



# HARVES

EXAMINING THE  
FOOD DESERT PHENOMENON  
IN URBAN NEIGHBORHOODS

Rebecca Kendra  
Interior Architecture + Design  
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Advisor: Helen Joo







“food is an expression  
of who we are

&  
what we value.”

-MARK WINNE



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# PREFACE

Food has always been an important aspect of my life. It is the staple of all holidays, birthdays, and social gatherings. I have learned that food does more than satisfy an empty stomach. It is a method of relaxation, a form of personal expression, a mechanism for connecting with others.

And even with these copious amounts of responsibilities, food, especially the fresh, handpicked, fruits and vegetables, are not readily available to everyone. Barriers such as income and race have pre-determined who will be able to access such foods, at an affordable price. This phenomenon has assumed the term of 'food desert.'







Corner store in West Philadelphia



# EXECUTIVE SUMMARY

This thesis examines food deserts in their entirety: where do they exist, why do they exist, who they are affecting, and how they can be resolved.

Food deserts are defined as geographical areas that have little to no access to affordable fresh fruits and vegetables. The concept of food deserts is not a new one, as they have existed in Philadelphia since the early 1900s. Due to a lack of regulation over the distribution of food, food deserts are able to exist. Organizations such as the United States Department of Agriculture (USDA) and the Food & Drug Administration (FDA) are able to regulate what food is being distributed to consumers, but not how food is getting from producer to consumer.

For most, food is a way to express themselves and connect with others. But when access to quality, fresh food is limited, it is hard to have this form of expression.

Without realizing it, I began my research on food deserts as early as 2014, when I started as a freshman at Drexel University. Quickly learning that the meal plan was not as extravagant as previously advertised, I often went home, back to New York, to bring back home cooked meals and snacks because the offerings at the small corner stores on campus were not providing me with a balanced diet. My mom would ask, "Isn't there some place for you to go food shopping around school?" And the answer, at the time, was no. I was living in a food desert. The closest grocery stores were at least a twenty minute walk, which is feasible before shopping, not after with bags of groceries.

Walking to the grocery store was a new concept for me, as I grew up in a very suburban town where having a car and driving to the store was commonplace. But, most people who live in cities do not own cars, and rely on public transportation to get from Point A to Point B, and back.

When asked to develop a research topic for my graduate thesis, it made sense for me to focus on food deserts. Many Philadelphians who have lived here their entire life may think it is "normal" to have to travel several miles to get fresh groceries, or even think that it is okay to shop at the overpriced corner stores and bodegas in their neighborhood. But the fact of the matter is that this should not be. People have a right to food, and their access to it should not be dictated on where they chose to live in the city.

When taking a closer look at the food desert epidemic in Philadelphia, I focused my efforts in East Kensington. The area is not overrun by gentrification (yet), so the opportunity for me to develop a solution in this part of the city was not to be limited. By taking a look at an underdeveloped part of the city, I was able to morph my thesis into the neighborhood, rather than insert myself.

The goal of this thesis was to create a credible prototype for neighborhood and towns suffering from the food desert crisis to implement to diminish the affects of food deserts. By connecting the production, distribution, consumption, and post-consumption life of food, this prototype is successful.



# Literature Review

The Food Desert Phenomenon:  
A Call for Putting Fresh Food Back in  
the Kitchens of All Americans



This literary review will explore the many facets of the food desert phenomenon, including its origins, past and present attitudes towards the availability of fresh produce, and how the issue is being addressed today. The city of Philadelphia has been suffering from this problem for quite some time, so for the purpose of this thesis, I will be shed some focus to Philadelphia neighborhoods as well.

As designers, we have an obligation to recognize these social, intangible issues, and turn them into something that can be resolved through critical problem solving, focusing on tangibility, materiality, mapping, and spatial relationships. For a matter such as food deserts, it important to question: Who is being affected? How has this become an issue? Why has it spread, or not spread? How can interior architecture and design be implemented to bring about social change, starting at the micro scale?

## Introduction

Mark Winne, an expert on community food systems, said, "Food is an expression of who we are and what we value."<sup>1</sup> However, it is hard for many people to express themselves through food because food is not easily accessible to them. Or, the expression is severely limited because food that is available in abundance is not healthy and often over-priced.<sup>2</sup> We see this pattern of limited and poor quality food options in both rural and urban settings due to a lack of proper infrastructure and concern from the private sector as to how food is distributed. This literature review will discuss food deserts, an old issue with new relevance in today's society because it is hitting closer and closer to our homes and neighborhoods.

## Food Deserts Defined: The Who, What and Where

A food desert is defined as a place that "lacks affordable fresh fruits and vegetables, as remaining corner stores are unable to procure and preserve wide varieties of fresh foods."<sup>3</sup> Andrew Deener, an Associate Professor of Sociology and the University of Connecticut, is a large contributor to the research looking at the food desert phenomenon, paints a picture for the reader about how food deserts have become such a large issue in America's cities. He explains that back in the 1900s, grocery chains were interdependent with urban neighborhoods. But, as suburban growth increased, urban expansion decreased, which led to major changes in transportation systems. All of this created fierce competition and the decline of many grocery chains.<sup>4</sup>

Food deserts are found in many of America's inner cities, cities of low-income, and communities of color.<sup>5</sup> People that live in food deserts can usually find plenty of unhealthy, fast food<sup>6</sup>, but not much fresh produce. Food deserts are not exclusively found in the United States, though this review will focus on the American context. The term 'food desert' is relatively new, but the issue can be traced back to post World War II infrastructural changes. Facing a growing population and trends towards suburban life in the 1950s and 1960s, the public was convinced that frozen meals were the way of the future, and would help resolve any food crisis.<sup>7</sup> Today, frozen meals, especially those considered to be "healthier options" are quite expensive, and not nearly as healthy as making the same meal from scratch. Many people (parents) choose to buy these meals because they are quick, family schedules do not allow for healthy

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<sup>1</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.

<sup>2</sup> Joassart-Marcelli, Pascale, et al.

<sup>3</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>4</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>5</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.

<sup>6</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>7</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.

meal preparation, and many are not educated as to how detrimental a poor nutrient-based diet can have on themselves, and their children.<sup>8</sup> At the same time, urban neighborhoods faced a series of crises that also impacted the availability of quality food.

Philadelphia has been suffering from the food desert condition for quite some time. Starting back in 1920, Philadelphia was one of only three cities in the United States to have a population of over one million people. At that time, the city was severely segregated by color, which also inherently caused the divide of the city based on income. As of 2011, 28 percent of Philadelphians lived in poverty, 32 percent of adults were obese, and 11 percent of that group suffered from diabetes. There are studies that have proved the connection between inability to buy healthy foods and poor health trends. Food giant, ACME, tried to adopt the idea that “no resident of Philadelphia or Camden could live more than three blocks from an ACME market,” but stores like ACME could not stay afloat in neighborhoods of low-income for any length of time. Some smaller businesses such as A&P, Penn Fruit and Food Fair were able to grow in size on much of the East Coast, especially in suburban areas.<sup>9</sup> However, all good things must come to an end.

### **History and Attitudes that Impact Access to Food**

Two concepts that explain the existence of food deserts are *infrastructural exclusion* and *retail redlining*. Andrew Deener describes infrastructural exclusion as “the reorganization of spatial material interdependence into a semi-autonomous and path-dependent force that separates resources from those reliant on them”.<sup>10</sup> The possibility of a business declining because of its poor location made companies rethink decisions on whether to open up new stores in neighborhoods that needed it. Or companies would take the plunge and open up a location in a location categorized as a food desert, and live a short life because they could not compete with bigger corporations like Wal-Mart.<sup>11</sup> In Philadelphia, Penn Fruit and Food Fair are only a few examples of how smaller businesses essentially get out-raced by bigger stores who have the size, money and support to survive in different locations.

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<sup>8</sup> Slusser, Wendelin, Michael Prelip, Janni Kinsler, Jennifer Toller Erausquin, Chan Thai, and Charlotte Neumann. "Challenges to Parent Nutrition Education: A Qualitative Study of Parents of Urban Children Attending Low-income Schools." *Public Health Nutrition* 14, no. 10 (2011): 1833-841. doi:10.1017/s1368980011000620.

<sup>9</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>10</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>11</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

Andrew Deener defines retail redlining as “an act of discriminating towards poor neighborhoods and neighborhoods of color”,<sup>12</sup> and suggests this impacts access to food. This happens when retailers are deciding on a new location for a store, and more often than not, chose a location where income is higher and spending will be higher, and more often. Mark Winne states, “[the] retail industry did not want to serve a predominantly non-white, low-income shopper base.”<sup>13</sup> In other words, retailers want to go where the money is. Additionally, as the size of stores began to increase, delivery truck size also increased. Inner city locations were unable to accommodate both larger store footprints with more variety of products, nor did they have enough space to unload an 18-wheeler.<sup>14</sup>

Looking at the big picture, food deserts came to be because food distribution is not regulated like other public infrastructural systems.<sup>15</sup> Examples of infrastructure that are regulated include public roadways, railways, power plants, private firms, and governmental organizations. However, food distribution was never accepted as a public infrastructural system. Organizations like the Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) regulate *what* food is distributed to consumers, not necessarily *how* food is being distributed to consumers.<sup>16</sup>

The infrastructural disconnect between producer and consumer is one issue that Philadelphia is facing. Like many cities, Philadelphia faces challenges in public transportation to food distributors (i.e. trains and buses do not always provide easy access to grocery stores). This is exacerbated because many low income residents do not own cars, and there may be significant price differences between city and suburban store locations. Andrew Deener describes for us the importance of infrastructural systems. He writes that infrastructural systems make it possible to move materials and people between places, thus enabling population growth and market formation. As a result, types of distribution infrastructures have a direct link to the health of local communities.<sup>17</sup>

Research has found an association between food access and food insecurity, a broader term used to describe those suffering from the food desert epidemic. The government is aware of the problem, and has implemented programs such as WIC (Women, Infants, and Children) as well as Food Stamps and SNAP (Supplemental Nutrition Assistance Program). These programs “allow benefits to be used at

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<sup>12</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>13</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>14</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.

<sup>15</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>16</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

<sup>17</sup> Deener, Andrew. "The Origins of the Food Desert: Urban Inequality as Infrastructural Exclusion." *Social Forces*, 2017. doi:10.1093/sf/sox001.

farmers' markets as a way to improve food security"<sup>18</sup> but these programs are not solving the larger issue at hand. Finding food is not the problem; finding healthy, fresh food is the issue that defines food deserts (and links to issues of health and obesity).

### Access to Food: Bridging the Gap Between Producer and Consumer

Mark Winne worked as the Executive Director for the Hartford Food System for over 20 years and saw the need for change in the way that food was being distributed in Hartford starting in the 1970s. Winne concluded in his book, *Closing the Food Gap: Resetting the Table in the Land of the Plenty*, that a



solution to food deserts comes from the people that are both suffering from their affects, and those who have enough to share.<sup>19</sup>



Bridging the gap between producer and consumer is a way to address food deserts, through the coordination of community gardens, farmers' markets, community supported agriculture (CSA's) and nutrition education program. As Winne states, the goal is to "develop a highly integrated food system,"<sup>20</sup> that works for the people, by the people. Mark Winne briefs the reader on a breakfast program project that would feed children who would not have anything to eat in the morning otherwise. This project relied heavily on volunteerism; as long as there was someone there to do the work, people received food. But in a case like this, if volunteers are burned out, then the project will fail.<sup>21</sup>

Greensgrow is a local Philadelphia establishment aimed at combating food deserts. With two locations in both Kensington and West Philly, Greensgrow brings together three things that are necessary for proper food distribution: trustworthy sources (local farmers and nurseries), a community in need of its services, and a viable and effective way of distribution. Greensgrow was established in 1998, and has grown ever

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<sup>18</sup> Savoie-Roskos, Mateja, Carrie Durward, Melanie Jeweks, and Heidi Leblanc. "Reducing Food Insecurity and Improving Fruit and Vegetable Intake Among Farmers Market Incentive Program Participants." *Journal of Nutrition Education and Behavior* 48, no. 1 (2016). doi:10.1016/j.jneb.2015.10.003.

<sup>19</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.

<sup>20</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.

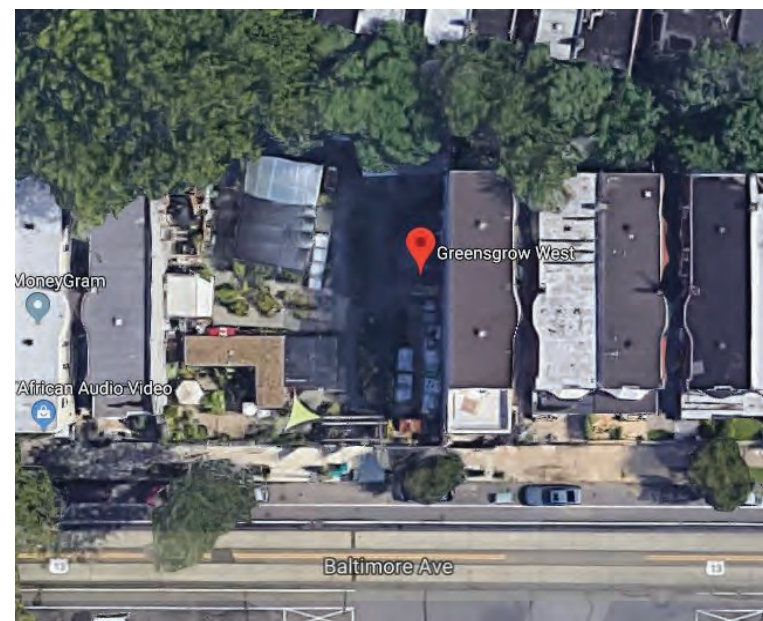
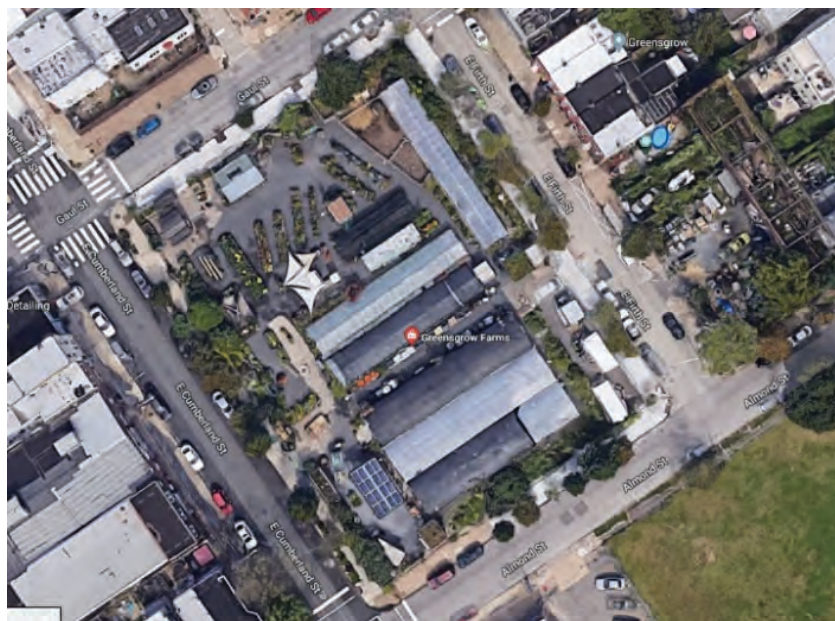
<sup>21</sup> Winne, Mark. *Closing the Food Gap Resetting the Table in the Land of Plenty*. Boston, MA: Beacon Press.



since. As of 2017, Greensgrow takes in \$1.8 million in revenue and over 10,000 visitors annually.<sup>22</sup> Greensgrow has won numerous awards including the Hunger Fighter Award in 2015 and the Sustainable Agriculture Leadership Award in 2012.<sup>23</sup>

The Greensgrow model has many facets, including a farm and garden center, a farm share program, and community kitchen.<sup>24</sup> Because of this, the local consumer knows where the food is coming from, and is able to obtain it easily (i.e. there is no need for neighborhood residents to own a car or get on public transportation). In addition, Greensgrow offers a “mobile market” program, with the idea of taking fresh produce to other areas of the city.

Below are aerial images of Greensgrow Kensington (left) and Greensgrow West (right) that suggest how the issue of space impacts an organization like Greensgrow.



After visiting the West Philadelphia location, it is evident how much space is required to both grow and sell plants and produce. The West Philadelphia location sells gardening supplies, indoor and outdoor house plants, herbs and vegetables, and had a chicken coop. Unlike the Kensington location, there are no community kitchen classes, or large planter beds for producing large amounts of food. This location was small and quaint, located off of a busy street, near a high school and residential homes.

## Conclusion

<sup>22</sup> Kadaba, Lini S. "Once a Superfund Site with a Crazy Concept, Greensgrow Celebrates 20 Years." [Http://www2.philly.com](http://www2.philly.com). March 24, 2017. Accessed December 04, 2018.

[http://www2.philly.com/philly/home/20170324\\_Once\\_a\\_Superfund\\_site\\_with\\_a\\_crazy\\_concept\\_\\_Greensgrow\\_celebrates\\_20\\_years.html](http://www2.philly.com/philly/home/20170324_Once_a_Superfund_site_with_a_crazy_concept__Greensgrow_celebrates_20_years.html).

<sup>23</sup> Greensgrow "Greensgrow Farms | Farming Ideas Since 1997." Greensgrow. Accessed November 03, 2018. <https://www.greengrow.org/>.

<sup>24</sup> Greensgrow "Greensgrow Farms | Farming Ideas Since 1997." Greensgrow. Accessed November 03, 2018. <https://www.greengrow.org/>.

Greensgrow is made up of many programmatic elements, but it is worth considering if all of these parts are necessary. A few components that I will be examining more deeply in this thesis include the community kitchen and urban garden. In the exploration of an urban farm model, it is important to consider what the program elements will be, and how each will function with the other. Figuring out a way to both maximize the efficiency of land and space in an urban setting can be a way of diminishing the effects of food deserts in Philadelphia neighborhoods. In a sense, distribution becomes the interior design challenge.

To effectively address the food desert crisis, it is necessary to study the underlying conditions, including infrastructural disconnect and socio-economic disenfranchisement, and understand the conditions and requirements for developing an integrated food system that connects producers with consumers.

Food desert solutions are an opportunity to bring together the food production, distribution and consumption processes. A successful project will link these three separate systems through education and hands-on learning experiences. Additionally, it is essential to consider the effects of food post-consumption. Offering programs on physical well-being and nutrition is the link to all three infrastructures, and brings the focus back to the consumer-producer relationship.



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"Greensgrow Farms | Farming Ideas Since 1997." Greensgrow. Accessed November 03, 2018. <https://www.greengrow.org/>.

Kadaba, Lini S. "Once a Superfund Site with a Crazy Concept, Greensgrow Celebrates 20 Years." [Http://www2.philly.com](http://www2.philly.com). March 24, 2017. Accessed December 04, 2018. [http://www2.philly.com/philly/home/20170324\\_Once\\_a\\_Superfund\\_site\\_with\\_a\\_crazy\\_concept\\_\\_Greengrow\\_celebrates\\_20\\_years.html](http://www2.philly.com/philly/home/20170324_Once_a_Superfund_site_with_a_crazy_concept__Greengrow_celebrates_20_years.html).

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Slusser, Wendelin, Michael Prelip, Janni Kinsler, Jennifer Toller Erausquin, Chan Thai, and Charlotte Neumann. "Challenges to Parent Nutrition Education: A Qualitative Study of Parents of Urban Children Attending Low-income Schools." *Public Health Nutrition* 14, no. 10 (2011): 1833-841. doi:10.1017/s1368980011000620.

