

NAAB Student Criteria 5: Design Synthesis

NAAB Student Criteria 6: Building Integration

ARCH 302 - COMPREHENSIVE DESIGN

STUDENT WORK Merder_ARCH 302

A1: Analysis
Precedent Analysis
Site Analysis
User Group Analysis

A2: Unit Type and Cluster
Unit Type Development:
Plans 1/4" = 1'-0"
Sections 1/4" = 1'-0"
Unit Models
Cluster Organization:
Plans 1/4" = 1'-0"
Sections 1/4" = 1'-0"
Facade Study 1/4" = 1'-0"
Cluster Models
Site 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 1/16" = 1'-0"
Mechanical Systems 1/16" = 1'-0"
Life Safety Egress and ADA 1/16" = 1'-0"
Facade Enclosure Systems 1/2" = 1'-0"
[ARCH 362 - Building Services](#)
Life Safety
Envelope Losses
Plumbing Riser
Final Development

A5: Building 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

DESIGN PROJECT ASSIGNMENT 1 (A1)

ANALYSIS: COHOUSING PRECEDENT + SITE CONDITIONS + USER GROUP DIAGRAMS

Time: 2 weeks (recommended – review one assignment each studio day)
Issue Date: 01/18/2024
Due Date: 01/25/2024
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 better understand how it works and functions. 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 – COHOUSING PRECEDENT

Each student team must select a Cohousing Project Precedent within the thematic assigned to the studio section 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 private living program and the shared programs. What are the conditions between the ground floor entry spaces, the shared cohousing programs spaces, and the private dwelling program?
Circulation Systems:		Diagram the system of circulatory organizations: mainly between the public, semi-public and private spaces: linear, open spatial choice, wide to a narrow path (slow or fast pace), multiple thresholds, and vertical & horizontal relationships. Single unit to clustered whole, Core elements to open space (interior/ exterior), corridor type – single loaded, double loaded, etc. Sectional organization – skip stop, split level, etc.
Spatial/Organizational Systems:		Sectional organization between the public, semi-public and private spaces. Consider variations between indoor & outdoor space, solid and void,
Structural Systems:		Poured in place concrete, cantilever, support structural skin, bearing and shear walls, column grid.
Environmental Systems:		Opportunities inherent in the spatial configurations between the public, semi-public and private spaces, passive systems – control of natural light and ventilation, and access to fresh air.
Facade Systems:		Prefabricated components, sun control, fenestration patterns, color, the flexibility of skin.

List of precedents by themes:
Carne Pinos, Plaza Europa Tower Block, Spain, 2004 Charles Correa, Kanchanjunga, Mumbai, 1983
David Adjaye, Sugar Hill Housing Complex, NY, 2015
Herzog and de Meuron, 56 Leonard Street Tower, NYC, 2017

Jeanne Gang, Aqua Tower, Chicago, 2007
Jeanne Gang, Solstice on the Park, Chicago, 2018
MVRDV, Mirador de Sanchinarro, Madrid, 2005 Neil Denari, HL23, New York, NY, 2011
OMA, Timmerhuis, Rotterdam, Netherlands, 2015
Paul Rudolph, Colonnade Condominiums, Singapore, 1980
Ricardo Bofill, Walden 7, Barcelona, 1975

List of precedents:

Carne Pinos, Apartments for the Elderly, Spain, 2007
FOA, Carabanchel Housing, Madrid, Spain, 2007
Frits van Dongen (CIE), The Whale, Amsterdam, 2000
Le Corbusier, Unite de Habitation, Marseille, France, 1947-1949
Lacaton & Vassal, Transformation de 530 logements, Bordeaux, 2016
MVRDV / Blanca Lleo, Celosia Housing, Madrid, Spain, 2009
MVRDV, Silodam, Amsterdam, The Netherlands, 2006
SANNA, Gifu Kitagata Apartment Building, Motosu, Japan, 1994/1998
Stanley Saitowitz, Yerba Buena Lofts, San Francisco, CA, 2004
Zaha Hadid, Spittelau Viaducts Housing Project, Vienna, Austria 1994-2005

List of precedents: Live/Work

Alvaro Siza, SAAL Bouçça, Porto, Portugal, 1977
Dorte Mandrup, Trekroner Residential Housing, Denmark, 2008
Lacaton & Vassal, Mulhouse Social Housing, Mulhouse, France, 2005
Morphosis, Madrid Public Housing, Spain, 2009
Moshe Safdie, Habitat 64, Montreal, Canada, 1967
OMA, Nexus World Housing, Fukuoka, Japan, 1991
Óscar Miguel Ares Álvarez, Housing for the Elderly, Valladolid, Spain, 2016
RIPOLLTIZON, Social Housing in SaPobla, Mallorca, Spain, 2012
Tatiana Bilbao, Ocoyoacac Minimum Housing, Mexico, 2019
Zanderroth Architekten, BIG yard, Berlin, Germany, 2010

Part 2 - SITE ANALYSIS AND CONDITIONS: Study the neighborhood's demographics and how cohousing can serve 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:

- Notice topographic changes on the site.
- Observe the neighborhood context and external programmatic support concerning the studio's theme.
- The relationship between the site and its solar orientation.
- Traffic flow for site access, underground parking, etc.

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:

- Draw plans, sections, and elevation diagrams of the physical context of the immediate site (the neighborhood) and its relationship to the larger city scale.
- Map the site conditions concerning transportation networks and patterns: car, subway, and pedestrian: Sun, shadow, prevailing winds, and orientation.
- Environmental/Site Context: Sun/ Shadow and Orientation, Views.
- 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: Study and research the needs for the USERS assigned to your studio section and evaluate what shared programmatic spaces would be of value to the tenants living in the building for Single-parent, Multi-generational, or Live/work communities.

User Group Programmatic Study

See the Programmatic Requirements listed on page 14-15 as a reference and investigate the program's relationship with the project's target users to 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:

- What are the levels of the program's various public, semi-public/shared programs, and private spaces?
- What inventions of shared space can be considered for the occupants of the studio section theme?
- Create diagrams that address program and circulation hierarchical relationships, the circulatory relationship of the ground floor public access, support groups that assist the shared program spatial needs, and pathways to the private dwelling units.
- Review the urban residential neighborhood and the variable needs.
- Map various programmatic contexts, such as locations for services to serve residents of different economic neighborhood conditions.

PRESENTATION REQUIREMENTS - A1

Due Thursday 01/25/2024 Internal Section Review

The number of drawings for each exercise with the faculty, studio section, and students will be determined based on how to best represent your analysis. 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 four 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)

A1: Site, User and Precedent

Format: 11 x 17 Landscape

- Site, 4 pages minimum. Circulation, Traffic, orientation, building mass vs. open space of the site
- User, 4 pages minimum. History, demographics, projections, floor area diagram
- Precedent, 4 pages minimum. Site, program, formal organization, structure

Odham's Walk

Covent Garden, London, UK

Structure



The structure of Odham's walk is based on a concrete frame with hollowcore floor slabs. This system is then covered in a multi-colored stock brick to seamlessly fit the complex into the surrounding Covent Garden neighborhood. Looking closely, however, much of the concrete structure is still visible. The roof insulation is provided by an "inverted roof." The dwellings are heated by individual and centralized gas-fired boilers with central metering.

Characterized by their distinctive hollow cores, hollowcore concrete slabs are formed either by using plastic void formers or by extruding the concrete, resulting in longitudinal voids that run the length of the slab. The dimensions of these slabs vary, but they typically range from 4 to 16 inches in depth, enabling them to span considerable distances without the need for intermediate supports. The core component of these slabs is high-strength, pre-stressed concrete, often reinforced with steel wires or strands to enhance load-bearing capacity. This pre-stressing process involves tensioning the steel strands before pouring the concrete; when the tension is released after the concrete cures, it compresses the concrete, increasing its strength and rigidity. The installation of hollowcore concrete floor slabs is extremely efficient and significantly reduces construction timelines. Their hollow design not only makes them lighter and easier to handle and transport, but it also lessens the load on subsequent supporting structures. The cores of the slab can be used for running utilities like electrical wiring and plumbing. They can also offer thermal and acoustic insulation due to the air present in the hollow cores, and their concrete form provides natural fire resistance.



An inverted roof flips traditional roofing design by placing insulation on top of the waterproofing membrane. This setup protects the membrane from weather and UV rays, also working to extend the roof's overall life. The insulation maintains its effectiveness despite exposure to the elements. Above the insulation, a protective layer adds extra defense and improves the building's thermal efficiency. This system is then finished with paver stones, loose gravel, or green roofing. The inverted layout keeps the membrane at a more stable temperature, reducing the risk of damage due to thermal changes. When paired with green roofs, such as that in Odham's Walk, the insulation effects are enhanced as well as improving the building's overall environmental footprint.



Odham's Walk

Covent Garden, London, UK

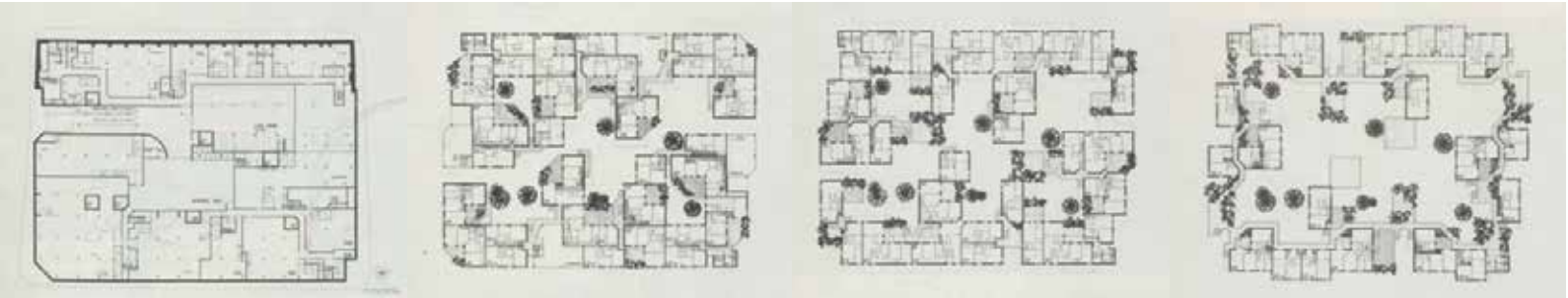
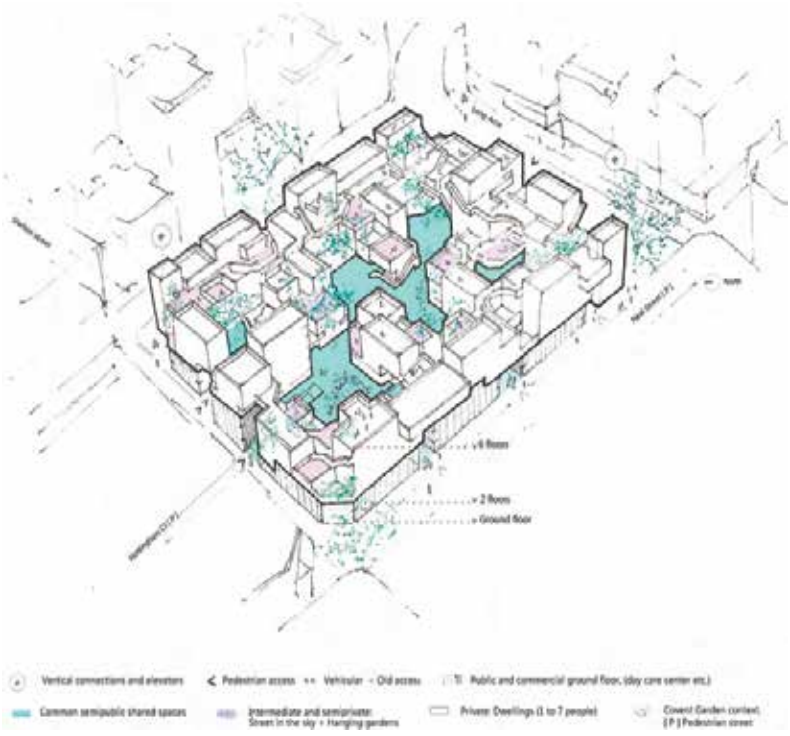
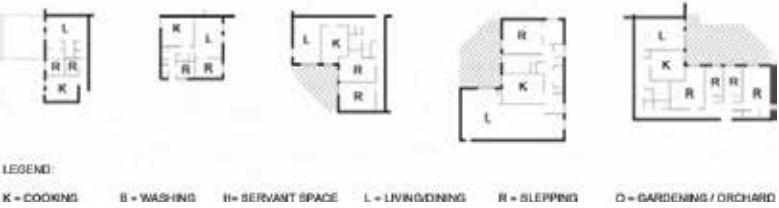


At street level there are just two entrances open to the public, which allows for access to buildings in the courtyard space, while residents can access price staircases up to their homes. Facilities, shops, and gyms, which are located on its compact ground floor–basement, account for 40% of the building. It also has a social center for the tenants and a day care center for the elderly, both shared. Despite the building's exterior looking relatively flat, the interior is a new world, with the project slowly revealing it's rotating volumes, suspended walkways, and terrace gardens. In the interior, the line of public and private and the exterior and the interior diffuse, a result of the density of units and spaces fit onto one city block. The density on the above floors, however, decreases, which in turn allows a greater entry of light to the lower floors. Odham's third floor includes a suspended walkway, forming a circulatory ring that articulates the last homes. This ring of movement create a passage that crowns the building and, taking advantage of London's skyline, seemingly connects the otherwise private project back to the city.

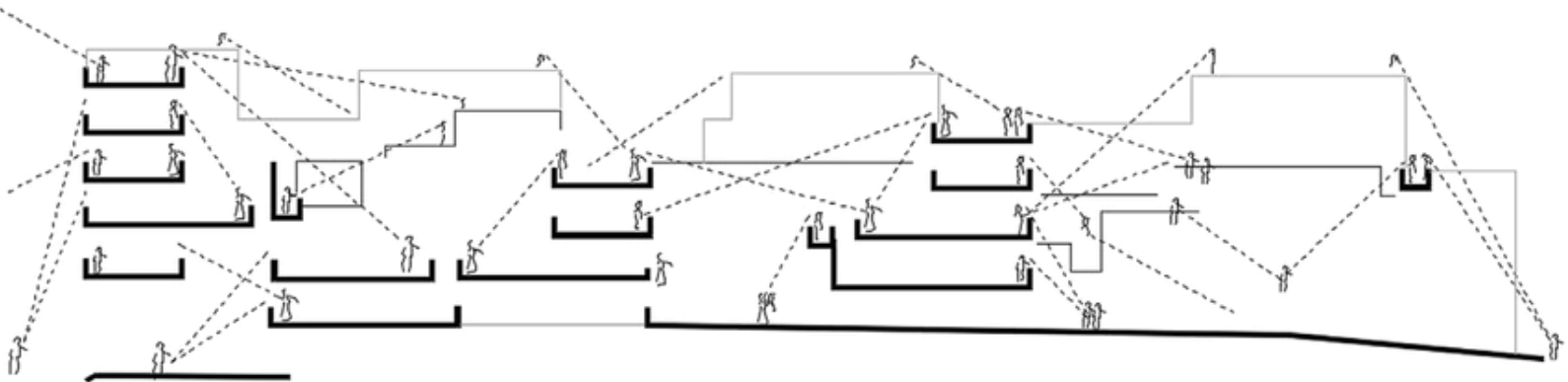


Formal Organization

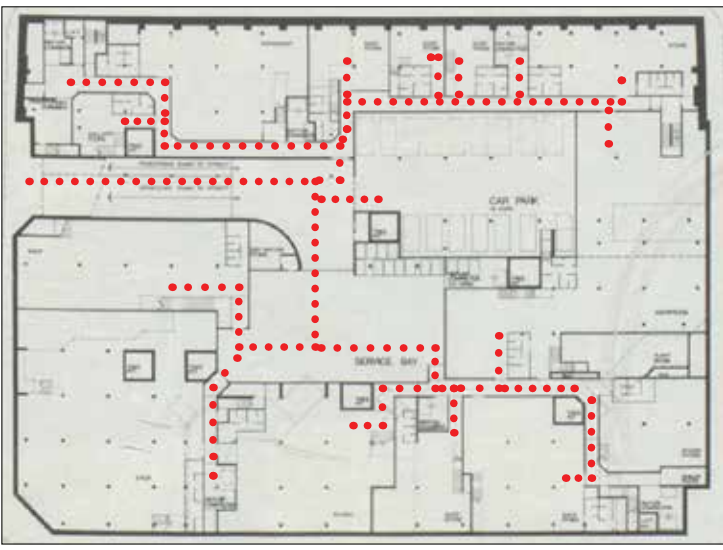
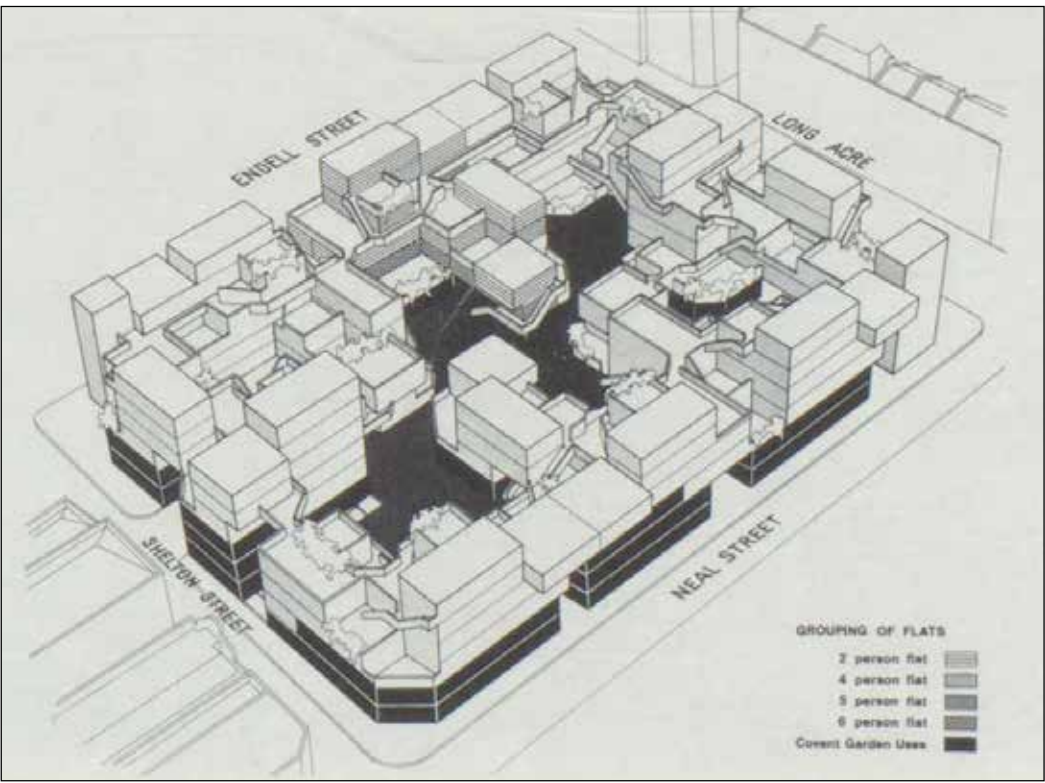
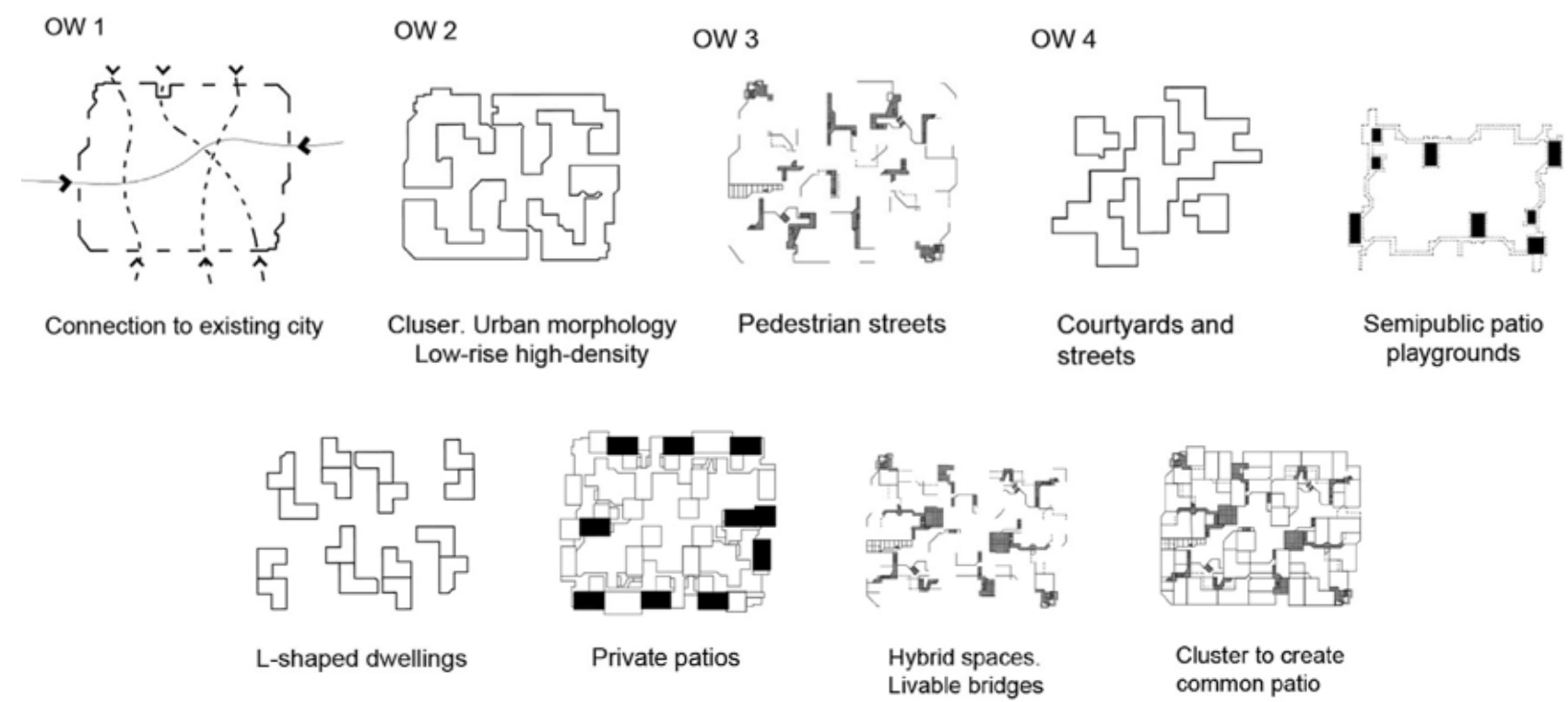
Odham's Walk comprises of 102 homes: 60 for two people, 21 for four people, 13 for five people, and 8 for six people. Each group of homes has its own access to a staircase which is connected to the third floor ring. The homes are distributed among 4 floors that, both in plan and section, are enforcing the theme of public and private space, however, in this case, privacy is manifested via minimal gaps in the facade facing the street, as well as, upon a closer examination of various floor plans, a unit organization that places all bathrooms and bedrooms closest to the entrance hall, isolating the kitchen and lounge with the terrace to serve as a private space. The Ground Floor is comprised of the houses with the highest density (up to 6 bedrooms) mixed with shops and restaurants. The units with a single bedroom take rectangular forms, while those with 2 to 6 bedrooms take the form of an "L" curled around the unit's terrace, again to maintain each home's privacy.



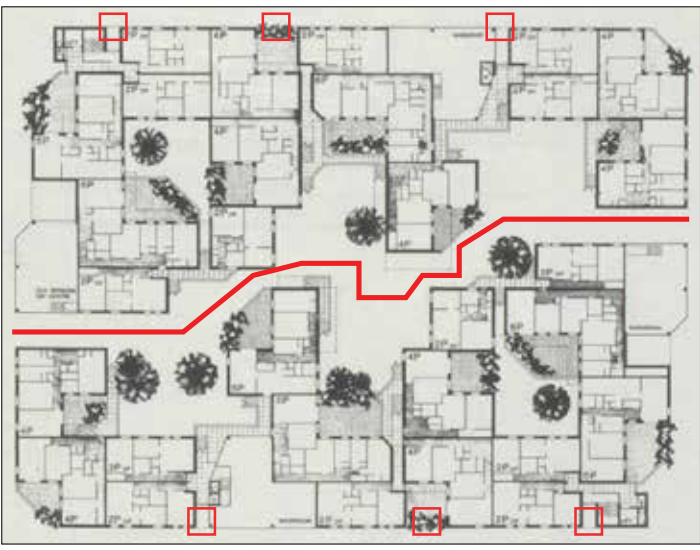
Despite the internal porosity of the project, the massing of the units into a single block gives it a sense of compactness and fortification, like a wall protecting residents from the chaos of the city. This is further cemented by the projects overall use of symmetry. By viewing each cluster of homes individually (half of the project), it is revealed that one part is mere rotated copy of the other. This allows for the creation of a chain of public spaces on the ground floor, as well as a passage through the site. Given it's public access, however, Odham's units were designed with surveillance in mind. In Jane Jacobs' 1961 book *The Death and Life of Great American Cities*, she presents the idea of a safe city via "eyes on the street," essentially that by having residents monitor the streets, a safer environment is created, even if done so from their own homes. This project manifests that theory by keeping sightlines to the ground floor public space clear. Doing so allows residents to monitor their surroundings from their own homes, cultivating a further sense of community and belonging.



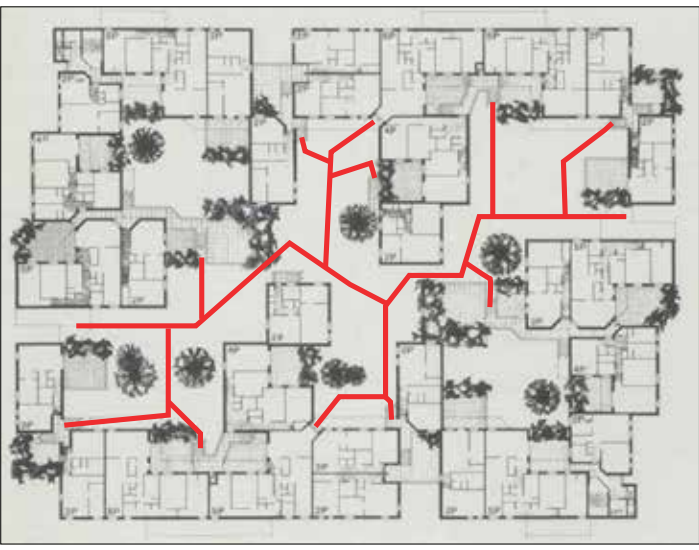
PRECEDENT PROGRAM ANALYSIS: Circulation & Axonometric



Parking Level



Ground Floor



First Floor



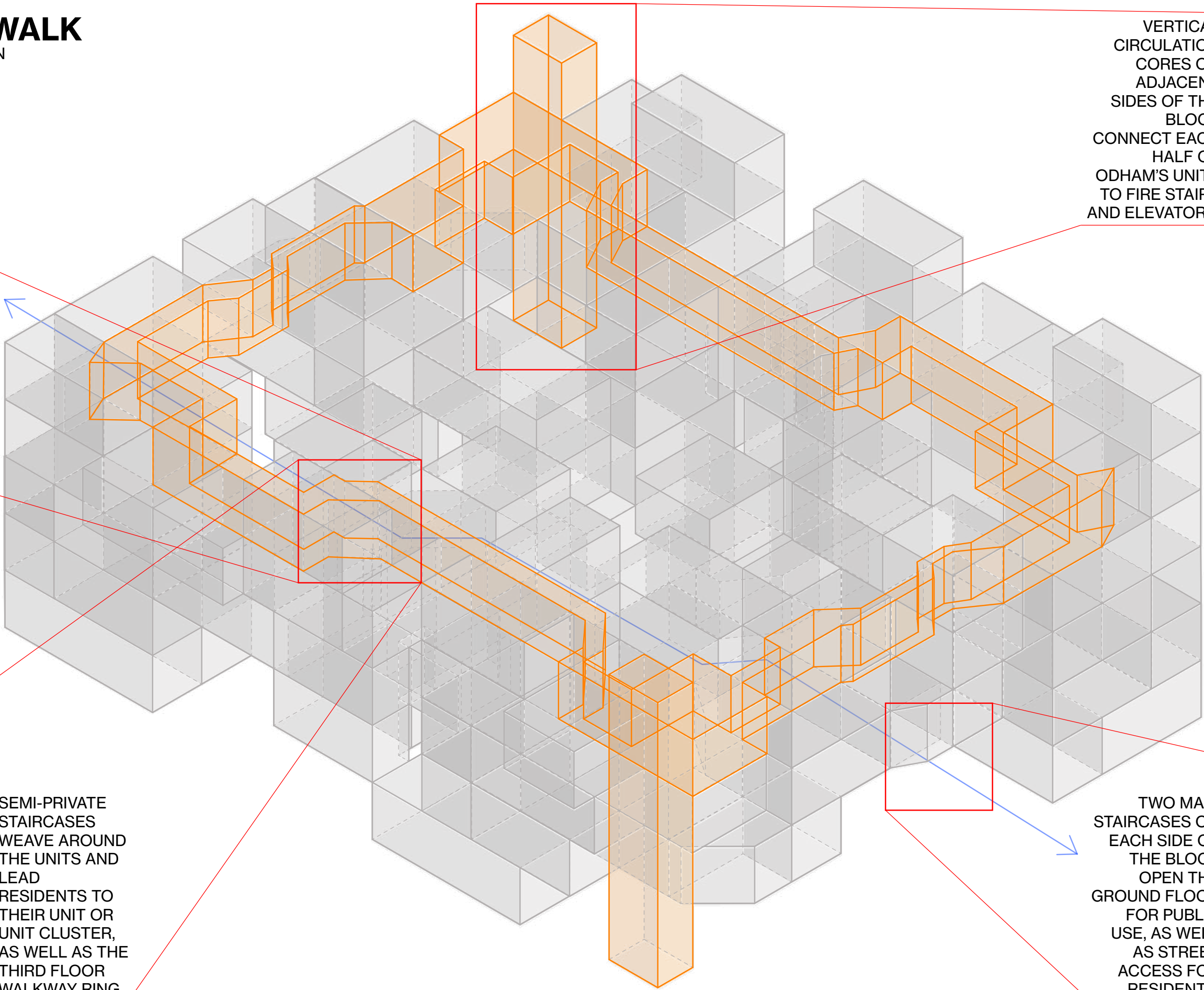
Second Floor

ODHAMS WALK

MAJOR CIRCULATION



VERTICAL
CIRCULATION
CORES ON
ADJACENT
SIDES OF THE
BLOCK
CONNECT EACH
HALF OF
ODHAM'S UNITS
TO FIRE STAIRS
AND ELEVATORS.



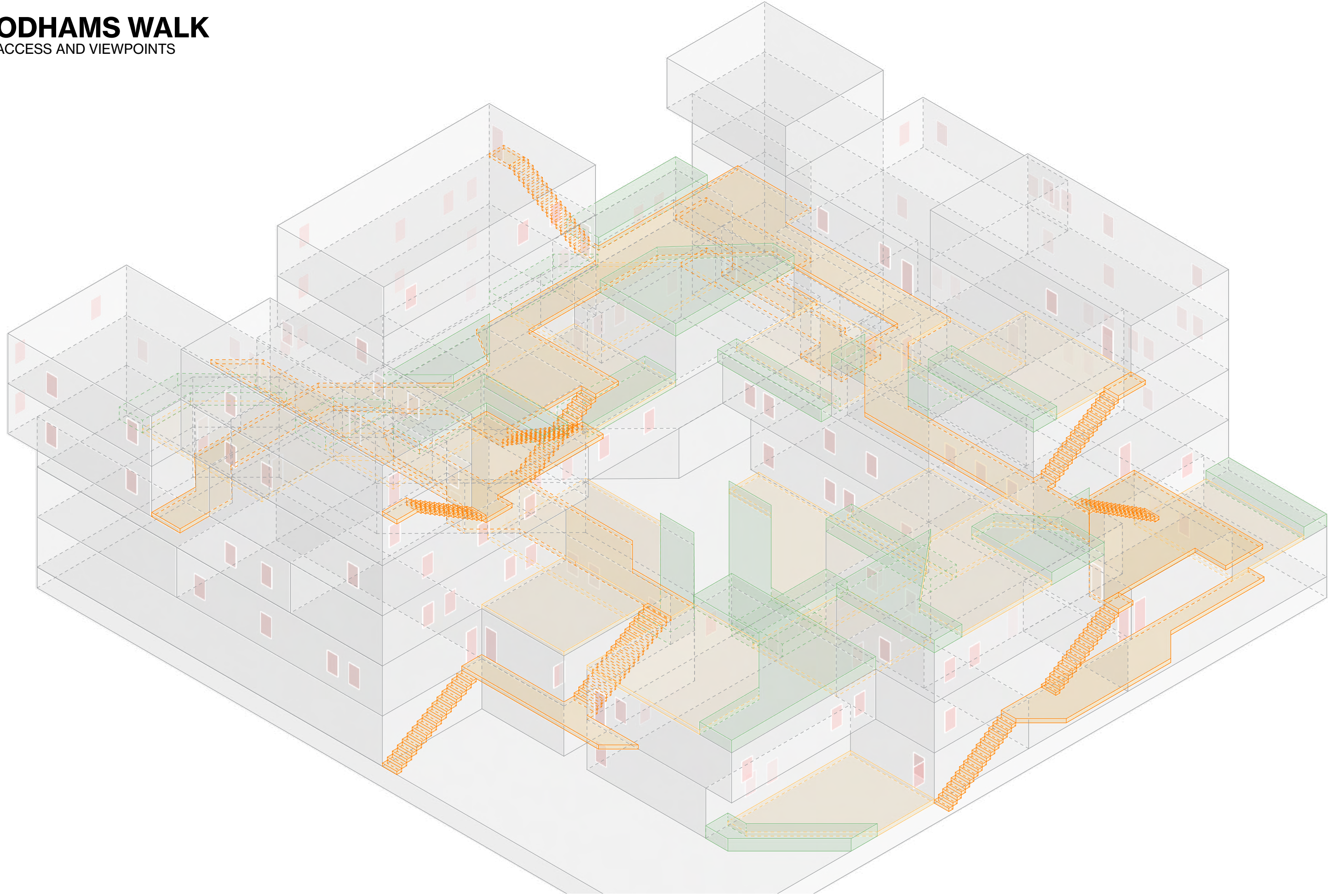
SEMI-PRIVATE
STAIRCASES
WEAVE AROUND
THE UNITS AND
LEAD
RESIDENTS TO
THEIR UNIT OR
UNIT CLUSTER,
AS WELL AS THE
THIRD FLOOR
WALKWAY RING.

TWO MAIN
STAIRCASES ON
EACH SIDE OF
THE BLOCK
OPEN THE
GROUND FLOOR
FOR PUBLIC
USE, AS WELL
AS STREET
ACCESS FOR
RESIDENTS.



ODHAMS WALK

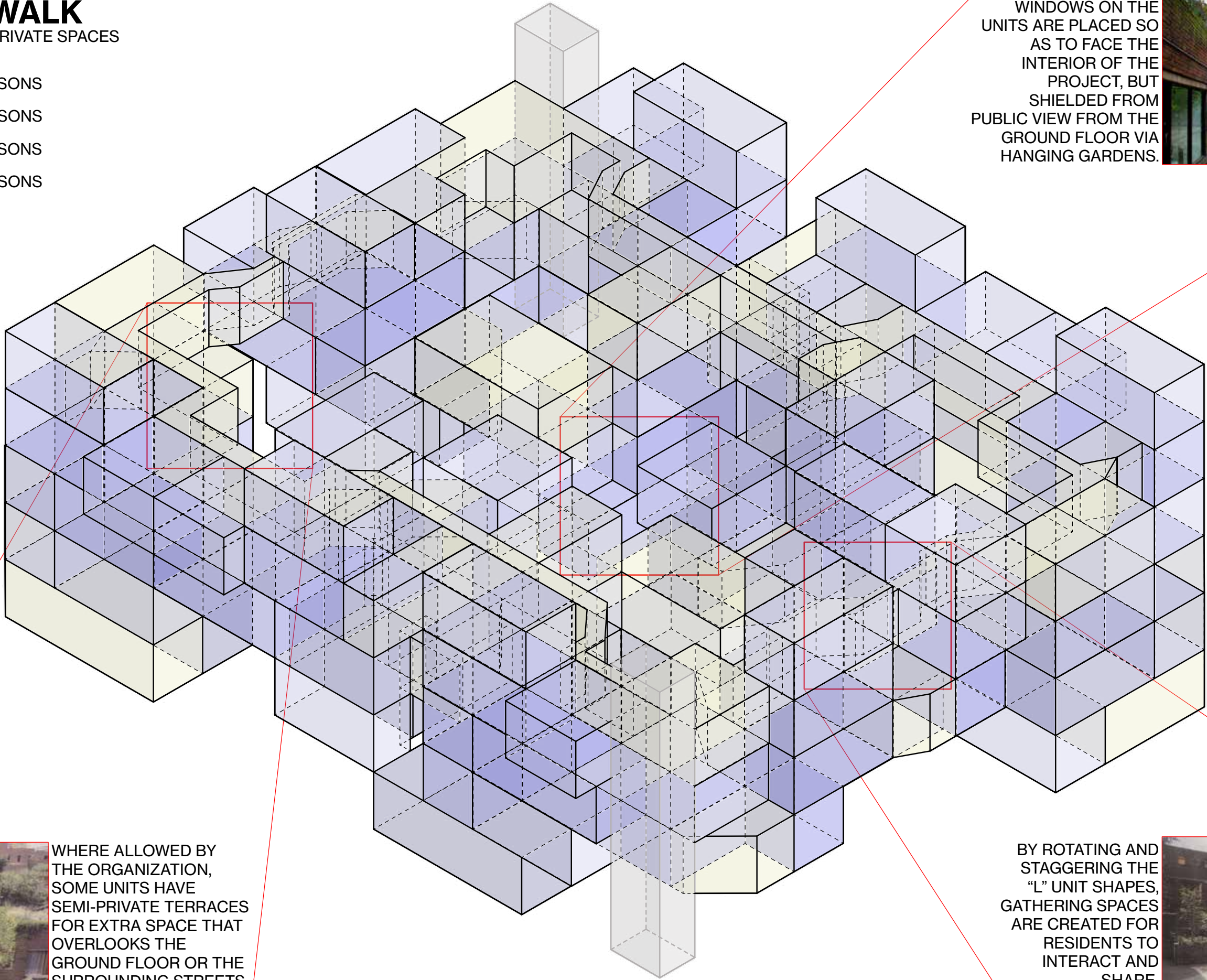
ACCESS AND VIEWPOINTS



ODHAMS WALK

PRIVATE AND SEMI-PRIVATE SPACES

- PRIVATE - 2 PERSONS
- PRIVATE - 4 PERSONS
- PRIVATE - 5 PERSONS
- PRIVATE - 6 PERSONS
- SEMI-PRIVATE



WINDOWS ON THE UNITS ARE PLACED SO AS TO FACE THE INTERIOR OF THE PROJECT, BUT SHIELDED FROM PUBLIC VIEW FROM THE GROUND FLOOR VIA HANGING GARDENS.



