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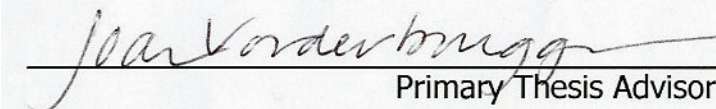
Small Business &
Entrepreneurial
Development

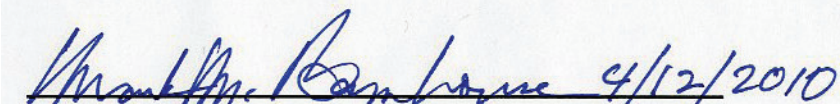
A Design Thesis Submitted to the Department of
Architecture and Landscape Architecture of North
Dakota State University

By

David Rock

In Partial Fulfillment of the Requirements for the
Degree of Master of Architecture


Primary Thesis Advisor


Thesis Committee Chair

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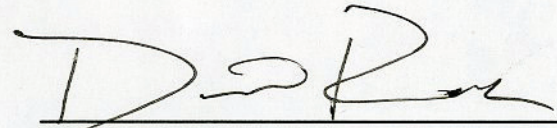
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Abstract

Can architecture redefine the American Dream by assisting immigrants to establish themselves in a community? This question stemmed from various ideas pertaining to architectural movements and their impacts on the built environment and way of life. I focused my attention to my hometown of St. Cloud, Minnesota, where immigrants seek the American Dream.

The typology is a mixed-use facility including thirty-four residential units, classrooms, commercial/retail areas, a food court, various community/public areas, vertical gardens, a market, and small business/entrepreneurial development spaces. My site is parking lot approximately 300 feet by 350 feet located in the heart of downtown St. Cloud. The building is just over 105,000 square feet. This center will aim to improve the quality of life for immigrants living in St. Cloud, as well as lessen the environmental impacts using sustainable strategies within the structure and throughout the site. Learning from our mistakes from the old vision of the 1940's American Dream, we look to find a better strategy for thinking, designing, and constructing buildings within cities.

Key Words:

Mixed-use, economic crisis, immigration, culture, American Dream, community development, small businesses, entrepreneurial development, architectural movements, built environment, sustainable strategies, constructing buildings.

Problem Statement

Can architecture redefine the American Dream by assisting immigrants to establish themselves in a community?

Statement of
INTENT

Statement of Intent

Project Typology

The project typology will be a small business incubator and an entrepreneurial development center that will embrace immigrants of different countries who make their home in St. Cloud, Minnesota. The building will be embedded in the heart of downtown St. Cloud to assist in the growth of the area.

The Claim

America has long been host to immigrants, moving away from the life of familiarity to a life full of uncertainty to seek the American Dream. The American Dream has been influenced in many different situations relating to war, the economy, and the environment. Today, American Dream is influenced by a number of different factors; the poor economy, the worsening environmental conditions, and the increasing interest to live in moderation (Florida, 2006).

Statement of Intent

Premises

The post WWII American Dream has been identified as a drivable sub-urbanism. This dream offered homes with detached garages on a spacious plot of land outside the city center making, the city less dense and more spread out (Leinberger, 2008). Today the American Dream is not about obtaining the most possessions and making the most money. Most people want a better way of life, they see a life that is wanted and not expected. One draw back in today's American Dream is that it is hard to accomplish because of the bad economy. The American Dream of today is even harder for immigrants to obtain.

The American Dream is still widely desired. The small business incubator and entrepreneurial development complex will help immigrants to obtain the American Dream. A complex like this will positively impact the local economy as well as the life of new immigrants in the area.

Providing a place for immigrants to prosper in a community will allow them to positively establish themselves in society and develop an American Dream of their own.

Conclusion

As the American Dream continues to evolve, we as thinkers, observers, discoverers, designers and architects can positively change the way people live there lives.

Project Justification

Because of our poor economy, we are transitioning towards a new American Dream. An architectural movement that can assist in the rebuilding of the world economy and reacting to the worsening environment is crucial for the prosperity of the built environment. The American Dream of today needs to apply to more than the American people; it needs to reach out and apply to all cultures in different countries all over the world.

The idea of living in the suburbs to obtain the “American Dream” is slowly coming to an end. A way of life that betters the economy and environment is starting to flourish. The past couple of years, a better way of life is hard to visualize because of our bad economy and worsening environmental conditions.

A desired change in the way people lived, worked and played was strongly sought after in the late thirties and early forties. The first World War and the depression had passed and WWII was just starting. People were ready for something different (Leinberger, 2008). A vision of a drivable sub-urbanism was put into action. People started moving to the suburbs which were connected through a series of highways and roads dominated by automobiles. Pollution started to increase and resources continued depleting. Something had to change.

Today, the American Dream is changing again. Many seek to live in a more dense situation closer to work to rely less on the automobile and more on public transportation. Living in moderation and working in a desired profession rather than a profession that produces more money and materialistic values has been gaining in popularity as well.

Among the citizens born in the U.S. seeking the American Dream, immigrants have the same equal opportunity to obtain the same goals. Immigrants have been crossing oceans and borders to obtain the American Dream for centuries. As hard as it is for some Americans to establish themselves in a community and contribute to society, it is even harder for immigrants.

Architects have the ability to change the current American Dream and develop design solutions that welcome immigrants in the area and provide a better way of life.

Thesis

PROPOSAL

Narrative

After listening to a lecture put on by Marvin Malecha, I decided to choose a site that was close to where I am living. In his lecture he talked about relevance and how we need to start solving problems that are relevant to where we are (Malecha). St. Cloud is where I was born and raised. During the eighteen years I lived in St. Cloud I have seen the city and even more so, the surrounding cities and towns grow.

St. Cloud is reaching its expansion limit in terms of land and the population which has recently been declining. The project will take advantage of a site located in the center of downtown St. Cloud. The site is a parking lot which meets one of the main roads that runs through the city. One block away sits one of the best transit stations of its size in the country.

Utilizing the location of the site, the mixed-use building will encourage growth in St. Cloud. Fresh ideas, utilizing sustainable strategies, encouraging cultural integration, and providing people with a better way of life will meet the needs relating to the growth of the city as well improving the environmental impact. Quality future planning will give St. Cloud the ability to grow without utilizing land away from the city center.

The idea behind this thesis is to redefine the American Dream for immigrants desiring a better future. Architecture can assist with the redevelopment of the American Dream for immigrants by providing a place to establish themselves in a community. This can be accomplished through architecture by allowing the spaces to transform and support a culturally diverse building.

User/Client Description

The small business incubator and an entrepreneurial development complex will be centrally located in the city of St. Cloud. The main function of the complex will help immigrants establish themselves in the community. The downtown area will be transformed from an eight-five work day to an interactive social hub throughout the week and weekend.

Residents

Affordable housing will occupy spaces above the commercial levels throughout the complex. The affordable housing units will be geared toward new immigrants in the area, immigrants opening a small business, and others who aspire to be entrepreneurs. However, these apartments will not be limited to only immigrants, but shall focus on providing a place that is affordable and culturally diverse.

Staff

An apartment manager will be available to help maintain the building and offer assistance to the residents.

Custodians and maintenance staff will have the option of living on the premises.

There will be instructors that will help teach English and develop the business skills needed to open a new business.

User/Client Description

Commercial

Commercial spaces will be located throughout the building, but mainly on the lower level floors. Within these spaces immigrants will have the opportunity to start their own business. Flexible spaces will be provided to allow for different businesses to move in and out. The focus of the commercial spaces will allow for a cultural integration of business in the downtown area.

Public

The public will be allowed throughout the commercial spaces within the complex. Seating areas will be provided for the use of clients, workers, and residents.

Outdoor courtyards and green spaces will be located throughout the site, which will allow for pedestrians to occupy the outdoor space. Interacting with the site by means of walking, running, biking, etc. will be strongly encouraged. Outdoor courtyards will also offer opportunities for nature to occupy the site.

Major Project Elements

The idea behind the small business incubator and an entrepreneurial development complex is to provide an opportunity for immigrants to establish themselves in the community. There will be a mixture of apartment units, commercial, and public spaces throughout the building to encourage cultures to mix and interact.

Residential Apartments

There will be affordable apartments for people who are single, couples, students; and families. There will be efficiencies, one, two, three, and four bedroom apartments for a variety of occupant situations.

Market

Both closed and open air markets will be located on the ground floor and expand throughout the site. The produce that will be sold in these markets will be grown in the gardens located throughout the site and complex. Other products sold in the market will be hand crafted goods from outside vendors and residents living in the building. This is an element St. Cloud has been missing.

Commercial Spaces

This area will include the main lobby space. Most of the commercial space will be located on the floors closest to the ground. Those spaces will consist of a cafe, restaurants/bar, gallery, an out door courtyard and an information center.

Green Design

Sustainable technologies will be utilized throughout the project. The natural environment will engage the built environment.

Major Project Elements

Other Amenities

- Laundry facilities
- Computer rooms
- Fitness center
- Storage space
- Underground parking
- Mail room
- Large meeting rooms/Breakout spaces
- Public restrooms
- Circulation
 - Elevators
 - Stairs
 - Escalators
- Mechanical/Electrical room
- Loading/delivery
- Class rooms
 - For residential use
 - For St. Cloud State University to utilize

Site Information-Macro



Image from Bing Maps

St. Cloud is centrally located in the State of Minnesota. Geographically, St. Cloud is in a great location. Only 73 miles Northwest of the Twin Cities, minutes from lakes, three hours Southeast of Duluth and two and a half hours from Fargo.



Image from Bing Maps

Currently, St. Cloud is surrounded by cities that are booming in population and growing by sprawling onto the landscape. On the other hand, St. Cloud is experiencing a population decline and has limited land on which to grow.

Site Information-Micro

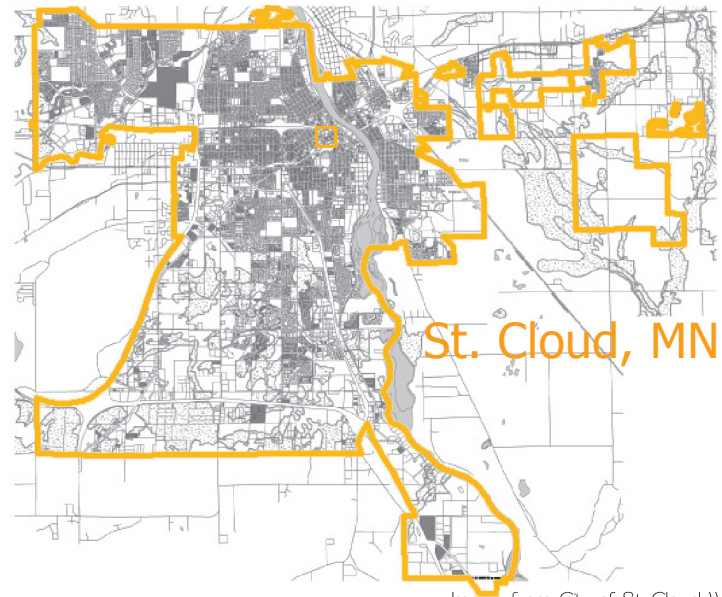


Image from City of St. Cloud Website

Outlined is the city of St. Cloud



Image from Bing Maps

The site is located between Second Street South and First Street South on seventh Avenue South and sixth Avenue South.

Site Information

Over 66,000 citizens.

Mainly occupies Stearns County but flows into Benton and Sherburne county.

Embedded into over 25,800 acres of Minnesota soil

Majority of the city falls between Interstate 94 and US Highway 10.

Surrounded by six townships: Minden, Haven, Lynden, St. Joseph, Clear Lake and Le Sauk; and five cities: Waite Park, Sartell, Sauk Rapids, Rockville and St. Augusta.

Minnesota is the largest State in the Midwest Region, which also includes: North Dakota, South Dakota, Nebraska, Kansas, Iowa, Wisconsin, Missouri, and Illinois.

In 2007, St. Cloud was recognized as having the best transit system of its size in North America

Close to St. Cloud Technical High School and St. Cloud State University

Eastman Park is located Southwest of the site on Second Street South.

The new public library is also Southwest of the site on Second Street South and Thirteen Avenue South.

Located in the central business district.

Project Emphasis

As mentioned before, the project typology is a small business incubator and an entrepreneurial development complex. Emphasis will be placed on providing immigrants with a place to prosper by re-defining the American Dream to include everyone. By providing a place for immigrants to live in a community the area will become more culturally diverse. The project will be a model that will bring inspiration to the area to assist in the re-growth of downtown St. Cloud.

Research about different cultures is important to and should show in the architecture I produce. Through research, I will seek to obtain a high-quality design relating to culture, community, and sustainable design, which will be important to the success of the project. This will assist an improvement of St. Cloud's downtown, welcoming a diverse culture throughout the commercial and residential spaces, and inviting the natural environment into the building.

Plan for Proceeding

Extensive research, using the Concurrent Transformative strategy to obtain qualitative and quantitative data is important when transitioning into the preliminary design stages of my thesis. Qualitative data will be collected through direct observation during site visits. Interviews will be used to gain knowledge of the typology as well as site information.

Collecting quantitative data will be done through research off site. This will be done by observing related case studies, collecting factual data pertaining to the site, and looking at the history of the site, climate, and architecture around the area. The St. Cloud Public Library, the Fargo Public Library and NDSU's Architectural Library will be used to collect most of the quantitative data.

Writing, building models, and sketching will be used throughout the preliminary design stages. Documentation will be done every three weeks to build from as the preliminary design progresses towards the final design. A CD with the process and final design will be made available for the college and other individuals interested in the project.