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# DESIGN OBJECTIVES

- ▶ To develop a program that encompasses all aspects of food
- ▶ To create a space that encourages both community engagement and food education
- ▶ To challenge the preconceived notions of community centers in low-income communities
- ▶ To appeal to a broad spectrum of users including small business owners, students, parents, and educators



# Case Study One



**RIVERWARDS**  
PRODUCE





Interior Images of Riverwards Produce

## Location:

- 2200 E. Norris Street Philadelphia, PA (Kensington)

## About:

- Started in 2016 in Fishtown by Vincent Finazzo

## Observations:

- Simple design (wood plank floors, white walls)
- Only sold natural/organic produce
- No loading dock, deliveries made from street

## Interview with Anika Pyle (Grocery Buyer)

What is the main goal of your facility?

- To provide the best quality produce at affordable prices and a wide-range of grocery products to the Fishtown community and Philadelphia at large

What is the size of your facility?

- 2,328 square feet

Who are the types of people that come to your facility?

- Most of the customer base lives within walking distance
- Occasional tourists, many chefs and culinary-focused groups

What is the average age of the users?

- Mid twenties to late thirties

What is the busiest time for your business?

- Saturday, Sunday, Monday evenings

What are the departments within your facility? Employment size?

- Grocery, produce, homegoods, floral, prepared foods, front end
- 25 employees total, 10-15 work at one time

Can you think of a problem that is a direct result of the design of the facility?

- The large windows are beautiful, but limit the amount of space for display
- Not enough back-of-house storage; no refrigerator backstock
- All backstock is stored in the basement; hard to carry things up and down

If you could change something about the space, what would it be?

- Have a freight elevator

Case Study  
Two





Exterior Images of Greensgrow Farms

## Location:

- 2501 E. Cumberland Street Philadelphia, PA (Kensington)

## About:

- Started as a small hydroponic farm in the late 1990s
- Expands to what is now the "urban farm" just before the turn of the century
- Celebrates twentieth anniversary in 2017
- About 35,000 square feet

## Interview with Meg DeBrito (Executive Director)

What is the main goal of your facility?

- Urban farm, garden center, fresh produce distribution

Is the size of your facility ideal for its purpose?

- Yes and no

Who are the types of people that come to your facility?

- "Old folks," Fishtown & Kensington families, "Loyalists," new occupants

What is the average age of the users?

- 30 years old

What is the busiest time of year for you?

- Spring, Saturdays around 2pm

What are the departments within your facility? Employment size?

- retail, Farm, Greenhouse, Indoor Plants; 7-25 people depending on season

Can you think of a problem that is a direct result of the design of the facility?

- Not enough storage, space for employees, hard to maneuver large items without ramps

If you could change something about the space, what would it be?

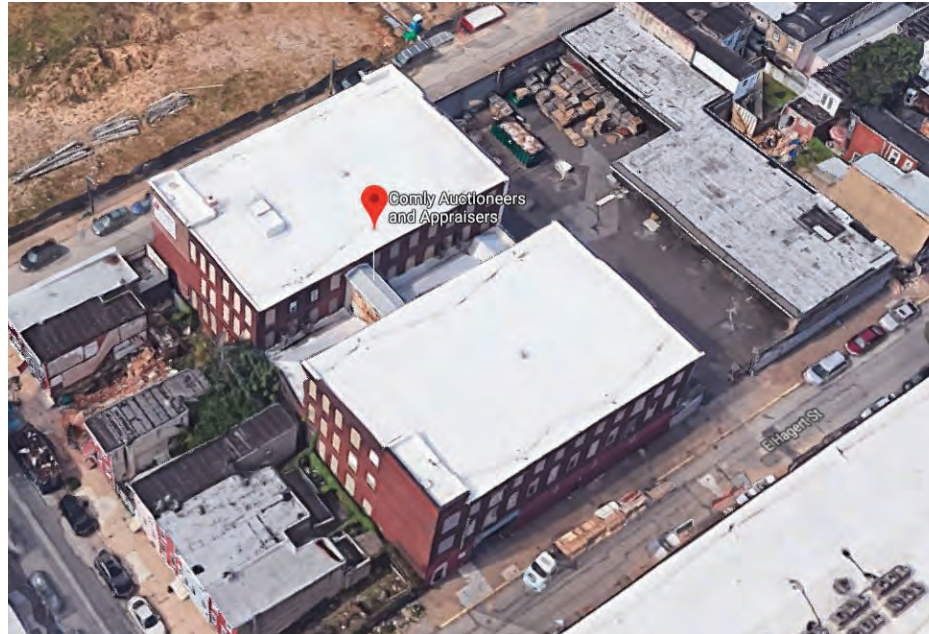
- Have a four-season building



# Site Documentation

This thesis will be occupying 1825 E. Boston Street in Philadelphia. The building now acts as an auction and appraisal warehouse. The following pages will discuss the building attributes, surrounding site, and key components that make this a desirable site for this thesis.





Images from Google Earth







Empty Lot

Site

East Hager Street

East Boston Street

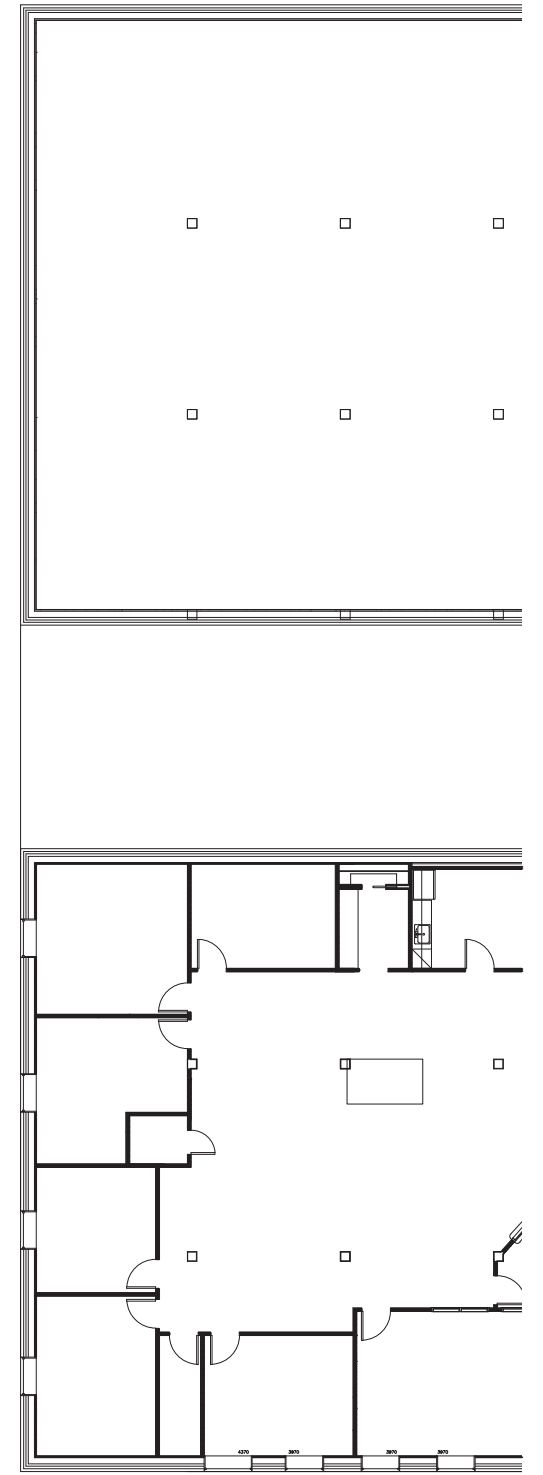
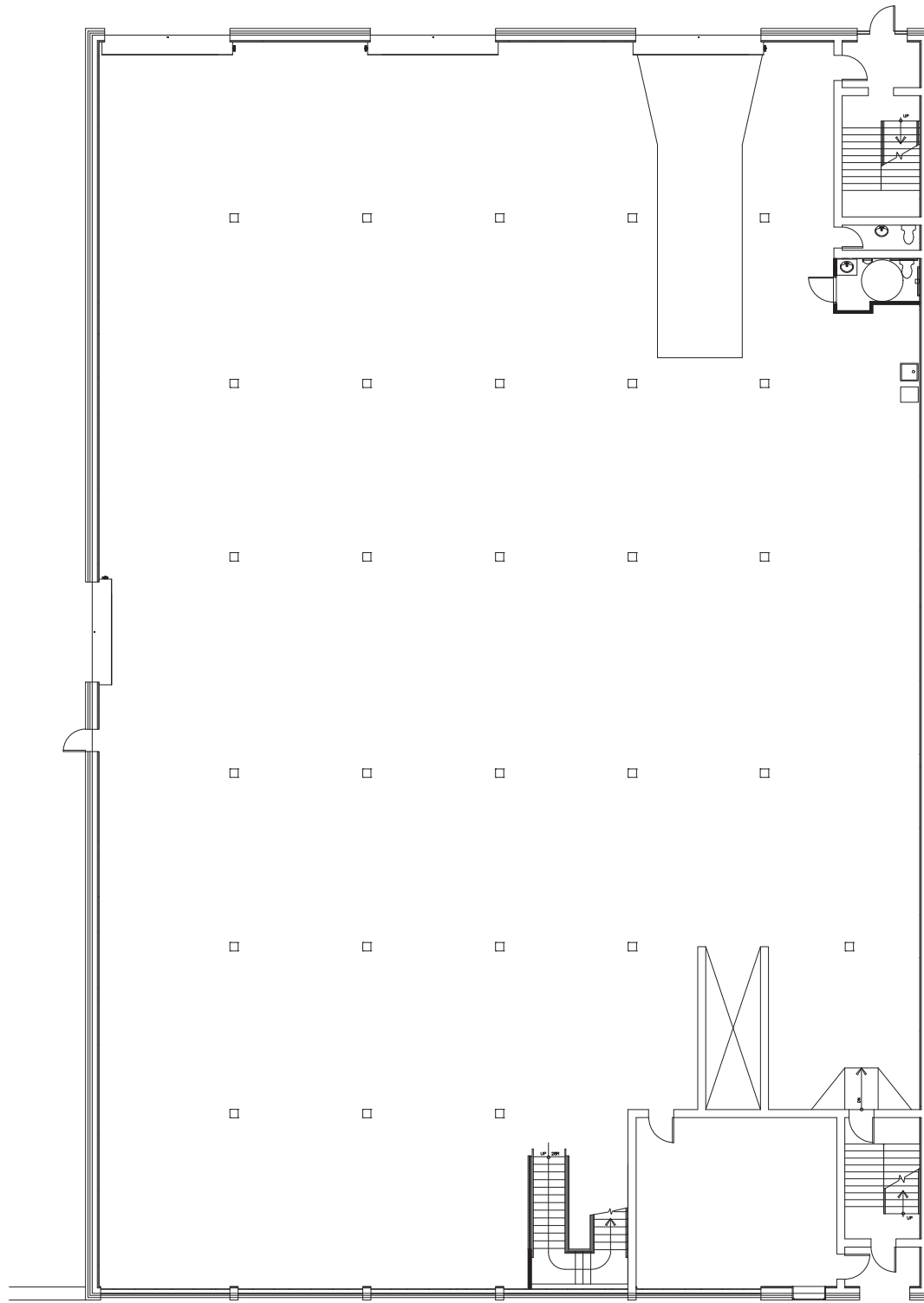
Empty Lot

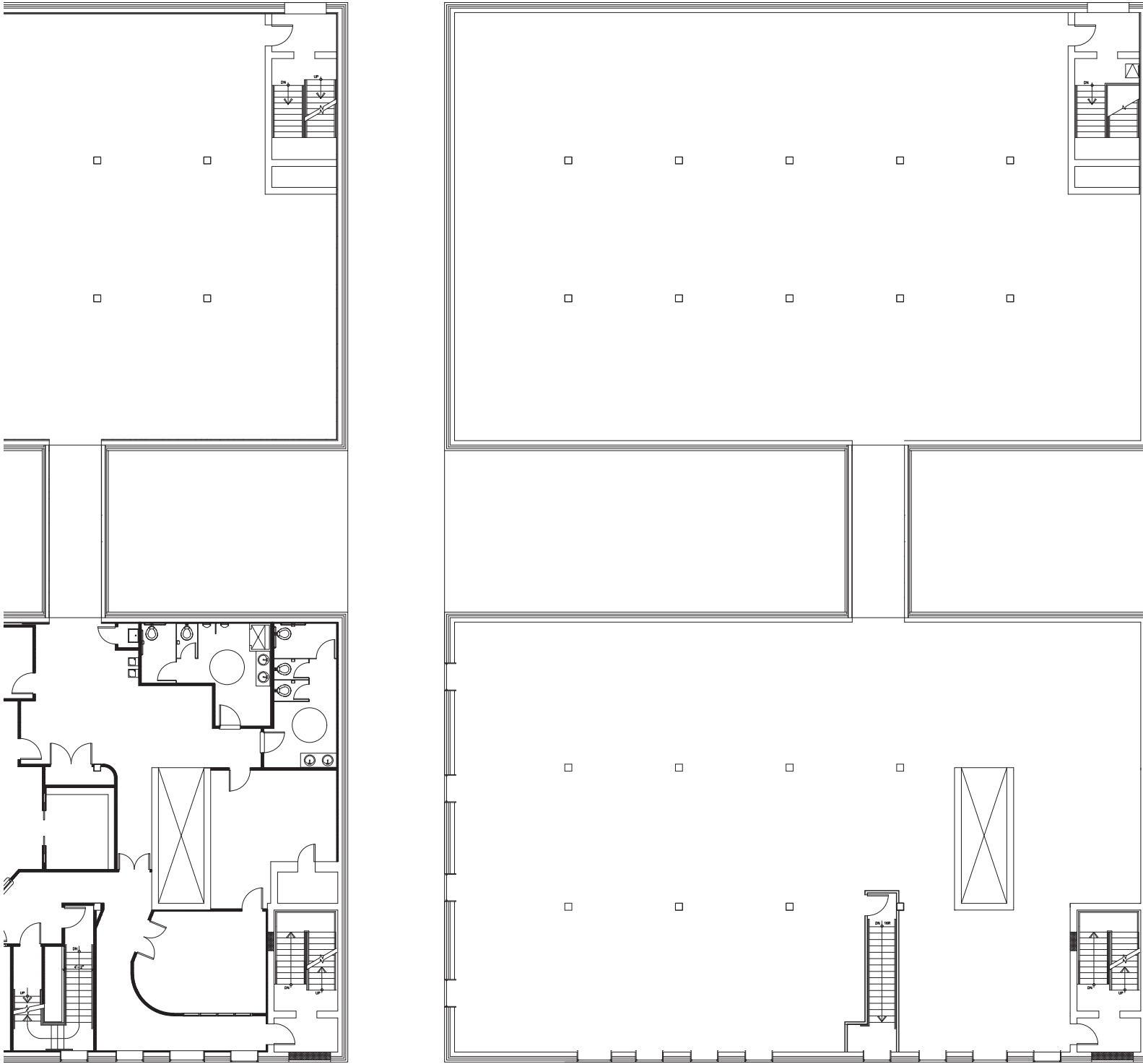
Jasper Street

Jasper Street

Parking







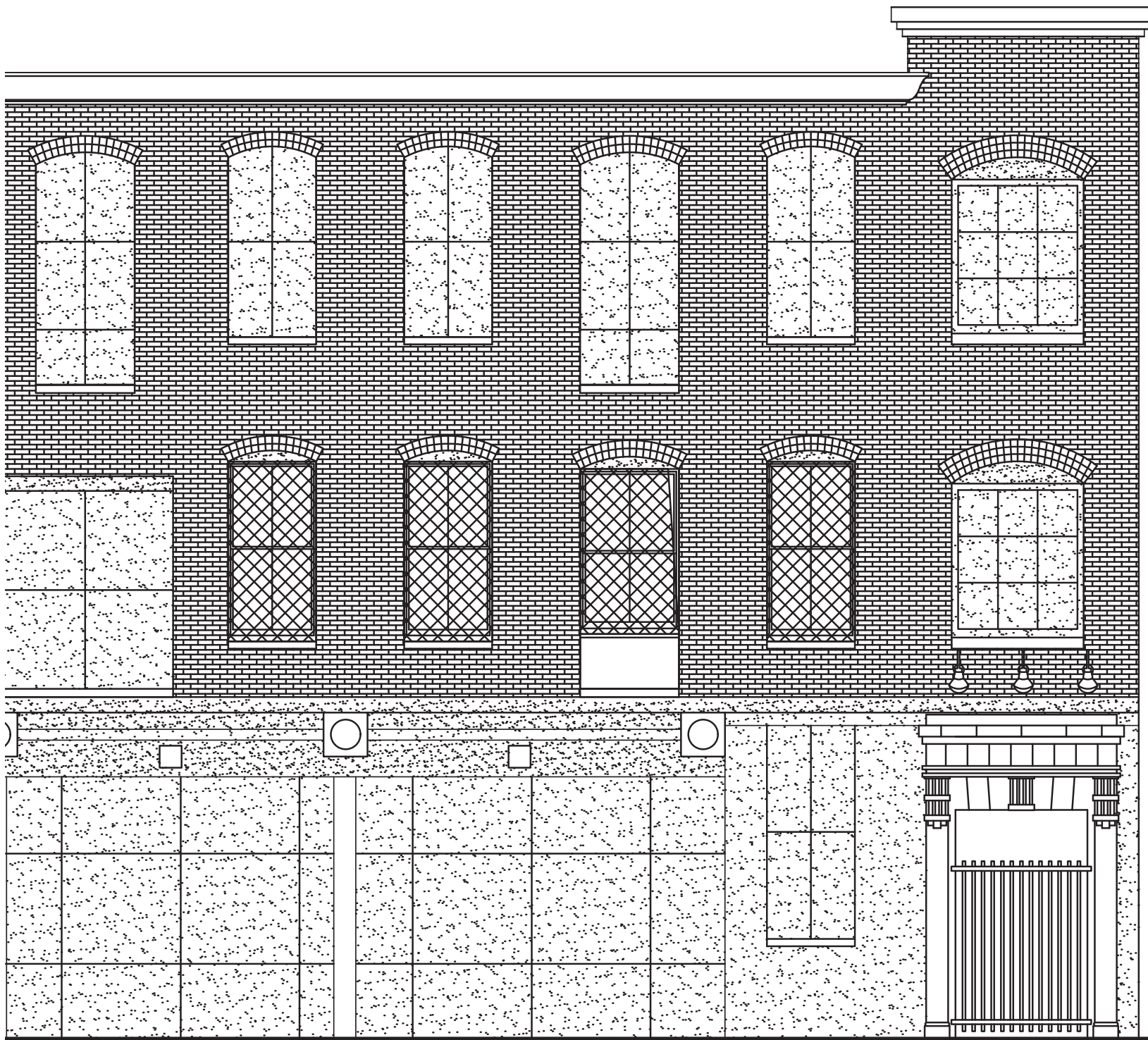
Floor Plans Not to Scale

Above are the existing interior floor plans. Some important architectural elements to note about the building:

- ▶ It is roughly 40,000 square feet
- ▶ The first floor has 15'-6" ceiling heights
- ▶ The second and third floor have 13'-0" ceiling heights
- ▶ The second and third floor are currently separated into two zones, connected with a bridge condition
- ▶ Adjacent to the building is a loading dock in the back with a covered area that is now being used for storage.







Existing Exterior Elevation

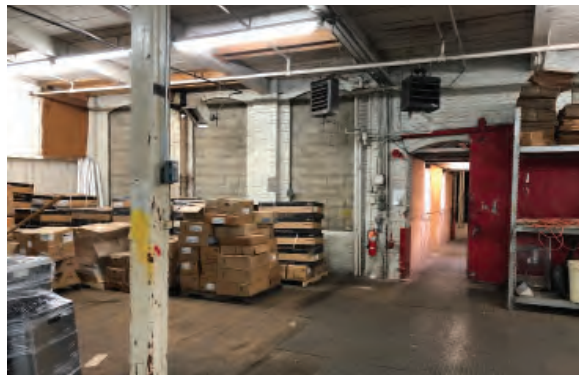




# Site Images

The following images depict the existing interior and exterior conditions of the space.

