1/16” = 1’-0” (studio production of the site island)

program massing model

scale: 1/32" = 1'-0"



e-w section



n-s section

ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A2.1: Organizational Diagram Drawings (NTS)

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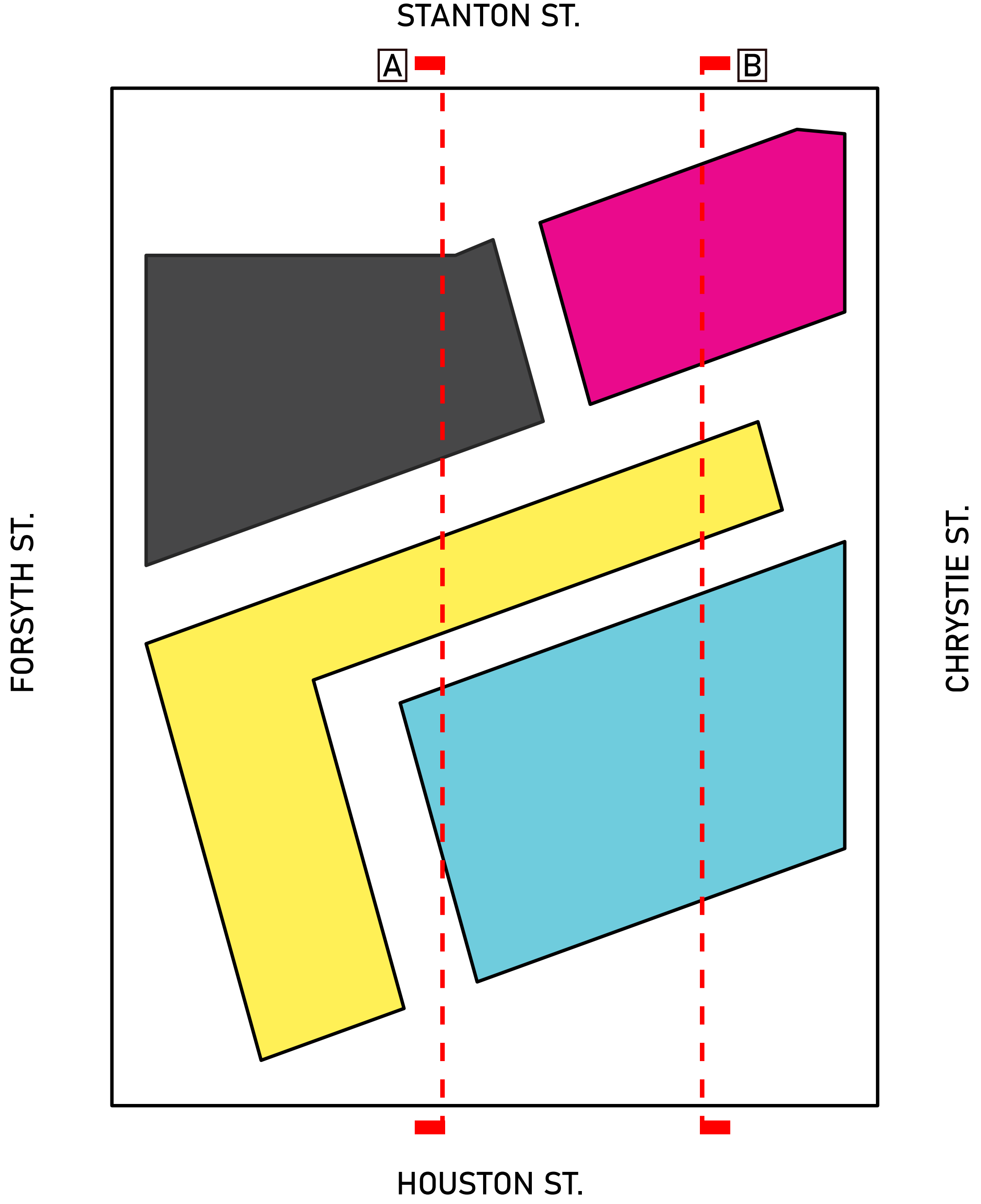
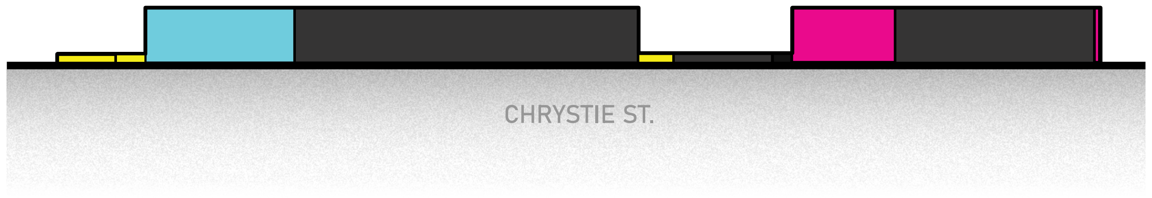
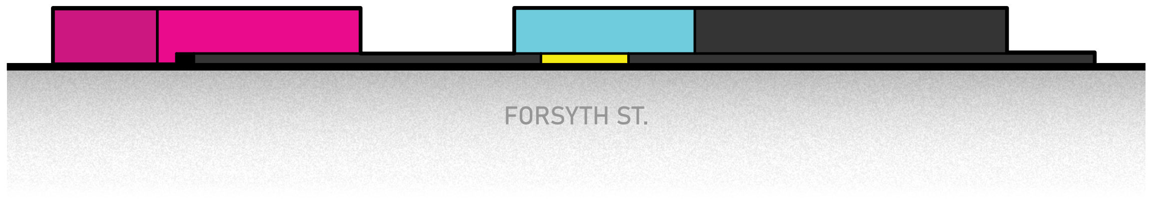
Program Massing Model

SCALE: 1/32" - 1'



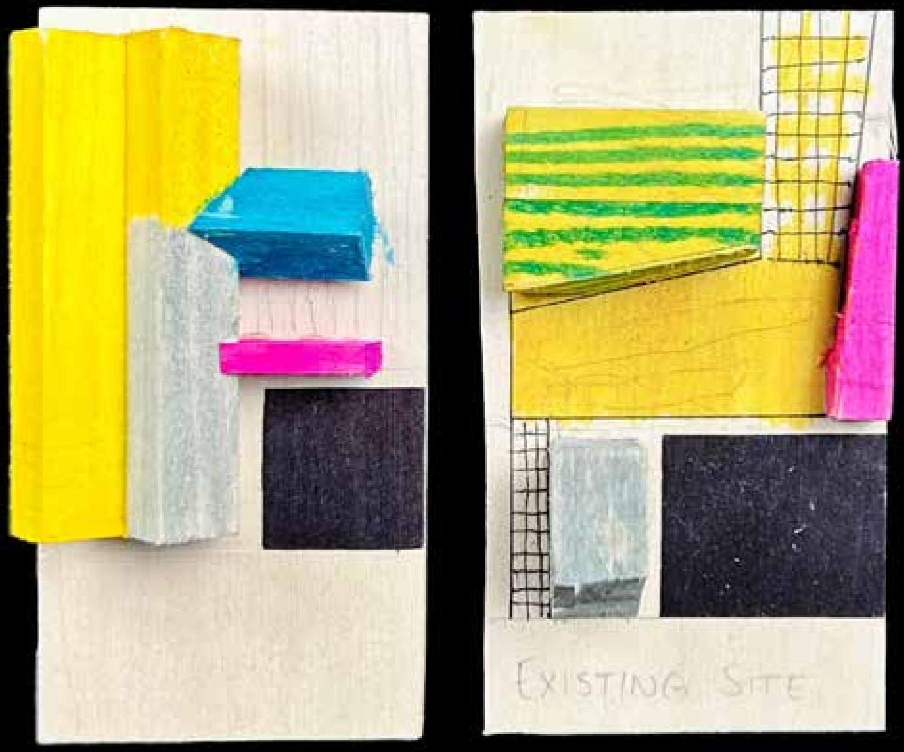


Section A



Section B

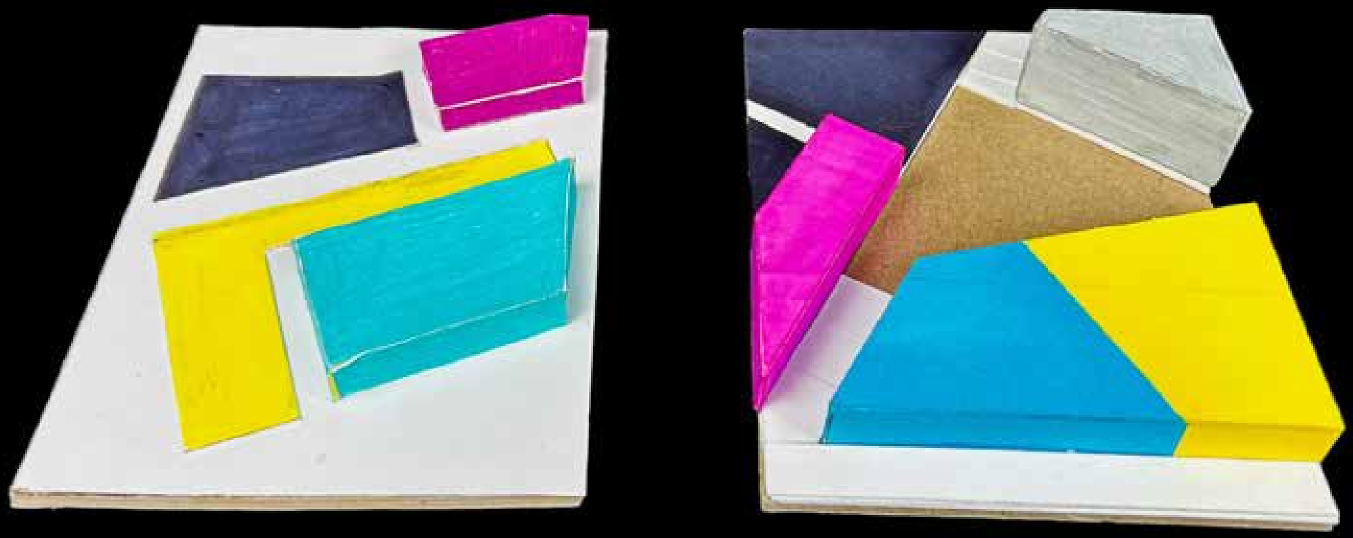
Massing Study Models



Massing Iteration #1-2

Massing Iteration #3-4

Final Itation Study #1-2
1/32" = 1'

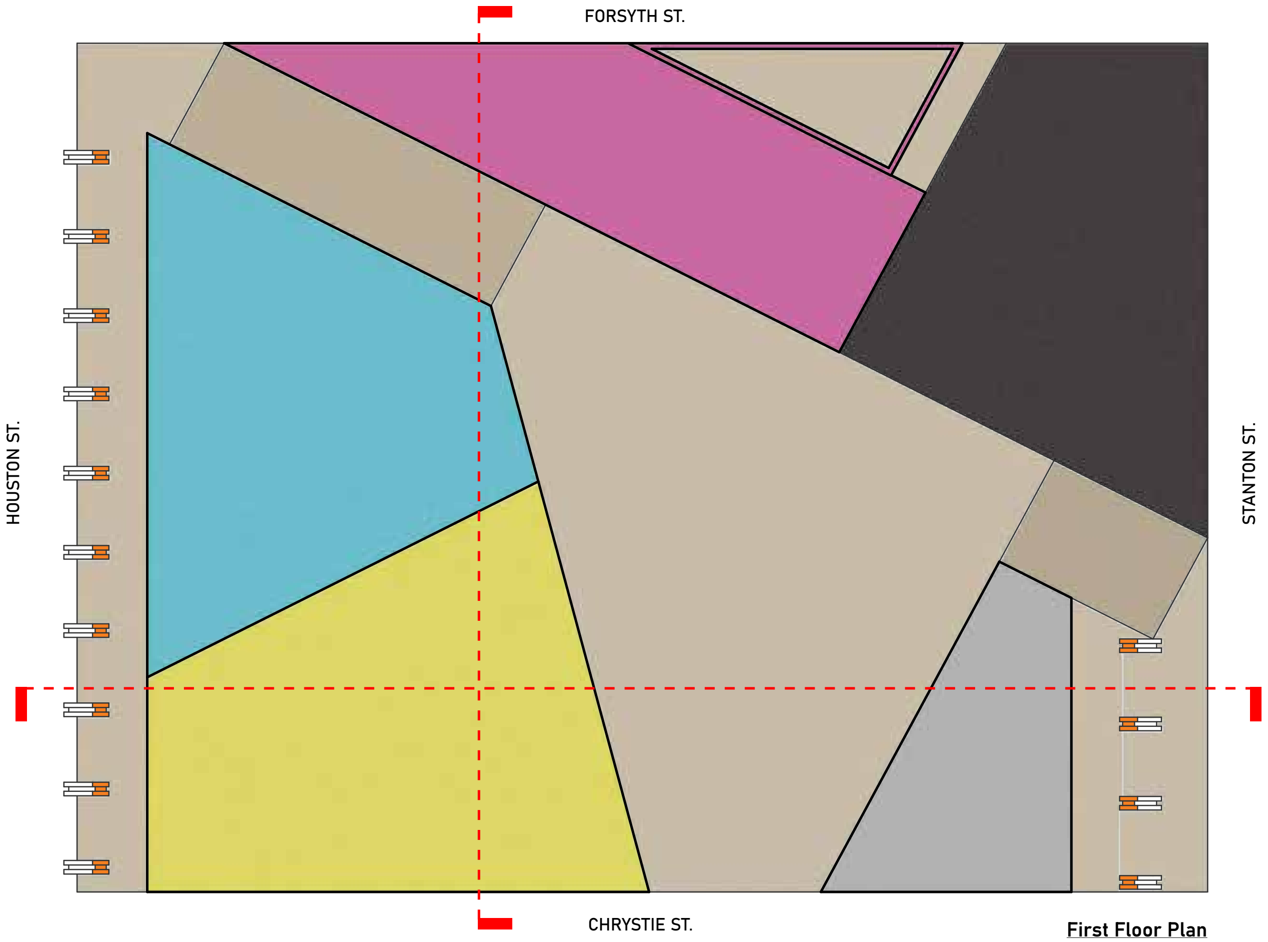


SC.5+6

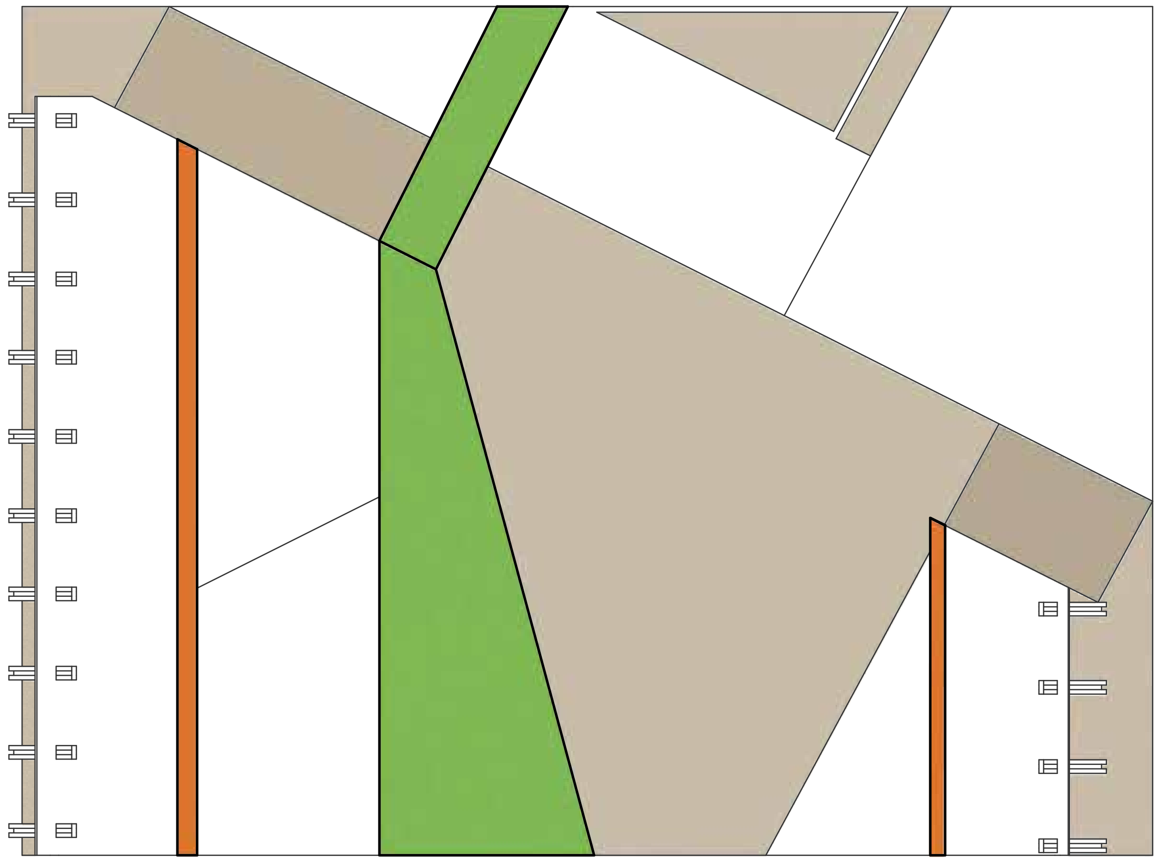
Site & Structure Programming

SCALE: 1/16" - 1'

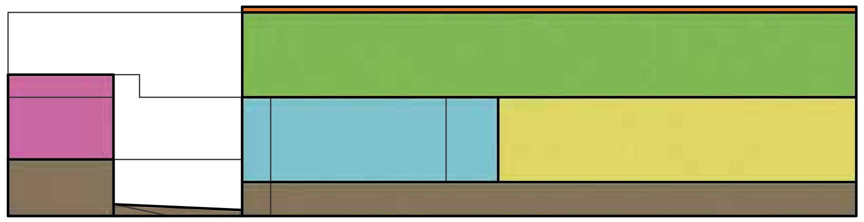
Jake Merder + Gabby Chavez-Courtney :: Arch 301 :: FA23
Program Planning :: Program Massing



First Floor Plan

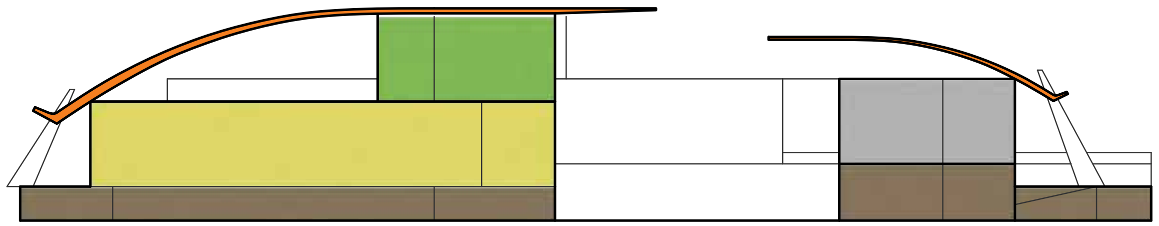


Second Floor Plan

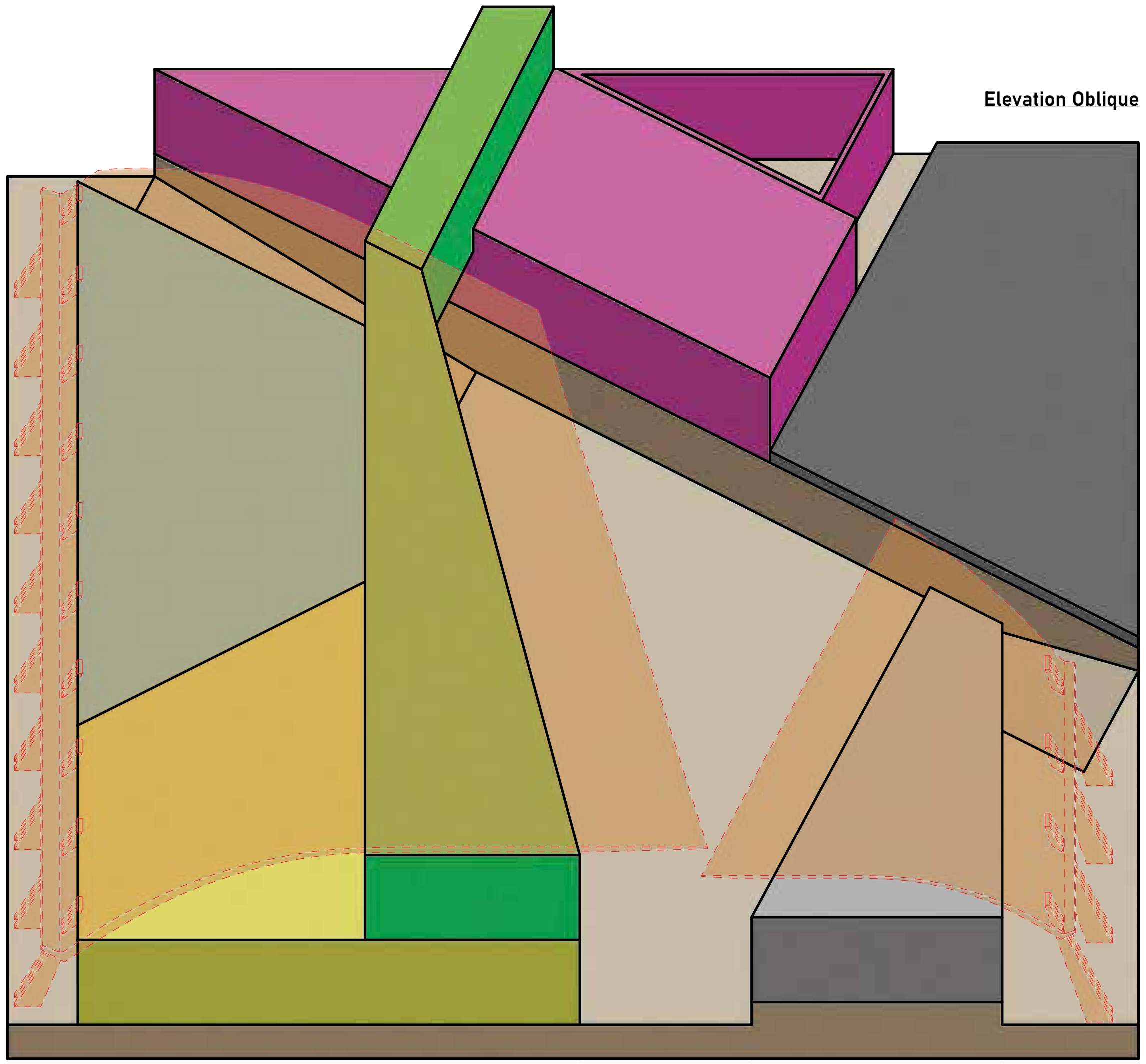


East/West Section

- 🟦 Event Space
- 🟨 Market Space
- 🟩 Circulation
- 🟪 Classrooms
- ⬛ Garden Space
- ⬜ Admin. Space



North/South Section



Elevation Oblique

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A2.3: Site Plan

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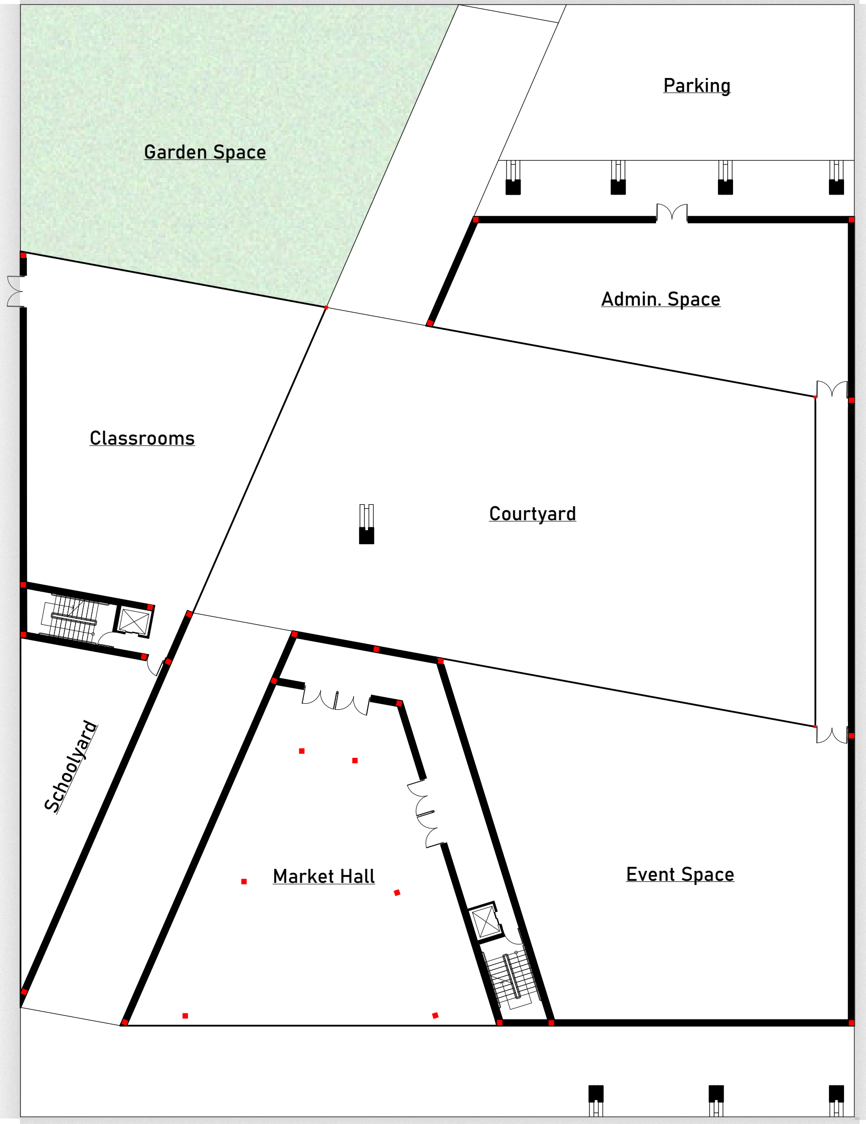
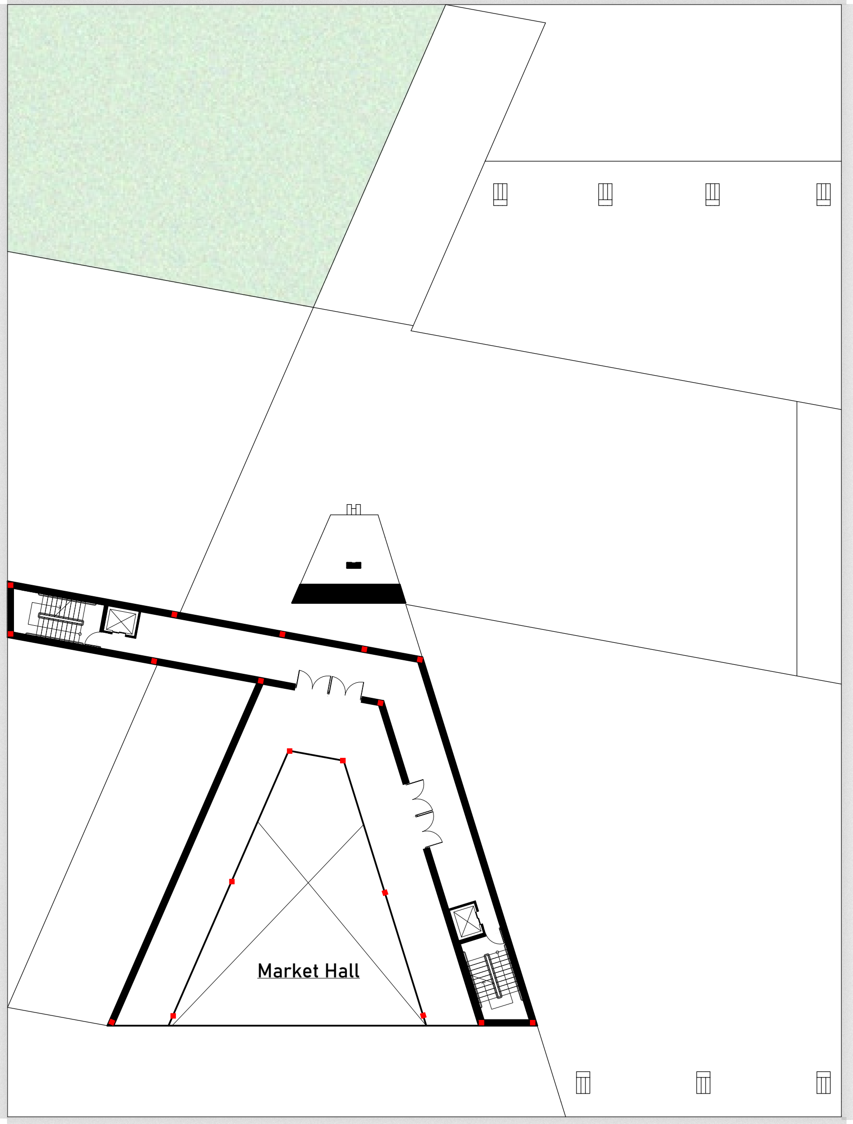
Floor Plans

1/16" - 1'



E HOUSTON ST.

