

# Food Fight

A vision for justice through mixed-use development.  
Ethan Cano, Corser Studio

# Demographic Data

Housing Units in Seattle in 2010: 308,516

↑ +60k

Housing Units in Seattle in 2020: 368,308

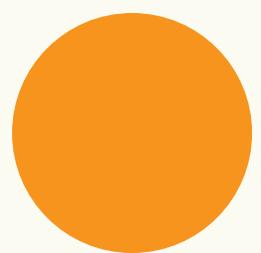
↑ +140k

Housing Units Needed in Seattle  
by 2044 (projected): >500,000

Average Household Income in Rainier Beach

\$49k 

Average Household Income in Seattle

\$105.3k 

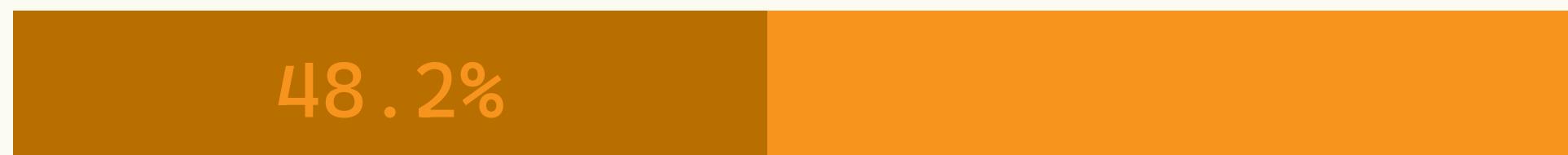
# Affordability Metrics

Standard of Affordability



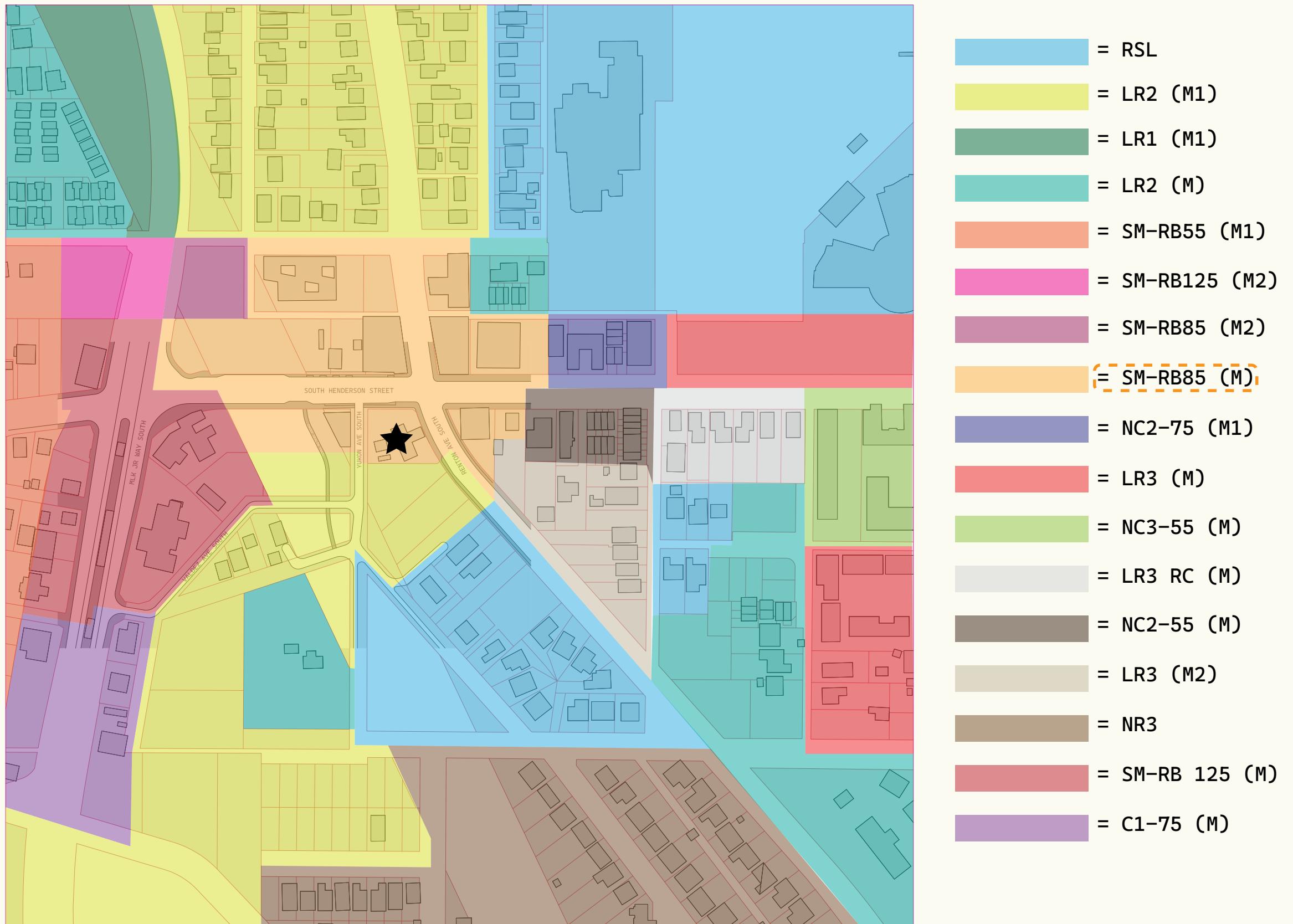
33.3%

Average Percent of Monthly Income  
Spent on Housing in Rainier Beach



48.2%

# Zoning



# Occupancy Classifications and Loads

AREA NAME	USE AND OCCUPANCY CLASSIFICATION	DESCRIPTION	SQFT PER PERSON	AREA (SQFT)	TOTAL OCCUPANTS	MIN NUMBER OF EXITS	USES	FT <sup>2</sup> PER PERSON
LEVEL 1								
DRY STORAGE	S-2	DRY STORAGE FOR COOKING SUPPLIES AND VEGETABLES FROM GARDEN	300	707	3		ASSEMBLY	
COLD STORAGE	S-2	STORAGE FOR COLD ITEMS	300	154	1		CONCENTRATED USE WITHOUT FIXED SEATING	7
FREEZER	S-2	FREEZER	300	155	1		LESS CONCENTRATED USE WITHOUT FIXED SEATING	15
COMMISSARY	A-2	SHARED KITCHEN SPACE WITH 24 HOUR KEYED ACCESS	100	2103	22		BENCH TYPE SEATING	1 PERSON/18 LINEAR IN.
STAIR		FIRE EGRESS		191			FIXED SEATING	USE NUMBER OF FIXED SEATS
LOBBY	A-3	LOBBY AND CIRCULATION AREA	15	921	62		WAITING SPACES	SEE 12.1.7.2 OR 13.1.7.2
FOOD HALL	A-2	CAFETERIA SPACE AND SEATING FOR PATRONS	100	1901	20		KITCHENS	100
MECHANICAL	B	MECHANICAL ROOM	50	86	2		LIBRARY STACK AREA	100
VENDOR 1	B	ROTATING FOOD VENDING STATIONS	150	114	1		LIBRARY READING ROOMS	50 NET
VENDOR 2	B	ROTATING FOOD VENDING STATIONS	150	114	1		SWIMMING POOLS	50 (WATER SURFACE)
VENDOR 3	B	ROTATING FOOD VENDING STATIONS	150	115	1		SWIMMING POOL DECKS	30
VENDOR 4	B	ROTATING FOOD VENDING STATIONS	150	115	1		EXERCISE ROOMS WITH EQUIPMENT	50
RESTROOM	B	MECHANICAL ROOM	50	93	2		EXERCISE ROOMS WITHOUT EQUIPMENT	15
RESTROOM	B	RESTROOM	50	73	2		STAGES	15 NET
RESTROOM	B	RESTROOM	50	73	2		LIGHTING AND ACCESS CATWALKS, GALLERIES, GRIDIRONS	100 NET
STAIRS		FIRE EGRESS		290			CASINOS AND SIMILAR GAMING AREAS	11
						LEVEL ONE TOTAL		
						121		
LEVEL 2							SKATING RINKS	50
OFFICE	B	OFFICE FOR TEACHING KITCHEN STAFF	150	494	4		BUSINESS	
OFFICE	B	OFFICE FOR TEACHING KITCHEN STAFF	150	334	3		CONCENTRATED BUSINESS USE	150
DESKING AND COLLAB	B	SHARED DESKING AND SEATING FOR ALL KITCHEN STAFF	150	610	5		AIRPORT TRAFFIC CONTROL TOWER OBSERVATION DECK	50
RESTROOM	B	SINKS	50	133	3		COLLABORATION ROOMS/SPACE <450 FT <sup>2</sup>	40
TOILET	B	TOILET	50	44	1		COLLABORATION ROOMS/SPACE >450 FT <sup>2</sup>	30
TOILET	B	TOILET	50	44	1		TOILET	15
AQUAPONICS	U/I	FRUIT/VEGETABLE GROWTH AND FISH AQUACULTURE	100	1586	16		DAY CARE USE	
RESTROOM	B	RESTROOM	50	63	2		DETENTION AND CORRECTIONAL USE	35 NET
STAIRS		FIRE EGRESS		222			EDUCATIONAL USE	
BREAK AND LOBBY	A-3	SEATING AND FOYER SPACE	15	977	66		CLASSROOM	20 NET
MECHANICAL	B	MECHANICAL ROOM	50	86	2		SHOPS, LABORATORIES, VOCATIONAL ROOMS	50 NET
CLASSROOM AND COMMUNITY GATHERING	B	CLASSROOM SPACE THAT CAN BE CONVERTED INTO A GATHERING AREA WITH OPERABLE WALLS	150	879	6		CORRIDOR	
CLASSROOM	B	CLASSROOM SPACE THAT CAN BE CONVERTED INTO A GATHERING AREA WITH OPERABLE WALLS	150	688	5		STAIRS	
CORRIDOR		CORRIDOR		412			HEALTH CARE USE	
STAIRS		FIRE EGRESS		189			INPATIENT TREATMENT DEPARTMENTS	240
TEACHING KITCHEN	B	LEARNING SPACE FOR CULINARY WORKERS	150	1041	7		SLEEPING DEPARTMENTS	120
MECHANICAL	B	MECHANICAL ROOM	150	96	1		AMBULATORY HEALTH CARE	150
STORAGE	S-2	STORAGE	300	53	1			
						LEVEL TWO TOTAL		
						123		
							INDUSTRIAL USE	
							GENERAL AND HIGH HAZARD INDUSTRIAL	100
							SPECIAL PURPOSE INDUSTRIAL	MP
							MERCANTILE USE	
							SALES AREA ON STREET FLOOR	30
							SALES AREA ON TWO OR MORE STREET FLOORS	40
							SALES AREA ON FLOOR BELOW STREET FLOOR	30
							SALES AREA ON FLOORS ABOVE STREET LEVEL	60
							FLOORS OR PORTIONS OF FLOORS USED ONLY FOR OFFICES	SEE BUSINESS USE
							FLOORS OR PORTIONS OF FLOORS USED ONLY FOR STORAGE, RECEIVING, AND SHIPPING, AND NOT OPEN TO GENERAL PUBLIC	300
							MALL STRUCTURES	PER FACTORS APPLICABLE TO USE OF SPACE
							RESIDENTIAL USE	
							HOTEL AND DORMITORIES	200
							APARTMENT BUILDINGS	200
							BOARD AND CARE, LARGE	200
							STORAGE USE	
							IN STORAGE OCCUPANCIES	MP
							IN MERCANTILE OCCUPANCIES	300
							IN OTHER THAN STORAGE AND MERCANTILE OCCUPANCIES	500

Loads and Occupancies determined in accordance with SBC Chapter 3 and NFPA Table 7.3.1.2

Overall Building Occupancy Classification: B

Building Construction Type: Type I-B (Reinforced Concrete, exposed)