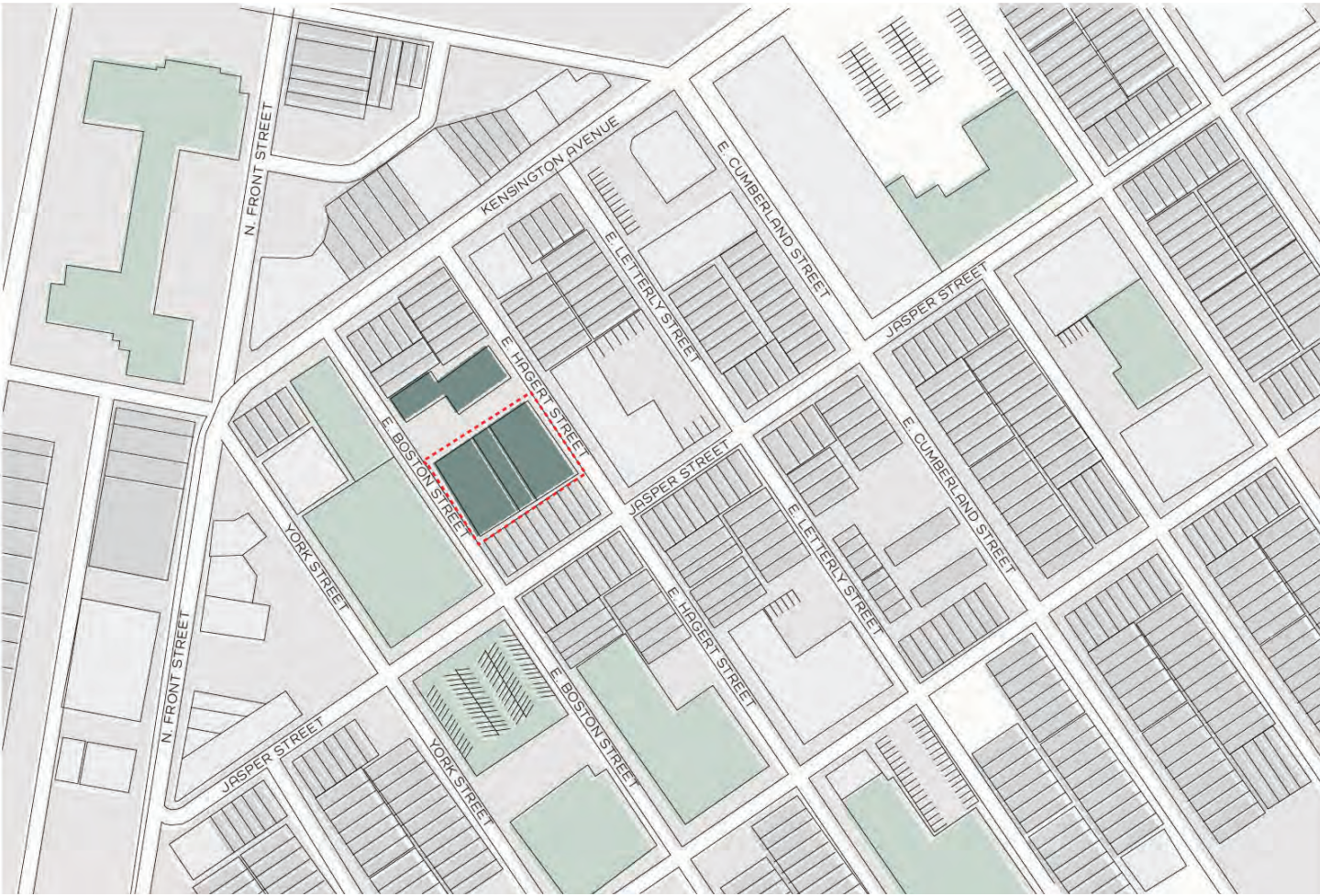




# Surrounding Neighborhood

Here is a map of the general area. As you can see, the area is mostly residential, minus a few small businesses, but none that offered food.





# Site Amenities

The map indicates “amenities” that make this site appealing. The business now owns a parking lot caddy-corner to the building. There are also several educational institutions in the area including Hunter Elementary School, on the far left, and Henry A Brown Elementary School, on the far right. The York-Dauphin stop off the Market-Frankford line is within walking distance. And lastly, there are several instances of vacant, city-owned, land that are in close proximity to the building.





Parking



School



York-Dauphin Subway Stop



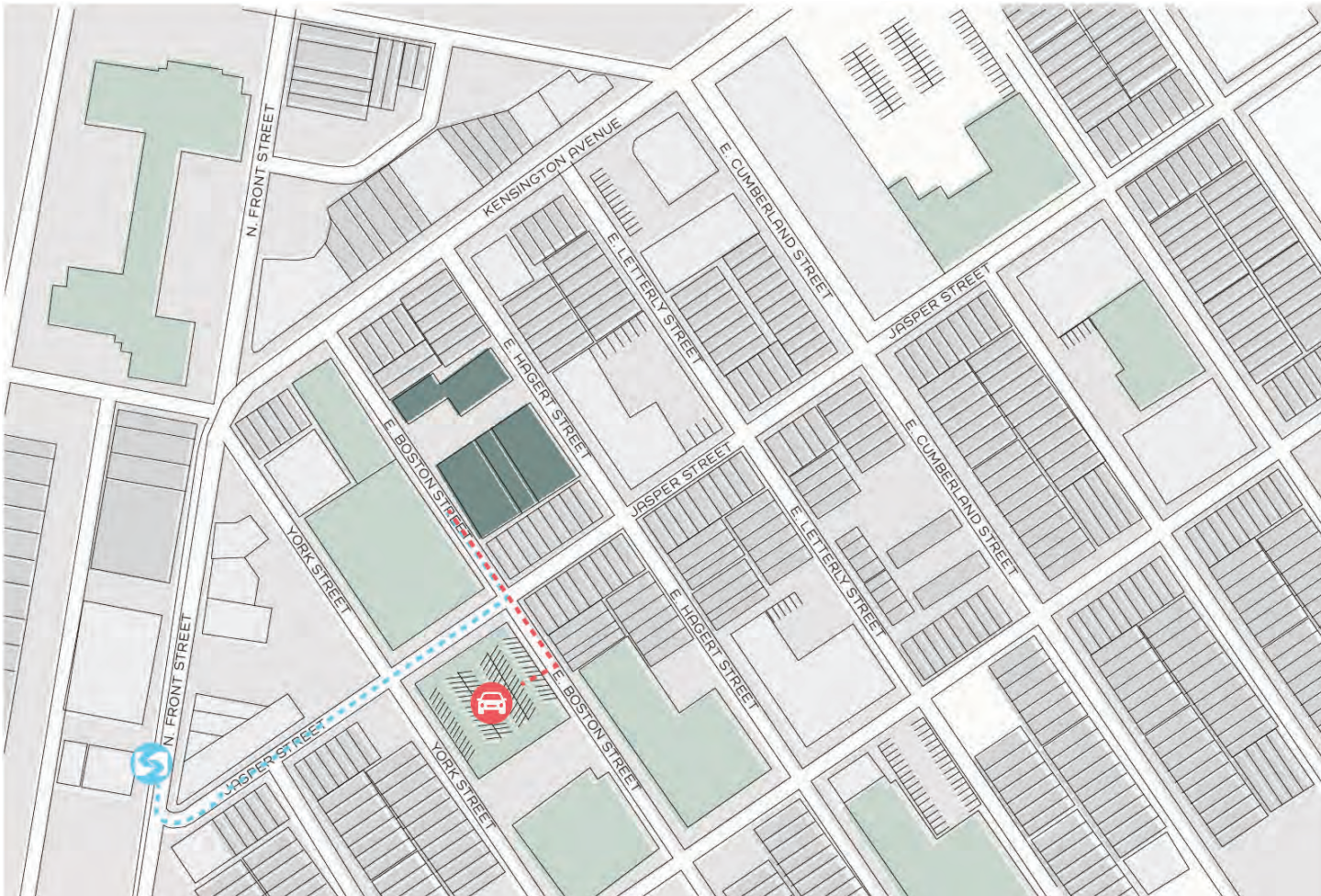
Vacant Land




# Transportation

1825 East Boston Street is located conveniently near the York-Dauphin subway stop, and is situated within a few blocks of many schools. There is also a parking lot down the street from the main entrance. Whether a user walks, drives, or uses public transportation, the site is accessible to all.





 Parking: 1 minute walk

 York-Dauphin Subway Stop: 3 minute walk





# Programming

In staying with the character of the building and the stages of food, I will be dividing up my program based on building levels. The first level will focus on production and distribution of food. The second level will be centered around consumption and education of food. the third level will focus on post-consumption activities as well as health and wellness.





Level 1: Production and Distribution



Level 2: Consumption



Level 3: Post-Consumption





FIRST FLOOR	AMOUNT	SQ. FT. EACH	TOTAL
Main Entrance	1	425	425
Elevator Lobby / Reception	1	175	175
Market	1	5,225	5,225
Administration Suite	1	650	650
Restrooms (Male) + (1) ADA	1	250	250
Restrooms (Female) + (1) ADA	1	270	270
Vendor Breakroom	1	250	250
Classrooms	2	500	500
Storage	1	400	400
Janitor Closet	1	50	50
Circulation	(45%)	(6,705)	+6,705
TOTAL			14,900
SECOND FLOOR			
Elevator Lobby	1	200	200
Educational Kitchen	1	1,500	1,500
"Kiddie" Kitchen	1	1,150	1,150
Classrooms	2	275	550
Hydroponic Planters	3	30	90
Restrooms (Male) + (1) ADA	1	250	250
Restrooms (Female) + (1) ADA	1	260	260
Storage	(varies)	400	400
Janitor Closet	1	50	50
Cafe + Dining	1	1,500	1,500
Lounge Zones	3	400	1,200
Circulation	35%	(4,284)	+4,284
TOTAL			11,434
THIRD FLOOR			
Elevator Lobby	1	250	250
Fitness Center	1	2,000	2,000
Administration Suite	1	800	800
Group Exercise Rooms	2	550	1,100
Locker / Toilet (M) + (1) ADA	1	550	550
Locker / Toilet (F) + (1) ADA	1	550	550
Equipment Rental	1	175	175
Smoothie Bar	1	175	175
Lounge Space	(varies)	1,500	1,500
Storage	(varies)	463	463
Janitor Closet	1	50	50
Circulation	35%	(3,287)	+3,287
TOTAL			10,900
TOTAL SQUARE FOOTAGE			37,234 SQ. FT.

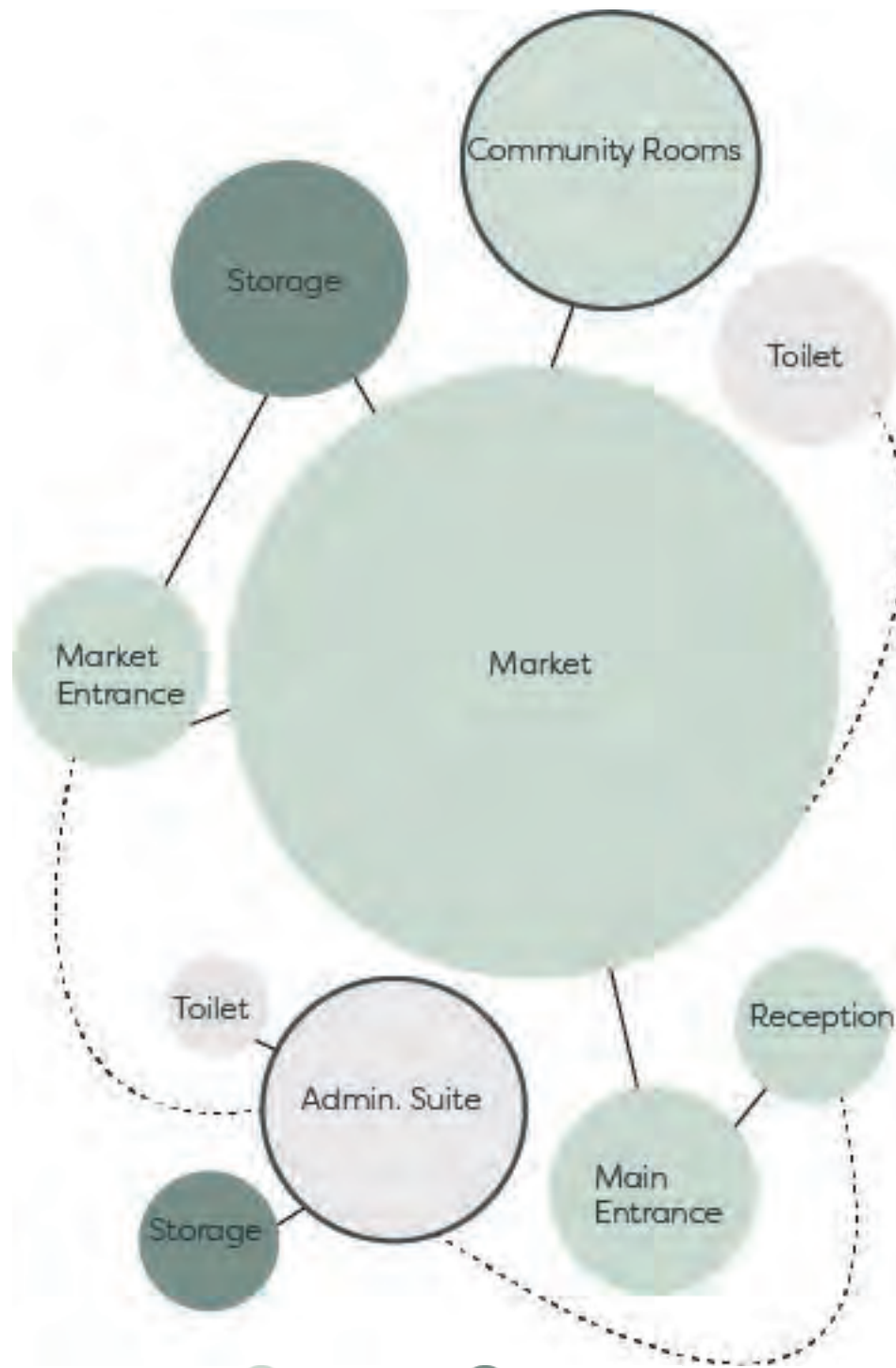




	MAIN ENTRANCE	SECURITY	RECEPTION	ELEVATOR LOBBY	PRODUCE MARKET	ADMIN. SUITE	RESTROOMS	STORAGE	JANITOR CLOSET	ELEVATOR LOBBY	TEACHING KITCHENS	KIDDIE KITCHEN	LARGE TRAINING ROOM	SMALL TRAINING ROOM	CAFE & LOUNGE	ADMIN. SUITE	RESTROOMS	STORAGE	JANITOR CLOSET	ELEVATOR LOBBY	FITNESS CENTER	GROUP EXERCISE ROOMS	LOCKER ROOMS	LOCKER RESTROOMS	ADMIN. SUITE	RESTROOMS	STORAGE	JANITOR CLOSET	
MAIN ENTRANCE	■	●	●	●	●	●																							
SECURITY		■	●	●																									
RECEPTION			■		●	●		●	●																				
ELEVATOR LOBBY				■	●	●	●																						
PRODUCE MARKET					■	●	●	●																					
ADMIN. SUITE						■																							
RESTROOMS							■		●																				
STORAGE								■	●																				
JANITOR CLOSET									■																				
ELEVATOR LOBBY										■	●	●	●	●	●			●	●										
TEACHING KITCHENS											■	●	●	●	●				●										
KIDDIE KITCHEN											■	●	●	●					●										
LARGE TRAINING ROOM												■	●	●															
SMALL TRAINING ROOM													■	●															
CAFE & LOUNGE														■	●				●	●									
ADMIN. SUITE															■					●									
RESTROOMS																■													
STORAGE																	■												
JANITOR CLOSET																				■									
ELEVATOR LOBBY																					■	●	●	●					
FITNESS CENTER																						■	●	●	●				
GROUP EXERCISE ROOMS																							■	●	●				●
LOCKER ROOMS																							■	●	●				●
LOCKER RESTROOMS																								■	●				●
ADMIN. SUITE																									■				
RESTROOMS																										■			
STORAGE																												■	●
JANITOR CLOSET																												■	●

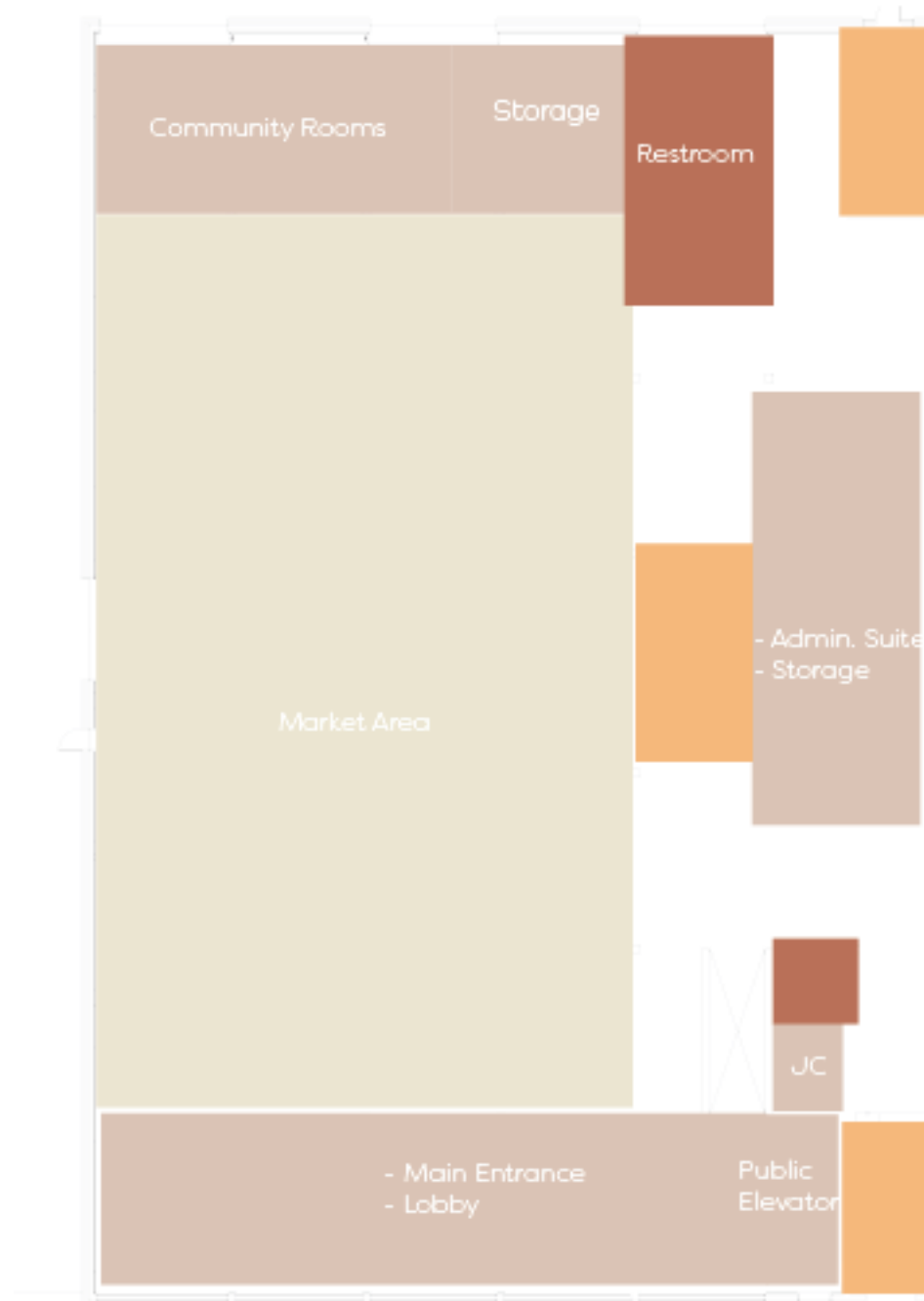
- REQUIRED
- DESIRED
- NOT NECESSARY





- Open Public Spaces
- Storage
- Semi-Public Spaces
- Private Spaces
- Semi-Private Spaces
- Primary Connection
- Secondary Connection