WHERE ALLOWED BY THE ORGANIZATION, SOME UNITS HAVE SEMI-PRIVATE TERRACES FOR EXTRA SPACE THAT OVERLOOKS THE GROUND FLOOR OR THE SURROUNDING STREETS.

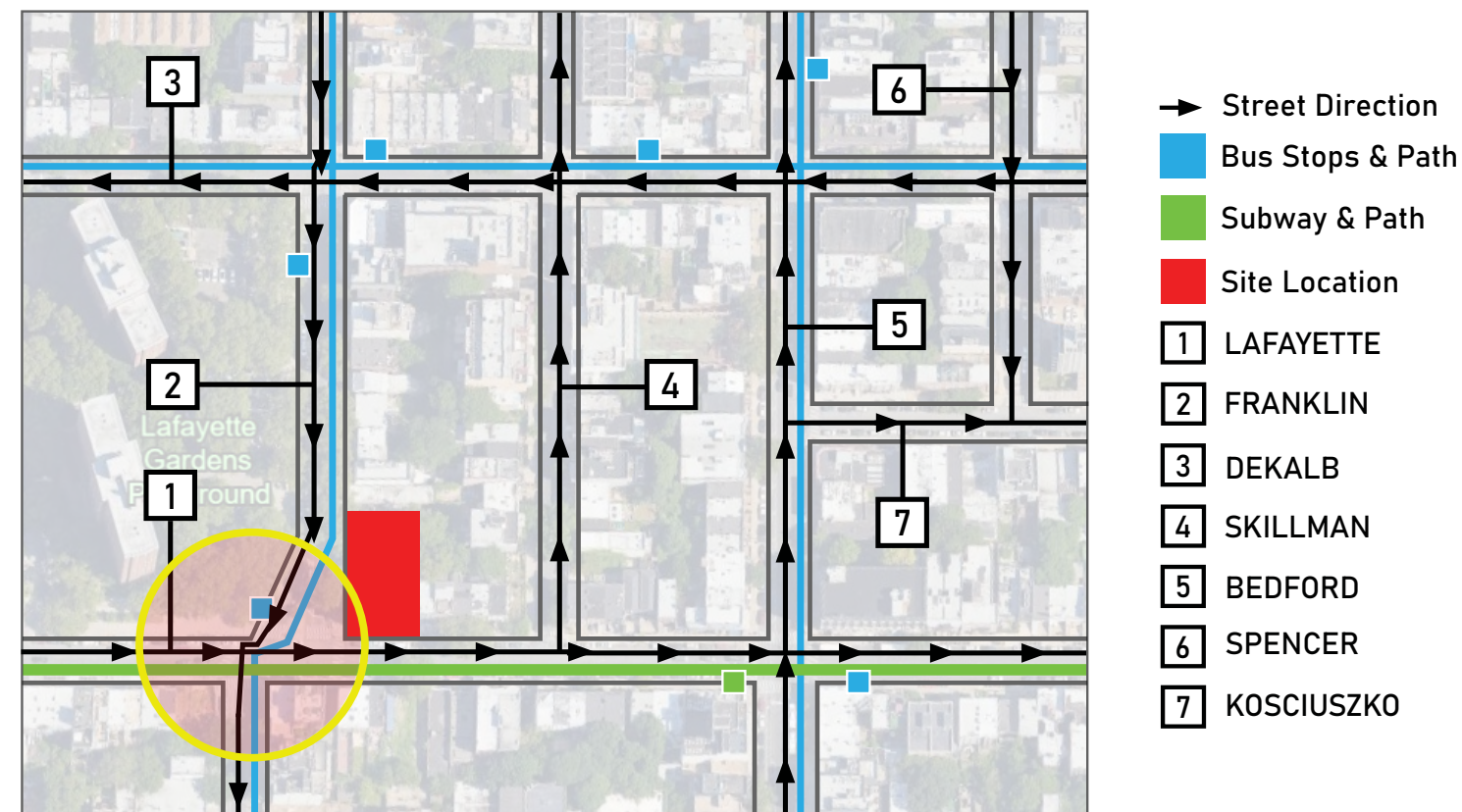


BY ROTATING AND STAGGERING THE "L" UNIT SHAPES, GATHERING SPACES ARE CREATED FOR RESIDENTS TO INTERACT AND SHARE.

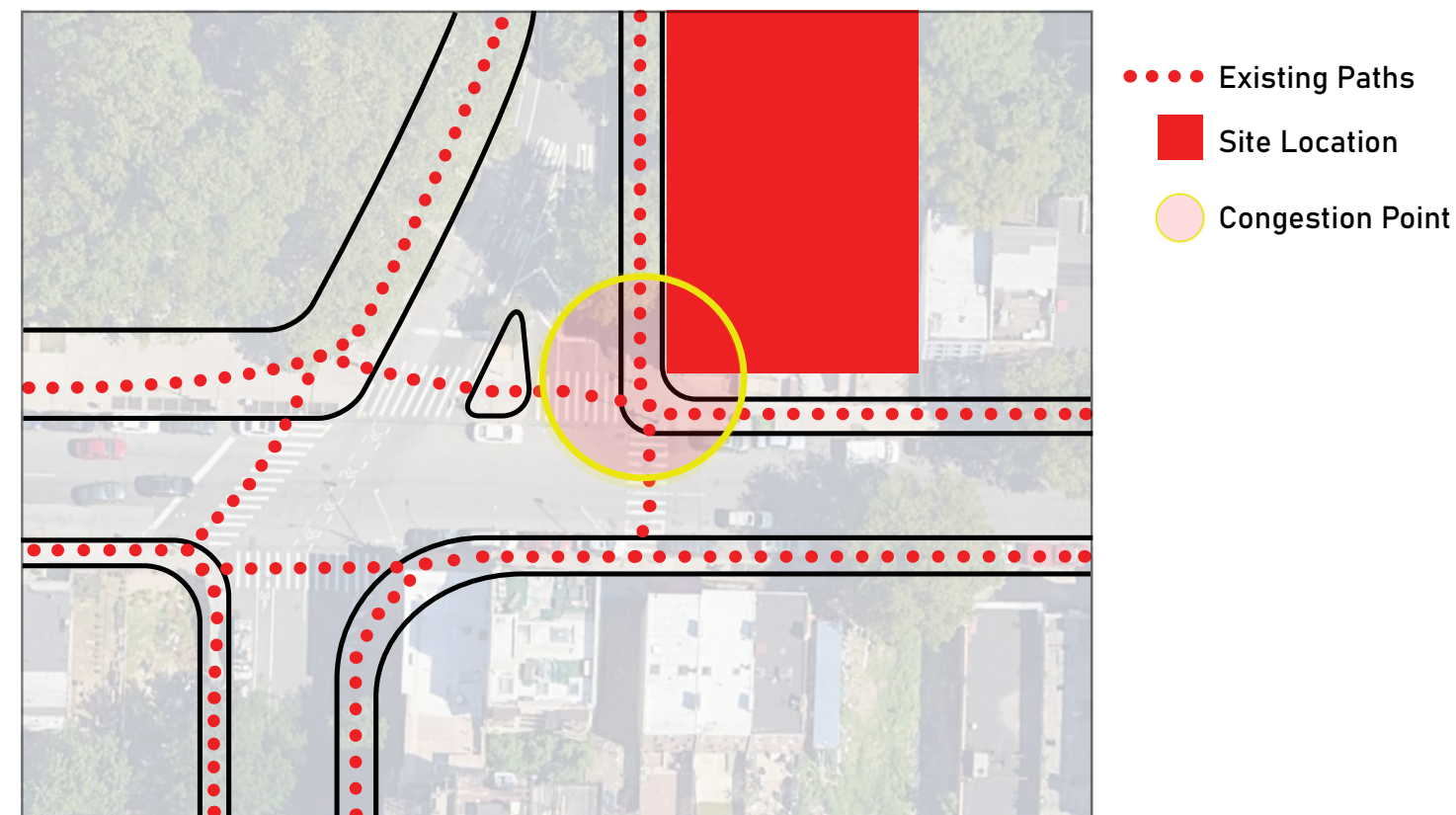


SITE CIRCULATION ANALYSIS: Points of Congestion

Vehicular Circulation: Bus + Subway + Car



Pedestrian Circulation: Existing Pathways

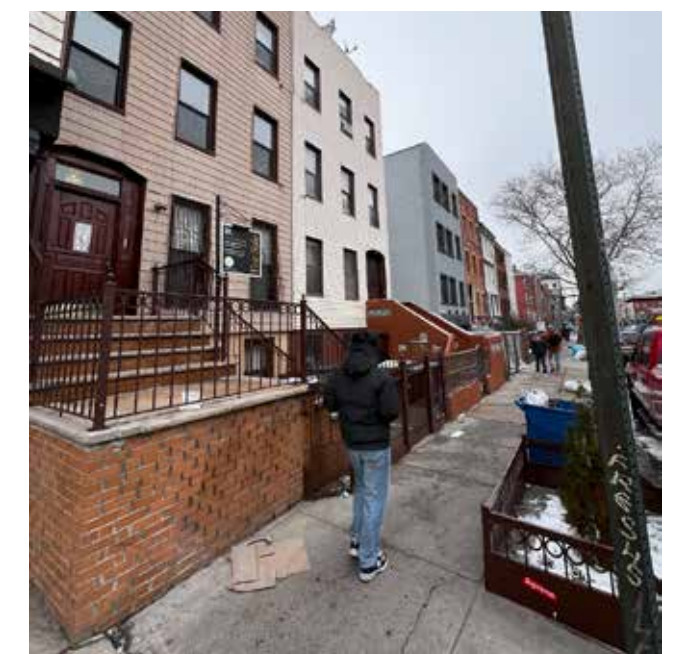


NE Corner @ Franklin & Lafayette

Site NE Corner of Lafayette and Franklin: As we visited the site, we noticed the difference between the east and west side walkways differing in levels of openness. The Lafayette public housing path is open and easy to navigate, whereas directly at the site location the walkway is congested with parallel parked cars and frequent pedestrian use due to the commercial corner, public transport, & busy intersection.



NW Corner @ Franklin & Lafayette

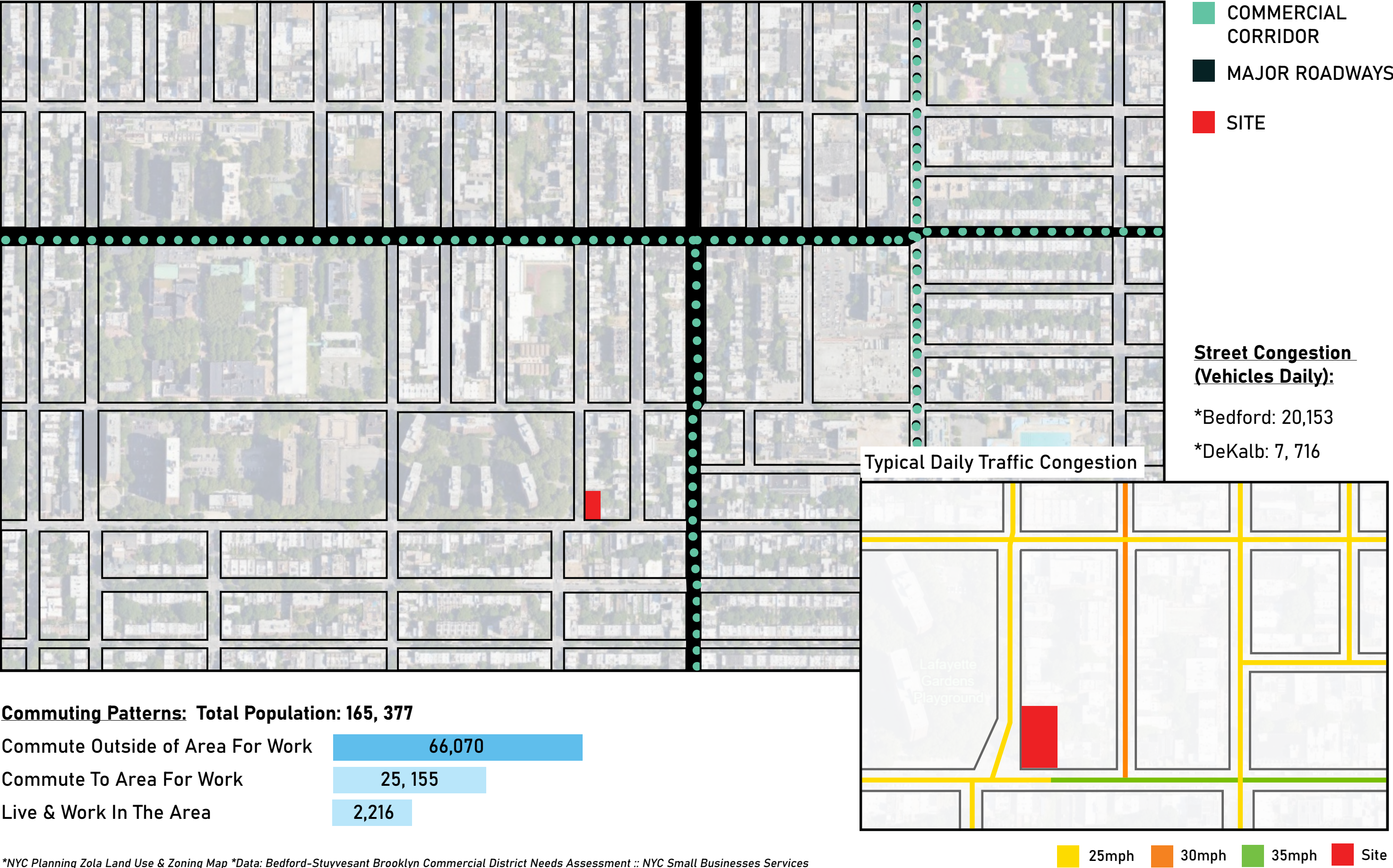


NE Corner @ Franklin & Lafayette

How could we create a similar open atmosphere in less congested walkway through the new site design? We believe this would be important for residents as they enter and exit the building to have ease of movement and feel less like they were directly apart of the congested street scape.

SITE TRAFFIC ANALYSIS: Frequency of Use & Type of Use

Bedford Stuyvesant Brooklyn Site Area



Commuting Patterns: Total Population: 165, 377

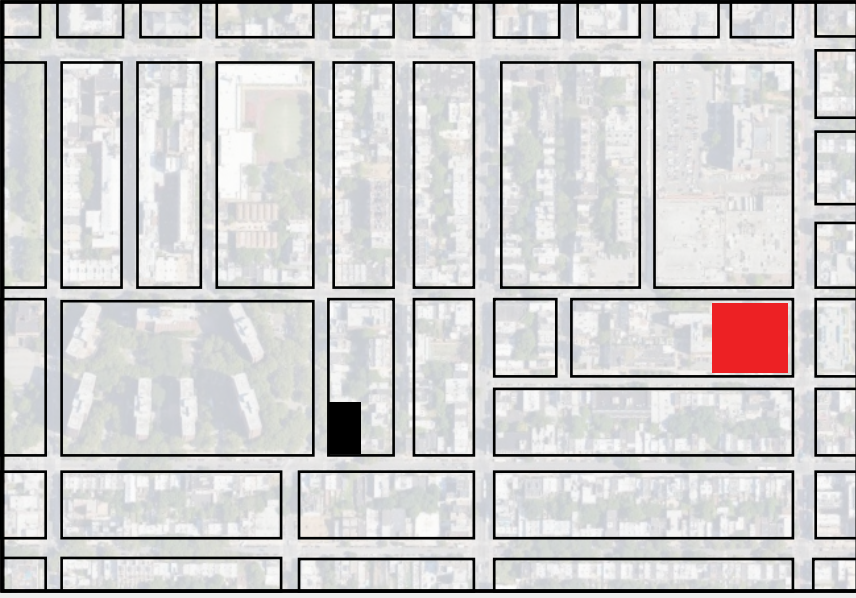


Commute Outside of Area For Work	66,070
Commute To Area For Work	25,155
Live & Work In The Area	2,216

*NYC Planning Zola Land Use & Zoning Map *Data: Bedford-Stuyvesant Brooklyn Commercial District Needs Assessment :: NYC Small Businesses Services

SITE PROJECTIONS OVERTIME: Resident & Housing Types



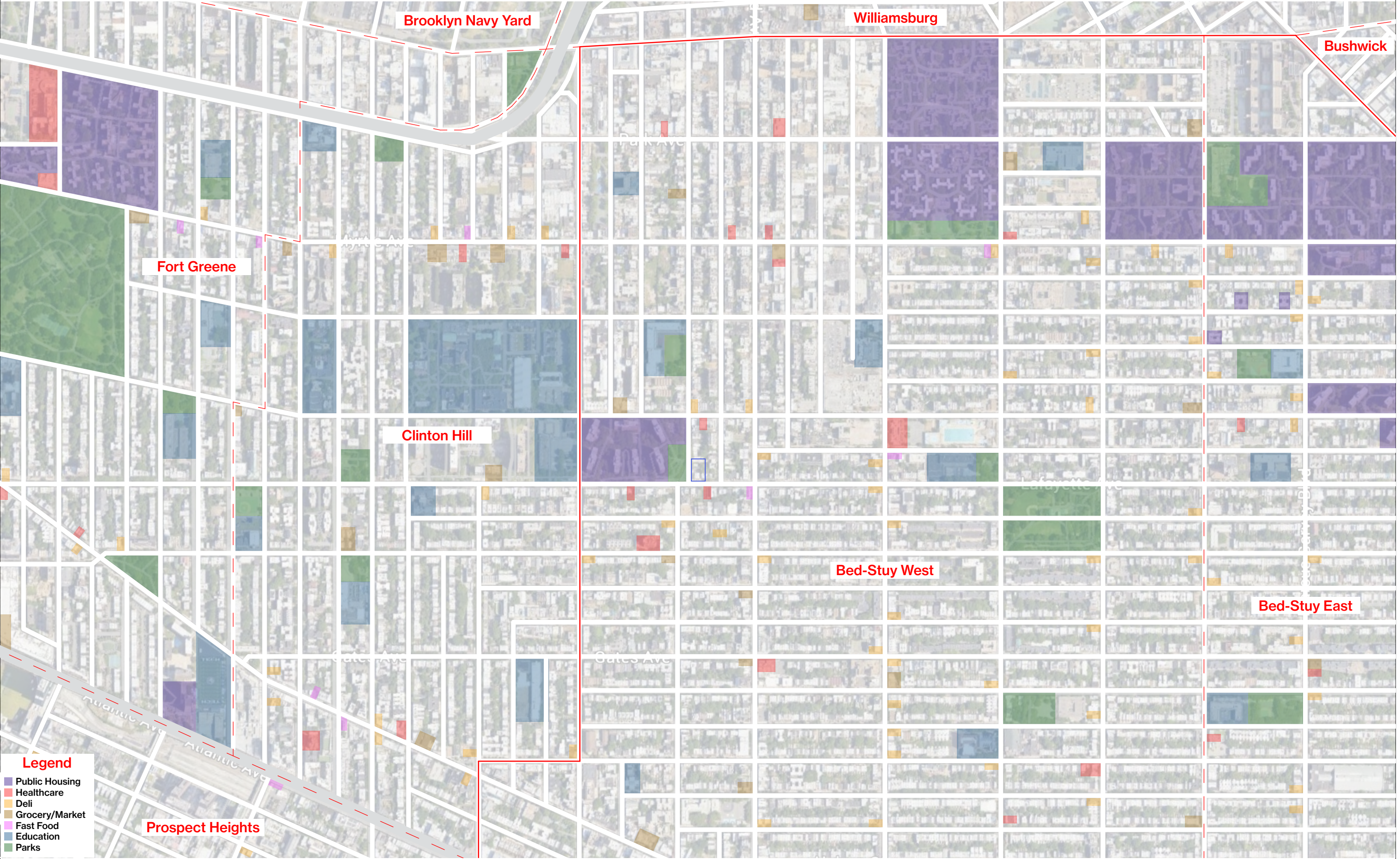
Site Photos: 1. Skillman St. 2-3. Lafayette St.



■ Site ■ 270 Nostrand Ave

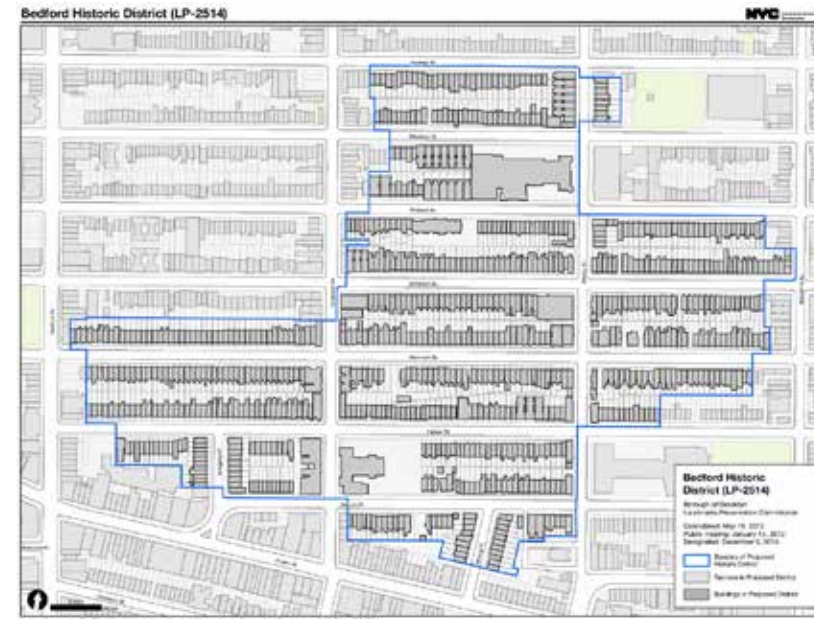
- 4-Story
- 487 Unit Rental
- 144 Affordable Units
- Community Facility Space
- Interior Courtyard
- 176 Parking Spaces

Rendering of 270 Nostrand Avenue Via BRP Companies



SITE PROJECTIONS OVERTIME: Resident & Housing Types

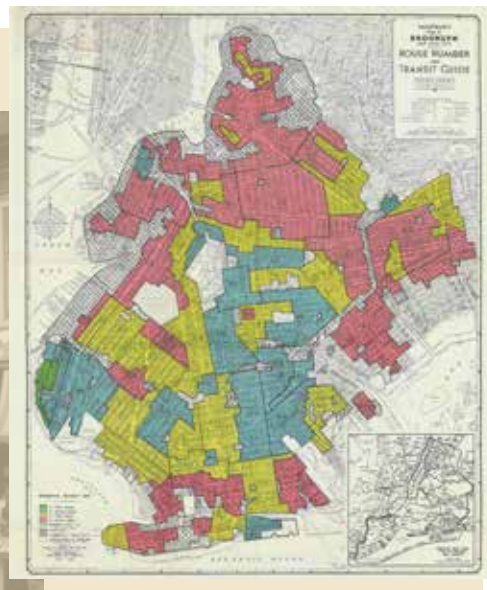
1870s - 1920s



Works by architects such as Amzi Hill & Montrose Morris became apart of Bedford Stuyvesant's Historic District encompassing structures from Monroe to Verona Pl, Tompkins Ave and Nostrand Ave.

**Neo Grec + French Influence + Queen Anne Style + Bauhaus White Cities movement*

1920s - 1970s



Real estate speculation resulted in a shift from single and two-family homes to building tenements and lower level commercial + 2nd level apartment type homes. The 50's and 60's saw Robert Moses practice slum clearance for urban renewal housing projects.

1870s - 1920s Demographics

1870's: Upper middle-class individuals began moving into the area, especially as the townhouse boom came about.

1920s: 2nd generation immigrants moved into the area from the Lower East Side, and wealthier black residents followed out of Harlem.

1920s - 1970s Demographics

1930s: The press and white residents began to view the diversity of Bedstuy as a threat, and began to leave the area. This resulted in the increase in more conditions and high living costs.

1950s: Due to white flight & relaxed immigration for the Caribbean countries, Bedford Stuyvesant was 90% black at this time.

1960'-1970's: Despite most residents being middle class, the rate of poverty increased amongst African American, Hispanic and the remaining white population. Public housing became rundown and hellish.

Late 1600s/1700s

In the late 1600s, what is now Bed-Stuy was owned by three Dutch settlers: Dirck Janse Hoogland, who ran a ferry on the East River, and farmers Jan Hansen and Leffert Pietersen van Haughwout. Bedford was the earliest settlement in Kings County, just east of Brooklyn, while Stuyvesant Heights was mainly farmland. The area formed into a community following the Revolutionary War.



Early 1800s

The present street grid was laid out in 1835, as shown by the Street Commissioners map of 1839, and the blocks were divided into lots. The new street grid led to the abandonment of the Brooklyn and Jamaica Turnpike in favor of a continuation of Brooklyn's Fulton Street.



Mid-1800s

The Dripps Map of 1869 shows that the area was still largely rural with a few freestanding houses mostly on MacDonough Street. The real development of the district began slowly at first, accelerating between 1885 and 1900, and gradually tapering off during the first two decades of the 20th century.



Late 1800s

Construction of masonry row houses in the 1870s began to transform the rural district into an urban area. The first row of masonry houses in Stuyvesant Heights was built in 1872 on MacDonough Street. In the 1880s and 1890s, more rows were added. The houses had large rooms, high ceilings and large windows, and were built primarily by German immigrants. The people who bought these houses were generally upper-middle-class families, mostly lawyers, shopkeepers, and merchants of German and Irish descent.



Early 1900s

During the 1930s, major changes took place due to the Great Depression years. Immigrants from the American South and the Caribbean brought the neighborhood's black population to around 30,000, making it the second largest Black community in the city at the time.



Mid-1900s

By 1950, the number of black residents had risen to nearly 155,000, comprising about 55 percent of the population of Bedford-Stuyvesant. In the 1950s, real estate agents and speculators employed blockbusting to turn a profit. As a result, formerly middle-class white homes were being turned over to poorer black families. Bed-Stuy was comprised of very few unified families and the median income had tanked. By 1960, eighty-five percent of the population was black.

Late 1900s

In 1967, Robert F. Kennedy, U.S. senator for New York state, launched a study of problems facing the urban poor in Bedford-Stuyvesant, which received almost no federal aid and was the city's largest non-white community. Under Kennedy's leadership and with the help of activists, the Bedford Stuyvesant Restoration Corporation was established. The BSRC bought and renovated many housing units as well as administered a \$73 million mortgage assistance program to encourage African-American homeownership.



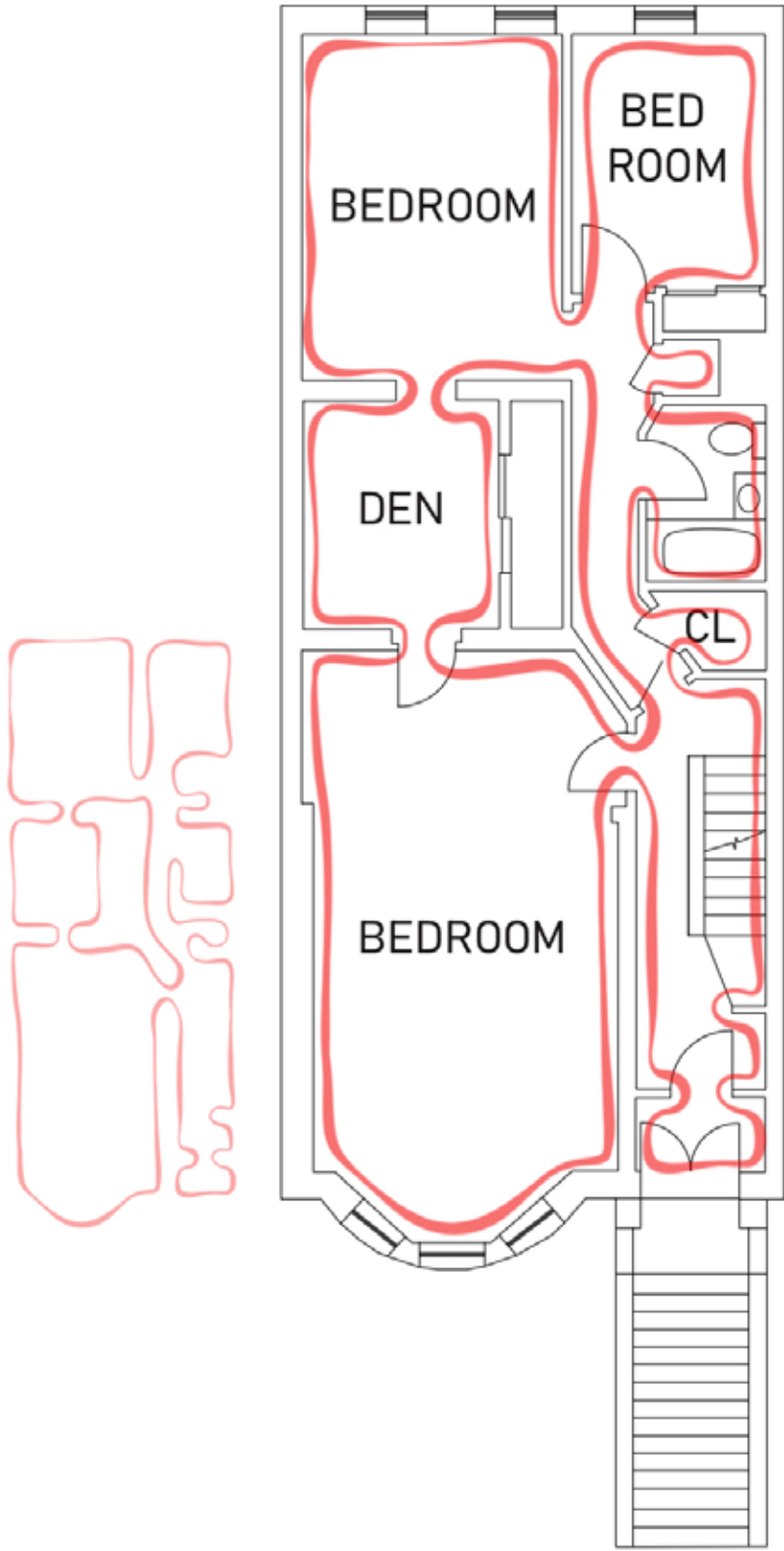
2000s

Beginning in the 2000s, the neighborhood began to experience gentrification. The two significant reasons for this were the affordable housing stock consisting of brownstone rowhouses located on quiet tree-lined streets, as well as the marked decrease of crime in the neighborhood. Many properties were renovated after the start of the 21st century, and new retailers began moving to the neighborhood. Despite the largest recession to hit the United States in the last 70 years, gentrification continued steadily in the 2010s. Other infrastructure upgrades in the neighborhood included major sewer and water modernization projects, as well as fiber-optic and cable service upgrades. Improved natural and organic produce continued to become available at local delis, grocers, farmer's markets. According to the 2020 census data from New York City Department of City Planning on the neighborhood racial demographics, western Bed-Stuy now has an almost equal population of White and Black residents.

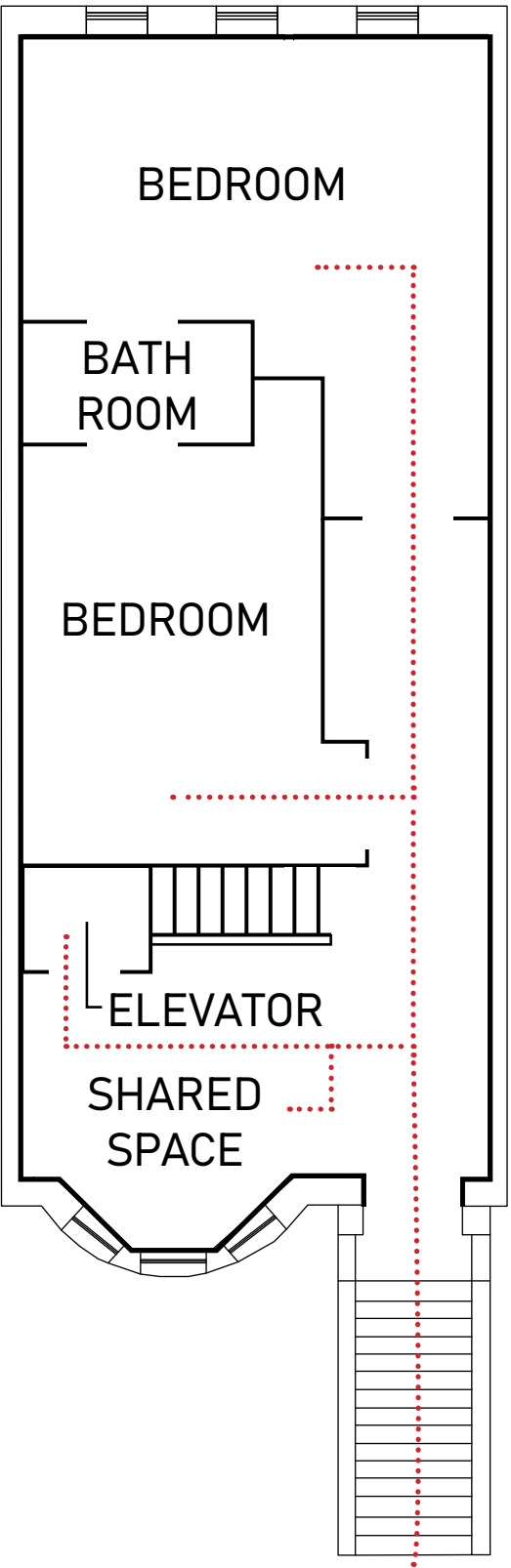


FLOOR AREA DIAGRAMS: Multi Generational Resident & Structure Typologies

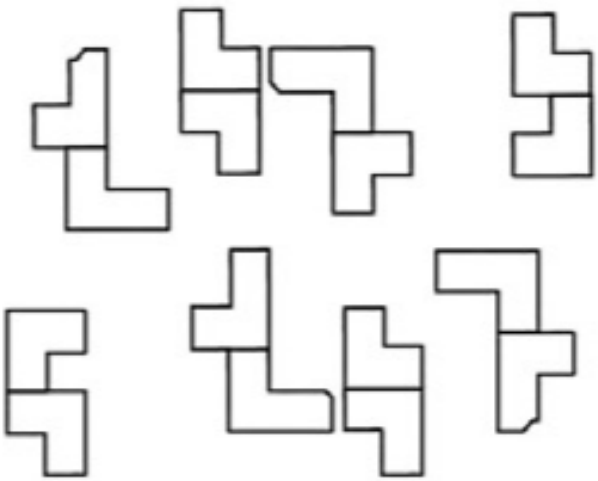
Second LVL Floor Plan
1/8" = 1'