Previous Studio

Experience

Second Year

Fall 2006 271 Joan Vorderbruggen

Tea House

Location: Fargo, ND

Minneapolis Boat House

Location: Minneapolis, MN

Dwelling

Location: Bear Lake, CO

Spring 2007 272 Darryl Booker

Prairie Dance Academy

Location: Fargo, ND

Montessori School

Location: Fargo, ND

Third Year

Fall 2007 371 Ronald Ramsay

Agincourt Project

Location: Iowa

Shaker Barn Renovation

Location: Mount Lebanon, NY

Spring 2008 372 David Crutchfield

Mixed-Greens

Location: Fargo, ND

Fourth Year

Fall 2008 471 Bakr Aly Ahmed

High Rise

Location: San Francisco, CA

Life in a Cigar Box

KKE Competition

Spring 2009 472 Darryl Booker

Urban Design Project

Location: Santo Domingo,
Dominican Republic

Kigoma Educational Facility

Marvin Windows and Doors

Competition

Fifth Year

Fall 2009 771 Frank Kratky

The River Keepers Living Lab

Location: Fargo, ND

Program
DOCUMENT

The American Dream

The American Dream has been integrated into our culture throughout time, but only defined as the "American Dream" post World War I and the Depression. The dream has been related to the ownership of a house out in the suburbs on a section of land surrounded by a white picket fence. Although these ideas correlates to the dream, it is only part of the "definition," if there is one. The dream stemmed from the Declaration of Independence, which states "that all men are created equal." (Leinberger, 2008)

From what I gathered throughout my life is that the American Dream is not the definition I mentioned above. The idea of an equal opportunity may have been there, but as we progressed from an agriculturally based society to an industrially based society the dream morphed into something that can be described as, "It is not a dream of motor cars and high wages merely, but a dream of social order in which each man and each woman shall be able to attain to the fullest stature of which they are innately capable, and be recognized by others for what they are, regardless of the fortuitous circumstances of birth or position." (Geirder, 2009 pg. 1)

Prior to the Great Depression and World War I, back to the 1800's when Jefferson was president, The American Dream was viewed as living out in the country. During this time the "American Dream could be summarized by the phrase 'forty acres and a mule.' A vision inspired by the Jeffersonian image of the country being populated by yeoman farmers. At the time, the vision of the American Dream was appropriate because of the economical situation. When Jefferson was elected president, 83% of jobs were in agriculture and 90% of people lived in rural areas." (Leinberger, 2008)

At the turn of the century, agricultural jobs were still at 40%, and 60% of people were living in rural areas. In the early 20th century, post World War I, the American Dream was given its title and the switched from an agricultural ideal to a suburban ideal was created. During this time, both agricultural and manufacturing jobs were at 26% and the majority of Americans were living in metropolitan areas. (Leinberger, 2008)

The Industrial Age continued and jobs in manufacturing remained at 26% through the 1970's. The automobile made commuting easier, which made moving out of the city more desirable. A drivable suburbanism had been born. (Leinberger, 2008) Automobile manufacturing had been implemented as an economic strategy. Le Corbusier, Walter Gropius, and Mies Van De Rohe were well known architects of the time that bought into the notion of a Drivable suburbanism.

Since the emergence of the automobile, the rest of the world followed the US trend of produced automobiles. Japan followed the 1960's, Korea in the 1990's and then China in the 2000's. Each came up with their own growth and developmental strategies, but each can be related back to the US's American Dream.

A new American Dream has been slowly emerging, and now, with the world's economic struggle, we look at a different "definition," if we can put a definition to a new American Dream;

"...the right of all citizens to larger lives. Not to get richer than the next guy or necessarily to accumulate more and more stuff but the right to live life more fully and engage more expansively the elemental possibilities of human existence. That is the essence of what so many now seem to yearn for in their lives. People, even successful and affluent people, are frustrated because the intangible dimensions of life have been held back or displaced in large and small ways, pushed aside by the economic system's relentless demands to maximize yields of profit and wealth..." (Geirder, 2009).

Immigration

Legal immigration is important in today's society because it helps spread culture and gives the opportunity to live a better and more satisfying life. However, immigration is not always legal and because of that, stereotypes and a bad reputation are often applied to people of different nationalities. The U.S. has been flooded with people of different cultural backgrounds throughout the centuries. One question seems to be constantly asked: "Is Immigration a good thing?" (Christian Church, 2005)

According to a survey, opinions change during economic circumstances. For instance, in the 1990's when the economy was expanding, public opinions were more tolerant about immigration. (Christian Church, 2005). When the economy is not doing so well and jobs are hard to come by, more times than not, immigrants are blamed for taking jobs away from Americans.

Looking at overall statistics not directly pertaining to St. Cloud, I found 45.1% of immigrants move into metropolitan area of the city center and 49.8% move to the metropolitan area outside of the city center. The other 5.1% move into other non-metropolitan area (Ethnic Harvest, 2008). When looking at these facts it seems obvious to me that we need to develop the inner city to relate to immigration.

Immigrant Development

St. Cloud is not culturally diverse. When I was growing up I noticed that only a section of town near St. Cloud State University became the area where most immigrants established themselves in the community. I noticed that this was a problem even when I was younger and attending high school. This thesis will encourage St. Cloud to open its arms and welcome immigrants into the area by offering them a place to prosper economically. There has to be more than just providing someone with a shell and not providing any guidance. There needs to be educational options so immigrants are able to learn about the way a business is run.

In recent years, there have been programs providing this kind of development. The Midtown Exchange case study was the first building to provide services for immigrants wanting to receive business training, financial assistance, and community involvement. The organization that does this is the Neighborhood Development Center in Minneapolis Minnesota. Their mission "is a community-based non-profit organization that works in the low-income communities of St. Paul, Minneapolis and surrounding suburbs and greater Minnesota to help emerging entrepreneurs develop successful businesses that serve their community, and to help community groups build stronger neighborhood economy" (Neighborhood Development Center, 2009).

The future of the NDC looks to be very bright for the incoming immigrants and the surrounding communities. Similar to the Midtown Exchange building is West Broadway in North Minneapolis, which has also brought success to the surrounding neighborhood. Midtown Exchange has created over 600 jobs and has brought over 10.3 million dollars to the neighborhood. West Broadway has created 207 jobs and has brought over 3.2 million dollars to the neighborhood (Neighborhood Development Center, 2009).

Somali Culture

I started researching the Somali Culture because my problem statement was inspired by Somali immigration to St. Cloud. Observing and researching the Somali culture and St. Cloud has given me a better understanding of why the area needs a center for the development of immigrants and the community. I focused on the Somali Culture, but the building will be for all immigrants to develop and grow in the community.

Since civil war broke out in Somalia in 1991, 800,000 refugees fled the country and 29,000 Somali's landed in the U.S. The largest group of the 29,000 Somali's called Minnesota home. There has been a movement from larger cities to rural and smaller communities. Somali's are shying away from the cities in Minnesota because of the growing competition for unskilled jobs, the crime rate, the requirement to speak the English language and have a drivers license. For the Somali people the attraction to smaller communities like St. Cloud are lower levels of crime, labor shortages in the meat packing industry, jobs do not demand a high level of skill and speaking English (Edeburn, O'Neil, 2002). These unattractive and attractive factors are not the right way a community should grow and develop.

Somali people usually congregate in one area and make their home in low income apartment buildings. Through my observation of the St. Cloud area, there are certain areas somali's have gathered, but none of these areas provide adequate situations for community development and the quality of life is not desirable for there cultural needs. Privacy is very important to the Somali culture (Abdullahi, 2001). Most Somali's live in single family dwellings in Somalia, which is a challenge when thinking about a dense and vertical community.

Urban Sprawl and Sustainability

Urban sprawl is a problem that affects many cities around the world. The situation in St. Cloud is different. The area around St. Cloud has been growing but St. Cloud itself has very limited space on which to grow. This situation is very interesting to me because of the opportunities it presented. The opportunities I see are the development of the downtown area through smart urban planning and creating a stronger bond within the community using smart sustainable strategies.

Looking not only at St. Cloud, but the entire U.S., the American Dream was not the only element influencing suburban growth; local land ordinances, state policies, and federal laws and programs have also encouraged suburban growth. Some of the benefits that are attributed to suburban growth are lower cost land and housing, larger lots for residential homes, diluted congestion in the city, crime is perceived to be lower, and houses are expected to appreciate steadily (Bruchell, Downs, McCann, & Mukherji, 2005).

These Benefits that were mentioned above seem nice, but they can be achieved in a more dense urban setting. Within cities, a smarter growth plan needs to be implemented that allows for a diverse use of land. Encouraging dense mixed-use land development including educational facilities, retail, commercial, and residential will create . Dense communities encourages a variety of transportation options, promoting better health by incorporating a physical transportation option like walking or biking. Utilizing physical means of transportation along with public transportation will help the environment.

Urban Sprawl has many issues;

Loss of farm land. On a nationwide scale, "More than 13.7 million acres of farmland in the U.S. were converted to non-farm use just between 1992 and 1997, according to United States Department of Agriculture. This figure is 51% higher than between 1982 and 1992." (CWCA, n.d.)

Loss of wildlife habitat. I remember growing in a house outside of the city center, in Sauk Rapids, which is currently a suburb of St. Cloud,. At the edge of my back yard I used to have adventures in the woods. Over time, those woods were consumed and eventually replaced by homes.

Increased air pollution. Urban sprawl creates longer distances for cars to travel, creating more air pollution. "Vehicles are the number cause of air pollution in many urban areas, and a threat to public and wildlife health" (CWCA, n.d.).

Increased water use and pollution. Because vehicles drive farther the air becomes polluted and pollutes the water directly. Also, land run off and erosion from construction sites pollutes the water. Increased water consumption comes from watering lawns and other landscapes (CWCA, n.d.).

Increased energy consumption. Our major energy supplies (oil, coal, and gas) are being used at a fast pace. Unfortunately, our supply is not renewable. The energy supplies which are renewable (solar, wind, thermal) are not being used to the extent at which they should in order to conserve energy consumption (CWCA, n.d.).

SUMMARY

Research

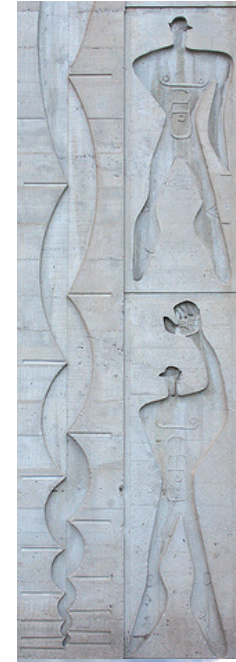
Two main areas of my theoretical premise and unifying idea have been the main focus of research: Re-defining the American Dream and applying the new dream towards a better future for immigrants. In recent years I have noticed a change in the American Dream. This might have something to do with the current economic struggles or it could be due to issues with global warming. Whatever it is, something has influenced people to change their way of life.

For my research I wanted to understand where the American Dream came from and why the idea behind it was so intriguing. Understanding the American Dream is important because it was a vision most Americans tried to make reality. In relation to the American Dream, immigration closely relates to the idea of trying to achieve a better way of life.

Through the ideas of the American Dream and Immigration to the U.S., we need to focus on the overall problem that affects us all as human beings. We need to solve issues pertaining to sustainability. How does the built environment affect the natural environment? This issue is an underlying topic that needs to be taken into consideration when trying to address an issue such as re-shaping the American dream to benefit immigrants in the community.

I looked at sustainable issues relating to my thesis topic such as urban sprawl. The idea of communities spreading across the land is an old custom relating to the post WWI American Dream. I looked into design strategies that address this issue.

CASE STUDIES



Unite d'habitation
Marseilles, France
Le Corbusier
32-39



Midtown Exchange
Minneapolis, MN
Ryan Companies US, Inc.
40-43



Co-Op Canyon
Dallas Competition
Standard Architecture
44-49

Typological

RESEARCH



Image from Flickr

Research Results

I chose Corbu's L'Unite d'habitation a Marseille, because of the time frame in which it was constructed and because of the building typology. Construction started after World War II in 1952. The project is a mixed-use building meant to embrace all aspects of the everyday life. In relationship to my studies of the American Dream, Corbu's design was very radical and bazaar at the time but had free reign because it was the first time he was able to try out his ideas on the modern-middle-income housing. (Corbusier, 1960)

The idea behind this building was very intriguing. Corbu had the idea of an "extension of dwelling." (Corbusier, 1960) Simply where one could live work and play in the same building. There were different types of apartments proposed corresponding to different needs: bachelors, couples, families of 2, 4, 6, and more children. (Gans, 2006)

Corbu had many sustainable features in his building. Site orientation, which allows for cooling in the summer and warmth in the winter. Also included is the idea of a "vertical-garden city," which will suppress waste, take charge in domestic tasks and organizes. (Gans, 2006)

Implementing prefabrication in the dwelling units, a roof top garden, horizontal sun-break and balcony windows to assist with the manipulation of breezes and shade naturally have been incorporated in the design. (Gans, 2006) The idea of collaborating all functions of the everyday life will also help people save money by driving to and from work and the store.



Image from Flickr



The concept of the structure is made out of site cast concrete. The functions of the building sit on top of a Floating Floor, which is about 410 ft in length and 73 ft in width. The floating floor is held up by a series of massive hollow pilotis. The hollow pilotis gathers and supports systems of supply and waste. The frame itself is meant to stand alone and the apartments themselves are meant to stand without the frame. (Gans, 2006)



A large "main street" half way up the building is articulated by vertical lamellas. The main street was intended to be one large store. There is a separate entrance for the Main Street that is attached to the North side of the building. The main entrances to the other parts of the building are extruded from the floating floor and onto the side walk on the site.



Images (French, 2008)

Site plan
 1 pedestrian entrance from Boulevard Michelet
 2 car entrance and exit
 3 parking
 4 main entrance
 5 entrance hall and lifts

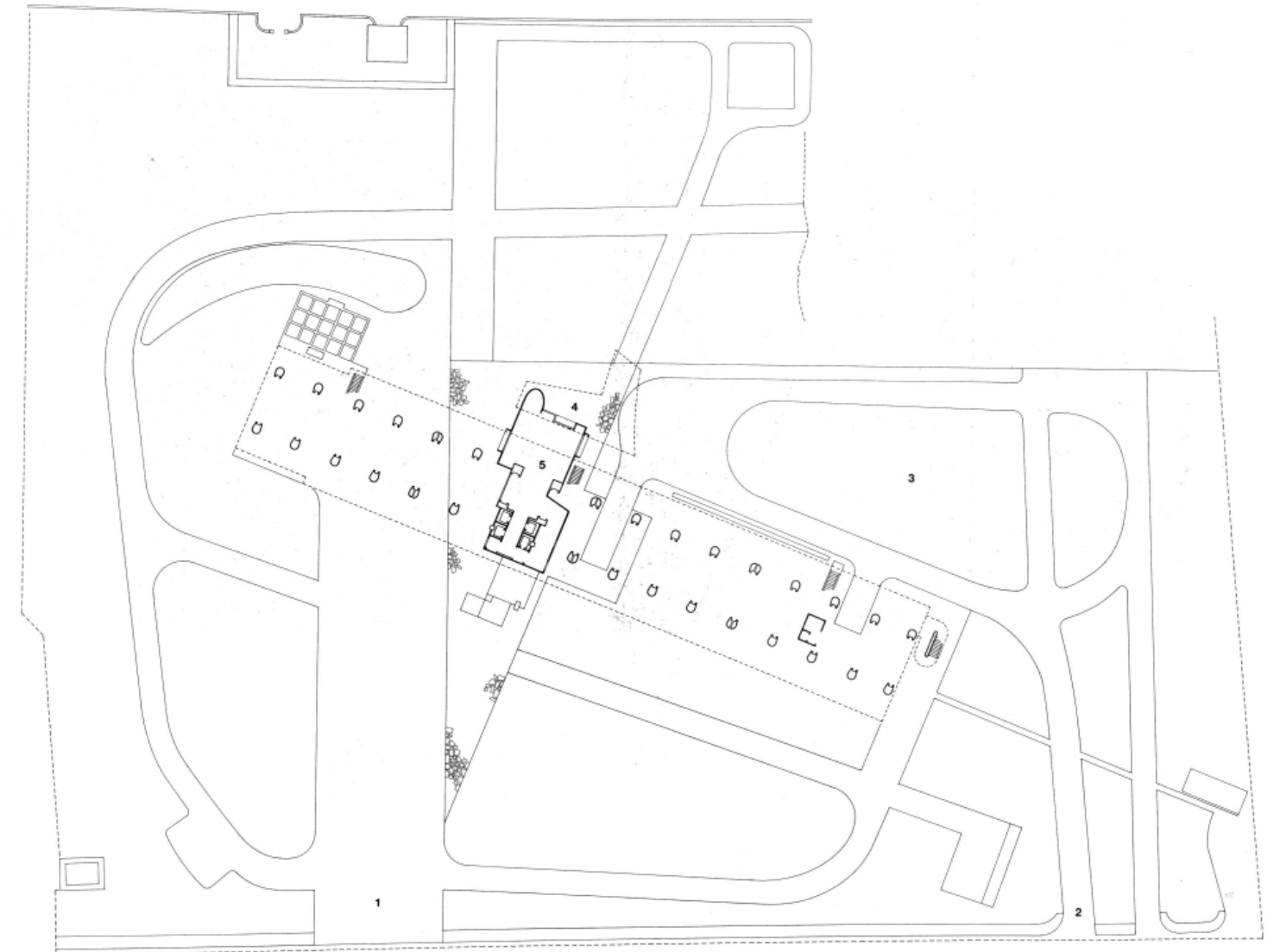
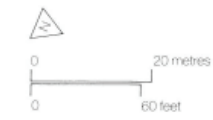
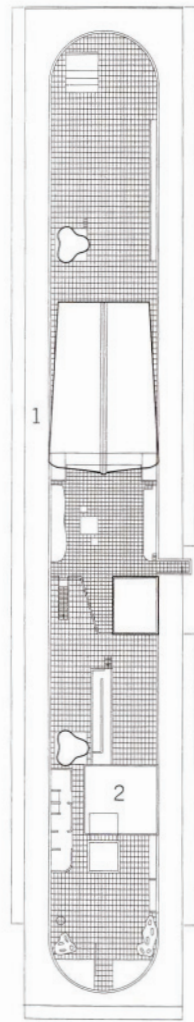
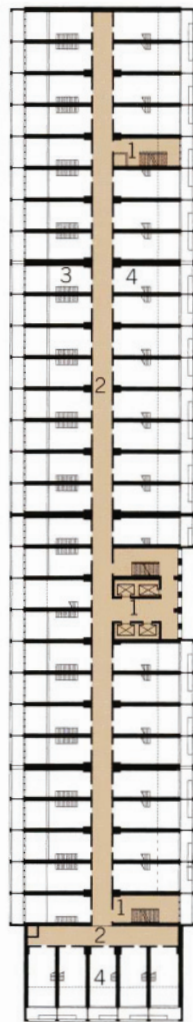