FIRST FLOOR PLAN
1/16" - 1'



E HOUSTON ST.

SECOND FLOOR PLAN
1/16" - 1'

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Organizational Strategies :: Site Planning

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A2.4: Floor Plans

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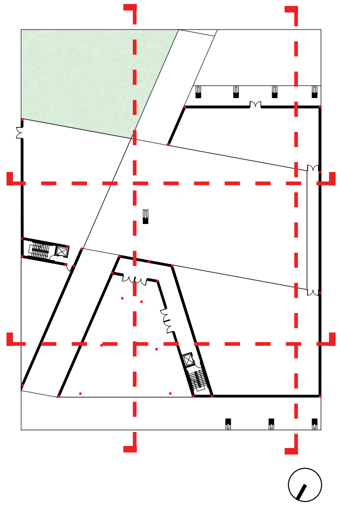
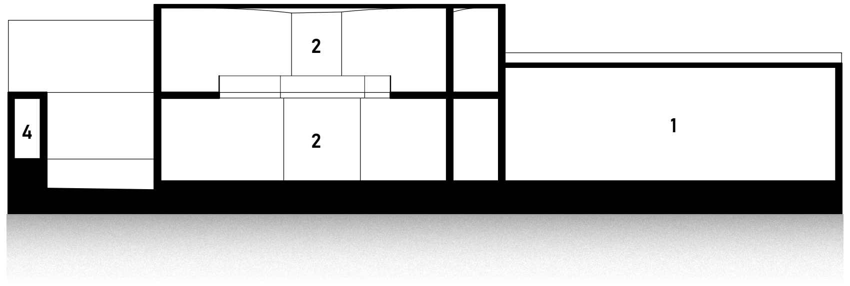
Floor Plans

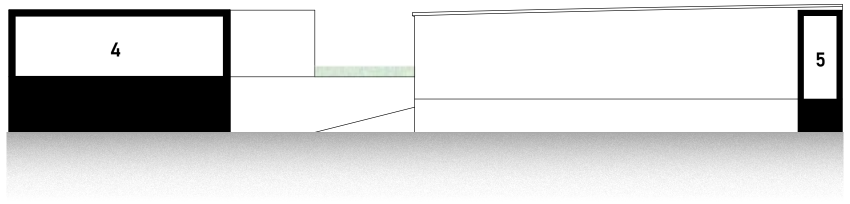
1/16" - 1'

1 Event Space
2 Market Space
3 Circulation
4 Classrooms
5 Admin. Space
🟩 Garden Space

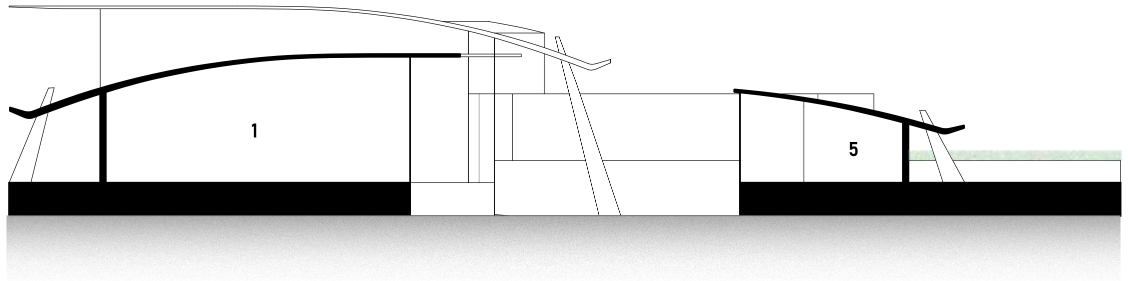




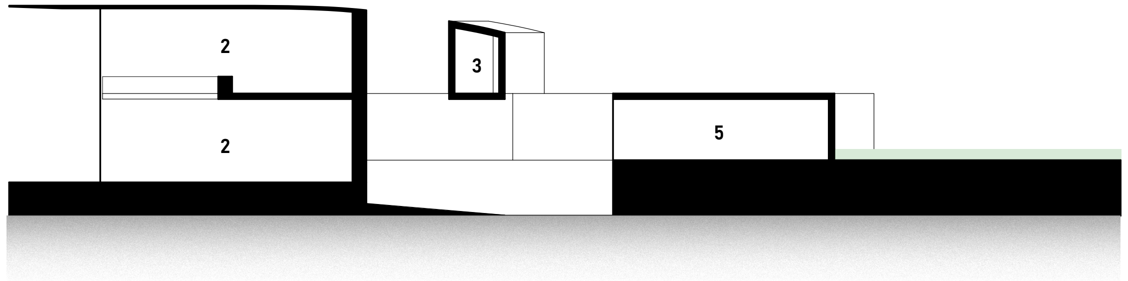
EAST-WEST SECTION @ 35'
1/16" - 1'



EAST-WEST SECTION @120'
1/16" - 1'



NORTH-SOUTH SECTION @ 30'
1/16" - 1'



NORTH-SOUTH @ 110'
1/16" - 1'

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A2.5: Sections

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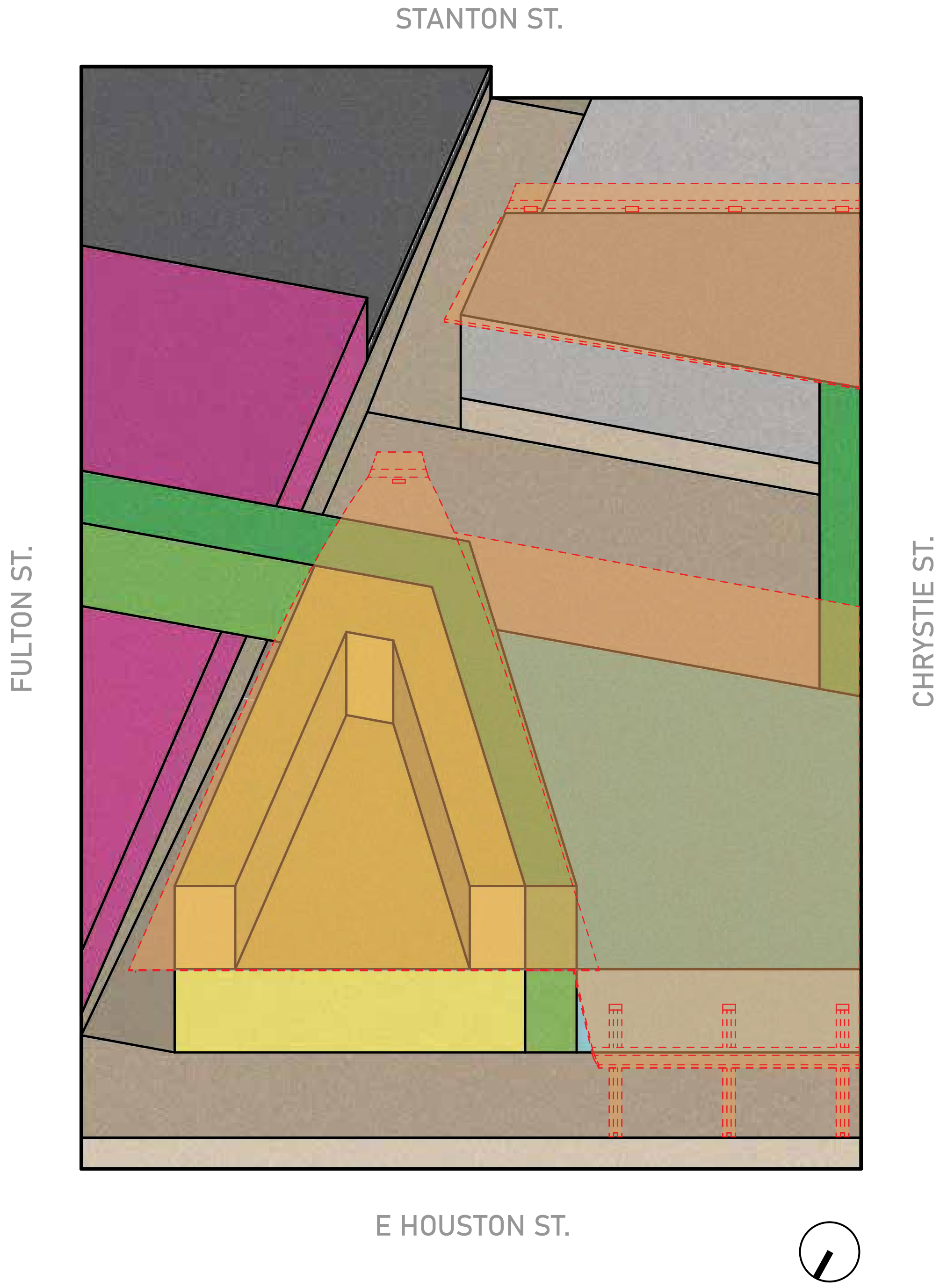
Elevation Obliques

1/16" – 1'

🟧 Canopy 🟦 Event Space 🟨 Market Space 🟩 Circulation 🟪 Classrooms ⬛ Garden Space ⬜ Admin. Space



ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A2.6: Perspectives (NTS)

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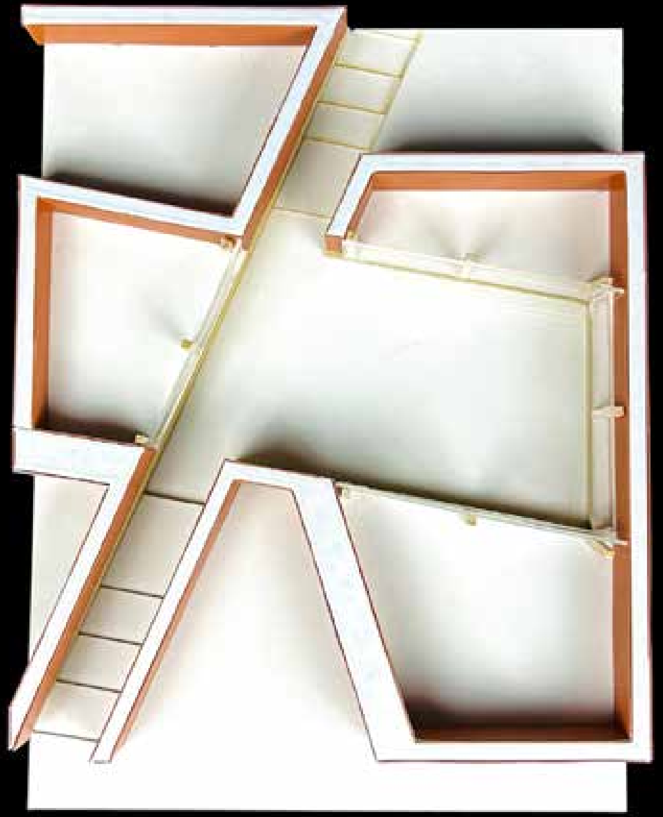
Site + Building Massing Iterations #1

1/16" = 1'

Building Material Study #2

1/16 = 1'



ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake

A2.7: Project Model

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DESIGN PROJECT – ASSIGNMENT 3 (A3)

BUILDING DESIGN DEVELOPMENT

Time:	3 weeks
Issue date:	09/262023
Due Date:	10/19/2023 **MIDTERM PRESENTATION**
Format:	teams of two

INSTRUCTIONS:
This assignment develops the conclusions of the schematic organizational diagrams in A2. In A3, the focus shifts toward integrating the building systems' mechanical, structural, and facade systems and the programmatic requirements into the building for the Midterm. Site Design development requires specificity in its relationship to the urban context and path outside the Market requirements of hardscape and softscape: landscape, parking and pedestrian passage, and the exterior, optional program.

Curate the work produced during the first seven weeks of the semester in a coherent, legible manner. Include work from A1 and A2 for the Midterm. Previously submitted materials are required to be revised based on previous reviews.

Students are to listen to the online Structures and Façade lectures posted online in preparation for post-midterm integration. Post-Midterm, a group of co-instructors assigned to the studio will meet with each studio in two-hour blocks. Each structural, mechanical, and façade consultant will visit the studio twice (A4.1 & A4.2, respectively).

CONSIDERATIONS
All drawings include the physical and spatial context of the adjacent context, north arrow, scale figures, and shadows where appropriate. During this project phase, all sections must view the online lectures by our structural and façade systems consultants (see the semester schedule) in preparation for post-midterm consultant studio visits.

PRESENTATION REQUIREMENTS – A3 **Due Thursday 10/19/2023 Individual Studio Review**
For the Midterm Review, transition to a **22” x 34” sheet size (horizontal orientation with North to the right)** for the presentation deliverables. The number of drawings determines how the faculty instructor, studio section, and students best represent your design development strategies. Listed below are the required minimums. Each item presented should be choreographed to be consistent across all sheets and topics.

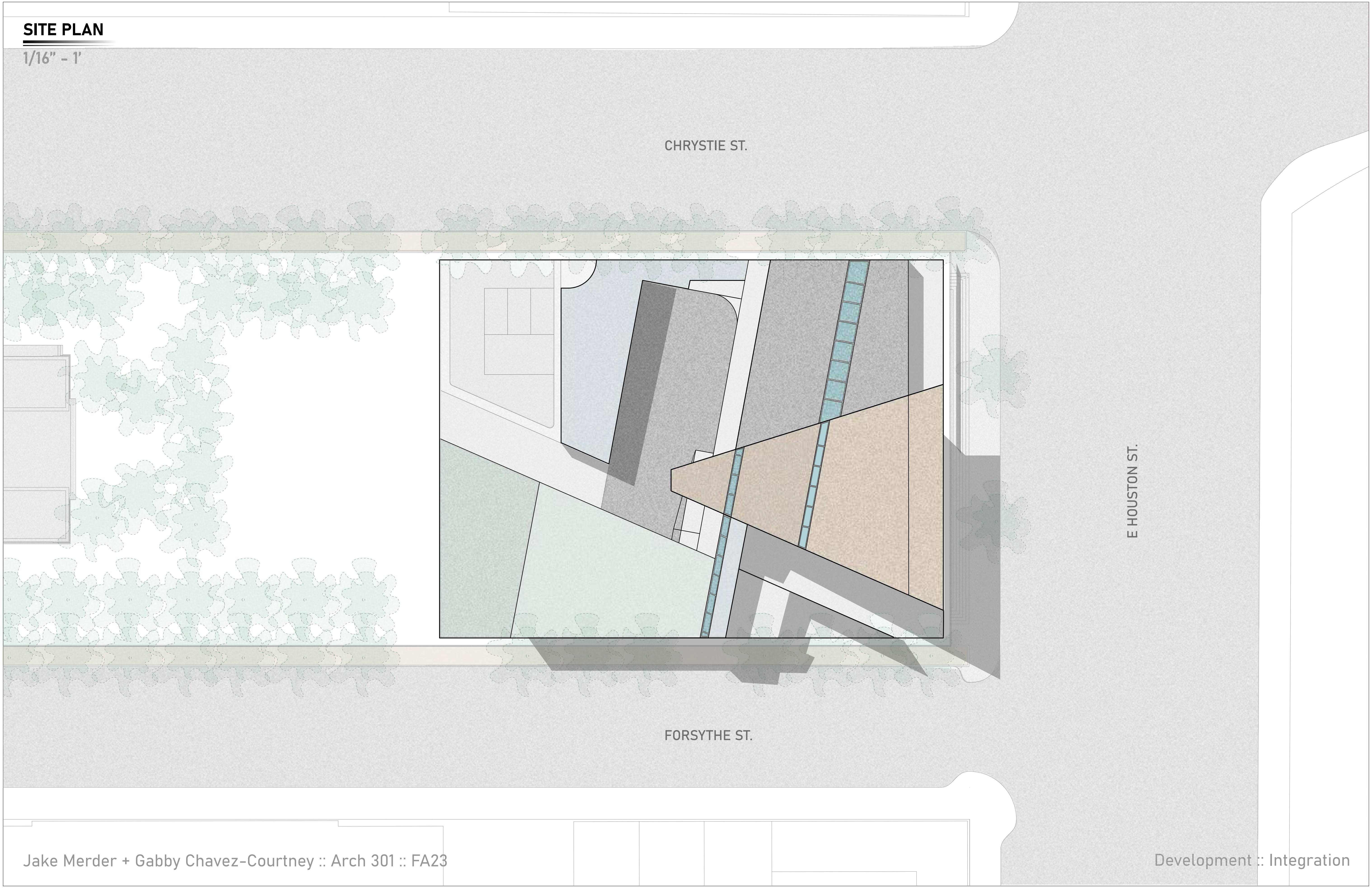
Note: Your overall midterm presentation should include additional process drawings and models developed over the first half of the semester. Review with the studio instructor.

- Site plan: 1/16” = 1’-0”
- Site Sections
    - Longitudinal 1/16” = 1’-0”
    - Transverse 1/16” = 1’-0”
- All Plans 1/8” = 1’-0” (building area only – Below Grade, Ground, Upper Plans, and Roof)
- Applicable Sections 1/8” = 1’-0”
- Elevations 1/8” = 1’-0”

Diagrams and study models scale variable
- Perspectives showing façade systems
- Overall Site Model 1/16” = 1’-0” (conceptual model & site design)
- Sketch models various/ at scale
- Building Model 1/8”=1’-0”

SITE PLAN

1/16" - 1'



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Development :: Integration

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A3.1.1: Site Plan

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N-S SITE SECTION

1/16" - 1'

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A3.1.2: Site Section Longitudinal

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A3.1.3: Site Section Transverse

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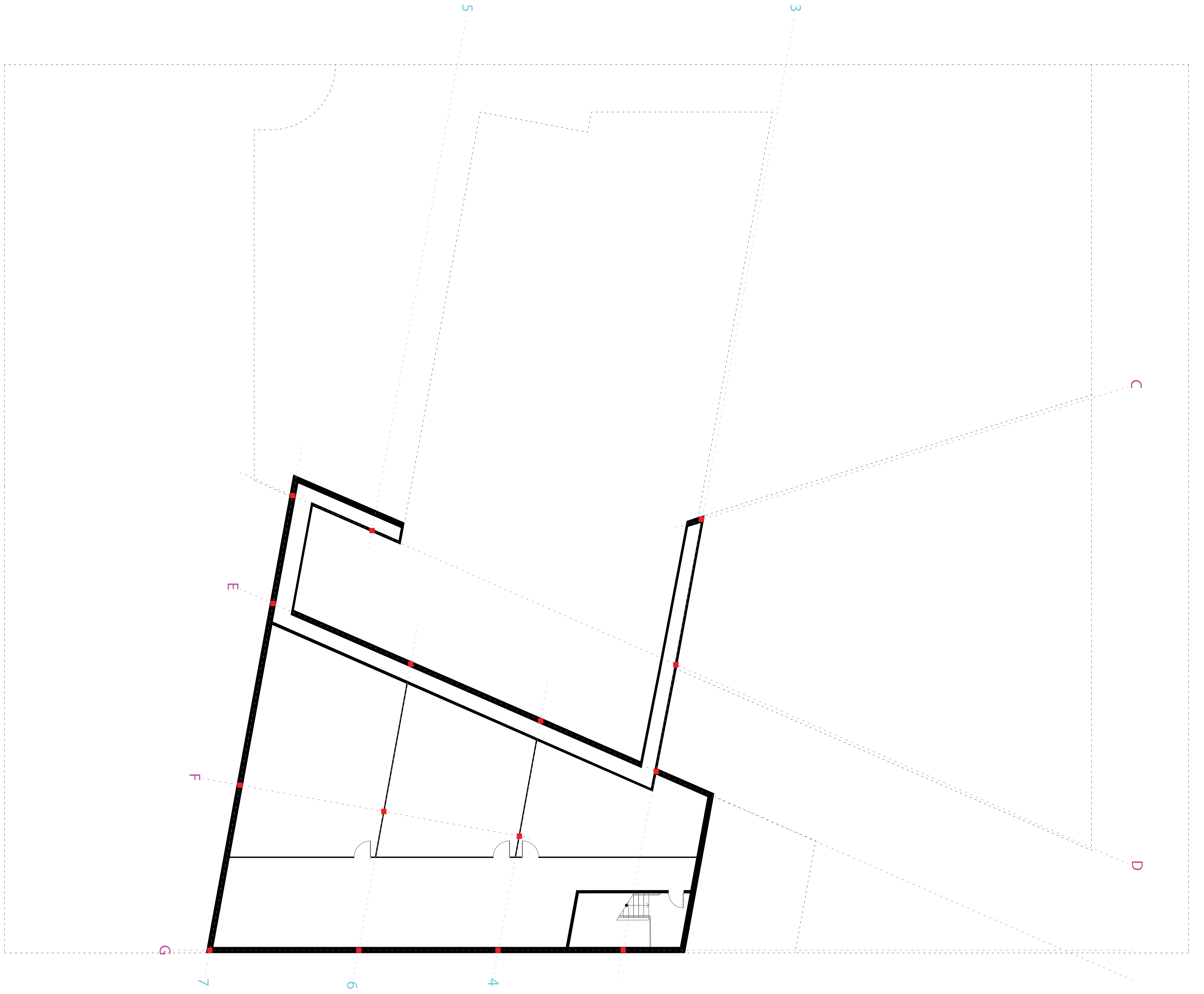
BASEMENT PLAN

SCALE: 1/8" = 1



ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A3.2.1: Floor Plans - Cellar (if provided)

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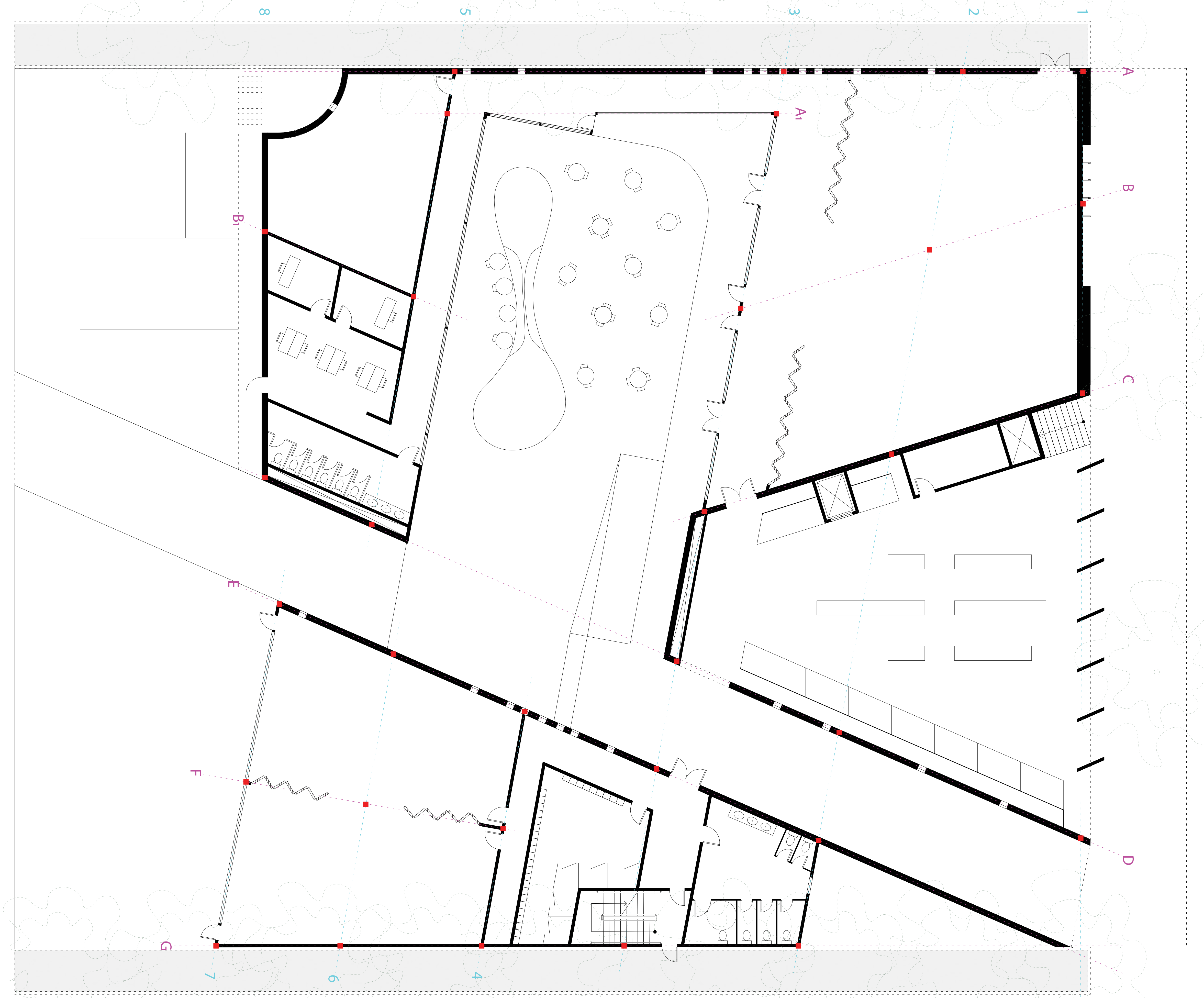
FLOOR LVL 1 PLAN