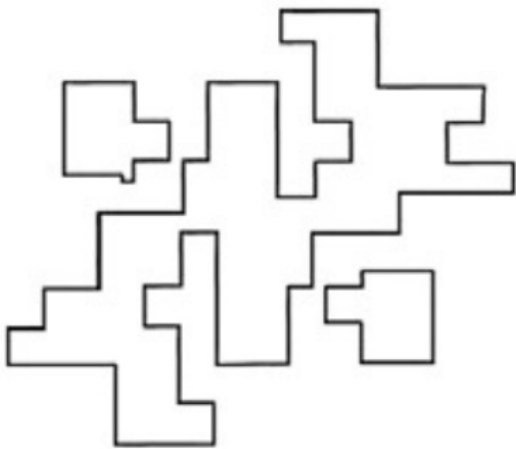
Typical 1 Family Brownstone



Older Adult Design Consideration +
Non-Related Resident Consideration



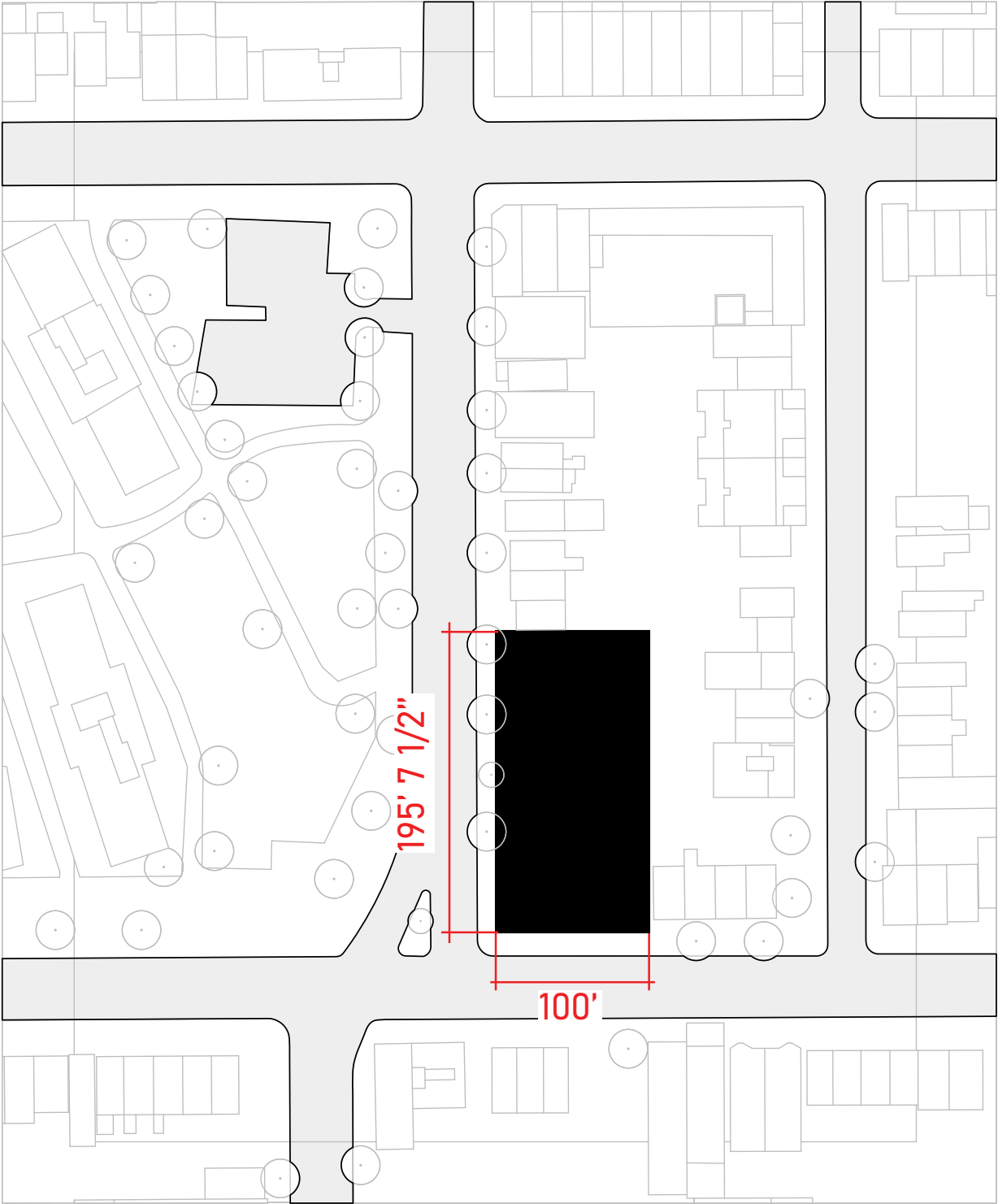
L-Shaped Dwellings



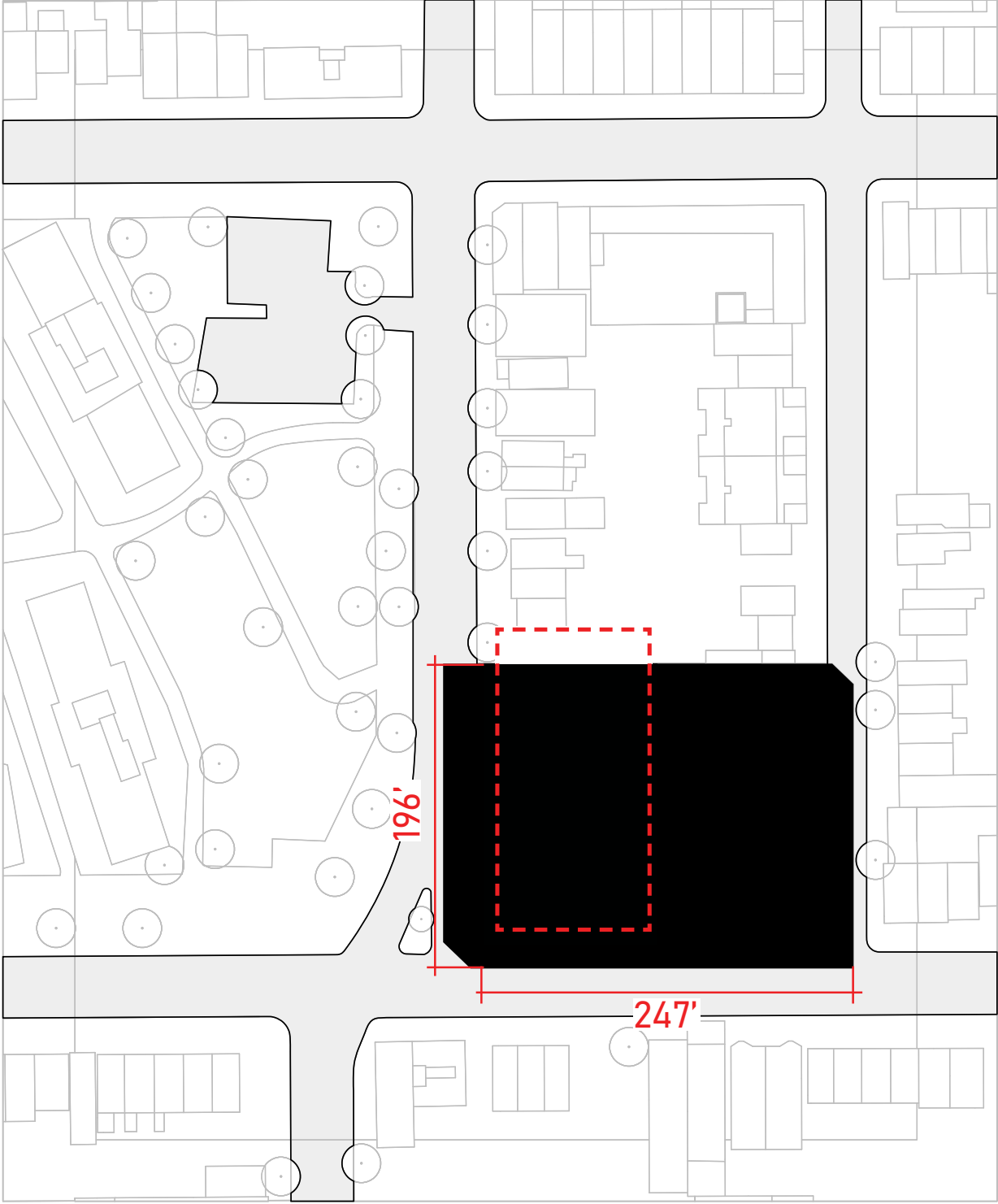
Circulation Passages

PRECEDENT ANALYSIS: Existing Site & Site Overlay

1/8" = 1'



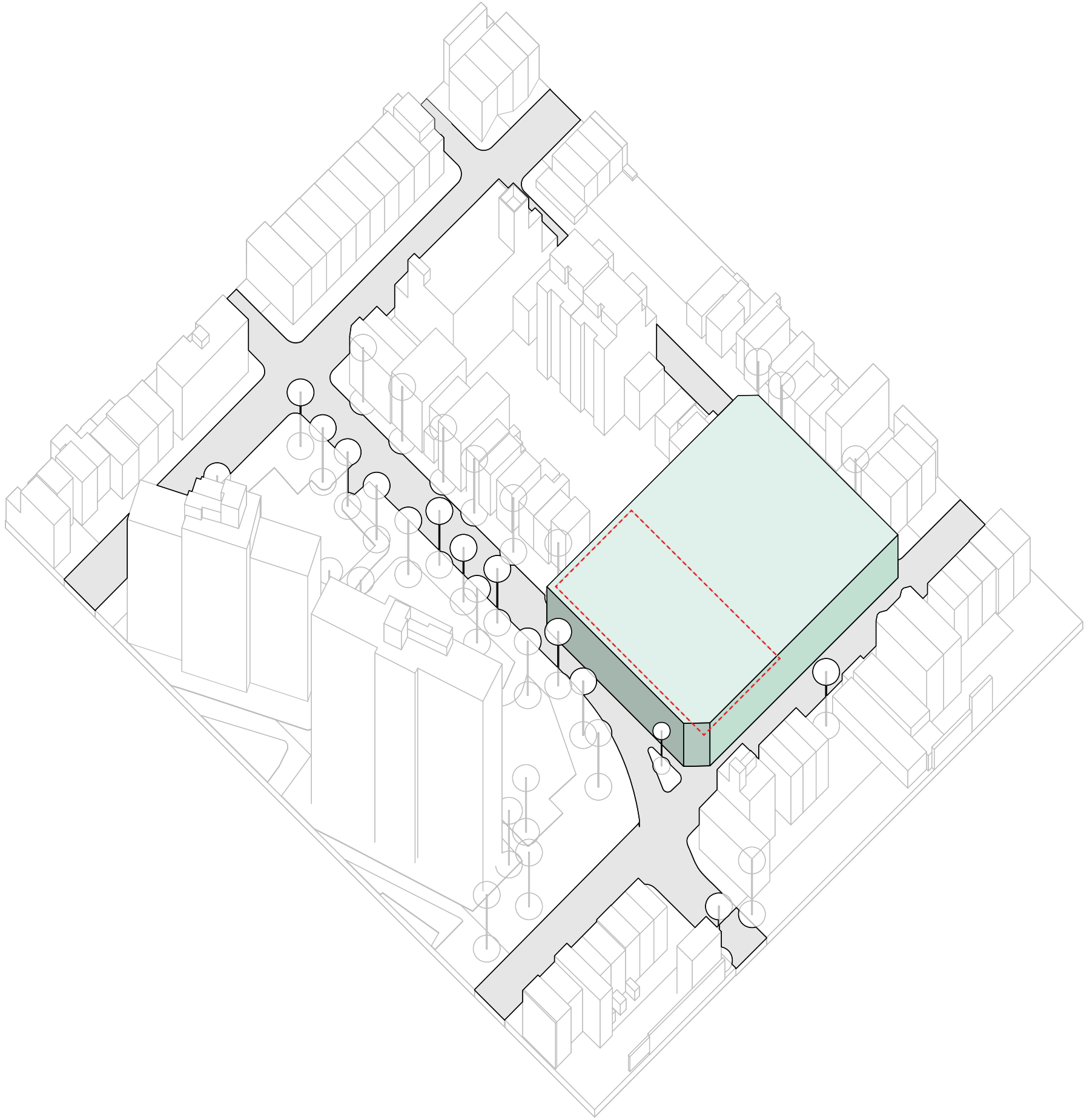
EXISTING SITE



ODHAM'S WALK SITE OVERLAY

PRECEDENT ANALYSIS: Existing Site & Site Overlay

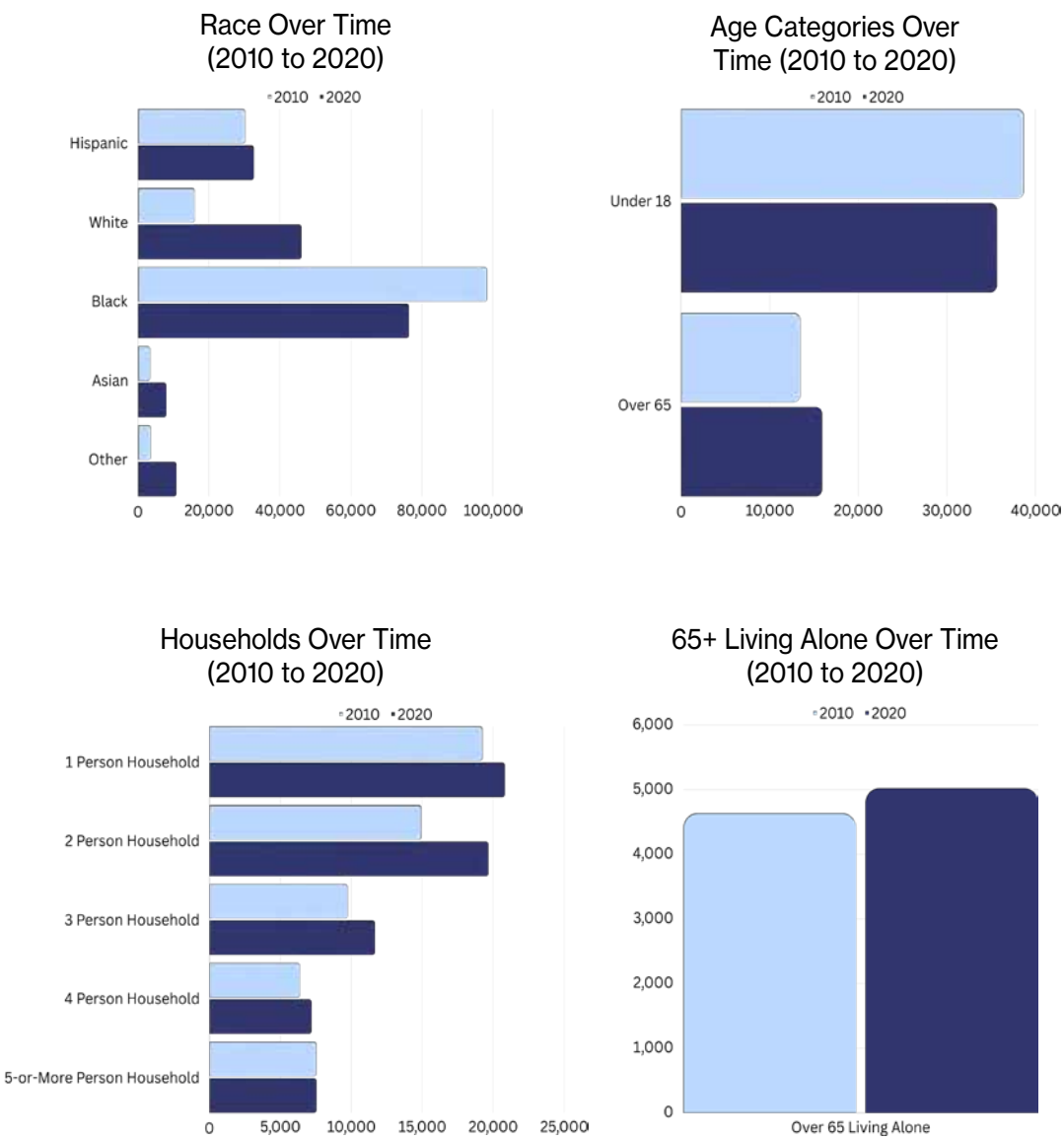
1/8" = 1'



User : Demographics

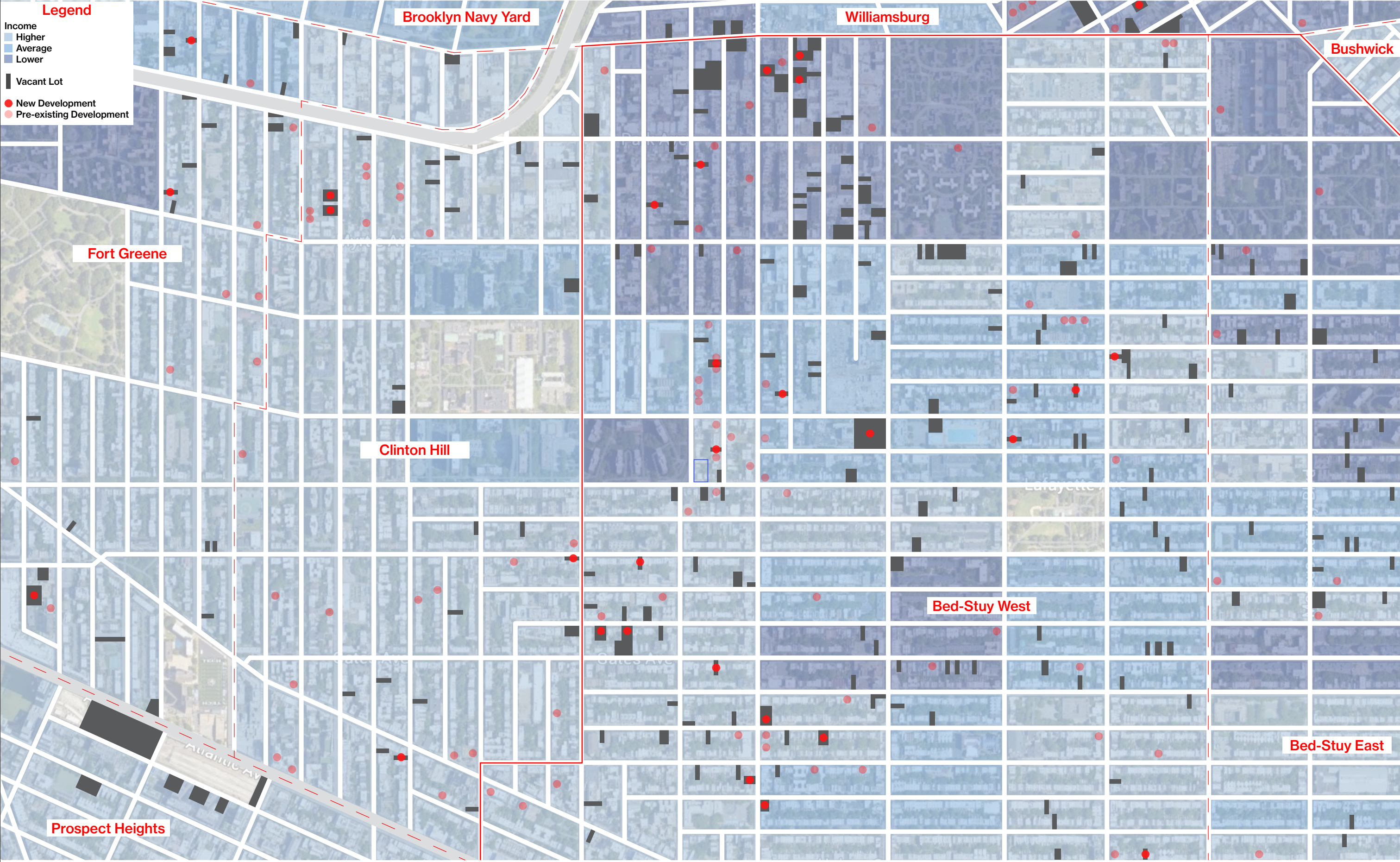
These graphs visualize the change over time, from 2010 to 2020, for some of the most crucial demographics when referring to both gentrification and multi-generational dwellings. By analyzing this data, it is notable that the rate of Black people in Bed-Stuy and in the site’s tract (BK233) are falling at a similar rate to the increase in White people. This implies a wave of gentrification in the area, and can further be cemented by referencing the Income-Development Map. In regards to multi-generational dwellings, there has been an increase in individuals ages 65 or older living alone, as well as a slight decrease in larger families, with 2 and 3 person households growing the most. This suggests a shift away from multi-generational living, at least in the sense of blood relation.

Bedford-Stuyvesant



Brooklyn Tract 233





Pratt Institute School of Architecture
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Course Syllabus

DESIGN PROJECT – ASSIGNMENT 2 (A2)

UNIT TYPE + 12 UNIT CLUSTER

Time: 2 weeks
Issue date: 01/25/2024
Due Date: 02/08/2024
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 Emergent Cohousing Communities. This phase requires the development of a Unit Type and the testing of the grouping of a twelve-unit cluster, considering circulation (interior) and fresh air (exterior) within its solution. In this assignment, the development of the project plan and section is to understand the relationship and adjacencies of the programmatic elements. Reference the ARCH 300 – Design Manual for bathroom and kitchen information.

CONSIDERATIONS

- 1) How do the apartment units stack? Are they offset volumetrically with Bathrooms/Kitchens in alignment?
- 2) Is there porosity between the apartment units to access the exterior and expand internal space for shared programmatic opportunities?
- 3) Begin to address the mechanical, structural, and façade systems.
 - Façade systems - Light, air, views with the consideration of the site conditions.
 - Mechanical: solar meditation and sun shading

PROCESS – create a series of prototypical drawings and models that combine the program and site relationships. These investigations are to be scaled into 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 strategies, relationship to the street and public services.
Passive ventilation and natural light:
Skin, roof, and façade systems: Performative
Circulation Systems: pedestrian entry sequence: public, shared program, and private programs.
Site Design Support: parking area, delivery & waste removal.
Site Relationship: neighborhood to city scale relationships, social & cultural

List of Cohousing Precedents: the faculty may have other precedents options for inclusion.
Ifau and Heide & Von Beckerath, IBeB, Berlin, Germany, 2018
Archihood WXY, Seoul Apartment Block, Seoul, South Korea, 2015
Buol & Zünd, Musikerwohnhaus, Basel, Switzerland, 2010
Einszueins Architektur, Co- housing Vienna, Vienna, Austria, 2013
Einszueins architektur, Wohnprojekt Wein, Vienna, Austria, 2013
Enzmann + Fischer Partner AG, Zollhaus, Zurich, Switzerland
Gaupenraub +/-, Vinzirast- Mittendrin, Ifau und Jesko Fezer, Heide & Von Beckerath R50, Berlin, Germany, 2013
Jinhee Park, Songpa Micro- Housing, Seoul, South Korea, 2014
Karawitz, OURCQ, Paris, France, 2016
Krft, Scarwafa Cohousing, Amsterdam, The Netherlands, 2016
Michael Maltzan Architecture, Star Apartments, Los Angeles, CA, 2014
Miel Arquitectos and Studio P10, Barcelona Apartment, Barcelona, Spain, 2014
Mole Architects, Marmalade Lane, Cambridge, United Kingdom, 2018

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Muller Sigrist Architekten, Kalkbreite, Zurich, Switzerland, 2014
N H D M, Wolgok Youth Platform, Seoul, South Korea, 2016
nARCHITECTS, Carmel Place, New York, NY, 2016
Naruse Inokuma Architects, LT Josai, Nagoya, Japan, 2013
Naruse Inokuma Architects, Share House, Nagoya, Japan,
Osamu Nishida/OM design partners and Erika Nakagawa, Cooperative Garden, Tokyo, Japan, 2015
Osamu Nishida/OM design partners and Erika Nakagawa, Yokohama Apartment, Yokohama, Japan, 2009
Pollard Thomas Edwards, New Ground Cohousing, London, England, 2016
Pool Architekten, Mehr Als Wohnen, Haus J, Zurich, Switzerland, 2014
Pool Architektur ZT, Poolhaus, Vienna, Austria, 2007
Rue Nishizawa, Moriyama House, Tokyo, Japan, 2005
Schneider Studer Primas, Zwicky-Süd, Dübendorf, Switzerland, 2015
Stekke + Fraas, Brutopia, Brussels, Belgium, 2015

PRESENTATION REQUIREMENTS – A2

Due Monday 02/08/2024 SHARED Studio Review

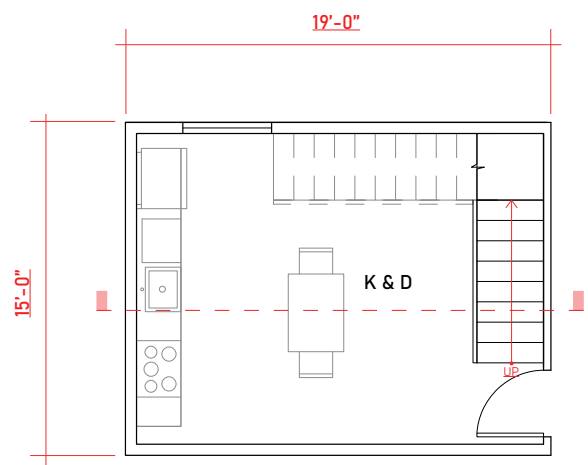
The number of drawings determined by the faculty instructor, studio section, and students that best represent your building design and site organizational strategies. The sheet presentation **format is 22" x 34"** in landscape orientation. North arrow to face the right edge of the sheet. Listed below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

A2: Unit and Cluster Design - Landscape Format: 22 x 34, North to the right

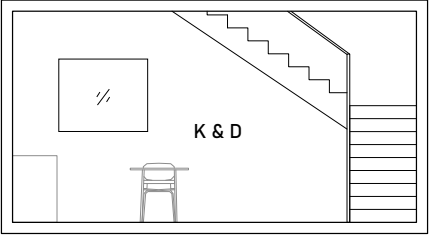
- 2.1 Unit Types (2 Minimum)
 - 2.1.1 Unit 1 Plans and Sections @ ¼"
 - 2.1.2 Unit 2 Plans and Sections @ ¼"
 - 2.1.3 Optional Unit 3 Plans and Sections @ ¼"
 - 2.1.4 Unit Models
- 2.2 Cluster
 - 2.2.1 Cluster Organization Diagrams
 - 2.2.2 Cluster Plans and Sections @ ¼"
 - 2.2.3 Façade Study @ ¼"
 - 2.2.4 Cluster Models @ ¼"
- 2.3 Site Model @ 1/16" = 1'-0"

UNIT PLANS & SECTIONS
@ 1/4" = 1'

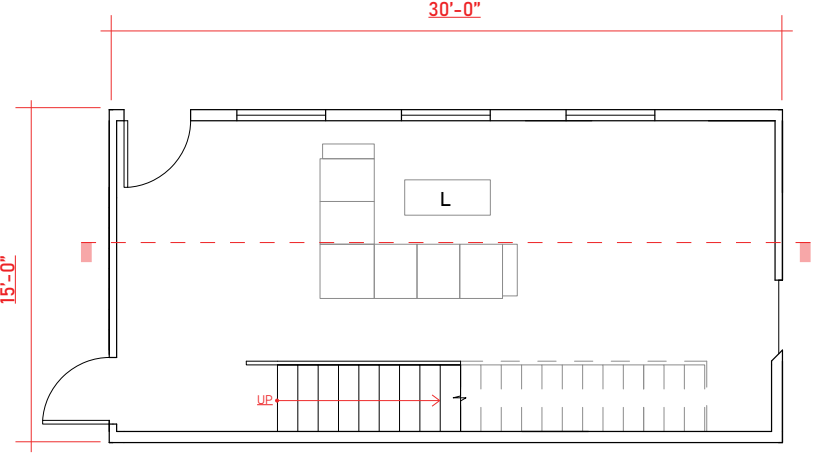
- Room Key:
B: Bedroom
R: Restroom
L: Living Rm
K: Kitchen
D: Dining
T: Terrace



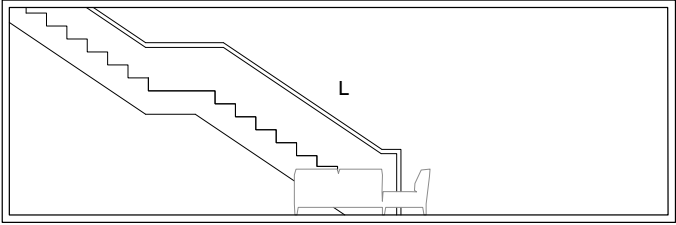
SINGLE PERSON UNIT :: 1st LVL



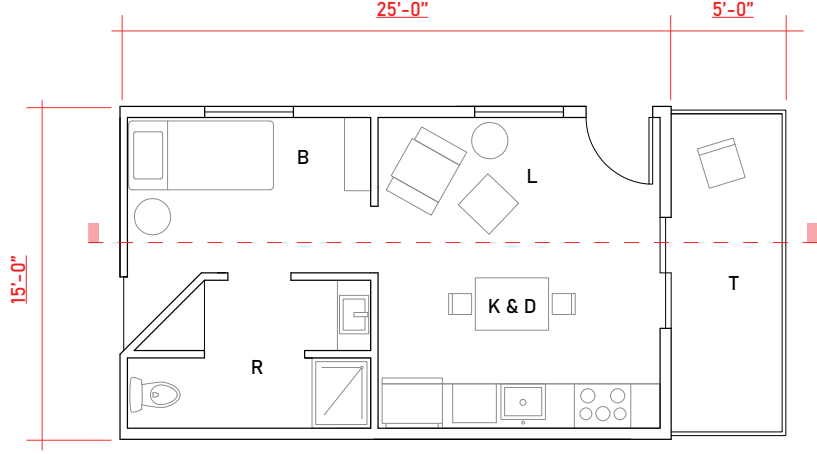
KITCHEN/COMMUNAL SPACE SECTION



CLUSTER SHARED COMMUNAL SPACE :: 1st LVL



COMMUNAL GATHERING SECTION



SENIOR SINGE UNIT :: 1st LVL

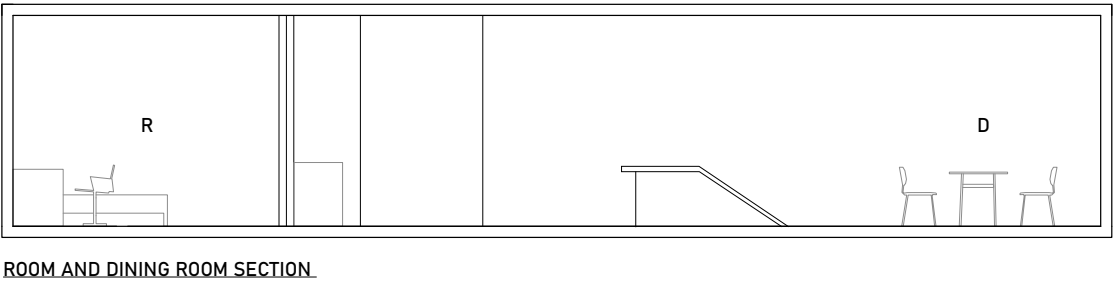
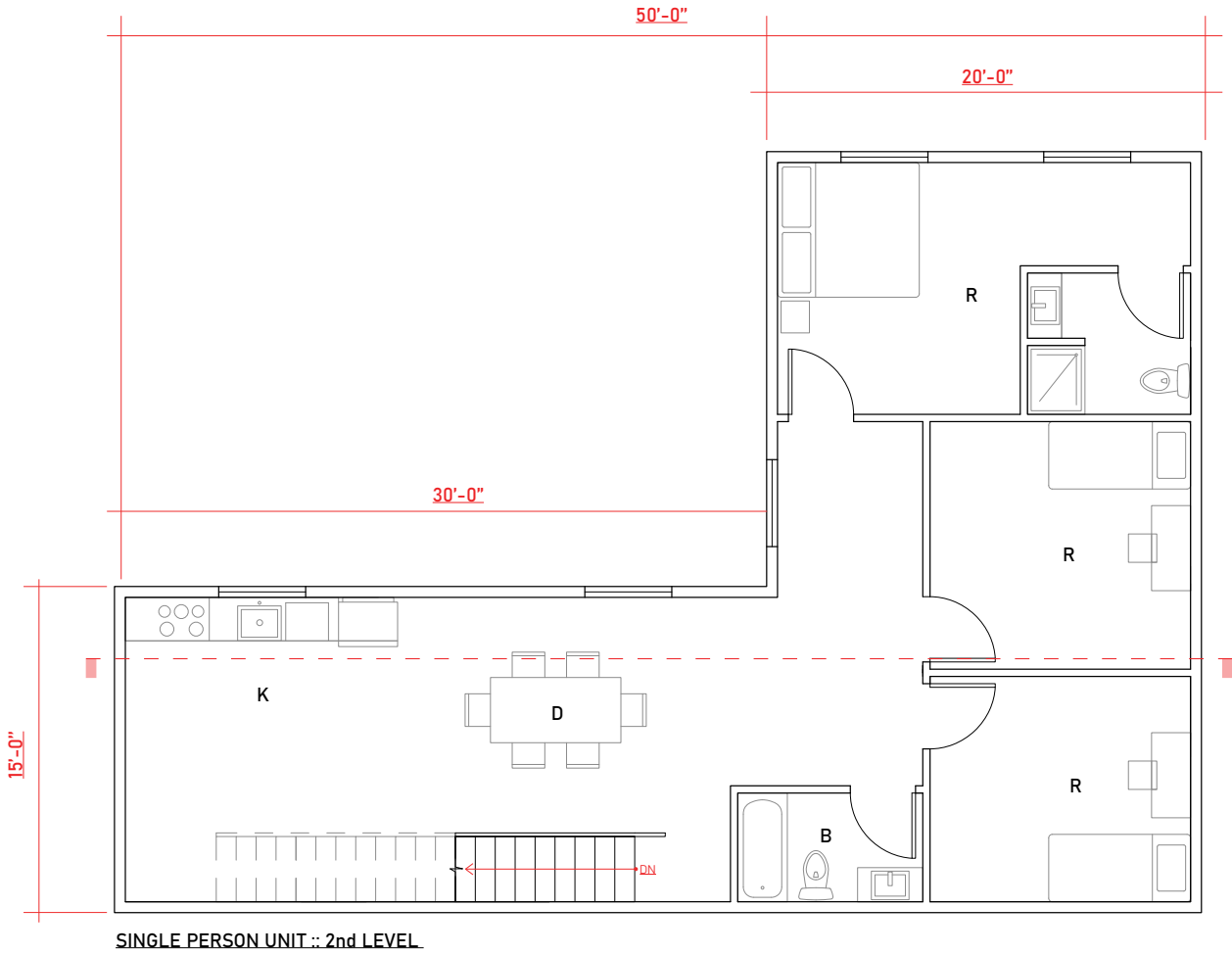
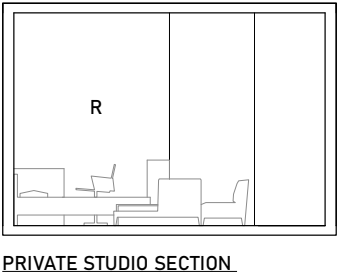
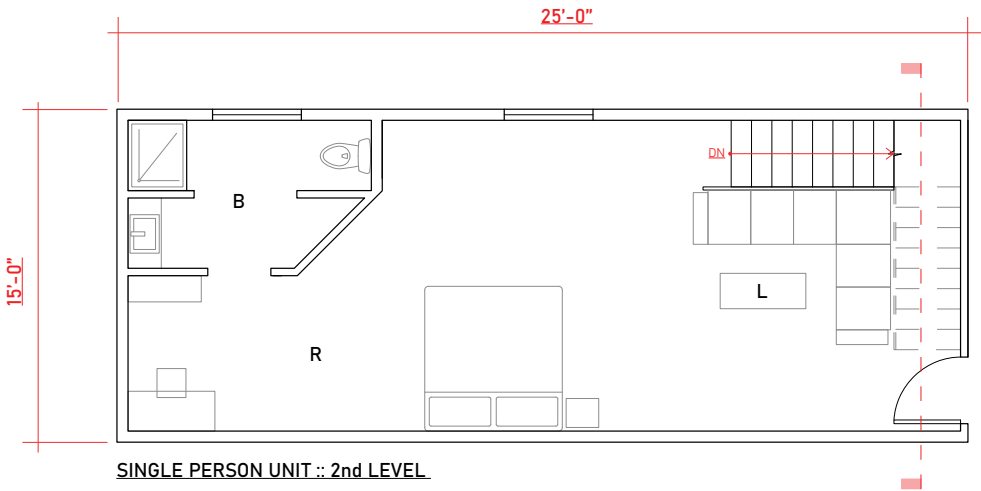


COMMUNAL GATHERING SECTION

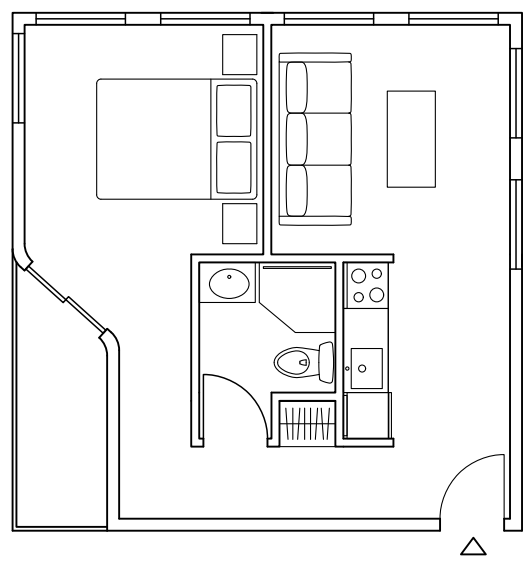
UNIT PLANS & SECTIONS
@ 1/4" = 1'

Room Key:

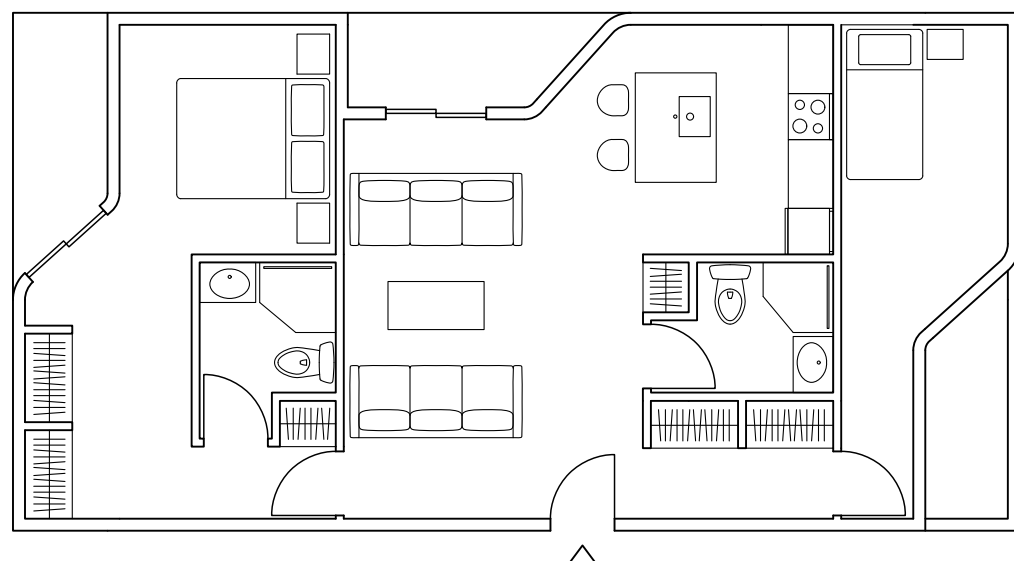
- B: Bedroom
- R: Restroom
- L: Living Rm
- K: Kitchen
- D: Dining
- T: Terrace



FLOOR PLAN #1: SINGLE/SENIOR + FAMILY UNIT DESIGN
1/8" = 1'