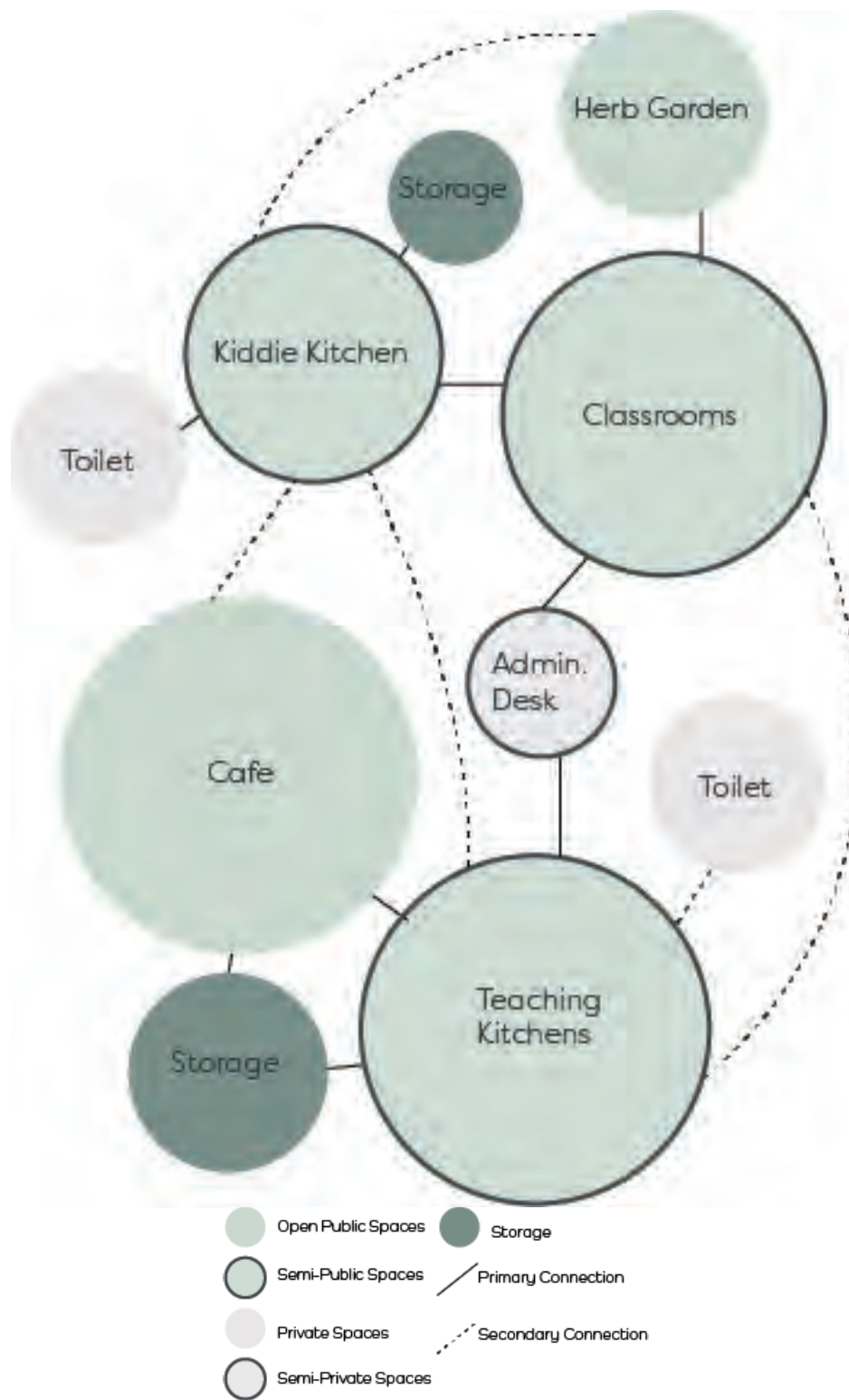


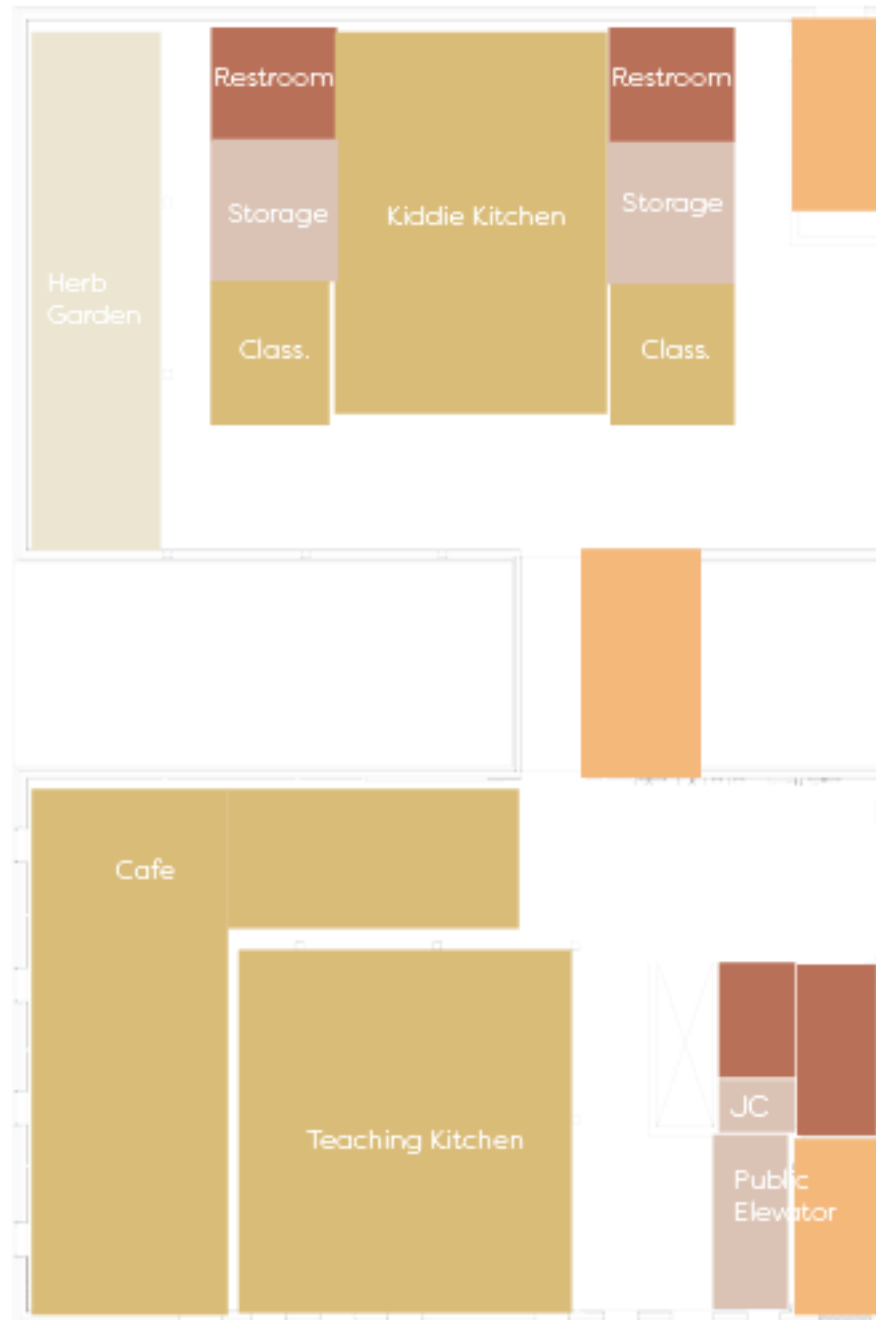


- |   |   |
|---|---|
| <span style="color: #00A0C0;">●</span> Production       | <span style="color: #A0C0E0;">●</span> Storage        |
| <span style="color: #D9C8A0;">●</span> Distribution     | <span style="color: #FFA500;">●</span> Egress         |
| <span style="color: #C8A040;">●</span> Consumption      | <span style="color: #8B4513;">●</span> Toilet Room    |
| <span style="color: #008080;">●</span> Post-Consumption | <span style="color: #D2B48C;">●</span> Support Spaces |



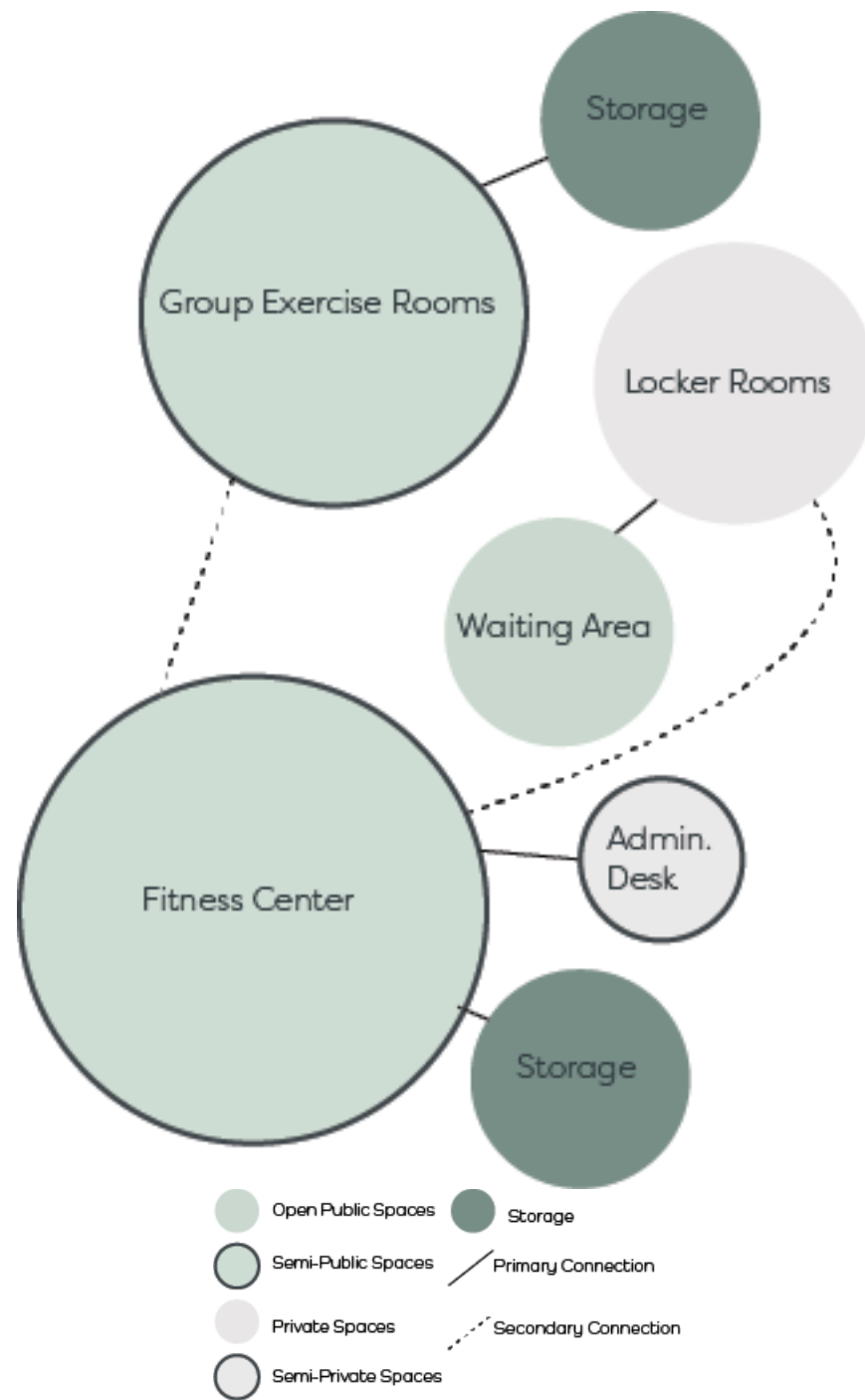


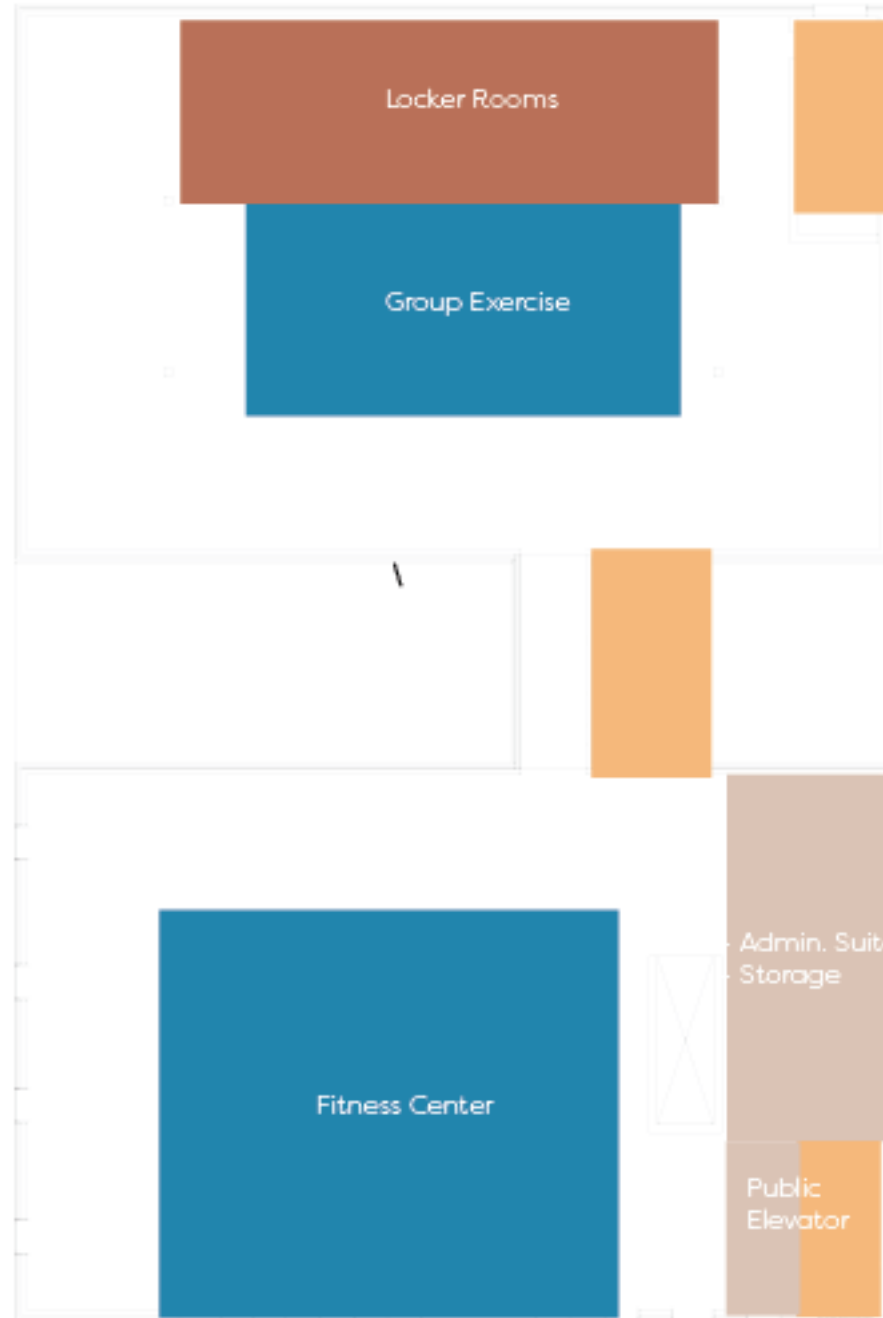




- |   |   |
|---|---|
| <span style="color: #00A0C0;">●</span> Production       | <span style="color: #A0C0E0;">●</span> Storage        |
| <span style="color: #D9C9A0;">●</span> Distribution     | <span style="color: #FFA07A;">●</span> Egress         |
| <span style="color: #C0A040;">●</span> Consumption      | <span style="color: #A04040;">●</span> Toilet Room    |
| <span style="color: #008080;">●</span> Post-Consumption | <span style="color: #C0A0A0;">●</span> Support Spaces |







- |  |  |
|--|--|
|  Production       |  Storage        |
|  Distribution     |  Egress         |
|  Consumption      |  Toilet Room    |
|  Post-Consumption |  Support Spaces |







- Employee Space
- Public Space
- Public Elevator and Egress
- Cleaning Staff Storage
- Restrooms/Locker





# STATEMENT OF DESIGN INTENT

This urban market and neighborhood kitchen intends to bring fresh produce at an affordable price to underserved neighborhoods in Philadelphia by connecting the production, distribution, consumption and post-consumption life of food through:

- ▶ An indoor/outdoor farmers' market for year-round sales
- ▶ Teaching kitchens and classrooms
- ▶ Community gathering spaces to encourage networking between both producers and consumers
- ▶ A fitness center and in-house nutritionist



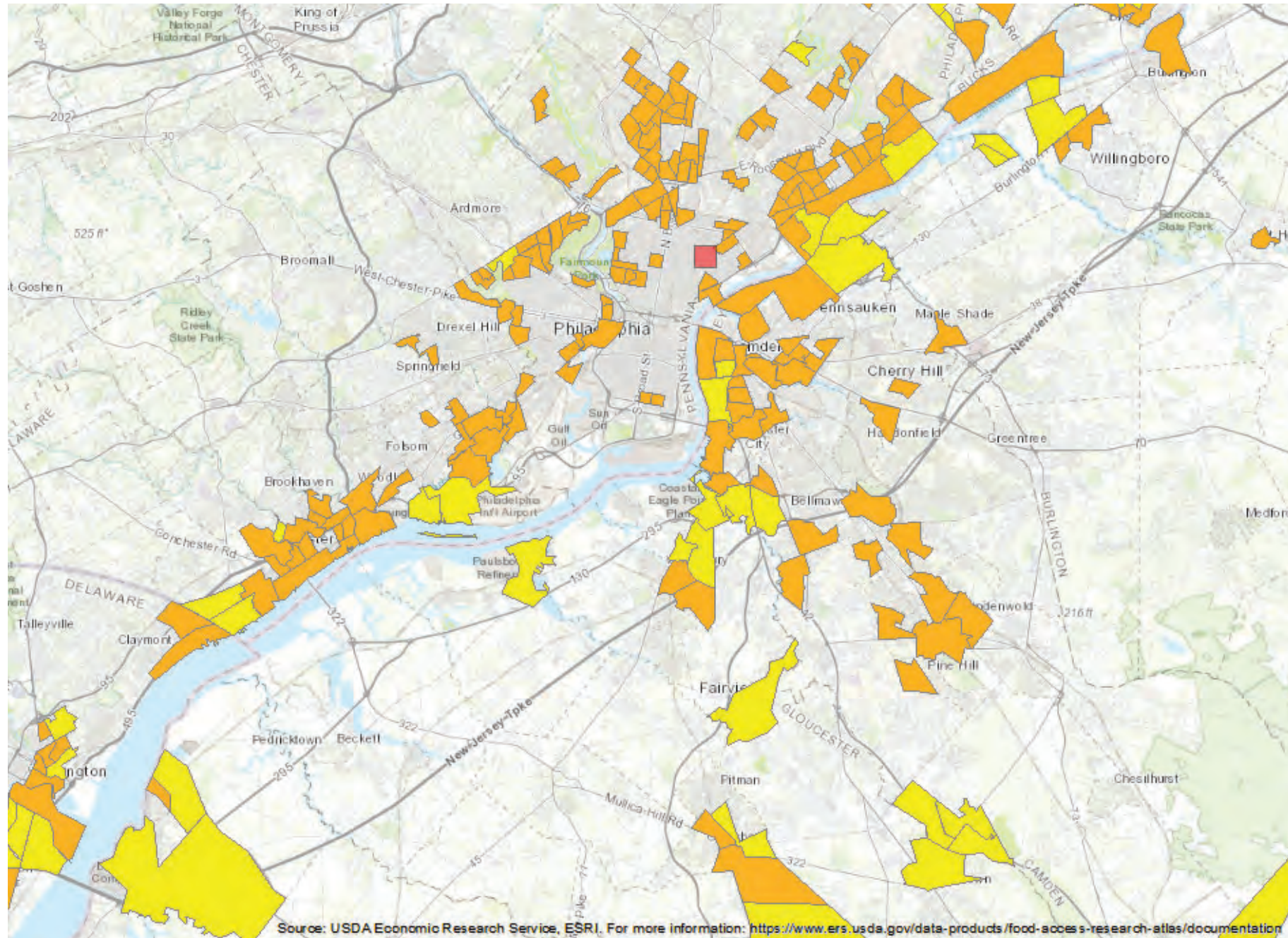


# Design Strategy

Following the research development of this thesis, design probes were used to examine different methods of design direction and intentions. These particular probes explored scale (mapping and making), experience, and materiality.