Image (Jenkins, 1993)

2



3



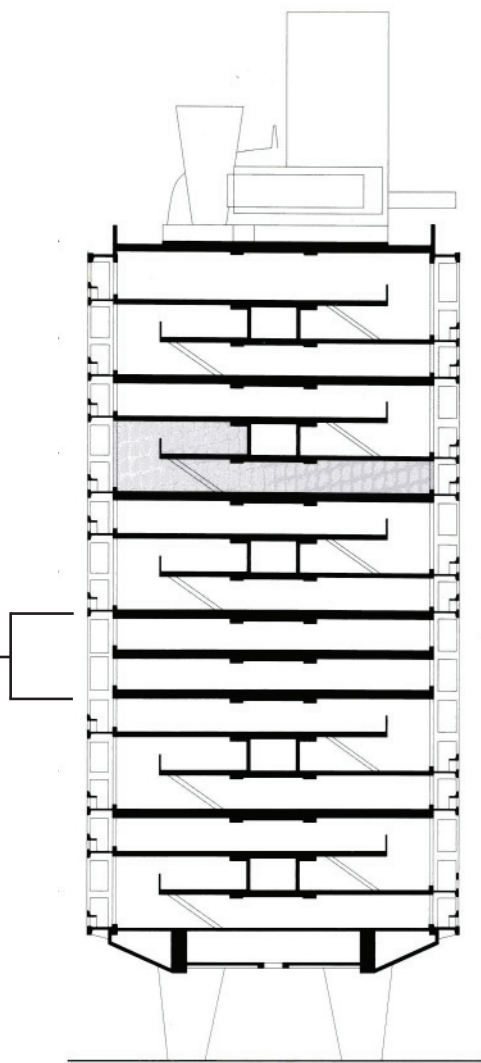
2 Roof plan 1:1,000

- 1 Running track
- 2 Paddling pool

3 Plan of typical access floor 1:1,000 Levels 2, 5, 10, 13 and 16

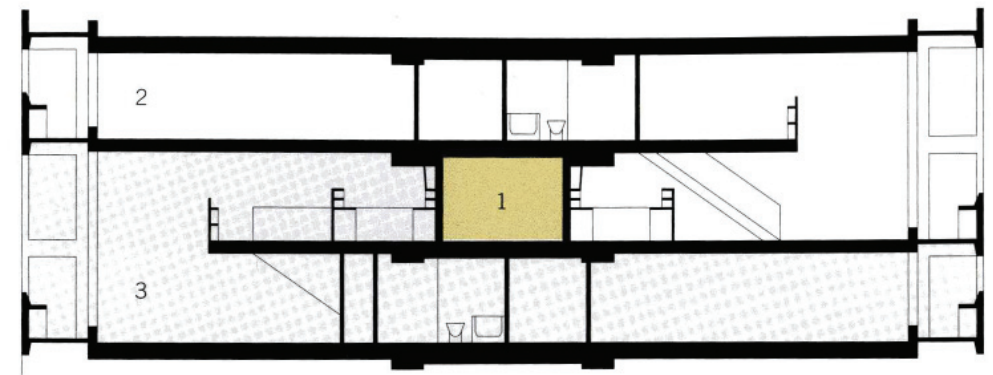
- 1 Lifts and stairs
- 2 Access corridor
- 3 Upper level of lower maisonette
- 4 Lower level of upper maisonette

"Main Street"



Images (Jenkins, 1993)

7



7 Pair of maisonettes for family with 2-4 children Section 1:200

- 1 Access corridor
- 2 Upper maisonette
- 3 Lower maisonette

8



Pair of maisonettes for family with 2-4 children Plans 1:200

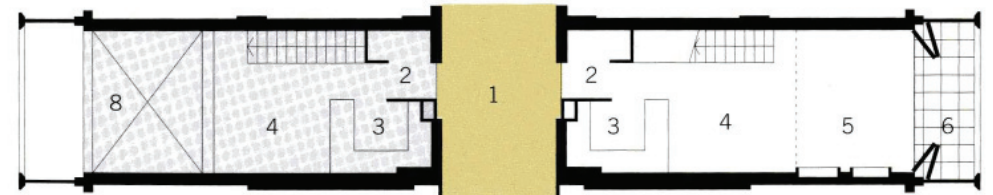
8 Upper level

9 Middle level with access corridor

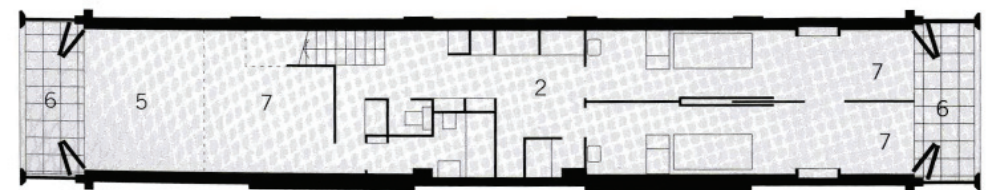
10 Lower level

- 1 Access corridor
- 2 Hall
- 3 Kitchen
- 4 Dining/living
- 5 Double-height living
- 6 Balcony
- 7 Sleeping
- 8 Void over double-height living

9



10



Images (Jenkins, 1993)



Image from Flickr

Conclusion

This idea of collaborating all functions of the everyday life was revolutionary in its time but did not seem to catch on. This building's plan can assist with solving the issue of urban sprawl and other issues pertaining to consumerism and living the post World War I American Dream.

I also see the potential for immigrants establishing themselves in a new community. Utilizing the concept of a main street and vertical gardens will help establish a diverse culture for the people living the building. If this building was built today, it would be a success and could be used as a building block for the future of rebuilding the way we live as a community throughout the building as well as the city.



“Almost half of the former Sears building has been redesigned into residential space, which includes 219 units of affordable and market-rate rental housing and 88 for-sale historic lofts and condominiums. In an effort to promote the ethnic diversity and community and economic development in the local neighborhood, nonprofit organizations worked together to develop the 72,000-square-foot Midtown Global Market located on the first floor of the Midtown Exchange. As the largest and the only internationally-themed public market in Minnesota, the Midtown Global Market offers fresh foods, restaurants and arts and craft items from around the world.” (EPA, 2006)

Programmatically, Midtown Exchange is very similar to Unite d’Habitation. Both buildings consist of a range of residential housing, commercial spaces, hotel rooms and the idea to build a stronger community within the building as well as the surrounding community.

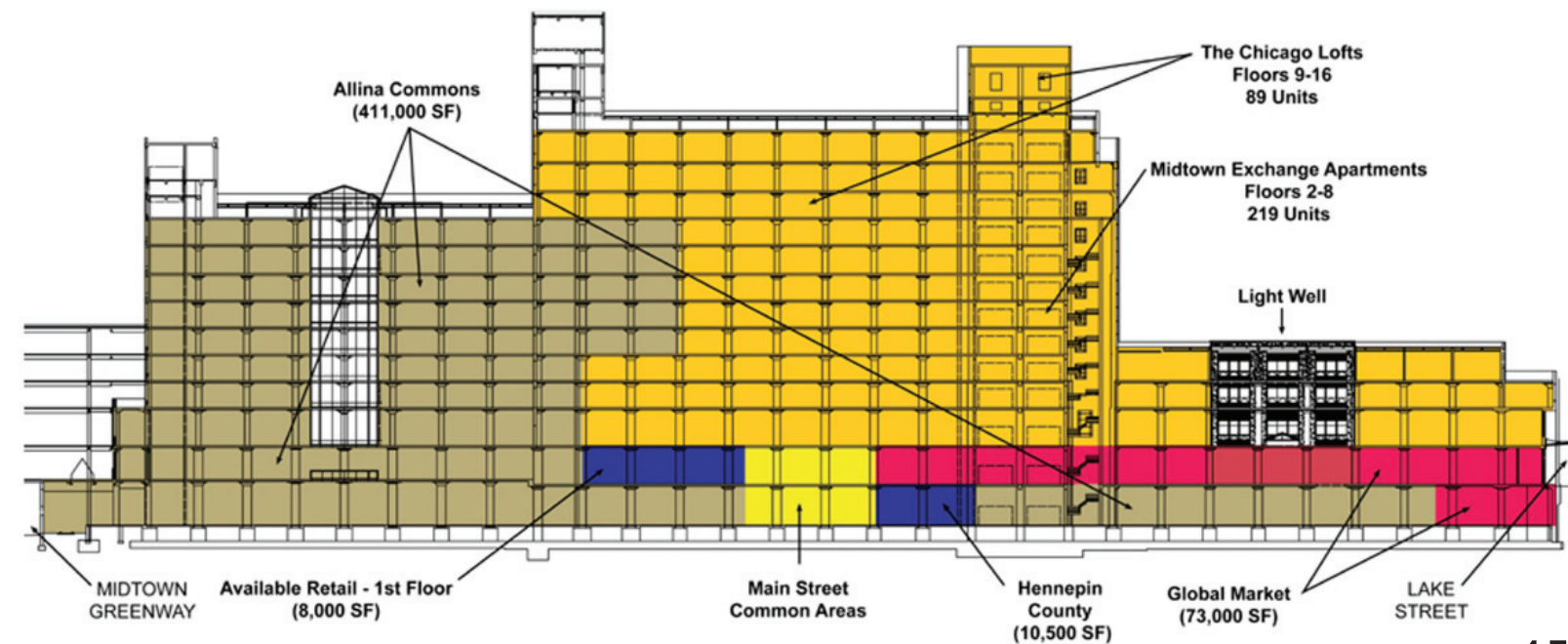
Information and image (EPA, 2006)

Research Results

The building currently sits on 10.8 acres along Lakes Street and Chicago Avenue South. It is approximately 1.2 million square feet. Its current use consists of Residential, commercial, office space, a hotel, new transit facility, and houses the Midtown Global Market.

The purpose for choosing this project was to gain knowledge about the integration of the different cultural aspects within the structure. The building was originally built in the late 1920’s. Until 1994, Sears Roebuck & Co occupied the building. The building remained vacant from 1994 to 2001. The city of Minneapolis acquired the site in 2001. Shortly after, in 2004, Ryan Companies received full rights to the site and started construction.

Vertical Mixed Use



Information and image (EPA, 2006)

Spatial development

Allina Commons (411,000 SF): The anchor tenant at the project, bringing 1,850 jobs to Midtown Exchange.

Midtown Global Market (71,000 SF): Designed to involve local ethnic businesses and entrepreneurs, providing 200 jobs.

Hennepin County Service Center (10,000 SF): Providing convenient access to governmental services for the community.

Additional retail/service space (12,000 SF.): Tenants to be identified, adding an estimated 30 jobs.

Hotel: 136-room, full-service Sheraton® hotel, approximately 70 new jobs.

Parking: 1,900+ spaces on site.

Housing:

- Townhomes: 52, average price \$175,000.
- Condominiums: 88 loft-style, one and two-bedroom units, average price \$240,000.
- Rental apartments: 219 one- and two-bedroom units, rents \$650-\$1,075

The community around the area has been positively impacted since the opening of Midtown Exchange. More than 100,000 people visit each month. Crime has gone down twenty-five percent in the surrounding neighborhood.