SCALE: 1/8” = 1



ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake

A3.2.2: Ground Floor Plan

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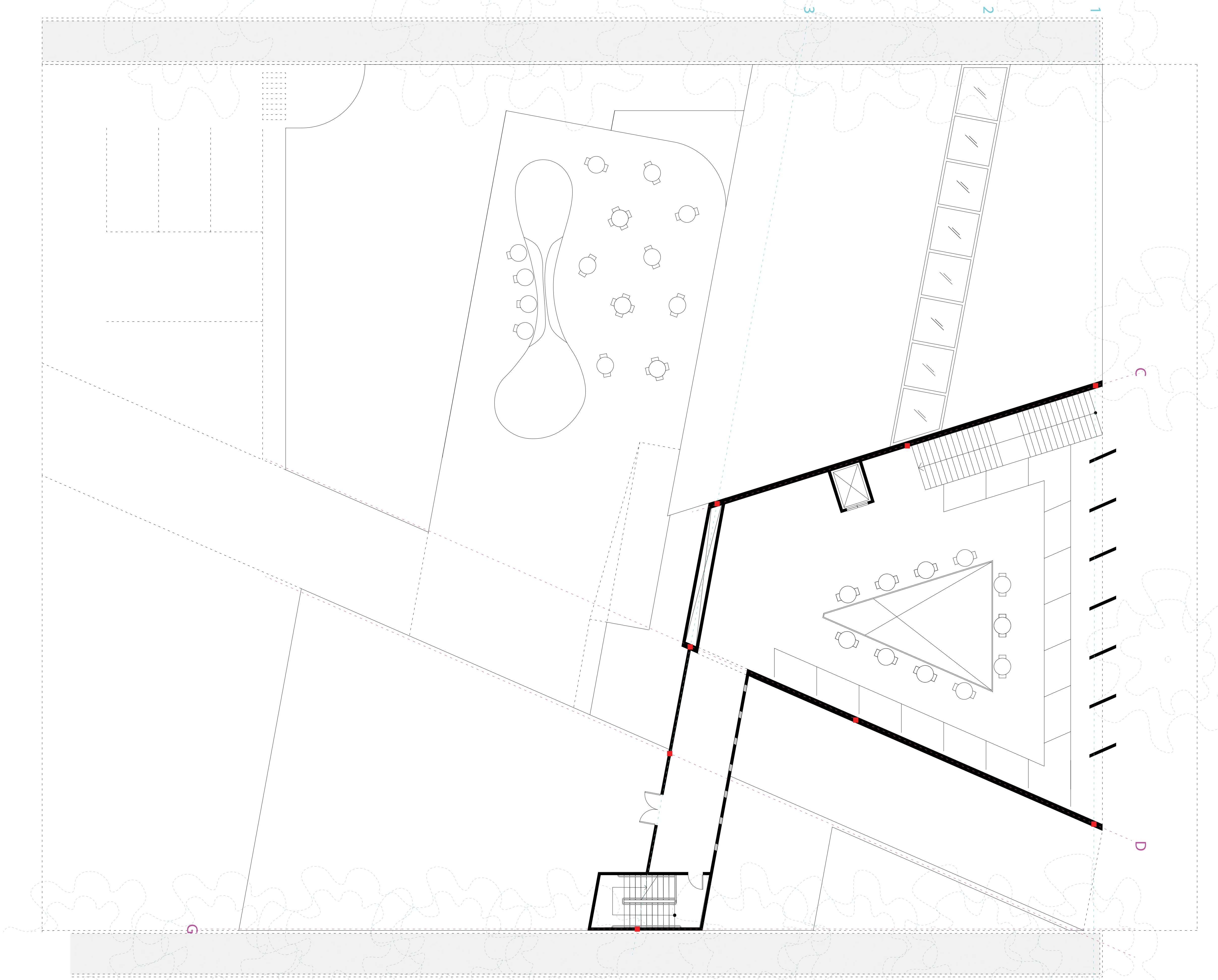
FLOOR LVL 2 PLAN

SCALE: 1/8" = 1



ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake

A3.2.3: Second Floor Plan

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ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A3.2.4: Roof Plan

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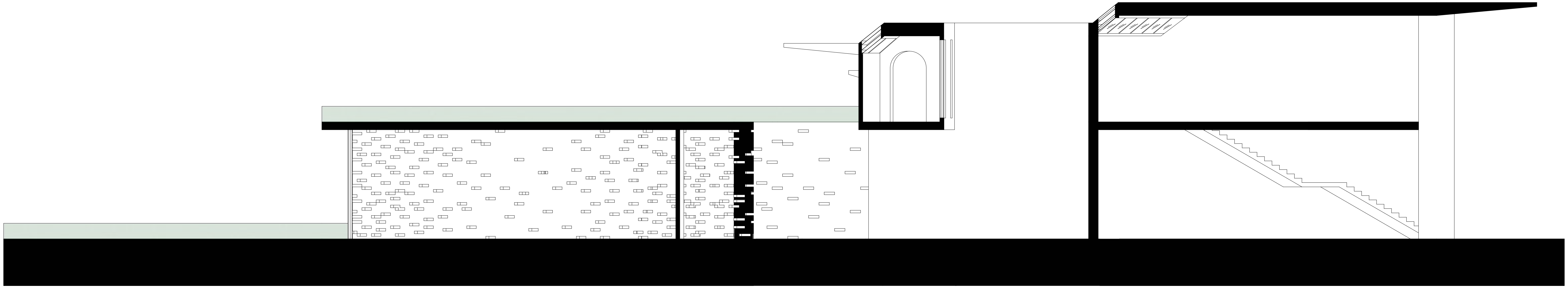
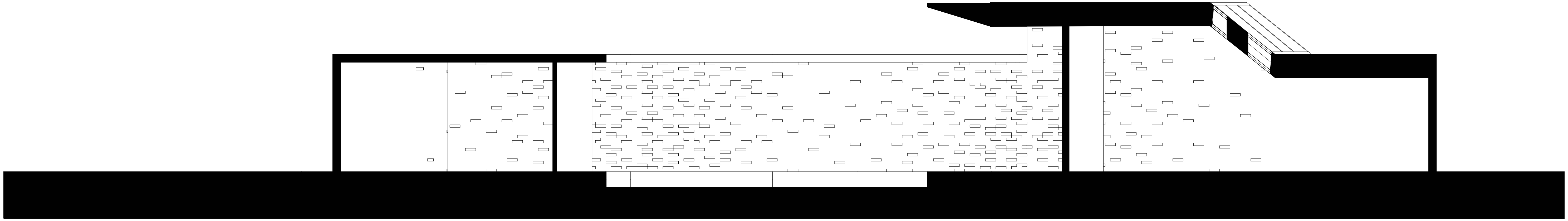


North-South Section @ 36’

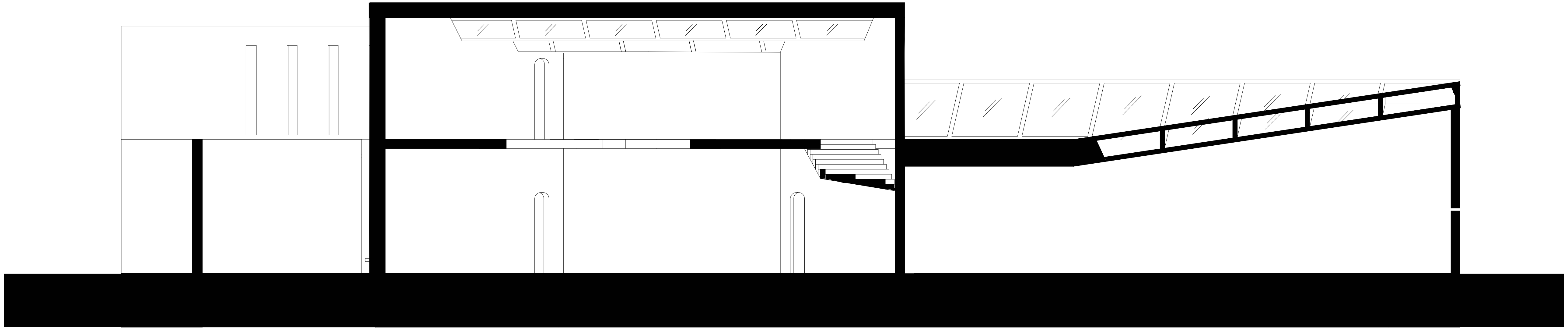
SCALE: 1/8” = 1



North-South Section @ 36’

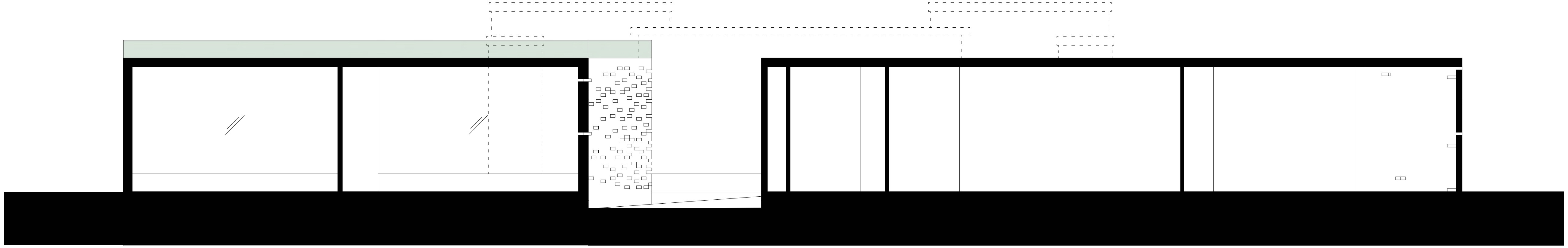
SCALE: 1/8” = 1

SC.5+6



East-West Section @ 40’

SCALE: 1/8” = 1



East-West Section @ 138’

SCALE: 1/8” = 1

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A3.3.2: Transverse Section 1

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A3.3.3: Transverse Section 2

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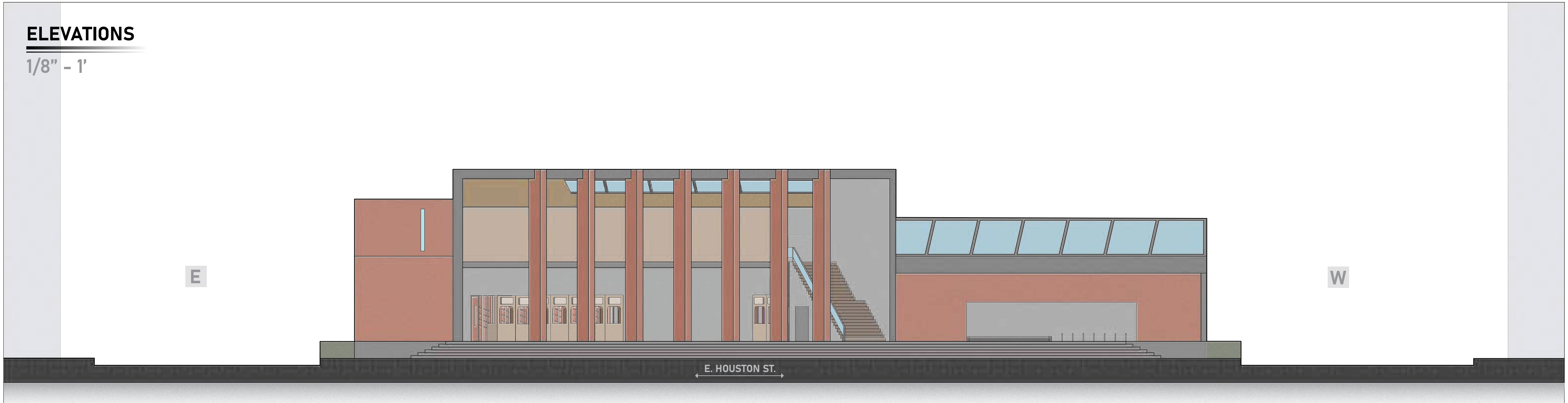
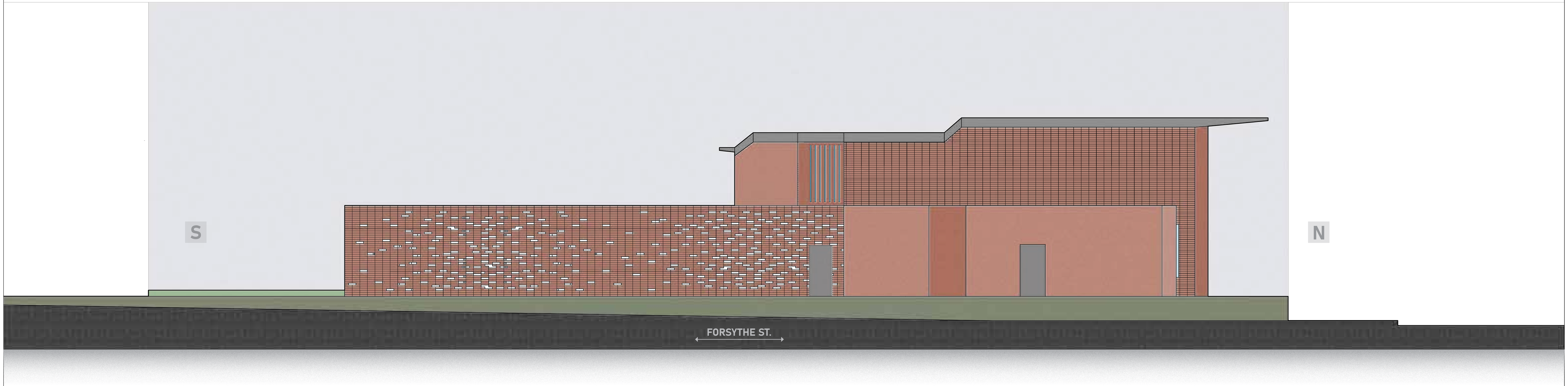
ELEVATIONS

1/8" - 1'





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A3.5: Perspectives (NTS)

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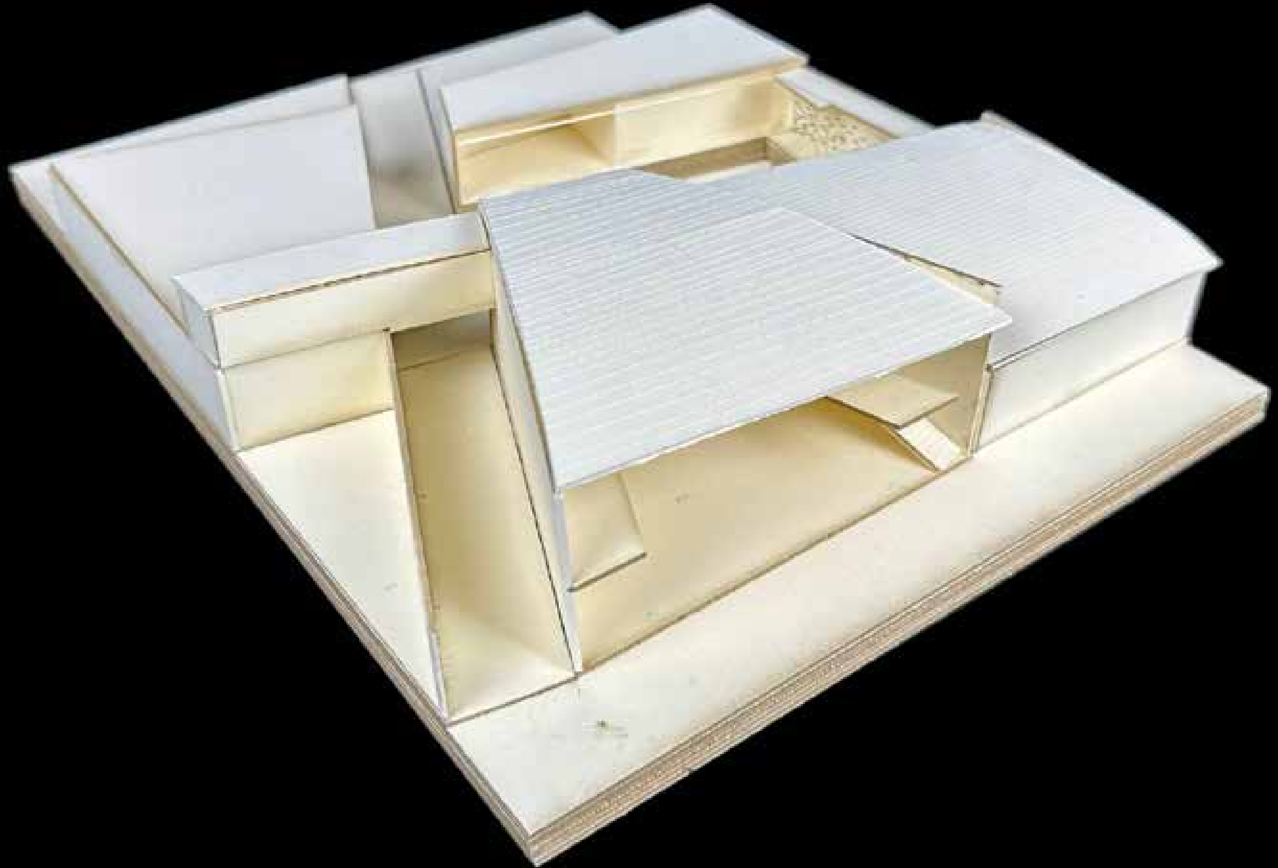
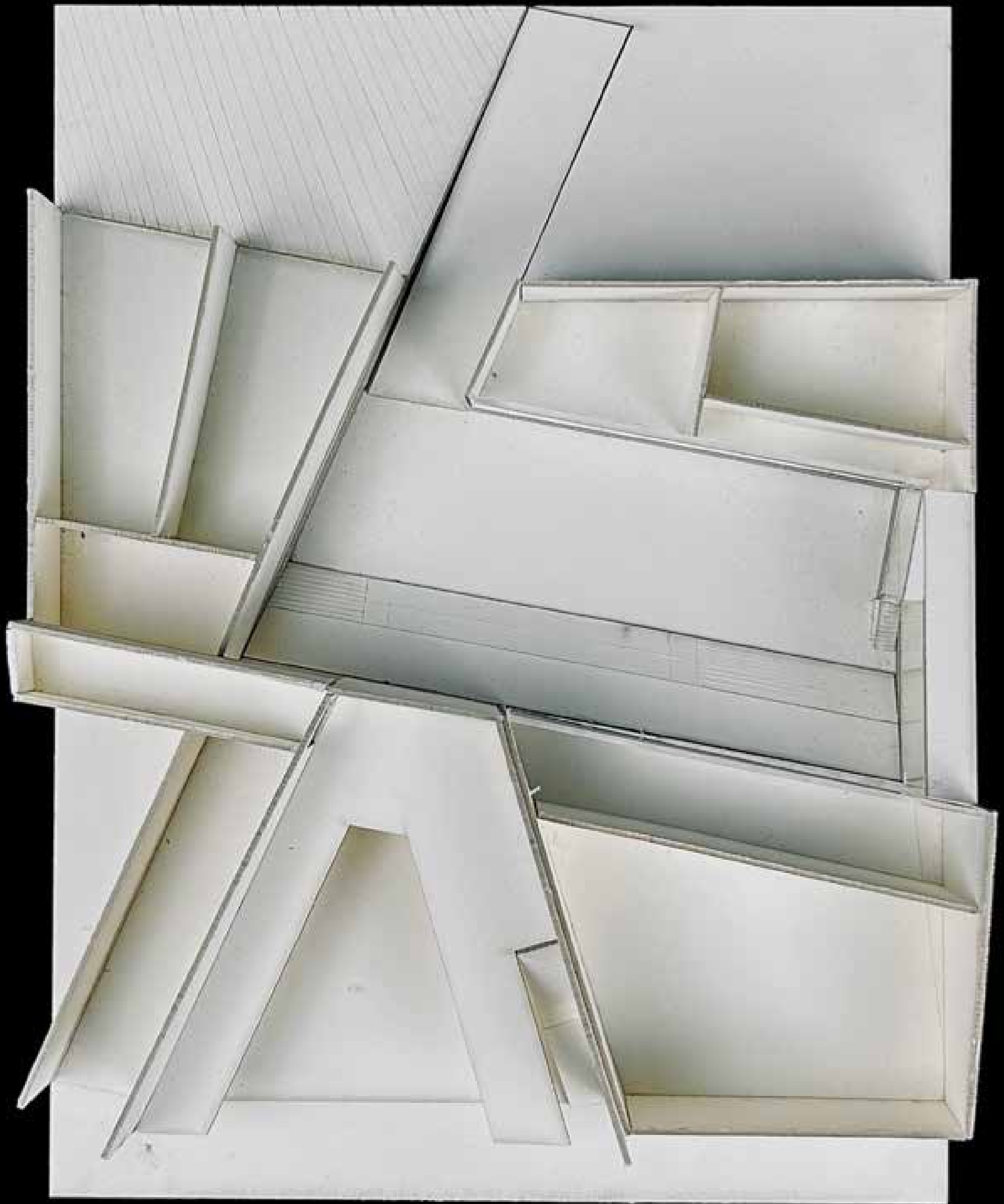
Architecture

SC.5+6

Site Slit & Structutre Development Based on Massing Studies Models

1/16" = 1'





ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A3.6: Project Model with Site (Scale: 1/16" = 1'- 0")

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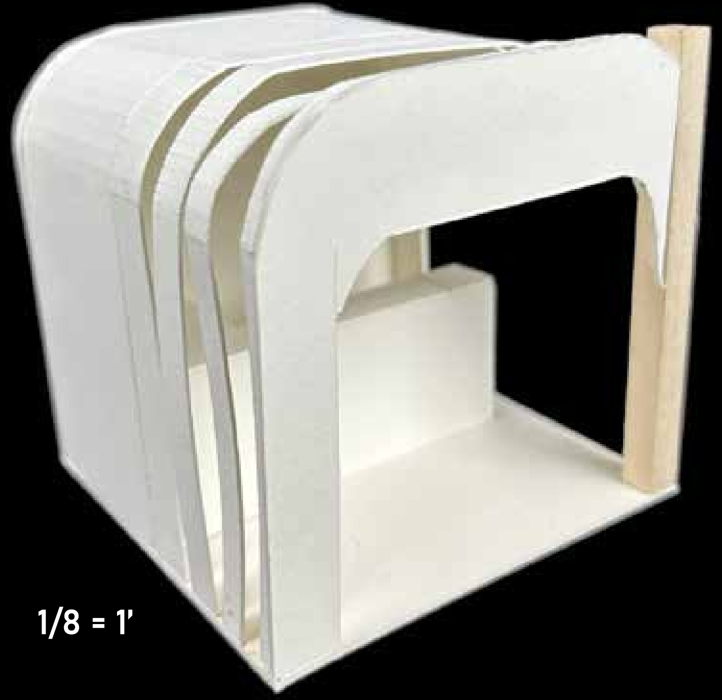
Kiosk Study Models: Facade & Entry Iterations


1/8 = 1'


1/8 = 1'


3/4' = 1'


1/8 = 1'


1/8 = 1'


3/4' = 1'

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A3.8: Sketch Models (NTS)

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Canopy Study Models

1/2 = 1'

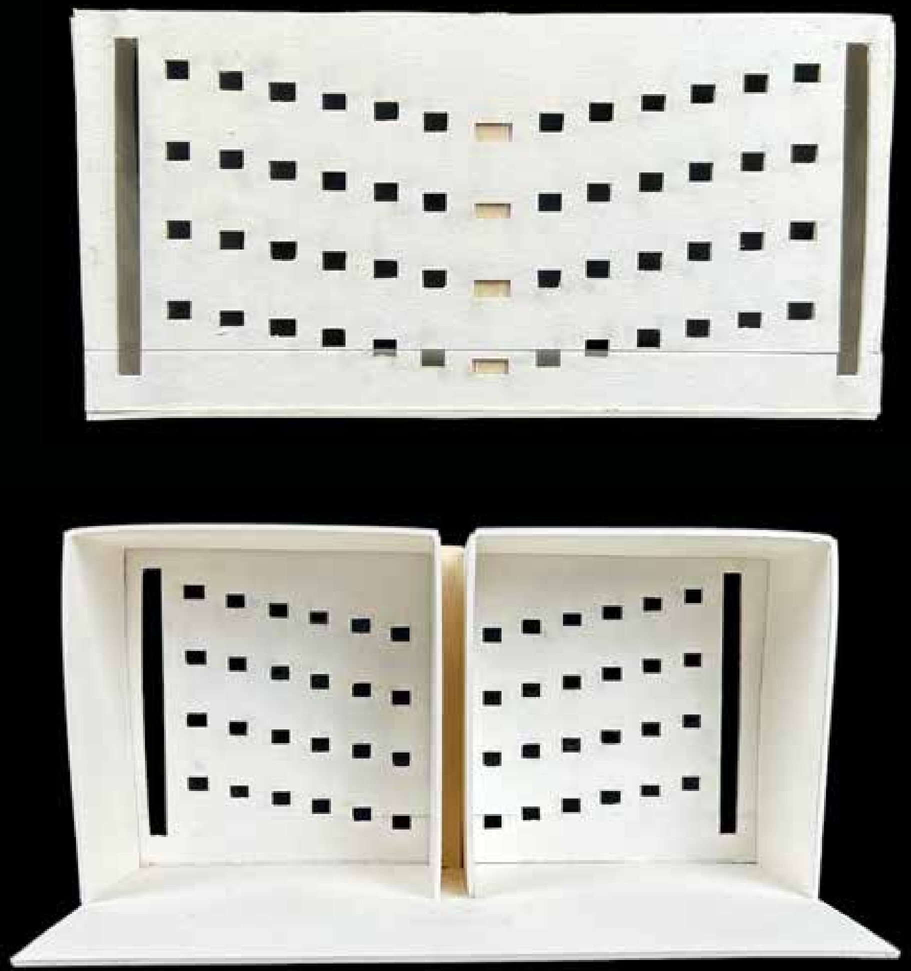
1/2 = 1'

1/2 = 1'