# PROBE 1: SCALE



- 1/2 - 10 miles
- 1 - 10 miles
- Site Location

The map above indicated walkable access to fresh, affordable produce in and around the Philadelphia area. The orange areas represent at least one-half mile to fresh produce, the yellow represents at least one mile to fresh produce. The red square represents the location of my site, adjacent to an area shaded in orange.



# PROBE 1: SCALE (continued)



## Kit Includes:

- (1) Step-planter box
- Potting soil
- Seeds for chosen plant
- Directions on how to care for plant
- Suggested plant pairings and recipes

## Special Features:

- Planter is designed to be interlocking with other planters
- A pre-drilled drainage hole prevents overwatering

In order to encourage at-home gardening, I have designed a planter box that is meant to fit on the front steps, porches or stoops of homes in the city. The planter box can be purchased at the urban market, and it light enough to carry home. With detailed care instructions and recipe instructions, this planter encourages both food education and community networking.



Dark green horizontal bar

Dark purple horizontal bar

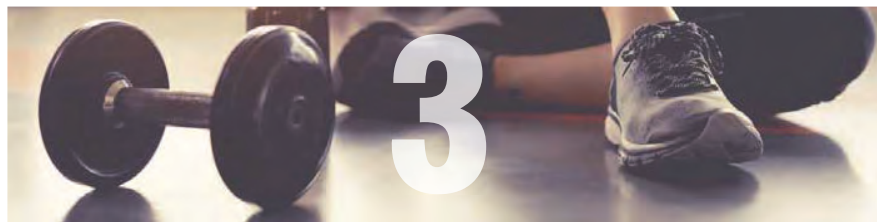
Orange horizontal bar

Light brown horizontal bar

# PROBE 2: EXPERIENCE

## LEVELS:

Post-Consumption



Consumption



Production  
Distribution



## EXPERIENCES:

Health and wellness center with group exercise and teaching classrooms. On-site nutritionist and personal trainers

Teaching kitchens and rentable spaces to host cooking classes and group meetings. Includes a “kids’ kitchen,” space that introduces a commercial kitchen at a smaller scale.

A large first level with an indoor/outdoor farm. Farmers’ market style store adjacent to farm, with ability to be expanded outdoors.





# PROBE 3: MATERIALITY



**GLASS:**  
Will be important for transparency between spaces, and allow natural light to flow through the space.



**SUNLIGHT:**  
Will drive the growth of plants that will be produced on site.

**SUSTAINABLE FLOORING:**  
Bamboo would be great to implement in the space. It is both durable and sustainable.



**ACOUSTICAL FABRIC:**  
To be used in public spaces where noise reduction would be optimal.



**SOLID SURFACE:**  
Will be implemented in the kitchen areas, as well as public spaces where there is a table top surface. This will diminish the spread of germs, and cut down on bacteria growth.

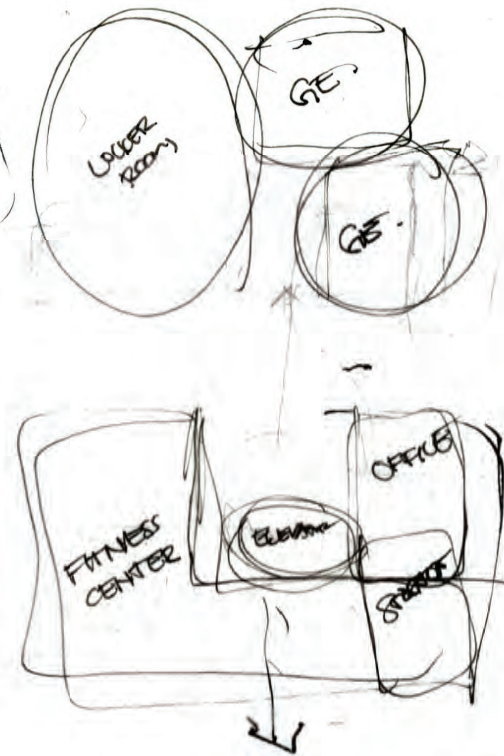
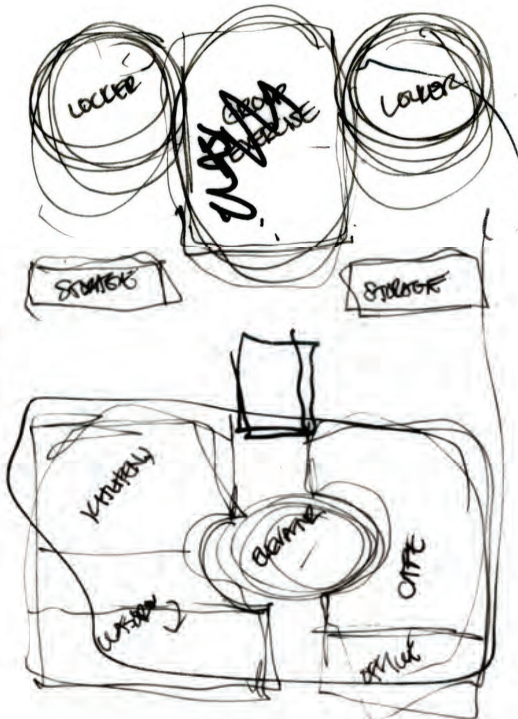
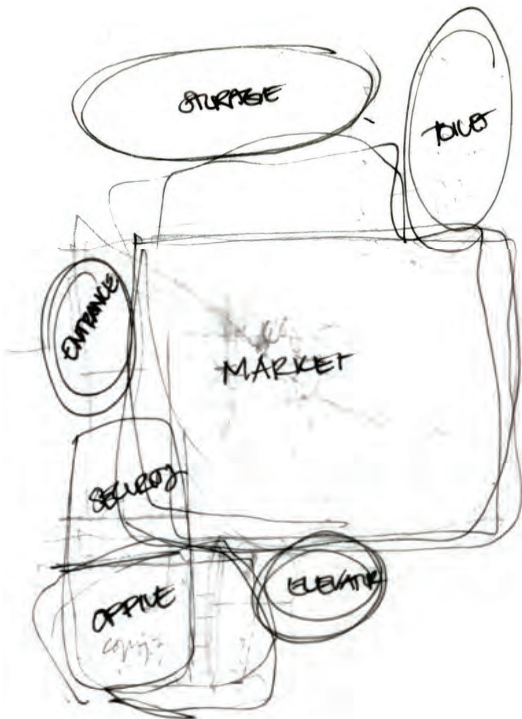
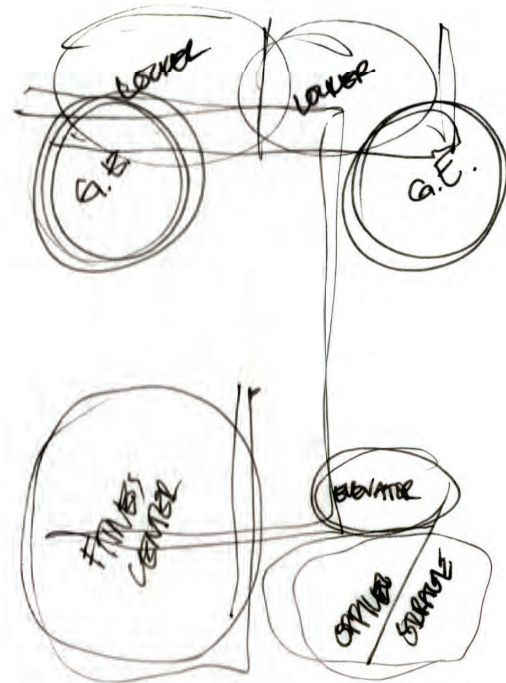
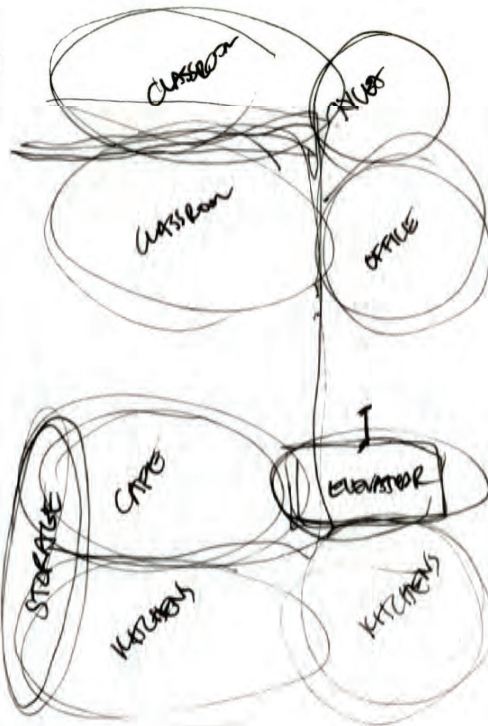
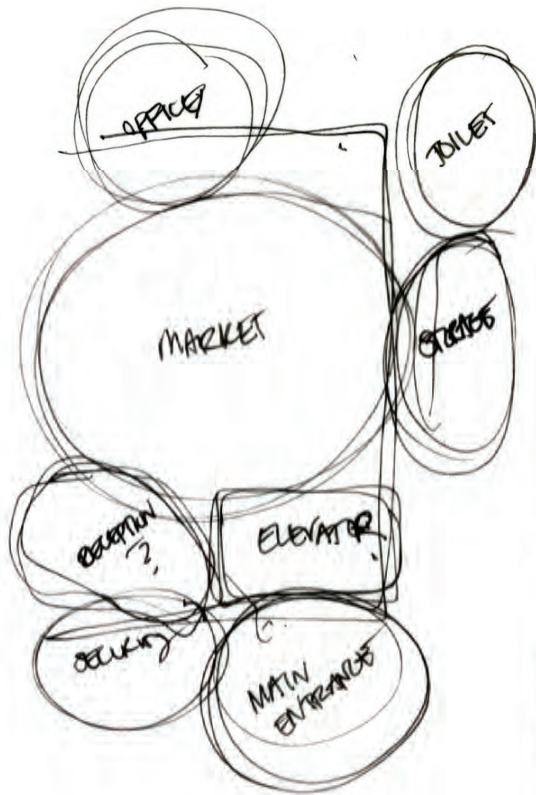


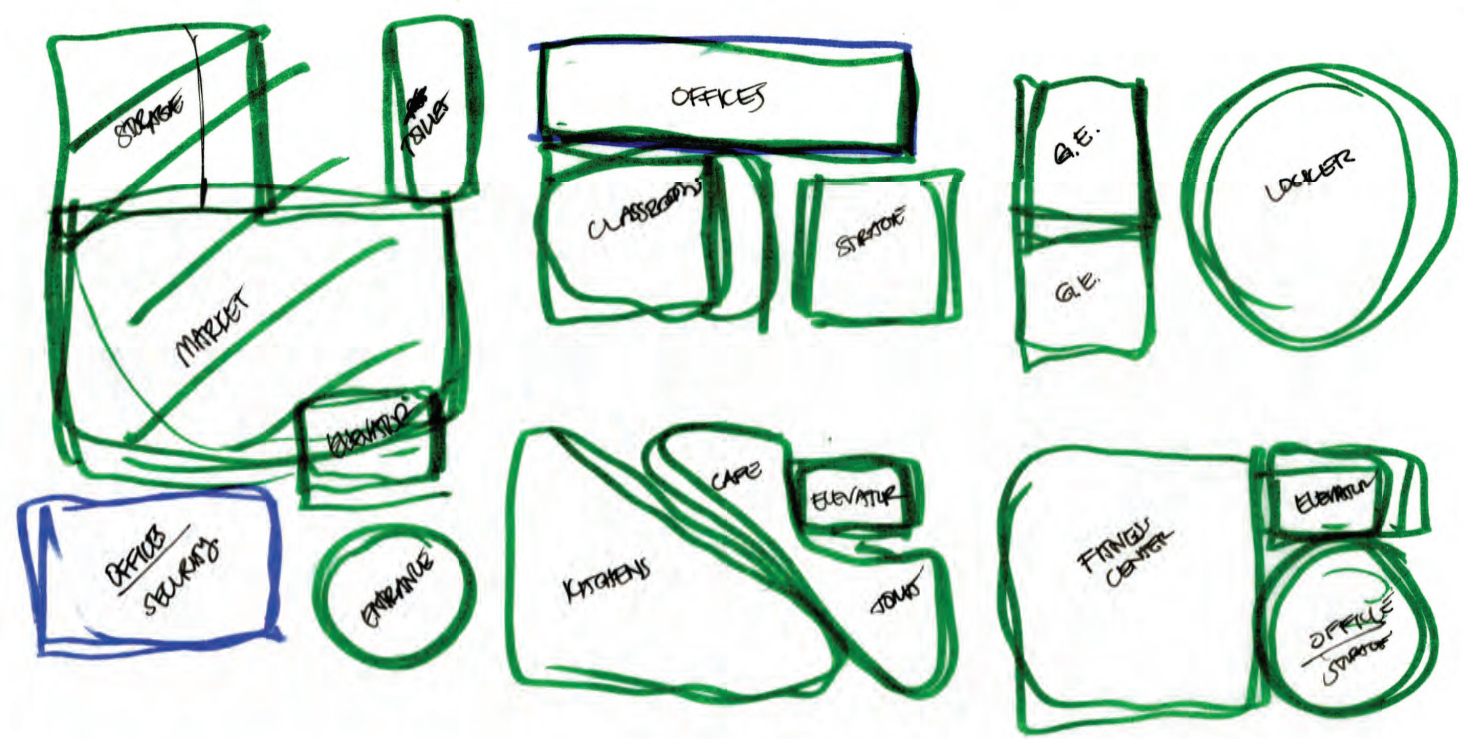
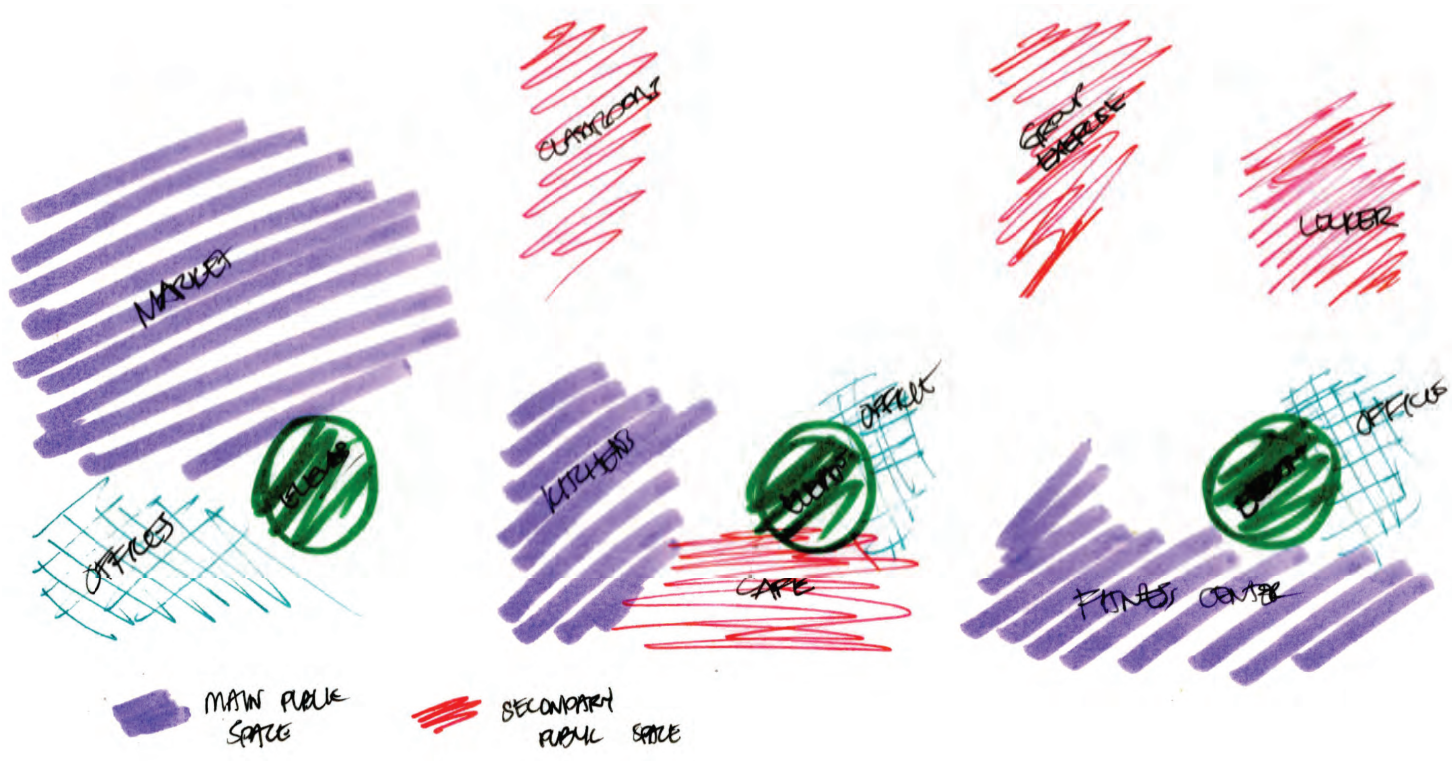