Type I-B, Occupancy Class B, Sprinklered Max Build Height: 180 ft

Type I-B, Occupancy Class B, Sprinklered Max Stories: 12

Type I-B, Occupancy Class B, Sprinklered Allowable Area Factor: UL

# Plumbing Counts

Occupancy Type: B

Total Occupants: 244

Using SBC Table 2902.1

**Lavatories:** 1 per 40 for the first 80 (occupants) and then 1 per 80 for the remainder exceeding 80.

$$244 - (2 \times 40) = 164 \quad 164 / 80 = 2.05$$

$$2 + 2.05 = 4.05 \text{ round up to } 5$$

**Toilets:** 1 per 25 for the first 50. 1 per 50 for the remainder exceeding 50.

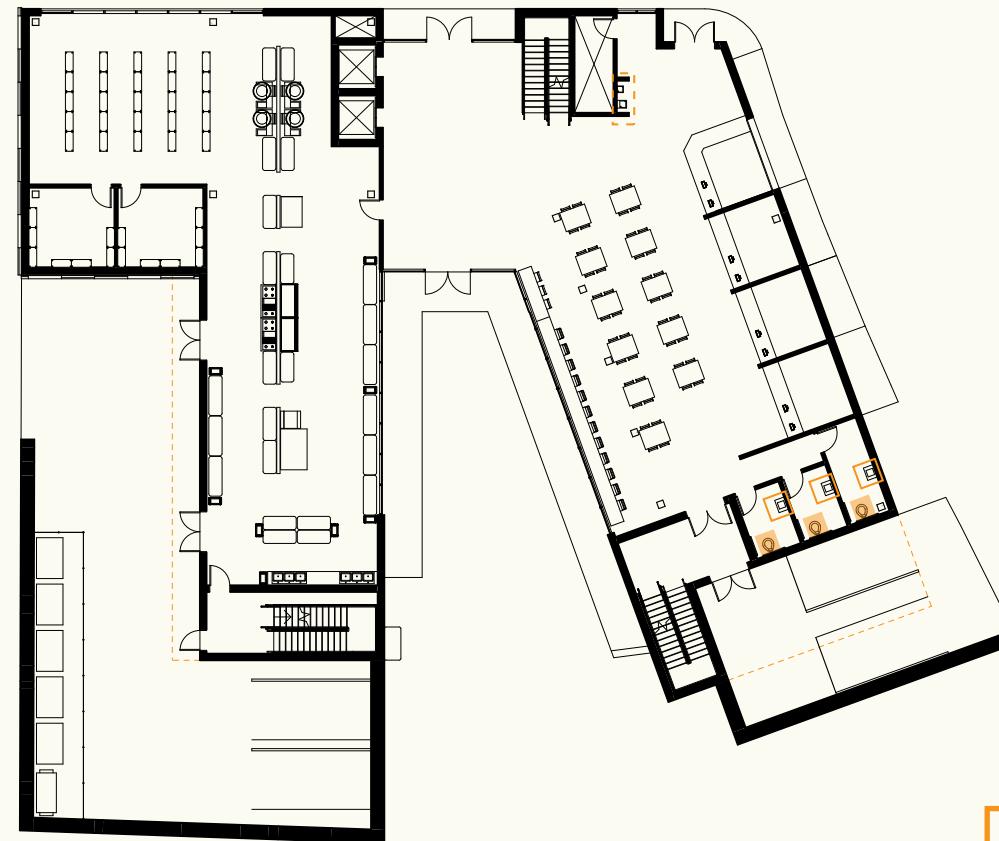
$$244 - (2 \times 25) = 194 \quad 194 / 50 = 3.88$$

$$2 + 3.88 = 5.88 \text{ round up to } 6$$

**Drinking Fountains:** 1 per 100.

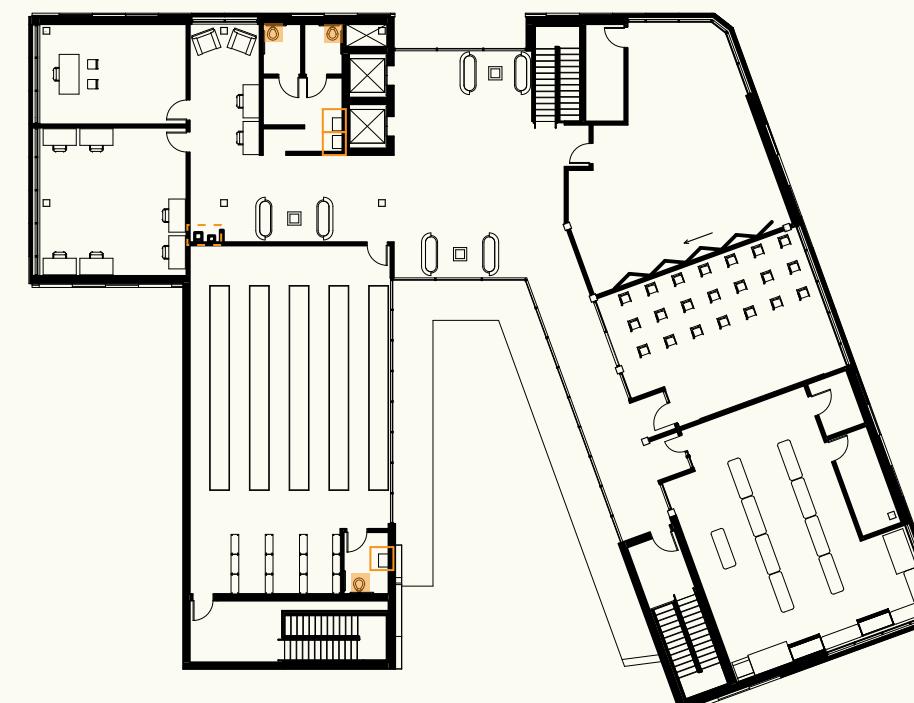
$$244 / 100 = 2.44 \text{ round up to } 3$$

L1



□ = Lavatory

L2



■ = Toilet

□ = Drinking Fountain

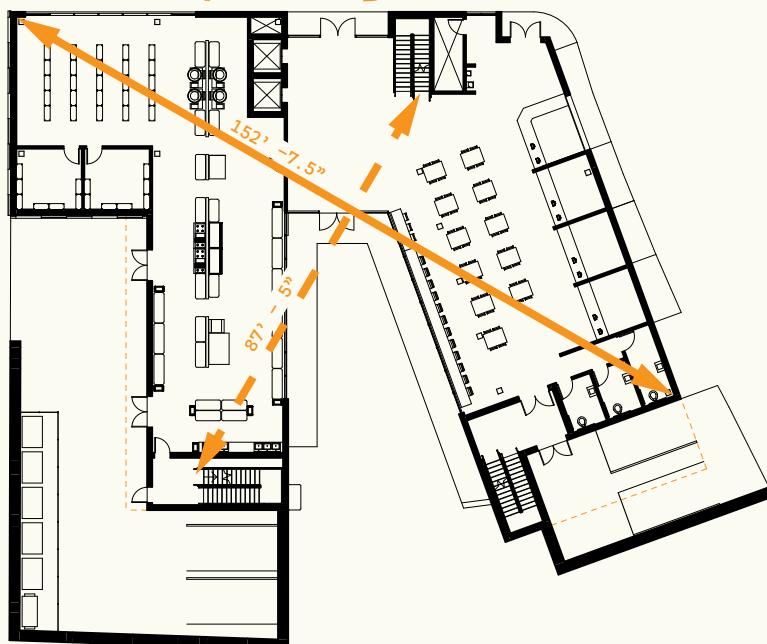
# Egress

## Exit Spacing SBC 1007.1.2

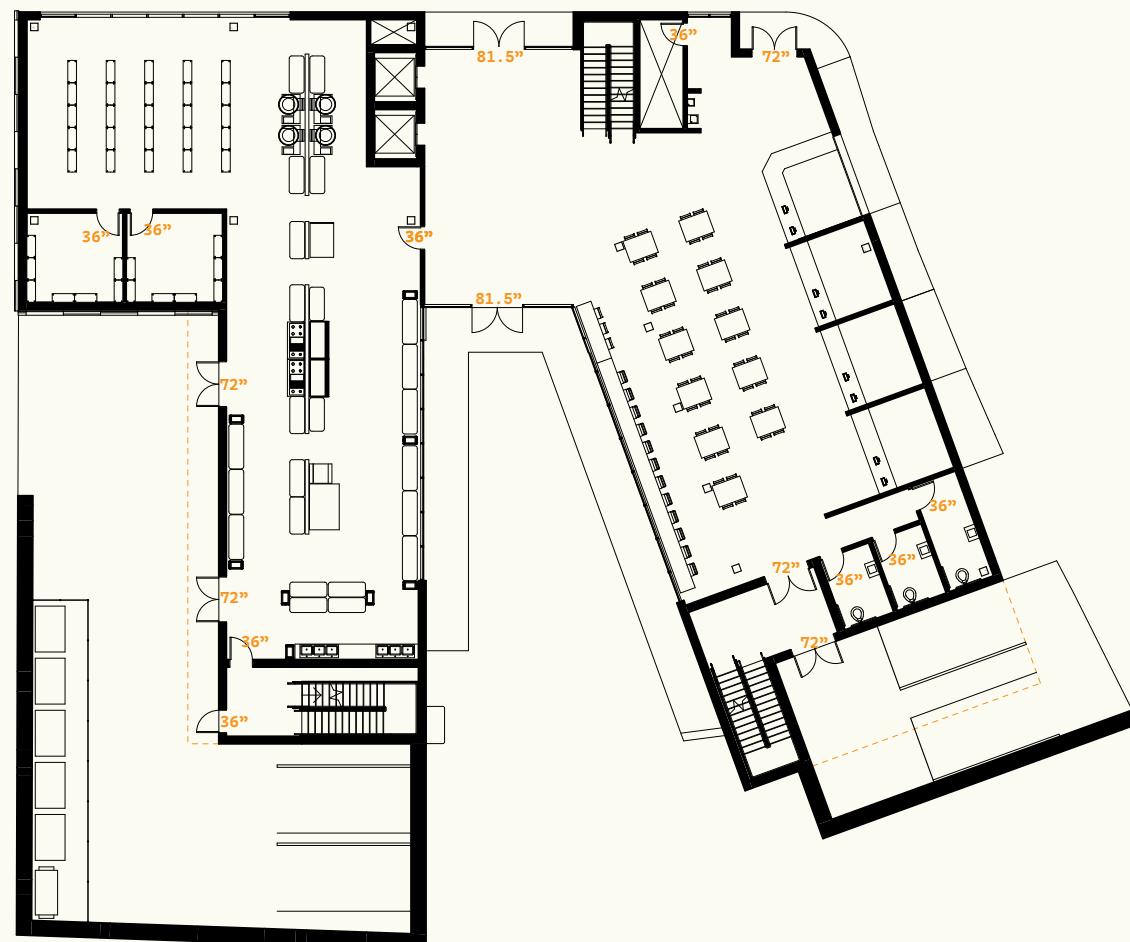
Where access to three or more exits is required, not less than two exit or exit access doorways shall be arranged in accordance with the provisions of Section 1007.1.1. Additional required exit or exit access doorways shall be arranged a reasonable distance apart so that if one becomes blocked, the others will be available.

**SBC 1007.1.1** Two exits or exit access doorways. Where two exits, exit access doorways, exit access stairways or ramps, or any combination thereof, are required from any portion of the exit access, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight diagonal line between them.