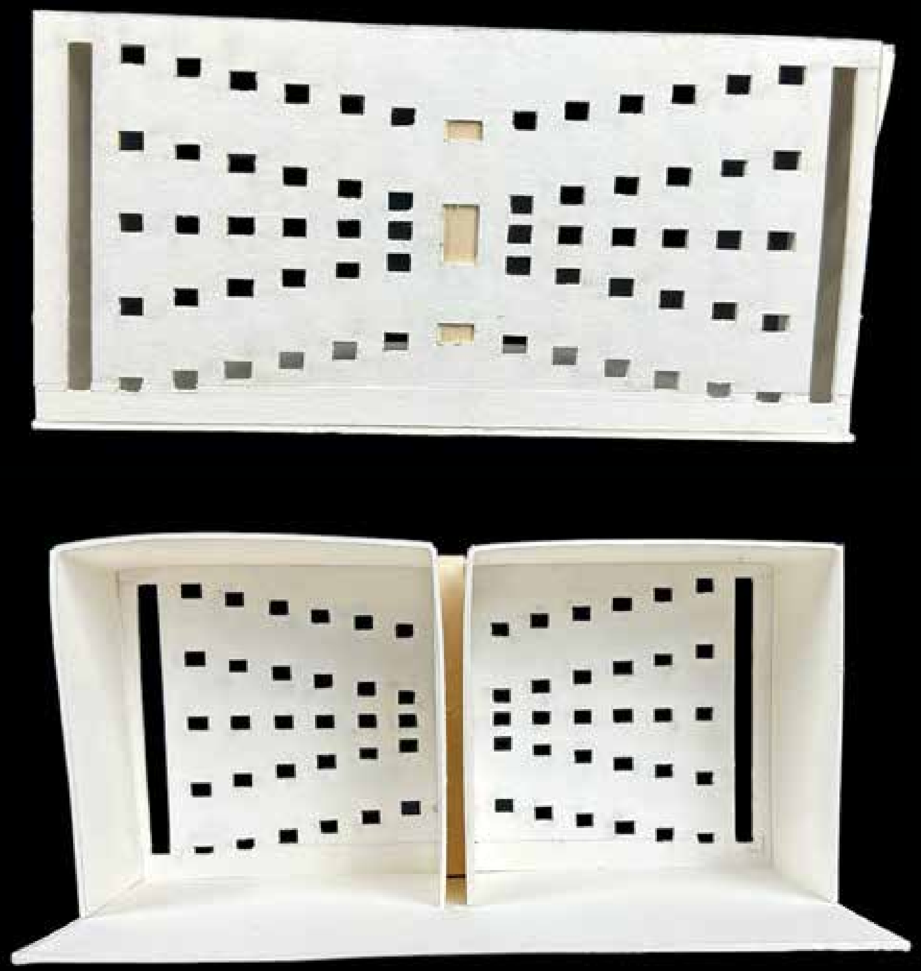
1/2 = 1'

1/16 = 1'

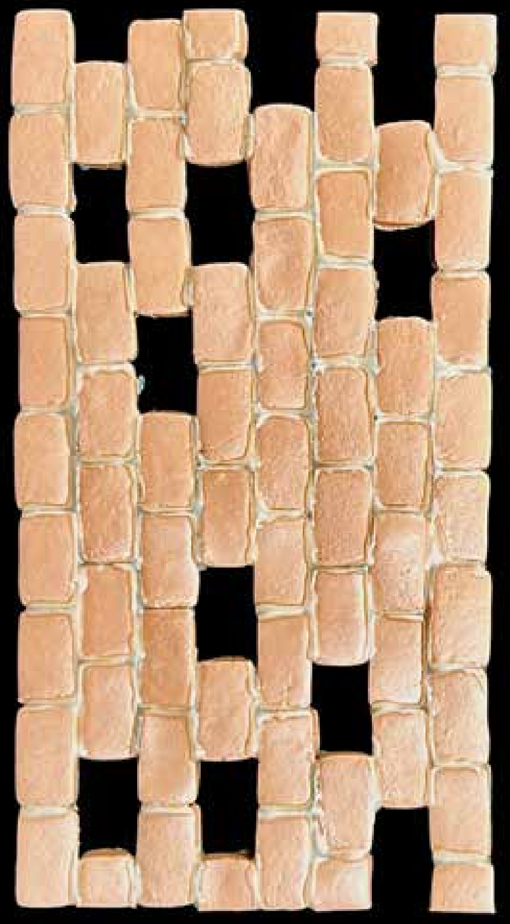
Facade Study Models: Brick Pattern Iterations



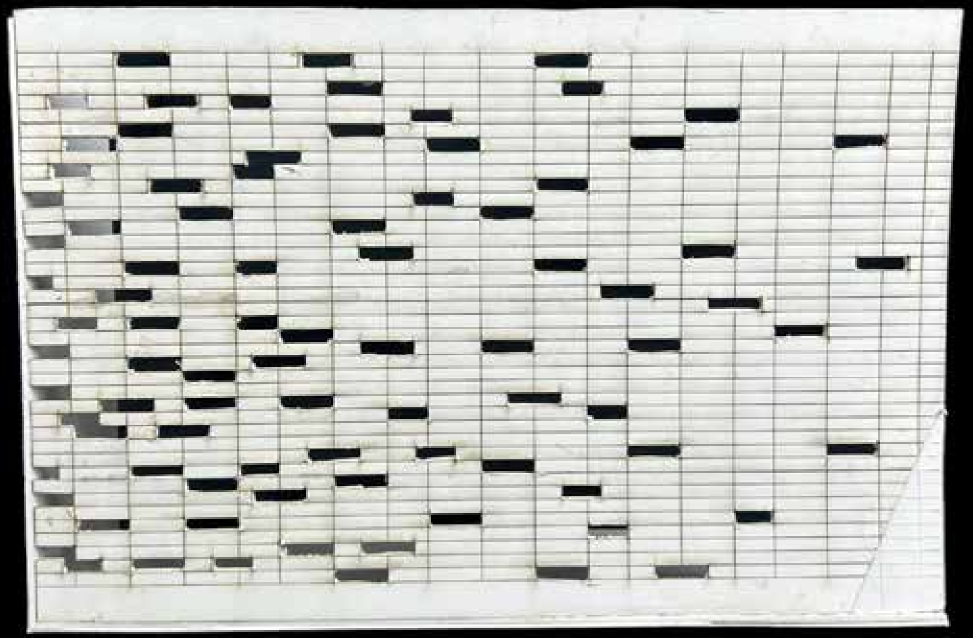
1/8 = 1'



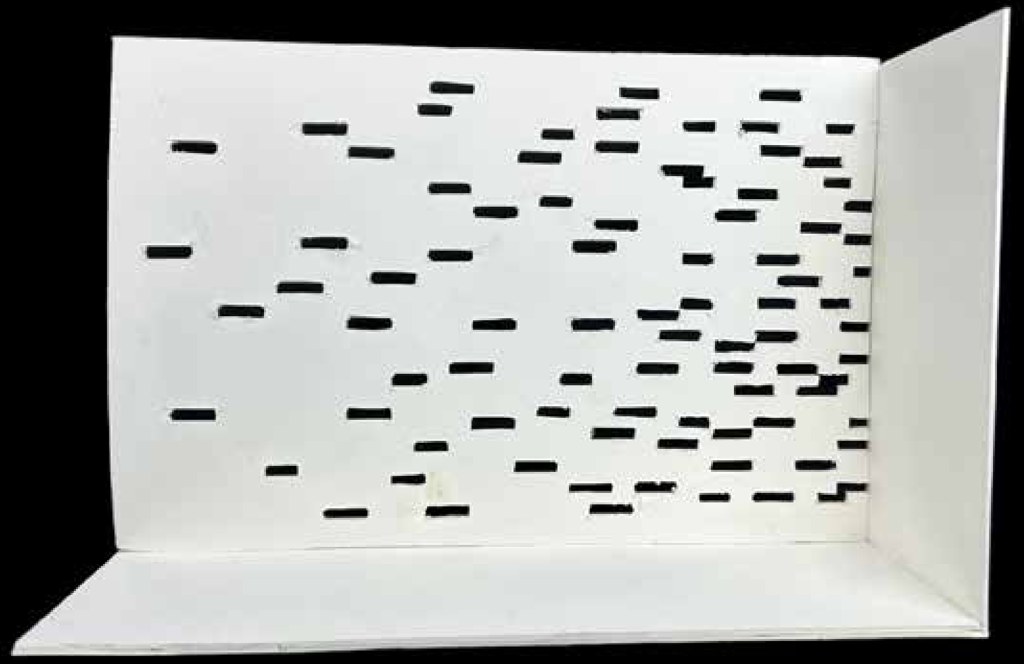
1/8 = 1'



1/8 = 1'



1/2 = 1'



Arch 301 **INTEGRATED DESIGN**
Professional Studies FALL 2023

DESIGN PROJECT – ASSIGNMENT A4

CO-INSTRUCTOR REVIEWS: STRUCTURAL, MECHANICAL, AND FAÇADE SYSTEMS

Time: scheduled over 4 weeks post-Midterm/ MEP starts week 4
Dates : 10/23/2023 to 11/16/2023 (date determined by faculty)
Format: teams of two

As referenced at the beginning of the syllabus, the third–year design studio experience grants access to professional co-instructors. One-on-one, in-studio reviews establish a consistent competency across all sections. Each co-instructor group will present an in-person/online lecture structured around system strategies applicable to the studio project and site. This interaction between the architect and the specialty engineer is typical in practice and experienced within the studio context. The consultant reviews, and discussion is a complex application of the building design process. Additional instruction regarding Liife Safety, Egress, and Accessibility requirements will be provided by the section instructor.

INSTRUCTIONS:

Review notes from the in-person and online lectures viewed before the midterm from the Mechanical, Structural, and Façade systems. The assignment requires students to focus on the systems integration into the design. The process may begin through models to study the 3dimentionality of systems; however, drawings convey the technical and construction which communicate the design intention onsite. With that said, each structural, mechanical, and façade consultant will visit the studio twice (A4.1 & A4.2, respectively). For the consultant visits, we highly recommended that teams print drawings for mark-ups and sketching. The detailed scale drawings and technical notations within the plans, sections, and elevations are developed.

CONSIDERATIONS FOR INTEGRATION

* Plans: Location for MEP basement rooms, location of chases, FCUs, structural grid
* Sections: Ceiling heights & Dropped ceiling for heat pumps, ducts & pipe, structural beams/transfer,
* Elevations – Material system: rain screen panel system, sun control, glass, rails, vent screens
  elevator/stair/cooling tower penthouses
* Circulation – horizontal and vertical egress, ADA requirements, secondary communicating systems
* Structural Systems – columns/bearing walls, shear walls, slabs, transfer beams, truss.
* Mechanical Systems – wet walls, heating/cooling risers, FCU locations, storm water management, ventilation.
* Facade Systems – rain screen panel types, color, pattern logic, glass, and ventilation, photo-voltaic or
  solar thermal panel organization.

DEVELOPMENT OF SYSTEMS INTEGRATION:

The drawings for mark-up are at minimum,1/8”= 1’-0” for development. For presentation and template formate, the drawing can be reduced (1/16” = 1’-0”) to fit mulitiple plans on our standard Sheet size of **22” x 34”** (landscape orientation/ north arrow to to right)

A4 - Initial Integration - Structural, Mechanical, Facade Systems, and Life Safety Egress/ADA diagrams

4.1 Structural Systems
  4.1.1 Plan Drawings (cellar, ground, second, roof)
  4.1.2 Section Drawings – Roof or other Details
  4.1.3 Optional – Process diagrams, sketches, model photographs, etc
4.2 Mechanical Systems
  4.2.1 Plan Drawings (cellar, ground, second, roof)
  4.2.1 Mechanical - Storm Water/ Gray Water Management - section diagram
  4.2.2 Mechanical - GeoThermal Heating/Cooling Management - section diagram
  4.2.3 Optional – Process diagrams and sketches, etc.

4.3 Life Safety Egress and ADA (ground and second floor)
  4.3.1 Plan Drawings (ground, second) – Life Safety Egress
  4.3.2 Plan Drawings – ADA space of refuge, bathroom clearences, regulations
4.4 Facade Enclosure Systems
  4.4.1 Facade Elevations Process - Material studies & Mechanical Fresh Air Intake
  4.4.2 Façade Wall Section Details at 1/2” = 1’-0” or larger as requested by the instructor
  4.4.3 Optional – Process diagrams and sketches, etc.
4.5 **Arch 361 - Building Equipment**, the final boards demonstrate the course concepts' application to the students. Arch 301 Design Project (3 max)
4.6 **Arch 363 - Professional Practice**; Assignment from ‘ Initial Process of Design,’ Additional Services - Environmental Impact Statement

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A4.1.2: Structural Systems Section Drawings

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A4.2.1: Mechanical Systems Plan Drawings

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A4.2.2: Storm Water / Gray Water Mgmt. - Section Diagram

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ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A4.2.3: Geothermal Heating / Cooling Mgmt. - Section Diagram

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SC.5+6

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A4.3.1: Life Safety / Egresws - Plan Drawings (Ground / 2nd Floor)

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A4.4.2: Facade Wall Section Detail

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ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A4.4.3: Optional - Process Diagrams, Sketches, etc.

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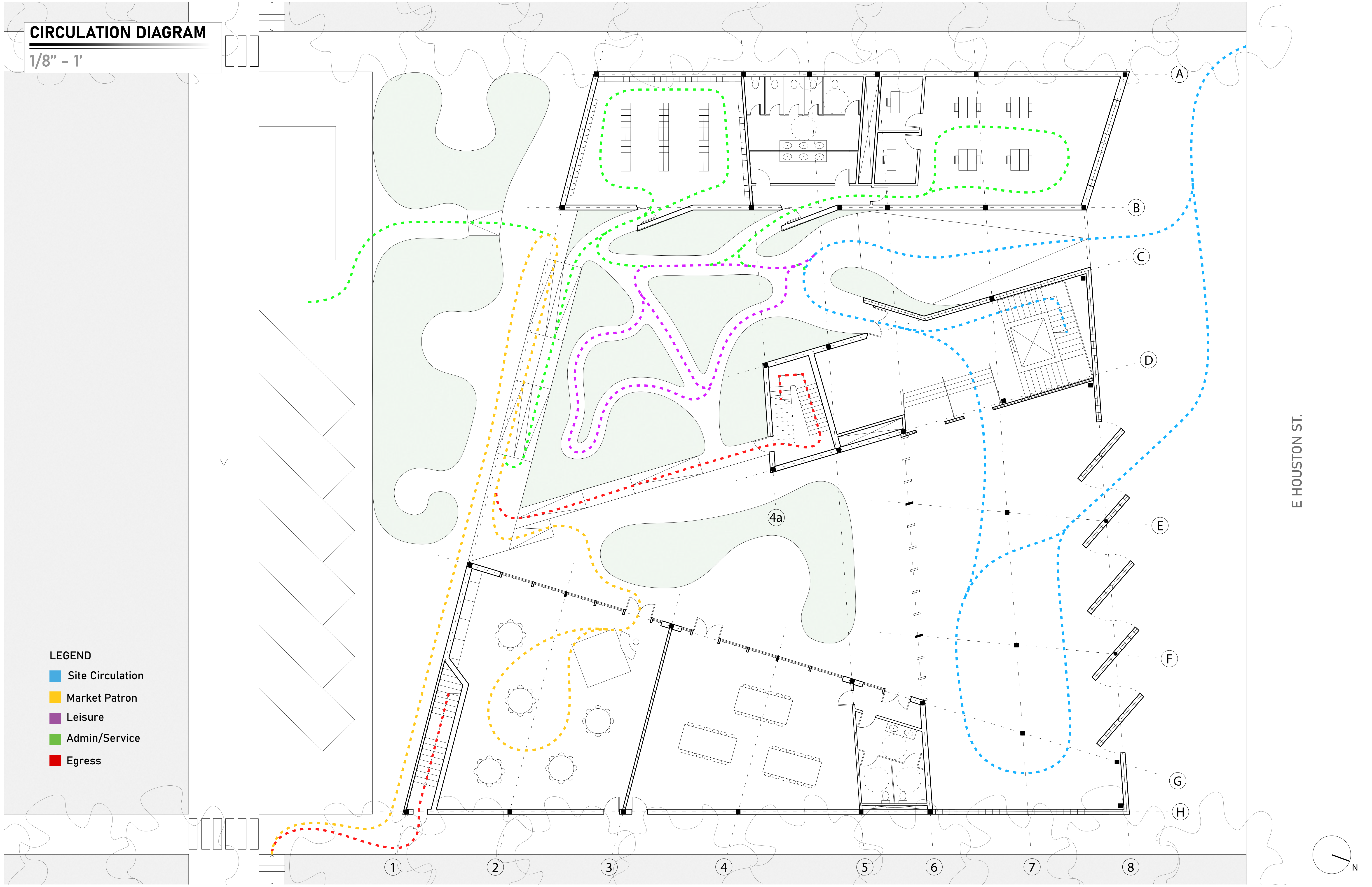
CIRCULATION DIAGRAM

1/8" - 1'



LEGEND

- 🟦 Site Circulation
- 🟨 Market Patron
- 🟪 Leisure
- 🟩 Admin/Service
- 🟥 Egress

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A4: Circulation Diagram

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FIRST FLOOR PLAN

1/8" - 1'

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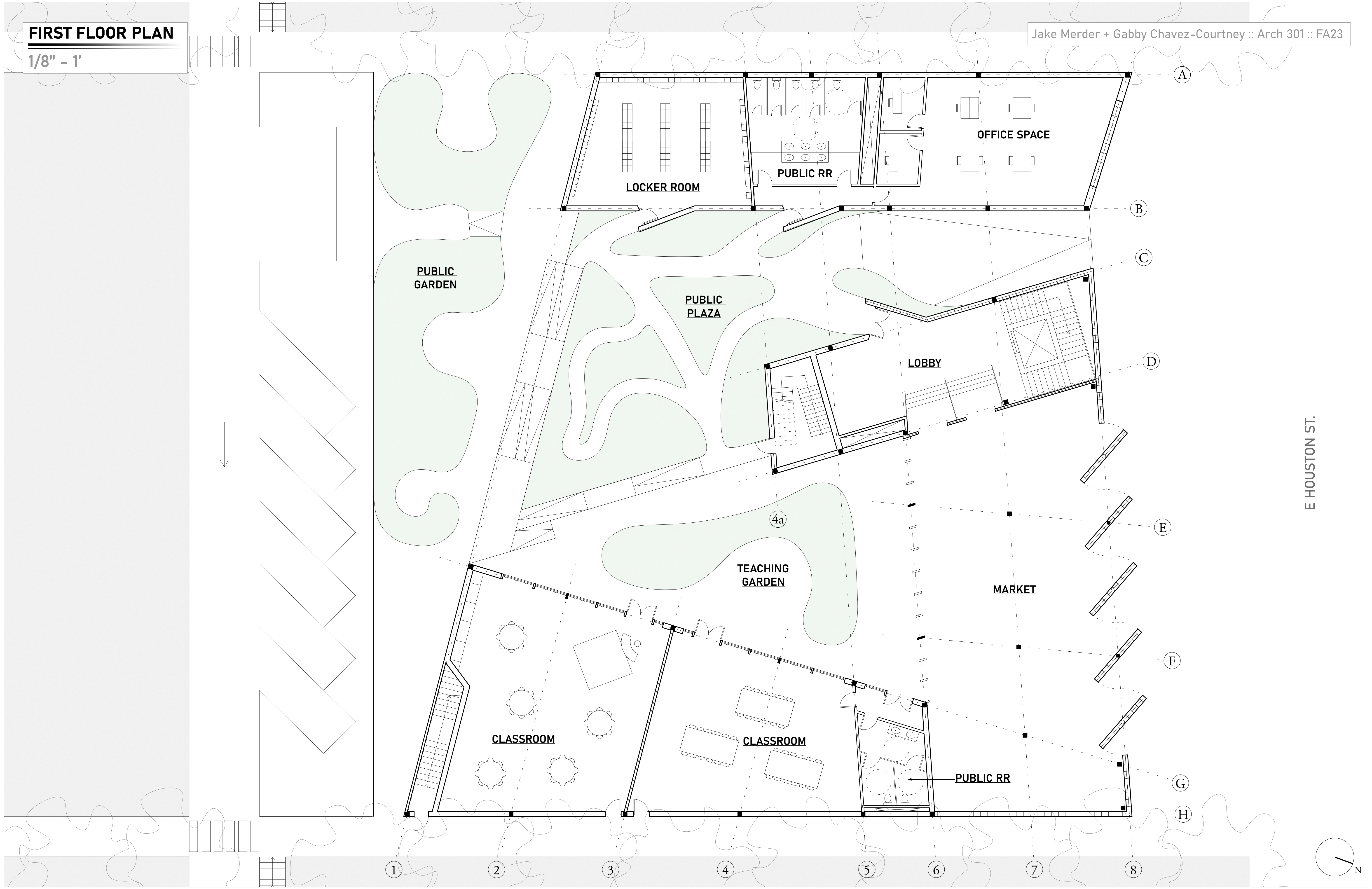

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A4: First Floor Plan Drawing

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SECOND FLOOR PLAN

1/8" - 1'

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake

A4: Second Floor Plan Drawing

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BASEMENT FLOOR PLAN

1/8" – 1'

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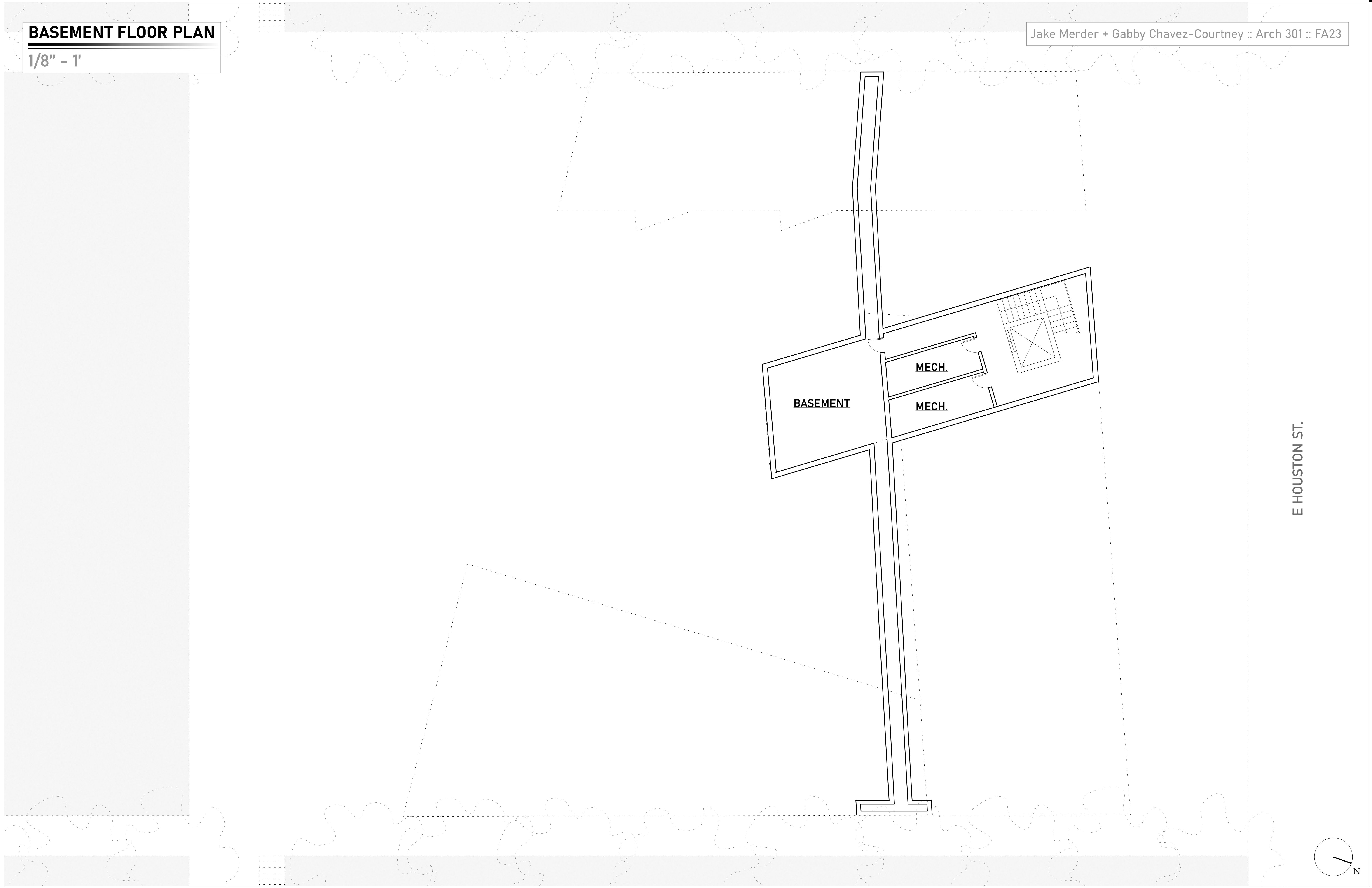

ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake

A4: Basement Level Drawing

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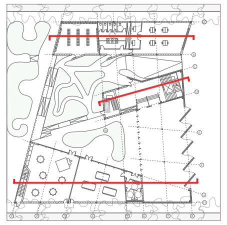
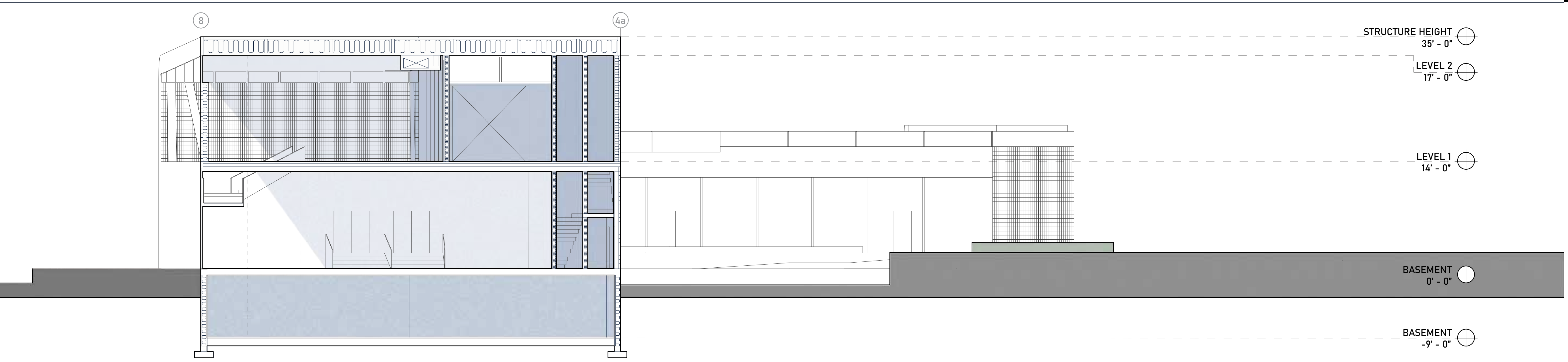
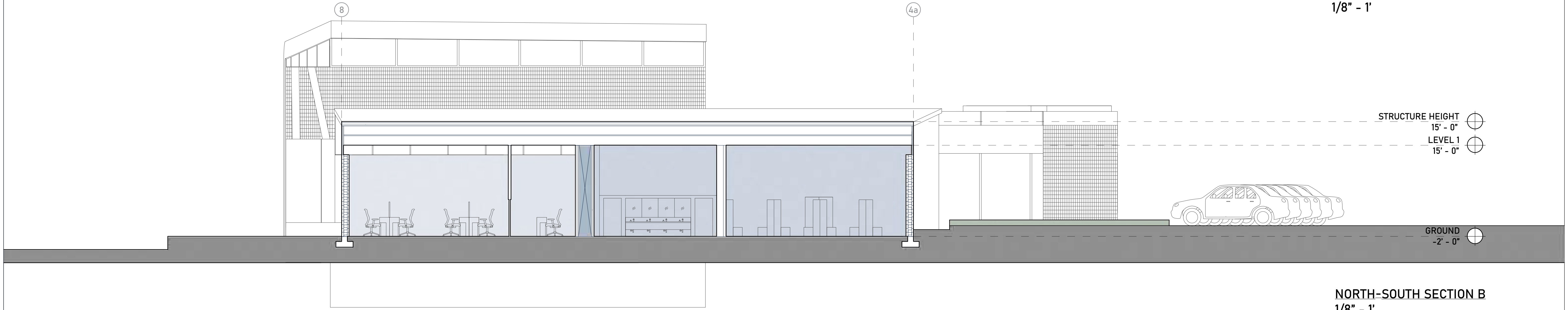
SECTIONS