The Midtown Global Market, which is within the Midtown Exchange building, offers "emerging entrepreneurs training, financing and ongoing technical assistance, helping build their economic future." (Midtown Global Market, 2009)

Conclusion

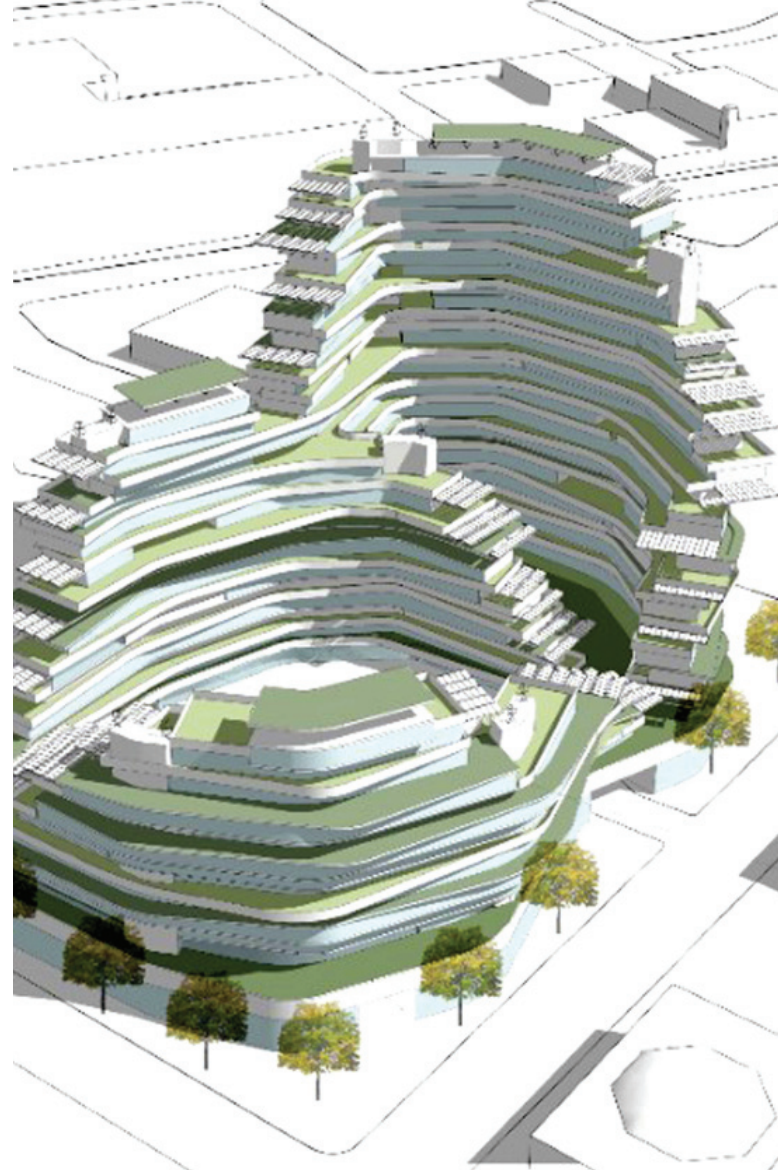
I chose this building for a number of reasons that were listed above, but the main reason was because of the spatial development that has been implemented throughout the building. Since I first started thinking and writing the SOI and the Proposal, I envisioned a program like this building. My site does not allow for me to re-use a building. I will have to draw inspiration from this project and apply my knowledge acquired through my research in order to develop a design specifically for my site.



Images from Flickr

Image from Flickr





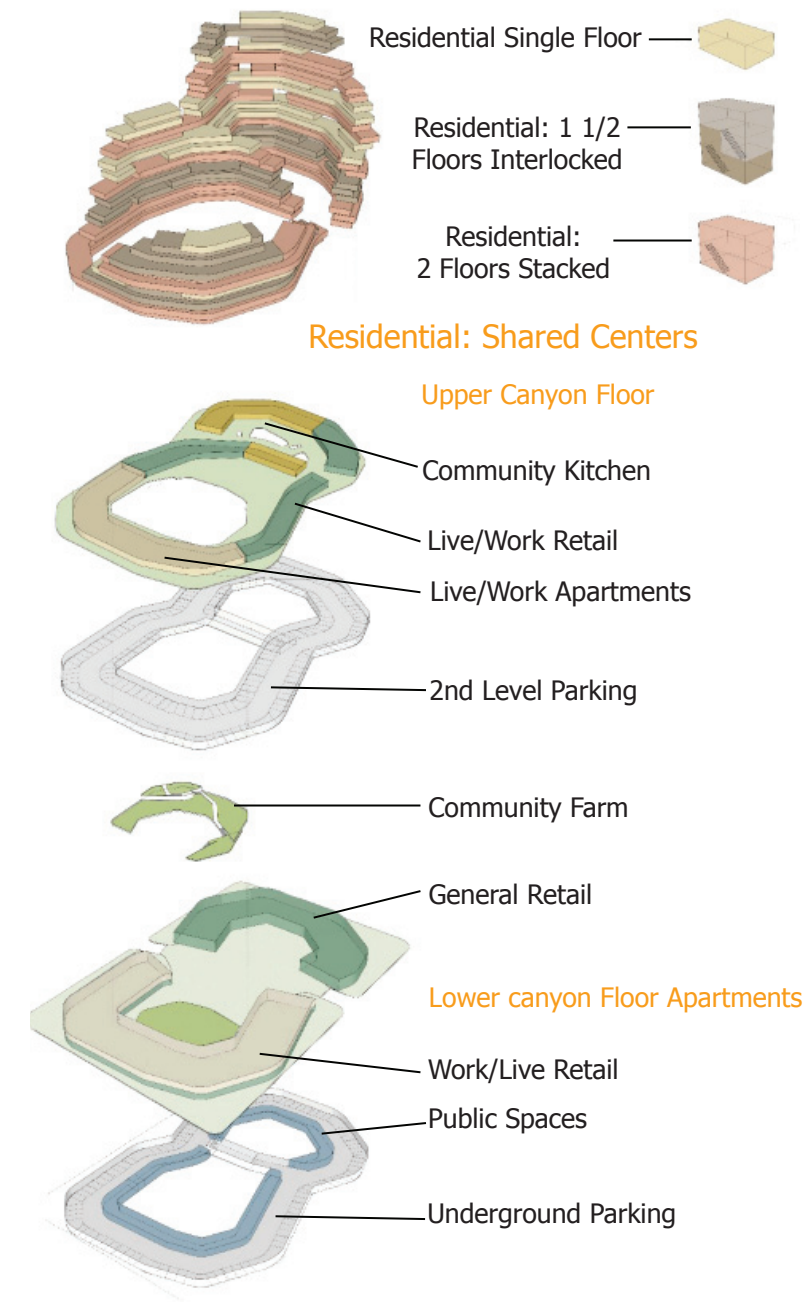
Research Results

Co-Op Canyon was proposed project submitted in the Re:Vision Dallas competition that really caught my eye when I was searching case studies. Standard Architecture were honorable mentions in the competition. I thought about how the composition, the program and innovative solutions would fit into the community of St. Cloud.

“The structure resembles a terraced canyon with housing units tucked into the canyon wall. On the canyon floor, community gardens are ripe with organic fruits and vegetables that residents grow to use themselves or exchange within the others as part of a cooperative community. Each residential unit also has its own garden and yard space.”

Information and Image (Standard Architecture 2009)

Program Description



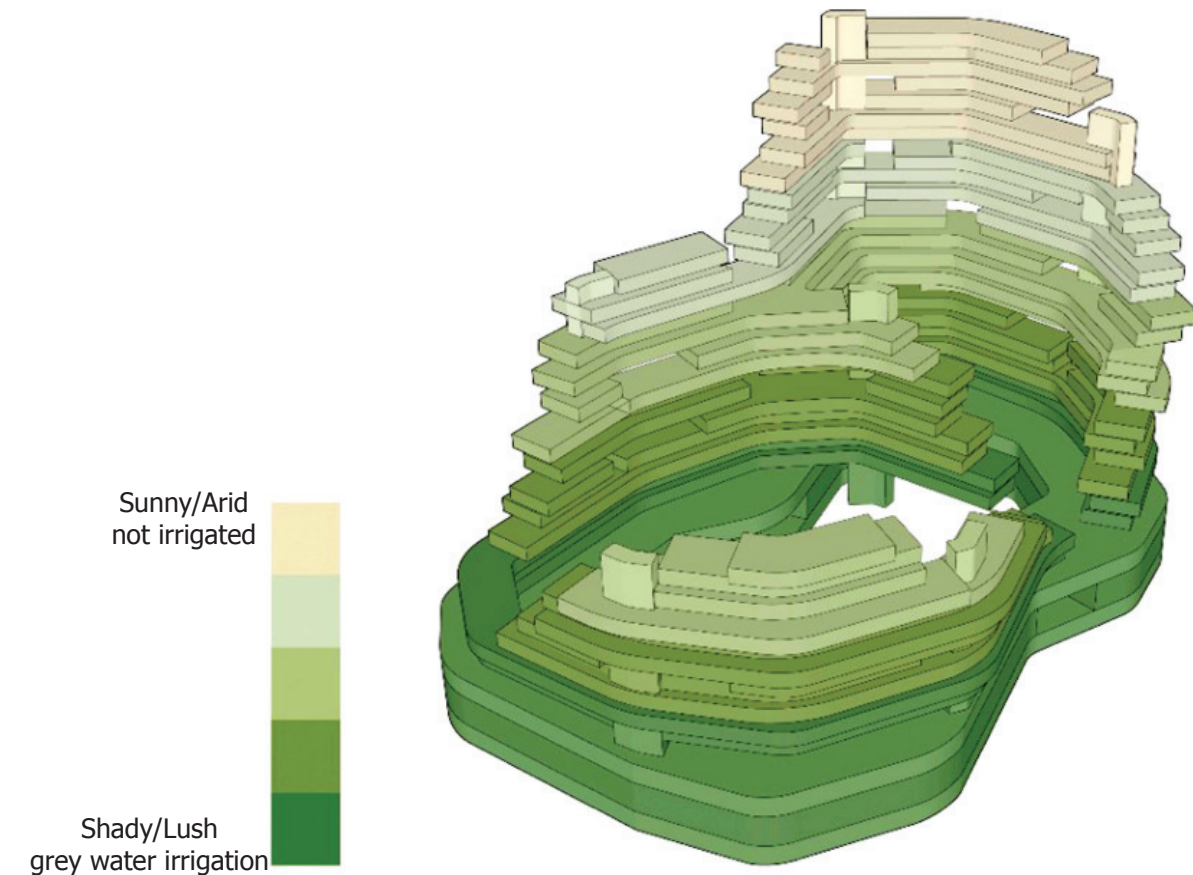
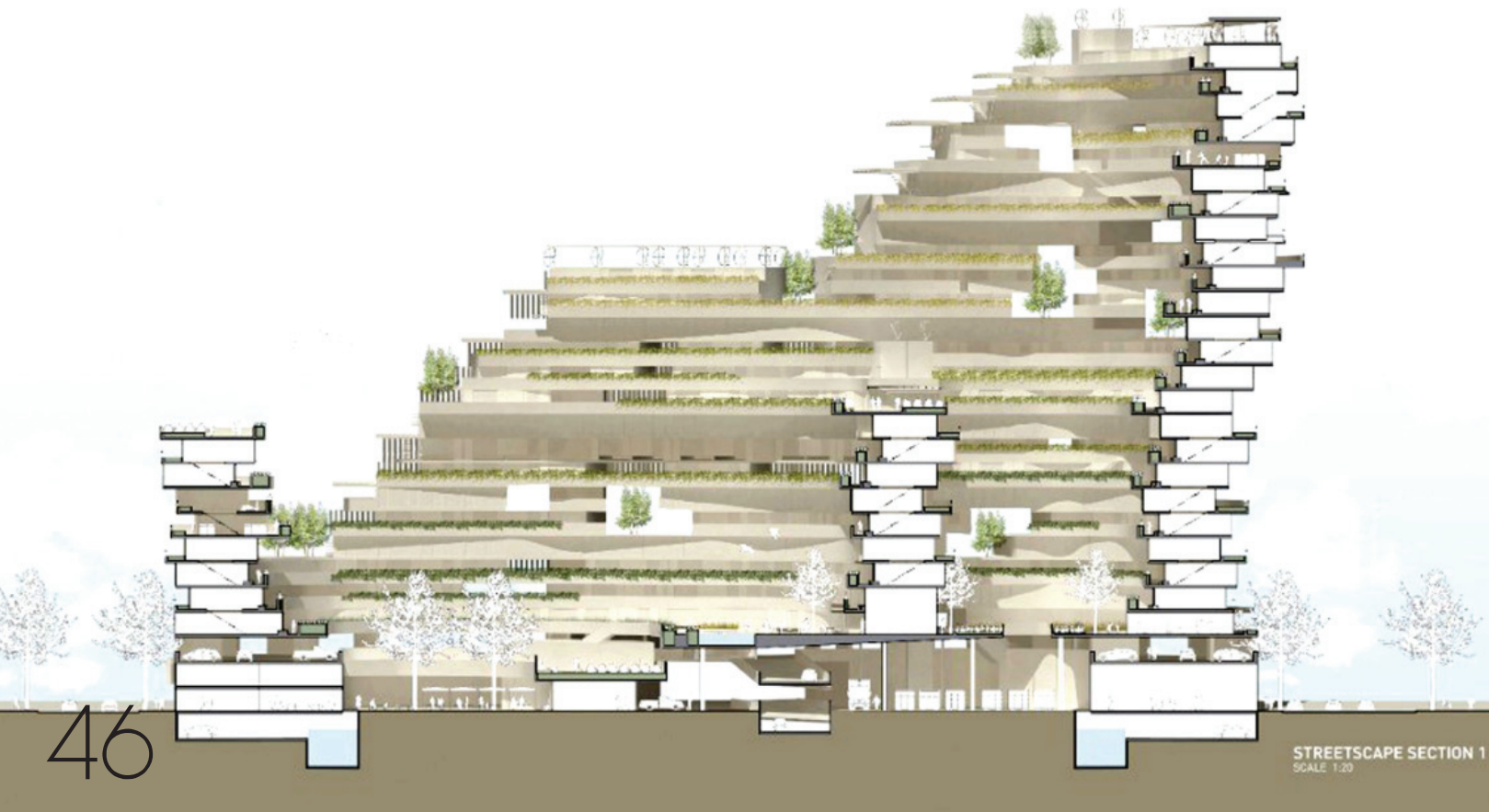
Information and Image (Standard Architecture 2009)

The section shows many interesting features of the building. The overall form relates to a community-oriented relationship between spaces which can be seen throughout the section drawing. The courtyard and other public spaces are placed in the center with the residential, commercial, and retail placed around the perimeter.

Information and Image (Standard Architecture 2009)

The building diagram below shows how the grey water irrigation system affects the different levels of the building. One of the main goals of the project is to waste no water. Other sustainable features include on-site solar panels, green roofs, garden terraces, and a communal farm.

The project responds to the general problem of urban sprawl. A relationship to Unite d'Habitation can be seen through the plans and spatial configurations. The idea of the building being more than a place to dwell is clearly thought out with the mixture of uses within the building. (Standard Architecture 2009)



Information and Image (Standard Architecture 2009)

Conclusion

We see solutions with advanced technologies and innovative solutions surface in projects throughout history. I wanted a case study that brought those aspects and applied it to real life problems through the design of the structure.

I felt this project touched on many aspects of my project pertaining to community development, sustainable design, and a unique solution to urban housing. The main idea behind my Theoretical Premise has not changed, but has only grown through the study of the Co-Op Canyon case study.



(Image from Standard Architecture 2009)



(Images from Standard Architecture 2009)

SUMMARY

Typology

I chose my case studies very carefully making sure to show certain aspects of a building I would like to incorporate in my project. "What causes architectural movements?" was my first Problem Statement I submitted; The question is not the focus of my project but would like to refer back to it. I would like to briefly mention, now relating the question above to the case studies I chose, how the concept of Unite d'Habitation are similar to the concepts of the other two case studies. The idea of "extension of dwelling" an idea that has been embedded into history. The "extension of Dwelling" has a different definition, which has many variations, but it could be phrased as a mixed-use building, communal development center, or a place to dwell, live, and play.

"Architectural movements" was intriguing to me and it helped transition to the question I have been answering throughout the document: "can architecture redefine the American Dream that can assist with the development of immigrants establishing themselves in a community?" My Theoretical Premise has not damaged from the typology research. I would have to say that my Theoretical Premise has been added to in a positive way. Adding more common spaces relating to community growth are necessary for the development of immigrants establishing themselves in the community.