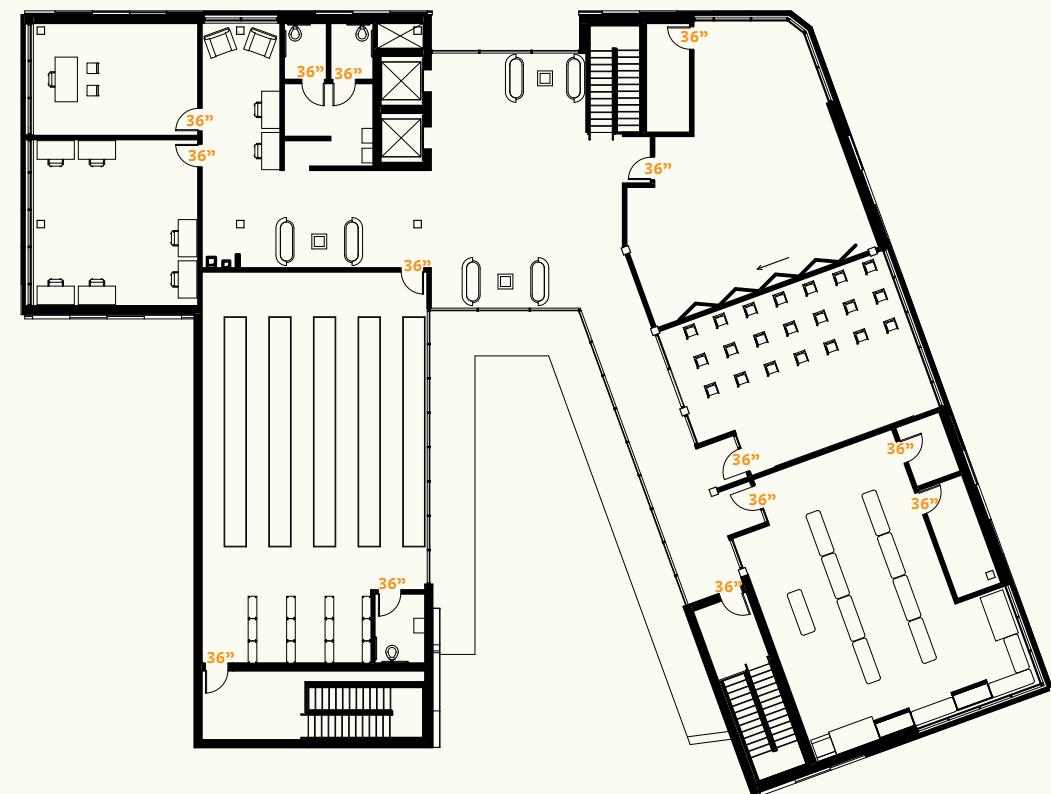
## Exit Spacing



L1



L2



All Door Swing Directions are compliant with **IBC 1010.1.2.1**

In **IBC 1005.3.1 Stairways** – The capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of .3 inch per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Occupant Load Floor 2 =  $122 * .3 = 36.6"$  – **stairways in the building are at 44"**

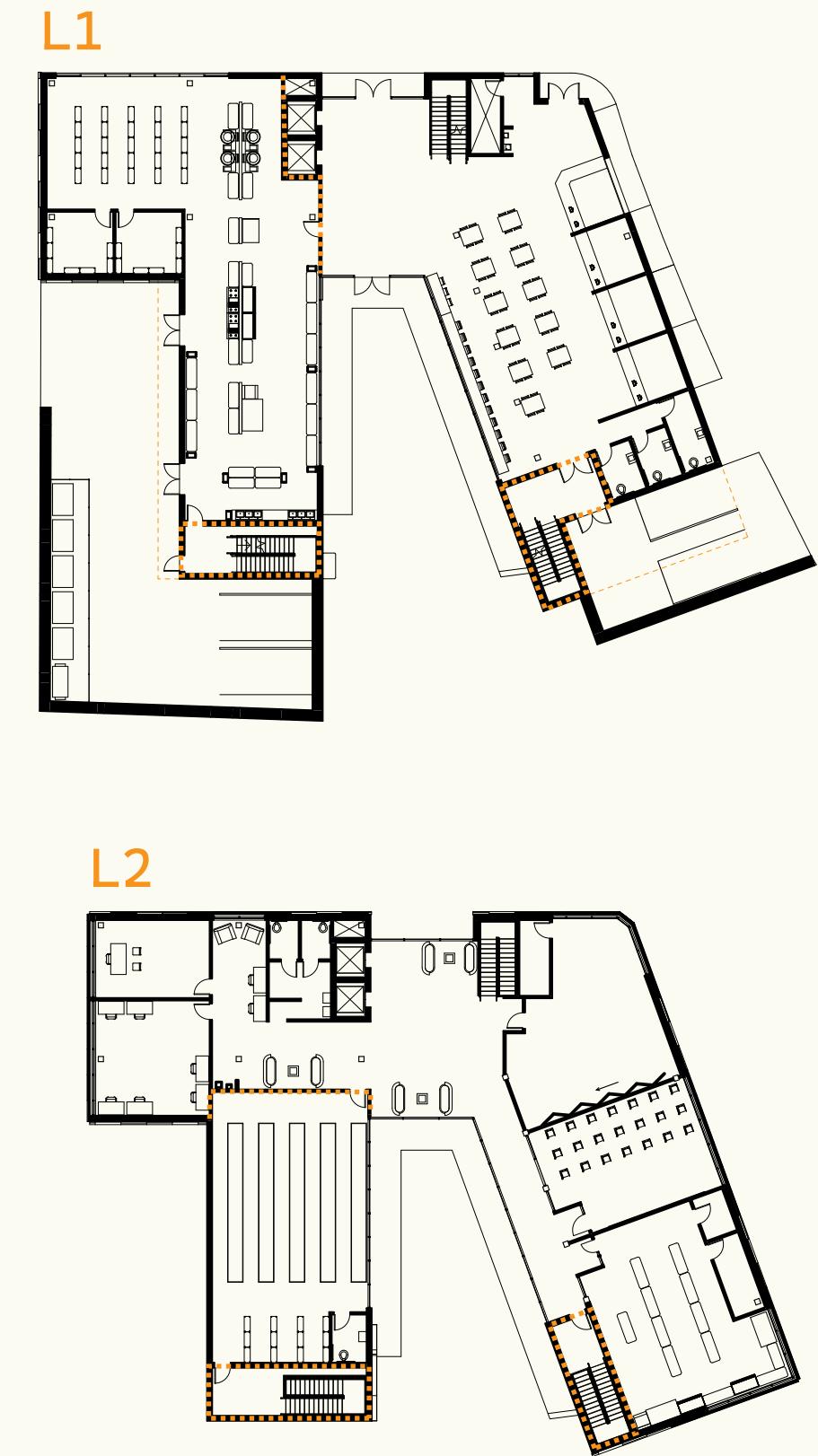
**Door sizing IBC 1010.1.1** – The required capacity of each door opening shall be sufficient for the occupant load thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm).

Door open widths are provided in the floor plans above.

Stair risers and tread depths are at 7" rise and 11" depth, compliant with **IBC 1011.5.2**. Risers are solid in compliance with **IBC 1011.5.5.3**.

Landings are also at 44", equal to the width of the stairway, in compliance with **IBC 1011.6**.

# Fire Separation and Accessibility



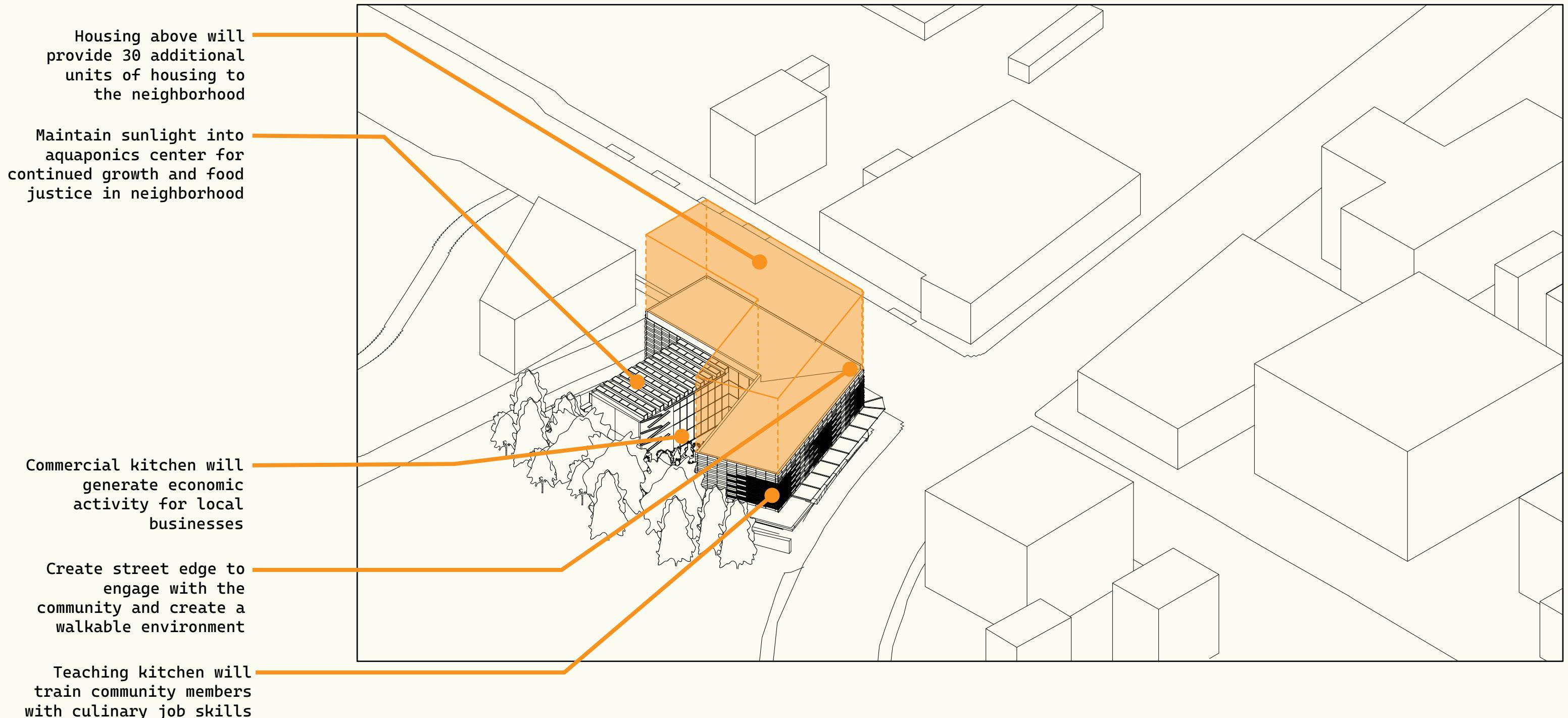
..... 2 Hour Fire Rating to comply or exceed occupancy separation requirements in SBC Table 508.4

# Designing for Change



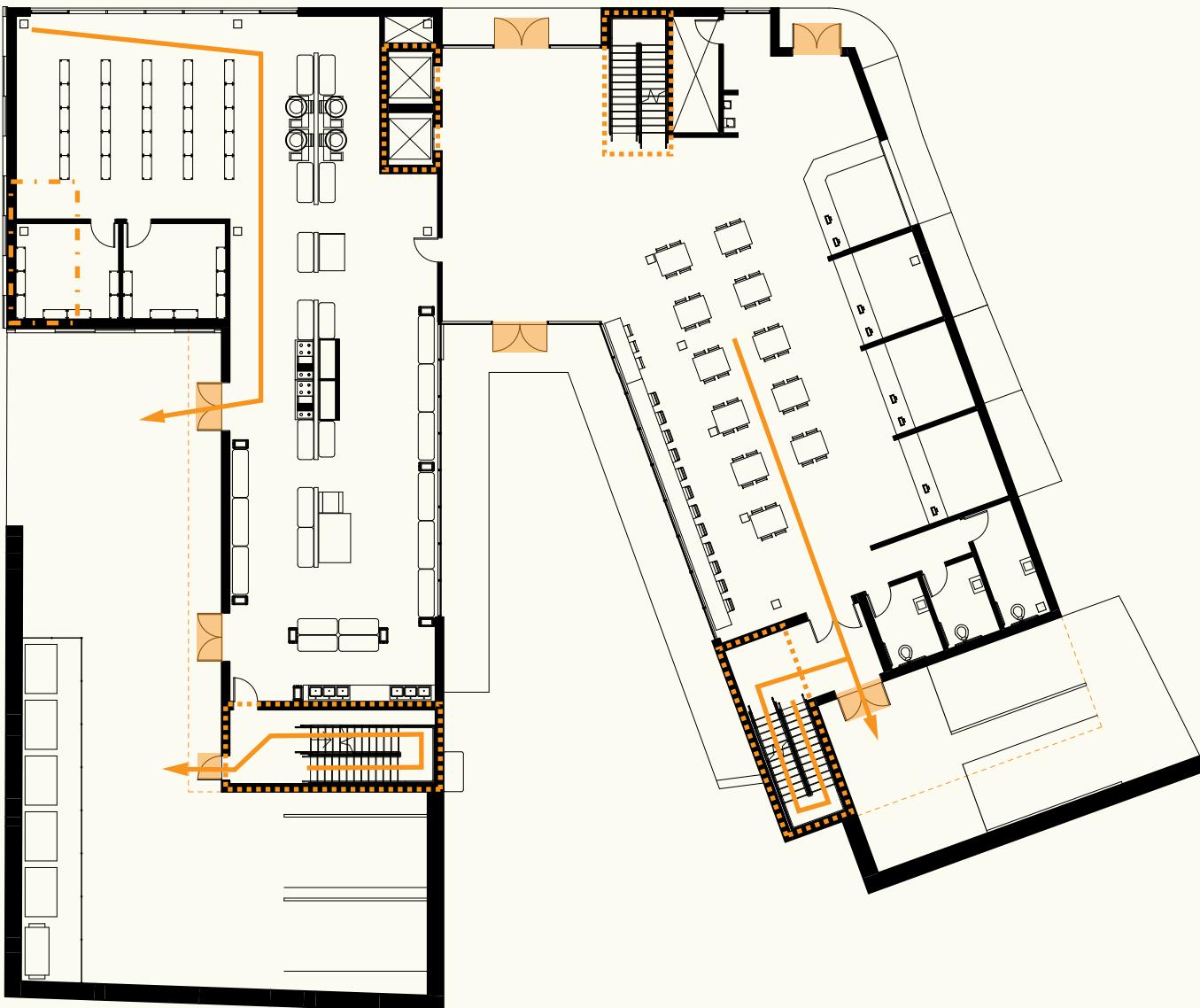
The site is zoned **SM-RB85** and has a maximum build height of **85'**. The **minimum FAR** of the site is **2.00** and the **max FAR** is **3.75**. The base program of the project does not meet the minimum FAR or take advantage of the full build height provided on the site. The FAR for this project sits at **.92** as proposed, but will be **permitted on exception** due to the economic benefits afforded to the community.