1/8" - 1'

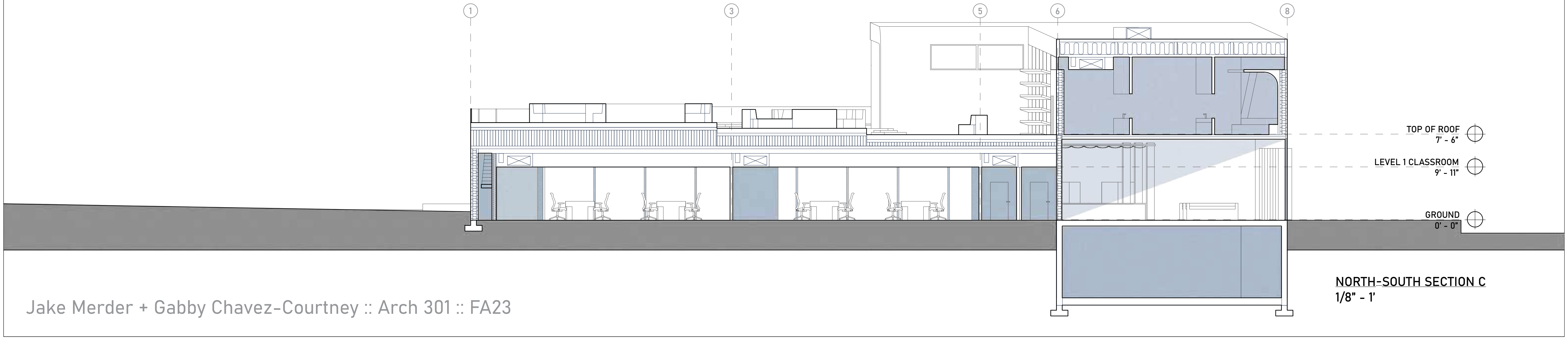




NORTH-SOUTH SECTION A
1/8" - 1'



NORTH-SOUTH SECTION B
1/8" - 1'



NORTH-SOUTH SECTION C
1/8" - 1'

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ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A4: Section Drawings

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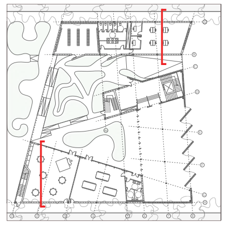
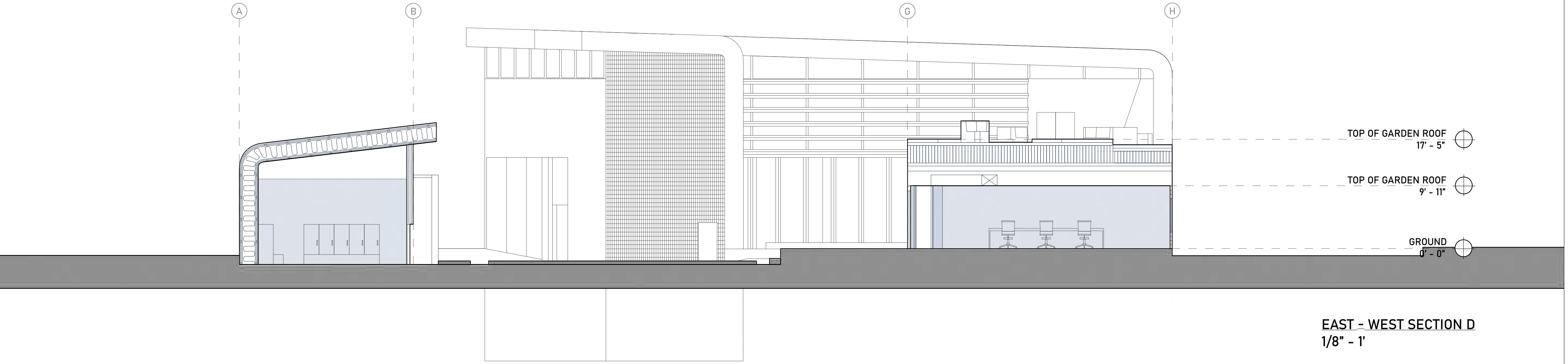
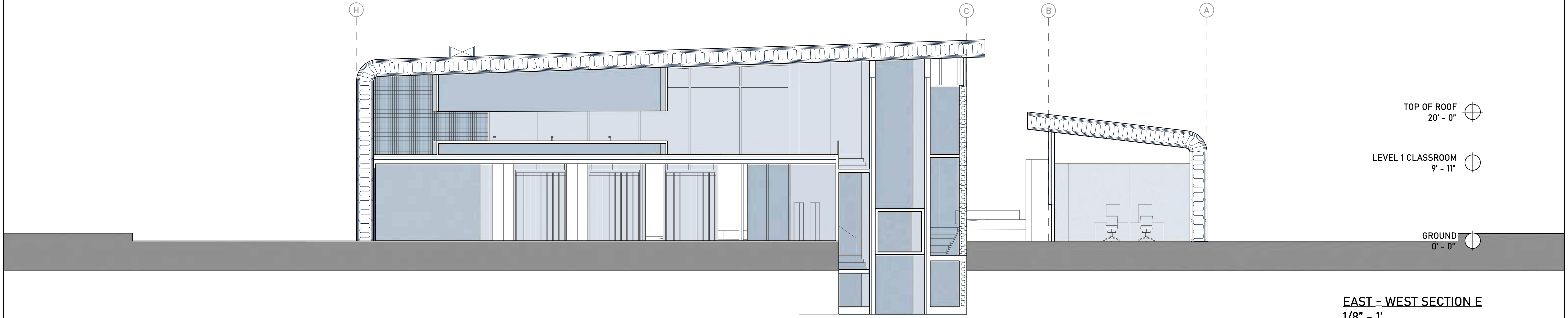
SECTIONS

1/16" - 1'





EAST - WEST SECTION D
1/8" - 1'



EAST - WEST SECTION E
1/8" - 1'

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A4: Section Drawings

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SITE PLAN

1/16" - 1'

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Development :: Integration

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A4: Site Drawing

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Final Facade, Canopy, & Kiosk Iterations

Facade Development Model
1/16" = 1'

Metal Canopy Final Interation
1/8" = 1'

Market Kiosk Final Iteration
3/4" = 1'

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A4: Model Development

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B1. LOCATION & CLIMATE ANALYSIS

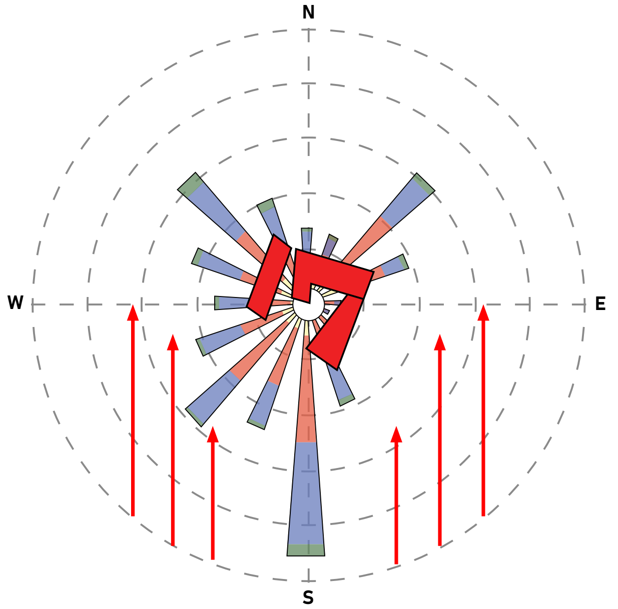
Sunpath Diagrams/Angles, Psychometric Chart, Wind Rose Diagram

CLIMATE REGION CHARACTERISTICS

Location: Sara D. Roosevelt Park, 100 Hester St, New York, NY 10002
- High summer temperatures coincide with high humidity
- +40% of the sunlight during daylight hours,
- Annual precipitation at 39in
- Milder in the winter &
- Cold winds

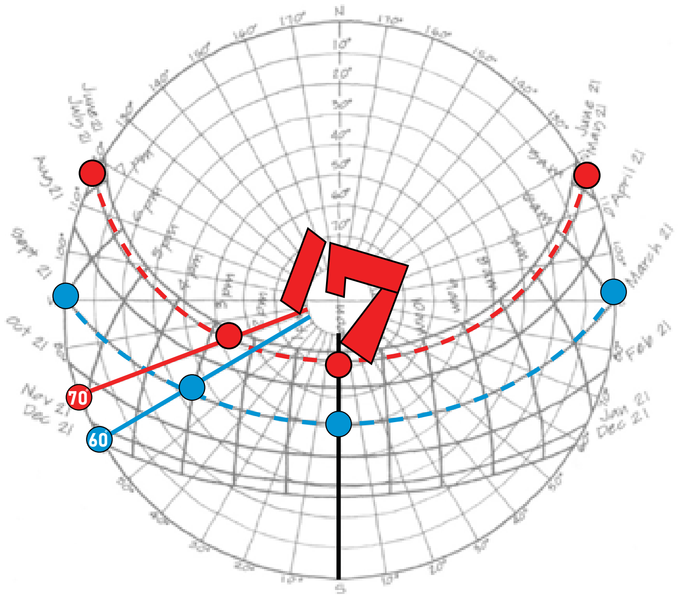
CLIMATE DESIGN PRIORITIES

1.) Keep heat in and cold temperatures out in the winter
2.) Protect from the cold winter winds
3.) Let the winter sun in
4.) Keep hot temperatures out during the summer
5.) Protect from the summer sun
6.) Use natural ventilation for summer cooling



Wind Rose Diagram, Wind Speeds, & Project Orientation

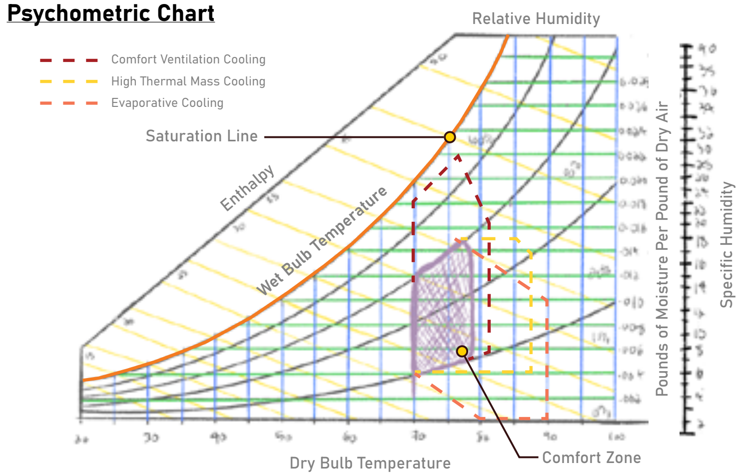
- 🟨 0 mph - 3 mph
- 🟦 15 mph - 19 mph
- → Wind Direction
- 🟥 9 mph - 13 mph
- 🟩 20 mph - 25mph



Warm and Hot Period Sun Diagram & Structure Orientation

- 🔴 Hot Period
- 🔵 Warm Period

Psychometric Chart



BUILDING SYSTEMS KEY

① GREEN WALL @ ADMIN & CLASSROOMS

② PHOTOVOLTAIC SYSTEM

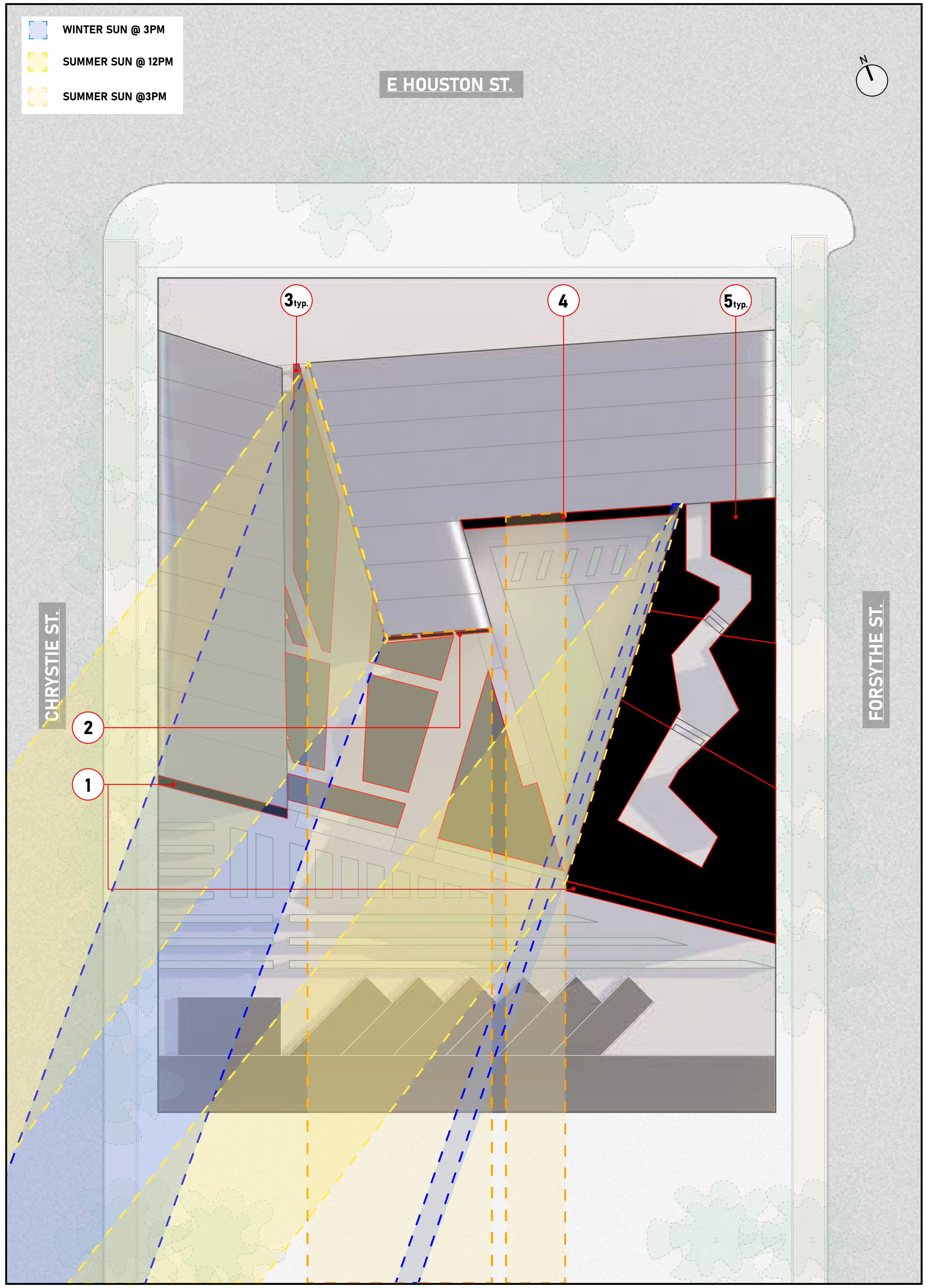
$3_{typ.}$ SuBD'S INTEGRATED IMPERVIOUS PAVERS

④ LOUVER SHADING SYSTEM @ EVENT FACADE

$5_{typ.}$ GARDEN ROOF ABOVE CLASSROOMS

COMMUNITY CENTER SITE PLAN @ 1/16 = 1'

Building Systems Locations



ARCH 361 - Building Environments_Merder, Jake
A4.5.1: Final Board 1

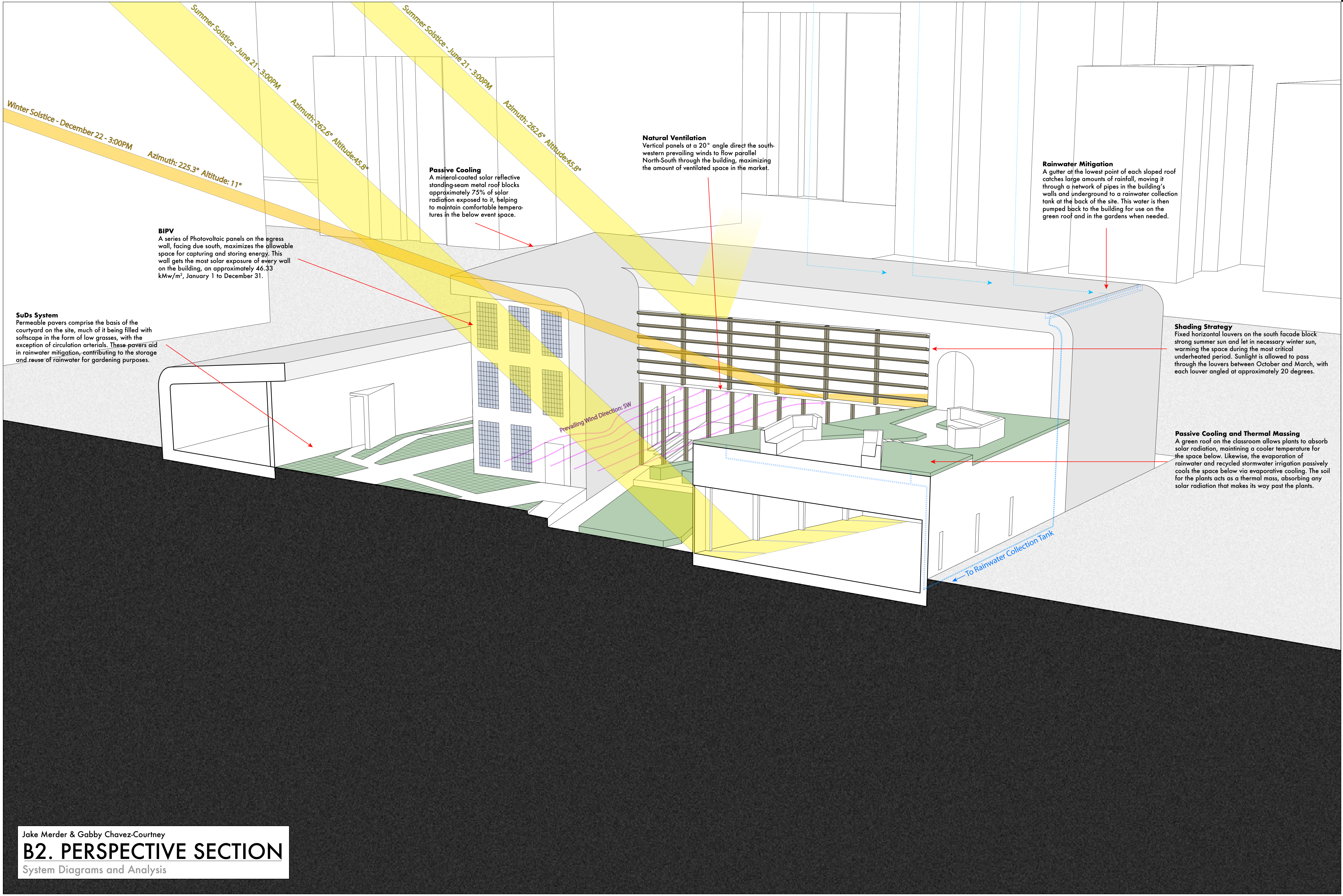
Undergraduate Architecture

SC.5+6

Jake Merder & Gabby Chavez-Courtney

B2. PERSPECTIVE SECTION

System Diagrams and Analysis



Passive Cooling
A mineral-coated solar reflective standing-seam metal roof blocks approximately 75% of solar radiation exposed to it, helping to maintain comfortable temperatures in the below event space.

Natural Ventilation
Vertical panels at a 20° angle direct the south-western prevailing winds to flow parallel North-South through the building, maximizing the amount of ventilated space in the market.

Rainwater Mitigation
A gutter at the lowest point of each sloped roof catches large amounts of rainfall, moving it through a network of pipes in the building’s walls and underground to a rainwater collection tank at the back of the site. This water is then pumped back to the building for use on the green roof and in the gardens when needed.

BIPV
A series of Photovoltaic panels on the egress wall, facing due south, maximizes the allowable space for capturing and storing energy. This wall gets the most solar exposure of every wall on the building, an approximately 46.33 kMw/m², January 1 to December 31.

SuDs System
Permeable pavers comprise the basis of the courtyard on the site, much of it being filled with softscape in the form of low grasses, with the exception of circulation arterials. These pavers aid in rainwater mitigation, contributing to the storage and reuse of rainwater for gardening purposes.

Shading Strategy
Fixed horizontal louvers on the south facade block strong summer sun and let in necessary winter sun, warming the space during the most critical underheated period. Sunlight is allowed to pass through the louvers between October and March, with each louver angled at approximately 20 degrees.

Passive Cooling and Thermal Massing
A green roof on the classroom allows plants to absorb solar radiation, maintining a cooler temperature for the space below. Likewise, the evaporation of rainwater and recycled stormwater irrigation passively cools the space below via evaporative cooling. The soil for the plants acts as a thermal mass, absorbing any solar radiation that makes its way past the plants.

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A4.5.2: Final Board 2

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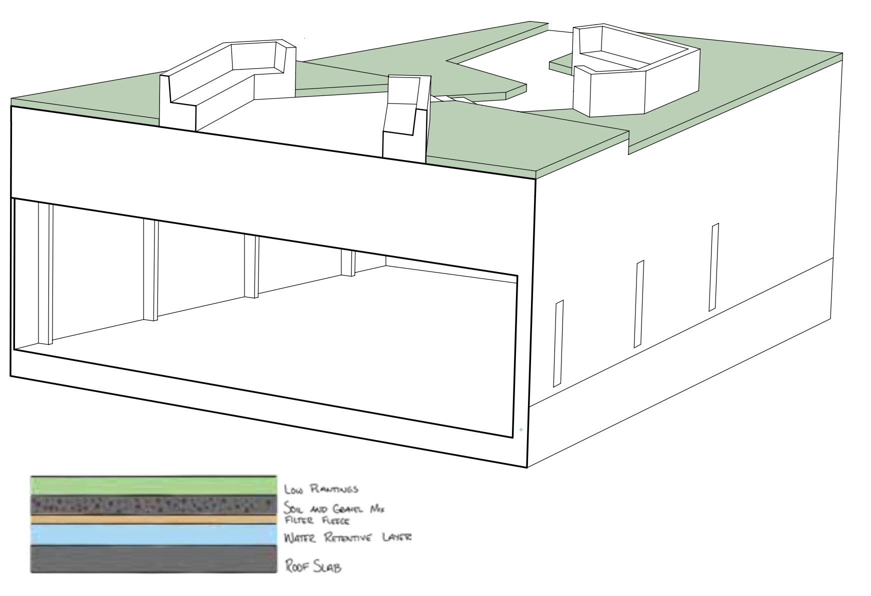
B3. MARKET PROJECT SYSTEM VIGNETTES

Passive Solar, Active Solar, Shading Systems, Passive Cooling, Daylighting Systems, SuDS Systems

PASSIVE SOLAR (DIRECT & INDIRECT)

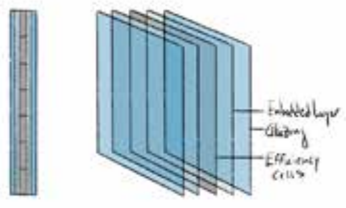


Passive Solar: This drawing takes a closer look, in section, of the green roof system above the classrooms. This system works passively to cool the space below, which aids in a homeostasis. When the rooftop is exposed to solar radiation, the plant cover works to absorb it for photosynthesis, which reduces the amount of radiation the roof itself is directly exposed to. Moreover, the soil supporting the plants acts as a thermal mass, blocking the radiation that makes its way past the vegetation. In addition to these processes, water on the roof that is used to support plant life cools the building below when it evaporates. this process is known

ACTIVE SOLAR

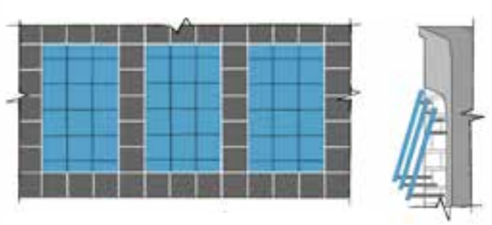
Active Solar / PV

Building Integrated PV Systems

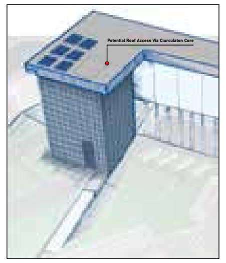


Solar Cell + Glazing System

Solar Cell + Glazing System + Polycarbonate Panels



Second Floor Glazing In Plan

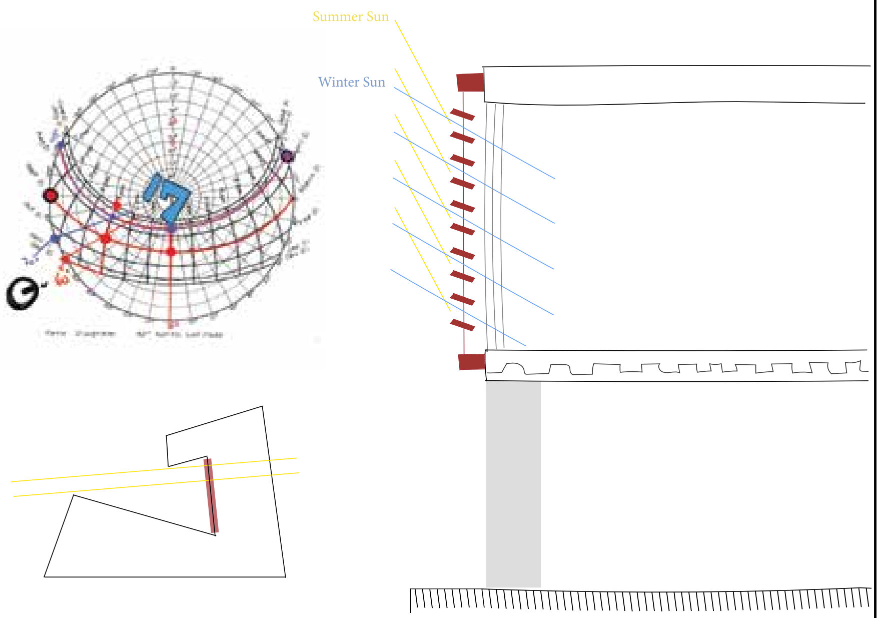


Solar Cell + Glazing System Roof Location

Solar Cell + Glazing System South Facing Wall

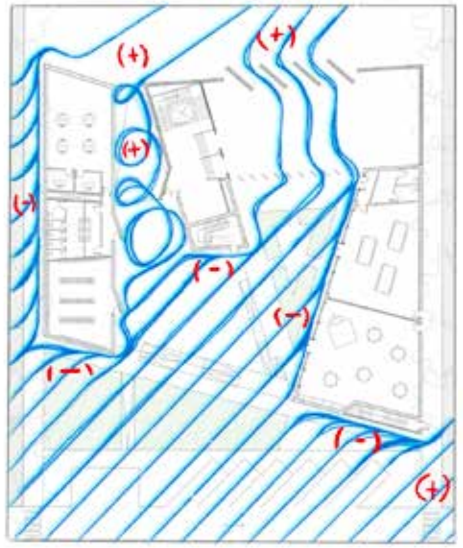
Active Solar: Through various sun studies, the south-facing egress wall was optimal for the integration of a Photovoltaic system. As such, the sun can be utilized to power small building functions such as mechanical ventilation, irrigation, and emergency systems. Grasshopper studies of the site estimate around 46kWh/m^2 of panel on this wall, which is close to double the average energy usage in a 24-hour period for a family of 4 in the United States. This site will require more energy than that to function, however small services can be allocated to solar use, contributing to a lower energy consumption. This wall was carefully chosen through a series of sun path diagrams and shadow studies as well.