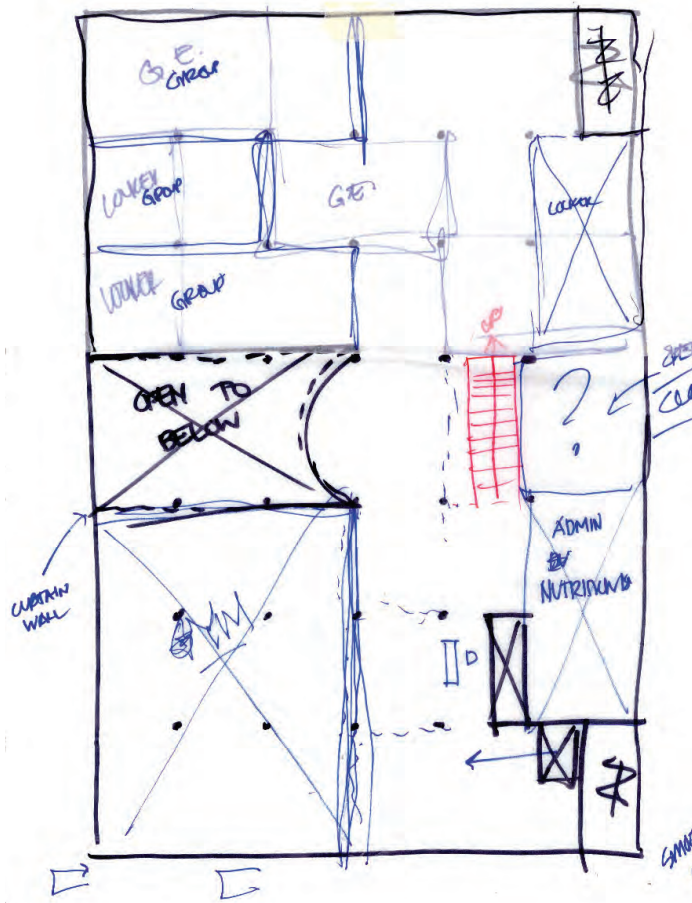
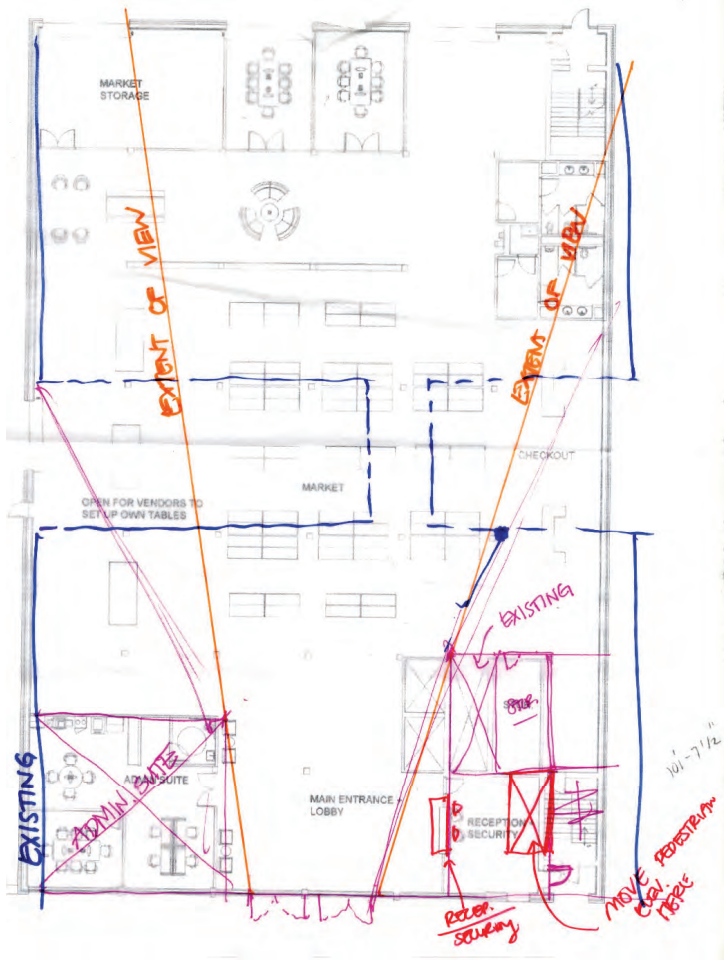
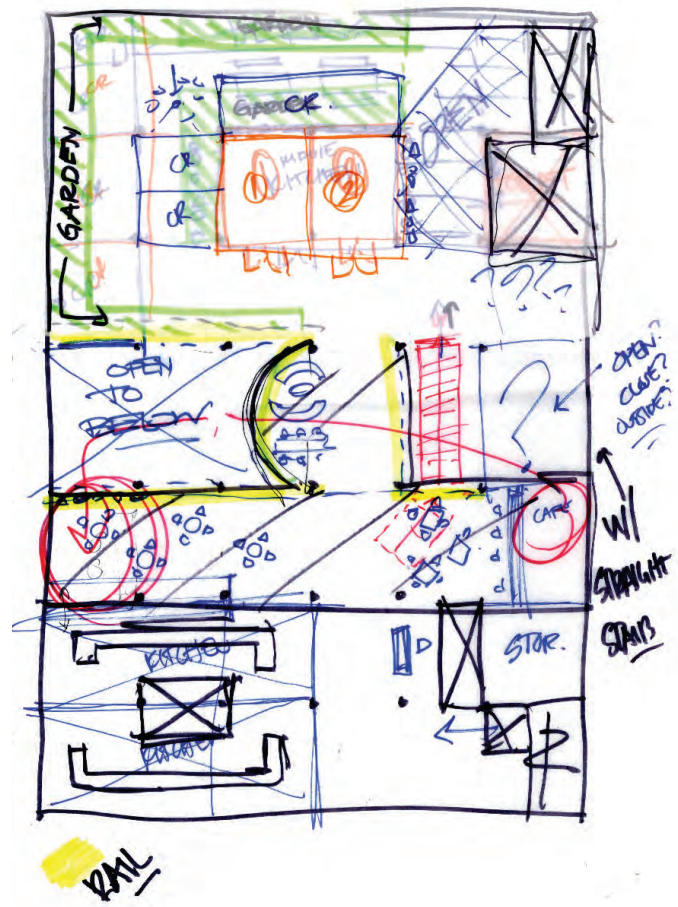
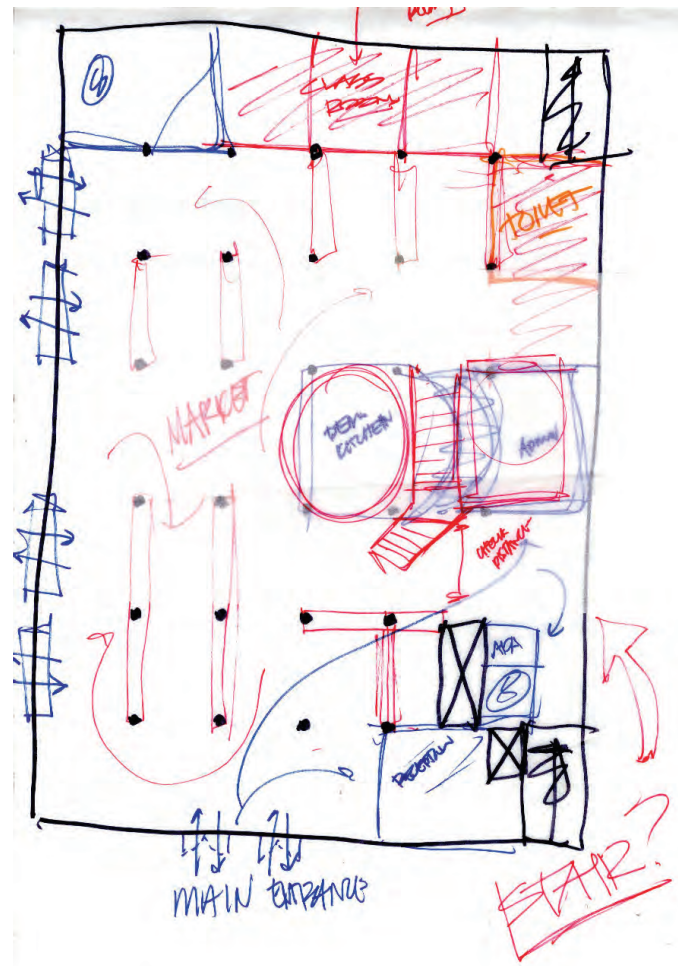
# Process

Hand-sketching was a vital part of the design and development process. The following pages are a selection of sketches starting from programming, and moving towards final design decisions.

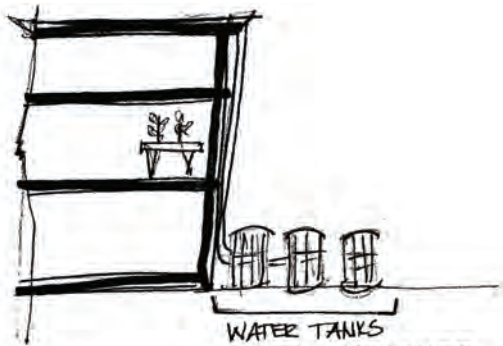












WATER TANKS  
 - COLLECT RAIN WATER  
 - CONTAIN WATER PUMP +  
 AIR STONE

OR



LED LIGHT  
 FIXTURE  
 INDIVIDUAL  
 TANKS W/  
 WATER SUPPLY

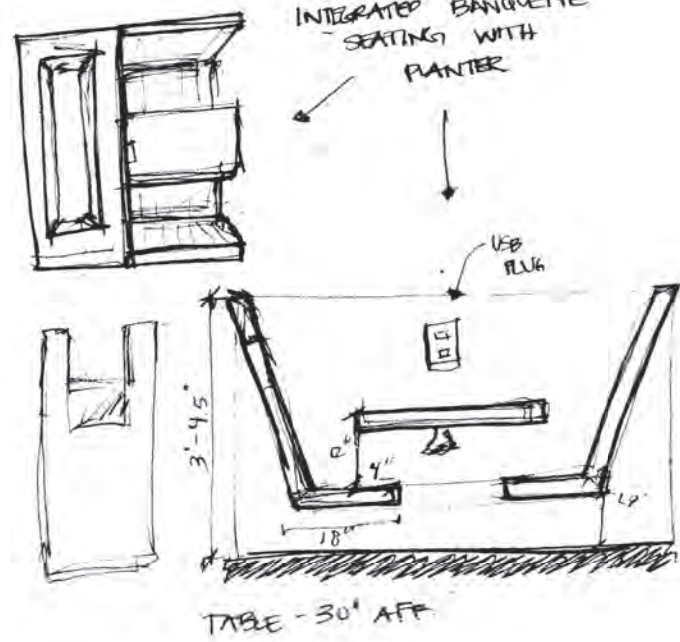
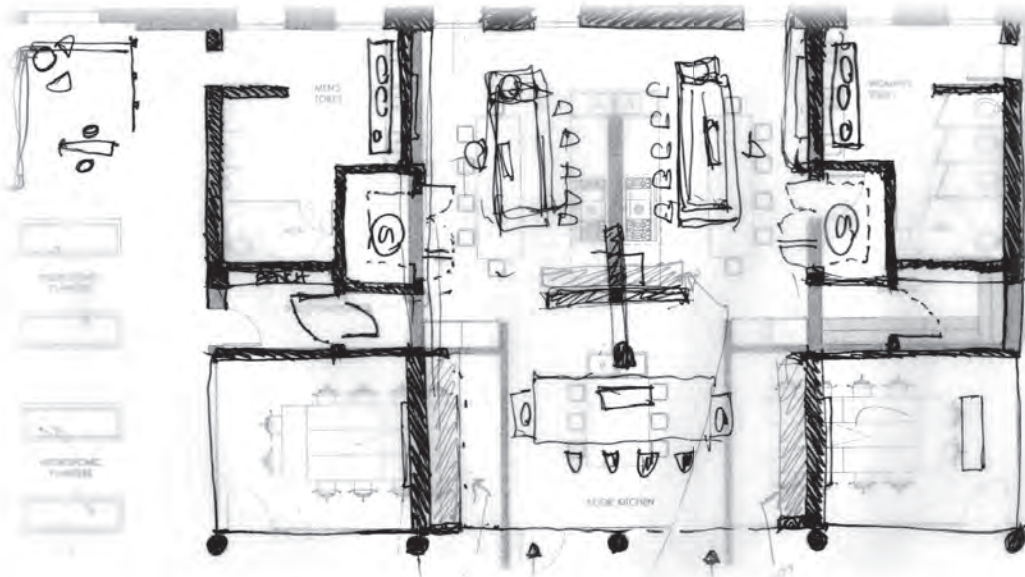
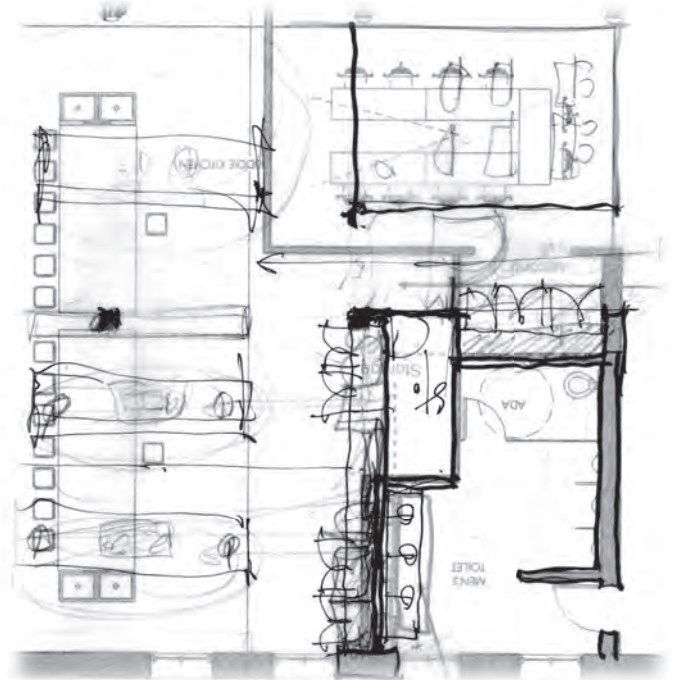
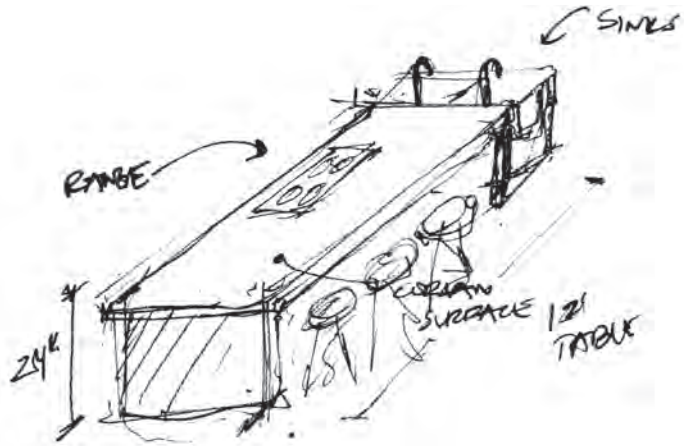
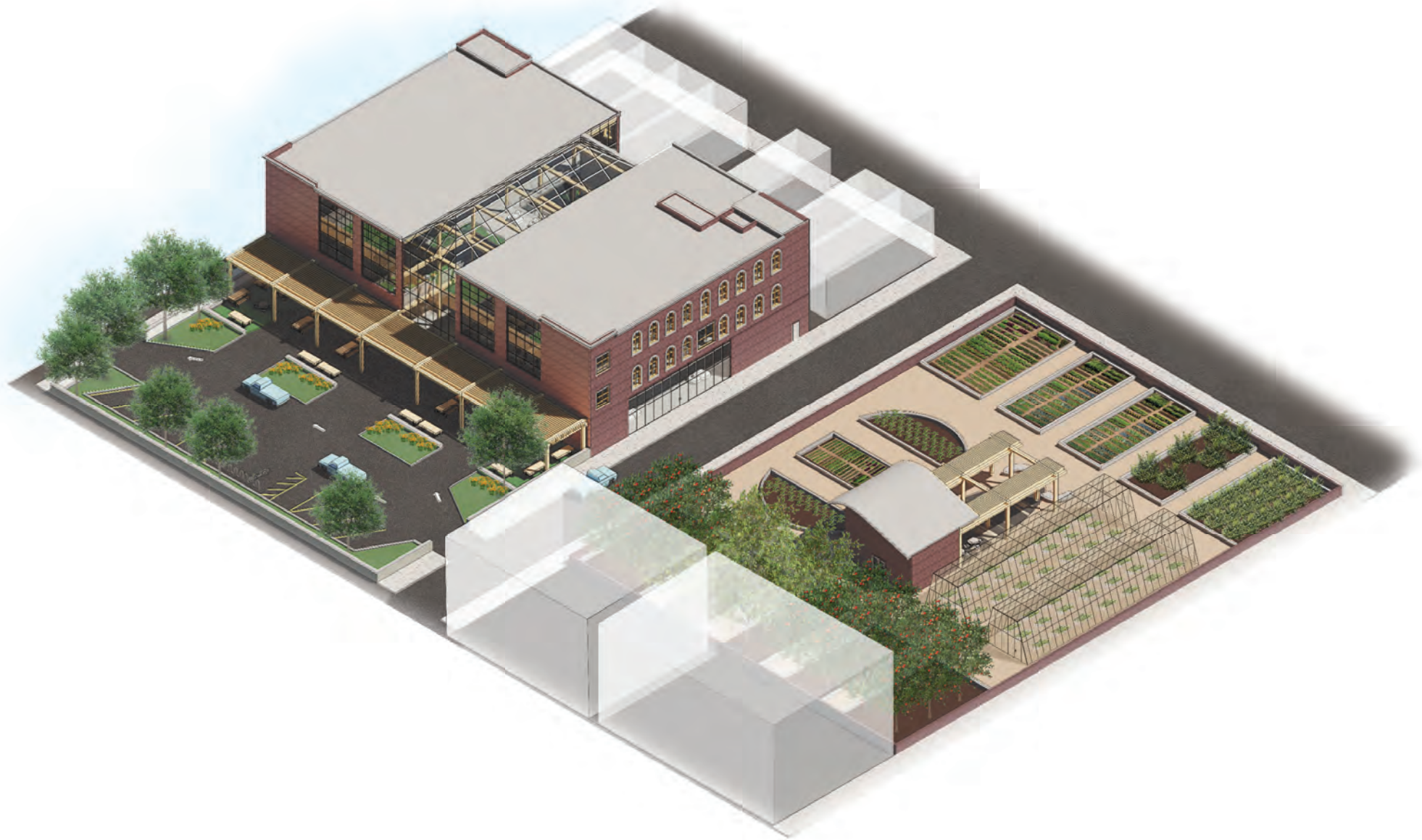


TABLE - 30\"/>

# Final Design

The following pages include floor plans, sections and perspective renderings of the final design.