# Design for Change

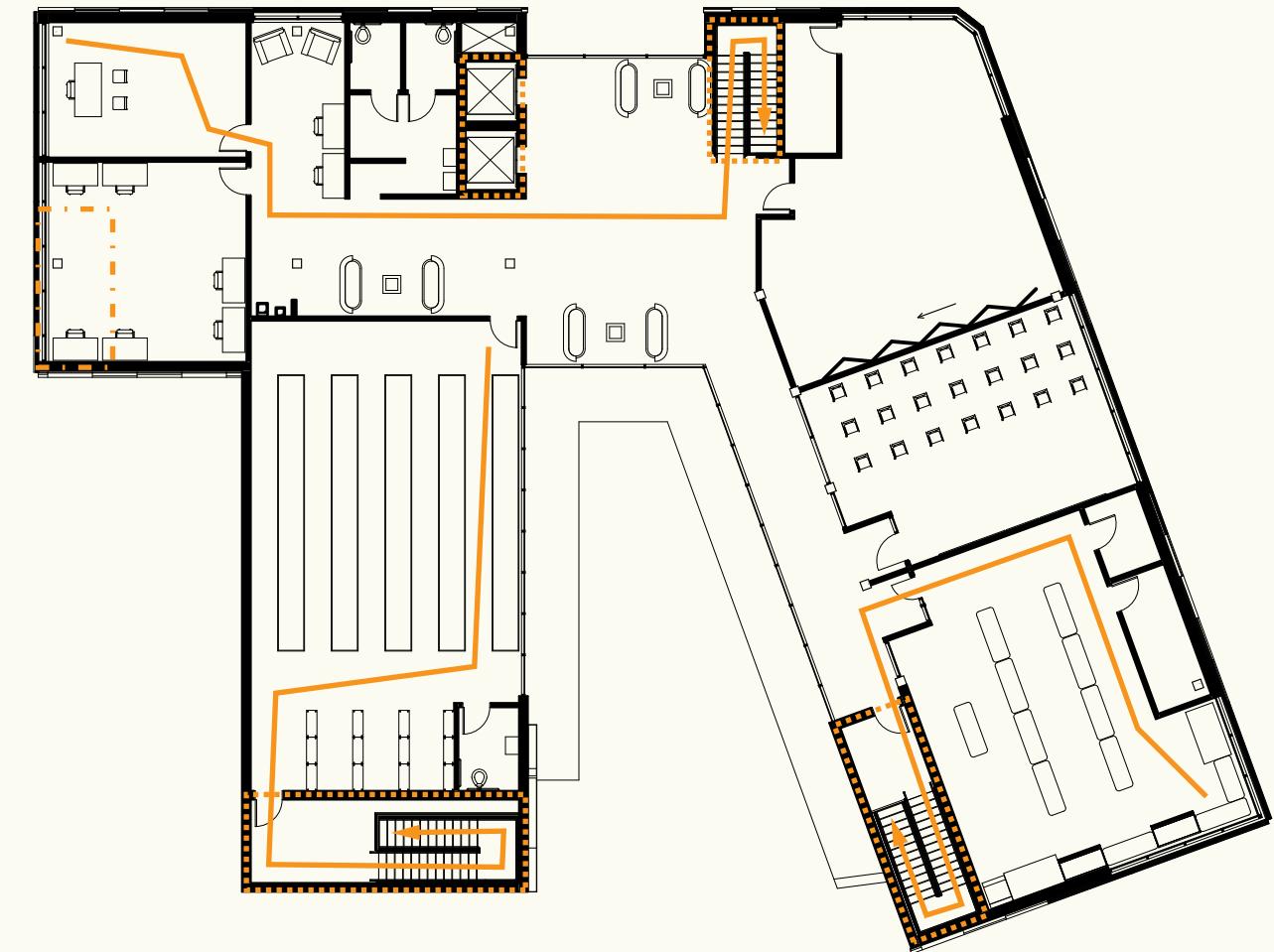


# Circulation Diagram

L1



L2



=Exit Doors

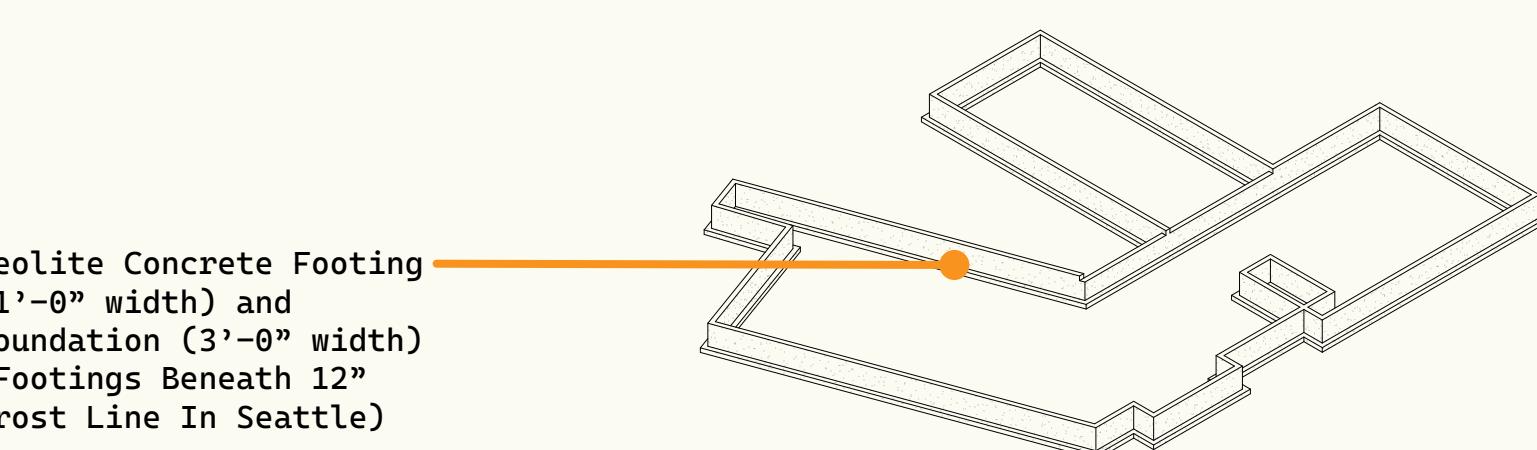
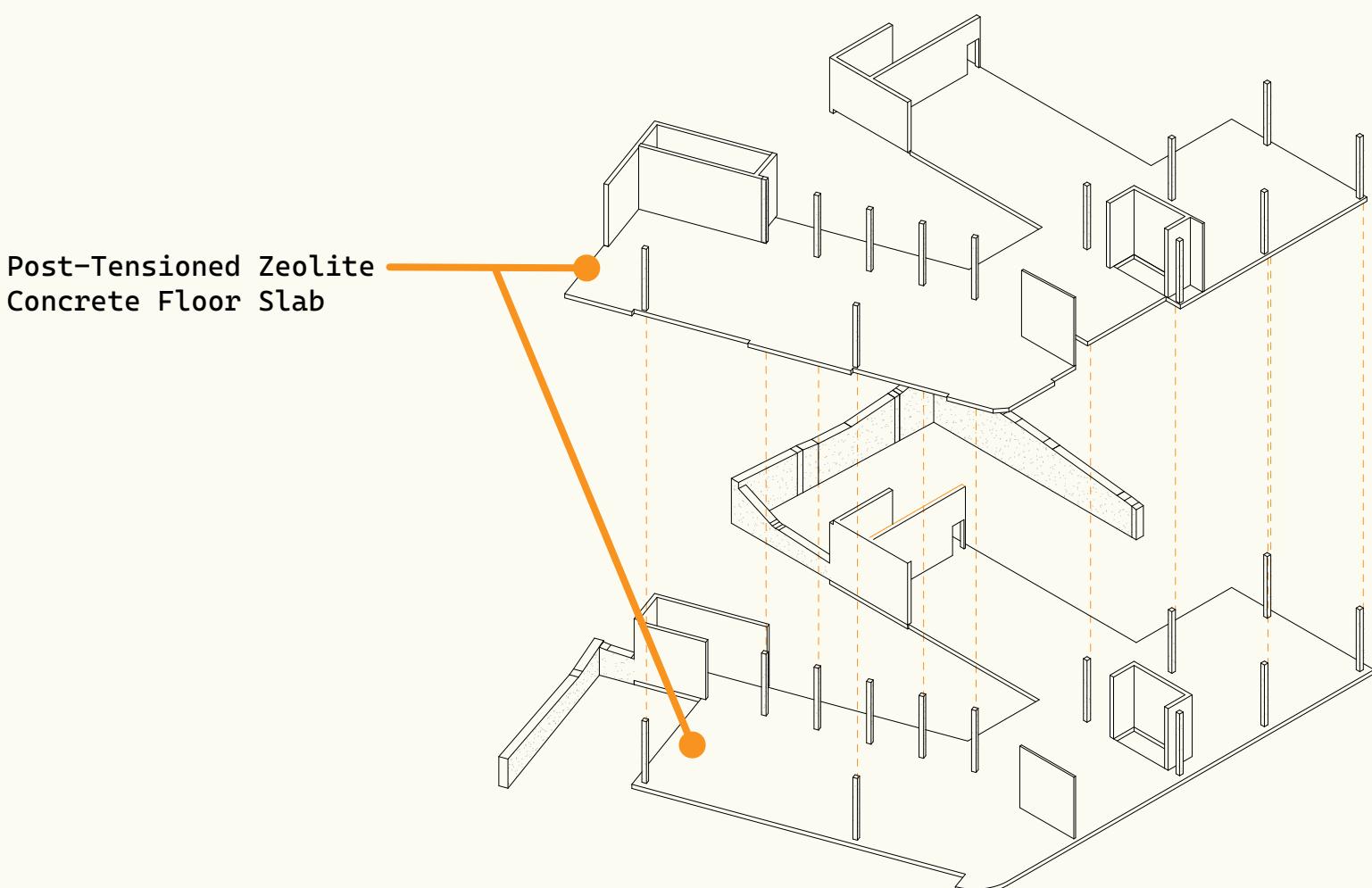
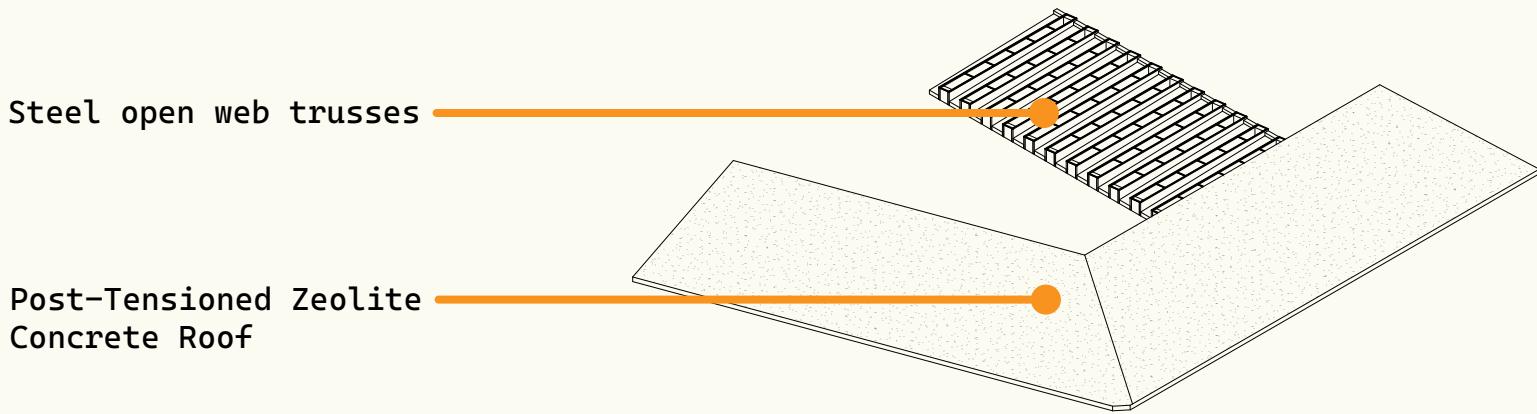
=Vertical Circulation

=Future Vertical Circulation

=Path of Egress

# Structure

To accommodate for future upward expansion, the structure for the first two floors will be reinforced concrete. The material selection will be **Zeolite Concrete** from C-Crete Technologies. This material has precedent in other projects in Seattle, and provides a **carbon negative** alternative to traditional concrete. The cement is made from zeolite, which is comprised of **aluminum** and **silicon**, and captures carbon while curing.