SHADING SYSTEMS



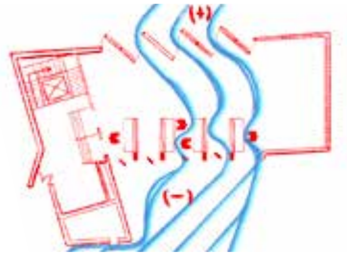
Shading Systems: This drawing takes a look at the site as placed on a sun path diagram in order to determine which facades require a shading system. Due to the nature and intent of the materiality onsite, only the south-facing event window wall required a louver system. The louvers were placed horizontally and at a 20° tilt in order to maximize winter solar intake and block summer solar radiation. This allows for adequate temperature regulation in the large-capacity event space and makes it suitable for use year-round. Despite also being a window wall, a shading system for the west-facing classroom wall was deemed unnecessary as its angle in plan is effective in blocking solar radation for a majority of the day, no matter the time of year. It peaks in solar radiation in the summer months at 3PM, before being shaded around 5PM.

PASSIVE COOLING: WIND PATHS

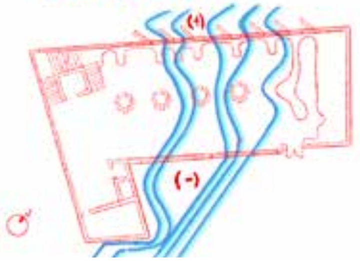


South to North Wind Flow Across the Project Site

🟥+ Positive Pressure 🟥− Negative Pressure



Wind Flow Through The Market

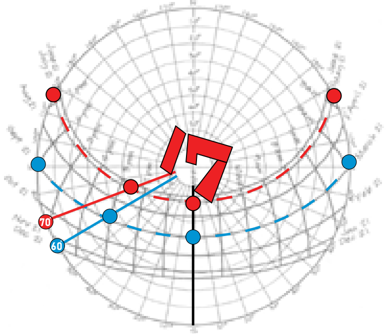


Wind Flow Through The Event Space

Wind Flow Diagram: This drawing specifies the winds paths across the site as they come from the south and move throughout the outdoor courtyard space, and through the building. Through this Diagram we can visualize the negative and positive pressures of leeward and wayward winds against building surfaces and entrances.

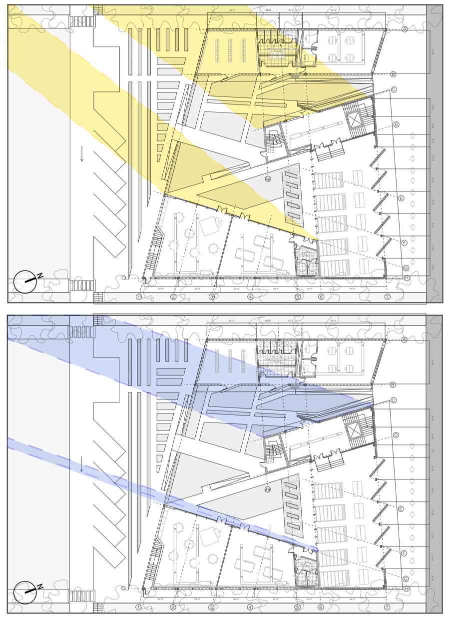
Event & Market Space Wind Flow: Taking a closer look at out main program moments, one can understand the effects of natural ventilation happening within the market space as there are rotating doors and an open facade allowing for wind flow through space. At the event space, wind flow and natural ventilation can occur through operable louvers and a clerestory window.

DAYLIGHTING SYSTEMS



Warm and Hot Period Sun Diagram & Structure Orientation

● Hot Period ● Warm Period

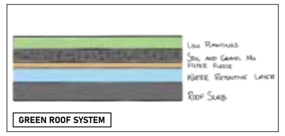


🟦 WINTER SUN @ 3PM 🟨 SUMMER SUN @3PM

Sun Diagram: Through the sun diagram we can begin to understand how sun angles at different times of the year begin to interact with the overall projects and site. Within this diagram, we are identifying the over and underheated times of the year, and thee angles aat which the sun is interating with the projects south facing facades.

Site Sun Paths: Taking the angles from the sun diagram, sun paths can be plotted upon the project site plane. Through these sunpath projections we can firther identify how the sun will interact with the facade. Through this analysis we slected additional achitectural techniques to work alongside daylighting. That of which are louvers and sun shelves at the southern facades.

SUSTAINABLE URBAN DRAINAGE SYSTEMS



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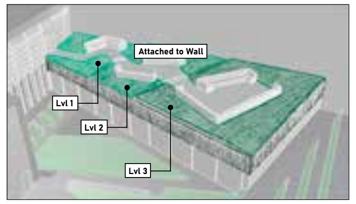

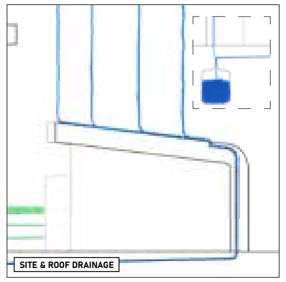

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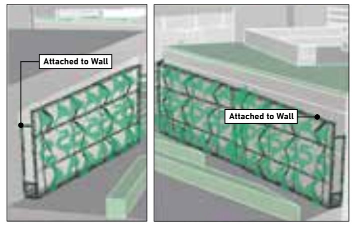

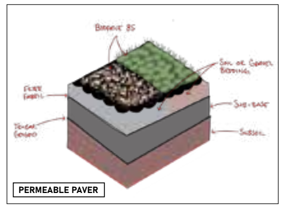

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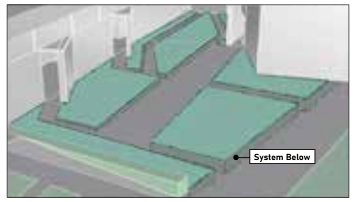

Green Roof System: The Green Roof above the classrooms is an extensive system that is at 6inches to accomdate low level vegitation. This system will bee used for storm water management for the project.

Permeable Paver: The permeable pavement utilizes a below ground system similar to that of a green roof. This system is utilized across the site, and there are several different sized permeable Pavements.

Site Drainage System: The drainage system on our site is primarily influenced by the sloping of our roof structures. A seam just before the bend on the lower portion of each roof, houses a gutter to catch rainwater and carries it down the facade wall, and across the site to a rainwater collection tank.

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A4.5.3: Final Board 3

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Environmental Impact Statement

Socioeconomic Effects

The proposed site sits as a connection between the disparate socioeconomic landscapes of the Lower East Side and Soho/Greenwich in Manhattan. These two areas present a clear picture of the city's economic divide, with the Lower East Side embodying a history engulfed with economic challenges and currently housing some of Manhattan's lowest-income residents. On the contrary, Soho stands as a testament to affluence, characterized by higher wealth properties and significantly lower poverty rates.

The vision for this site is not merely physical development but a conscientious effort to knit together these opposing socio-economic fabrics, fostering a community that is inclusive, aware, and reflective of the diversity inherent in the broader city. This development seeks to educate and create awareness about the socio-economic challenges faced by many in the area. Further, the site is envisioned to be a vibrant hub of opportunities, especially for local gardeners and artists. This initiative is grounded in the recognition of the transformative power of opportunity and the imperative need to ensure that it is equitably accessible to all, irrespective of their economic standing.

By opening avenues for local gardeners, the development not only supports sustainable and locally sourced farming practices, but also provides a more stable source of income to individuals who have been economically marginalized. Artists will find in this site a “canvas” and a “stage,” a space where their art can speak, be seen, and be responded to. It is a gesture towards acknowledging, valuing, and supporting the creative expressions of artists from different economic strata, offering them a platform where their work can be showcased and appreciated by a diverse audience.

In essence, the proposed site is intended to be more than just a physical space. It aspires to be a dynamic and living link of community interaction and support, a place where socio-economic divides are acknowledged, challenged, and bridged. Through intentional design and planning, it seeks to weave together a community that is socially aware, economically inclusive, and committed to fostering opportunities for all its members, thereby contributing positively to the environmental, economic, and social sustainability of the area. The environmental impact of this development, therefore, transcends the physical and extends into the realms of social justice, economic equity, and community well-being, marking it as a project of significant and positive impact.

DESIGN PROJECT – ASSIGNMENT 5 (A5)

BUILDING INTEGRATION – FRESH FOOD MARKET AND COMMUNITY LEARNING CENTER

Time: scheduled over 5.5 weeks
Issue Date: 10/23/2023 to 11/30/2023
Due Date: Week of 12/4-12/8 – to be determined.
Format: teams of two

INSTRUCTIONS

Develop the work done in the previous assignments to create an integrated architectural solution for the **Fresh Food Market and Learning Center**. Student teams should work across multiple scales to demonstrate that the building uses suitable environmental stewardship systems and principles that support the concept while refining the project argument. The post-midterm sequence allows the design integration to commence while working with the consultants in Structural, Mechanical, and façade; the design critic will work with students to help evaluate decisions and provide relevant information to inform the decision-making and implementation process.

CONSIDERATIONS

Students should evaluate different systems and analyze them to identify the effectiveness of the design variable parts as we integrate all factors into a cohesive project whole. Successful projects will demonstrate their ability to make design decisions within a complex architectural project. At the same time, it proves broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

FINAL PRESENTATION REQUIREMENTS – A5 **Due Final Design Week**

REQUIRED MATERIALS FOR THE SEMESTER

Curate the work produced during the semester in a coherent, legible manner. Include work from A1- A4, specifically the User Group assignment in A1. Previously submitted elements should be revised based on previous reviews and incorporated within the final review presentation. The final submission includes new requirements; see below.
Note: The number of drawings is to be reviewed with your instructor; however, the final drawings need to represent the full intention of the final design of the project team designers.

REQUIRED DELIVERABLES

All Drawings: sheet size **22” x 34”** horizontal orientation. East Houston (or North) to face the sheet's right side and align with the sheet edge (no angle). Including streets Chrystie and Forsyth.

Site Scale:
Site Design – (including the following information - zoning, grading, hardscape/ softscape, parking, access)
Roof Plan and Sections (min 2) 1/16” = 1’-0”

Building scale:
Plans – Notes: all plans are required to integrate the systems: structural grids and mechanical shafts/plumbing walls.
Cellar Plan 1/8” = 1’-0”
Note: Integrate the structural footing information + Notes and MEP notes for equipment room + titles
Ground Floor (with applicable site info) 1/8” = 1’-0”
Second Floor, including a partial 3rd 1/8” = 1’-0”

Sections – (minimum of three) Notes: All studio sections are required to integrate the systems: structural height indicators and, mechanical shafts & dropped ceilings.
Two to address the project Concept 1/8” = 1’-0”
One through vertical circulatory system 1/8” = 1’-0”

Elevations – include material coloration, panel types (rain screen, glass, rails)
Notes: All elevations are required to integrate the systems: structural height indicators
All four Elevations 1/8” = 1’-0”

Detail Scale: roof parapet to façade wall detail, façade wall to typical floor detail, and façade wall to ground/ footing detail - Structural, Façade, and MEP systems integration.

Required:1) Wall Section Detail with technical information: 1/2” =1’-0” (or larger)

Plus, one additional drawing or model type is listed below - select **one** of the following:
1a) Rendered Partial Elevations and Sections 1/2" = 1’-0” (or larger)
1b) Isometric of Partial Elevation and Section 1/2” = 1’-0” (or larger)
1c) Model of Partial Building Section 1/2” = 1’-0” (or larger)

Models:
Site Model for Context Model 1/16” = 1’-0” (study model or midterm model)
Entire Building 1/8” = 1’-0”

Perspectives Renderings (each image to print at 11”x17” min / 4 images min.)
- One Aerial View (day or night)
- Two exterior views with context from the street
- One interior view (variable)

Required Systems Drawings/Diagrams: 1/16” = 1’-0”
a) Structural Systems – Plans to include column grids, framing, bearing walls, lateral bracing, and roof system.
b) Mechanical Systems – passive ventilation, heat pump systems, rainwater collection, PV or ST panels. Indicate the building areas that are Conditioned vs. Unconditioned (inside, unconditioned, and outside).
c) Life Safety Diagrams – Egress and ADA Access/Egress
d) Plumbing Riser Diagram – internal plumbing, roof drainage systems

Written Design Statement - 1-page abstract of critical concepts

Optional
Any additional modes of presentation are at the discretion of the studio instructor.

SITE PLAN

1/16" = 1'

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THE CROSSROADS COMMUNITY CENTER :: FINAL DEVELOPMENT

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake

A5.1.1: Site Plan

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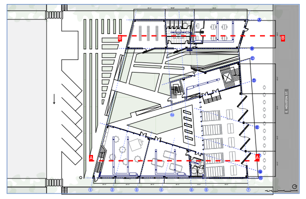
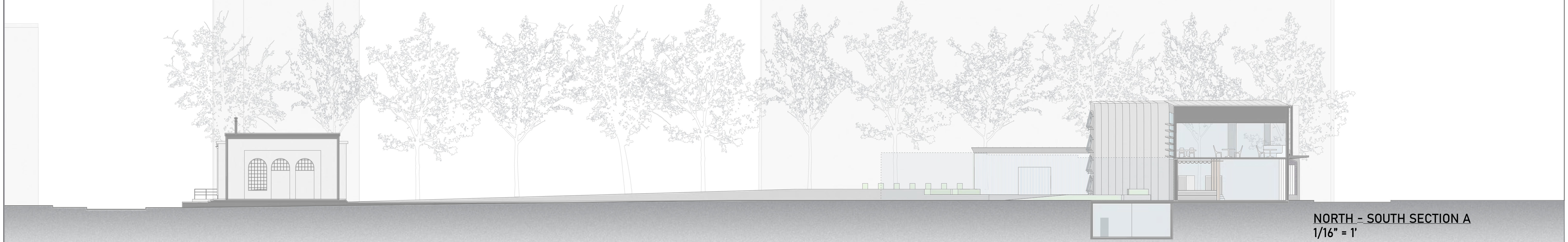
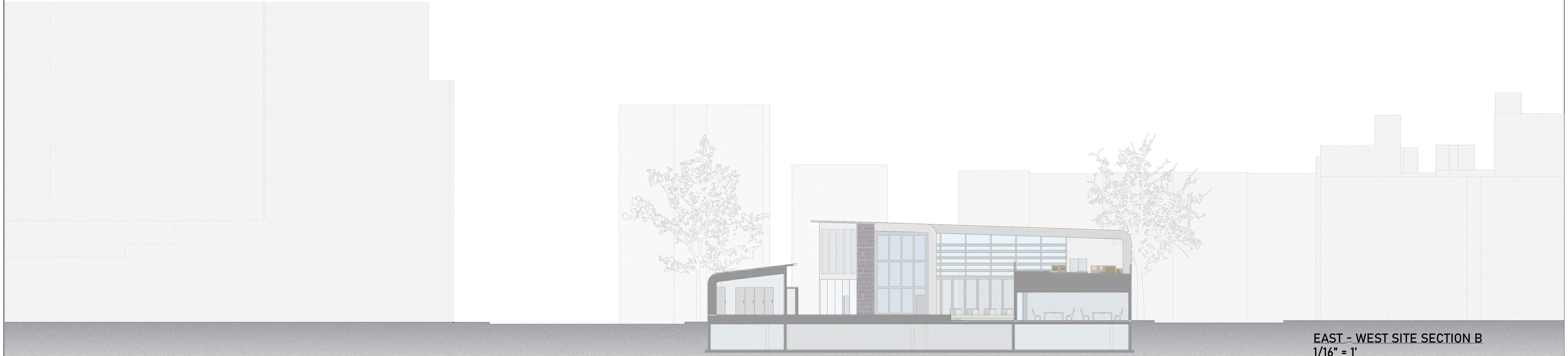
SITE SECTION

1/16" = 1'





NORTH - SOUTH SECTION A
1/16" = 1'



EAST - WEST SITE SECTION B
1/16" = 1'

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ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A5.1.2: Site Sections / Elevations

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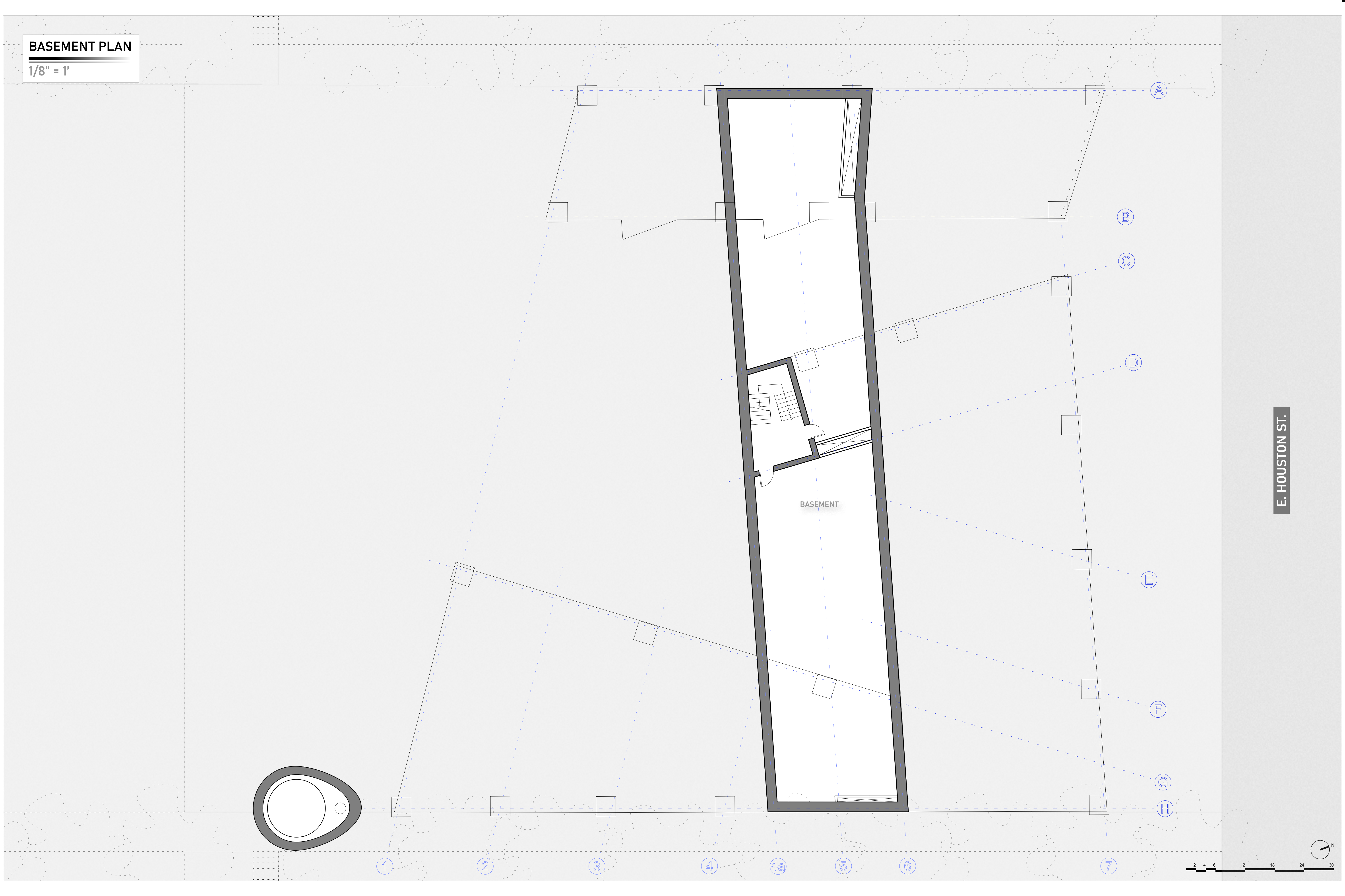
BASEMENT PLAN

1/8" = 1'



ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake

A5.2.1: Cellar Plan (if provided)

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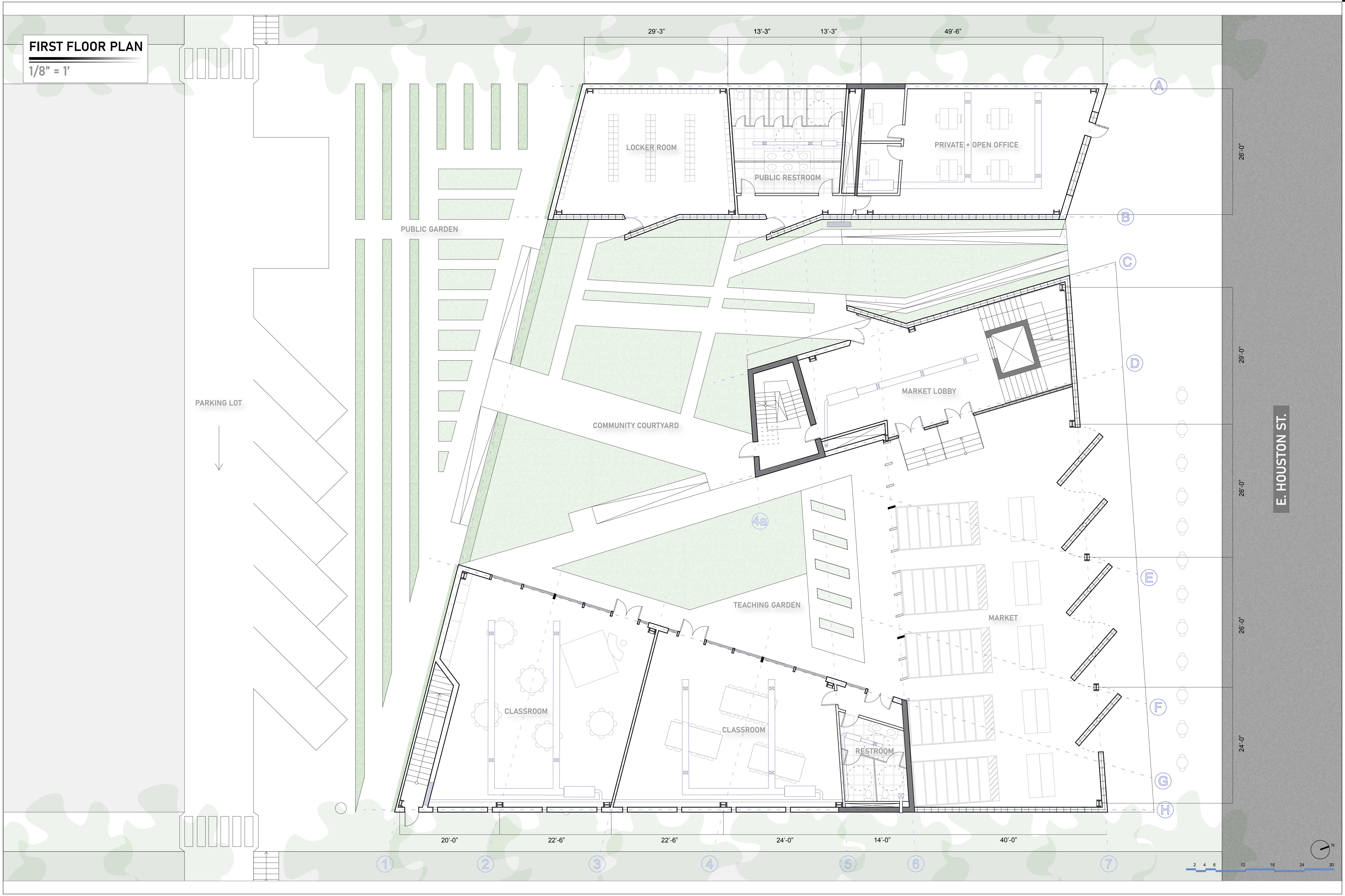
FIRST FLOOR PLAN

1/8" = 1'



ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake

A5.2.2: Ground Floor Plan

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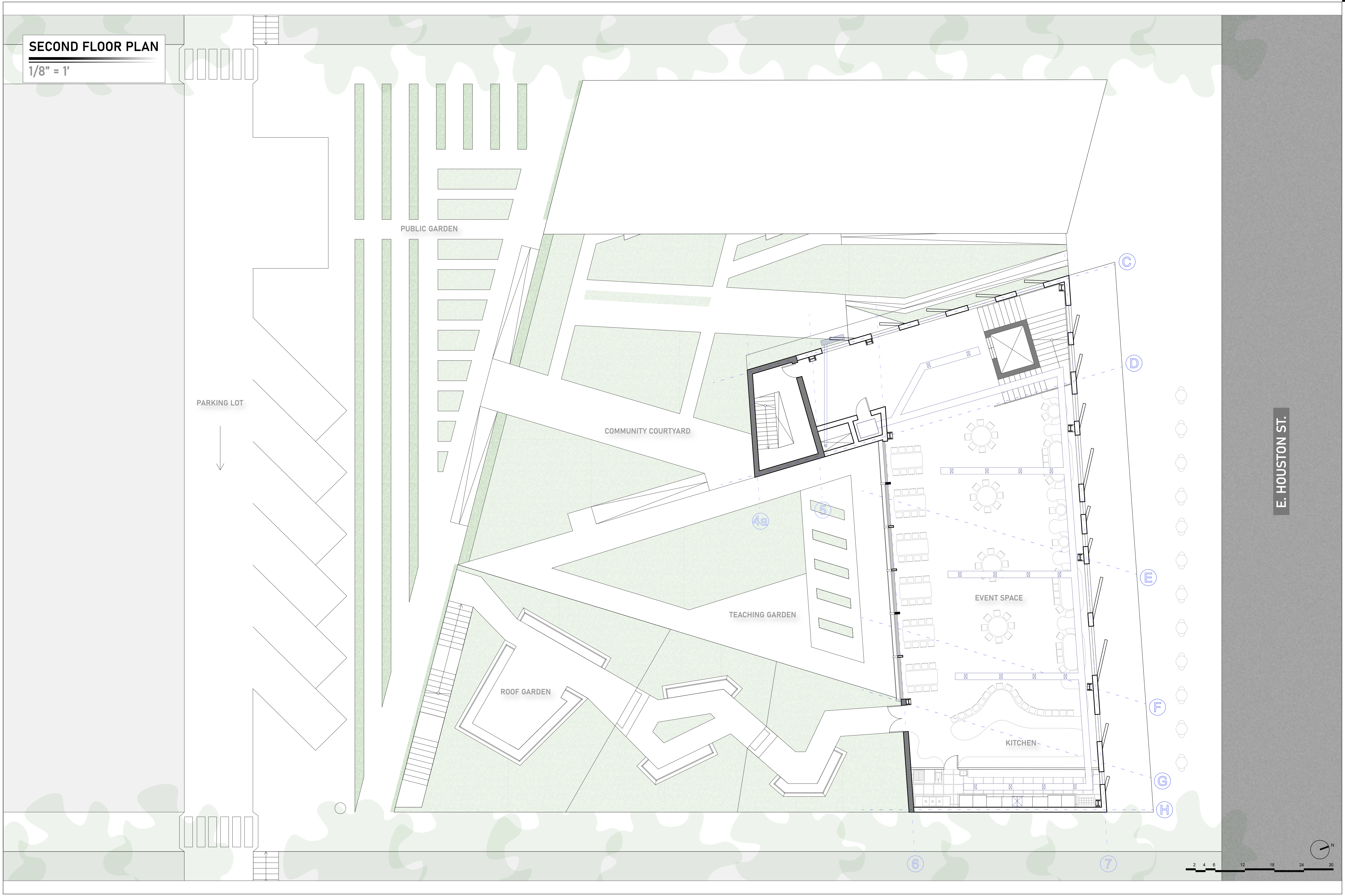
SECOND FLOOR PLAN