A case study pertaining directly to my thesis was very difficult. I desired to study only aspects I wanted to achieve and demonstrate in my design. I knew before searching I would to have to take pieces of my project and find similar elements within different case studies. Using specific elements like the market and community farm will help me develop a design solution that answers my problem statement.

How does this project relate to similar projects undertaken throughout history?

The idea behind my thesis project is to provide a better way of life for immigrants establishing themselves in a community, while re-developing the American Dream. Throughout history there have been related projects of this type, but it wasn't until after WWI that these issues were addressed. Even post WWI, immigration was not the main focus.

For instance, Le Corbusier's Unite d'Habitation in Marseilles, France, is a building that was constructed after WWII, responding to the current problems of this time period. Affordable housing was needed because the war had ended and much of France was rebuilding. Corbusier's answer responded to the economic issues, sustainable issues, and community development issues.

An aspect that Corbusier introduced in this project was the extension of dwelling, which was an innovative way of designing mixed-use buildings because one could potentially live, work, and play in the same building. It was a new way of looking at city planning (Corbusier, 1960). His ideas relate to the American Dream because his solution proposed fresh new ideas to live a better economical and prosperous life. Besides issues with the American Dream after WWII, one can draw similar conclusions from Corbu's project to my project. I am looking into affordable housing, seeking a sense of community, improving local economy as well as the surrounding areas' economy. All can relate to Corbu's Unite d'Habitation.

Historical

CONTEXT

After looking at Corbu's design we progress in the future to 1964 when Marina City in Chicago was first being built. Here is another example of an innovative solution for city planning and addressing sustainable solutions. It is considered a mixed-use building consisting of residential units, commercial use, and recreational uses. The building was the world's tallest concrete structure at the time. At the time, this project was an experiment in trying to find new high-density forms for the future of Chicago. This building was addressing issues that Chicago had to solve. After looking at Corbu's design we progress

Jumping farther into the future to the present time, looking at the similar situations relating to the American Dream and community development, certain aspects of the American Dream have changed. Now urban sprawl is slowly coming to an end and we look to redevelop the inner city. Projects are now being thought of like my case study about the Co-Op Canyon, which is a self-sustaining community in one city block. The idea of a self-sustaining community in the heart of the city needs to be further studied to better the environment and strengthen the economy on a local level as well as a global level (Standard, 2009). I see this kind of project as being a model or prototype that could inspire new design strategies

I tried looking for a project that had similar characteristics as my project justification. Recently, there have been areas around the Twin Cities and Fargo that address issues of community development and immigration.

One project that I focused on to study more on is the Midtown Exchange in Minneapolis, Minnesota, which opened in May of 2006. This project has many similar characteristics I want to have in my project. After reading the Annual Report 2007 of Neighborhood Development Center, I found that since the opening of this building, the surrounding area was positively affected by the improved sense of community it brought to the area (Midtown Global Market, 2009).

I feel the St. Cloud community will be improved with the addition of a building like the Midtown Market Exchange. Providing a place where different cultures from around the world will help educate the community and help correct stereotypes. The program will help provide a better image for immigrants and create a place where different cultures are able to express themselves to better the surrounding area.

The Midtown Market Exchange has proven to develop community bonding while helping immigrants has positively affected the surrounding neighborhood. Before the building opened, the area had a lot of crime and poverty. Now, crime is down and the area has been revived (Midtown Global Market, 2009). The St. Cloud area does not have crime like Minneapolis, but what St. Cloud is lacking is cultural diversity. The integration of culture will bring more focus to the downtown area and develop a strong sense of community.

How does this project relate to social trends or developments within our society?

Immigration is not a new subject. Immigration has been around ever since we existed and will continue to be apart of our culture. People migrate for various reasons; people may want to migrate to a new area, organizations may assist with moving immigrants into an area, some may want to escape persecution and oppression, and some may want a better economic situation (Kunel, 1997).

For the past couple of years, St. Cloud has been a popular spot for immigrants to settle. I can remember incidents I observed in high school during my senior year involving Somalis that had migrated to the area. There was fighting and bomb threats. The police department had to monitor the hallways for the last few weeks of school. Many of the fights started because of misunderstandings and people being unaware of other cultures. Religion, clothing, speech, and skin color are topics that come up during many of these altercations.

Many people still believe in the stereotypes that seem to follow immigrants. Typical stereotypes that have been associated with immigrants about being illegal and that they are only here to take jobs away from local residents. Hate crimes are often committed, which forms a dis-functional relationship between cultures. Hate crimes are part of the reason why immigrants continue to relocate. In a community where there are hate crimes, the quality of life is very poor and not desirable (Kingsford, 2007).

What is the physical and social context within which your project is set?

Physical Context

The physical components of this project such as: affordable housing, market, commercial and retail opportunities, will bring change the area of St. Cloud. For years downtown St. Cloud has been one dimensional in terms of the typology of buildings. Offices, retail, and commercial has and still is the main focus (City of St. Cloud, 2009). Integrating a neighborhood setting within the business district will allow for the needed diverse growth in the city's center.

Social Context

The 2000 census showed that the racial makeup of the city was 91.75% White, 2.37% African American, 0.72% Native American, 3.11% Asian, 0.06% Pacific Islander, 0.58% from other races, and 1.40% from two or more races. Since then these proportions have changed significantly, because of a continuing flow of immigrants from Somalia (City of St. Cloud, 2009). According to the Minnesota Department of Natural Resources the year 2000 brought almost 2000 immigrants into the state. This number only accounted for Somalis who came directly from refugee camps.

According to the Minnesota Department of Children, families, and learning school districts in Minnesota have seen rapid growth of Somali population. Between 1997 to 2001 the population of Somali speaking students has risen from 1,408 to 5,123. Because of the language barrier, more opportunities for children to learn English has become more and more important because of the rapid growth St. Cloud is experiencing. Being able to communicate to various cultures is important for this project to succeed.

GOALS

Thesis Project

The Academic

When I first came to NDSU I set a personal goal for myself. That goal was to graduate with a degree not necessarily in Architecture, but one that would help me acquire a respectable job. That goal is still one of my short term goals, but it is more precise and has more depth to it now.

I feel the courses I have taken and my experience outside of class have prepared me to complete my thesis project. My main goal is to finish out the year knowing that what I learned and accomplished will show through to my Thesis project.

The Professional

Using what I have learned in class and applying it to real life experiences have given me the opportunity to gain knowledge of the professional world prior to receiving my Masters of Architecture. When I am at work I can draw many parallels that relate to what I have been learning in classes. Throughout our studio courses we have had projects that are very conceptual and projects that are logical and could be built.

I want my thesis project to be viewed as a project that could be built and experienced in the "real world" and not as a hypothetical situation. The thesis is the last project at NDSU before we start our career as a professional architect. The amount of research and time spent on thesis should be at a level to where we can achieve and create "real life" situations.

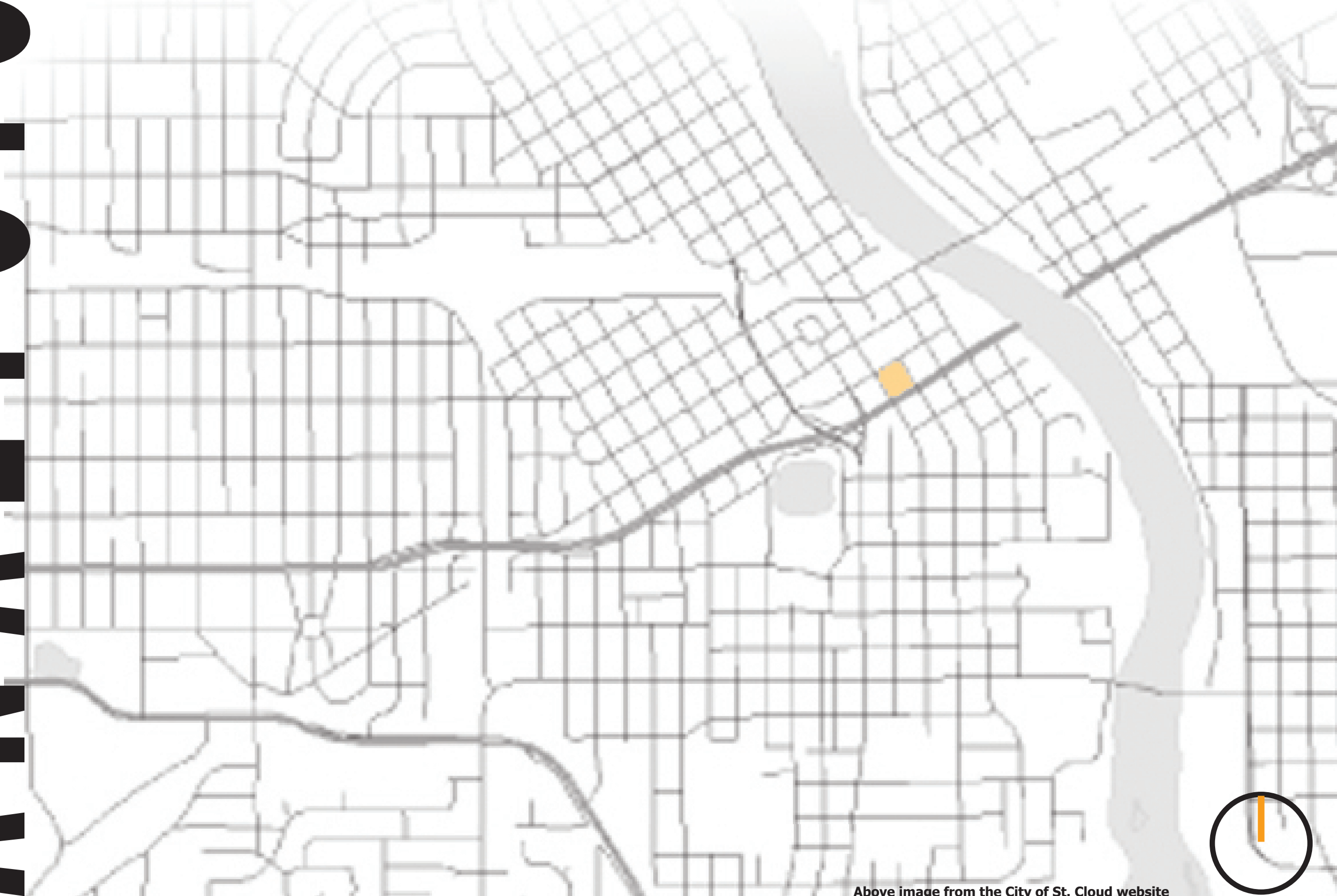
The Personal

The main goal I have on a personal level is to complete my thesis with a better understanding of what my education meant to me. I have been at NDSU for six years and I would like my thesis to showcase my understanding of what it means to be a student of Architecture.

I hope that my work will inspire interest and continue to inspire after I graduate. We all want our designs to stand the test of time. My goal is to design my thesis so that my ideas will be able to carry through time and still have an impact on the way we think about design.

ANALYSIS

St. Cloud Minnesota Site



Above image from the City of St. Cloud website



Qualitative Aspects

Since I was seven years old I have called St. Cloud my home. I have seen the positives and negatives throughout the city as I was growing up. While I was home periodically throughout the past six months, I was drawn to my site because of the unique challenges it proposes. The challenges I saw inspired me to re-think about the future of downtown St. Cloud.

St. Cloud's downtown has always been flooded with commercial and multi-tenant office buildings ranging from typical food chains, corporate offices, law firms, architectural firms, and governmental offices. Housing downtown was never seen as a viable option. A demand for student housing has brought college students closer to the downtown area, creating a need for a better downtown lifestyle.

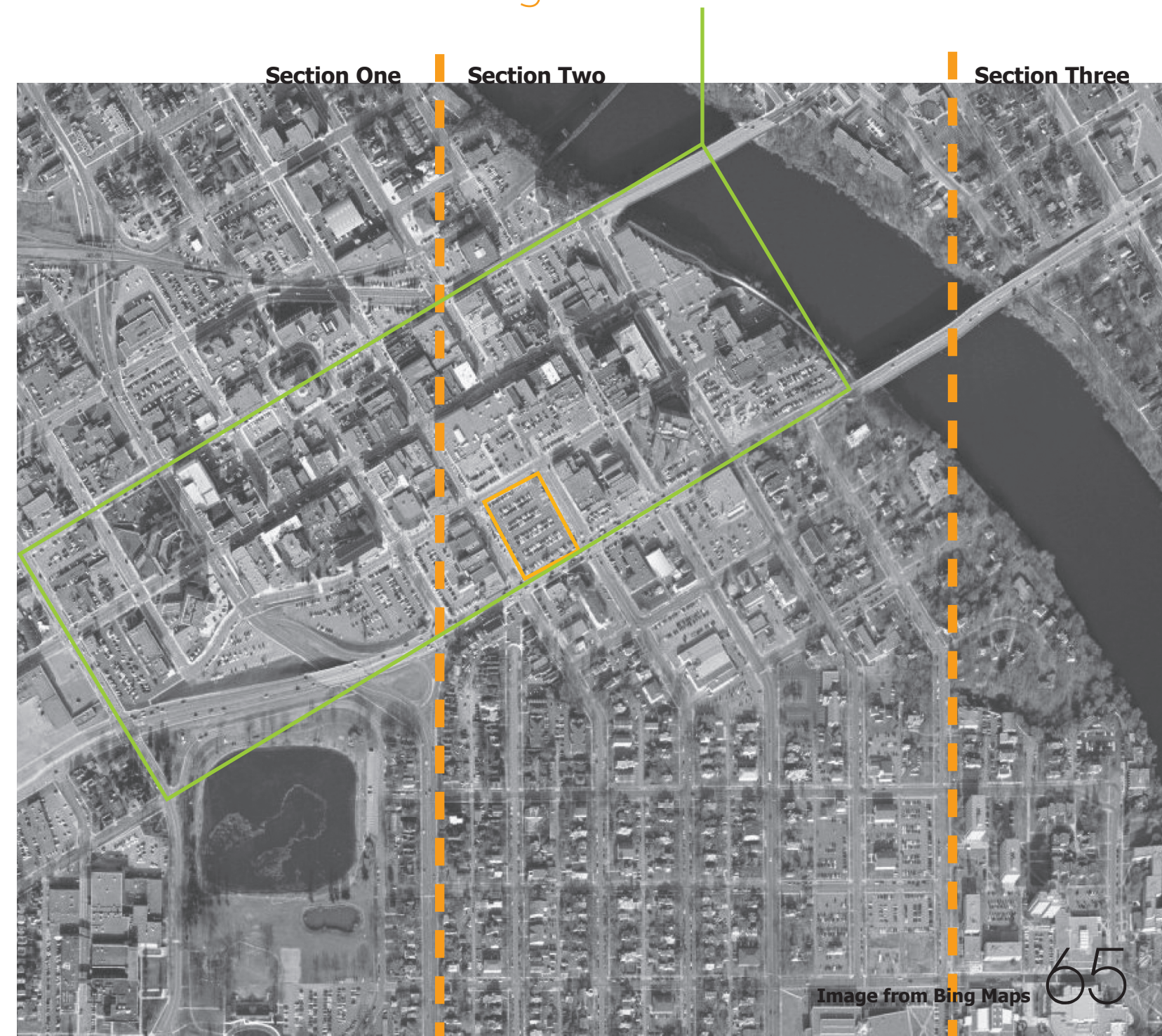
The parking lot I chose as my site sits in the heart of Downtown St. Cloud. I have only known this site as a permit parking lot for the people that work in the downtown area. From 8 am- 5 pm, permit parking enforced. During the evening and on the weekends the lot filled with vehicles who's owners were enjoying the downtown area. Shopping, eating, recreational activities have been the main focus in the area. For the most part, the downtown is open from 8 am -5 pm. But, for the past few years, the downtown has been transforming into a thriving place to live, work, and enjoy visiting.