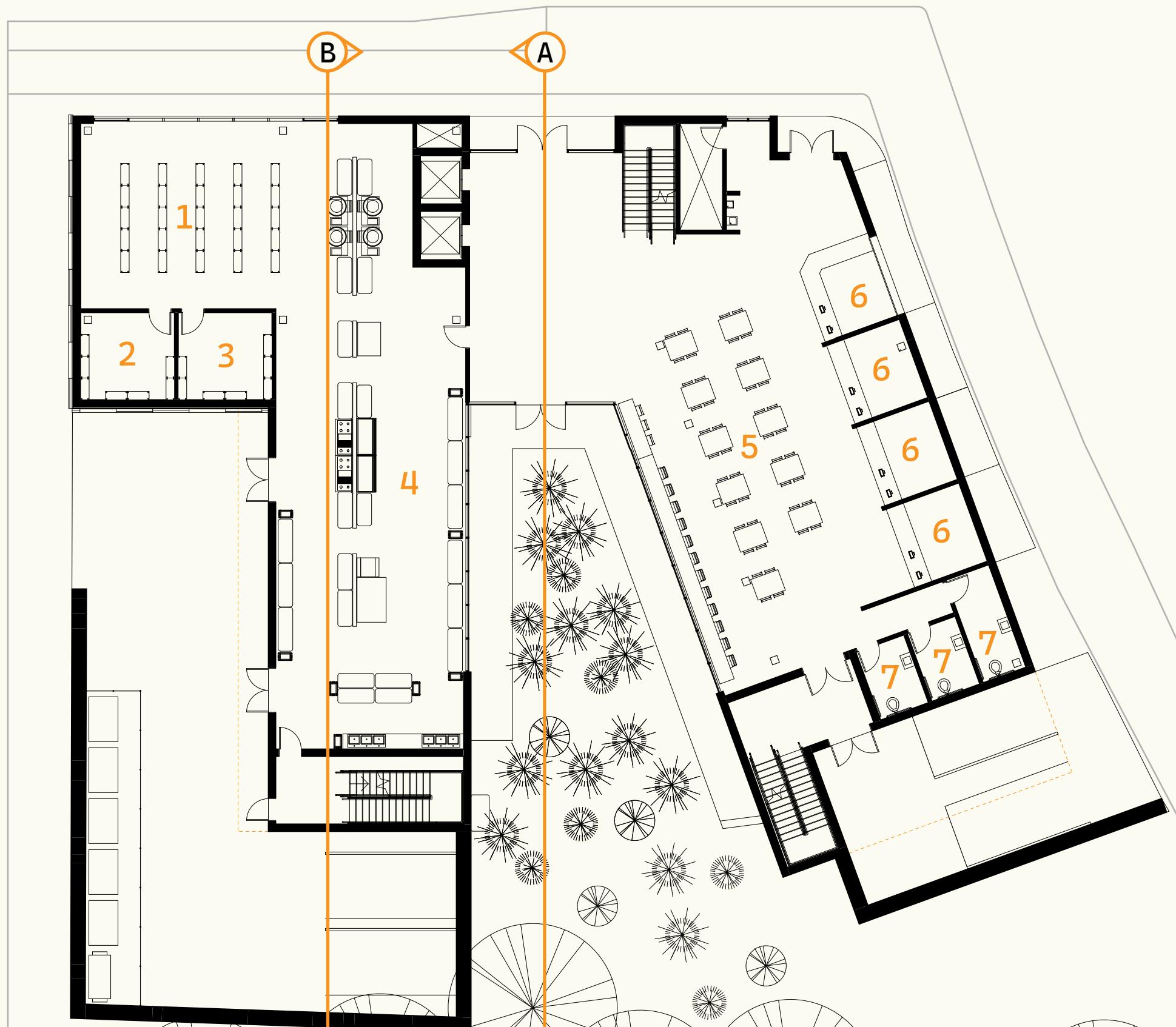


L1

S Henderson St

Yukon Ave S

N  
4  
0 ft  
12  
28



Key  
1. Storage  
2. Cold Storage  
3. Freezer  
4. Commissary Kitchen  
5. Food Hall  
6. Rotating Vendors  
7. Restrooms

Renton Ave S

L2

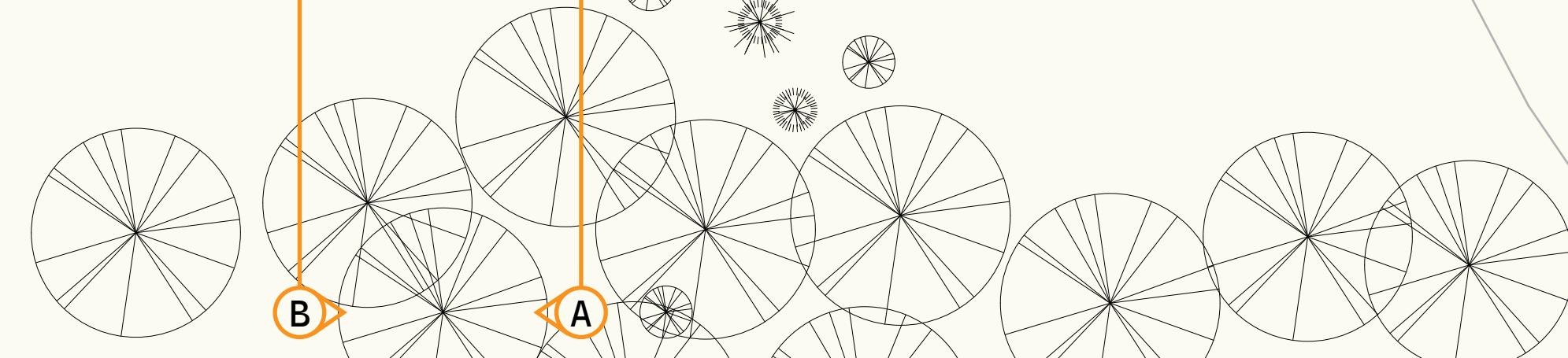
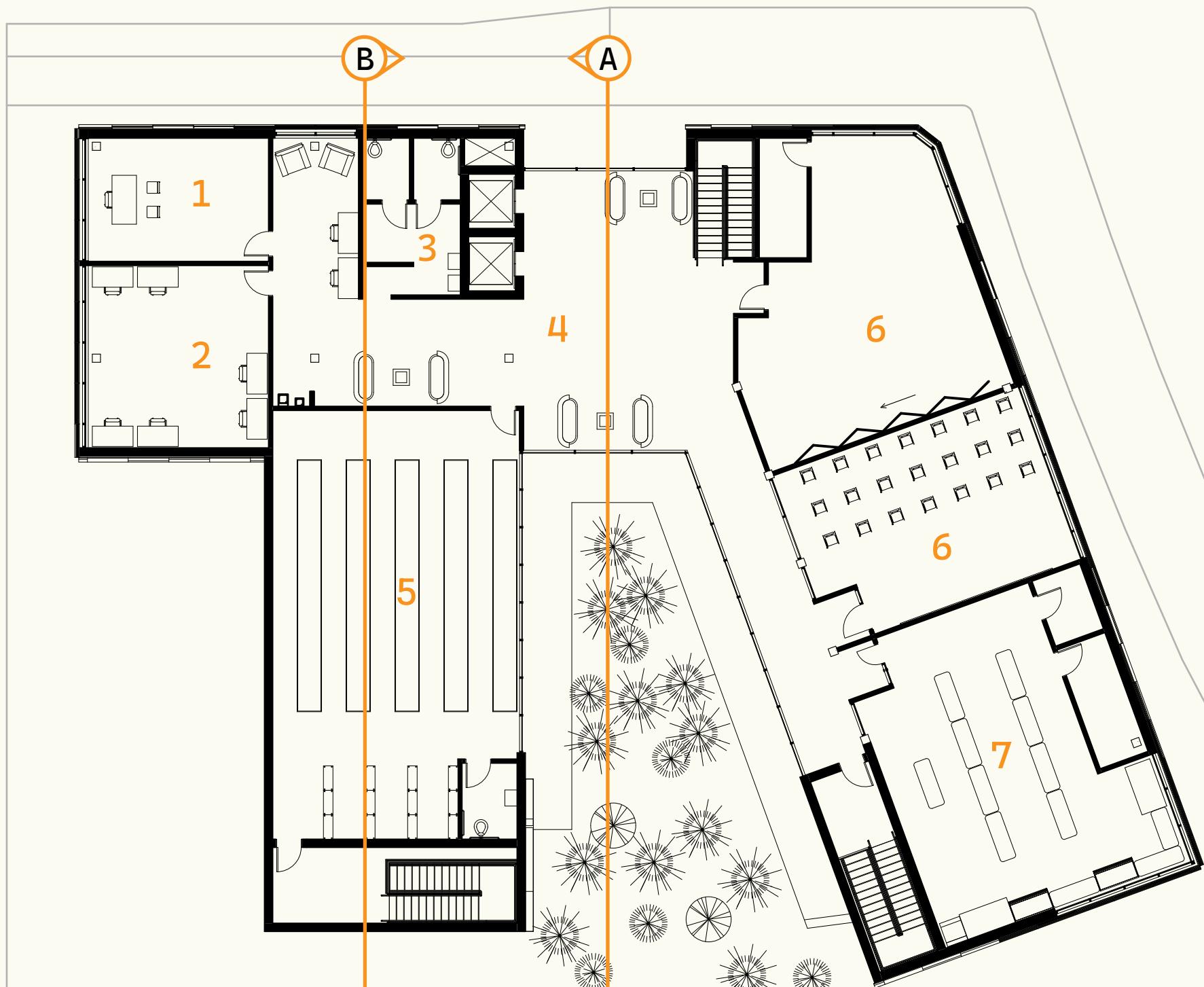
S Henderson St

Yukon Ave S

Renton Ave S



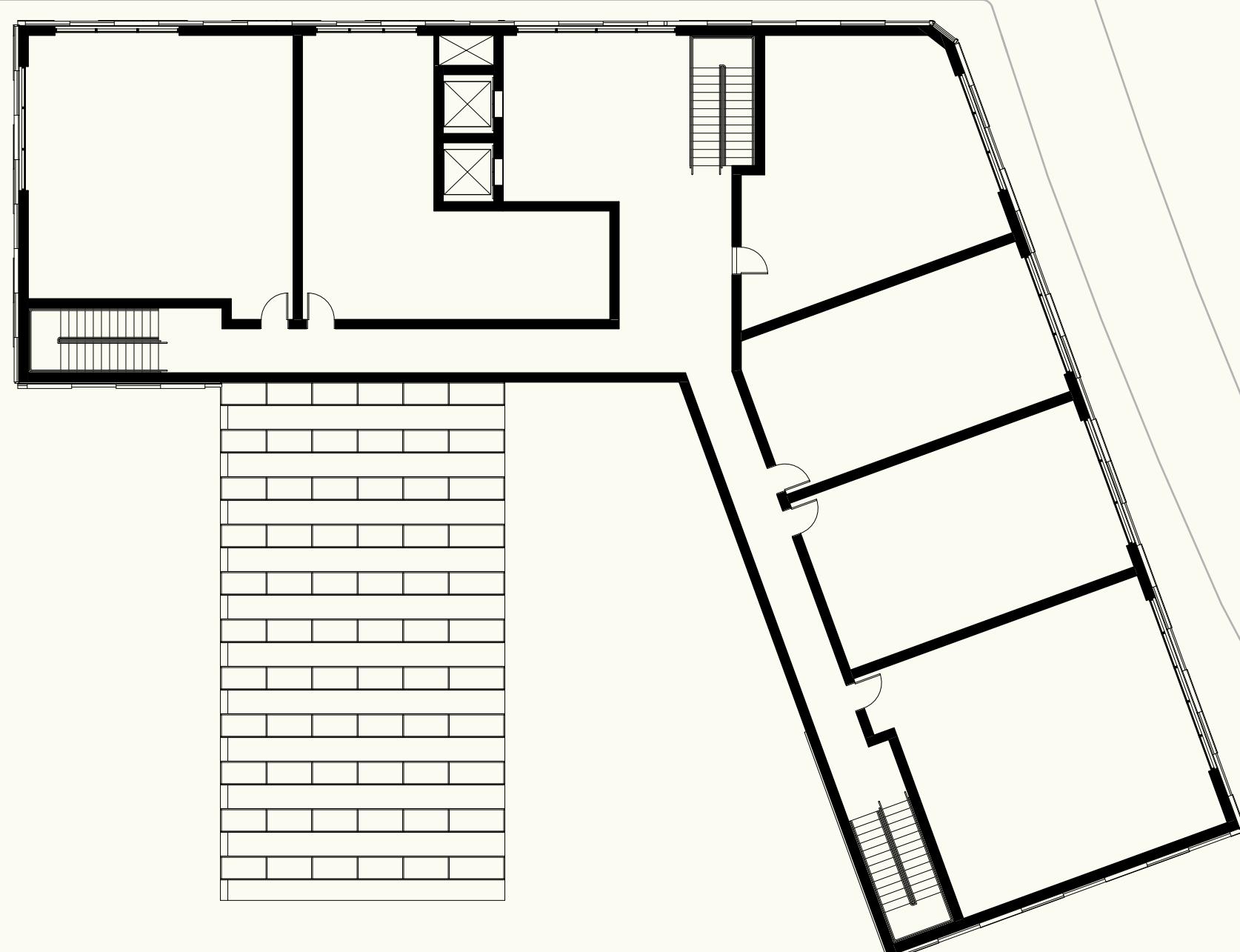
- Key
- 1. Private Office
  - 2. Shared Desking
  - 3. Restroom
  - 4. Break/Lobby
  - 5. Aquaponics
  - 6. Classroom/Gathering Space
  - 7. Teaching Kitchen