1/8" = 1'



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A5.2.3: Second Floor Plan

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ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A5.2.4: Roof Plan

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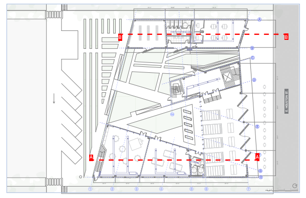
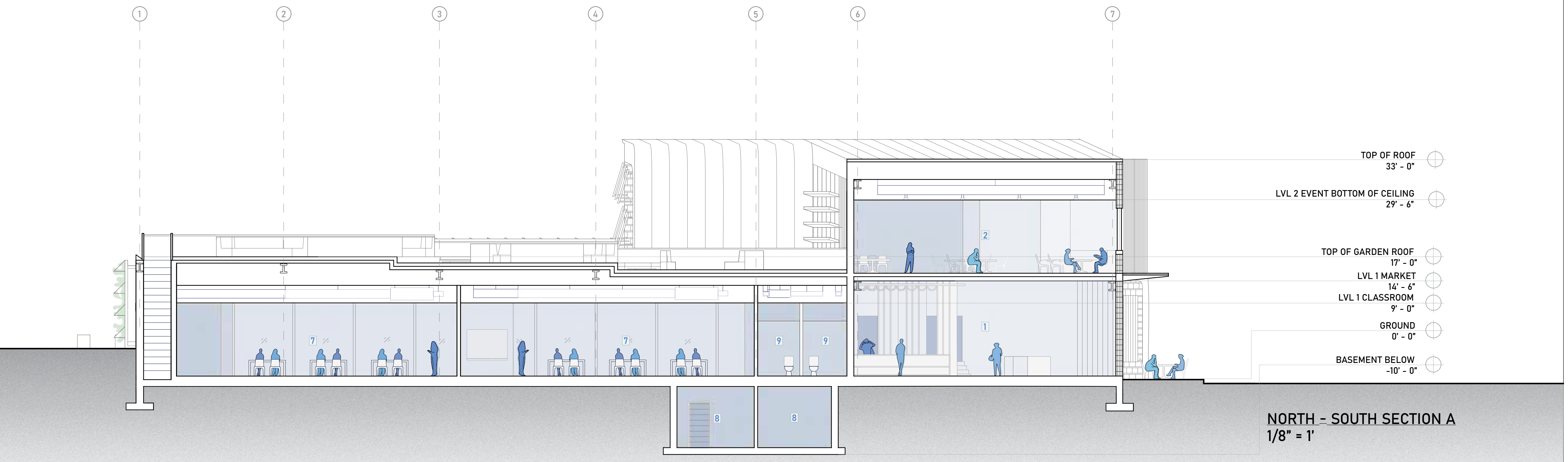
NORTH & SOUTH SECTIONS

1/8" = 1'

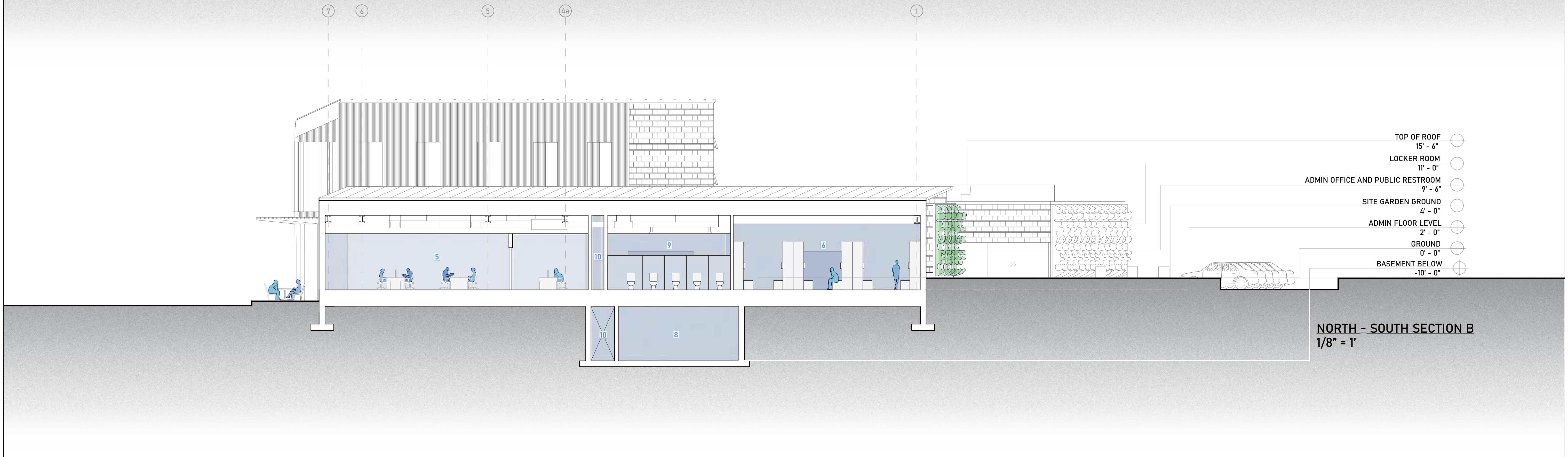
PROGRAM KEY

- 1 Market
- 2 Event
- 3 Kitchen
- 4 Elevator
- 5 Office
- 6 Locker Room
- 7 Classroom
- 8 Basement
- 9 Restrooms
- 10 Mech.





NORTH - SOUTH SECTION A
1/8" = 1'



NORTH - SOUTH SECTION B
1/8" = 1'

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ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A5.3.1: Longitudinal Section

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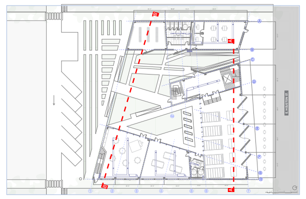
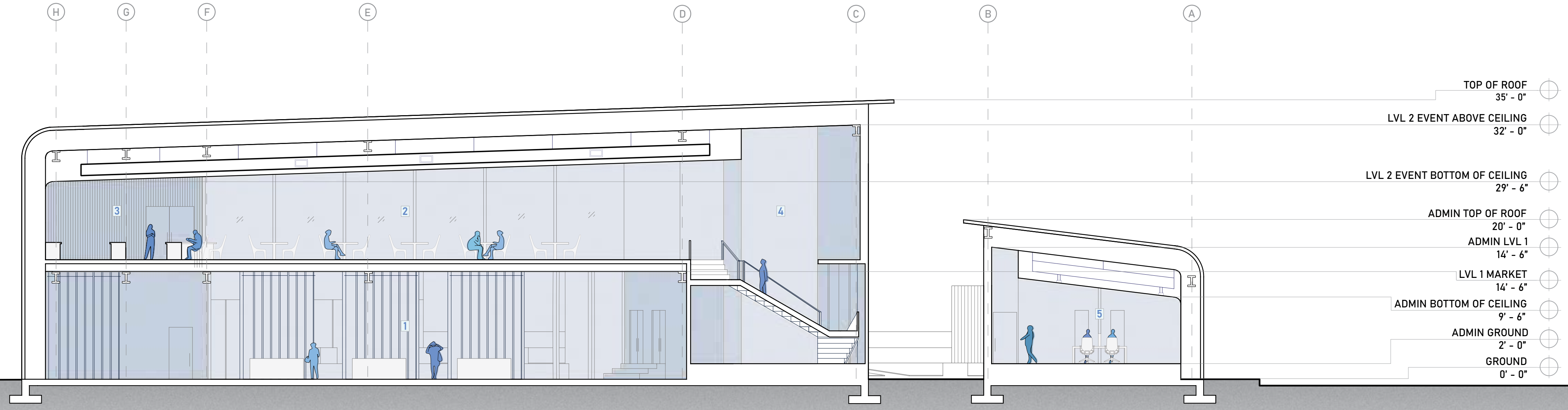
EAST & WEST SECTIONS

1/8" = 1'

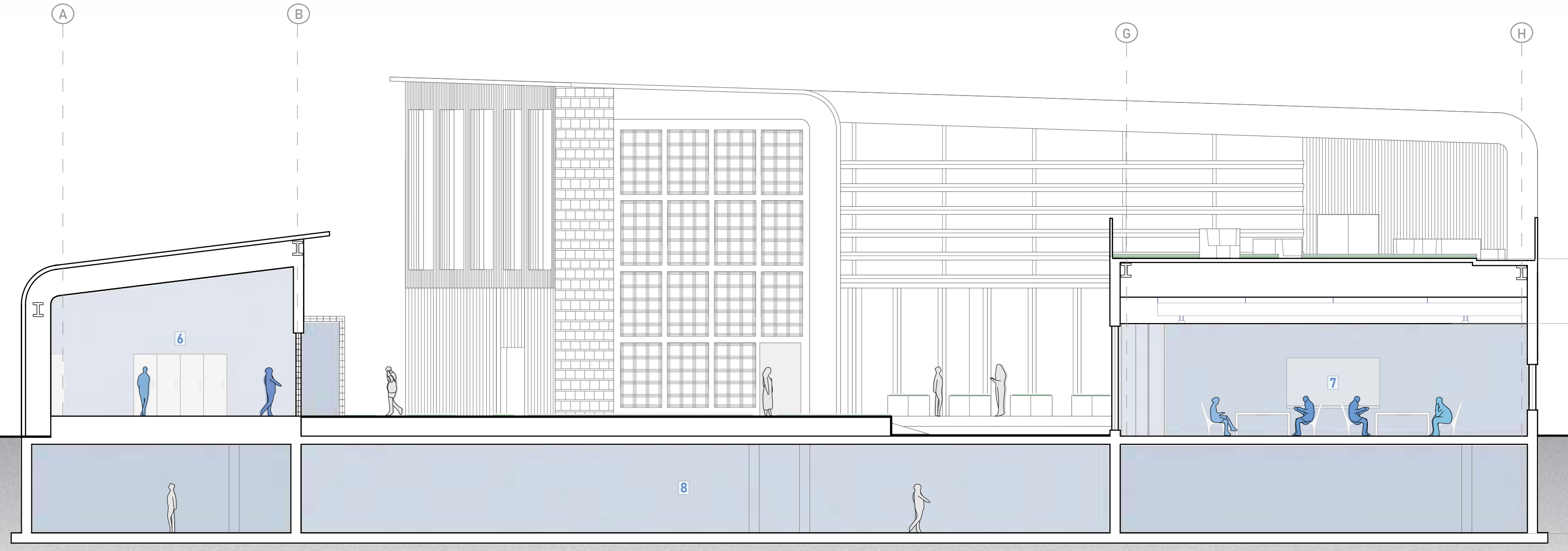
PROGRAM KEY

1 Market
2 Event
3 Kitchen
4 Elevator
5 Office
6 Locker Room
7 Classroom
8 Basement





EAST - WEST SECTION A
1/8" = 1'



EAST - WEST SECTION B
1/8" = 1'

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A5.3.2: Transverse Section

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Forsyth Elevation


E. Houston Elevation


Chrystie Elevation

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A5.4: Elevations

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A5.4.1: North Elevation

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A5.4.3: East Elevation

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A5.4.4: West Elevation

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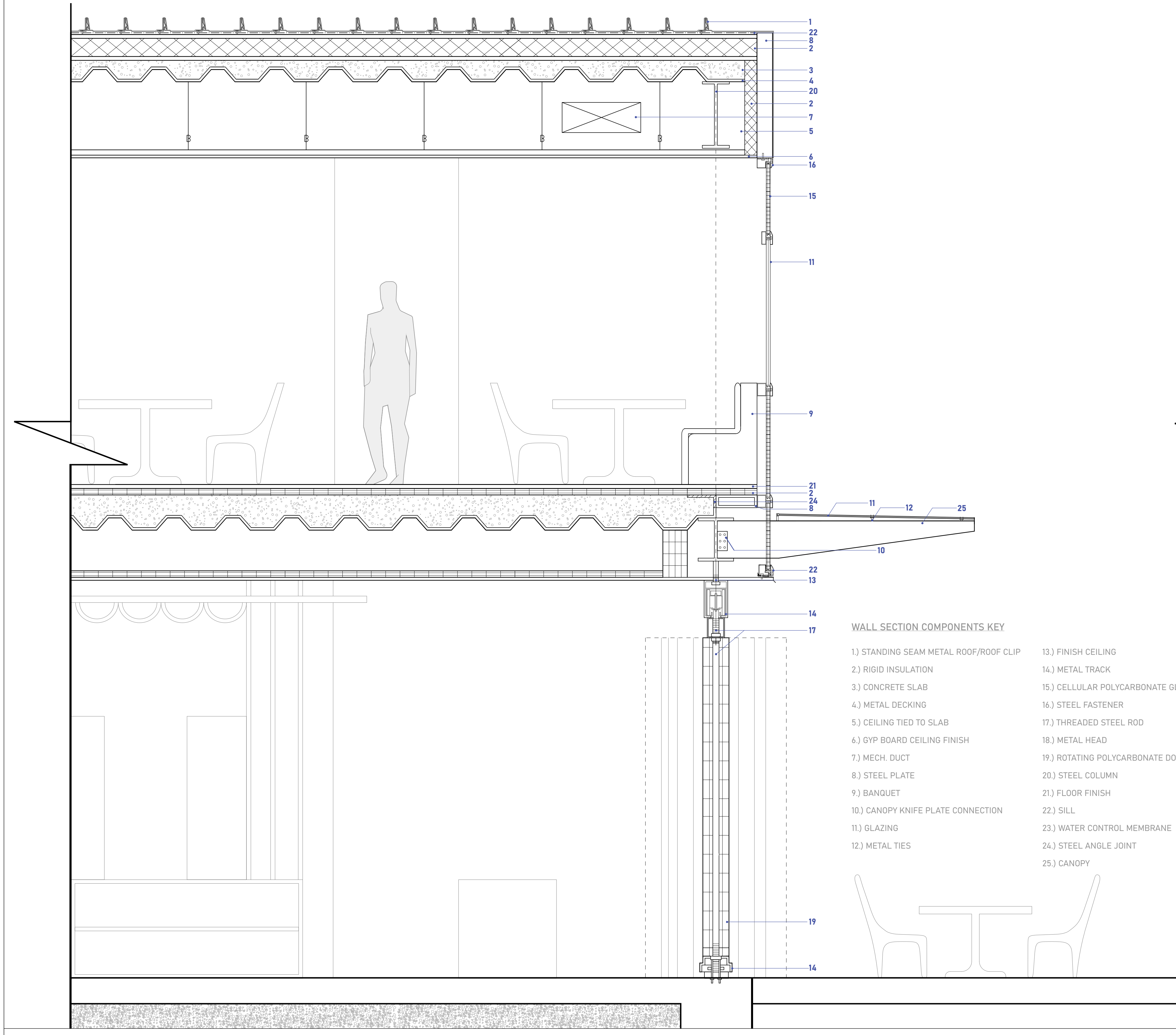
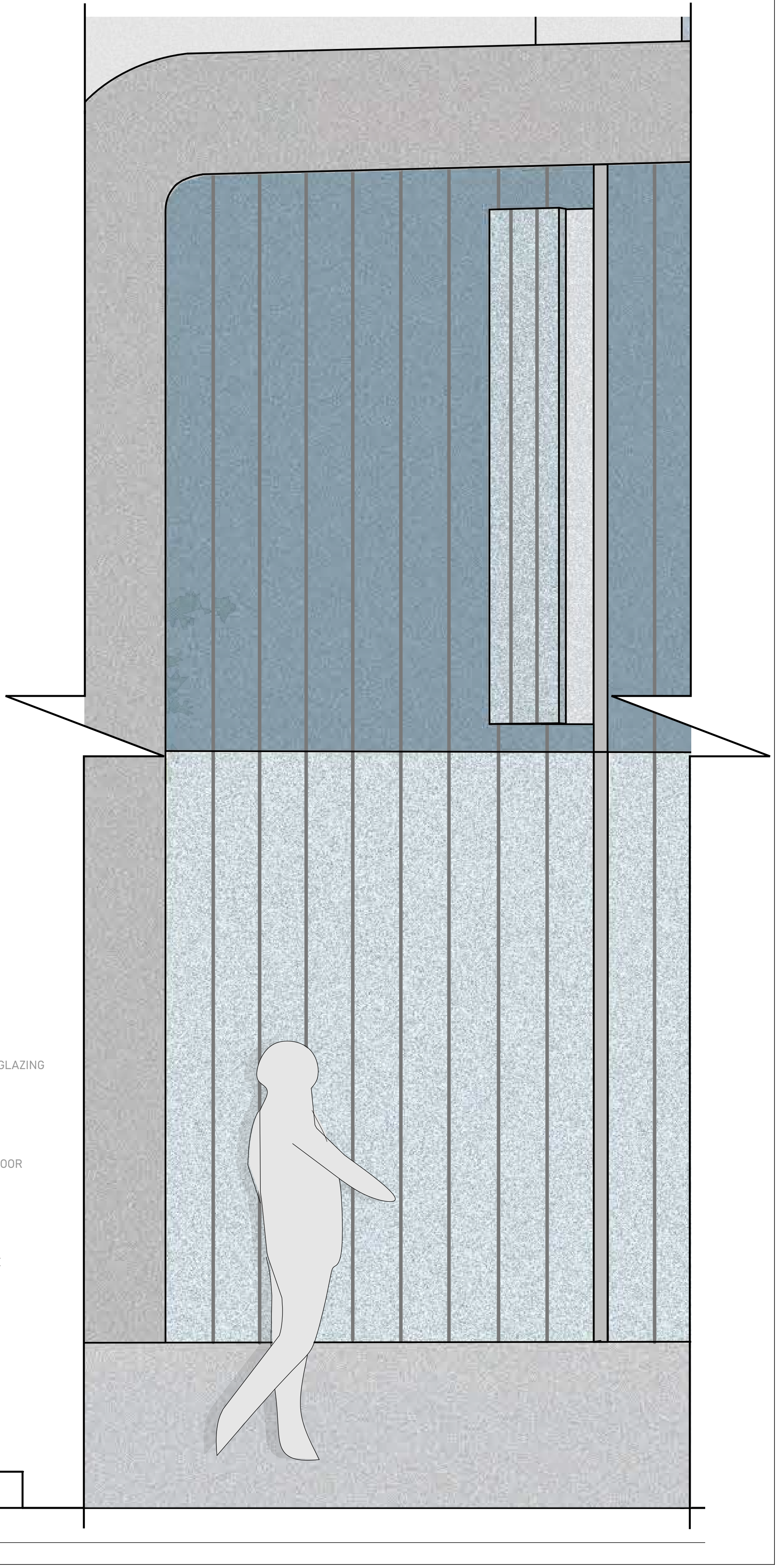
WALL SECTION + ELEVATION RENDER

3/4" = 1'



WALL SECTION COMPONENTS KEY

1.) STANDING SEAM METAL ROOF/ROOF CLIP
2.) RIGID INSULATION
3.) CONCRETE SLAB
4.) METAL DECKING
5.) CEILING TIED TO SLAB
6.) GYP BOARD CEILING FINISH
7.) MECH. DUCT
8.) STEEL PLATE
9.) BANQUET
10.) CANOPY KNIFE PLATE CONNECTION
11.) GLAZING
12.) METAL TIES
13.) FINISH CEILING
14.) METAL TRACK
15.) CELLULAR POLYCARBONATE GLAZING
16.) STEEL FASTENER
17.) THREADED STEEL ROD
18.) METAL HEAD
19.) ROTATING POLYCARBONATE DOOR
20.) STEEL COLUMN
21.) FLOOR FINISH
22.) SILL
23.) WATER CONTROL MEMBRANE
24.) STEEL ANGLE JOINT
25.) CANOPY



ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A5.5.2: Rendered Sect.+Elev or Axon Assembly or Bldg Assembly

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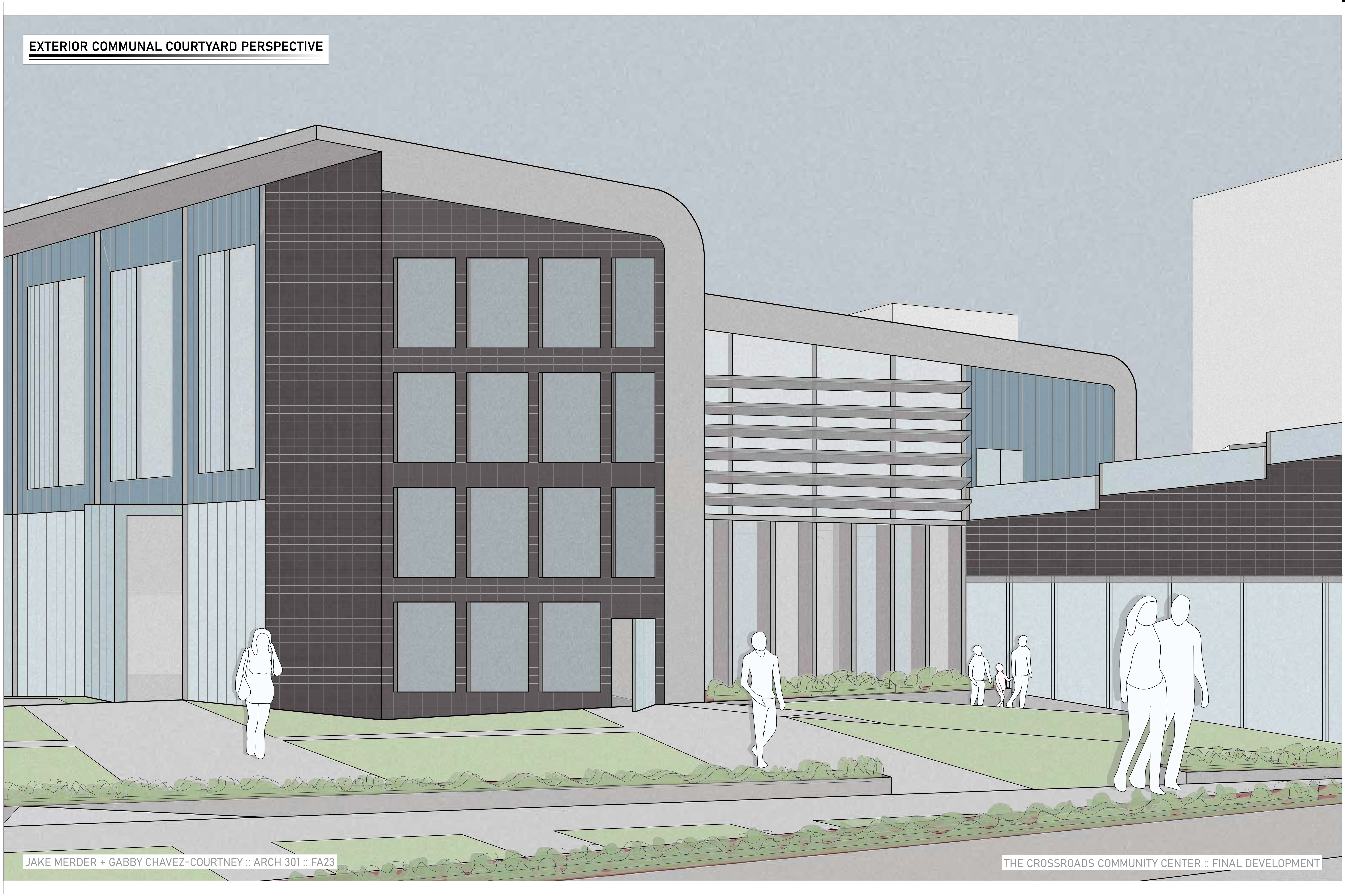
SC.5+6

EXTERIOR COMMUNAL COURTYARD PERSPECTIVE



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A5.6: Perspectives (NTS)

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INTERIOR MARKET PERSPECTIVE

ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A5.6: Perspectives (NTS)

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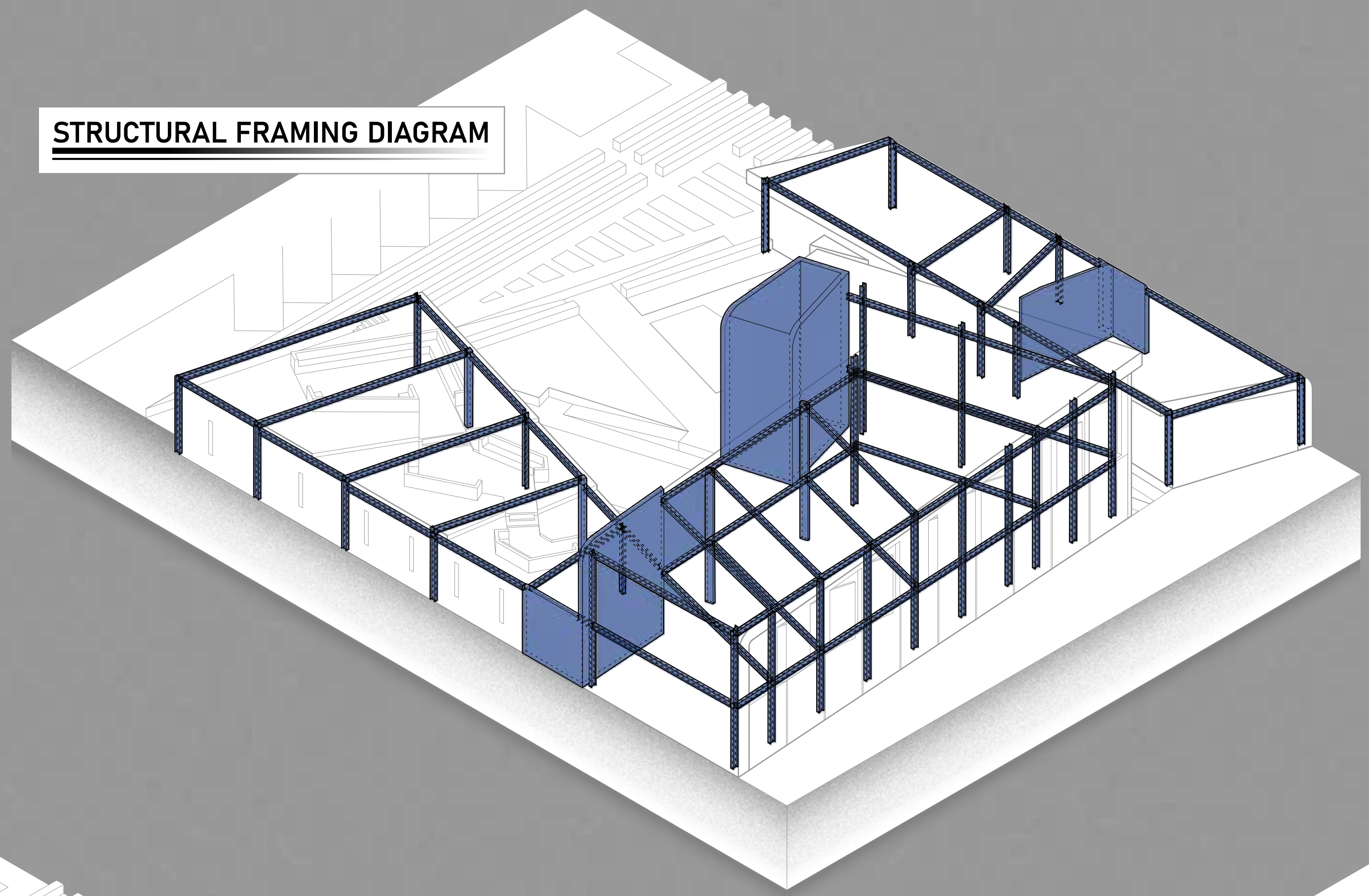
SC.5+6