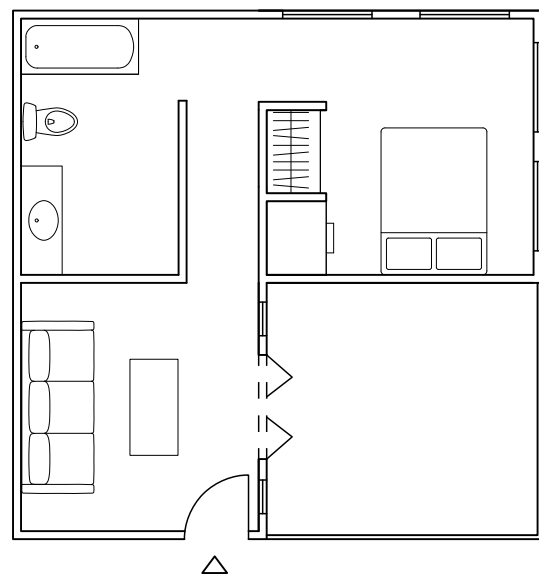


SINGLE UNIT:
SENIOR OR SINGLE

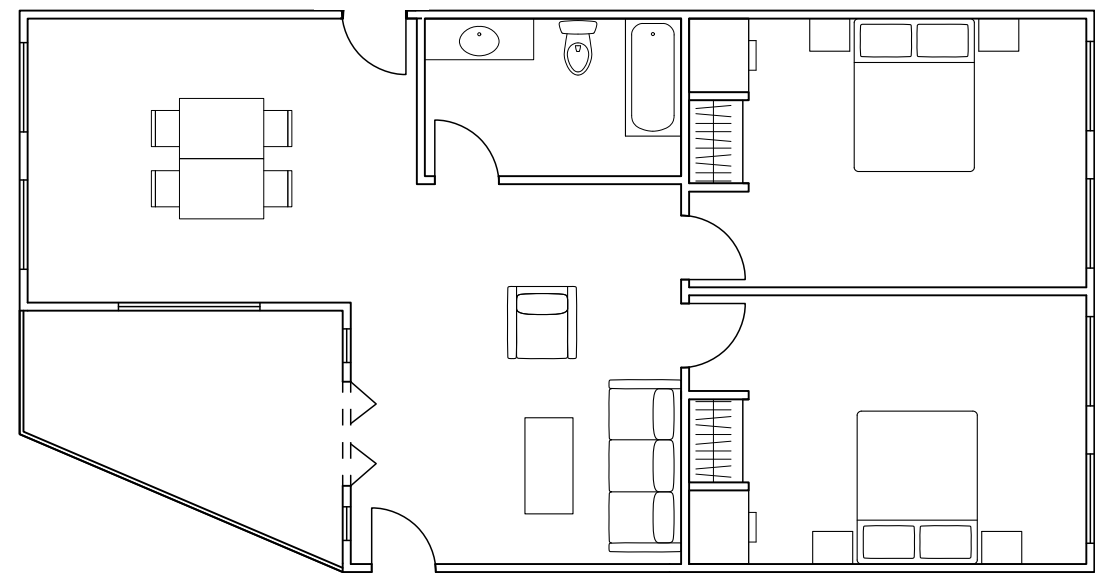


SINGLE UNIT:
FAMILY

FLOOR PLAN #2: SINGLE/SENIOR + FAMILY UNIT DESIGN
1/8" = 1'

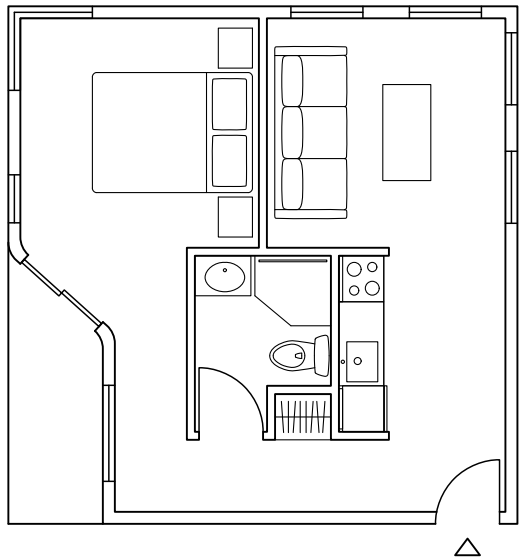


SINGLE UNIT:
SENIOR OR SINGLE

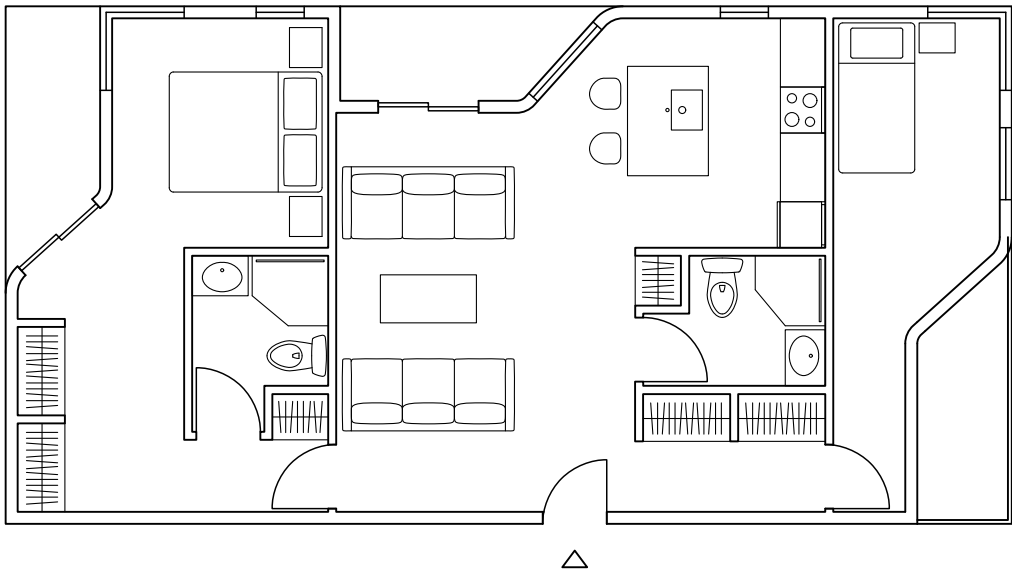


SINGLE UNIT:
SENIOR OR SINGLE

FLOOR PLAN #1: SINGLE/SENIOR + FAMILY UNIT DESIGN
1/8" = 1'

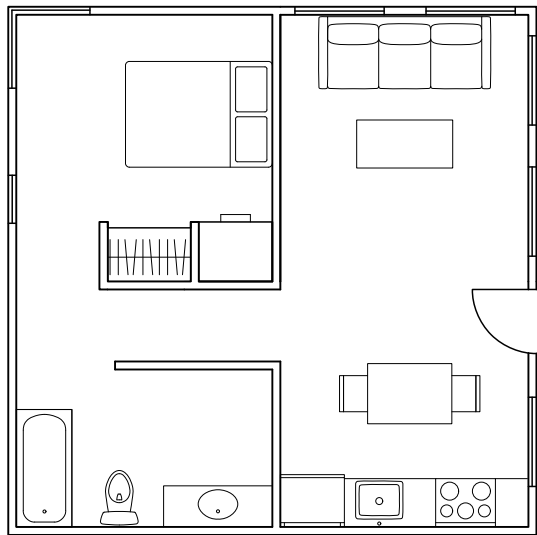


SINGLE UNIT:
SENIOR OR SINGLE

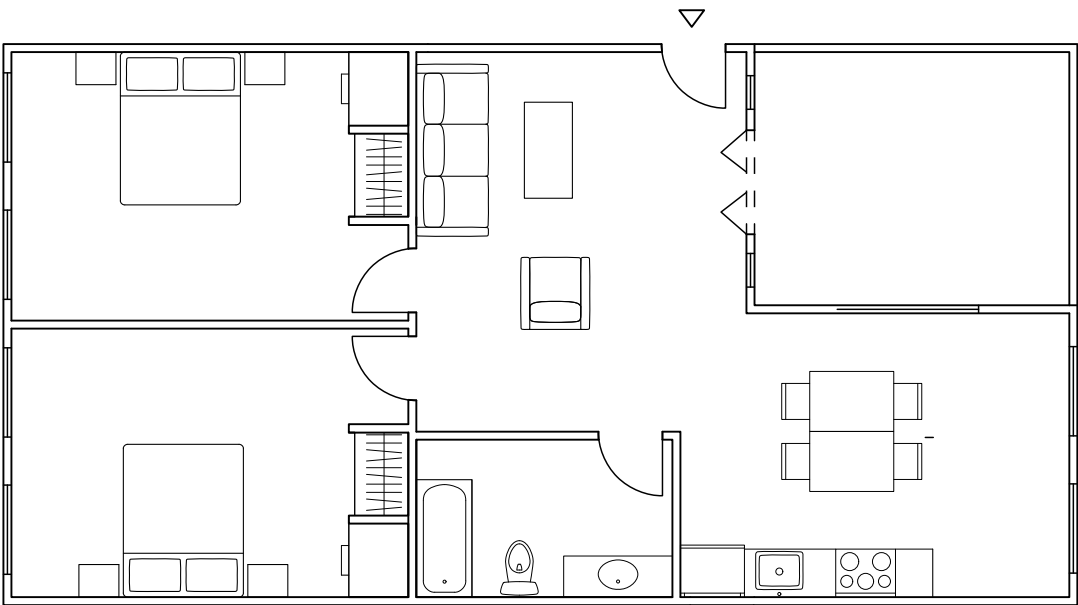


SINGLE UNIT:
FAMILY

FLOOR PLAN #2: SINGLE/SENIOR + FAMILY UNIT DESIGN
1/8" = 1'



SINGLE UNIT:
SENIOR OR SINGLE



SINGLE UNIT:
SENIOR OR SINGLE

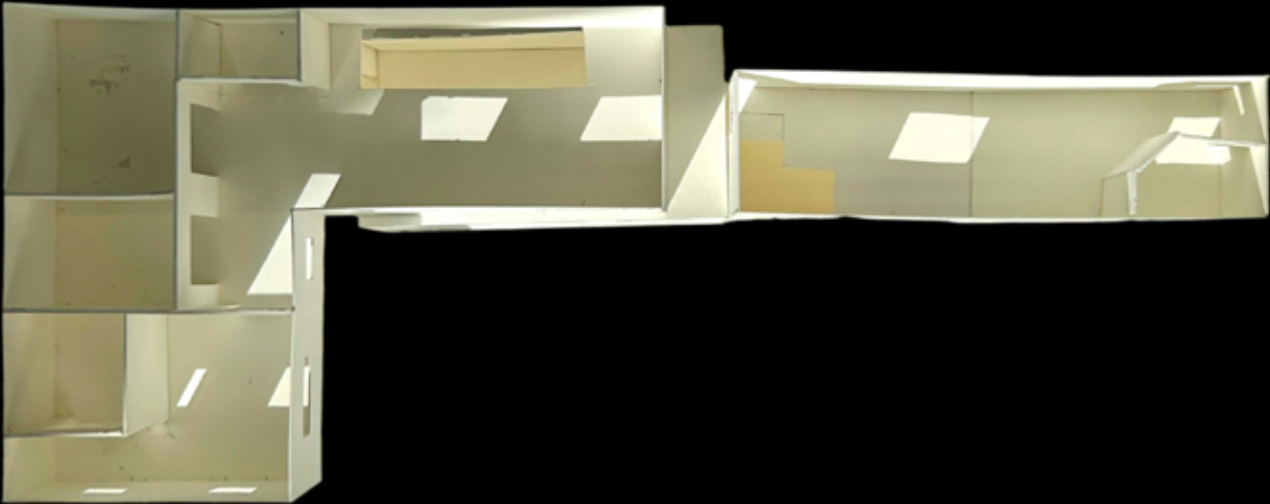
UNIT TYPE DEVELOPMENT MODELS 1/4" = 1'-0"



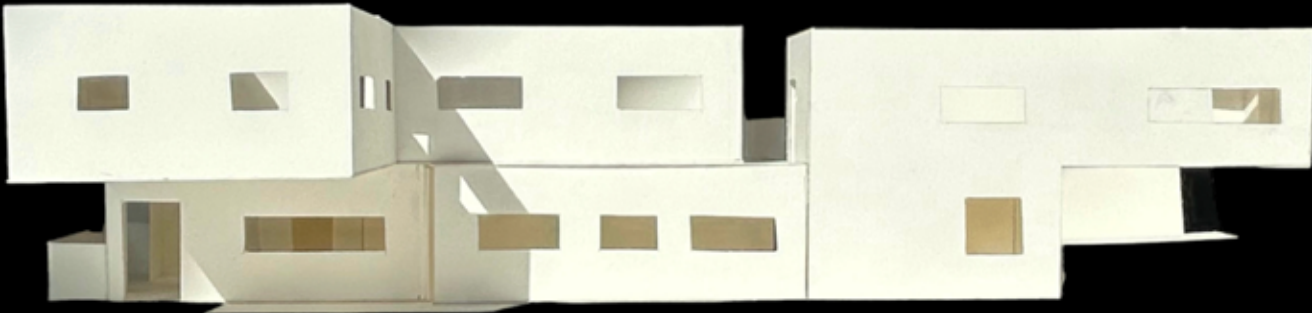
Single Unit Ground Floor



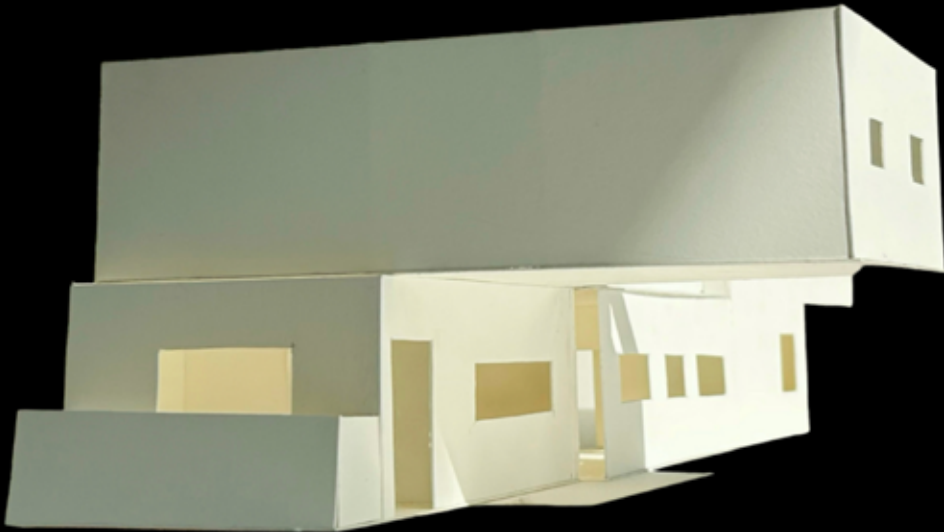
Single Unit Ground Floor



Two Bed Unit Plan

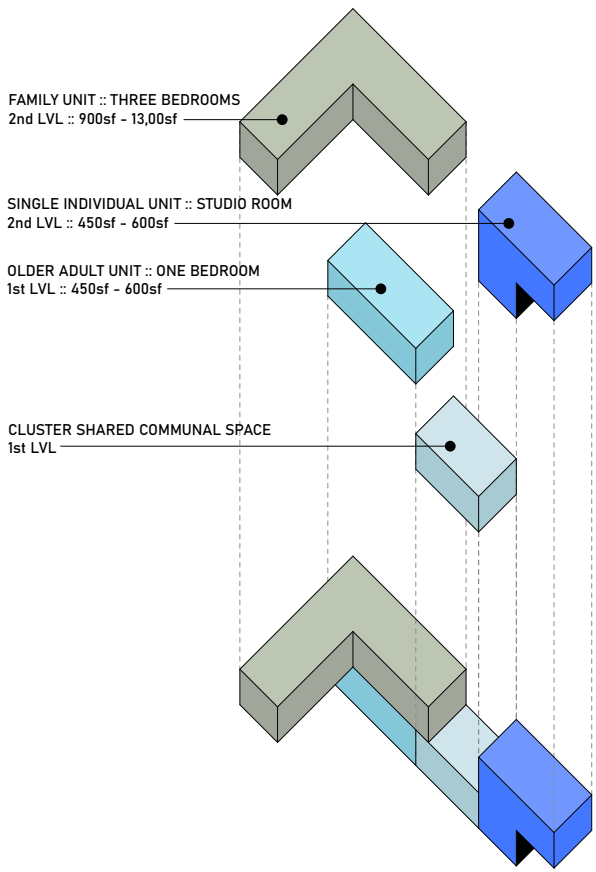


Unit Cluster Elevation

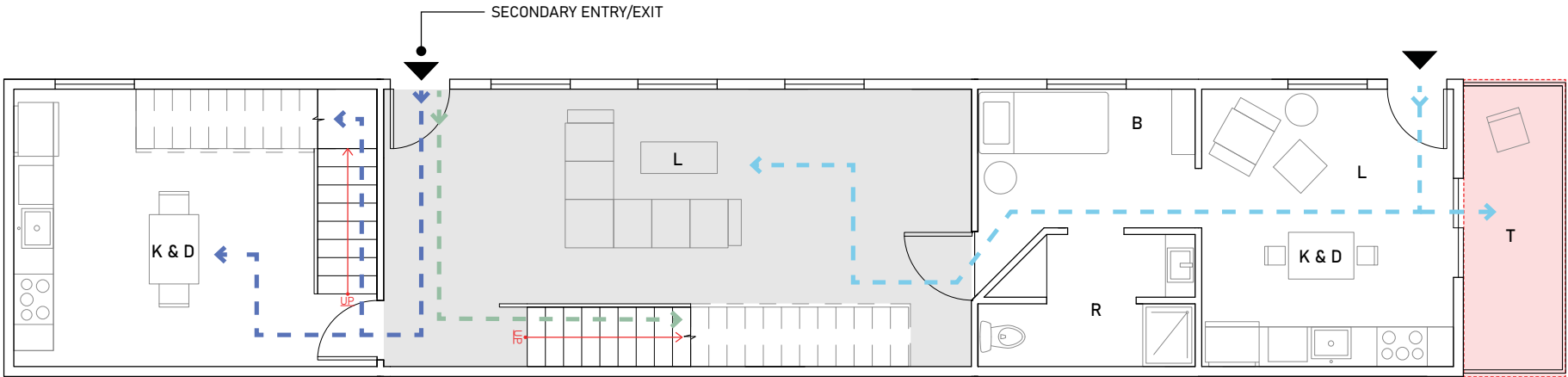


Unit Cluster Perspective

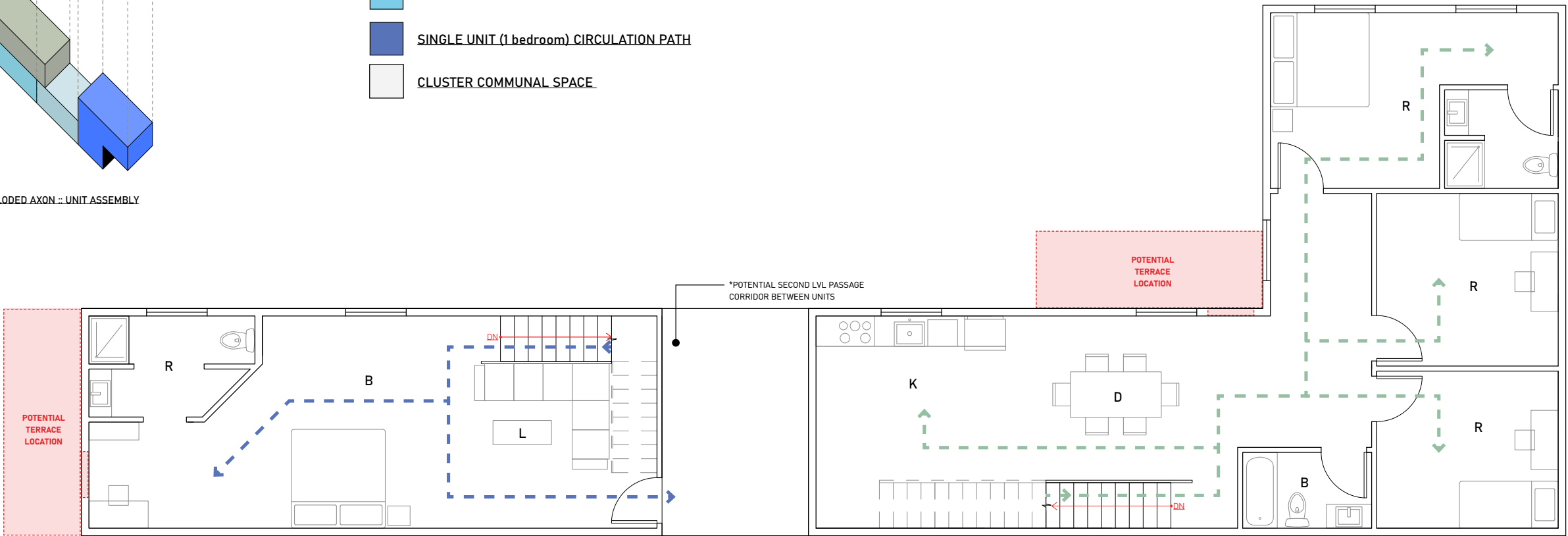
CLUSTER ORGANIZATION DIAGRAMS
@ 1/8" = 1'



CLUSTER EXPLODED AXON :: UNIT ASSEMBLY



CLUSTER COMBINATION :: 1st LVL :: SINGLE PERSON UNIT, & OLDER PERSON UNIT CIRCULATION

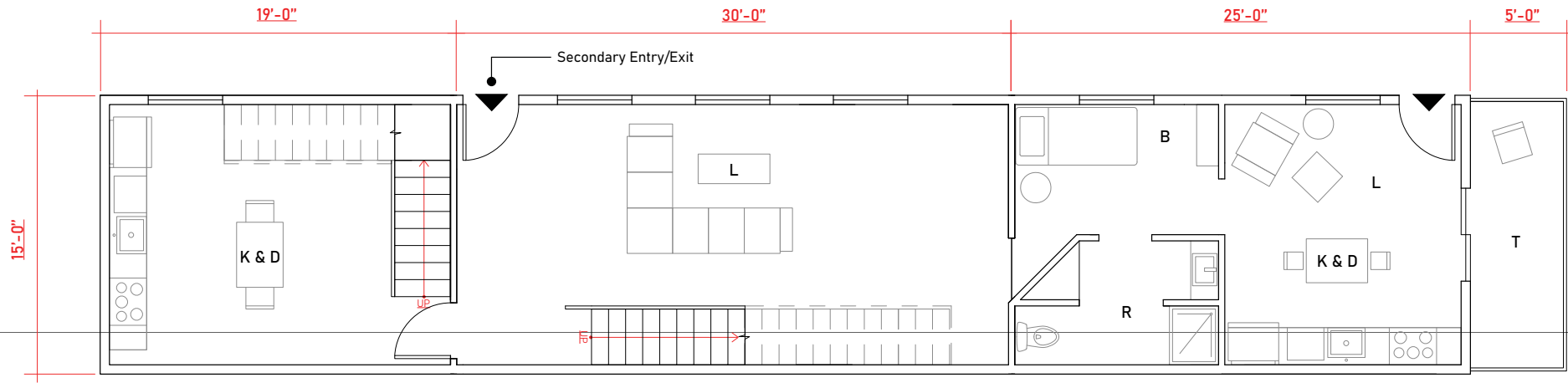


CLUSTER COMBINATION :: 2nd LVL :: SINGLE PERSON UNIT, & FAMILY UNIT CIRCULATION

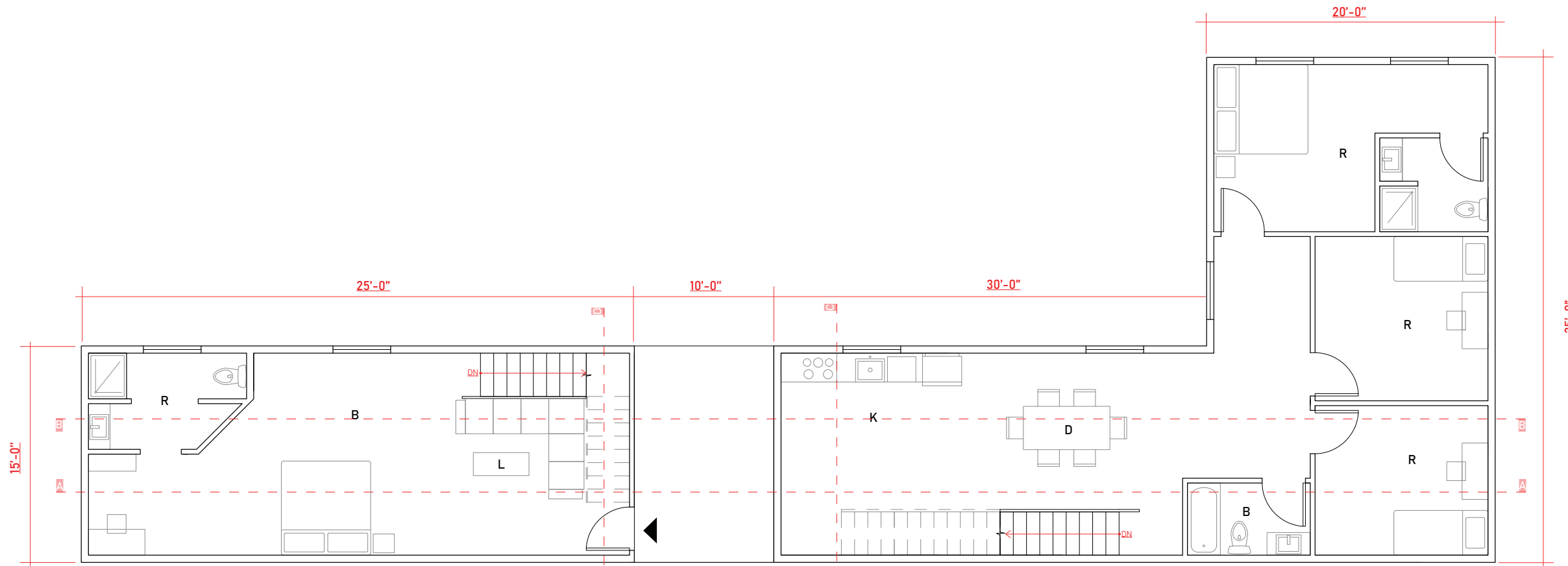
CLUSTER PLANS
@ 1/4" = 1'

Room Key:

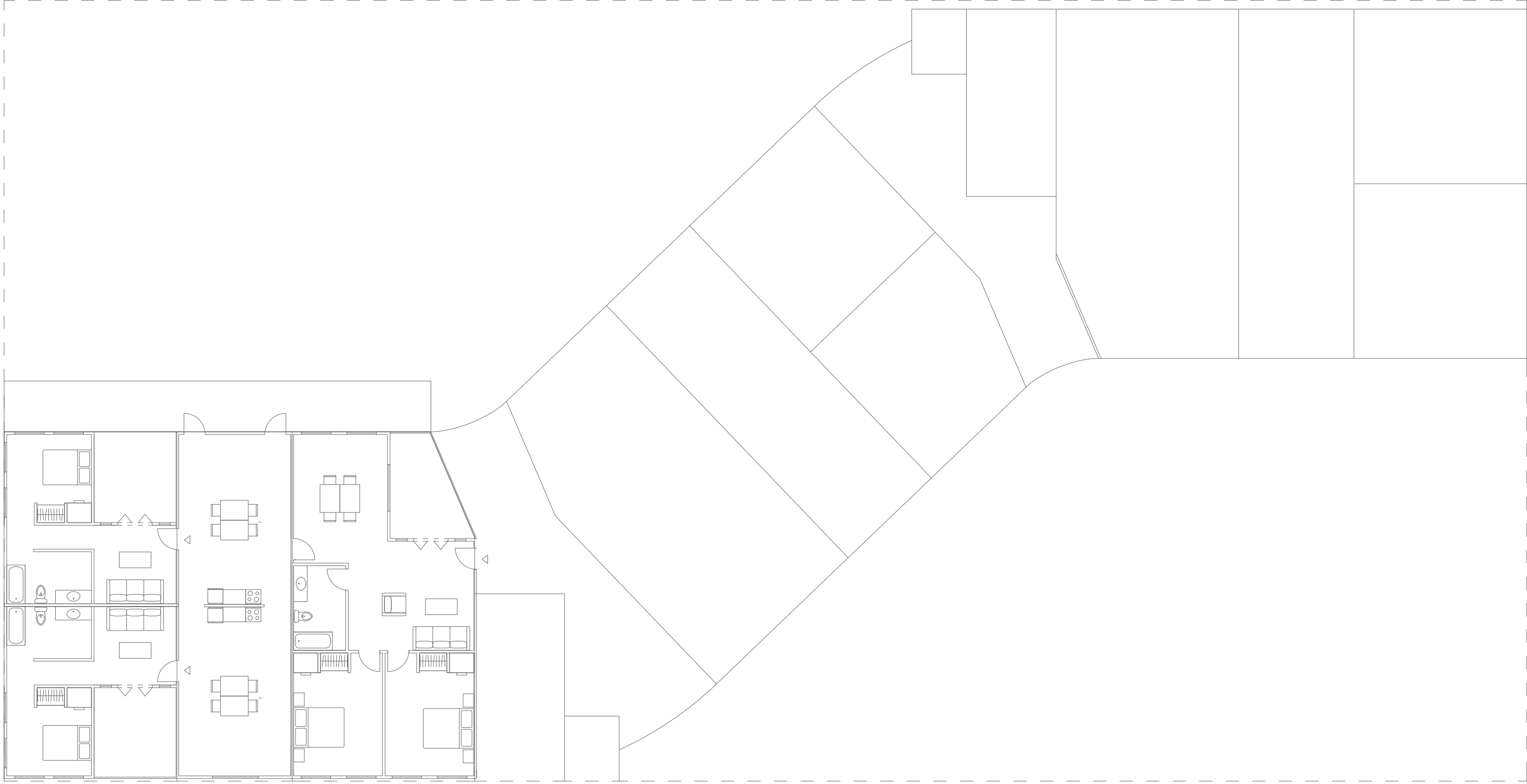
- B: Bedroom
- R: Restroom
- L: Living Rm
- K: Kitchen
- D: Dining
- T: Terrace



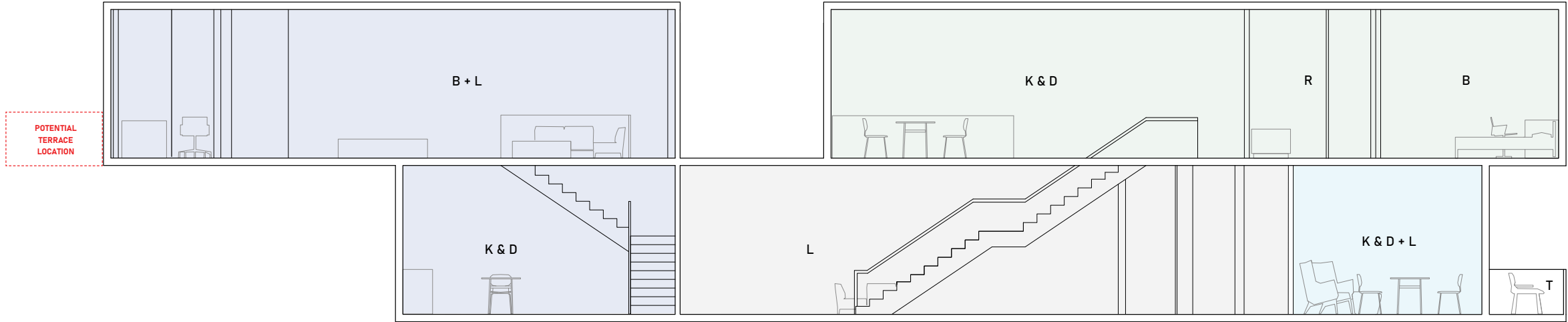
CLUSTER COMBINATION :: 1st LVL :: SINGLE PERSON UNIT, & OLDER PERSON UNIT



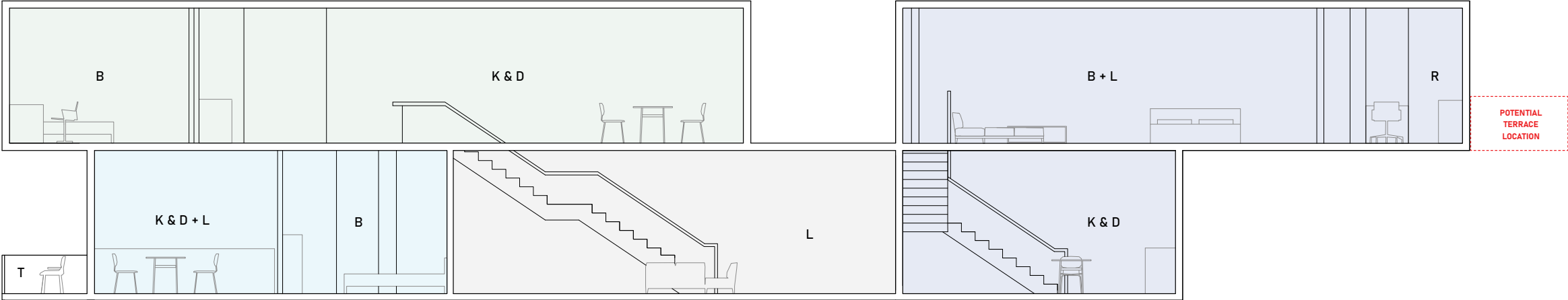
CLUSTER COMBINATION :: 2nd LVL :: SINGLE PERSON UNIT, & FAMILY UNIT



CLUSTER SECTIONS
@ 1/4" = 1'



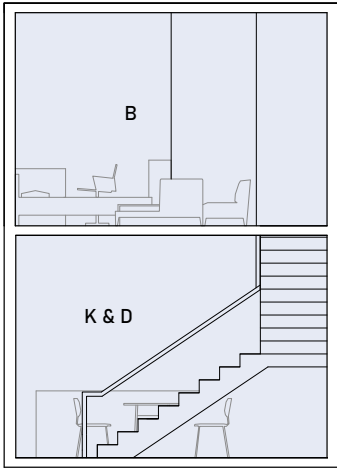
SECTION A



SECTION B



SECTION C



SECTION D

- FAMILY UNIT (3 bedroom) CIRCULATION PATH
- SENIOR UNIT (1 bedroom) CIRCULATION PATH
- SINGLE UNIT (1 bedroom) CIRCULATION PATH
- CLUSTER COMMUNAL SPACE



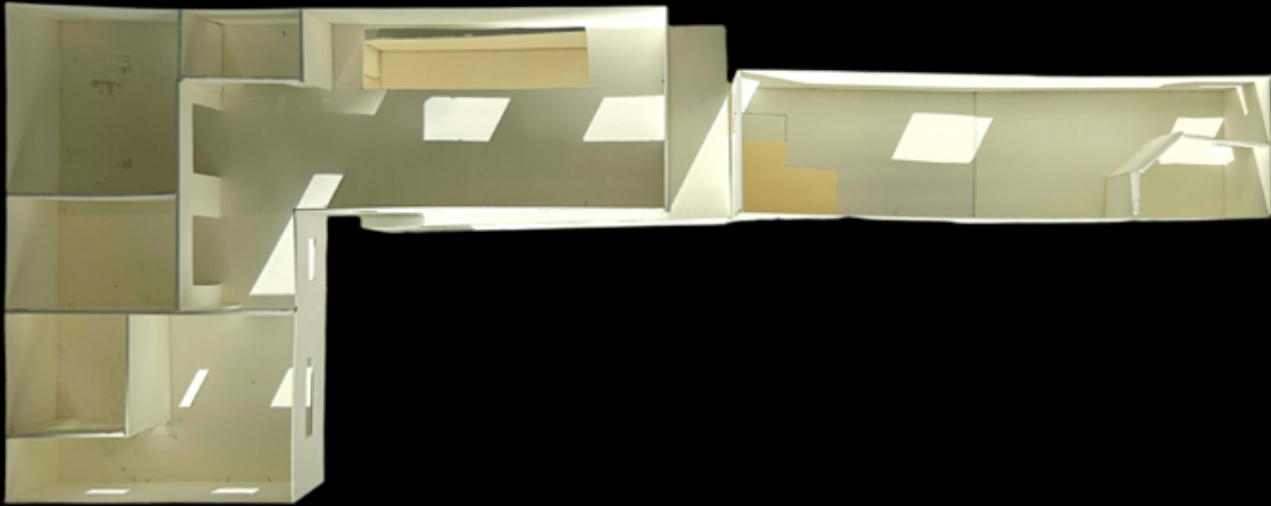
UNIT TYPE DEVELOPMENT MODELS 1/4" = 1'-0"