# L3, Housing

S Henderson St

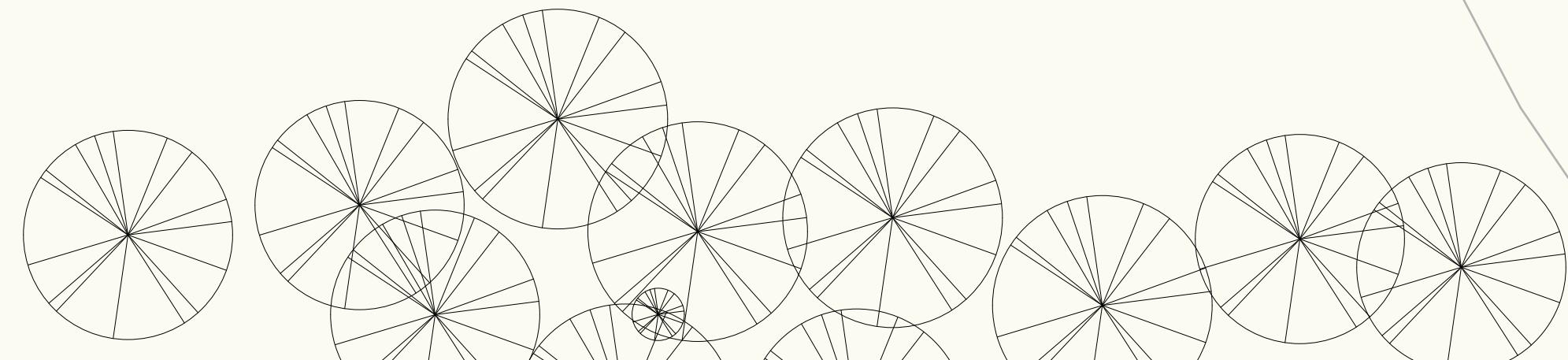
Yukon Ave S



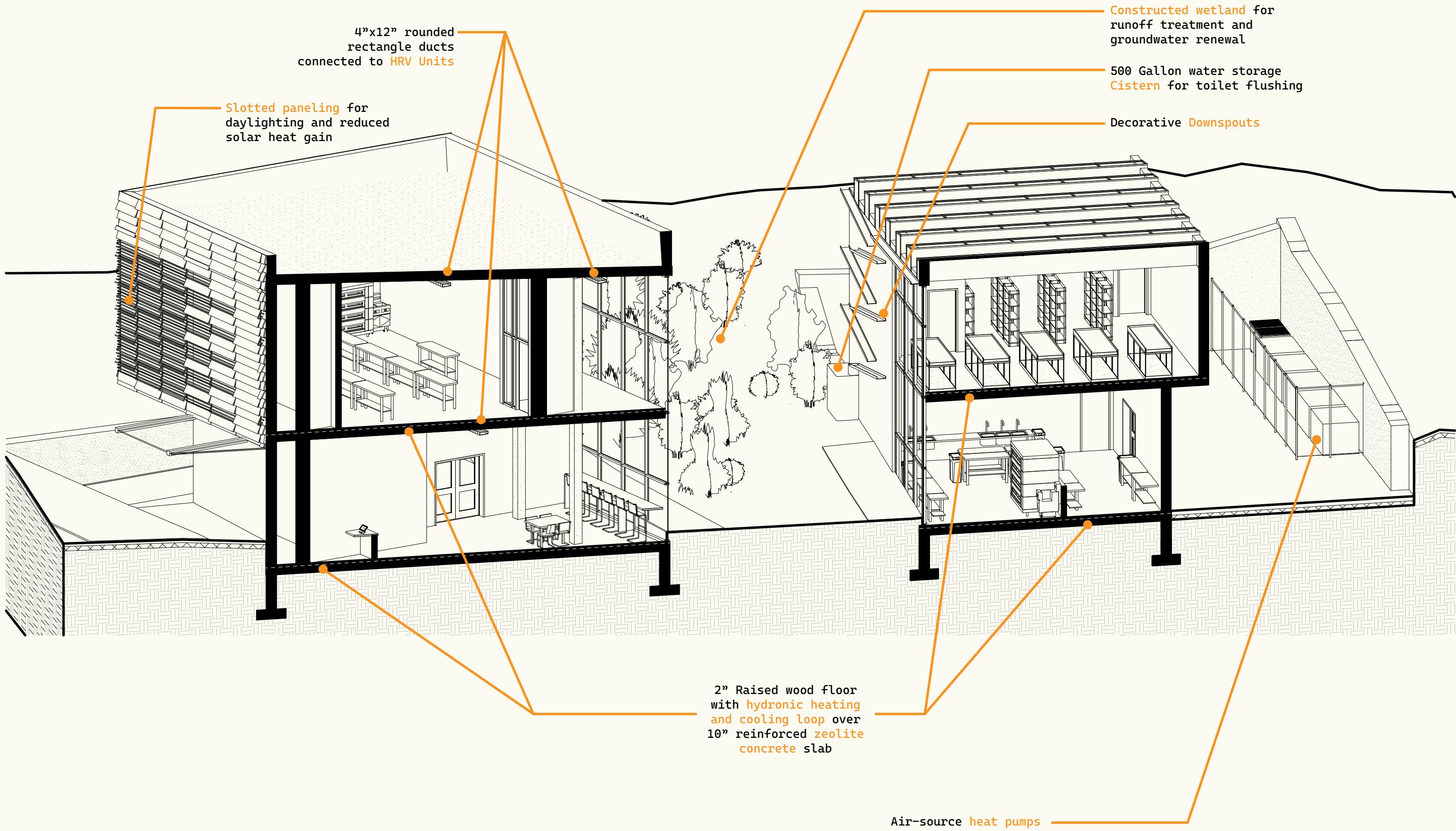
Renton Ave S

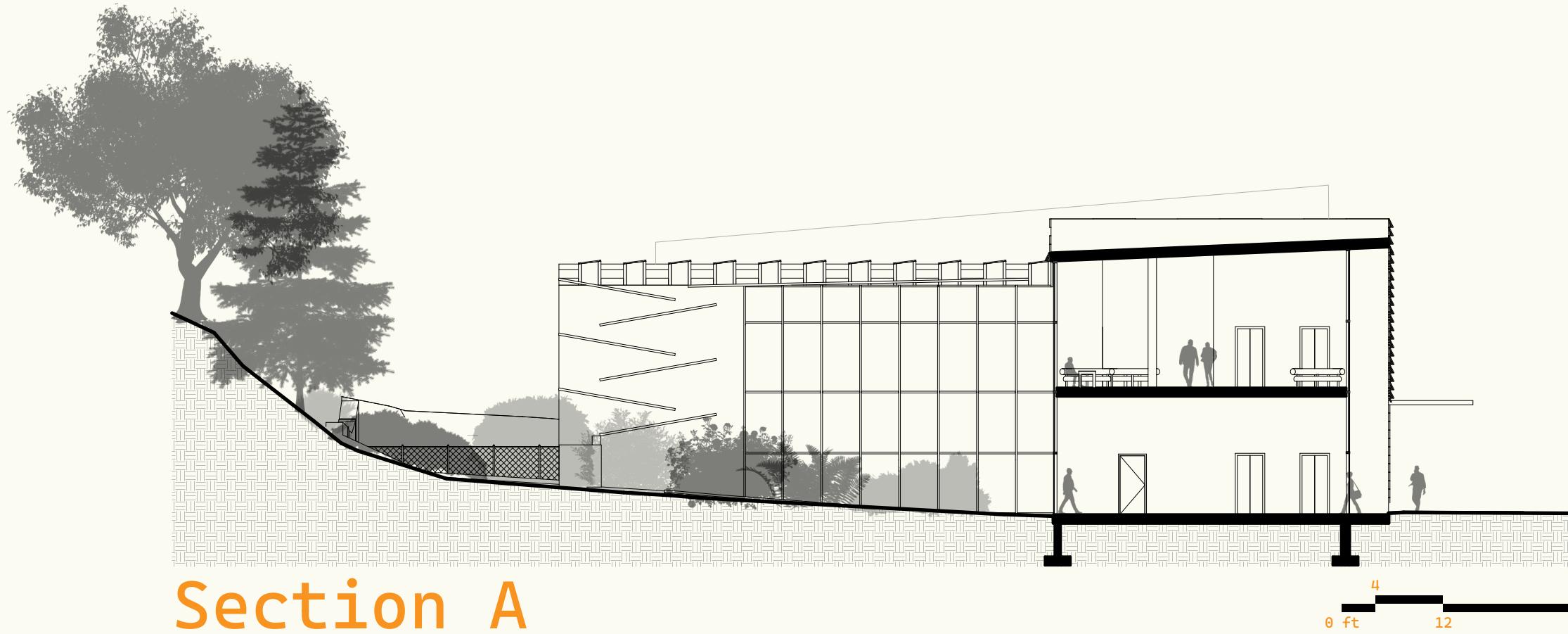