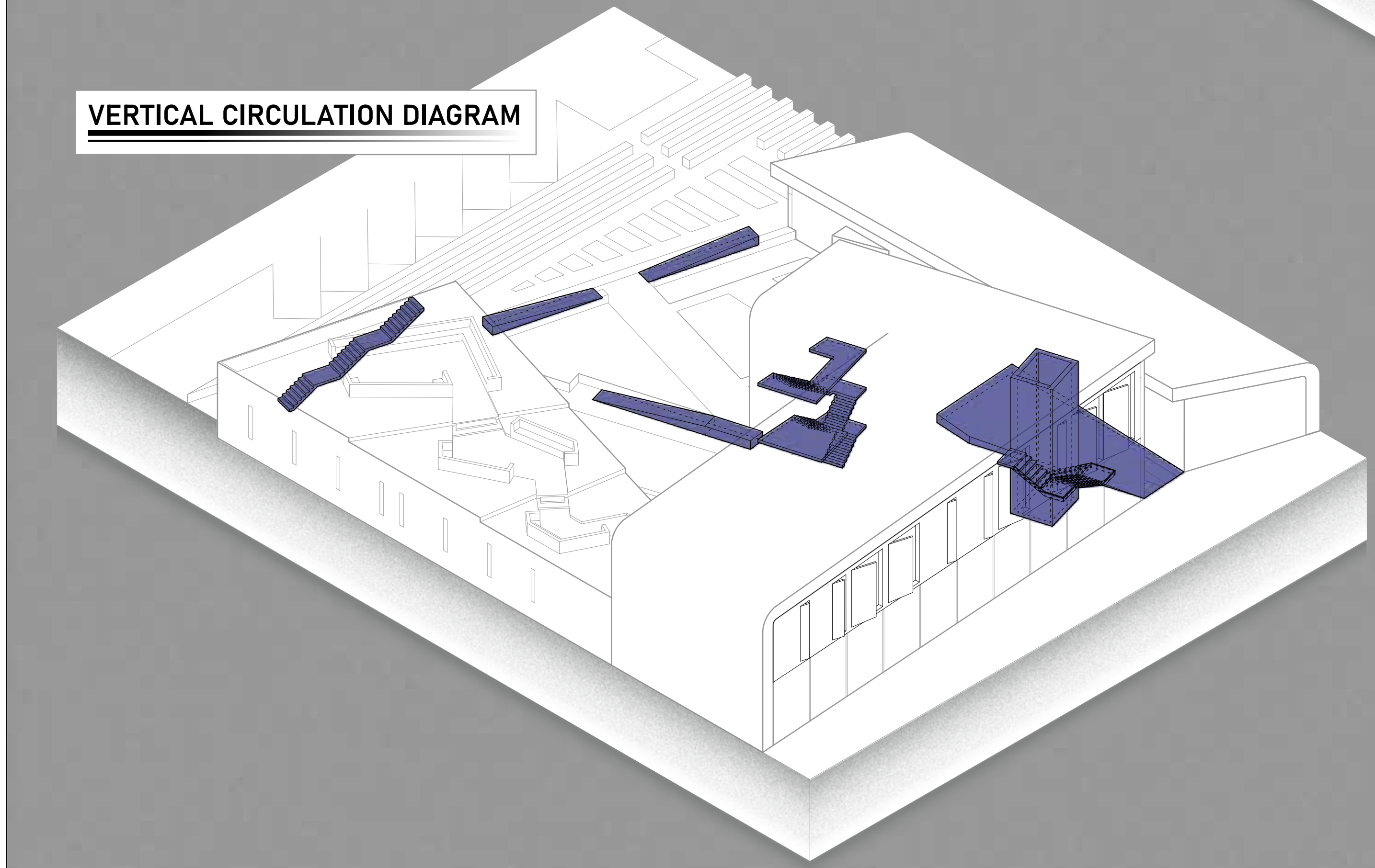
BUILDING SYSTEMS DIAGRAMS

1/16" = 1'

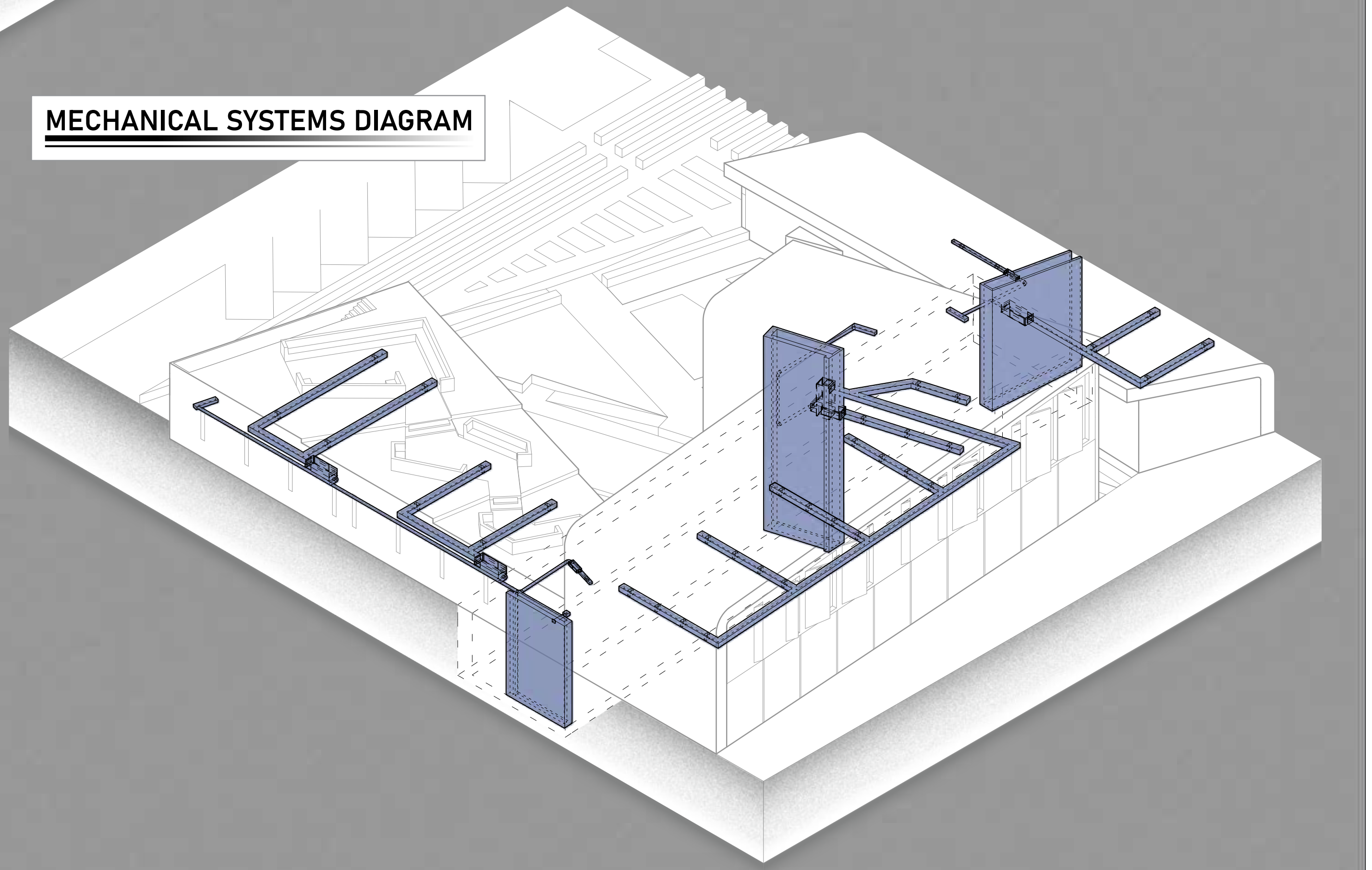
STRUCTURAL FRAMING DIAGRAM



VERTICAL CIRCULATION DIAGRAM



MECHANICAL SYSTEMS DIAGRAM



JAKE MERDER + GABBY CHAVEZ-COURTNEY :: ARCH 301 :: FA23

THE CROSSROADS COMMUNITY CENTER :: FINAL DEVELOPMENT

ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A5.6: Mechanical, Circulation, & Strucutral Diagrams

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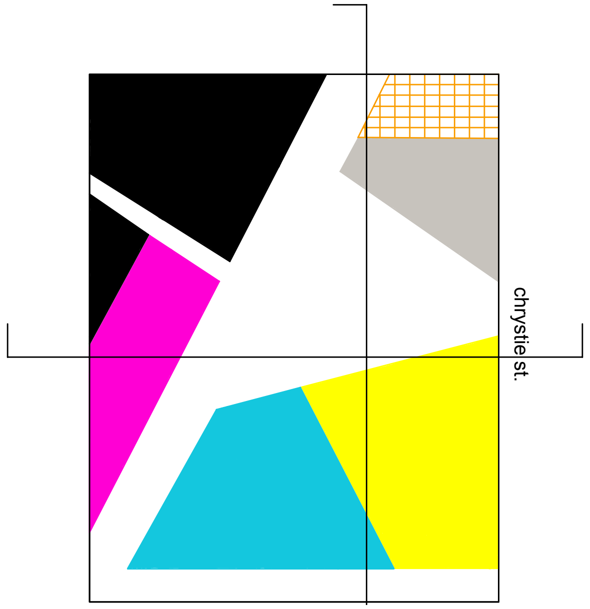
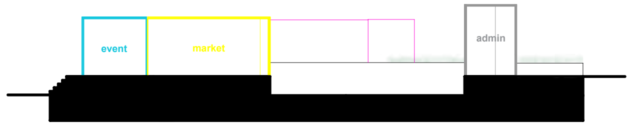
MASSING STUDIES

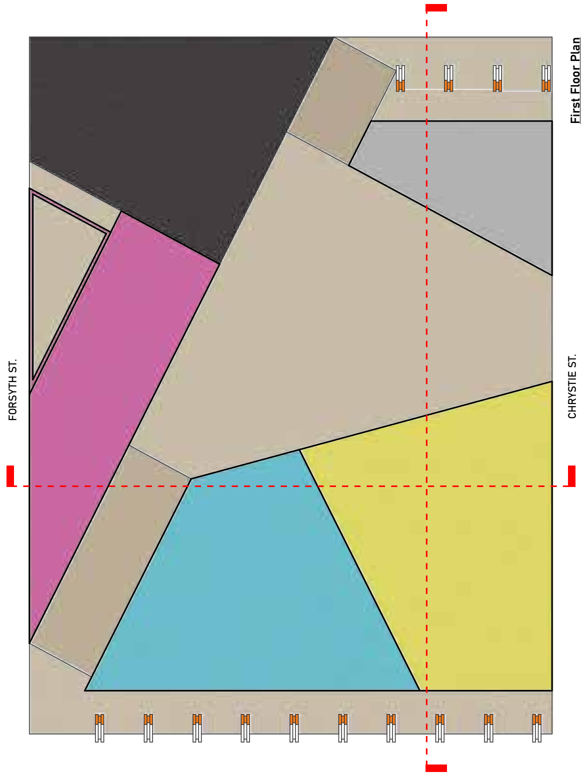
SITE & PROGRAM

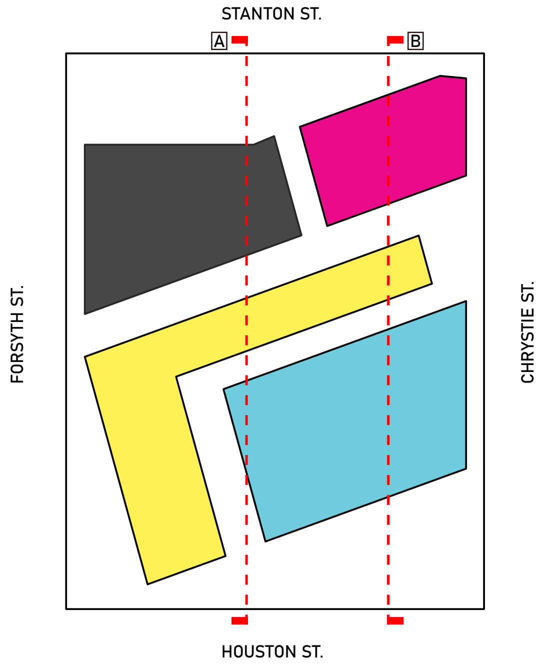


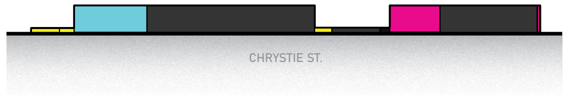
e-w section



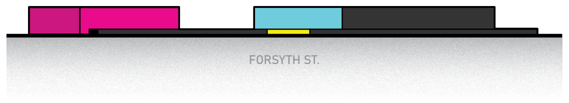
n-s section



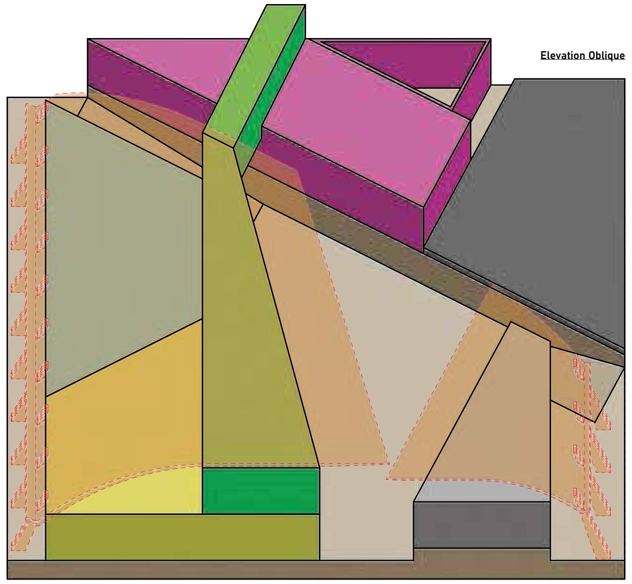


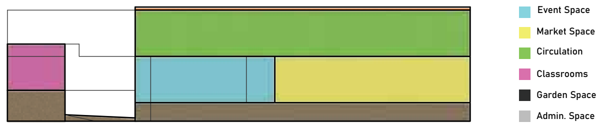


Section A

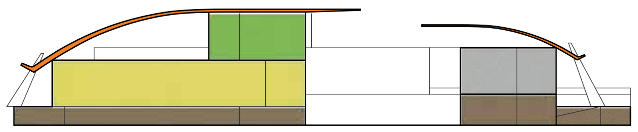


Section B





East/West Section



North/South Section

ARCH 301 - COMPREHENSIVE DESIGN_Merder, Jake
A5: Precedent Boards

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GHENT MARKET PRECEDENT

Fundamental Defining Concepts:

1.) The height of the hall is defined by the lower buildings in the surrounding area in an effort to not overshadow the history and architecture of the three prominent towers of Ghent - St Nicholas Church, St Bavo's Cathedral, and The Belfrey. Further, the profile of the hall itself is mathematically derived from the adjacent city hall (Stadhuis Ghent), an effort which, once again, nestles the hall comfortably and respectfully in its surroundings.

2.) Modesty was at the forefront of the design approach in order to not overpower the existing historic buildings, one of which shares its lawn space with the market. To do this, materiality was extremely important. Wood was chosen to echo this aspect of subtlety and present a humble finish, while glass panels over top allow this finish to be seen, as well as a reflection of the sky. These panels double architecturally as a component of a rainwater collection system for the interior market below.

3.) The hall was designed and presented twice as a competition entry for Ghent's town centre. The goal of this competition was to revitalize the centre, which ultimately became a parking lot after demolitions for a world's fair in 1913 and an office building proposal in the 1960s that was never built. The outcome is a space for events and community gathering, as well as an indoor market with cafes and restaurants meant to re-socialize the town centre.

Urban/Architectural Strategies:

1.) Domestic (gable ends)/Urban Infrastructure (is a destination):
The gabled roof and fireplace incorporate a domestic house-like imagery and inviting feel. Yet, the scale of this civic project is an indication of its urban purposing and speaks to the adjacent historical structures. While each is a different motif, they easily coexist with one another.

2.) Pierced Roof Construction:
During the say, the structure utilizes a series of windows to scatter daylight within the interior space. While at night, interior lighting transforms the roofs envelope with an array of subtle light.

3.) Folded Roof atop Large Piers, Engaging the city.
The hall will be used for events throughout the warmer months of the year and is the opposite of a more conservative city center. Additionally, the pitched roof creates a relationship with this center to the other historical structures surrounding the site.

Organizational Systems

Site Scale:

Overall, Area: 24,000 m2
Adjacencies: St. Nicholas church, two open square (NE & SW Corners), Town Hall,

*Site takes up an area that housed medieval style structures and a series of homes. Each of which were apart of two separate demolishment projects. One was in 1913 and the other in the 1960's for a world fair. Stadshal: a 40 meter (131ft) porch that signifies a shift from the square to the semi-basement.

Internal Relationships:

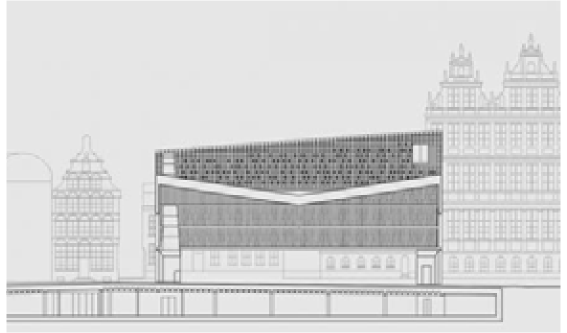
Material Relationships:
- Wood & glass shingles, concrete & wood
- 1,600 skylights that create a unique daylighting
- A change in level between the canopy and basement allows for daylight to seep into the lower areas.

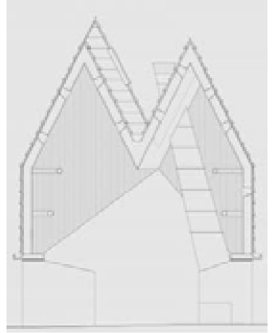
Functions Group Zones:

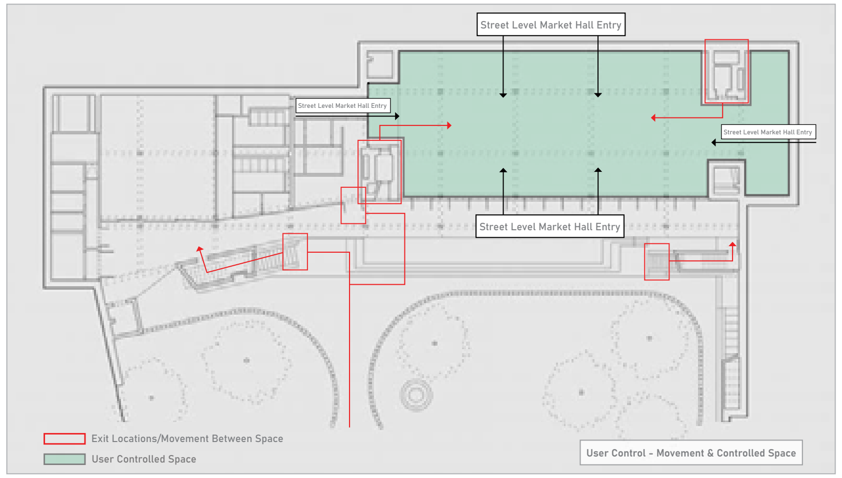
Market Place Zone:
- Overlooks the garden in the Emile Braun square
- Two large fireplaces within the large piers
- Two elevators
- Market zones would be determined based on the event due to the open floor plan.
- Semi-basement:
    - Housing public facilities
    - Bicycle parking station
    - Cafeteria
    - Two elevators
    - Public toilets
    - Grand Cafe
    - Dressing room for artists
    - Technical area
    - Covered outdoor area
    - Storage rooms
    - Park

Buyer/Seller Group Zones:
- These would exist on the days the hall hosts markets, and these could potentially be arrayed in anyway depending on the event function.
- A more definitive zone would be below the canopy where there is a cafeteria and cafe.

Public/Private Spaces
- Canopy & whole of semi basement is public with the exception of dressing rooms, storage and bathrooms as private spaces.

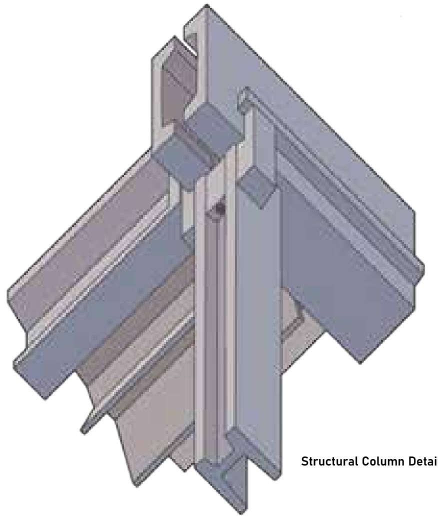




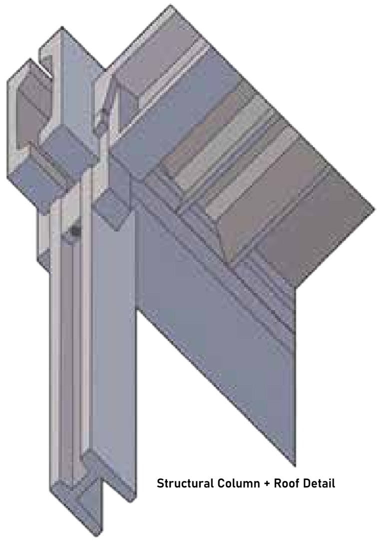


A Favini- Kodak Factory, Marcianise IT, 1975

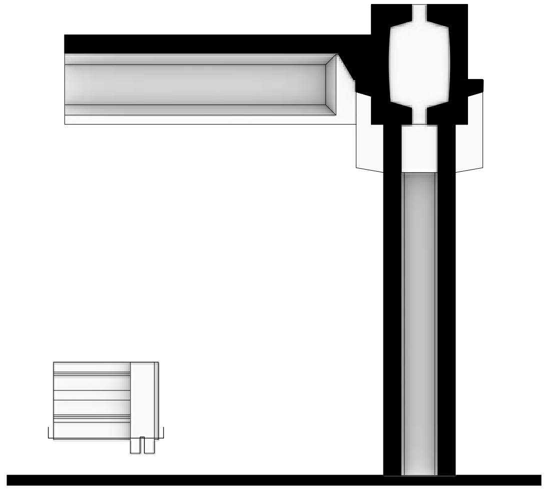
CANOPY PRECEDENT



Structural Column Detail



Structural Column + Roof Detail

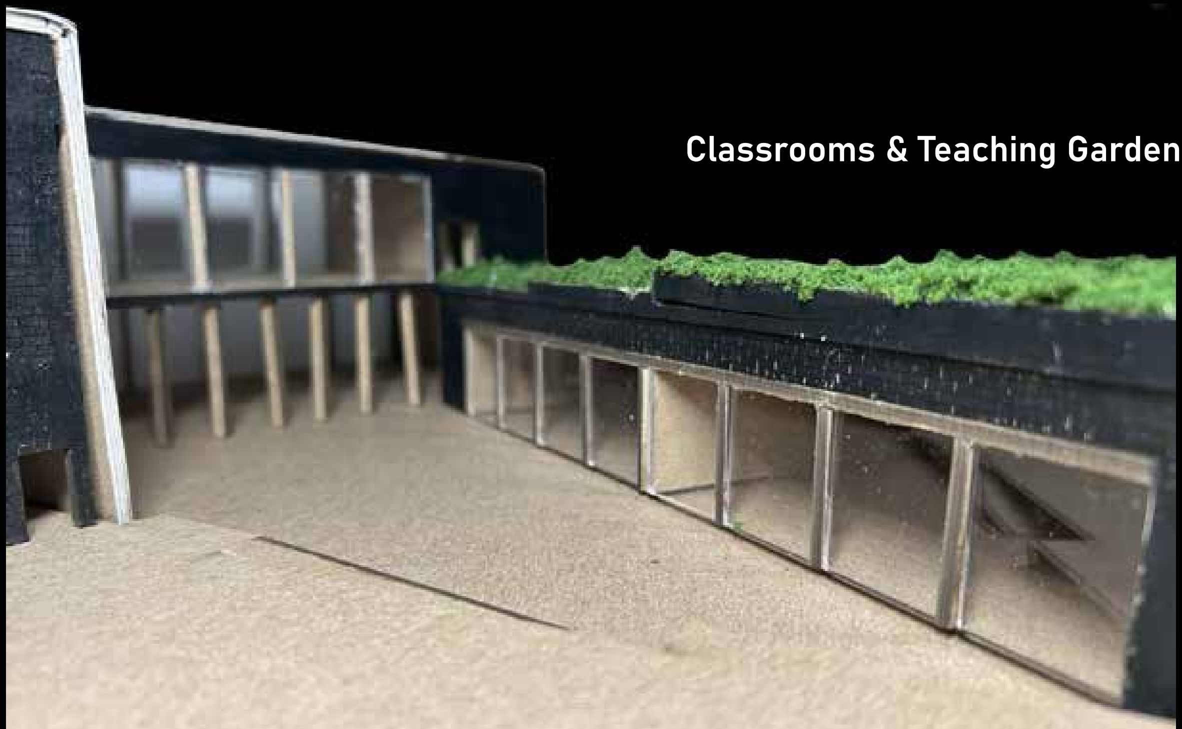


Final Project Model
1/8" = 1'

Front Facade

Front Facade

Classrooms & Teaching Garden



Courtyard

Market Chunk Model

1/2 = 1'

ARCH 301 - COMPREHENSIVE DESIGN_ Merder, Jake
A5.7.2: Partial Building Chunk Model documentation

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