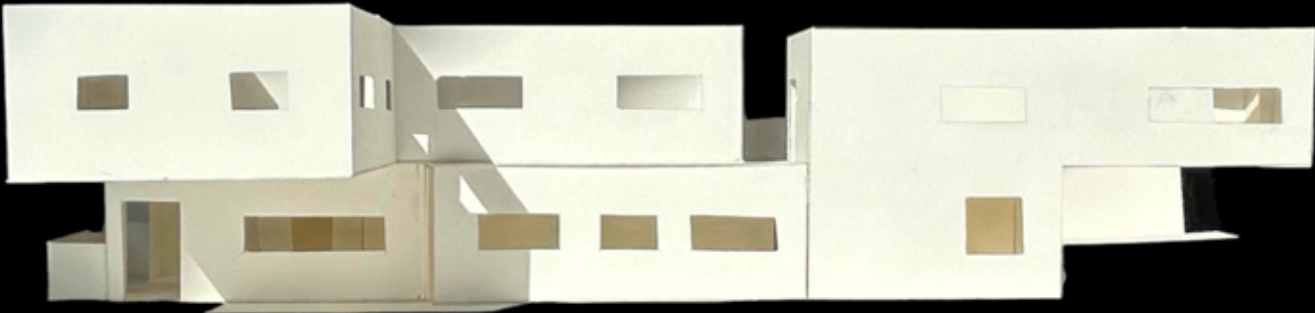
Single Unit Ground Floor



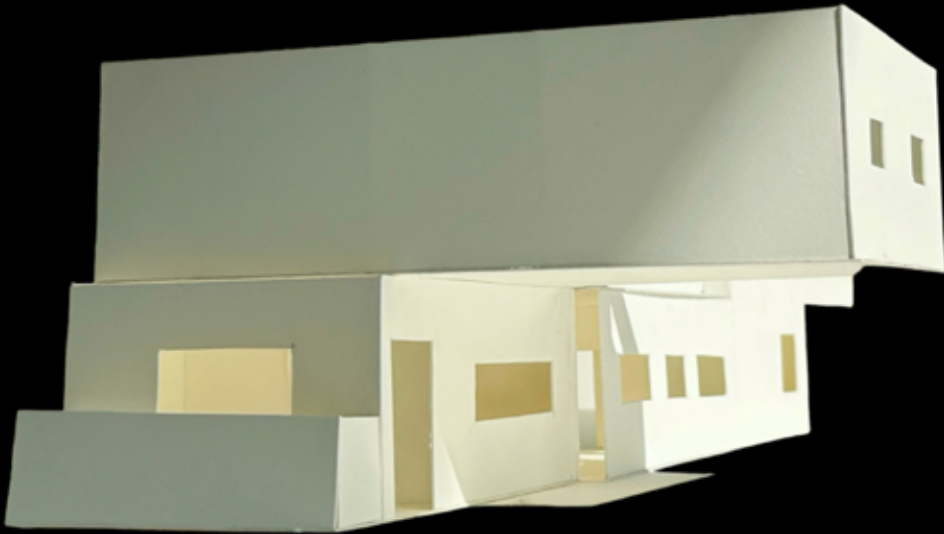
Single Unit Ground Floor



Two Bed Unit Plan

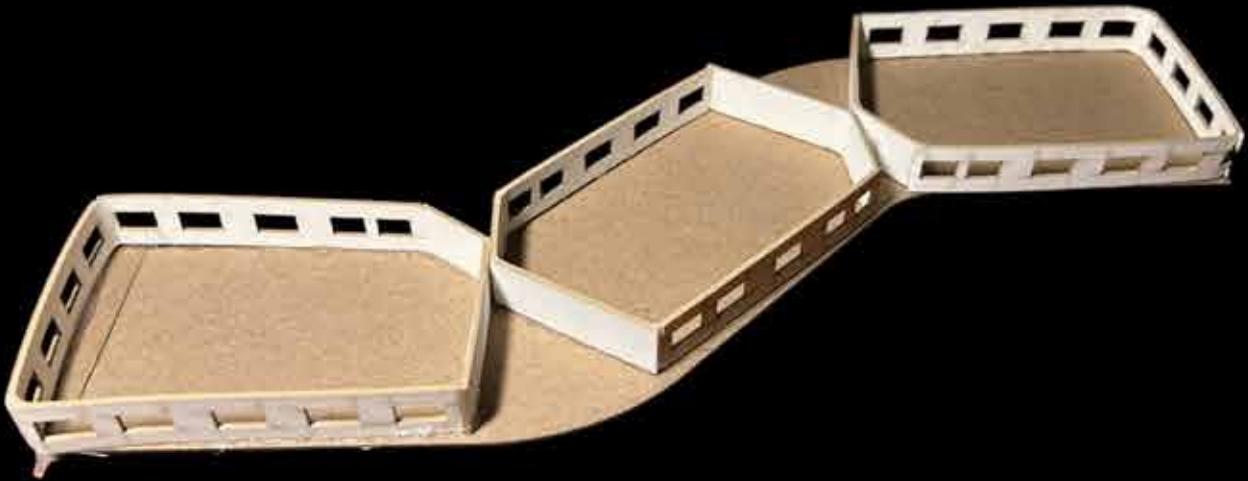


Unit Cluster Elevation

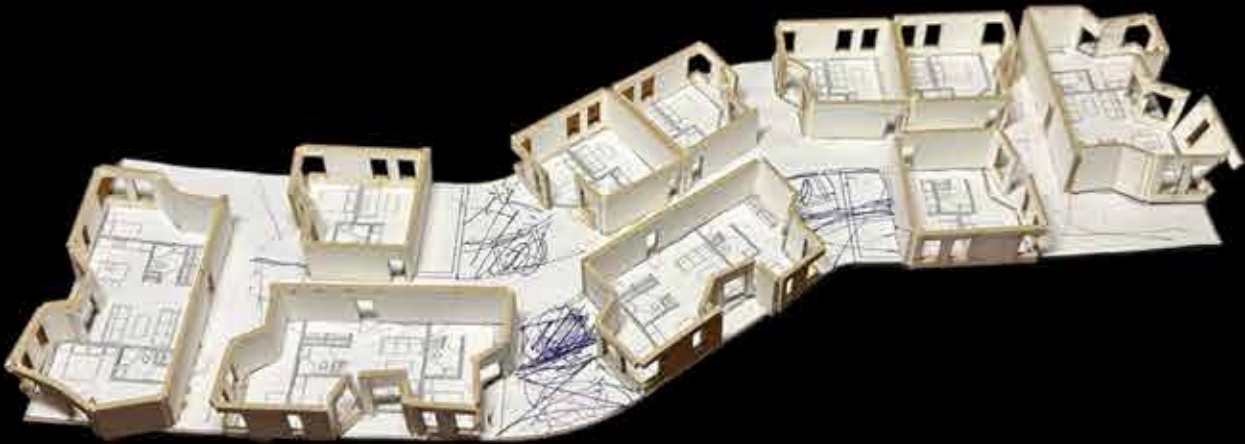


Unit Cluster Perspective

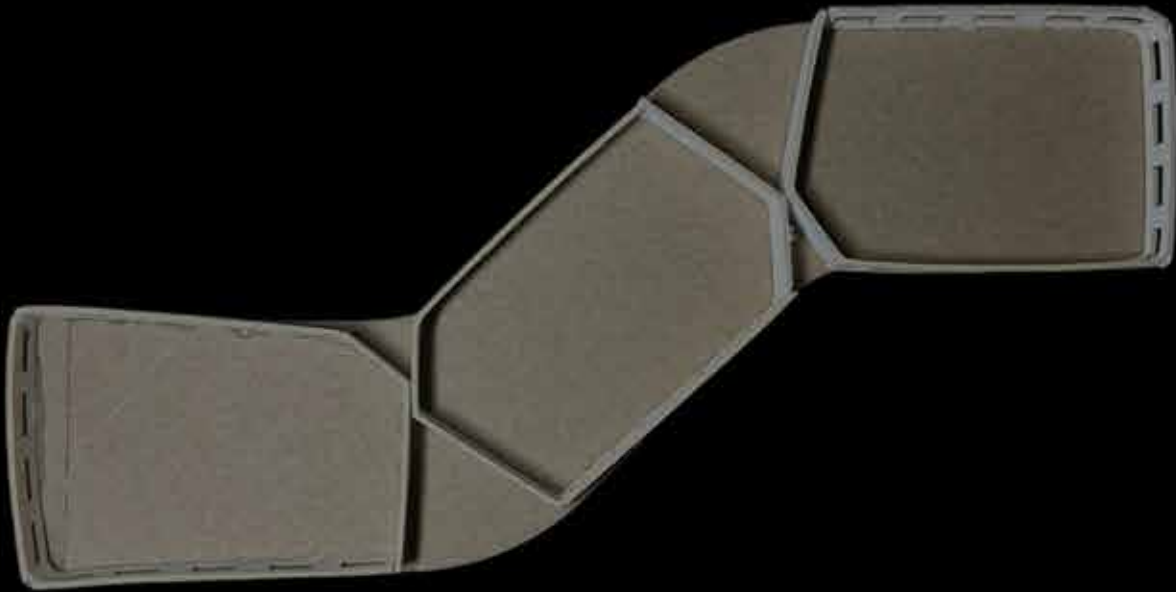
UNIT CLUSTER DEVELOPMENT MODELS



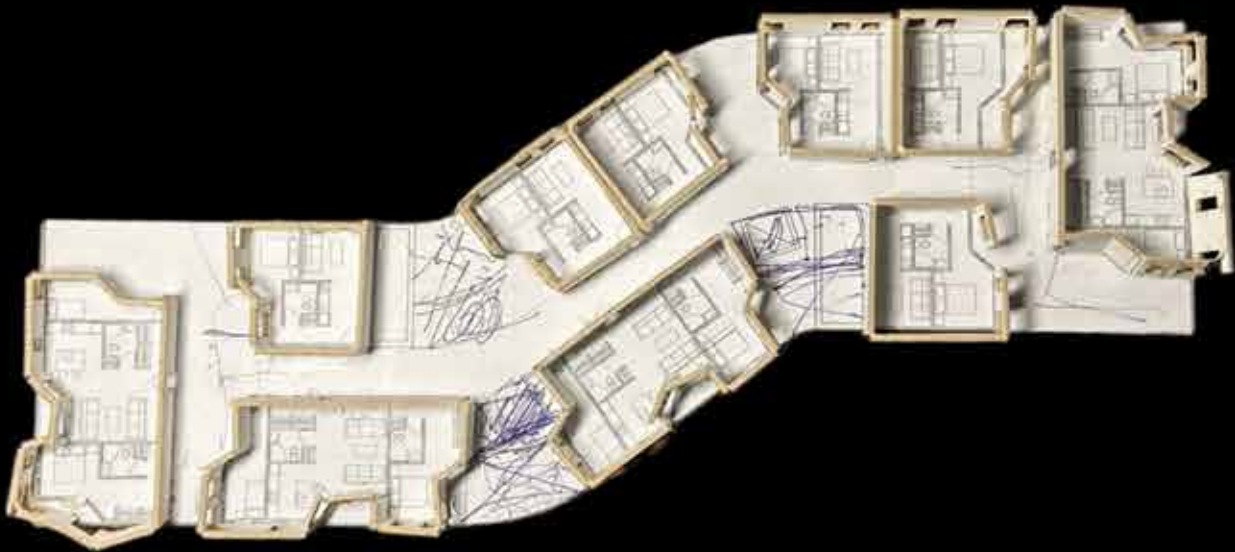
Cluster Layout Perspective



Cluster Layout Perspective



Cluster Layout Plan View



Cluster Layout Plan View



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DESIGN PROJECT – ASSIGNMENT 3 (A3)

BUILDING DESIGN DEVELOPMENT
Time: 4 weeks
Issue date: 01/08/2024
Due Date: 03/07/2024 **MIDTERM PRESENTATION**
Format: teams of two

INSTRUCTIONS:
This assignment develops the conclusions of the twelve-unit cluster strategy and explores internal shared program concepts in A2. In A3, the focus shifts toward expanding the housing units and the buildings shared program with the development of the ground floor public program. In addition, the students are integrating the building systems' - mechanical, structural, and facade systems requirements into the building for the Midterm. In developing the aggregated model, it is essential to take into consideration all required building-wide components: egress stairs and bulkhead, elevators (passenger & service), airlock vestibule at the main entrance, required MEP spaces (see list provided) for location in the basement, the roof, and on each floor. These elements should be included in the presentation.

Curate the work produced during the first eight 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 the midterm requirements. The conclusion will prepare each team for Post-Midterm, as the 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**
- 1) Continue the invention of the relationship of apartment units stacking or offset relationship. What is the connection to the ground floor?
 - 2) Circulation strategies: horizontal and vertical as required by code.
 - 3) Fire stairs, enclosed with 12" thick fire-rated walls. ADA ramps and space of refuge as required.
 - 4) Is there porosity between the apartment units to access the exterior and expand internal space for shared programmatic opportunities?
 - 5) Begin to address the mechanical, structural, and façade systems.
 - Façade systems: Light, air, views with the consideration of the site conditions.
 - Mechanical: solar meditation and sun shading

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.

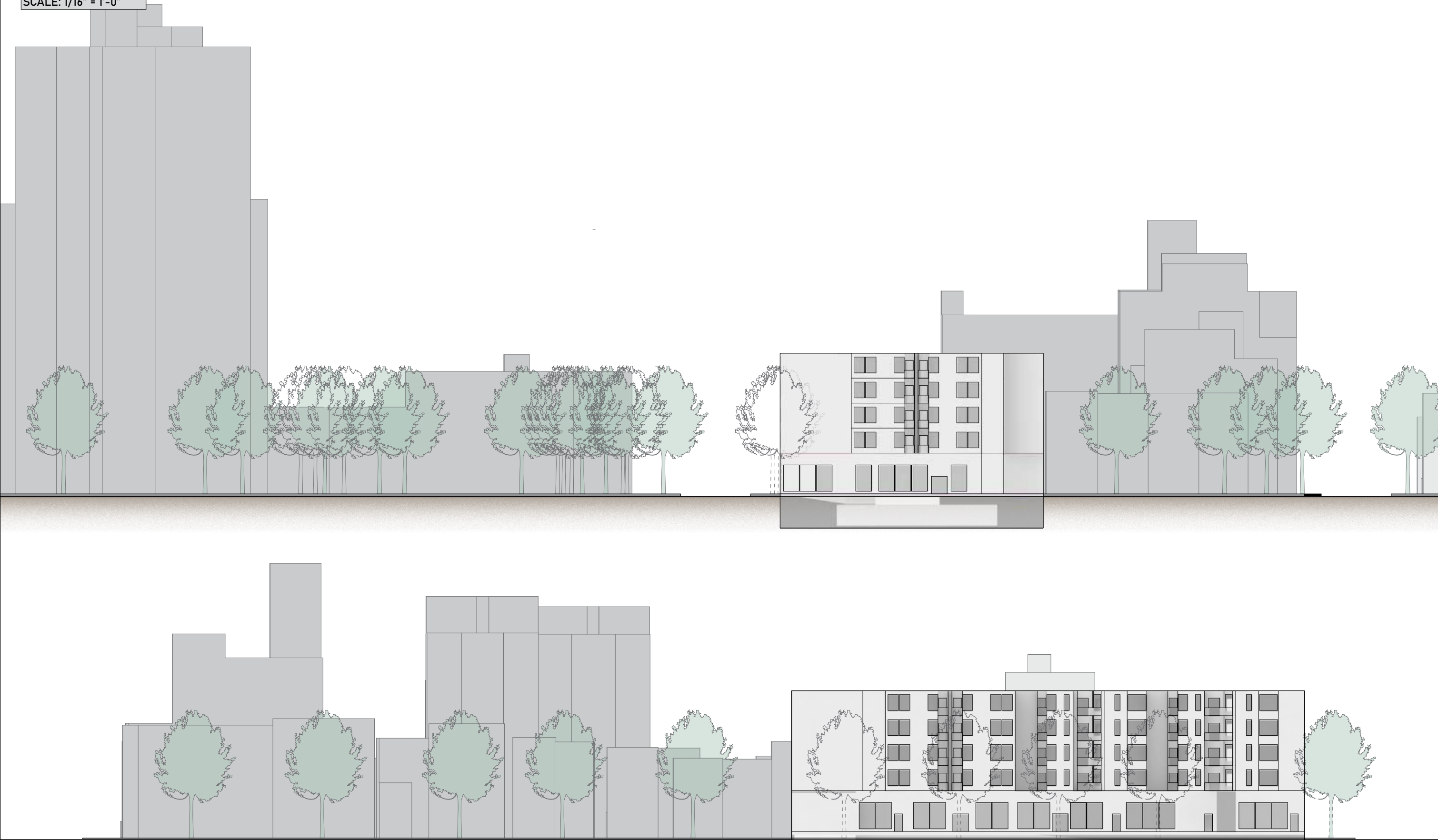
- A3: Building Design Development** - Landscape Format: 22" x 34", North to the right
- 3.1 Site Plan @ 1/16" with Roof or First Floor
 - 3.2 1/8" Plan Drawings
 - 3.2.1 Cellar

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- 3.2.2 First
 - 3.2.3 Second
 - 3.2.4 Third, Fourth and Fifth
 - 3.2.5 Roof
 - 3.3 1/8" Section Drawings, longitudinal and 2 transverse
 - 3.4 1/8" Elevation Drawings, South, East and West
 - 3.5 Perspective Views
 - 3.6 1/16" study model
 - 3.7 1/8" model, partial or whole



SITE SECTIONS

SCALE: 1/16" = 1'-0"



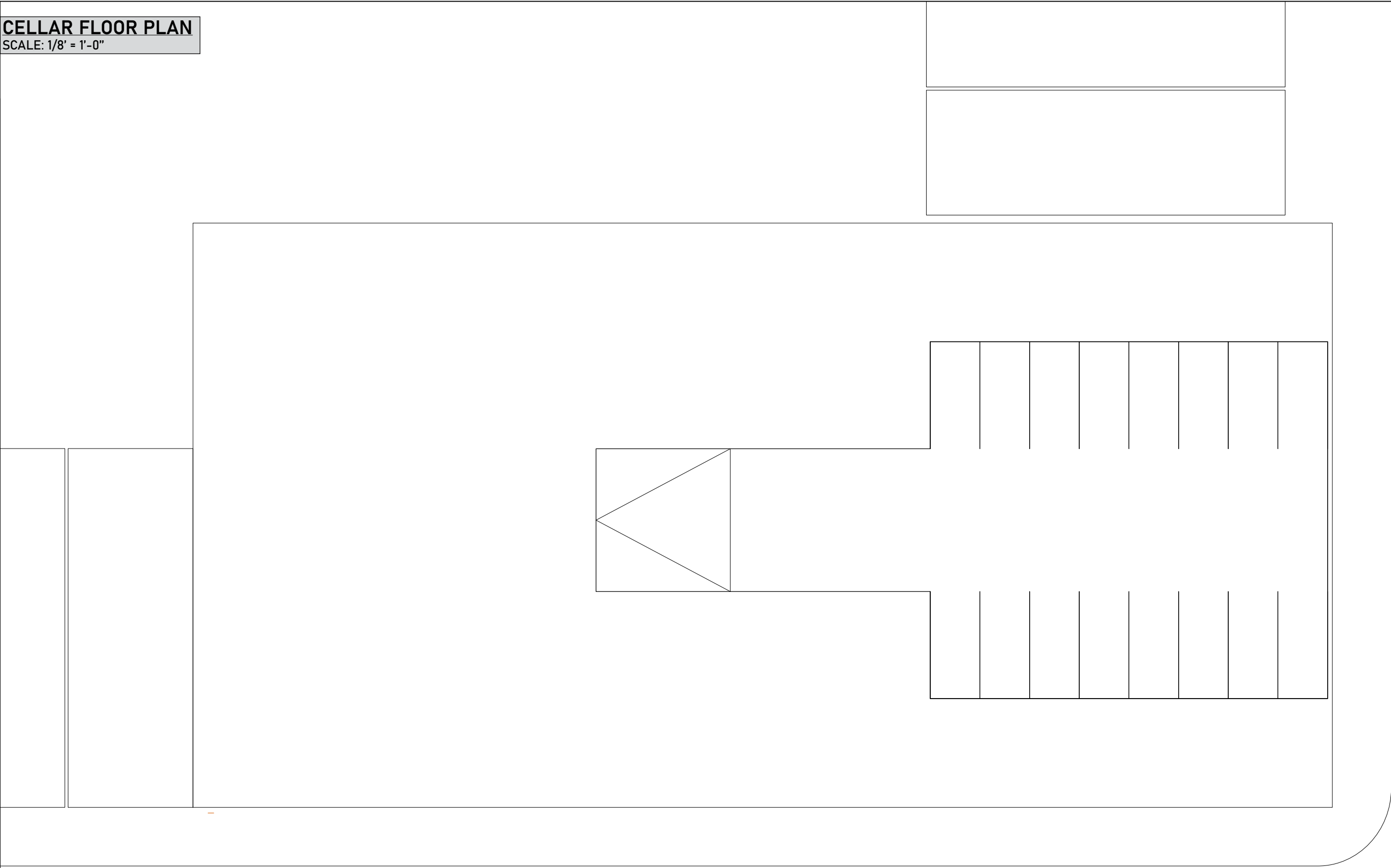
SITE SECTIONS

SCALE: 1/16" = 1'-0"



CELLAR FLOOR PLAN

SCALE: 1/8' = 1'-0"

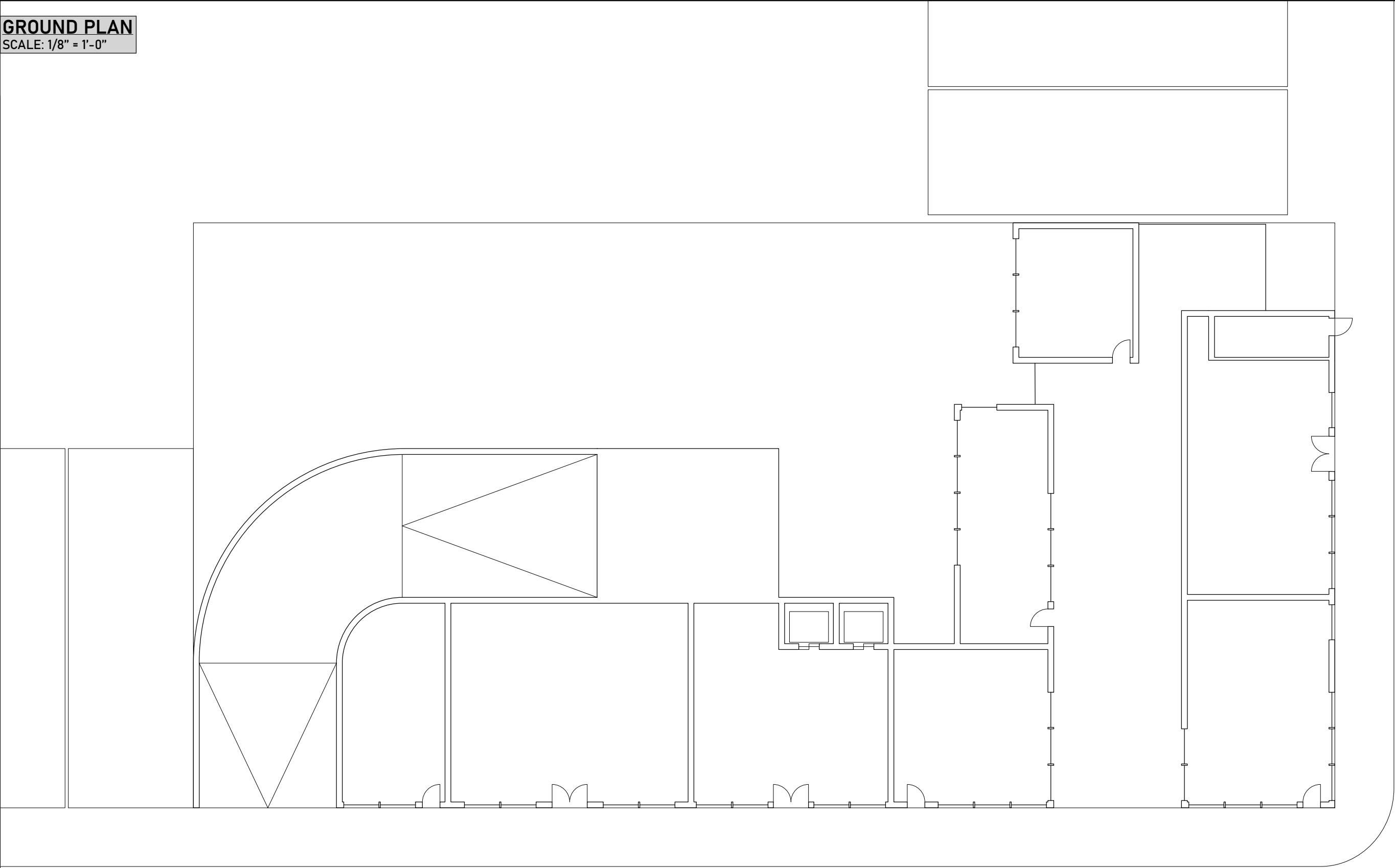


FRANKLIN AVE.

LAFAYETTE AVE.

GROUND PLAN

SCALE: 1/8" = 1'-0"

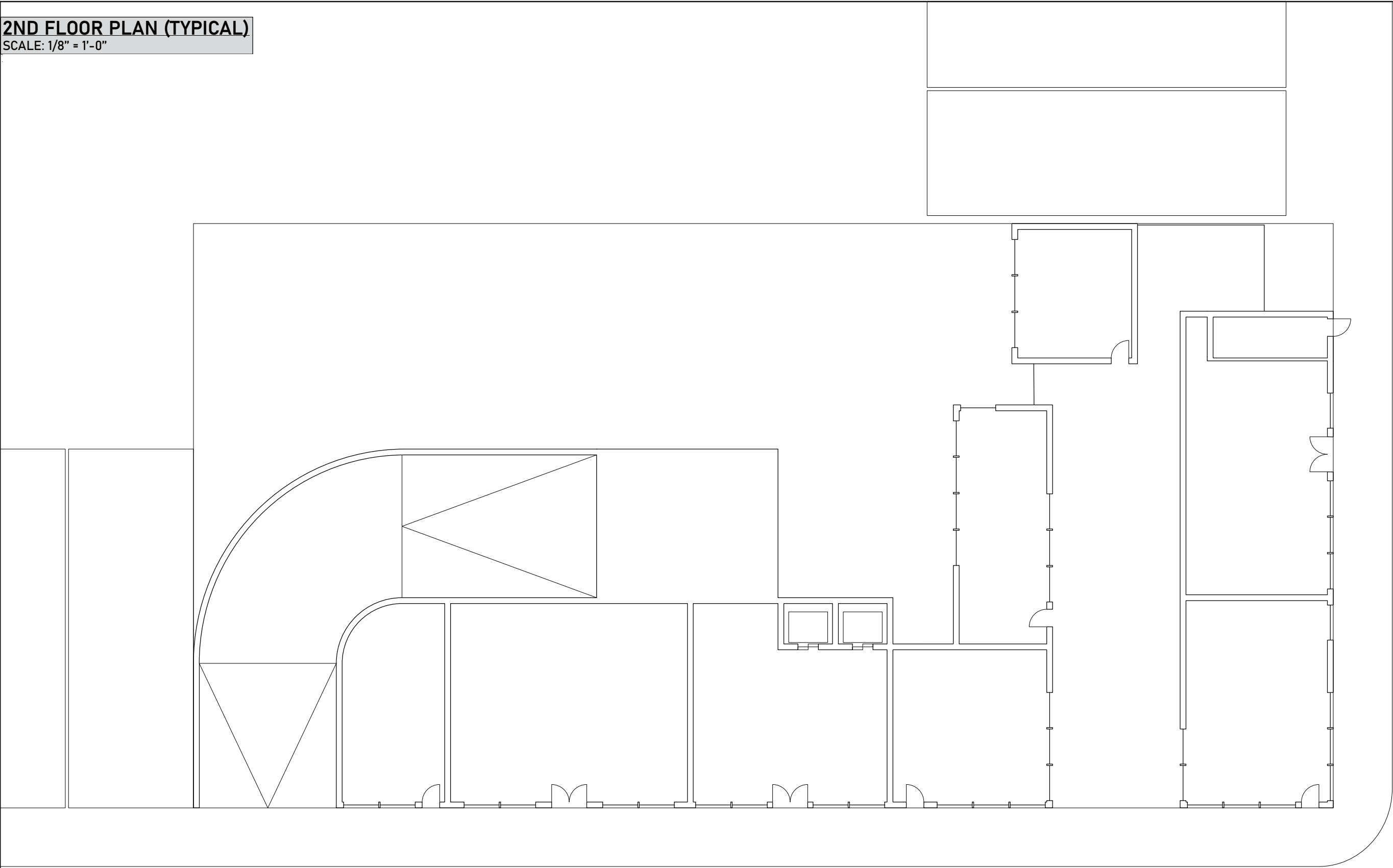


FRANKLIN AVE.

LAFAYETTE AVE.

2ND FLOOR PLAN (TYPICAL)

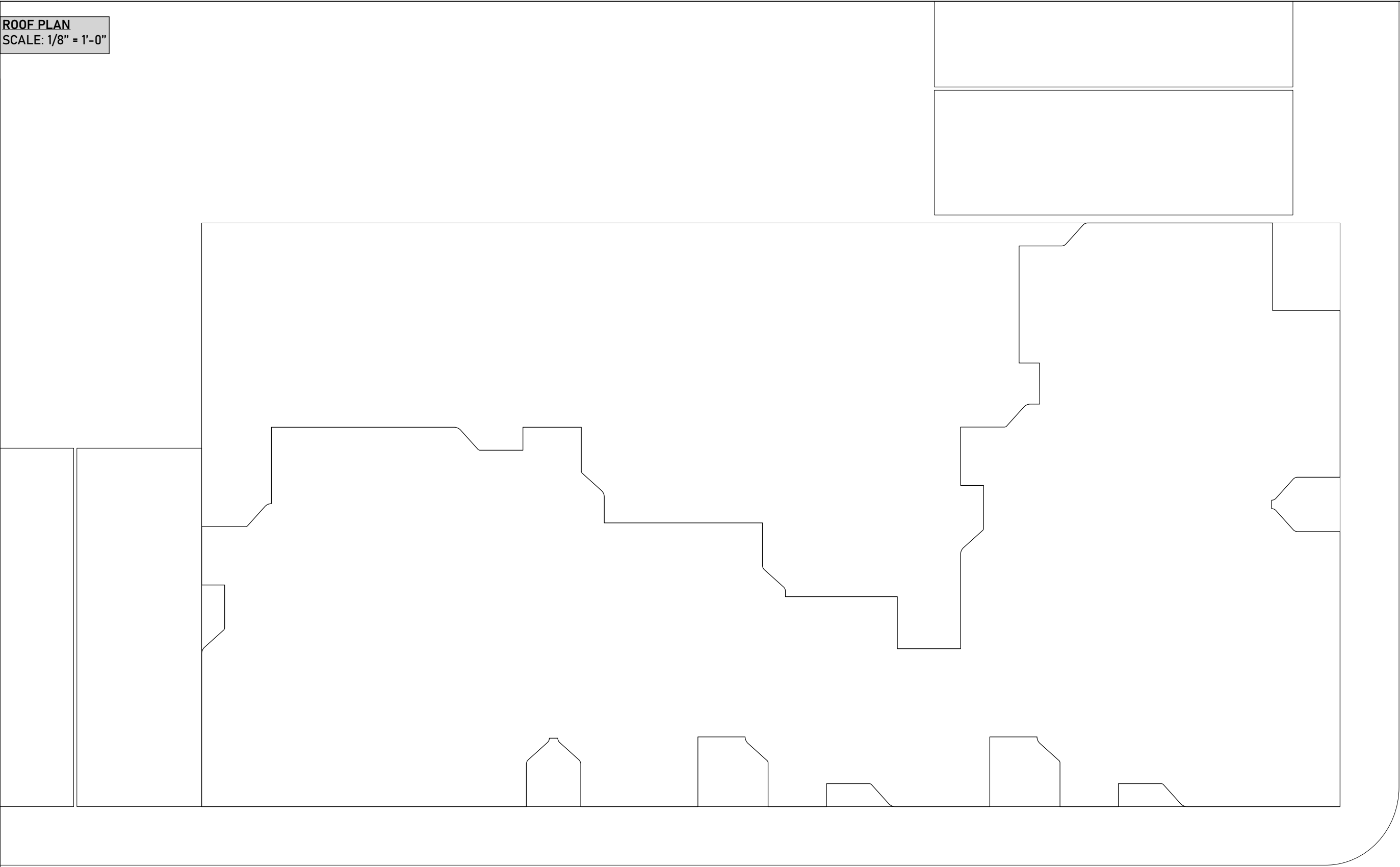
SCALE: 1/8" = 1'-0"



FRANKLIN AVE.

LAFAYETTE AVE.

ROOF PLAN
SCALE: 1/8" = 1'-0"



FRANKLIN AVE.

LAFAYETTE AVE.

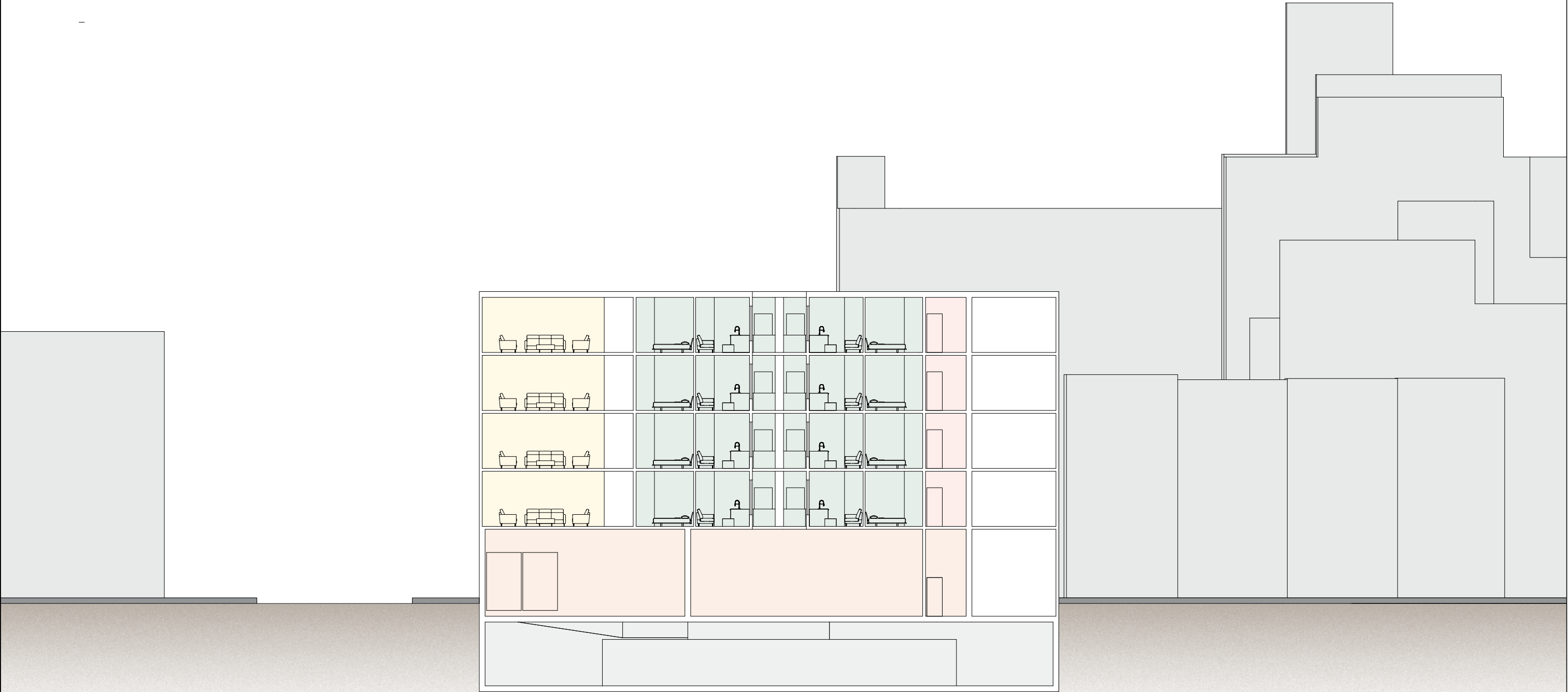
WEST LONGITUDINAL SECTION
SCALE: 1/8" = 1'-0"

- Community Shared Space
- Egress Core
- Single Unit
- Double Unit
- Ground/Commercial Floor
- Basement & Parking



SOUTH TRANSVERSE SECTION
SCALE: 1/8" = 1'-0"

- Community Shared Space
- Egress Core
- Single Unit
- Ground/Commercial Floor
- Basement & Parking

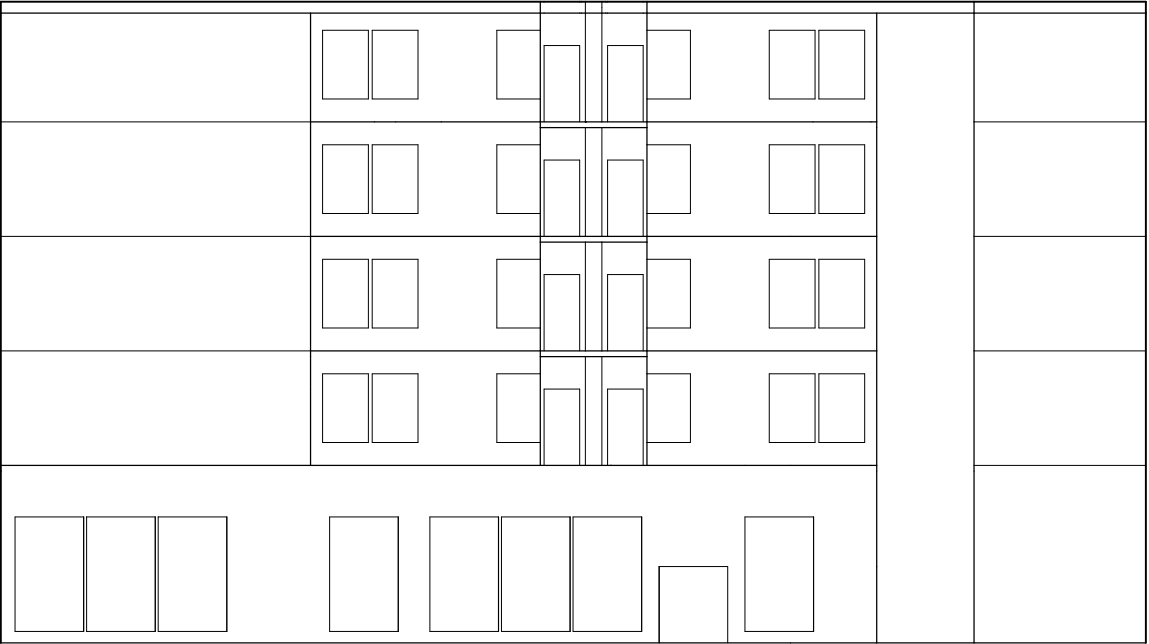




ELEVATIONS
SCALE: 1/8" = 1'-0"