N  
0 ft  
4  
12  
28

28

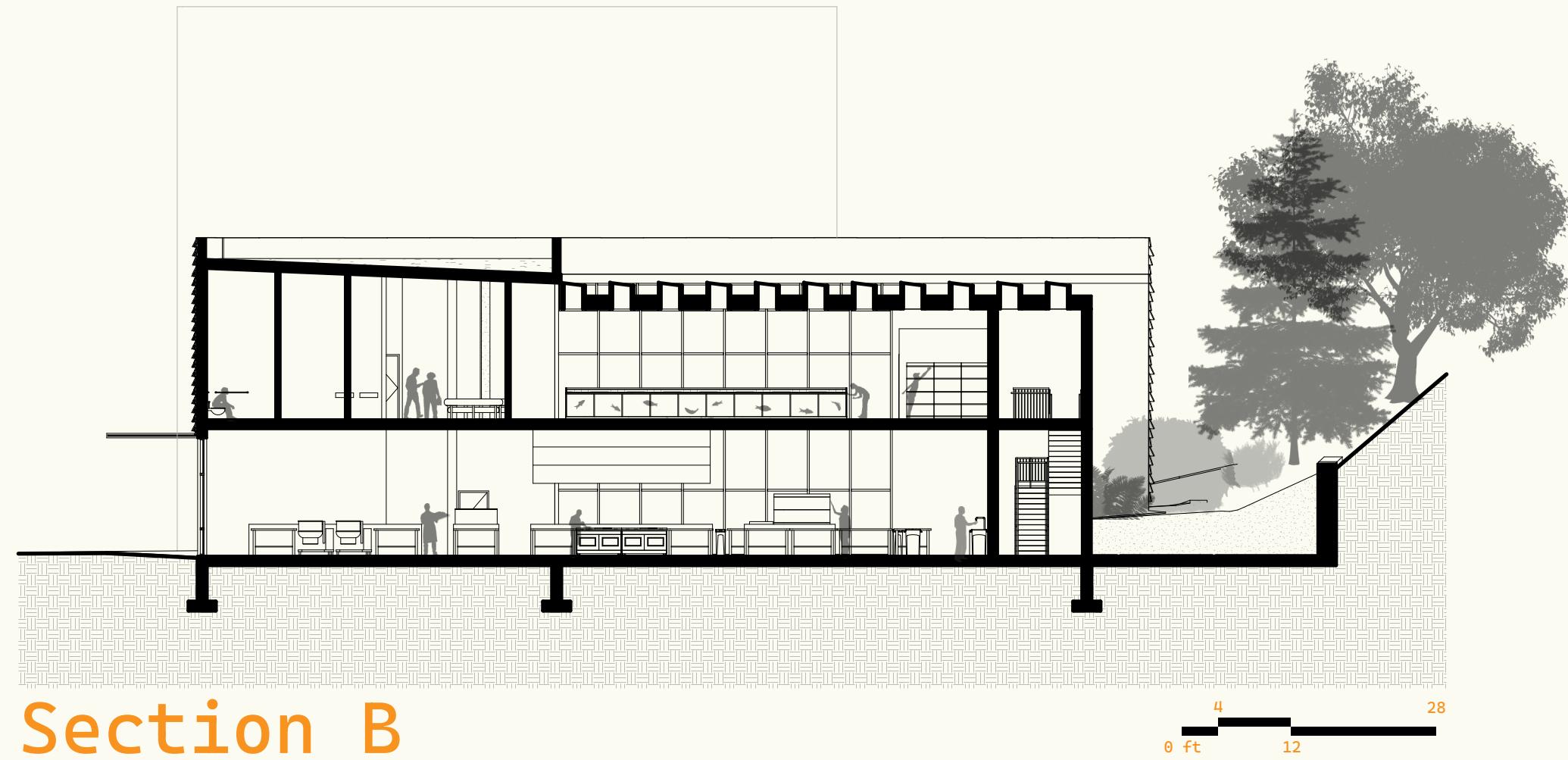


# Environmental Services



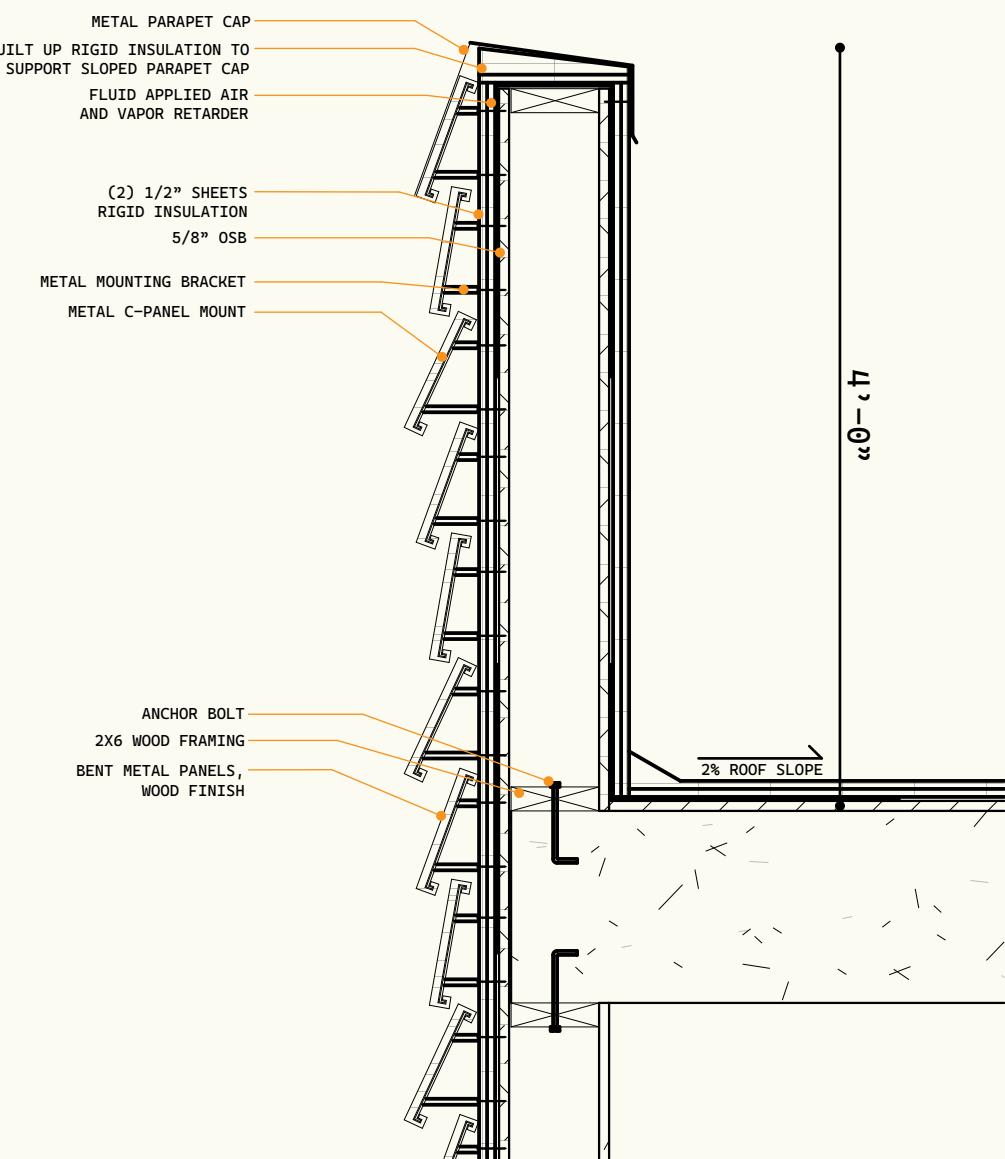
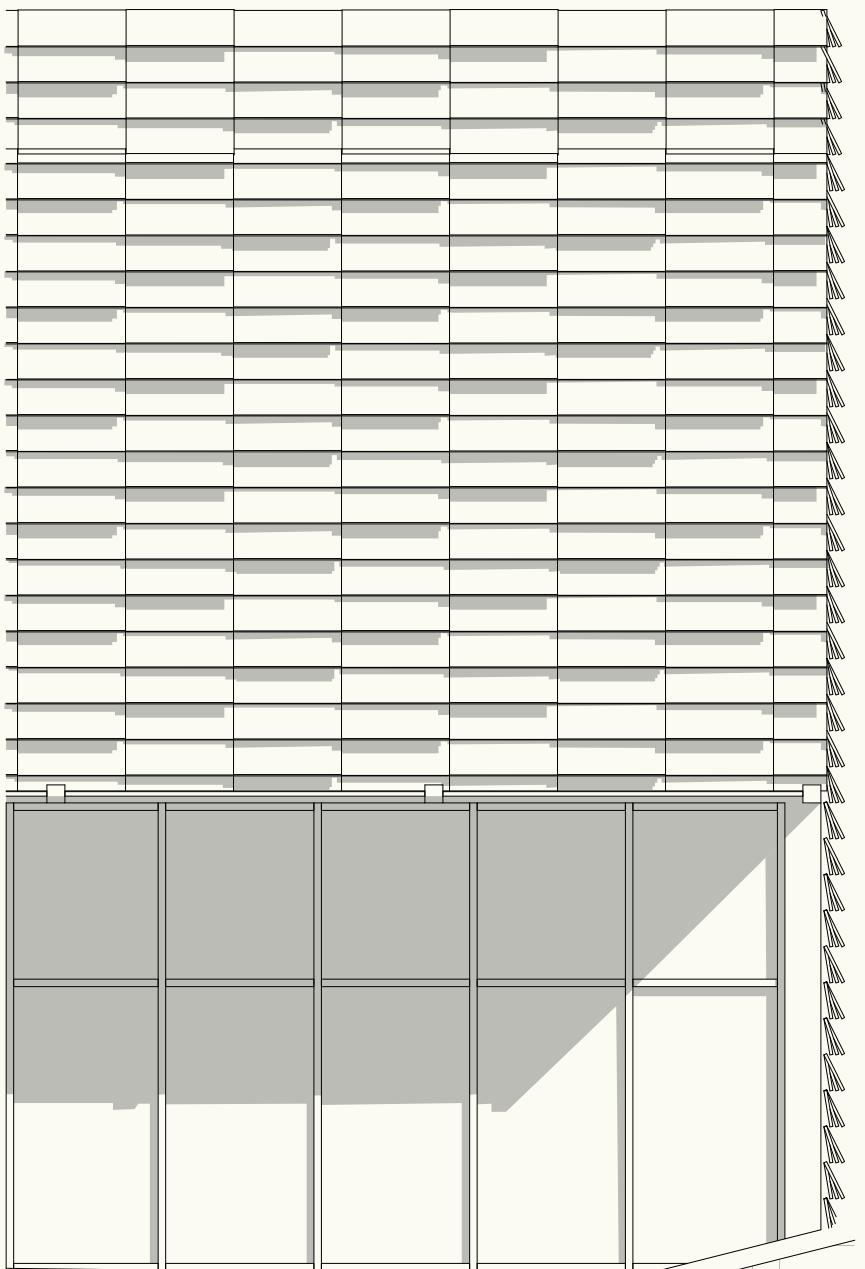