New construction and development have been the main attractions in the downtown area, temporarily creating a nightmare for people trying to enjoy their time spent. In the past few years, St. Cloud has added a new public library, police station, ING Direct office building, a four level parking garage, reconstructed 2nd St. as well as the Bridge, and student housing for St. Cloud State University is currently under construction. These adjust some of the features implemented in the downtown area.

The added amenities will help create a better environment for the downtown area and guide in the support of a mixed-use building that will encourage the prosperity of immigrants and their cultural ways of life. The added cultural aspects that a mixed-use building of this nature will aid the growth of the downtown area and provide a better place to live.

PLACE OF INTEREST

Downtown neighborhood of St. Cloud



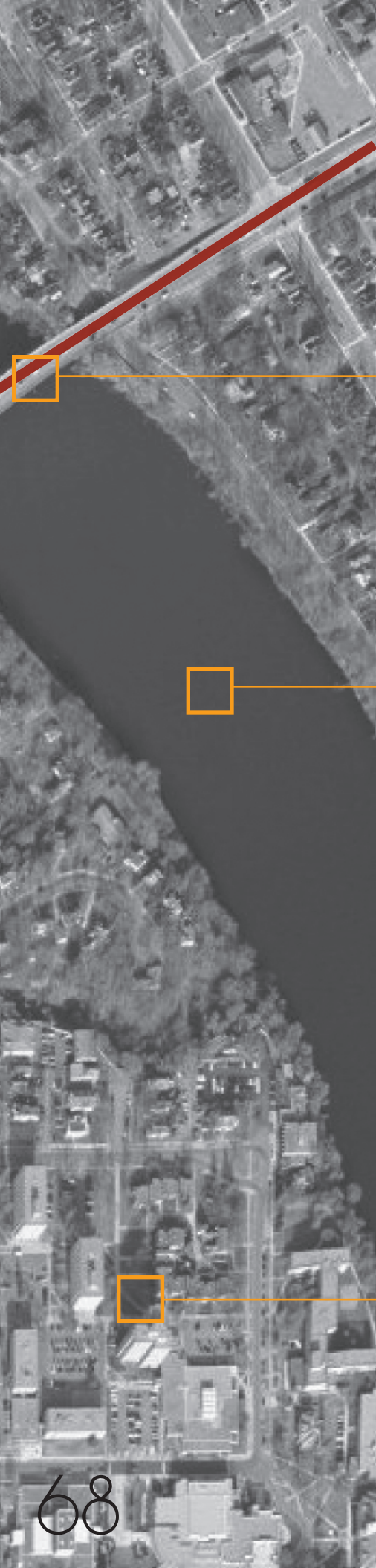


- Cathedral High School
- Railroad Tracks
- 1st St. N.
- Post Office
- Courthouse
- Fire Station
- Newly re-paved 2nd St. S.
- New Public Library
- Eastman Park
- St. Cloud Tech High School

SECTION ONE TWO



- Mississippi River
- Railroad Tracks
- Civic Center
- 1st St. N.
- New four story parking ramp
- ING Direct new offices
- City Hall
- Site
- Newly re-paved 2nd St. S.
- Mixed-Use building under construction; Student housing and commercial spaces
- Residential Neighborhood



2nd St. S.

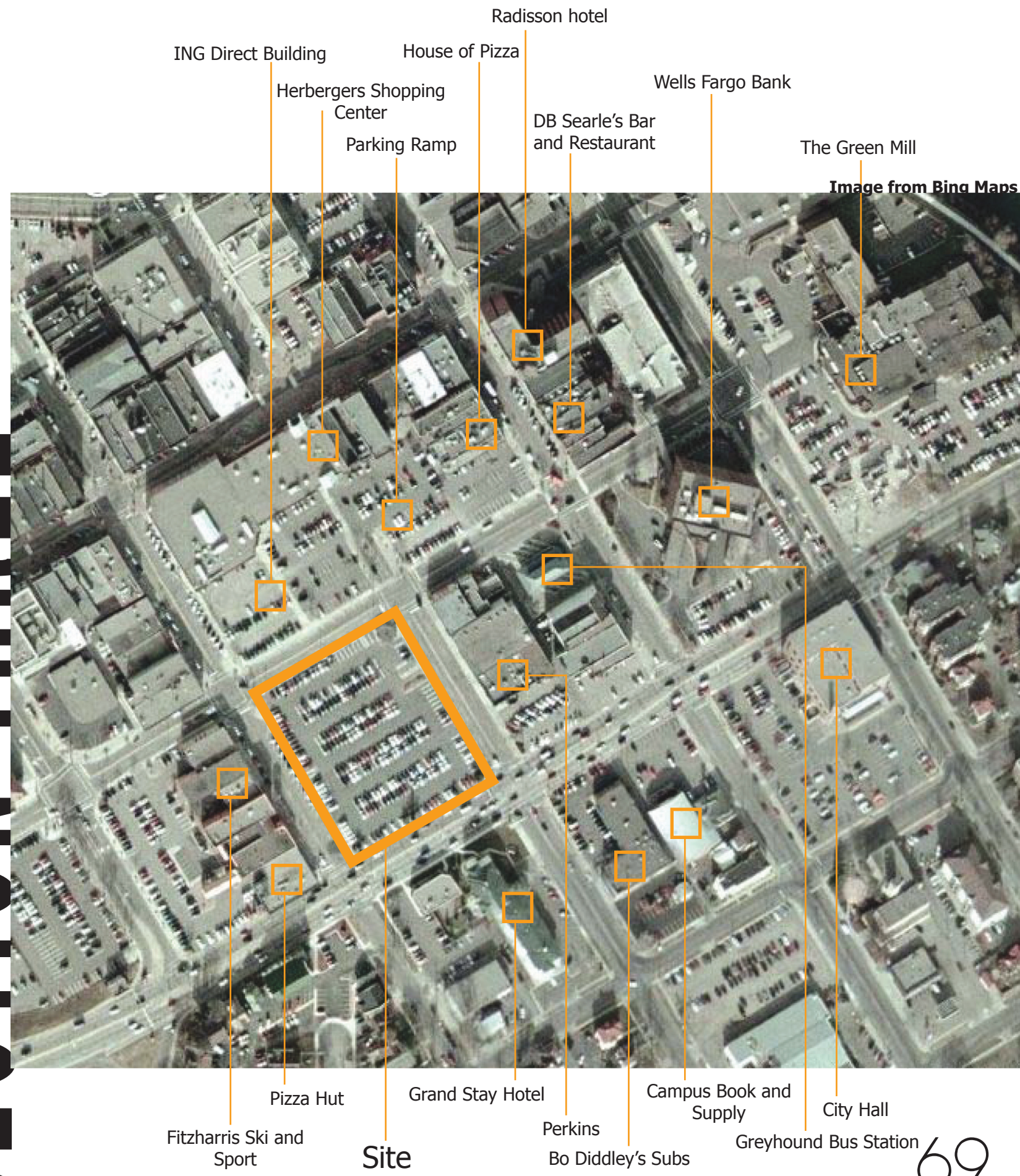
Newly Constructed 2nd St. S. Bridge

Mississippi River

St. Cloud State University Campus

Image from Bing Maps

SECTION THREE



ING Direct Building
Herbergers Shopping Center
Parking Ramp
Radisson hotel
House of Pizza
Wells Fargo Bank
DB Searle's Bar and Restaurant
The Green Mill

Image from Bing Maps

Fitzharris Ski and Sport
Pizza Hut
Grand Stay Hotel
Perkins
Bo Diddley's Subs
Campus Book and Supply
City Hall
Greyhound Bus Station

Site

Qualitative Aspects

Even though I have been to the site many times, intentionally observing the site made me inspect and see the site differently. Continually driving, walking or parking on this site made me passively think about why I have made the decision to utilize the site as it stands today. From my downtown adventures growing up, my family and I always seemed to have driven past, if not parked on the site to enter the downtown area.

The site can be accessed from 2nd Street South which is one of the major roads that cuts through St. Cloud. 2nd Street South presents a challenge because it is not pedestrian friendly. Currently, the site has planted shrubs, concrete curbing, and decorative fencing to form a buffer between the busy street and the site.

On the opposite side of the street running parallel to 2nd Street South is 1st Street South, which unlike 2nd, is a pedestrian friendly road. Across the street and behind the new four level parking ramp is Herbergers Shopping Center. 1st Street has metered parking on the south side. The downfall is that the sidewalk is rather narrow and not aesthetically pleasing. Concrete pillars surround the sites perimeter, making it seem like it is a jail for automobiles.

On the North East side of the site runs 6th Avenue South. The left turn lane of 6th and 2nd is very busy making 6th street busy with traffic. Usually the cars are heading for the parking ramp on 1st St N or the site if it is after permit hours.

The opposite side of 6th is 7th Avenue South. This avenue can only accessed heading West on 2nd Street or coming from 1st Street South. Pizza Hut, a dry cleaner, Liberty Savings Bank, and Fitzharris Ski and Sport occupy the other side of the street.

Looking at the image below, St. Cloud's grid system is not the typical north, south, east, and west street layout. Like most street layouts with a river cutting through the center of town Avenues are running parallel with the river. As the city grew away from the river, the avenues started to run north and south.

Traffic

- █ Busy
- █ Moderately Busy
- █ Moderately Slow
- █ Slow
- █ Railroad
- Pedestrian Friendly



NW



NE



SE



SW

Qualitative Aspects

Existing Site observations

Mechanical equipment sits on the north side of the site. It looks like the existing mechanical systems have not been maintain properly. Also, to the north is a public restroom, which also looks like it is not maintained properly. The north side is pedestrian friendly, but not a nice place to walk. It lacks soft elements and vegetation to welcome pedestrians to the site. The South side is more inviting to walk along, even though 2nd is a busy street.

The site attempts to promote alternative ways of transportation by providing a small bike rack on the West side and posting bus stop sign on the Northeast corner.

Even though the site is a desert of pavement, a fire hydrant sits on the Southwest corner across from Pizza Hut. About a five minute walk from the site flows the Mississippi, one of the largest rivers in the world.

For the most part the site is flat. The whole area is relatively flat until the river's edge. The buildings around the site do not exceed five stories which expose the site to harsh winter winds and damaging sun rays in the summer.



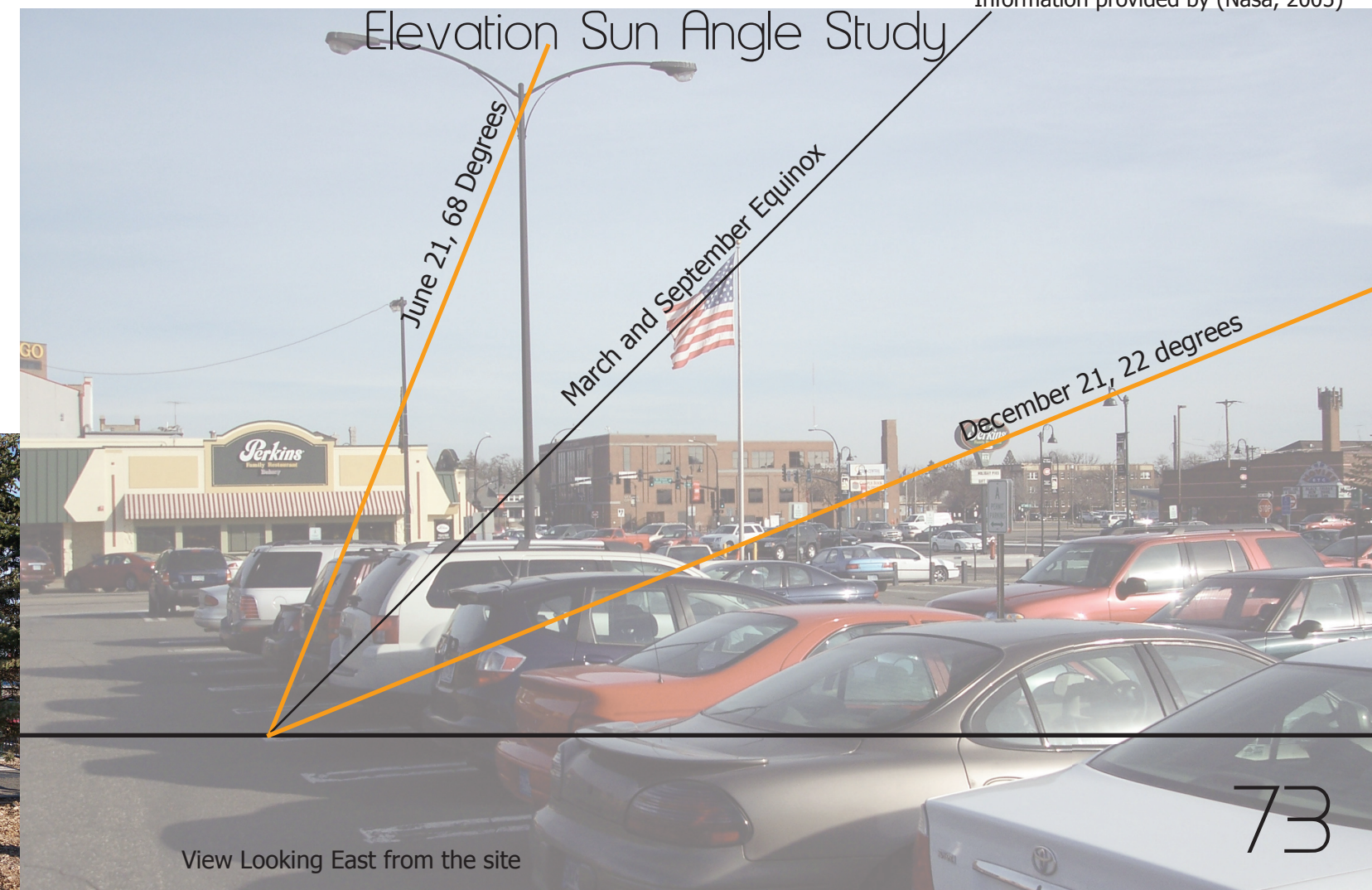
Quantitative Aspects

General Information

	Temperature F	Wind Speed mph	Precipitation in.	Wet Days
January	8.5	12.6	.78	9.1
February	13.8	12.1	.70	7.1
March	24.6	12.9	1.52	8.4
April	40.7	13.2	2.27	10
May	54.8	12.6	3.3	11.3
June	64.1	11.7	4.5	10.8
July	68.3	10.5	3.37	9.5
August	66.4	10.7	4.12	9.6
September	57	11.6	3.1	9.4
October	43.1	12.3	2.1	7.6
November	26	12.2	1.3	7.9
December	12.8	12	.86	9.1