FRANKLIN AVENUE ELEVATION

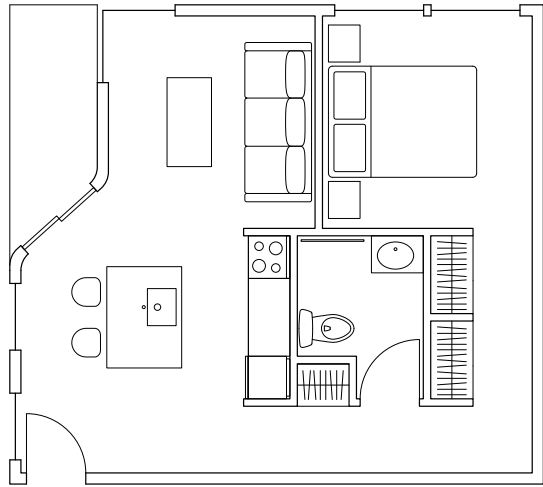


LAFAYETTE AVENUE ELEVATION

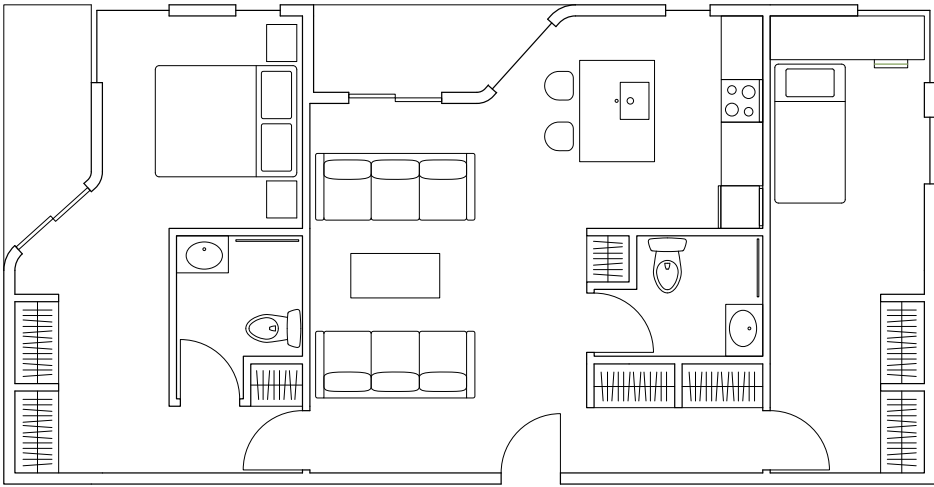


SINGLE & 2 BEDROOM UNIT AXONOMETRICS

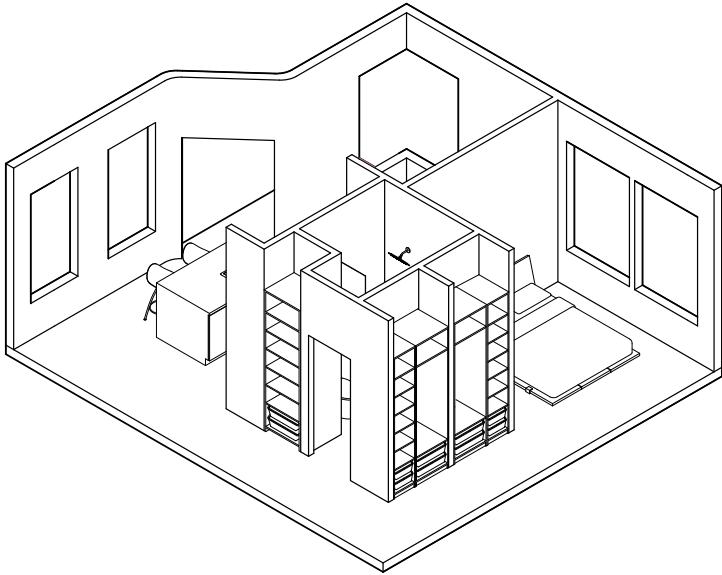
SCALE: 1/4" = 1'-0"



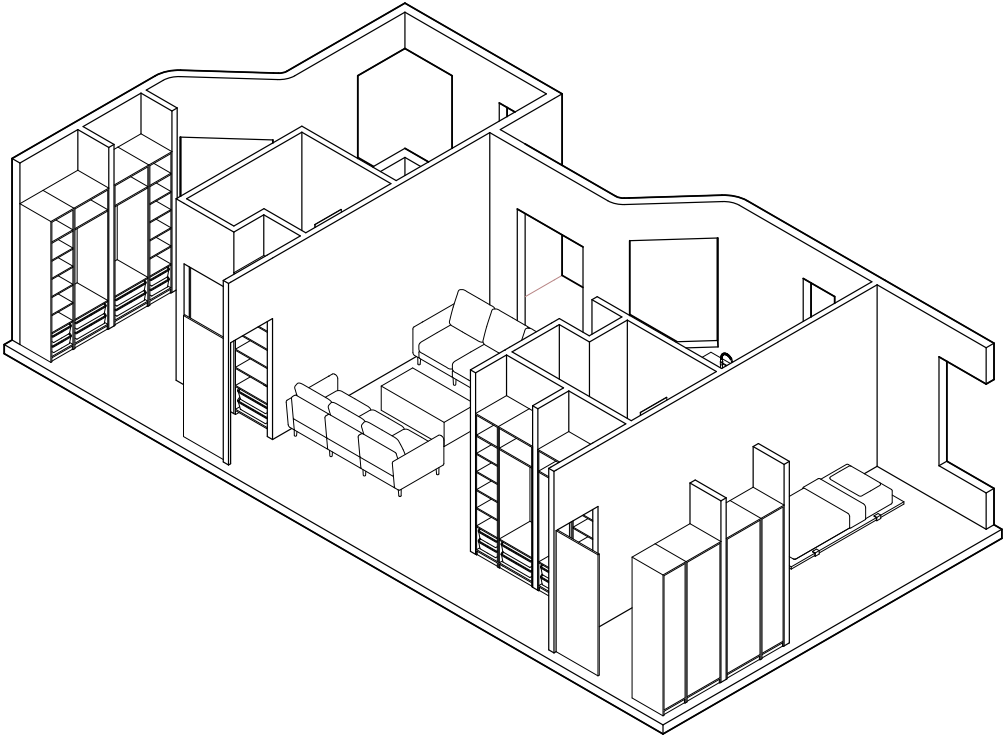
1 BEDROOM PLAN



2 BEDROOM PLAN



1 BEDROOM AXONOMETRIC



2 BEDROOM AXONOMETRIC

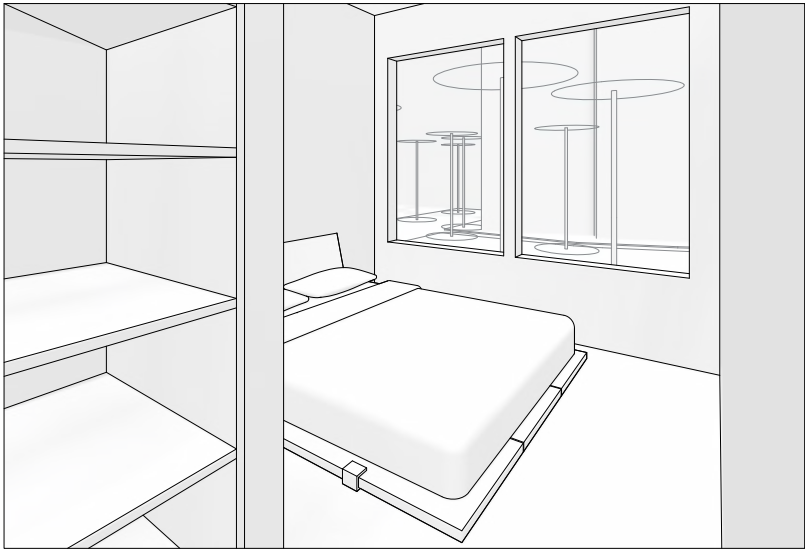
EXTERIOR, UNIT & SHARED SPACE PERSPECTIVE VIEWS



SHARED COMMUNITY SPACE



EXTERIOR PERSPECTIVE



SINGLE UNIT: ONE BEDROOM



SINGLE UNIT: KITCHEN + LIVING ROOM



DOUBLE UNIT: BEDROOM 1



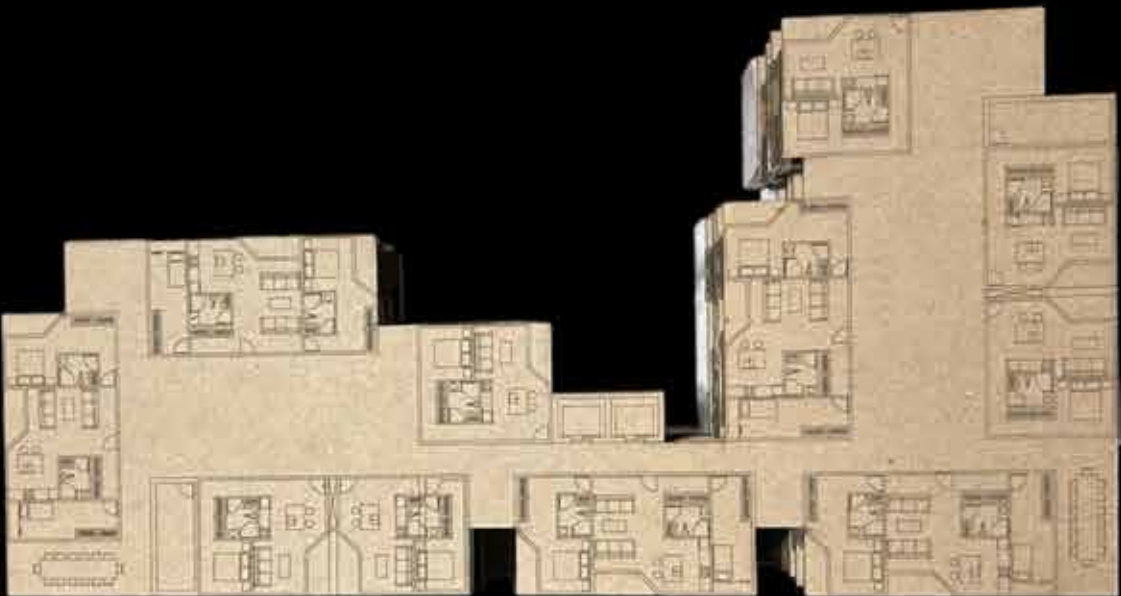
DOUBLE UNIT: LIVING ROOM + KITCHEN + RESTROOM



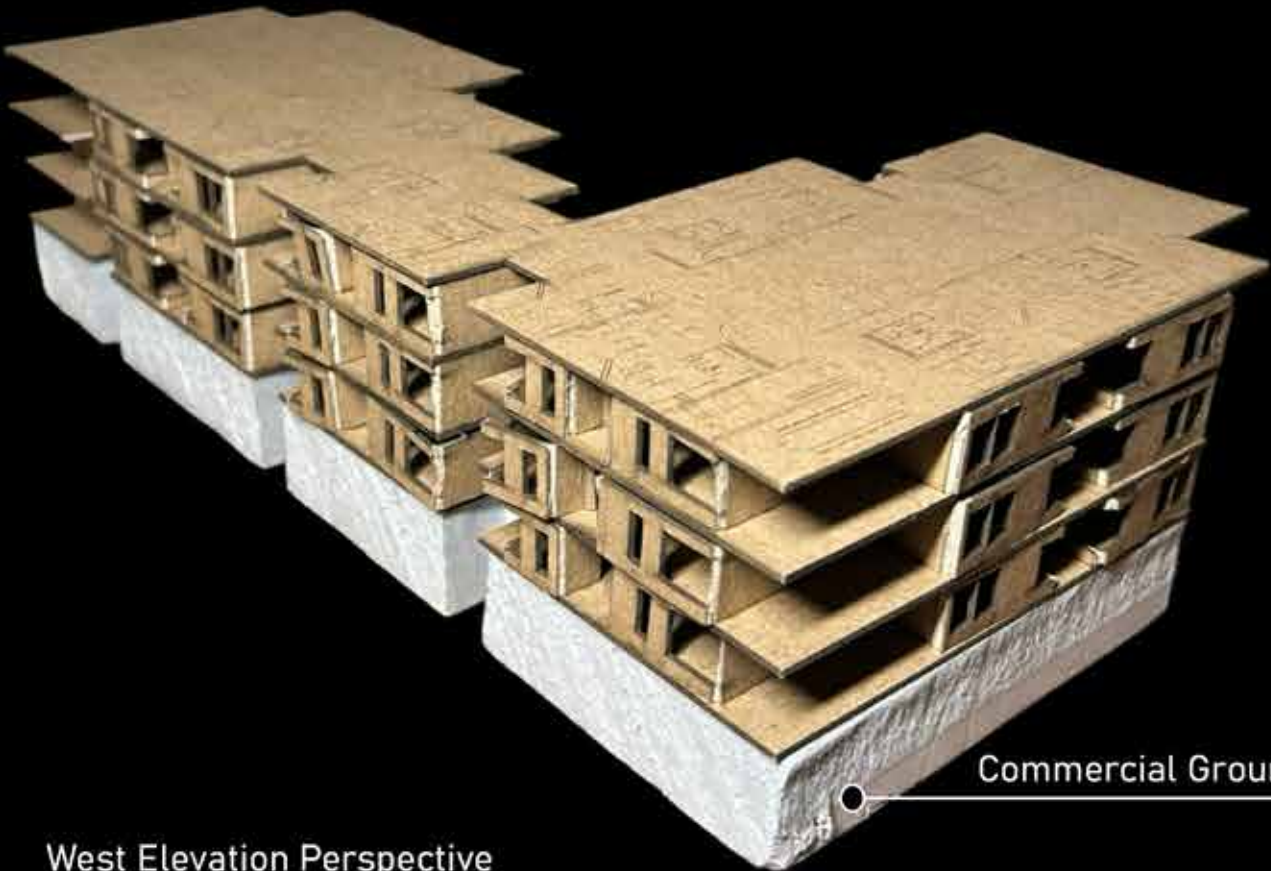
DOUBLE UNIT: BEDROOM 2

EXTERIOR PERSPECTIVE VIEW





Typ. Residential Floor Plan

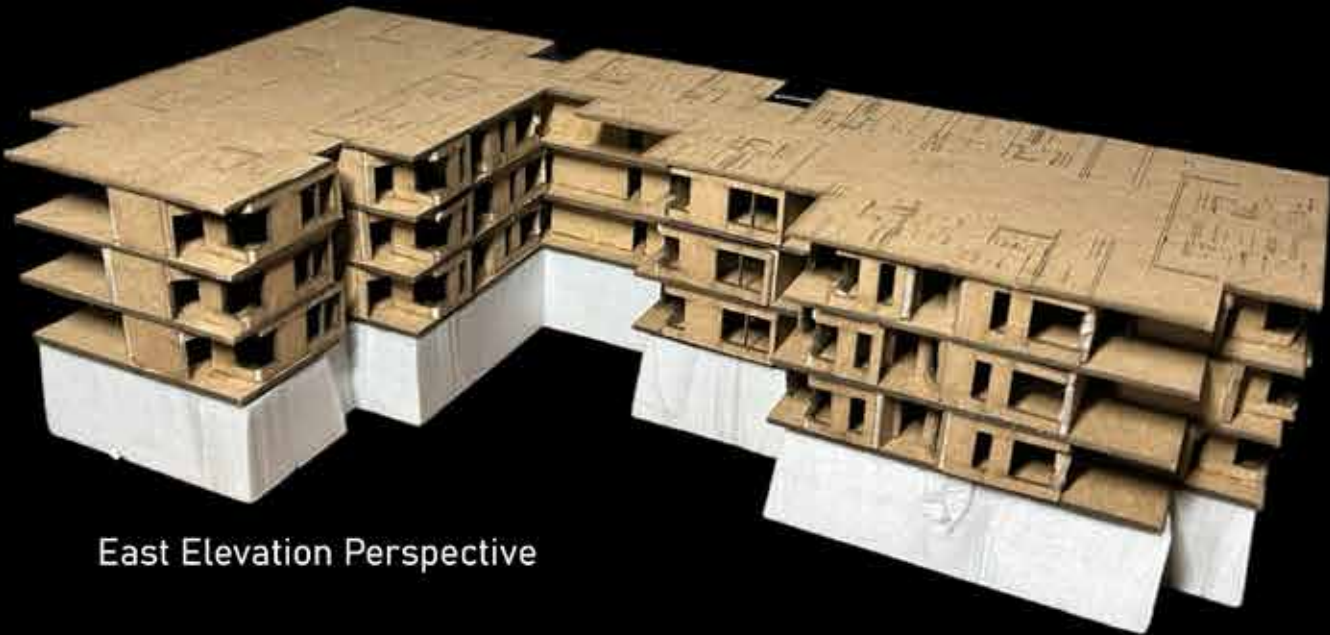


West Elevation Perspective

Commercial Ground Floor



West Elevation



East Elevation Perspective

PROJECT CHUNK MODEL 1/8" = 1'-0"
TYP RESIDENTIAL FLOOR



TYP. Residential Floor Plan Top View

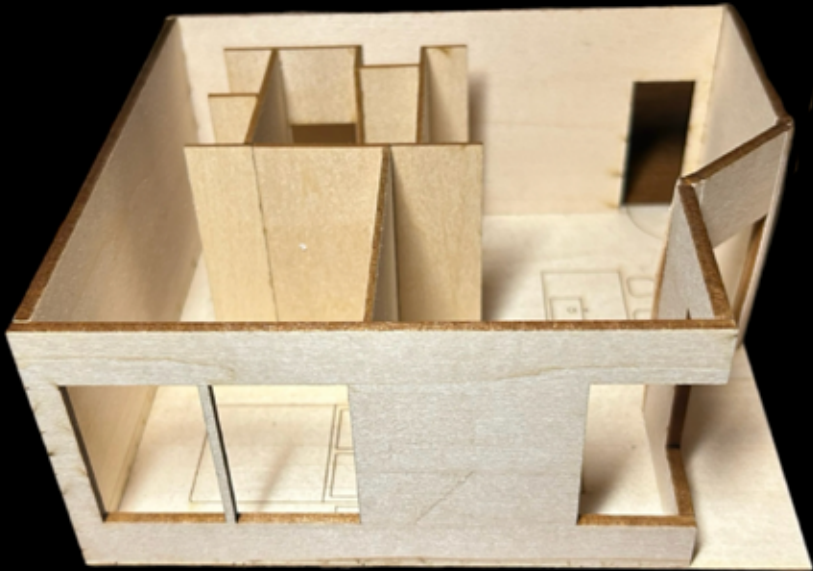


TYP. Residential Floor Perspective Double Unit



TYP. Residential Floor Perspective Single & Double Unit

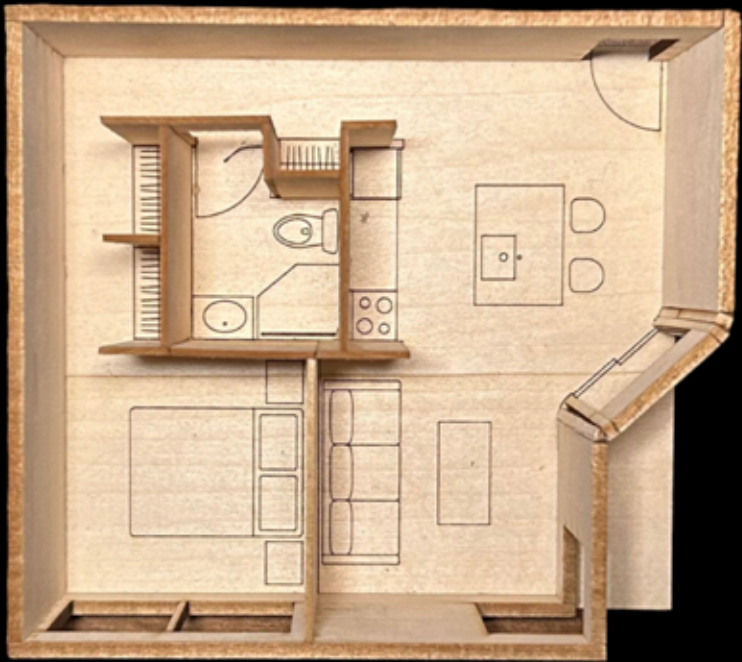
PROJECT CHUNK MODEL 1/4 = 1'-0"
TYP. SINGLE & DOUBLE UNITS TYPES



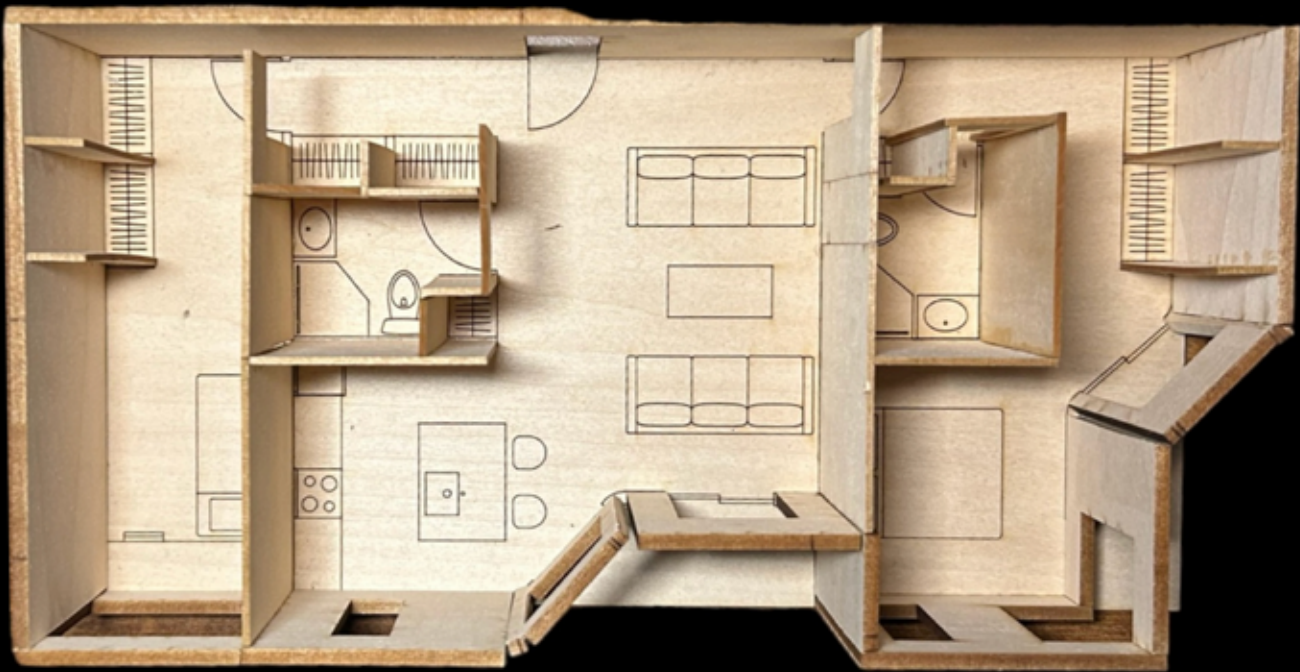
TYP. Single Unit Perspective



TYP. Double Unit Perspective



TYP. Single Unit Top View



TYP. Double Unit Top View



Pratt Institute School of Architecture
Bachelor of Architecture Program
Course Syllabus

DESIGN PROJECT – ASSIGNMENT A4

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

Time: scheduled over 6 weeks post-midterm/ MEP starts week 5
Dates: After Spring Break through to Final Review Week
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 discussions are complex applications of the building design process.

INSTRUCTIONS:

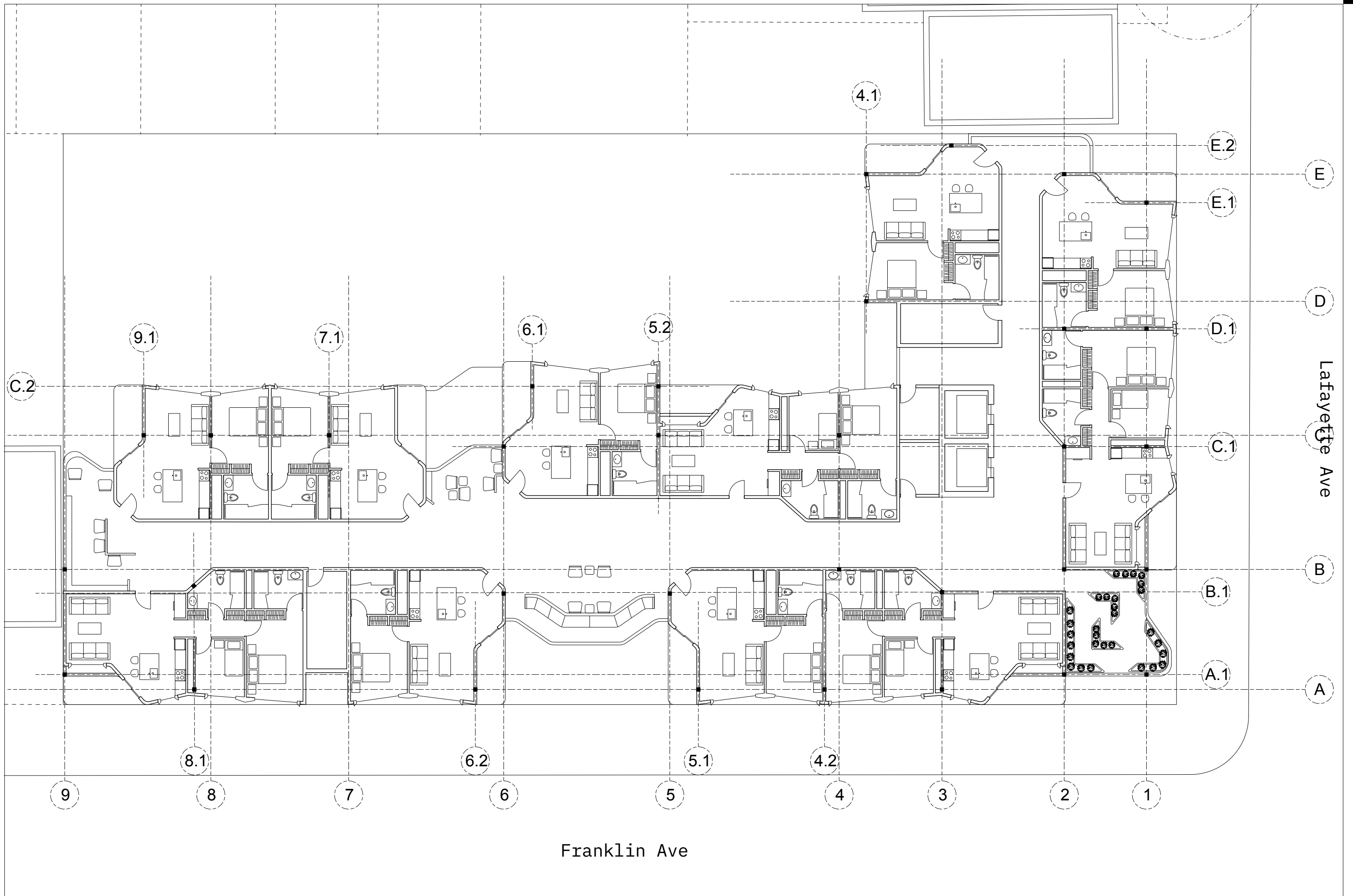
Review notes from the in-person and online lectures viewed before the Midterm from the Mechanical, Structural, and Façade systems. The assignment requires students to focus on the integration of systems into the design. Each structural, mechanical, and façade consultant will visit the studio twice (A4.1 & A4.2, respectively). For the consultant visits, we highly recommend that teams print drawings for mark-ups and sketching. The detailed scale drawings and technical notations within the plans, sections, and elevations are now developed.

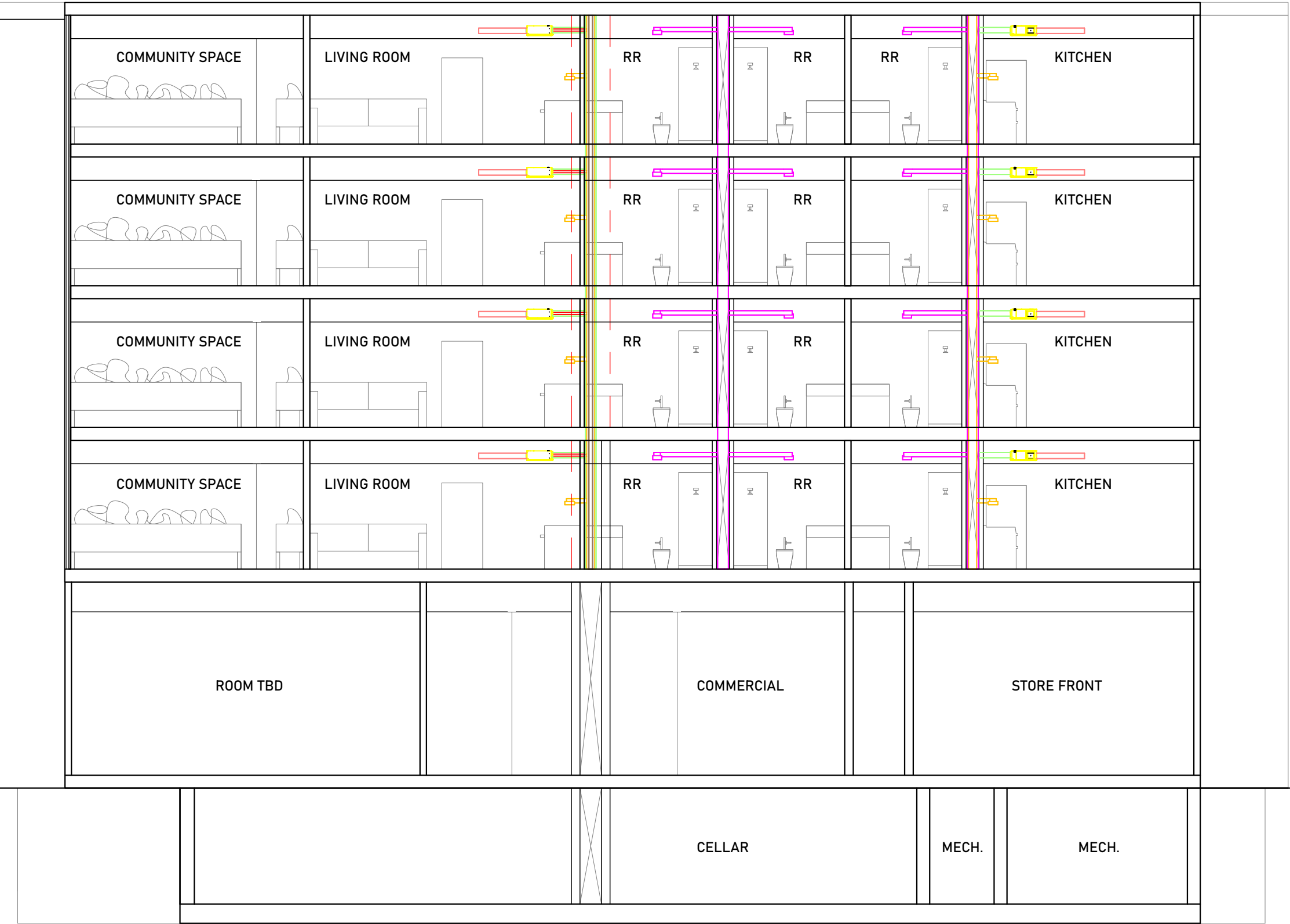
DEVELOPMENT OF SYSTEMS INTEGRATION:

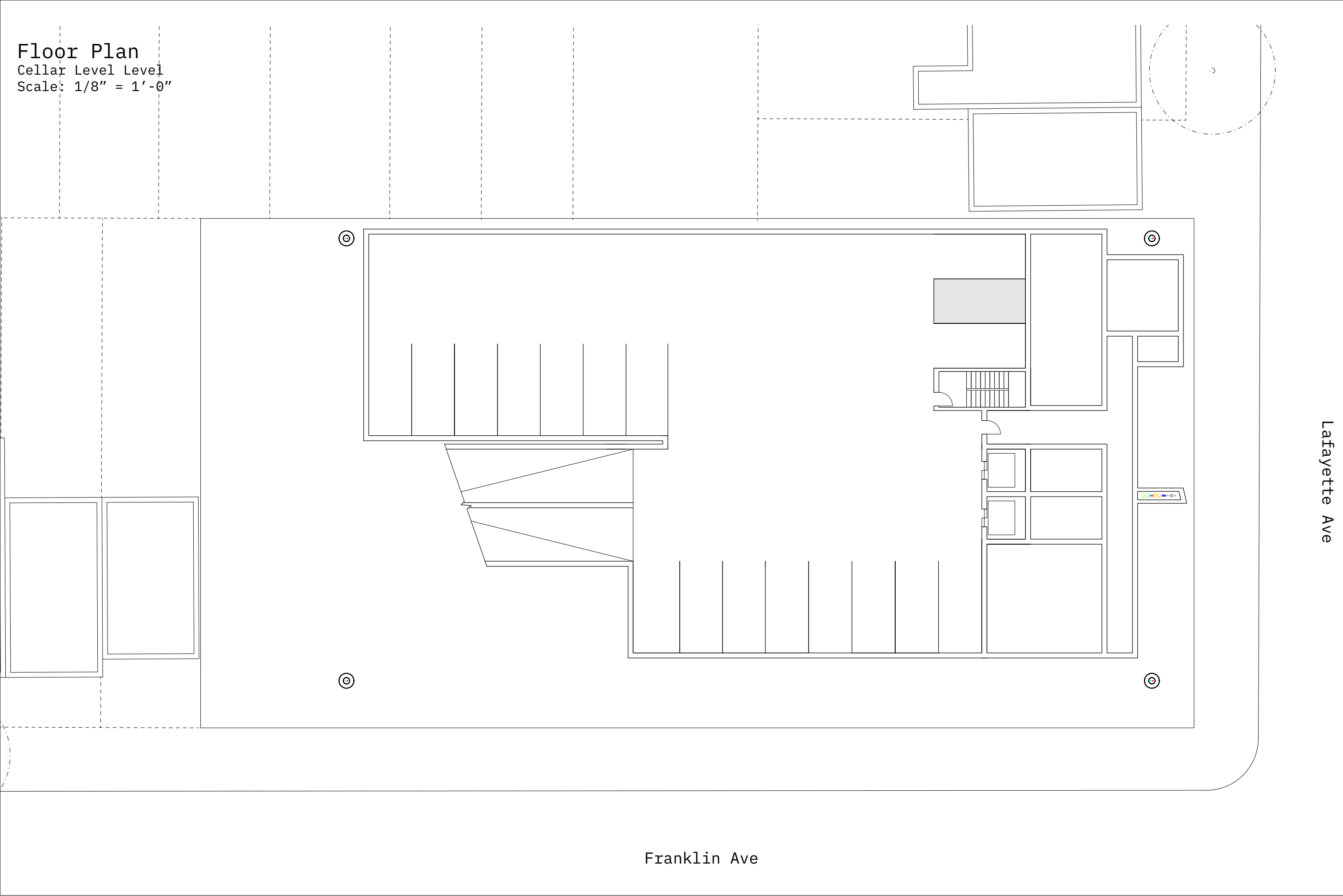
Plans: Basement: parking and location for MEP basement rooms.
Ground Floor ceiling: area for transfer beams and mechanical systems.
Typical floor - location of chases, FCUs, structural grid
Sections: Ceiling heights & Dropped ceiling for ducts & pipe, structural beams/transfer,
Circulation: Egress/ Life Safety - horizontal and vertical egress, secondary communicating systems.
Elevations: Material system: rain screen panel system, sun control, glass, rails, vent screens
elevator/stair/cooling tower penthouses
Structural: Systems - columns/bearing walls, shear walls, slabs, transfer beams
Mechanical: Systems – wet walls, heating/cooling risers, FCU locations
Façade: Systems – rain screen panel types, color, pattern logic, glass, and ventilation, photo-voltaic or solar thermal panel organization

A4: Building Systems Development - Landscape Format: 22 x 34, North to the right

- 4.1 Structural Diagrams @ 1/16"
 - 4.1.1 Framing Plans, Cellar, First, Typical, Roof minimum
 - 4.1.2 Optional process drawings and models
- 4.2 Mechanical Systems Diagrams @ 1/16"
 - 4.2.1 Plans, Cellar, First, Second and/or Typical
 - 4.2.2 Mechanical Strategy Diagram, section, isometric, or plan
 - 4.2.3 Water Management Diagram, section, isometric or plan
 - 4.3.4 Plumbing Riser Diagram
- 4.3 Life Safety and ADA Diagrams @ 1/16"
 - 4.3.1 Life Safety Plans, First, Second, Third and/or Typical
 - 4.3.2 ADA Plans, First, Second, Third and/or Typical
- 4.4 Enclosure Systems
 - 4.4.1 Wall Section @ ½" or larger integrating structural, mechanical, and water systems
 - 4.4.2 Process material, including sketches, models, and drawings.
- 4.5 Assignments from Arch 362 – Building Services







Floor Plan
Cellar Level Level
Scale: 1/8" = 1'-0"

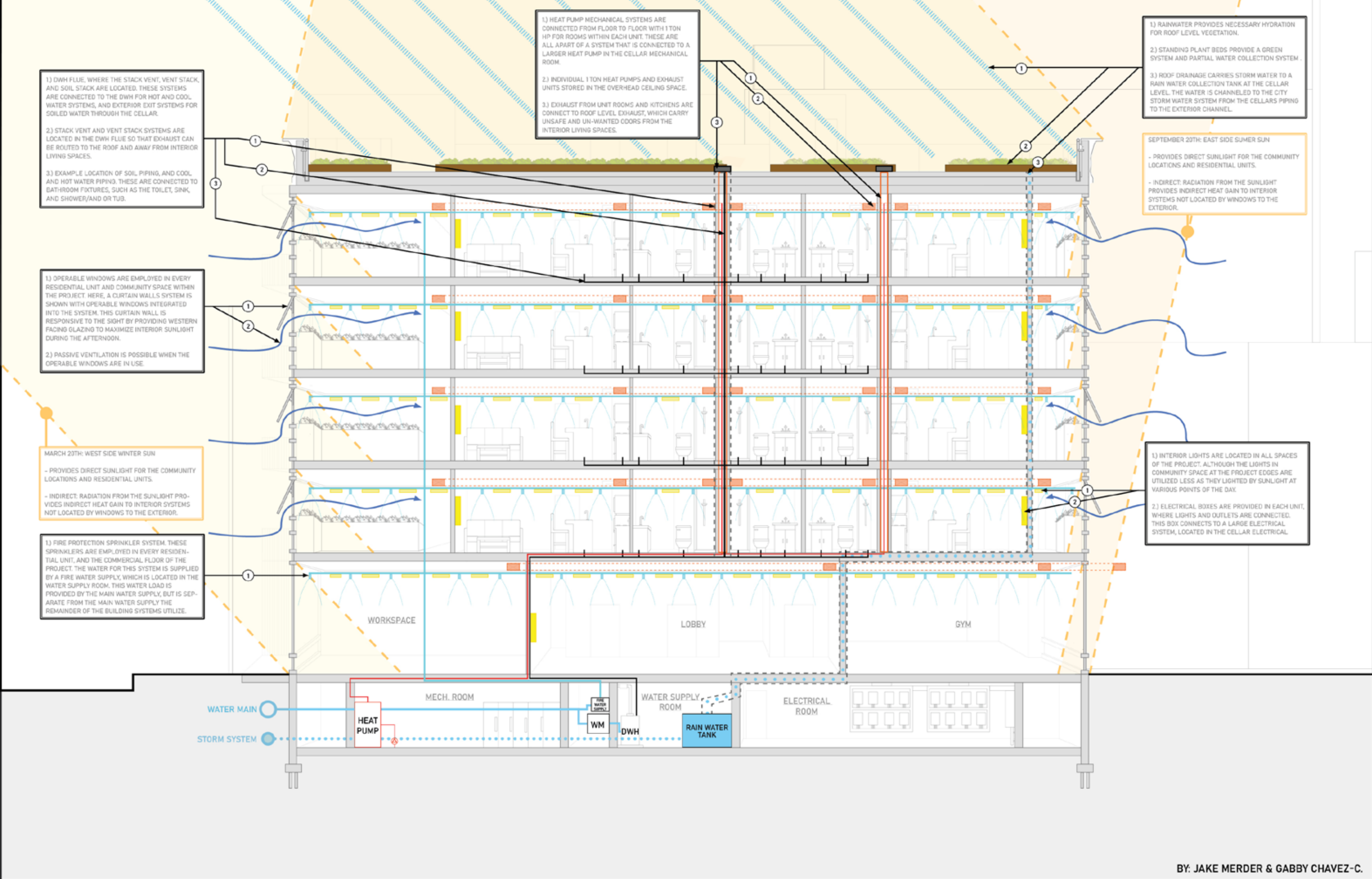
Floor Plan
Typical Level
Scale: 1/8" = 1'-0"