Section A



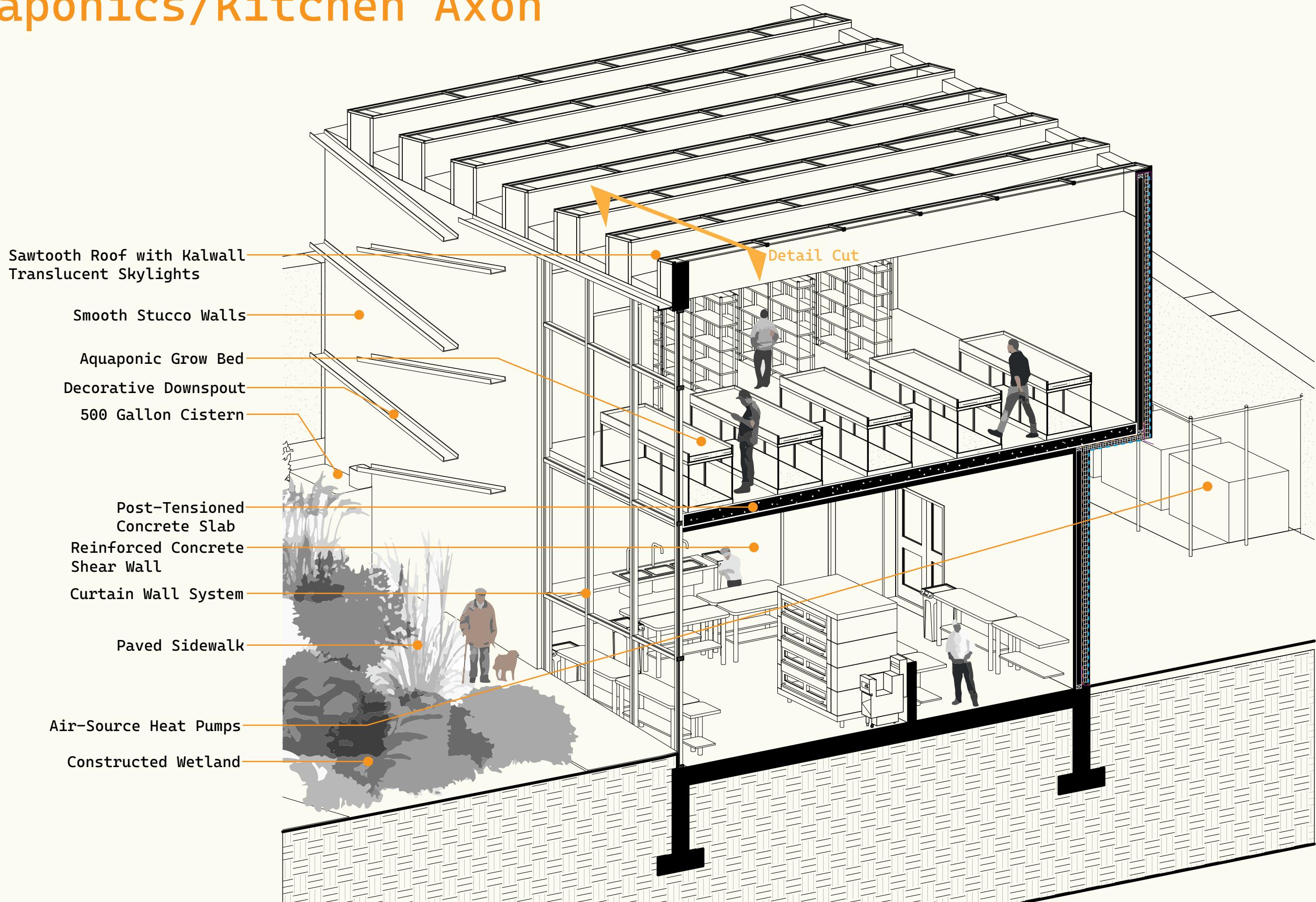
Section B

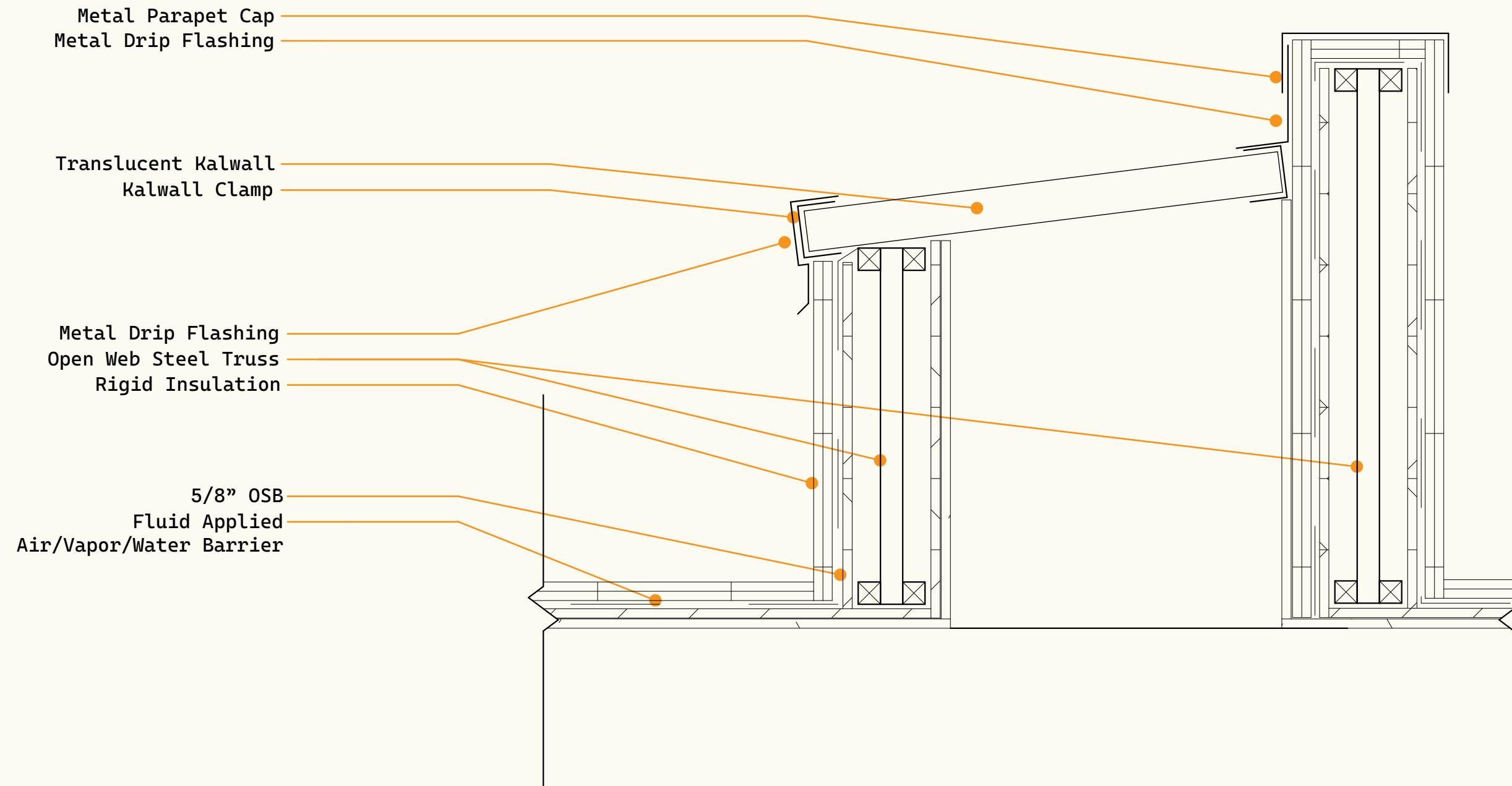
# Facade Design



Rainier Beach is a multicultural neighborhood with large populations of Filipinos, Mexicans, Vietnamese, Ethiopians, Eritreans, and Chinese. Instead of creating a facade to represent the cultural backgrounds of all of these groups, the building instead makes a nod to the longhouse of Duwamish tradition with panels representing the wood shingles from longhouses and emphasizing the horizontality of the building. The facade not only seeks to honor the Duwamish who are the first inhabitants of this land, but also attempts to unite the various cultural groups under the banner of their new home in Seattle.

# Aquaponics/Kitchen Axon





**SKYLIGHT DETAIL @ 1-1/2" = 1'-0"**

## Experiential Detail

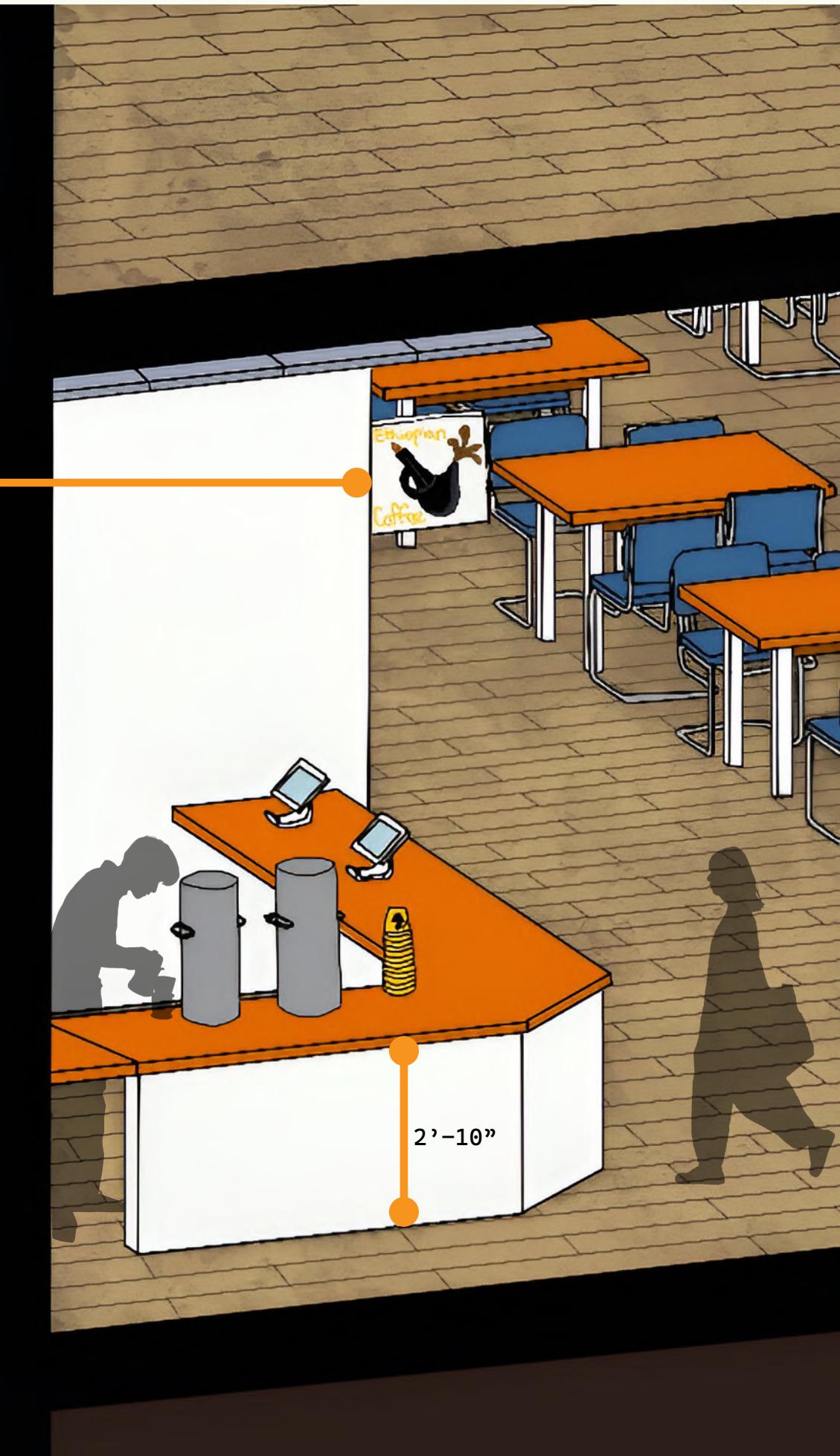
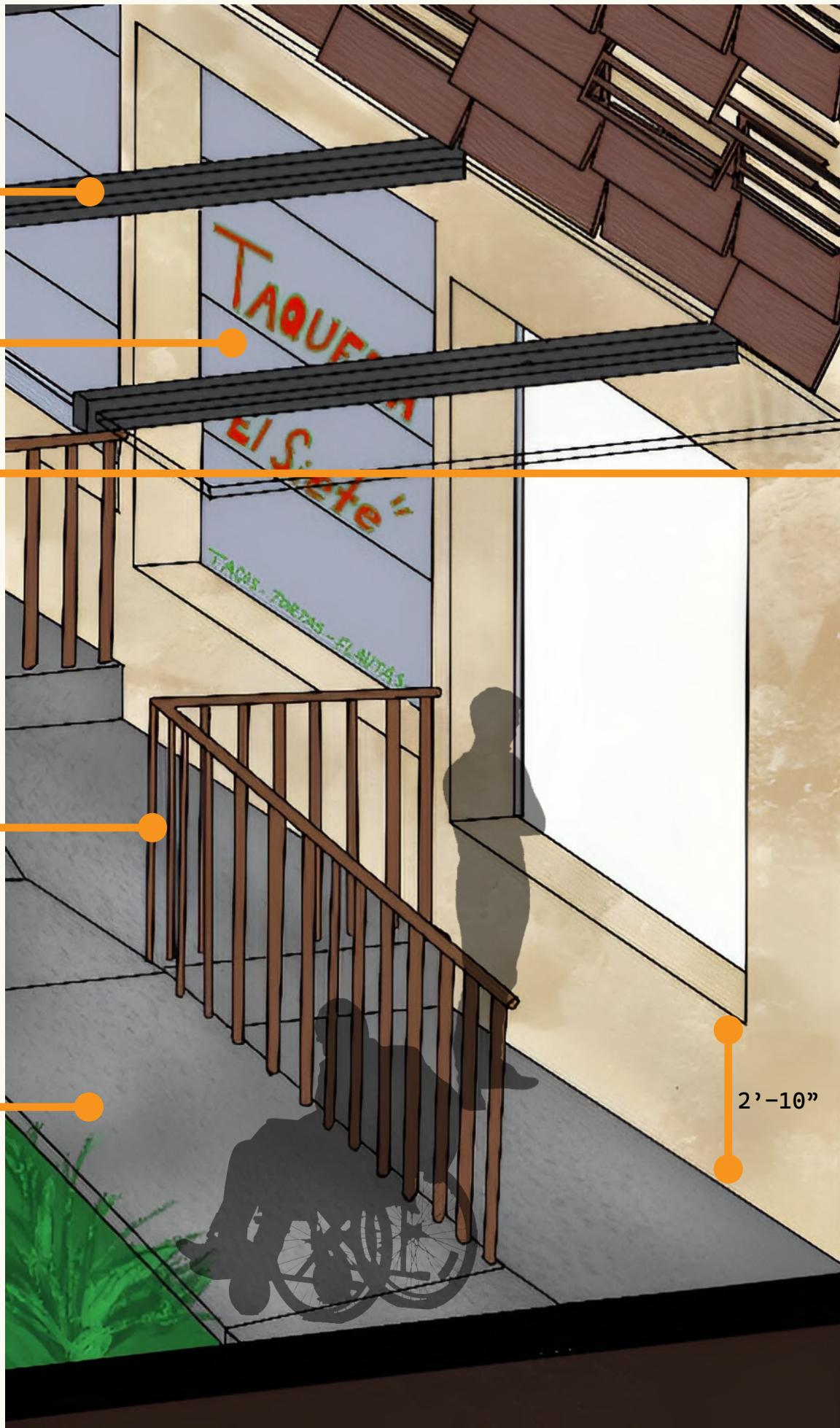
Overhead weather protection

Decorative vendor logo on exterior garage-style door

Interior vendor panel for wayfinding and advertising

Guardrails for safety

Ramp for accessibility



# Model Photos