Axonometric of Site (Not to Scale)

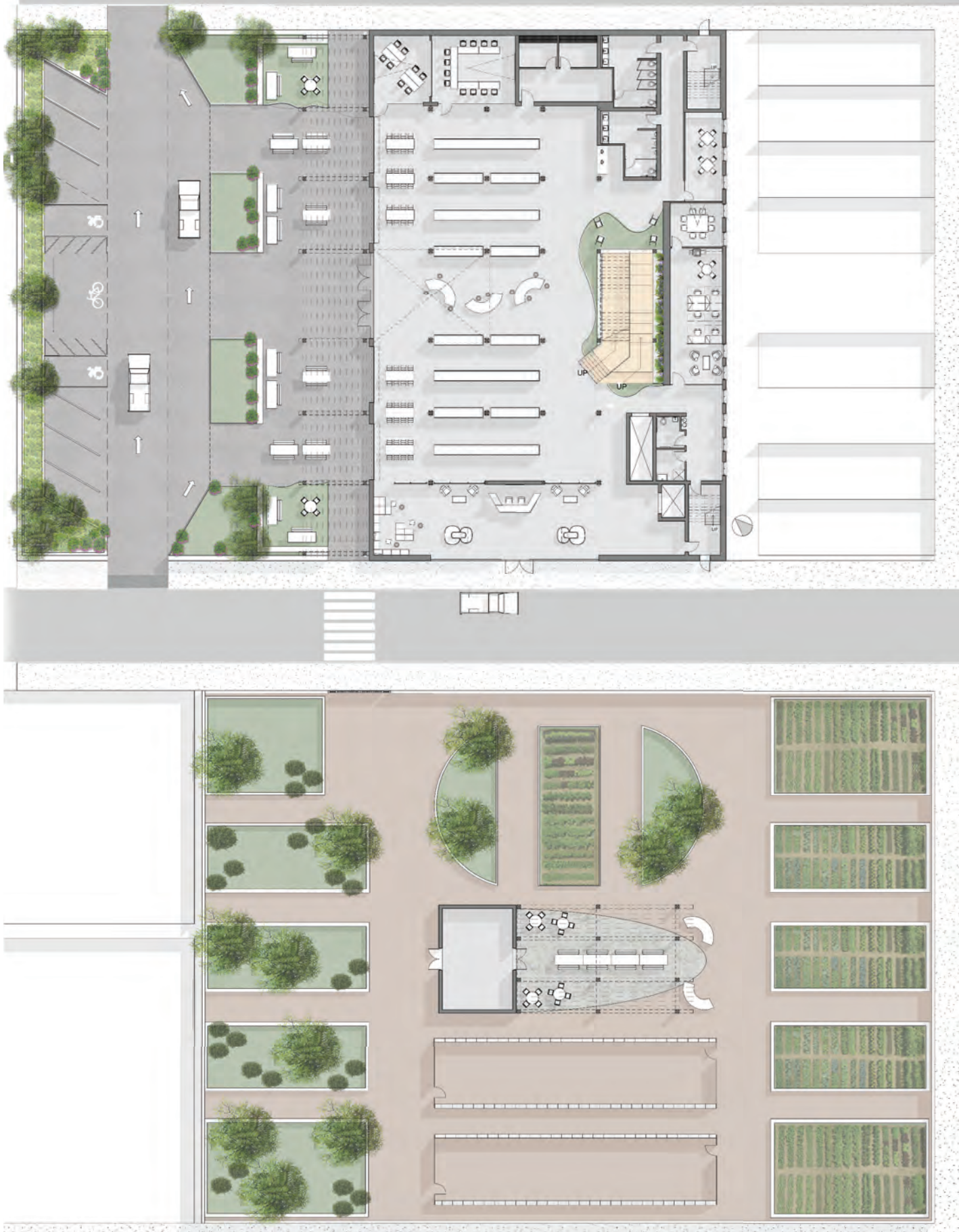






Outdoor Vendor Space + Market Entrance





Site Plan (Not to Scale)





Indoor Market





First Floor Plan (Not to Scale)

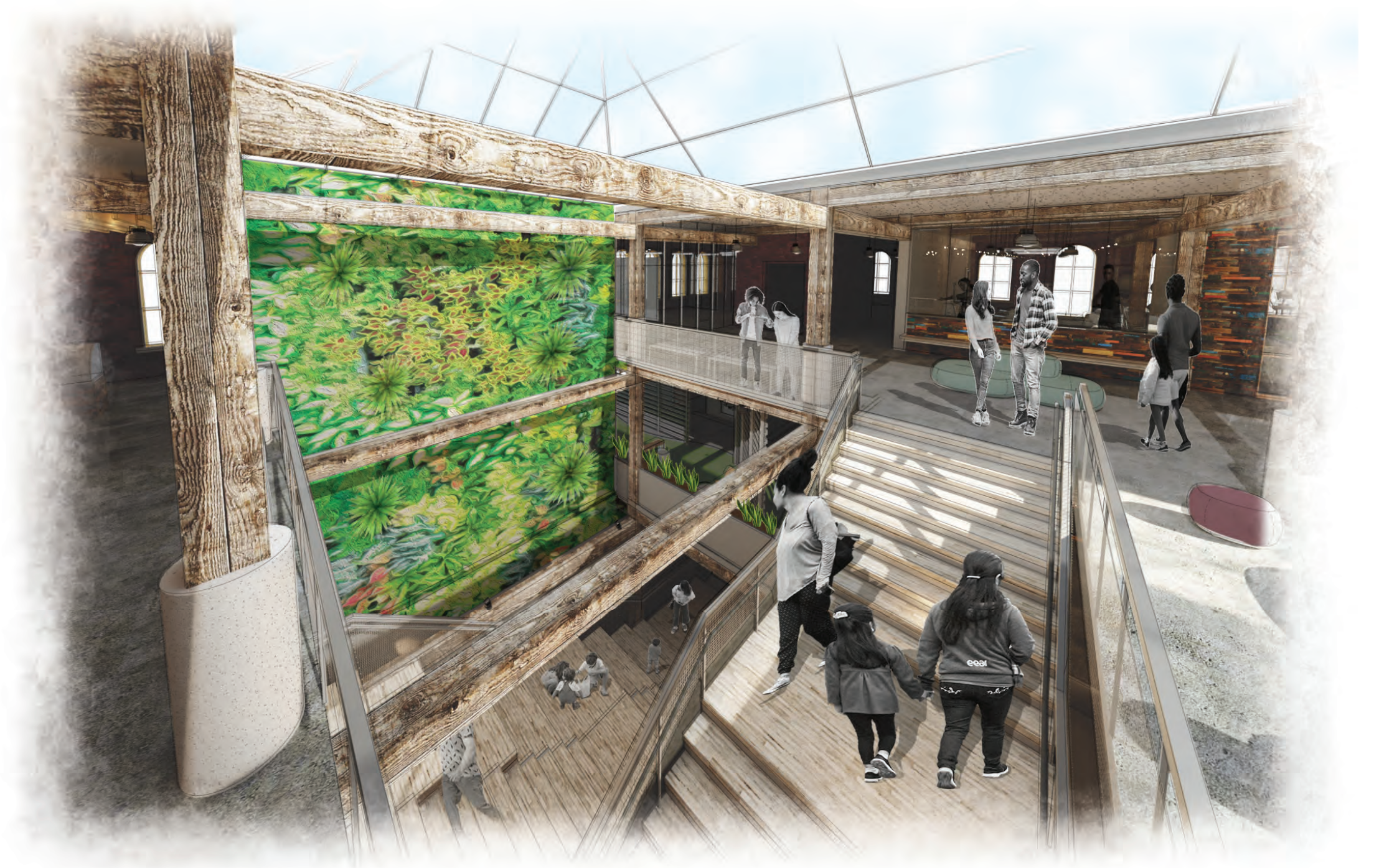


View of Market from Second Floor





Second Floor Plan (Not to Scale)



View of Central Stair + Greenwall from Third Floor





Third Floor Plan (Not to Scale)







Educational Kitchen





Market Main Entrance



Hydroponic Planters + Classroom on Second Floor





Cafe





Indoor Market

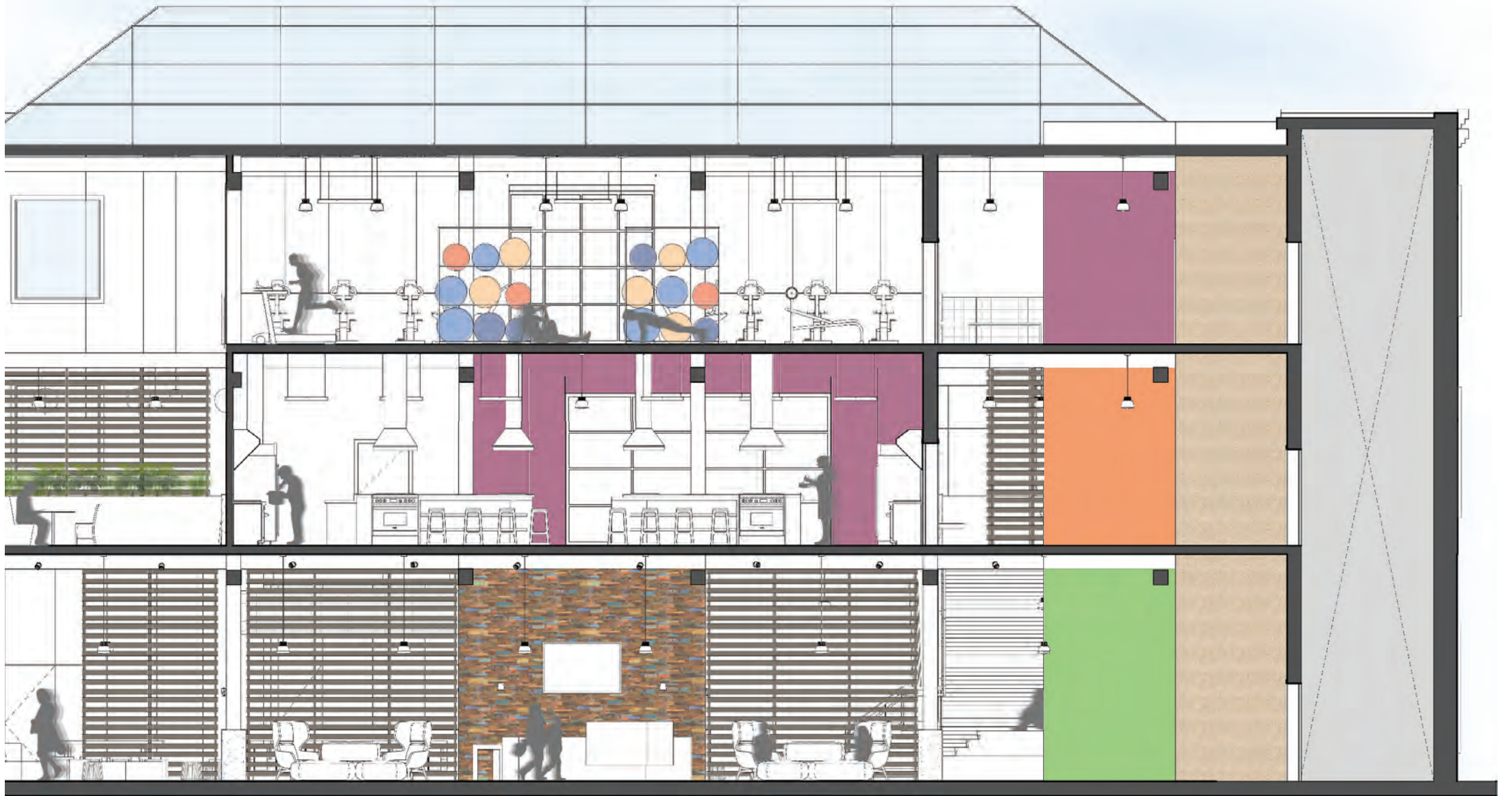




Fitness Center





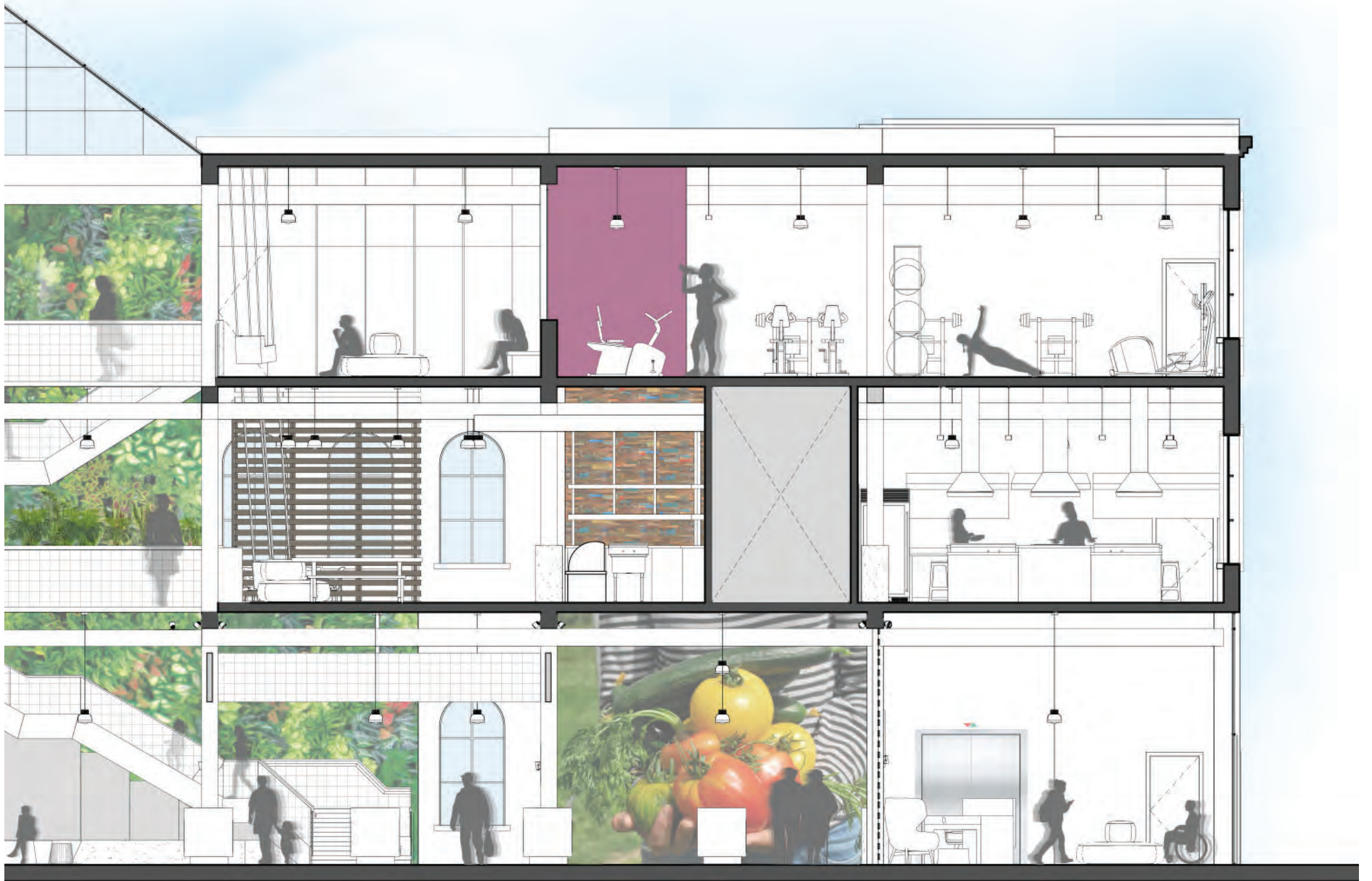


Section A-A (Not to Scale)









Section B-B (Not to Scale)



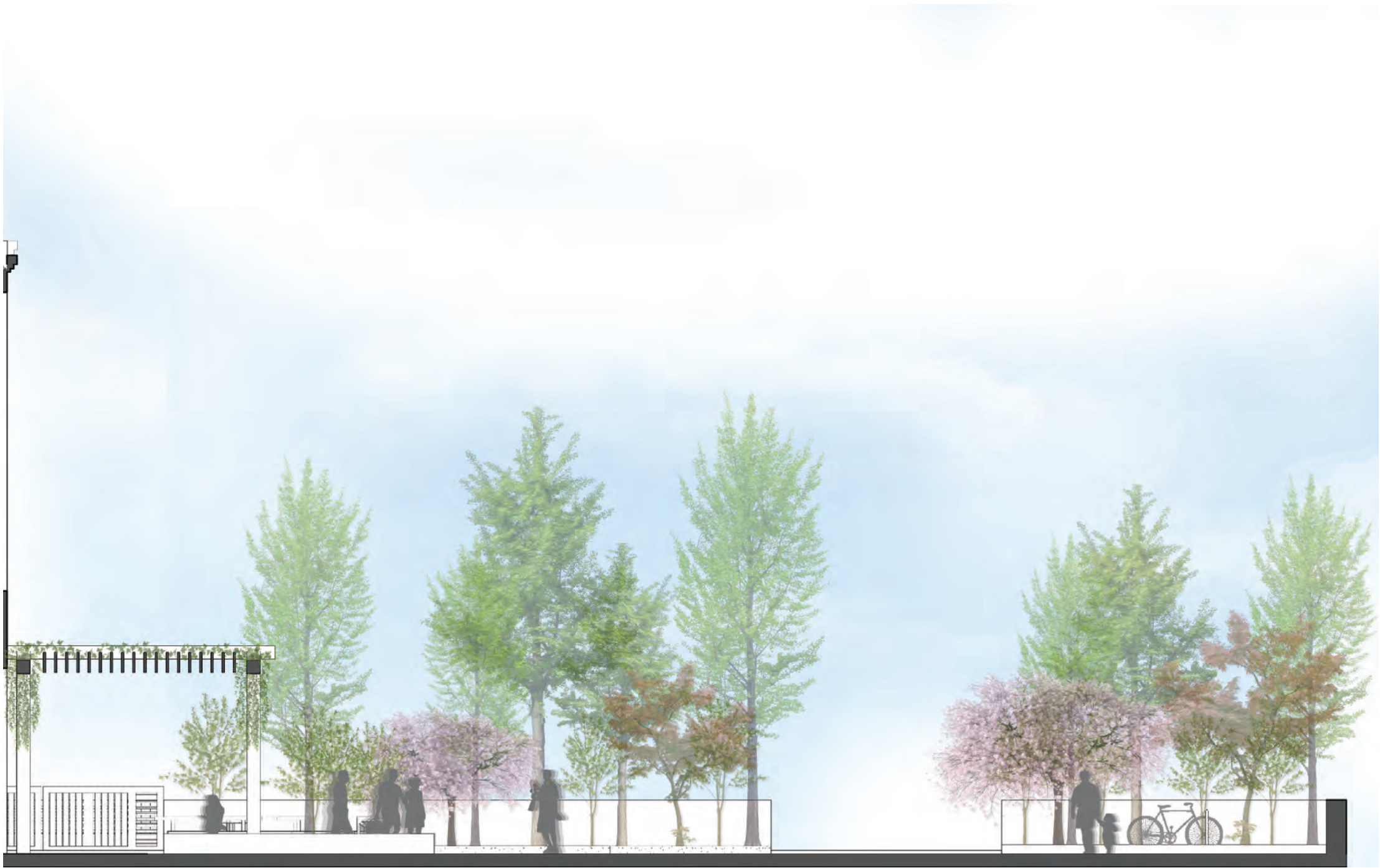




Section C-C (Not to Scale)

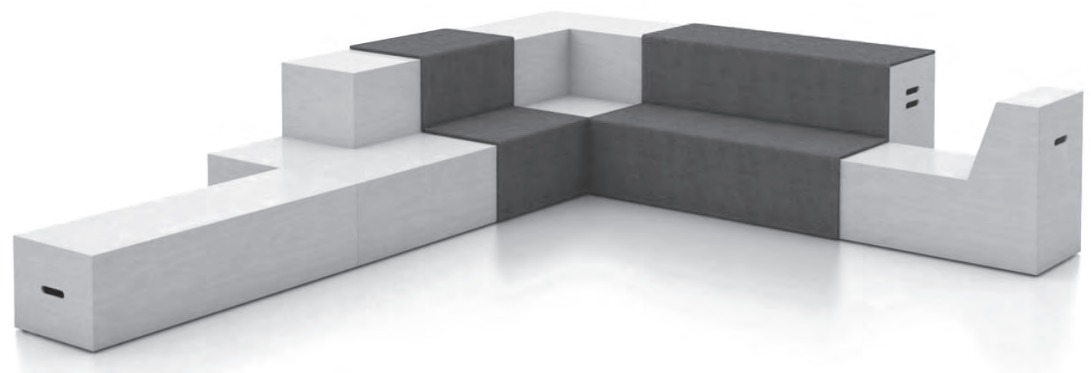


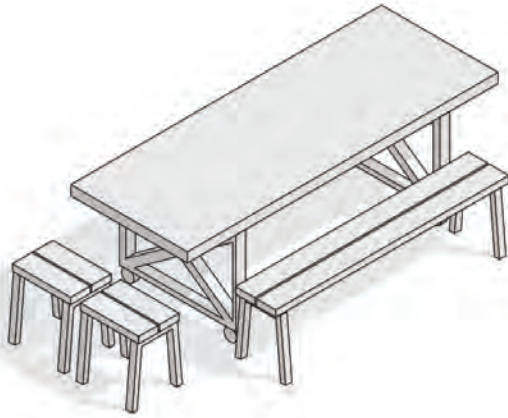




Section D-D (Not to Scale)







Since Harvest is a non-profit organization, it was important to me to keep the furniture choices humble, yet modern. Many of the pieces were chosen for their flexibility, like the Jaxon Stool in the kitchens and the Polly sled-based chair used in the community rooms and classrooms.