Lafayette Ave

Franklin Ave

FINAL BUILDING SERVICES BOARD 2.0
PERSPECTIVE SECTION



ARCH 302 - COMPREHENSIVE DESIGN_Merder_Jacob
A4.2.2: Mechanical Systems process work

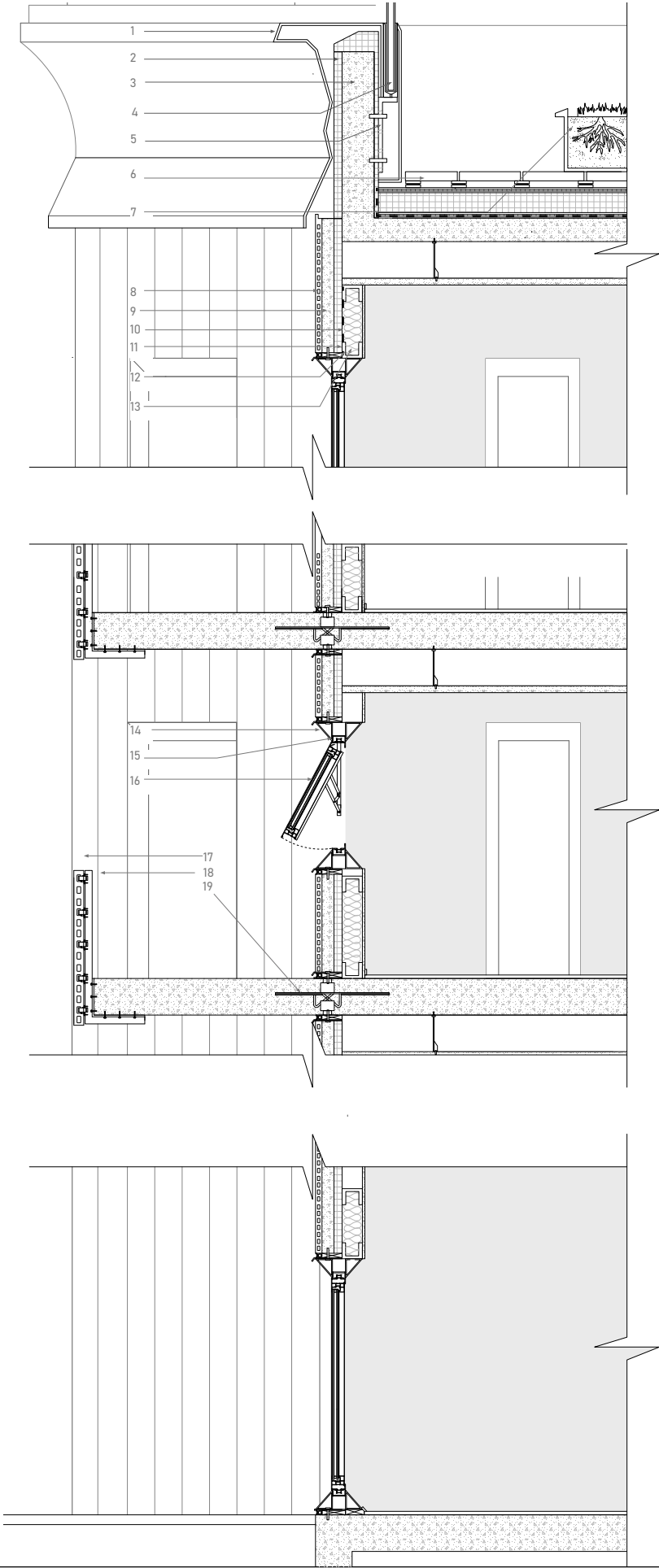




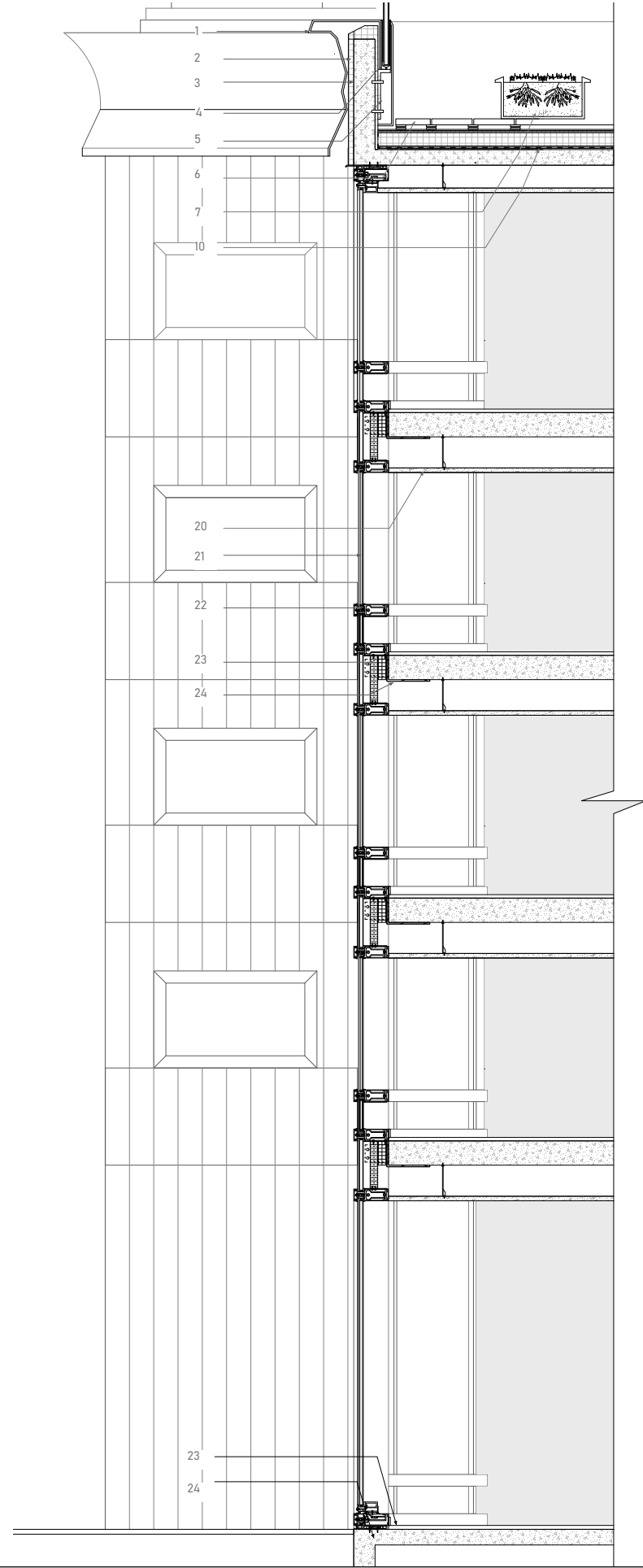
WALL SECTION & BRONZE PARAPET DETAIL
SCALE: 3/4" = 1'-0"

LEGEND:

- 1.) BRONZE PARAPET
- 2.) RIGID INSULATION
- 3.) 1' CONCRETE STUD
- 4.) METAL RAILING
- 5.) STEEL ANGLE & TIES
- 6.) CONCRETE PAVERS
- 7.) 18" PLANTER
- 8.) TERRACOTTA PANEL
- 9.) VERTICAL SUPPORT RAIL
- 10.) VAPOR BARRIER
- 11.) RIGID INSULATION
- 12.) METAL STUD
- 13.) BATT INSULATION
- 14.) BRONZE WINDOW FRAME
- 15.) PUSH OUT HEAD JAMB
- 16.) PUSH OUT WINDOW
- 17.) TERRACOTTA TERRACE PANEL
- 18.) CONCRETE DECK
- 19.) ISOKORB, THERMAL BREAK
- 20.) GYP. BOARD FINISH
- 21.) INSULATED GLASS UNIT
- 22.)METAL SILL JAMB
- 23.) MINERAL WOOL INSULATION
- 24.) BENT STEEL PLATE
- 25.) FLOOR FINISH
- 26.) CONCRETE FOUNDATION



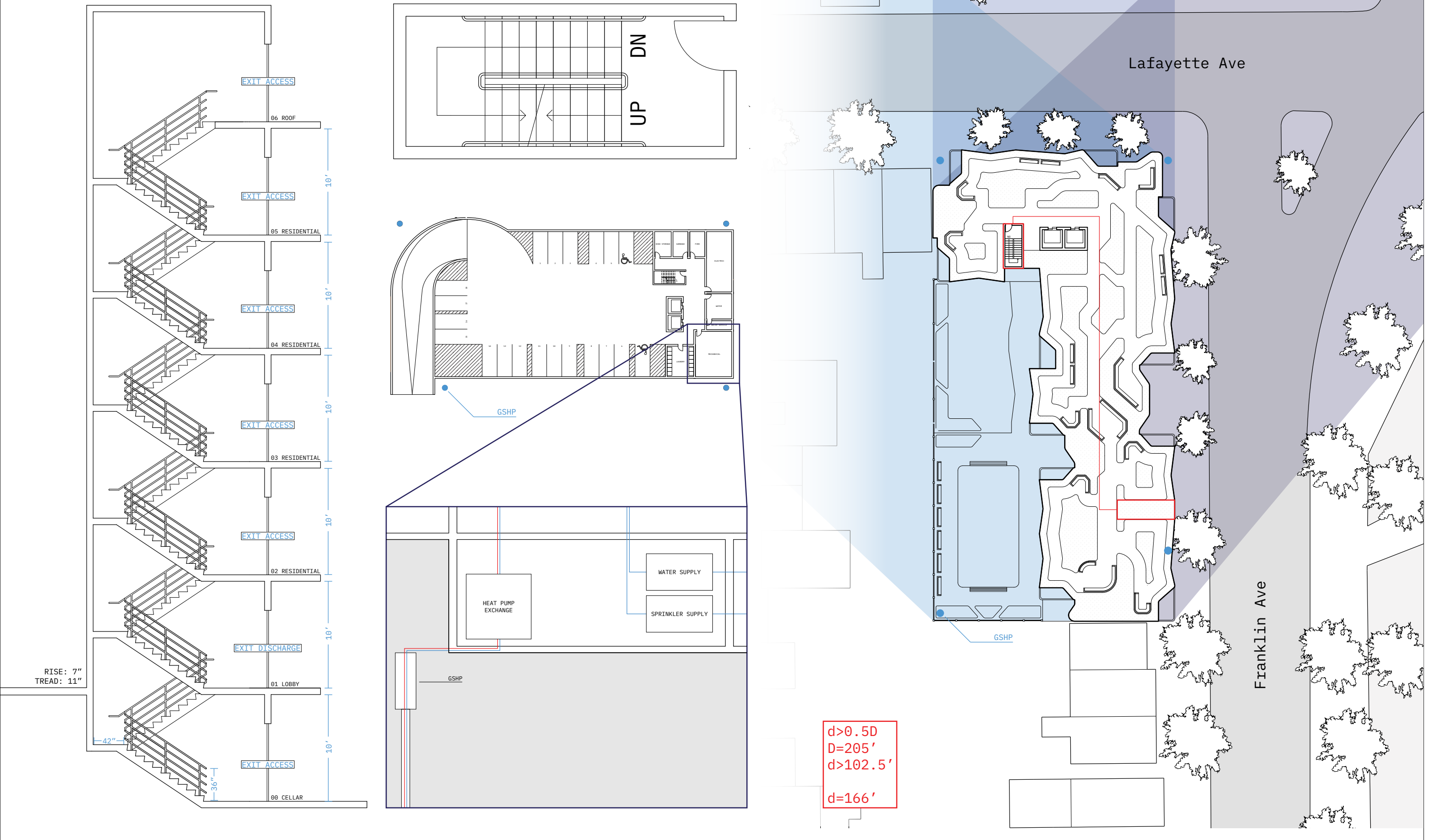
CURTAIN WALL SECTION
SCALE: 1/2" = 1'-0"







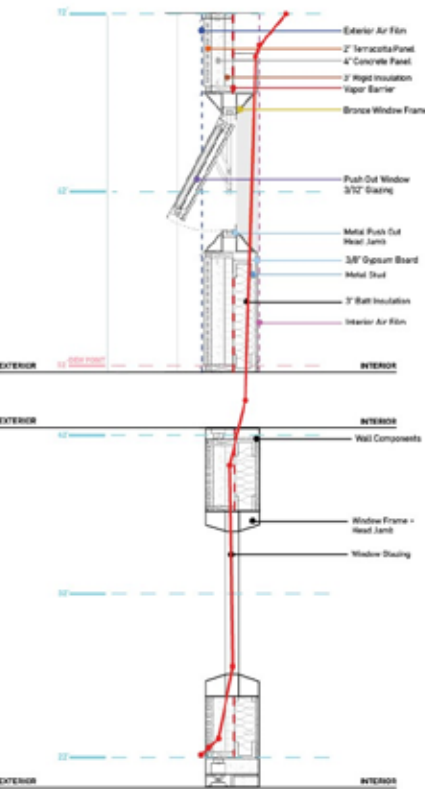
FINAL BUILDING SERVICES BOARD 1.1



FINAL BUILDING SERVICES BOARD 1.0

ENVELOPE 1 // SENSIBLE + LATENT HEAT TRANSFER

TYP. UNIT & FACADE WALL SECTION



WALL PLAN

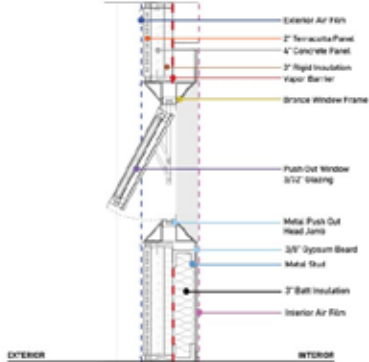
R-Value & U-Coefficient Chart

MAT	R-Value/in Per Inch Thick (1/4) F R2/RTU in.	Thickness Listed (1/4) F R2/RTU in.	R-Value	% R-Value of Total	U-Coefficient (1/U)	Temperature
EXTERIOR AIR						22°
EXTERIOR AIR FILM			0.17	.38%	5.88	31°
TERRACOTTA PANEL	0.16		0.32	.77%	3.125	.385°
CONCRETE PANEL			0.80	1.92%	0.067	.96°
RIGID INSULATION	5		15	35.90%	.067	17.95°
WINDOW GLAZING		2.47	2.47	5.90%	.405	2.95°
VAPOR BARRIER	0					
BATT INSULATION		22	22	52.44%	0.045	26.25°
GYP BOARD		.32	.32	0.77%	3.125	.365°
INTERIOR AIR FILM			.68	1.50%	1.47	.15°
INTERIOR AIR						72°
TOTAL:			41.76		.024	

R-VALUE & TEMPERATURE CALCULATIONS
- R-VALUE: (MATERIAL THICKNESS ADDED ALL TOGETHER)
- R-VALUE % TOTAL: (MATERIAL THICKNESS/R-VALUE)
- TEMPERATURE:
40 DEGREES X R-VALUE/100 =
TEMP DIFFERENCE + 22 DEGREES OR 72° AFTER VAPOR BARRIER

ENVELOPE 2 // TRANSPARENT ELEMENTS + LATENT HEAT FLOW CALCULATIONS

TYP. UNIT & FACADE WALL SECTION



CORNER TWO BEDROOM UNIT: PLAN & ELEVATION

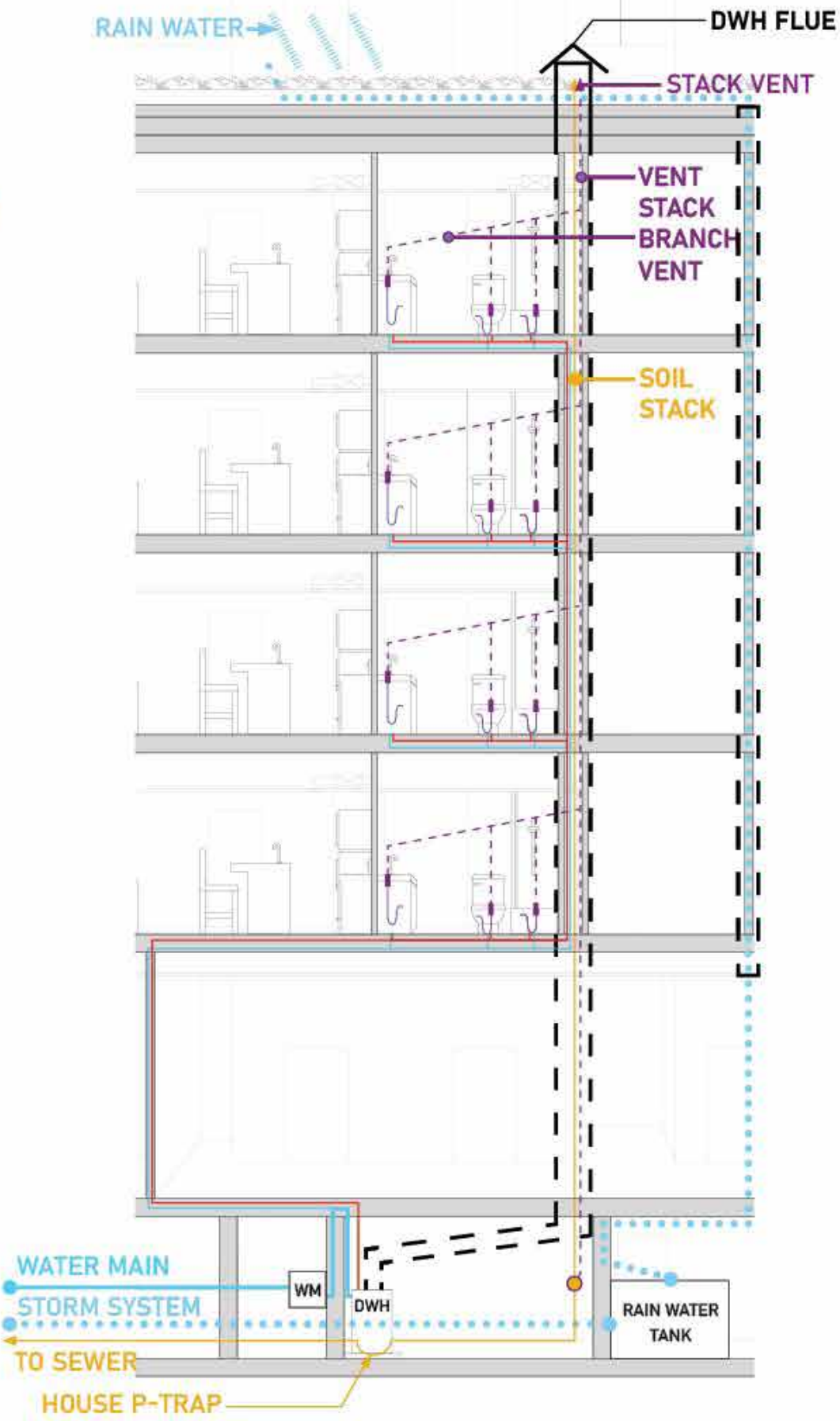
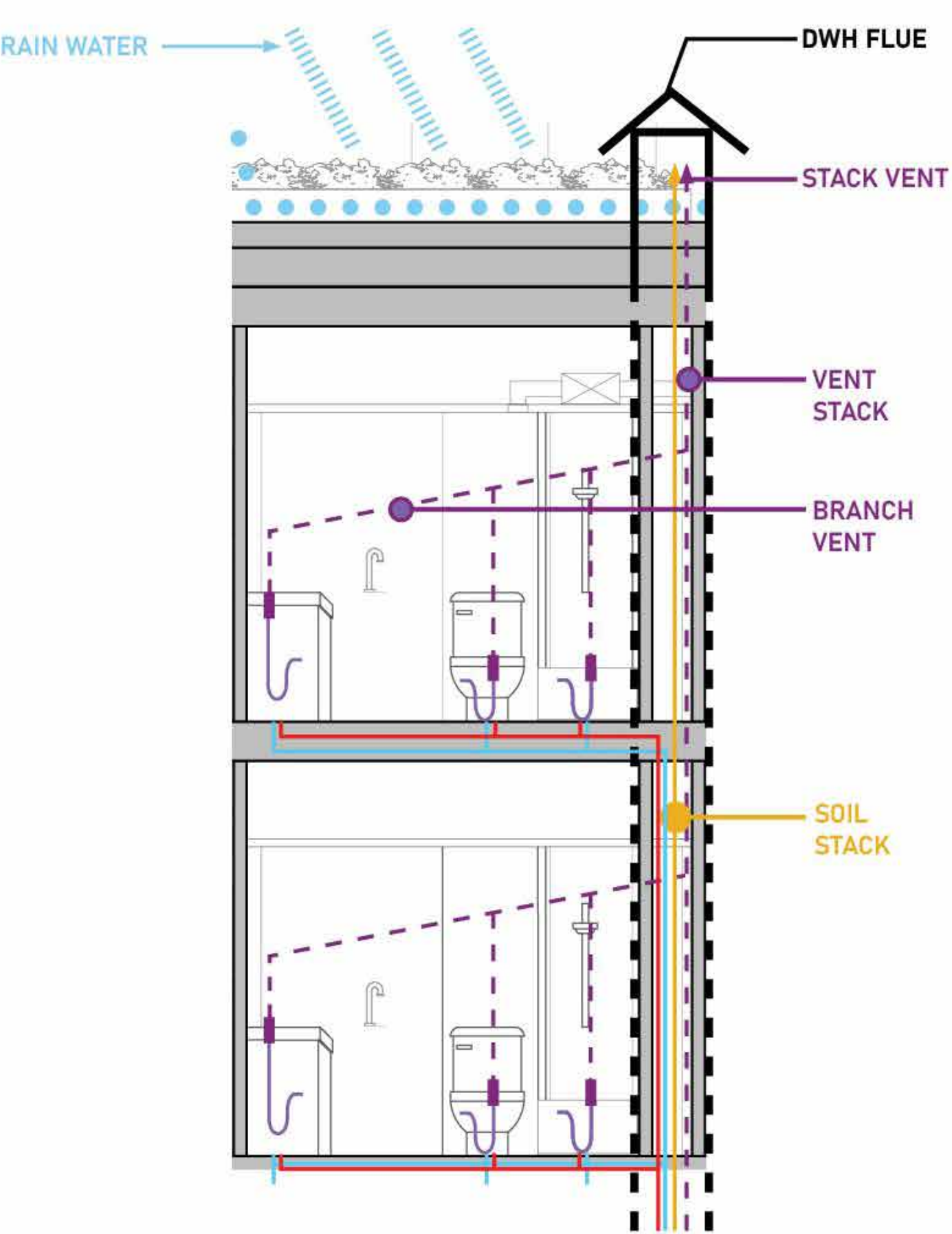


*ROOF ONLY CALCULATED FOR THE AREA OF THE UNIT
*SLAB EDGE PERIMETER ONLY CALCULATED FOR THE AREA OF THE UNIT
*WALL WIDTHS COMBINED

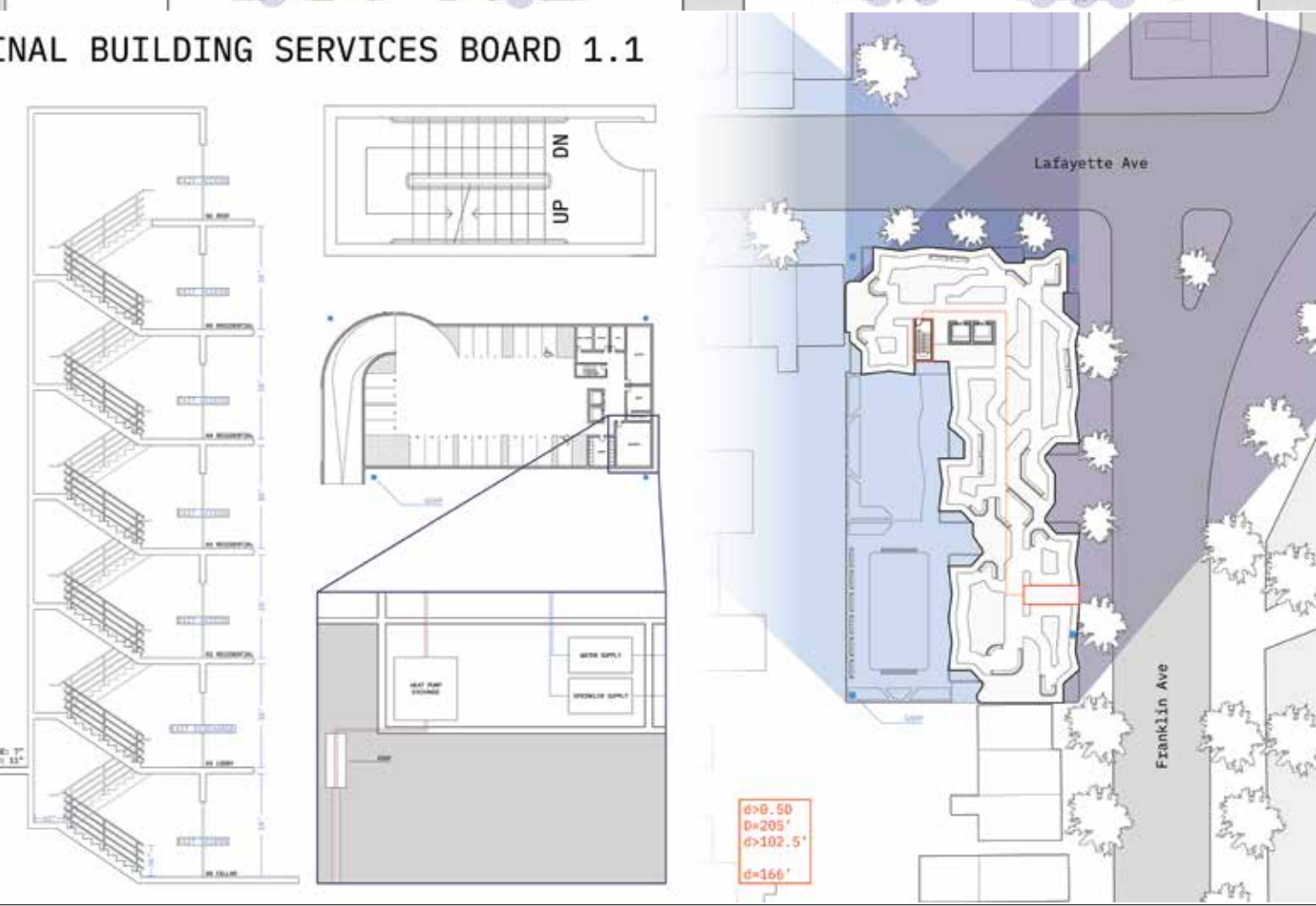
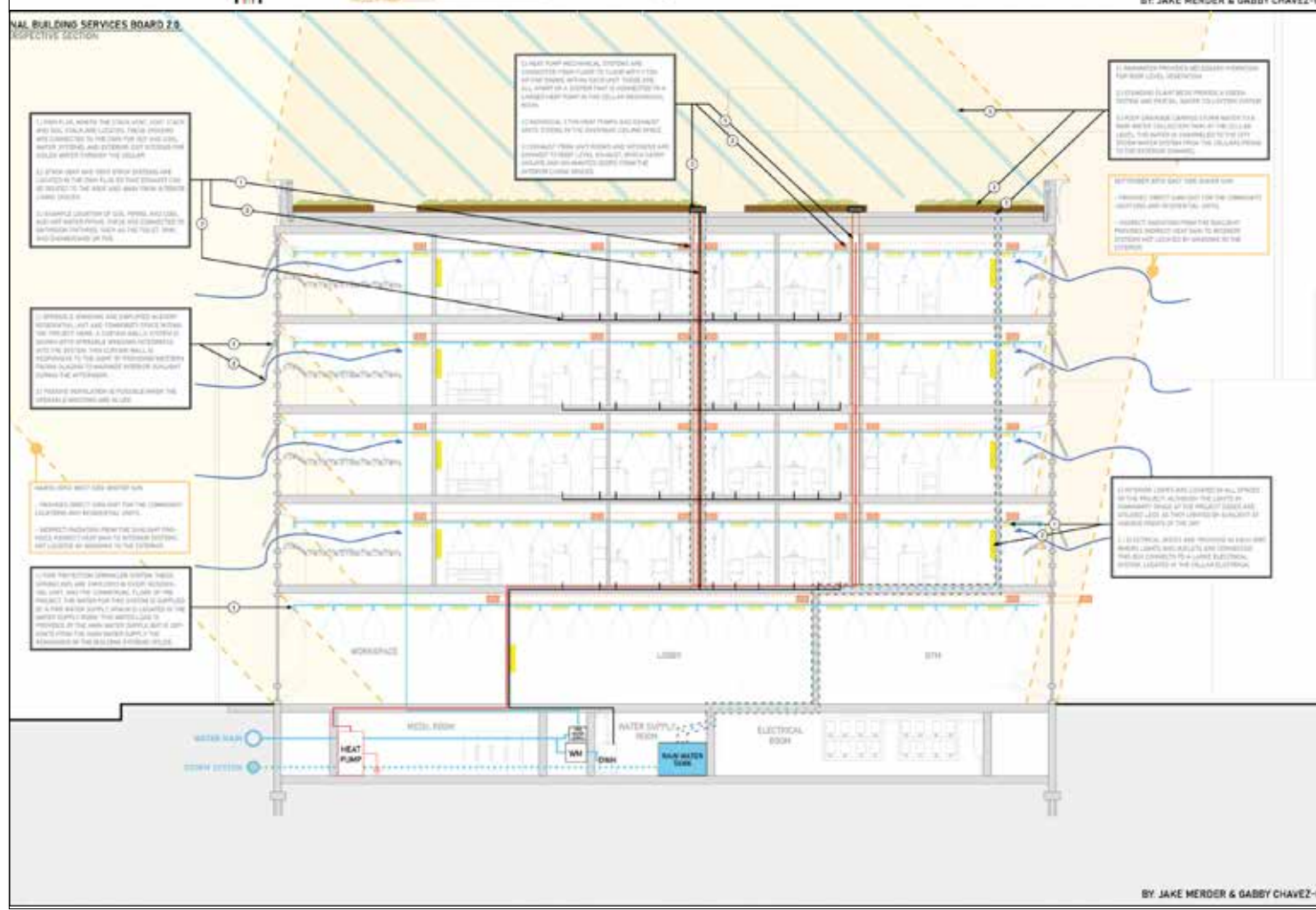
COMPONENTS	HEIGHT	LENGTH	WIDTH COMBINED	QTY.	TOTAL AREA	UNITS	R-VALUE	U-VALUE	ΔT	BTUH
ROOF		44'-6"	23'-6"		1,045.75'	SF	.30	.033	72°	3,751.44
WINDOW 1	5'-0"		7'-6"	1	37.5'	SF		.30	72°	
WINDOW 2	7'-0"		5'-0"	1	35'	SF		.30	72°	
WINDOW 3	7'-0"		3'-0"	1	21'	SF		.30	72°	
WINDOW 4	7'-0"		6'-6"	1	45.5'	SF		.30	72°	
SLIDING GLASS DOOR	7'-0"		3'-0"	1	21'					
WINDOWS					146'	SF		.30	72°	16,905
WALLS (N-S)	10'-0"		23'-6"	2	235'	SF	27.41	.036	72°	
WALLS (E-W)	10'-0"		44'-6"	2	445'	SF	27.41	.036	72°	
NET HALL AREA					680'	SF	27.41	.036	72°	86,158.8
SLAB EDGE PERIMETER		44'-6"	23'-6"	1	132.5'	LF			72°	7,200
VOLUME	10'-0"	44'-6"	23'-6"		10,457.5'	CF		.018	72°	67,525.92
TOTAL:										181,541.16

THERMAL BARRIERS:
* BTUH WINDOWS = 146' X .3 X 72F = 3,585.6°R
* BTUH WALLS = (460'SF - 145SF) .36 X 72 = (515) 25.92 = 13,348.8°R
SLAB EDGE LOSS:
* BTUH = 132.5' X 40 = 5,300° LF
INFILTRATION/VOLUME:
* BLDG CUFT = 10' X 44.5' X 23.5' = 10,457.6' CF
* CFH = 10,457.5' X 1.5' = 15,686.25° R
* BTUH = 15,686.25' X 0.018 X 72 = 20,329.38° R

PLUMBING 01 // WATER SUPPLY AND LIQUID WASTE



FINAL BUILDING SERVICES BOARD 1.1



DESIGN PROJECT – ASSIGNMENT 5 (A5)

BUILDING INTEGRATION – EMERGENT COHOUSING COMMUNITIES

Time: scheduled over 6 weeks
Issue Date: 03/07/2024 to 04/18/2024
Due Date: Week of 4/22 – 4/26, confirm date of final presentation during the week to be determined.
Format: teams of two

INSTRUCTIONS

Develop the work done in the previous assignments to create an integrated architectural solution for the **Emergent Cohousing Communities**. 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 project team designers for the final design.