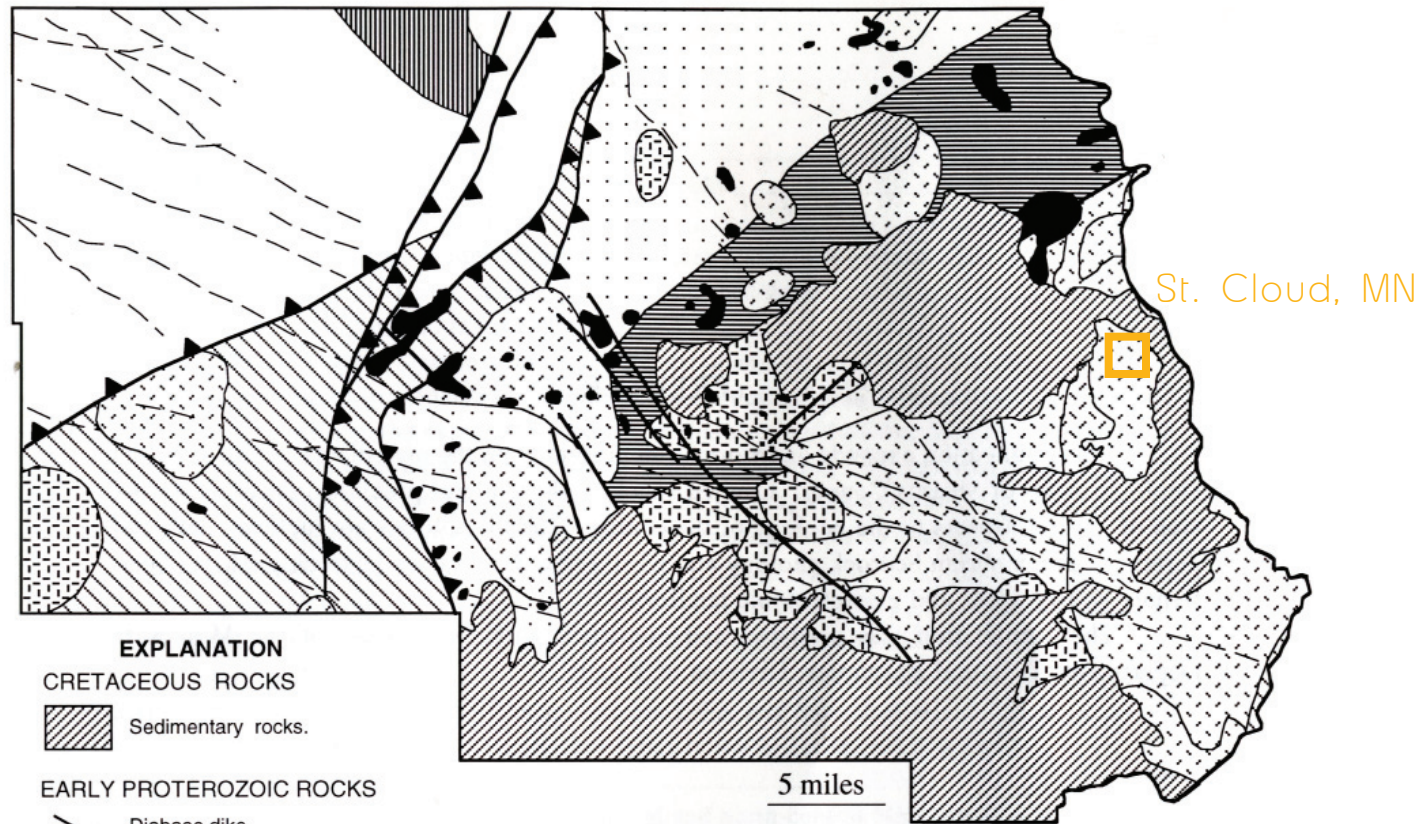
Monthly averages

Information provided by (Nasa, 2005)



View Looking East from the site

Site Geography

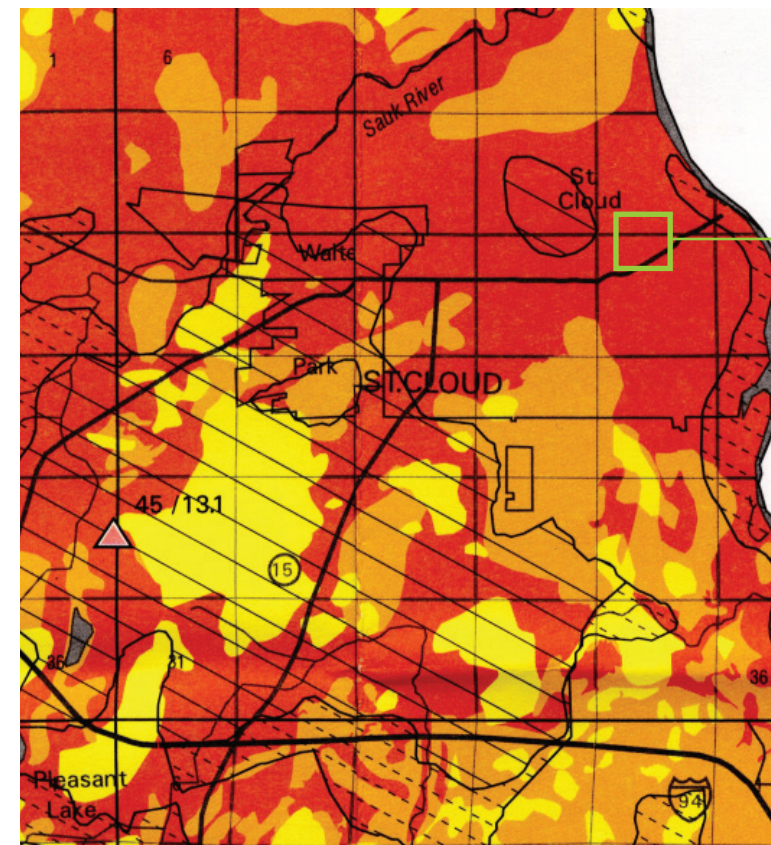


- EXPLANATION**
- CRETACEOUS ROCKS**
- Sedimentary rocks.
- EARLY PROTEROZOIC ROCKS**
- Diabase dike.
 - Mafic to ultramafic intrusions
 - Gabbroic intrusions.
 - Granite, undivided; includes the St. Cloud, Reformatory, and Rockville granites, as well as other unnamed intrusions.
- ARCHEAN ROCKS**
- Animikie slate.
 - Garnet-staurolite schist (Little Falls Formation).
 - Volcanic rocks, iron-formation, clastic rocks (Mille Lacs Group).
 - Sartell Gneiss (Orthopyroxene-garnet-cordierite schist)
 - Gneiss terrane.
- Other features:**
- Fault.
 - Thrust fault.
 - Lithologic contact.

Map A. Bedrock geology of Stearns County, 1995.

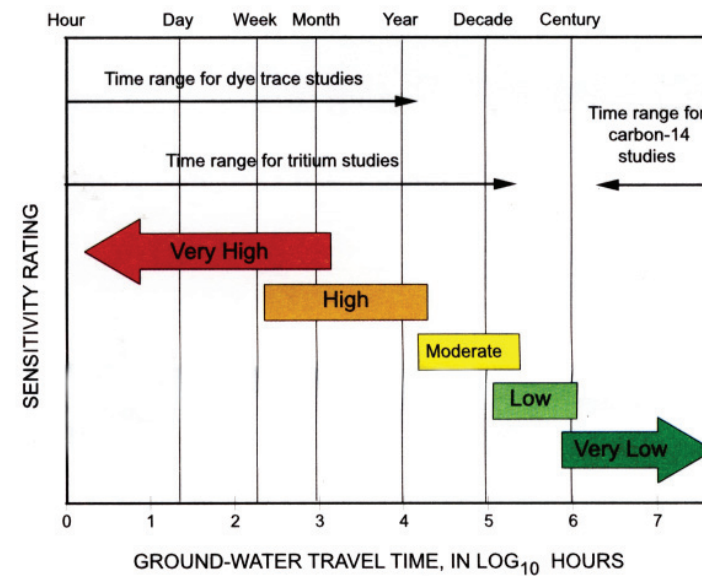
Throughout most of St. Cloud the depth of the bedrock from the surface of the soil is between 50 - 100 feet.

Ground-Water Travel Time



Approximate site location

Summary: The site has quick drainage but is prone to pollution



Geologic sensitivity rating as defined by ground-water travel time. Ratings are based on the time required for water at or near the surface to travel vertically to the water table or other ground water of interest. Longer travel times imply a lower sensitivity to pollution.

Site Soils

For the first 121 feet

Sand: Gravelly sand 5-7 ft; silty clay bed at 7 ft; Silt bed at 8 ft; sand coarsens below.

Shale: Tan to yellow 10-12 ft.

Shale: Dark gray 12-39 ft.

Shale with silt laminae: dark gray to olive gray, dense plastic, noncalcareous 39-61 ft.

Shale: Dark gray 61-78 ft.

Fossiliferous shale: Dark gray shale with abundant "mother of pearl" shell material 78-81 ft.

Shale with silt Laminae: Dark gray noncalcareous shale with silty laminations 81-105 ft.

Siltstone: Gray 105-113 ft.

Shale: Mottled yellow/green 113-115 ft; gray below.

REQUIREMENTS

Programmatic

Space Allocation

There will be a wide variety of spaces encouraging cultural diversity. The spaces will range from practical everyday use to private dwellings.

After analyzing my case studies I have re-thought my program. I feel that the community of St. Cloud as well as the community of the building will benefit by having on site farms throughout the site and building. The products grown will be used by the residents, communal kitchen, and the community of St. Cloud will have the option to buy produce sold in the market.

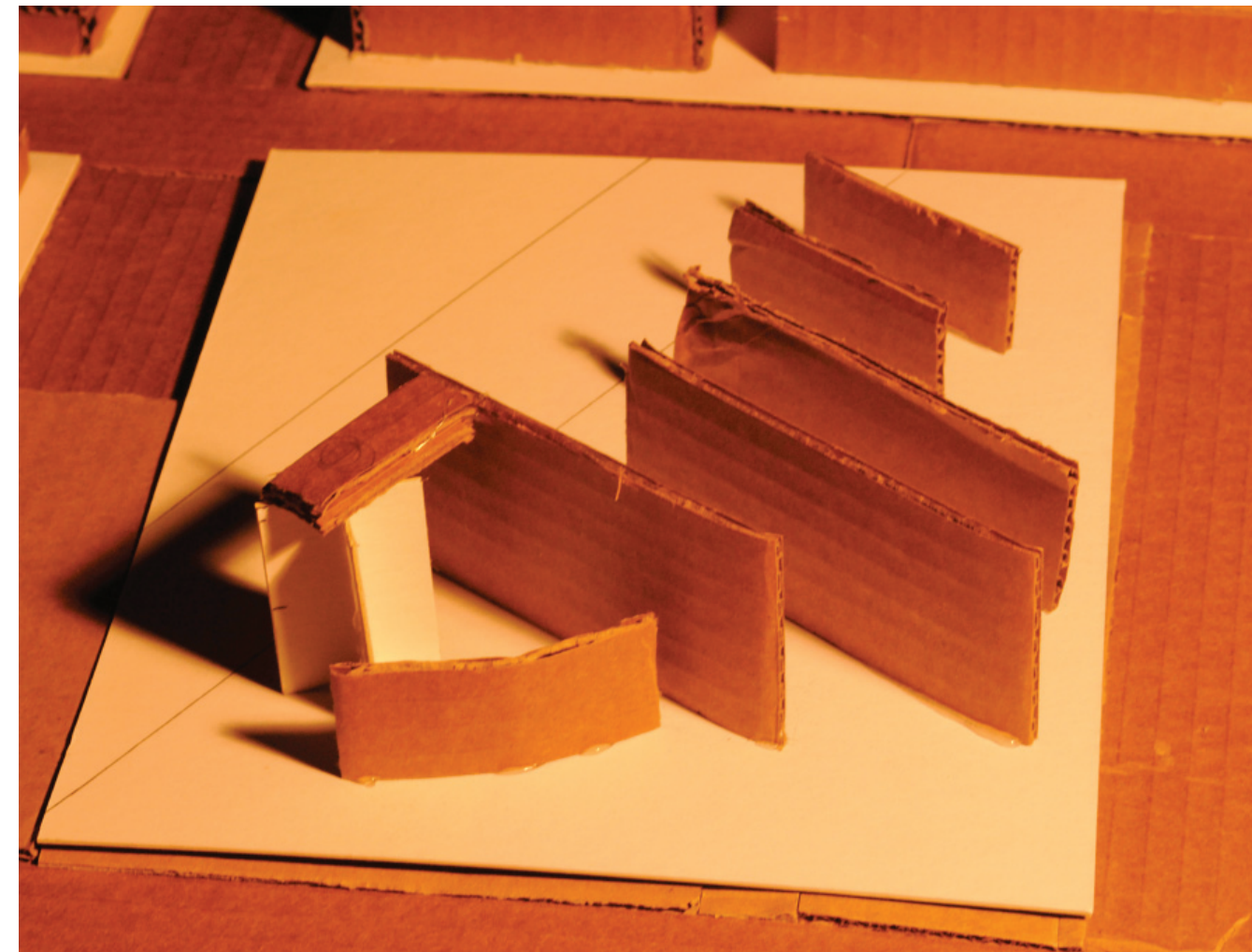
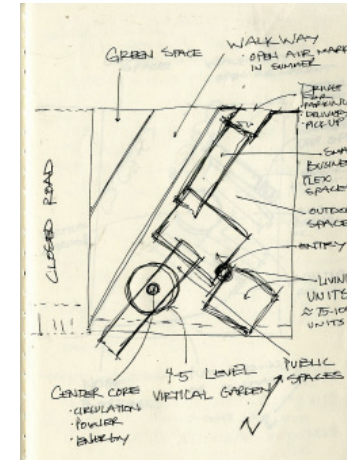
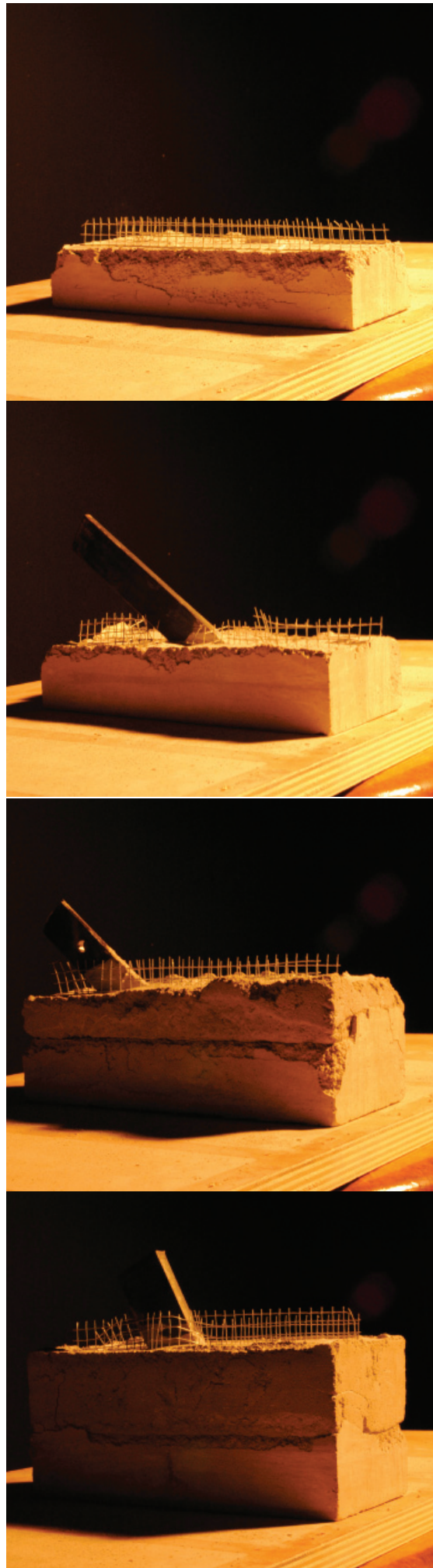
My thought process throughout the design phase started with a parti. The ideas extracted from the parti is meant to show the initial thoughts of the project and to give a direction to where the project is going. I wanted my parti to relate with immigrants coming into a new environment or community. I thought a parti that showed growth, development and acceptance over time would show my initial thoughts about the project.