# Material Considerations

In order to maintain the warehouse style of the building, polished concrete, wood and metal are used throughout the space. In areas with soft seating, vinyl is applied due to its high durability. A turf flooring is used in the breakout spaces to emphasize the space as a lounge. The following page describes the materials used in this project.





- 1 Recycled cork wallcovering
- 2 Reclaimed wood stair tread
- 3 Metal finishes throughout
- 4 Polished concrete floor
- 5 Clear glazing
- 6 Vendor table laminate finish
- 7 Artificial turf flooring

- 8 Metal stair mesh
- 9 Vinyl upholstery
- 10 Kitchen finishes
- 11 White ceramic wall tile
- 12 Low VOC wall paint
- 13 Reclaimed brick
- 14 Wood accent wall tile



# Sustainability

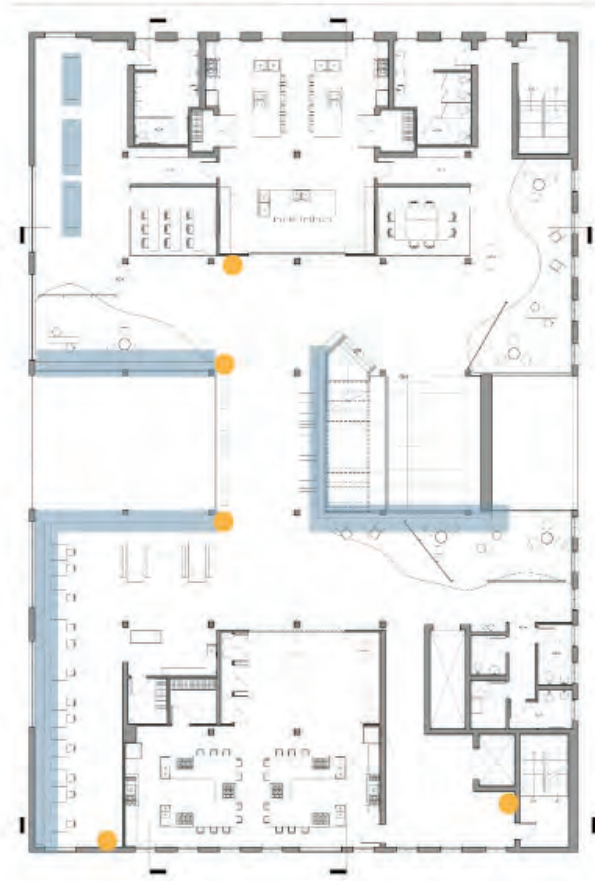
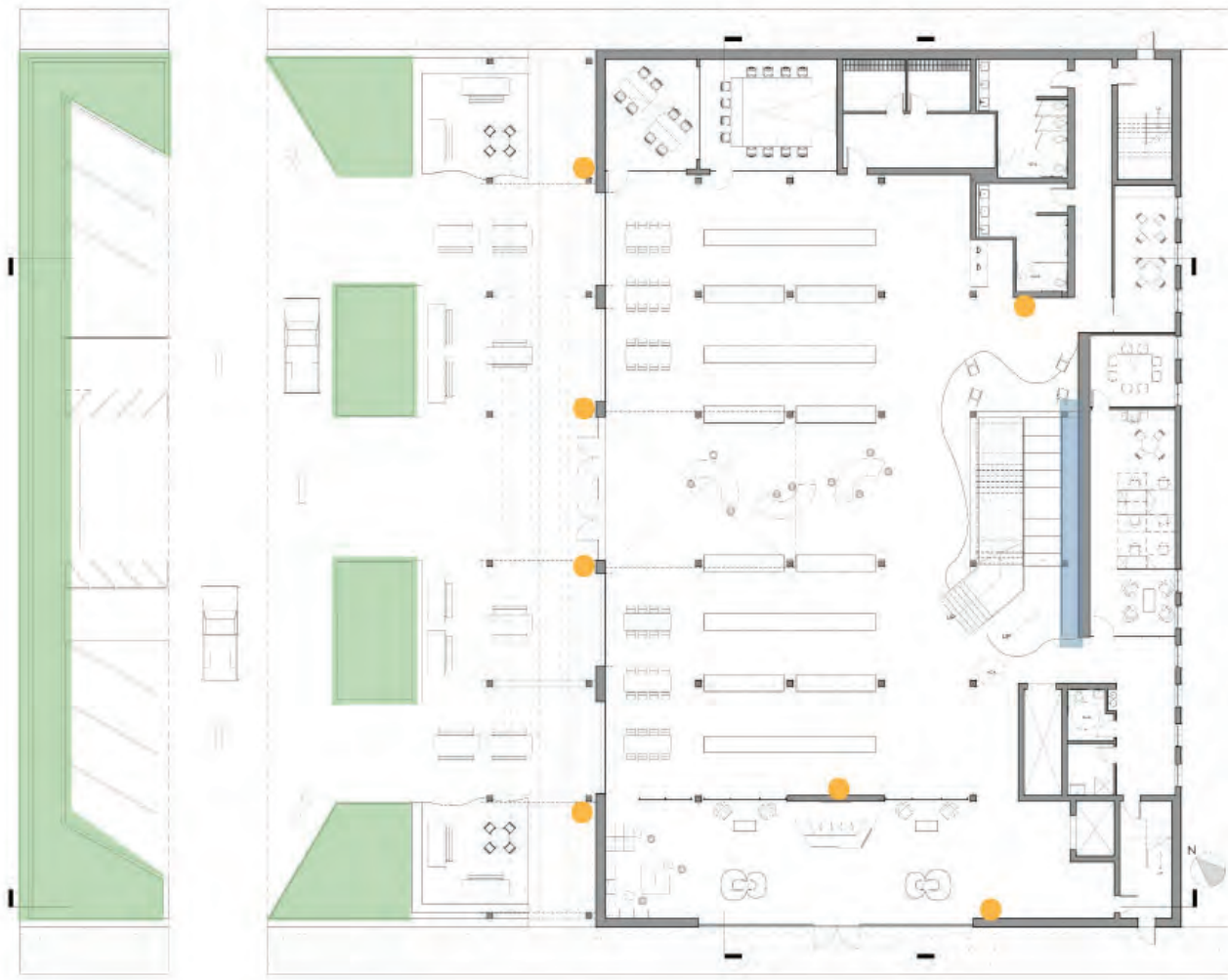
The following page depicts sustainable component opportunities in Harvest, including permeable surfaces to help with rain water maintenance, indoor planting, and locations of recycling and compost receptacles.

Permeable Surface 

Indoor plants 


Recycling/Compost 





# Wayfinding Strategy

The following page shows, diagrammatically, how signage would be placed throughout the space. I have broken down signage into four categories: restrooms, egress, administration, and amenity.

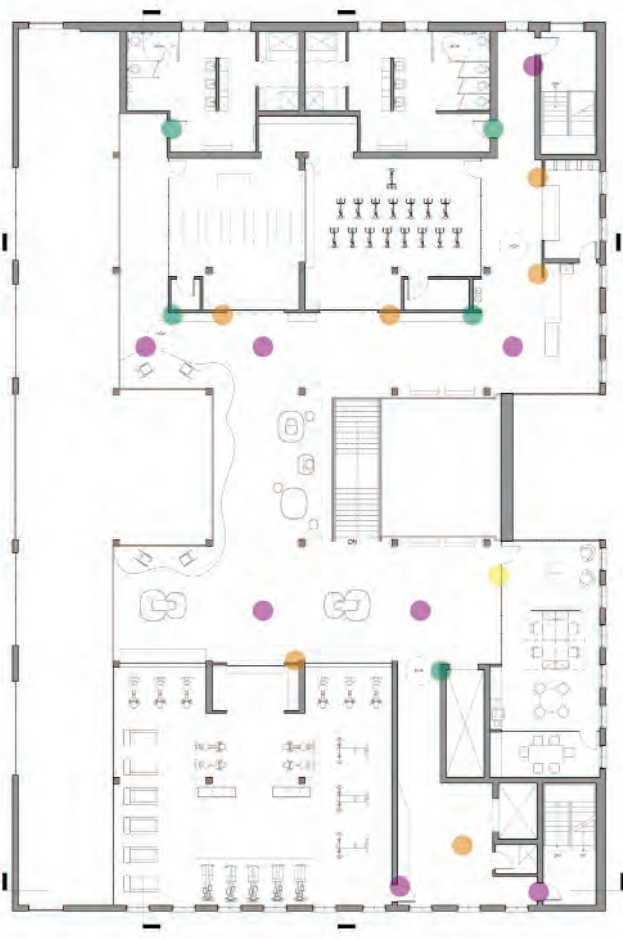
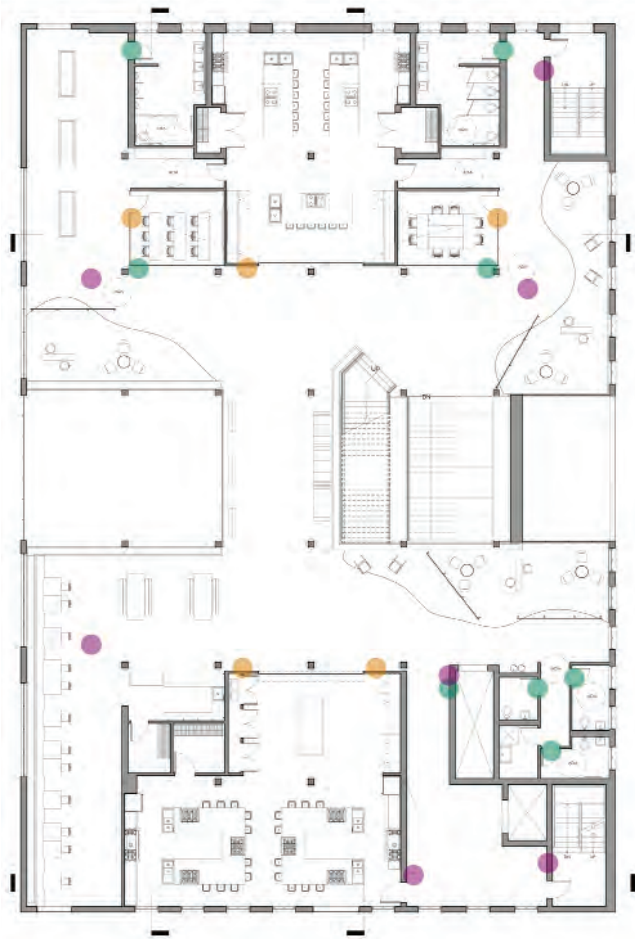
Restrooms 

Egress 

Administration 

Amenity 





# Egress + Code Review

Occupancy E: Sprinklered

Exit Access Travel Distance= 250'-0"

Minimum # Exits

Occupant Load Per Floor: 1-500= 2





TOTAL TRAVEL DISTANCE:

A - 96'

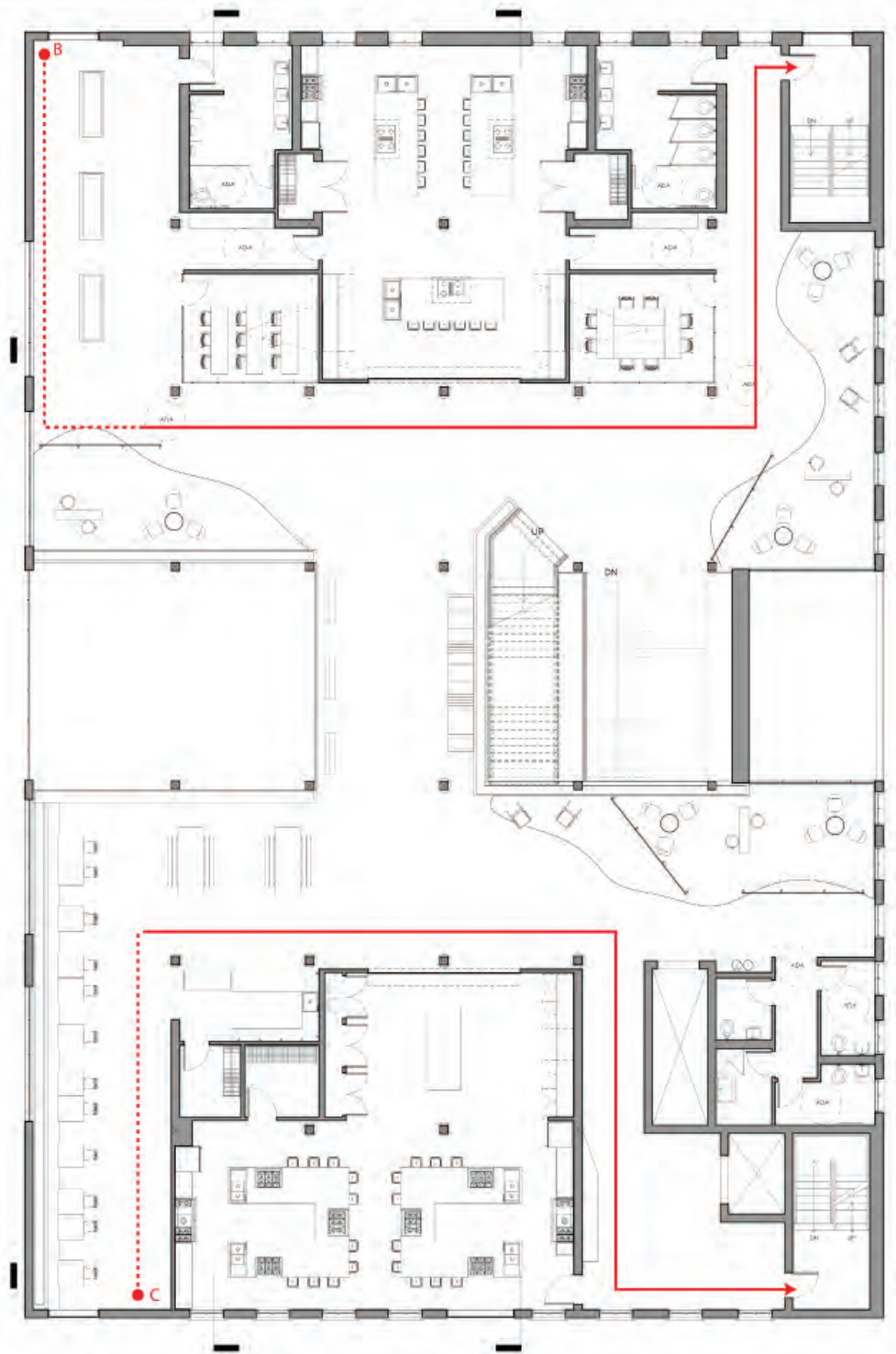
MINIMUM EXIT TRAVEL DISTANCE:

A - 66'

COMMON PATH OF TRAVEL:

A - 30'





TOTAL TRAVEL DISTANCE:

B - 158'

C - 159'

MINIMUM EXIT TRAVEL DISTANCE:

B - 42'

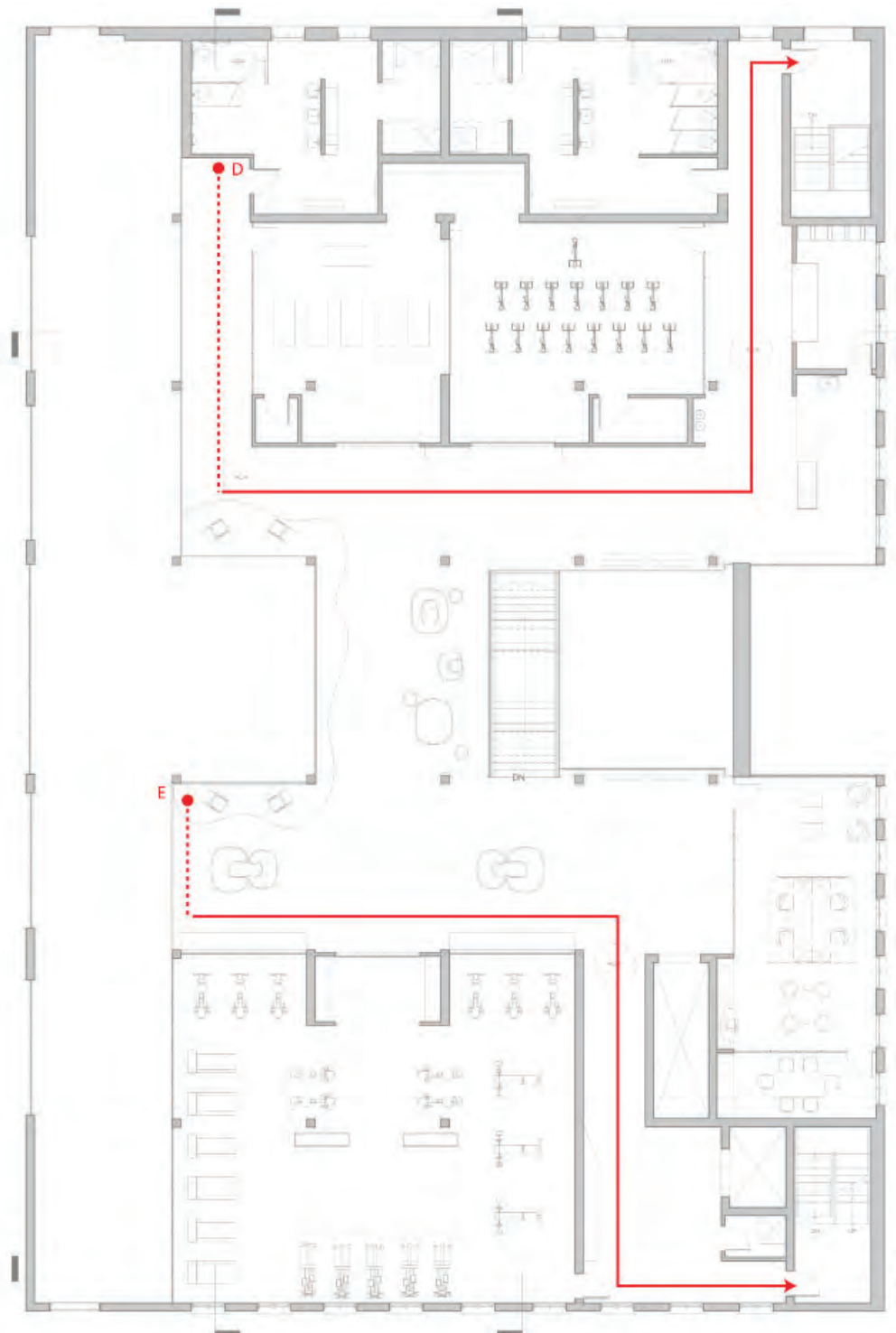
C - 46'

COMMON PATH OF TRAVEL:

B - 116'

C - 113'





TOTAL TRAVEL DISTANCE:

D - 167'

E - 130'

MINIMUM EXIT TRAVEL DISTANCE:

D - 42'

E - 15'

COMMON PATH OF TRAVEL:

D - 125'

E - 115'





# ACKNOWLEDGMENTS

This thesis would not have been possible without the help and guidance of several people. To Helen Joo, thank you so much for being my advisor. I have learned so much from you, and my thesis benefited greatly from your expertise and knowledge. I look forward to working with you in the future. To William Mangold, thank you for being such a thoughtful professor and mentor. This program is lucky to have you. To Katie Vaccaro, you have pushed me to be a better designer. I would not have even done this program without you; thank you for being a great mentor, colleague, and friend. To the Department of Architecture, Design & Urbanism, I thank you for educating me over the past five years, and providing me with professional opportunities I would not find anywhere else.

And to my studio peers (you know who you are), thank you for listening to me, encouraging me, and believing in my designs when I found it hard to believe in them myself. I am grateful that this program has brought us together in more ways than one, and will cherish these relationships for the rest of my life. I wish all of you luck in your personal and professional careers.





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Rebecca Kendra  
Drexel University | Interior Architecture + Design  
[rebeccakendradesign@gmail.com](mailto:rebeccakendradesign@gmail.com)