REQUIRED DELIVERABLES

A5: Final Project Landscape Format: 22 x 34, North to the right

- 5.1 Site Plan @ 1/16" with Roof or First Floor
- 5.2 1/8" Plan Drawings
 - 3.2.1 Cellar
 - 3.2.2 First
 - 3.2.3 Second
 - 3.2.4 Third, Fourth, and Fifth
 - 3.2.5 Roof
- 5.3 1/8" Section Drawings or larger
 - 3.3.1 Longitudinal 1 and Transverse 1
 - 3.3.2 Longitudinal 2 and Transverse 2
- 5.4 1/8" Elevation Drawings, South, East and West
- 5.5 Enclosure Drawings
 - 5.5.1 Wall Section @ ½" or larger integrating structural, mechanical, and water systems with an isometric diagram or facade strategy
 - 5.5.2 Rendered Section and Elevation OR

- Axonometric Detail OR
- Partial Building Model
- 5.6 Perspective Views
- 5.7 Models
 - 5.7.1 1/16" study model
 - 5.7.2 1/8" overall Building Model

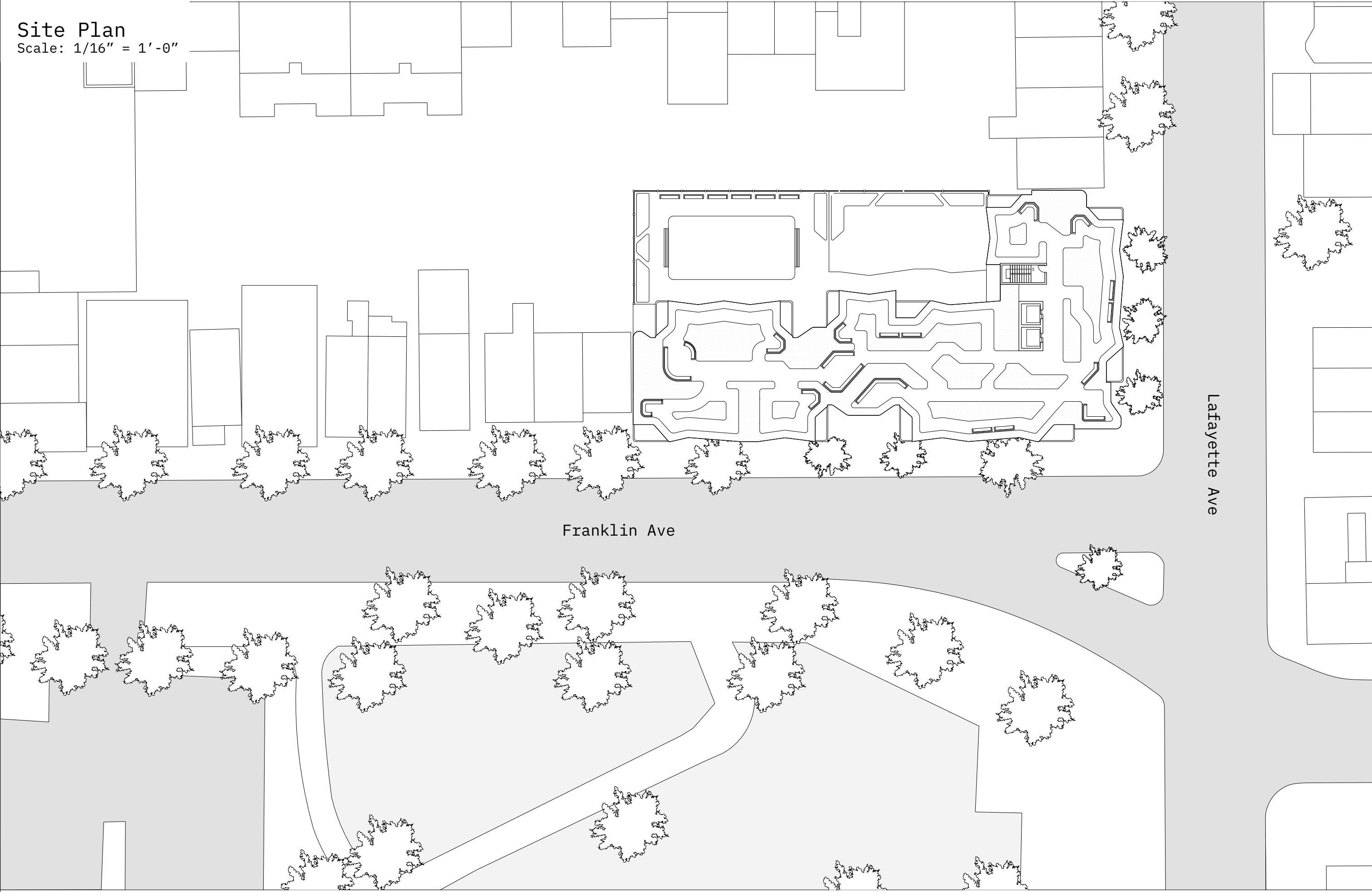
Written Design Statement - 1-page abstract of critical concepts

Optional

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

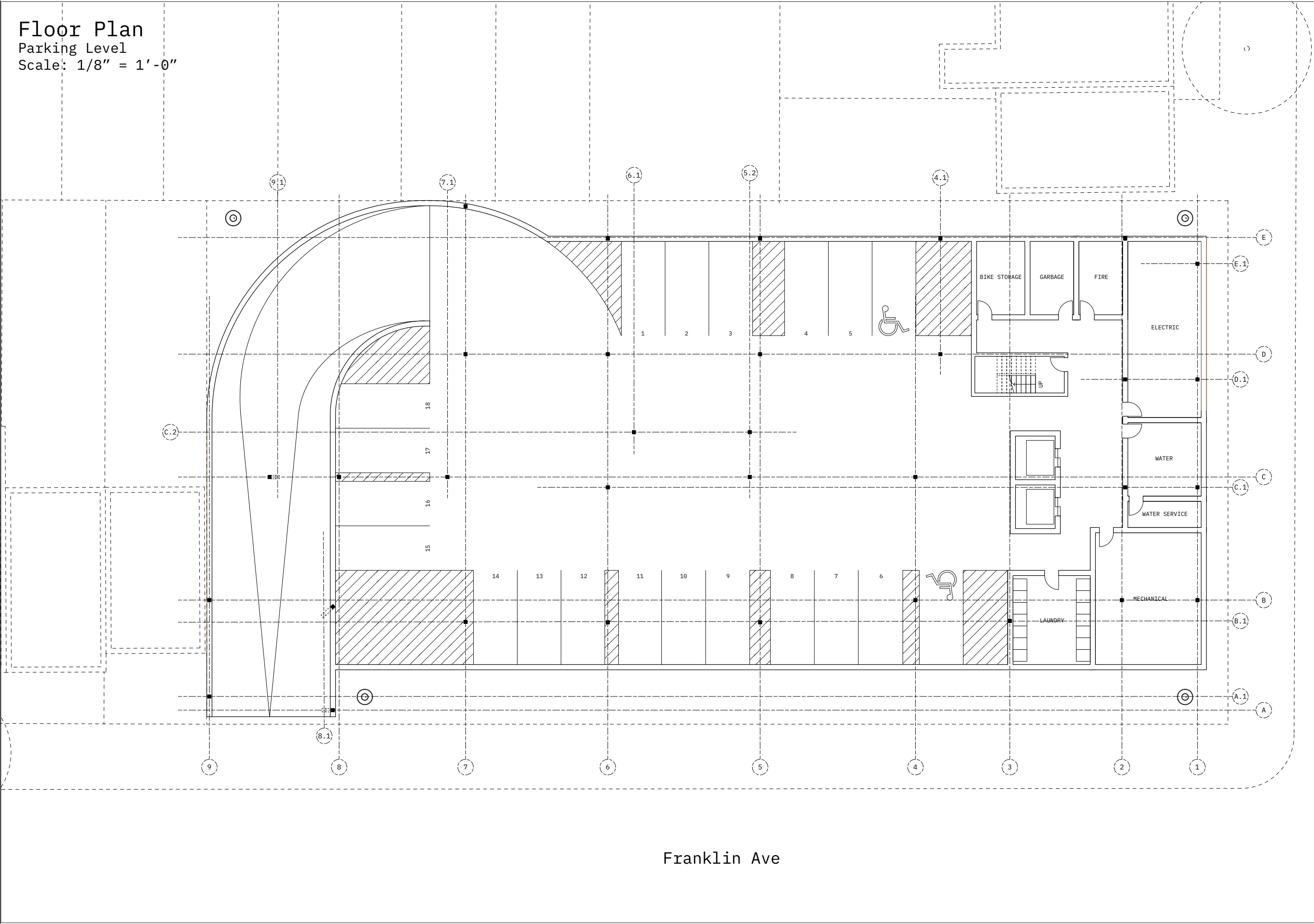
Site Plan

Scale: 1/16" = 1'-0"

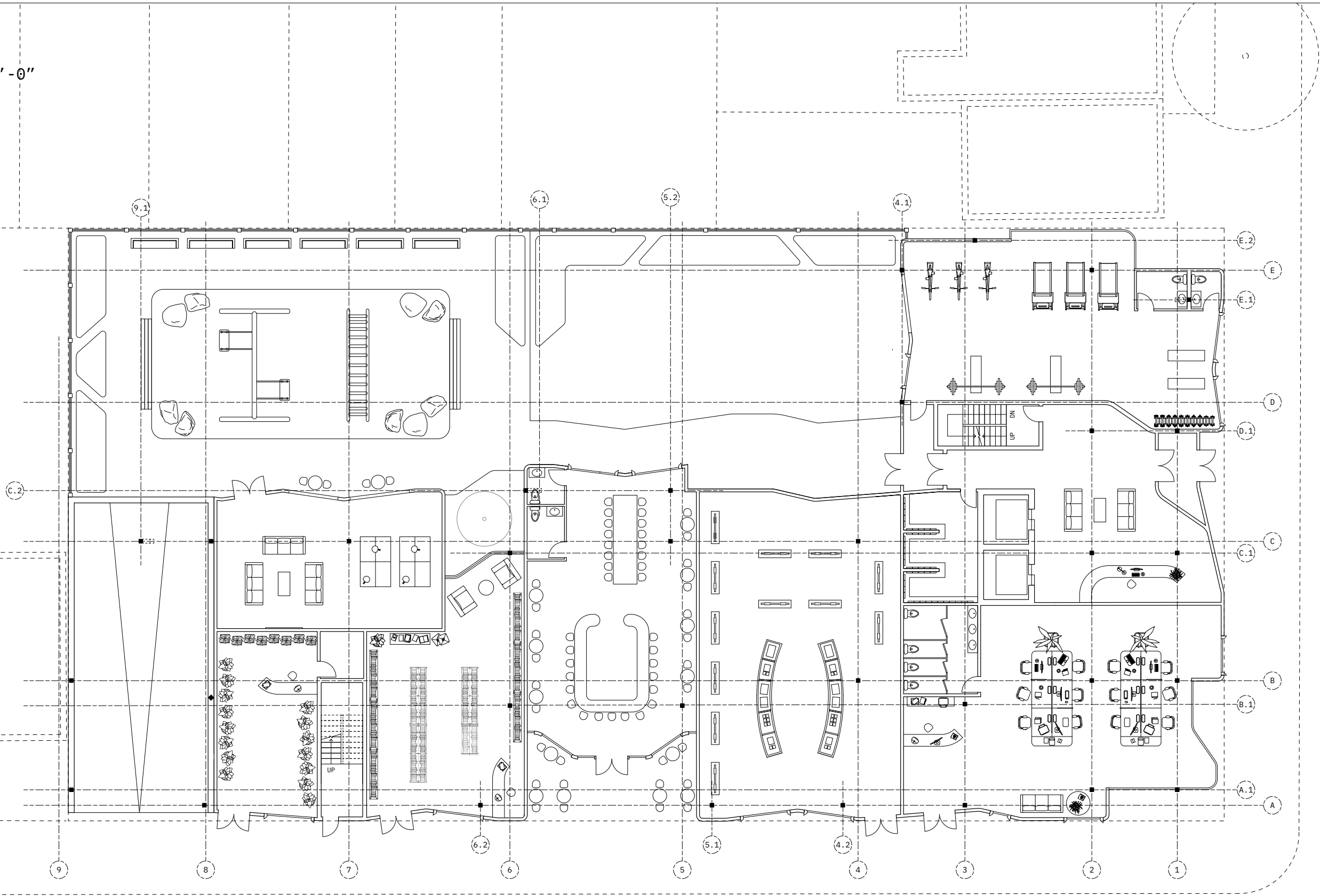




Floor Plan
Parking Level
Scale: 1/8" = 1'-0"



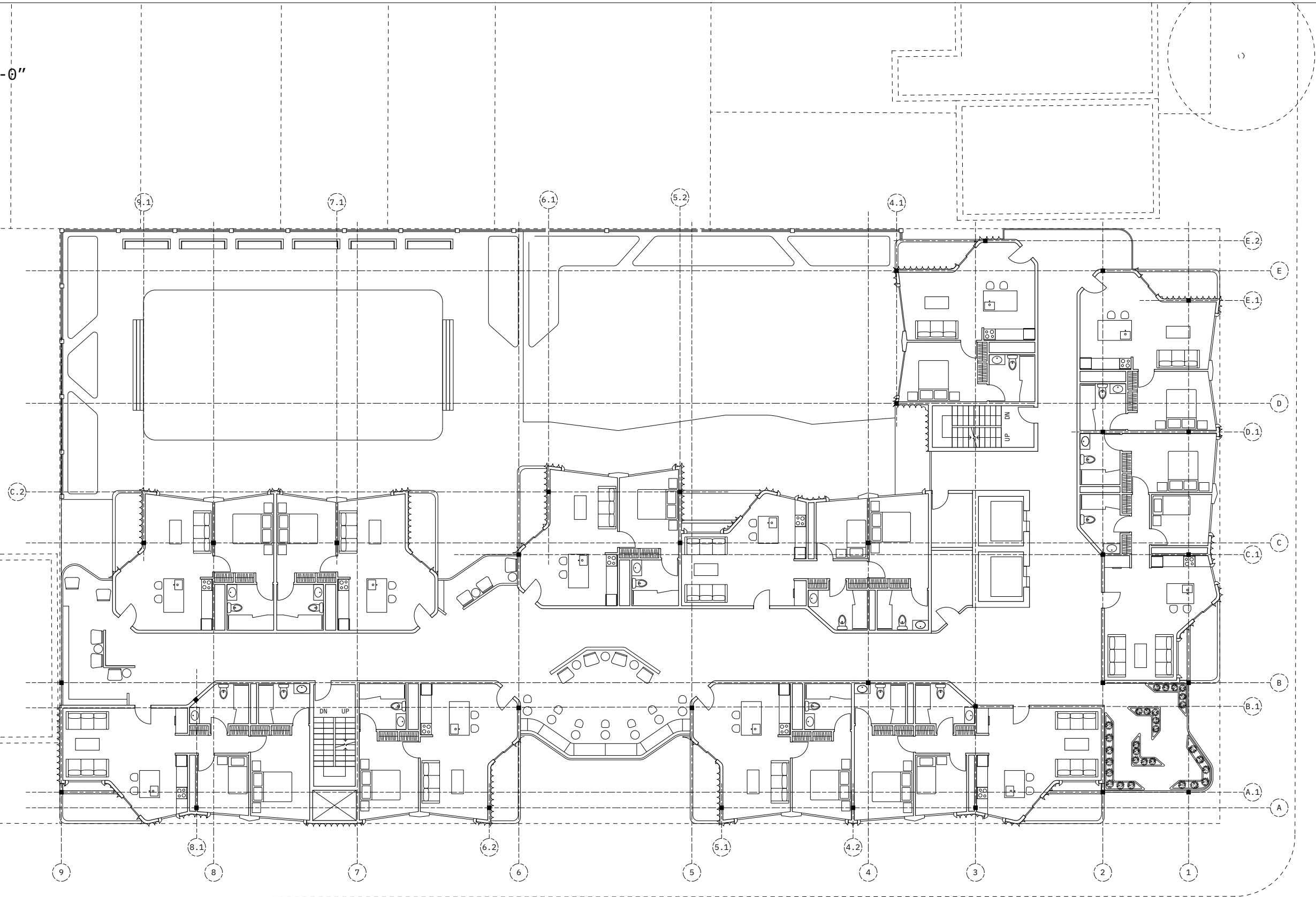
Floor Plan
Ground Level
Scale: 1/8" = 1'-0"



Franklin Ave

Lafayette Ave

Floor Plan
Typical Level
Scale: 1/8" = 1'-0"

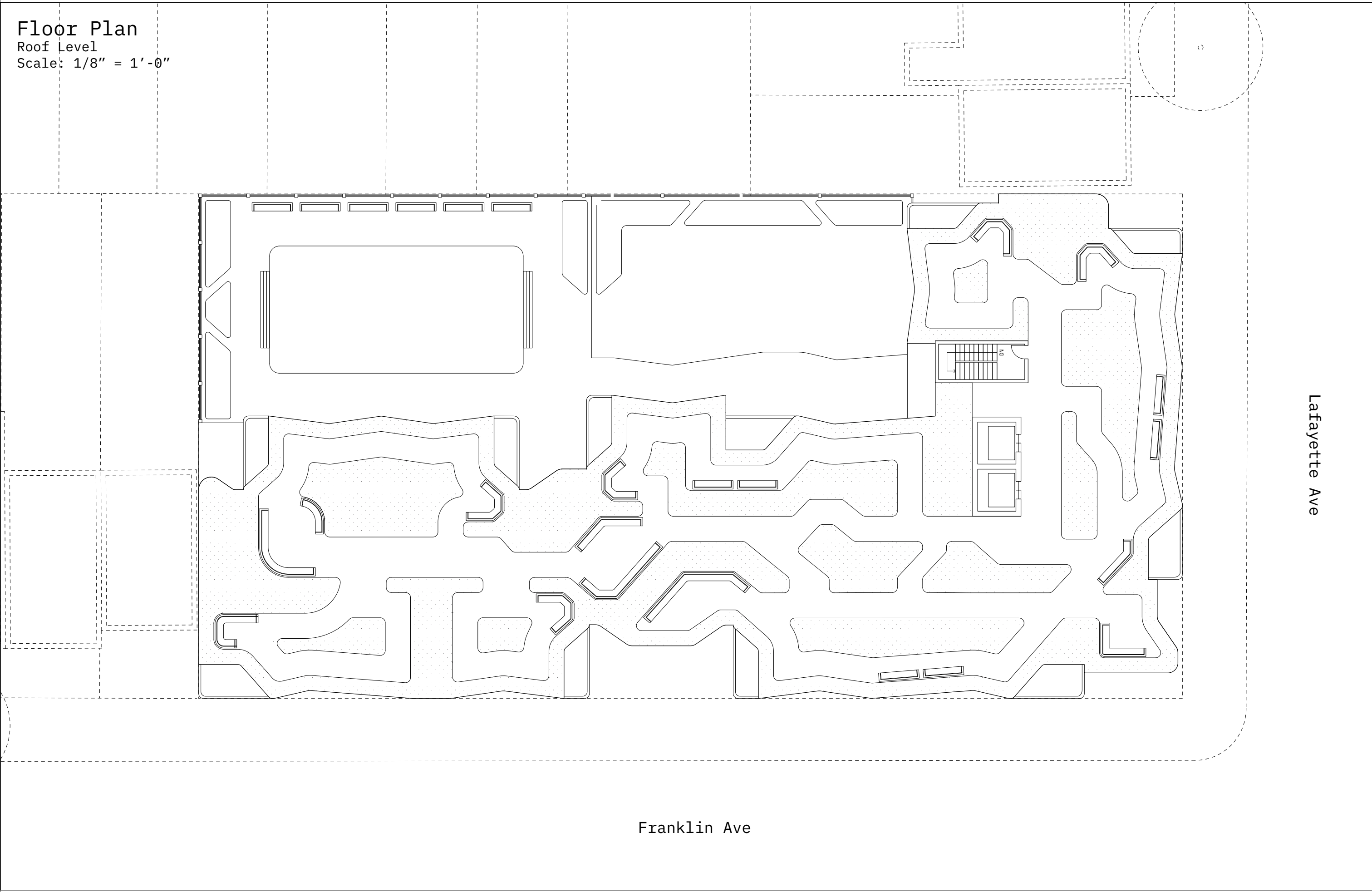


Lafayette Ave

Franklin Ave

Floor Plan

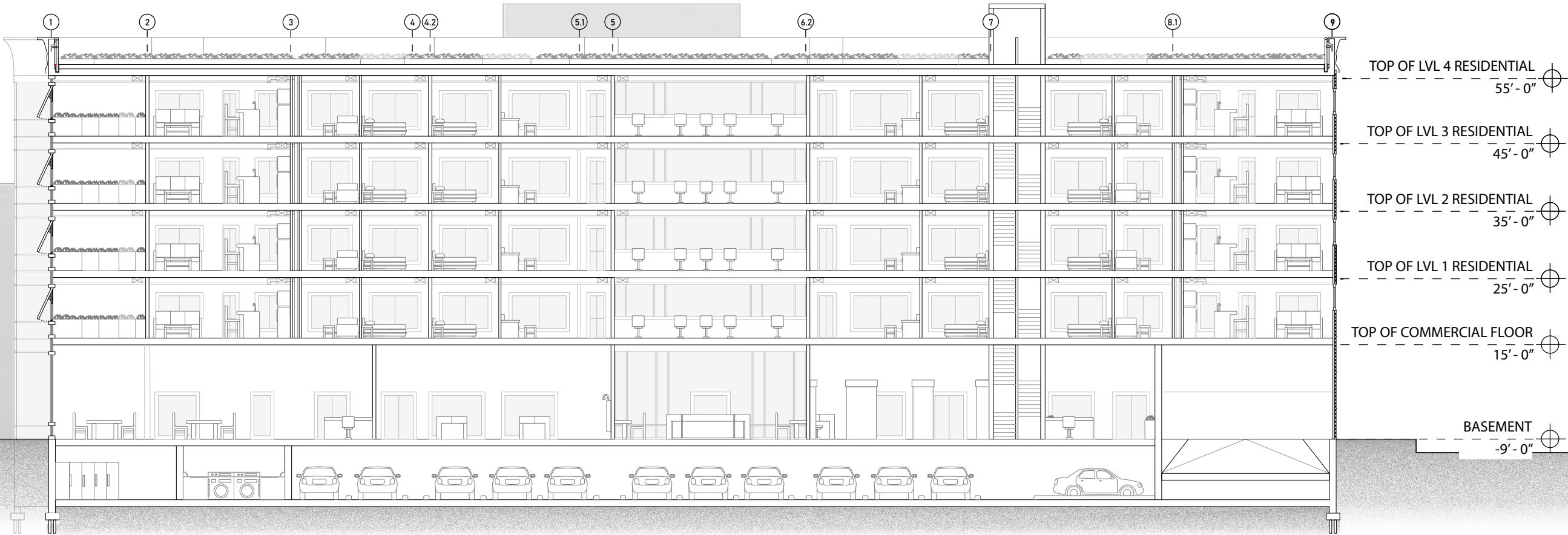
Roof Level
Scale: 1/8" = 1'-0"



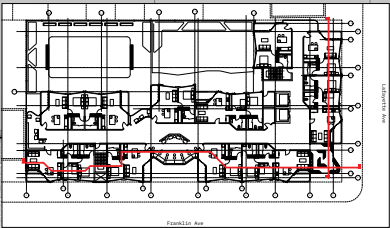
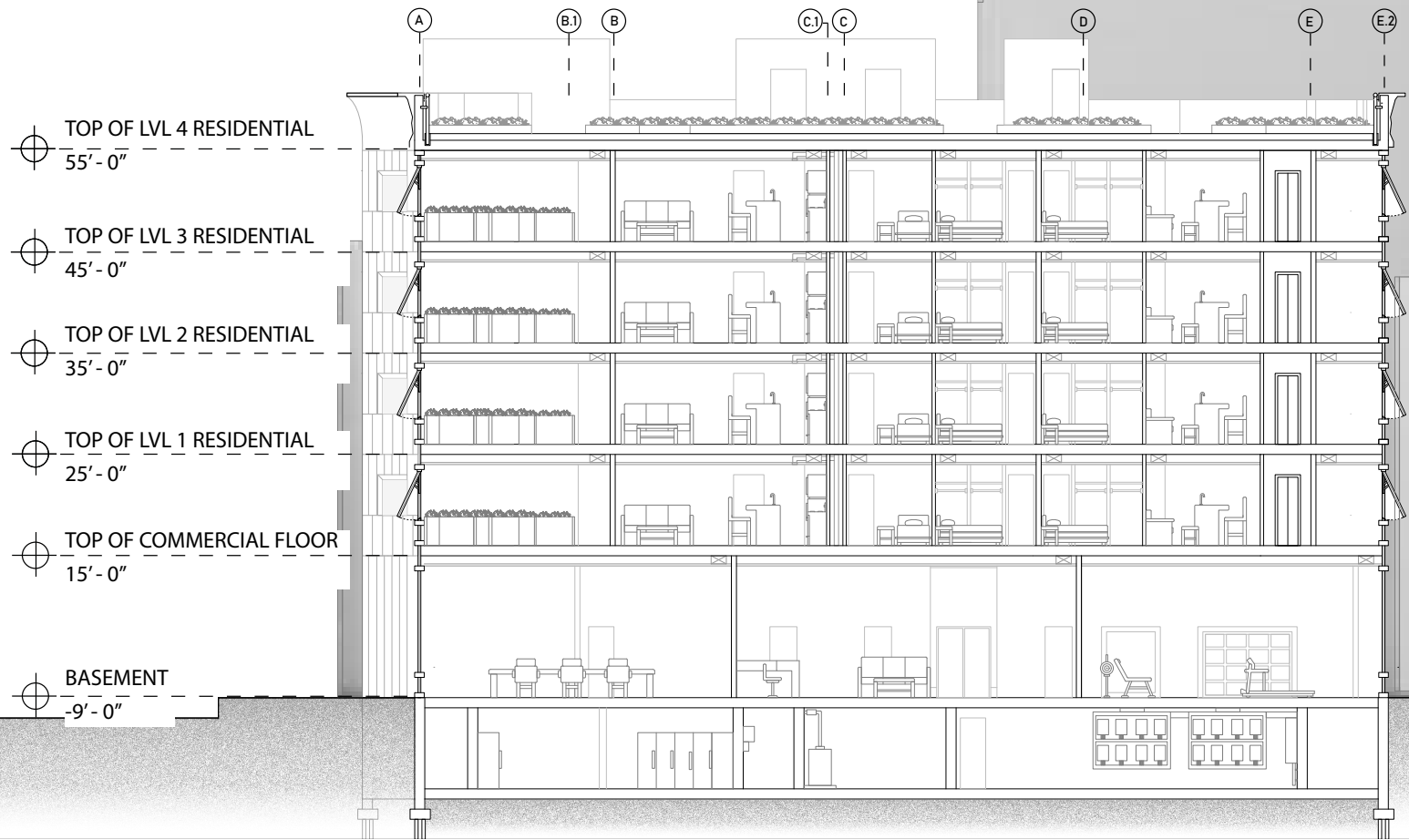
SOUTH & WEST
SECTIONS

SCALE: 1/8" = 1'-0"

WEST SECTION



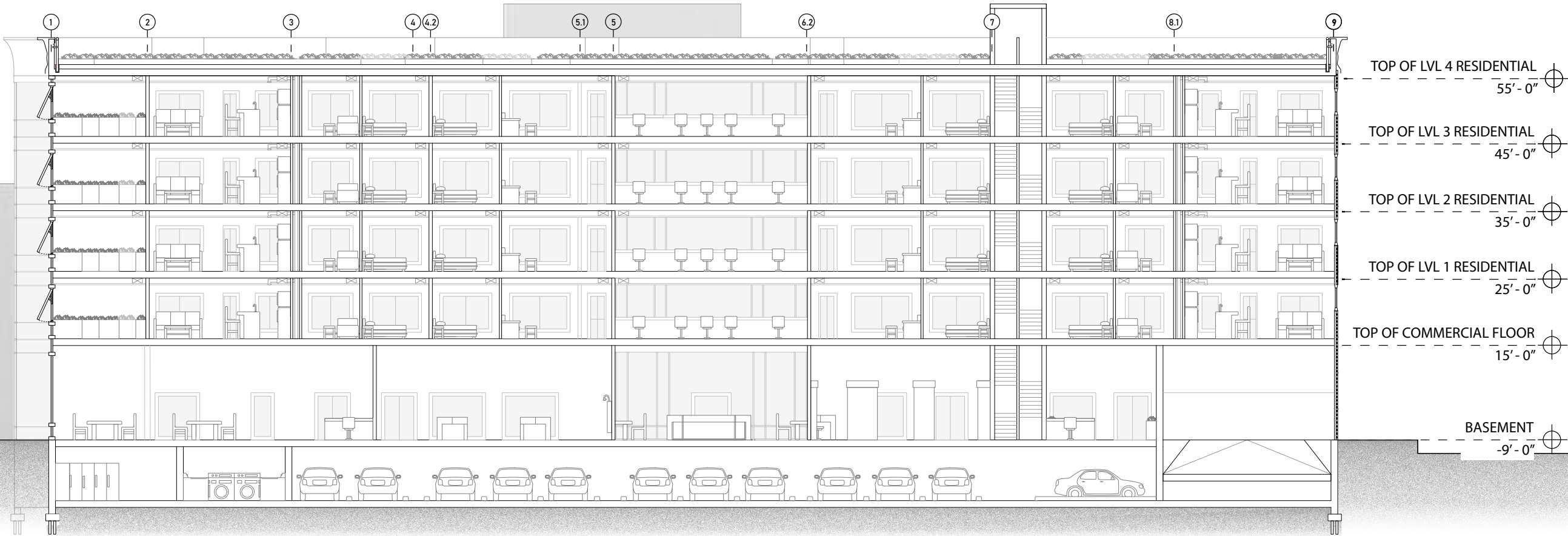
SOUTH SECTION



SOUTH & WEST
SECTIONS

SCALE: 1/8" = 1'-0"

WEST SECTION



SOUTH SECTION





SOUTH & WEST ELEVATIONS

SCALE: 1/8" = 1'-0"

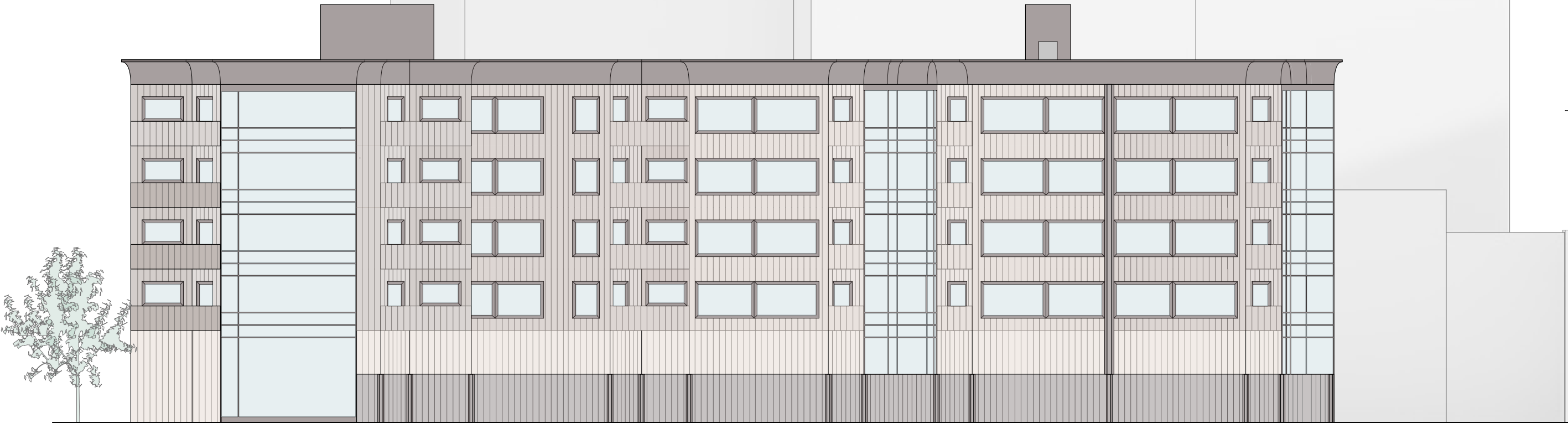
WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION
SCALE: 1/8" = 1'-0"



SOUTH & WEST ELEVATIONS
SCALE: 1/8" = 1'-0"

WEST ELEVATION



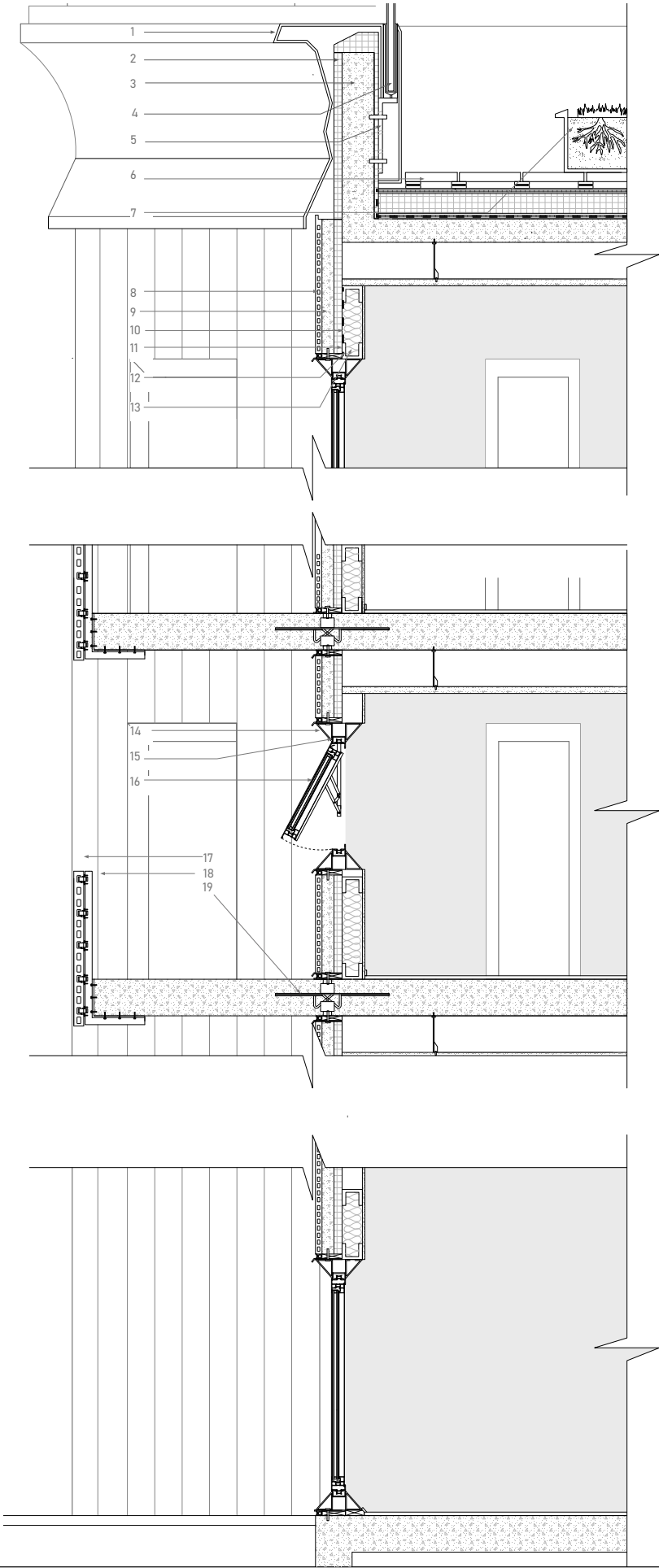
SOUTH ELEVATION



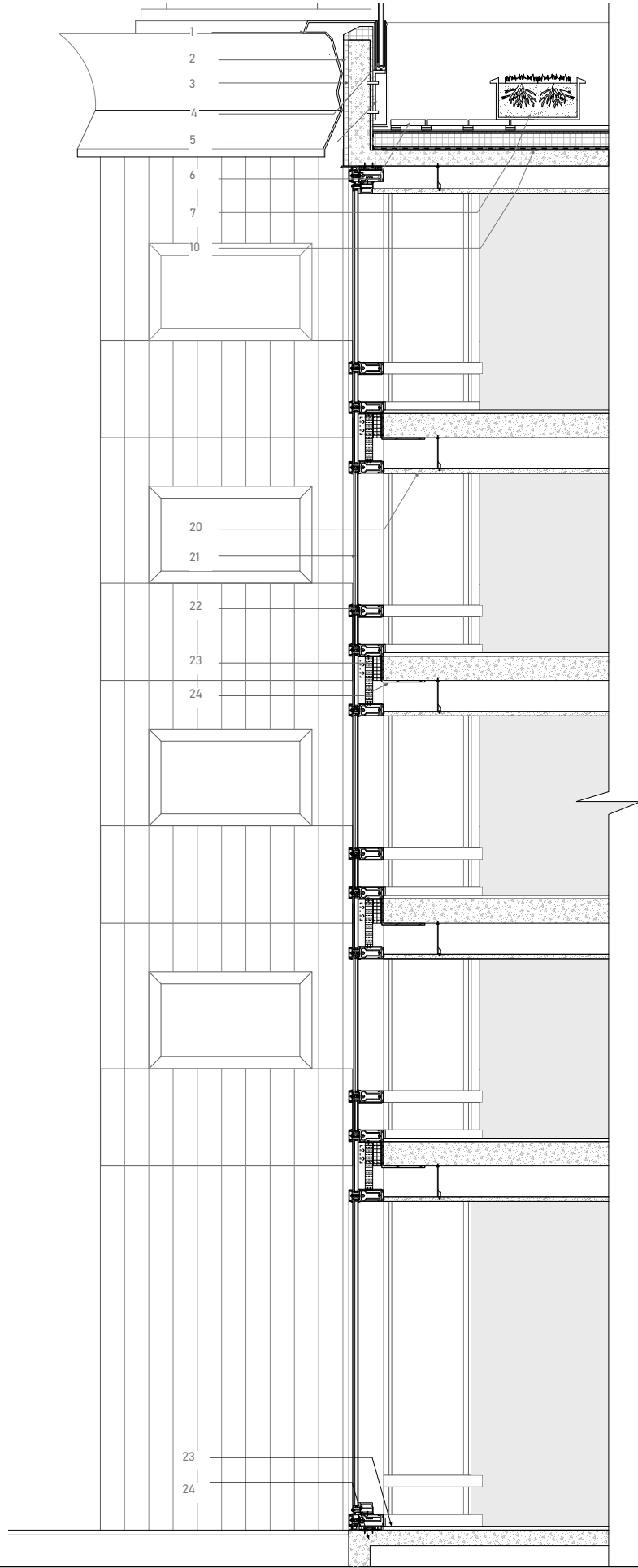
WALL SECTION & BRONZE PARAPET DETAIL
SCALE: 3/4" = 1'-0"

LEGEND:

- 1.) BRONZE PARAPET
- 2.) RIGID INSULATION
- 3.) 1' CONCRETE STUD
- 4.) METAL RAILING
- 5.) STEEL ANGLE & TIES
- 6.) CONCRETE PAVERS
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- 24.) BENT STEEL PLATE
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- 26.) CONCRETE FOUNDATION



CURTAIN WALL SECTION
SCALE: 1/2" = 1'-0"



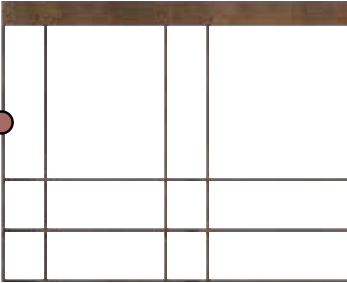
FACADE ELEMENTS: CHUNK RENDER



MATERIAL ELEMENTS:



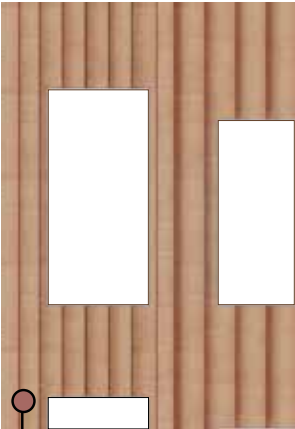
BRONZE PARAPET DETAIL



BRONZE CURTAIN WALL FRAMING



INDENTED WINDOW FRAMING DETAIL



FLUTED TERRACOTTA PANELS

BROWNSTONE TRANSLATION:



ORNAMENT ROOF/PARAPET DETAIL



BAY WINDOW & FACADE DETAILING



PIANO NOBLE



ROW HOUSE COLOR VARIATION



Building Perspectives
Scale: NTS



Building Isometric
Scale: NTS



FULL BUILDING FINAL MODELS



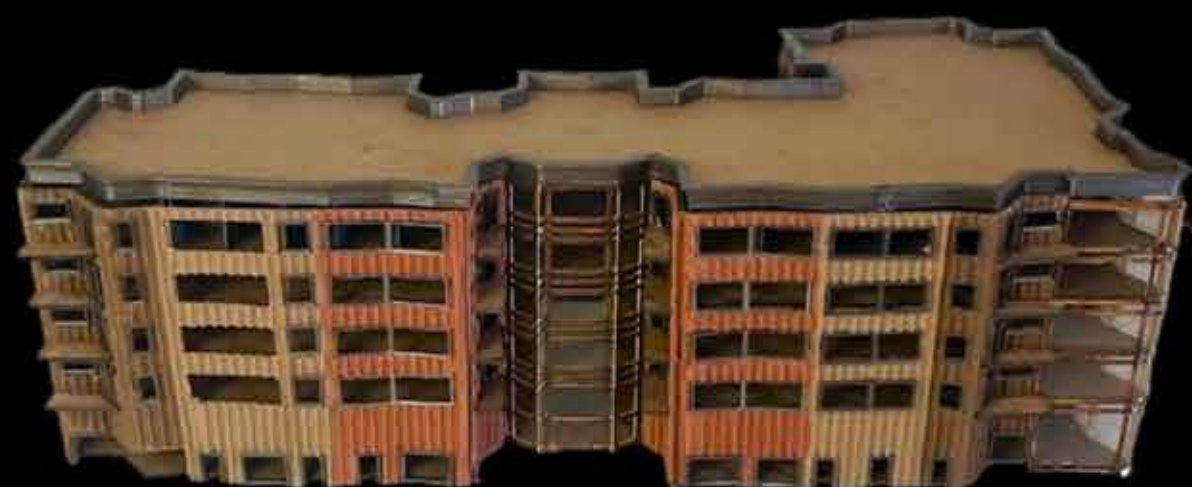
1/16"=1-0" West Perspective



1/16"=1-0" East Perspective



1/8"=1-0" West Perspective



1/8"=1-0" West Perspective



1/8"=1-0" East Perspective