After the parti developed I started a series of process models and sketches. All the models I developed and built had the same intention but certain aspects of the model were either kept or discarded. The program was the same during the development of the models. To organize my spaces, I mainly concentrated on the residential units, the market, and the green house. These three elements were consistent pertaining to the placement and orientation of the overall form.

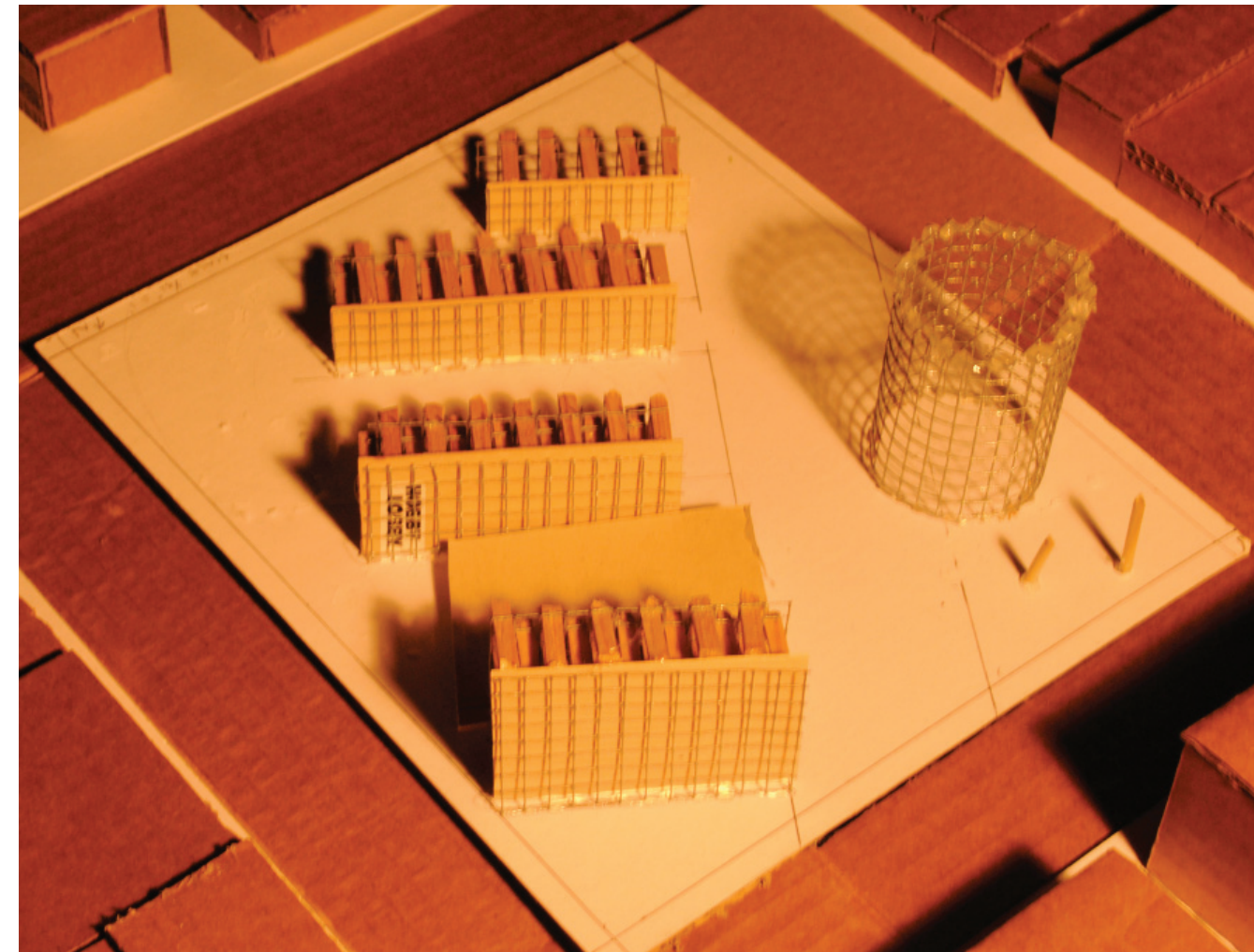
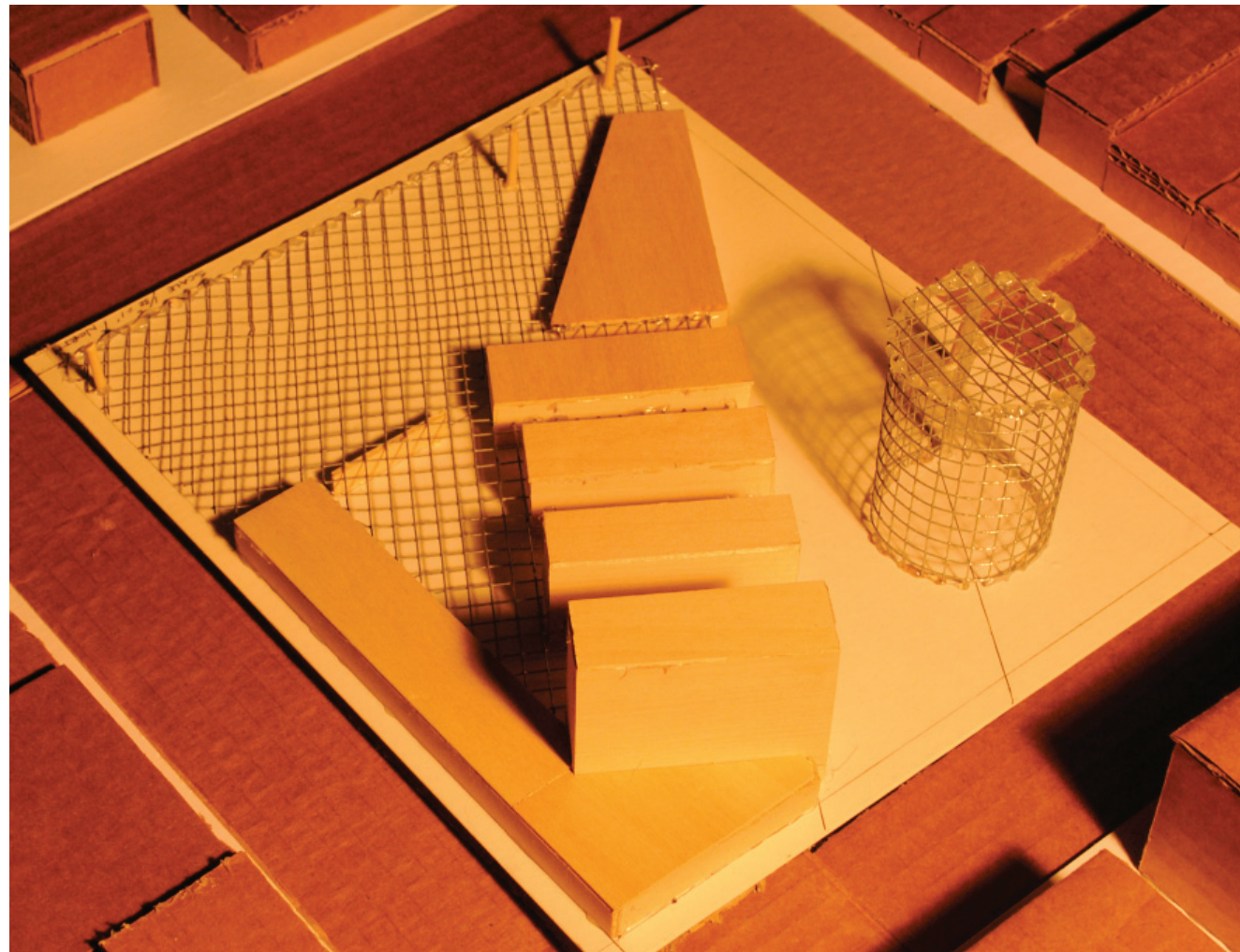
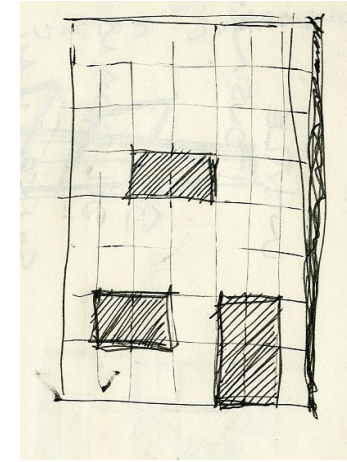
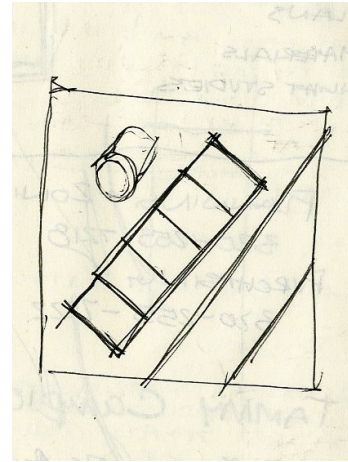
Towards the beginning of Spring Break I had settled on a final design. There came a point where I had to develop a form and detail the building to produce the final design.

Looking through the next section will show the process from the parti through the final design.

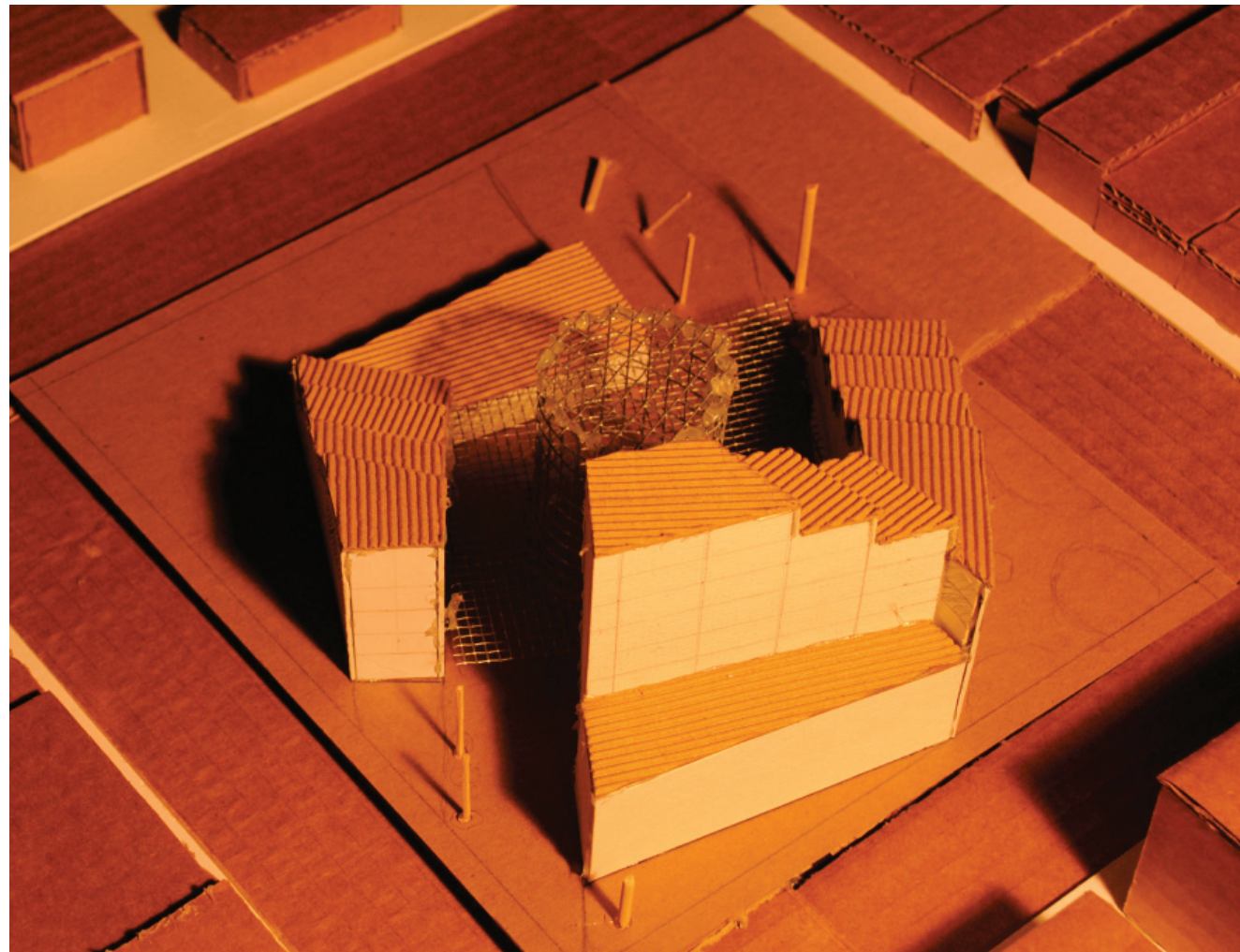
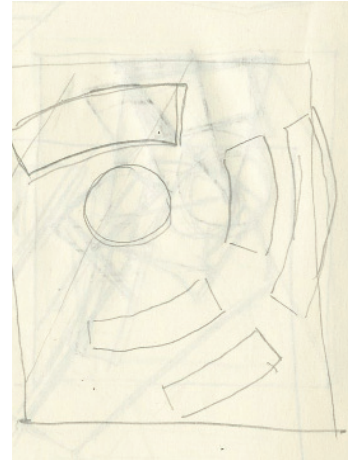
Design PROCESS



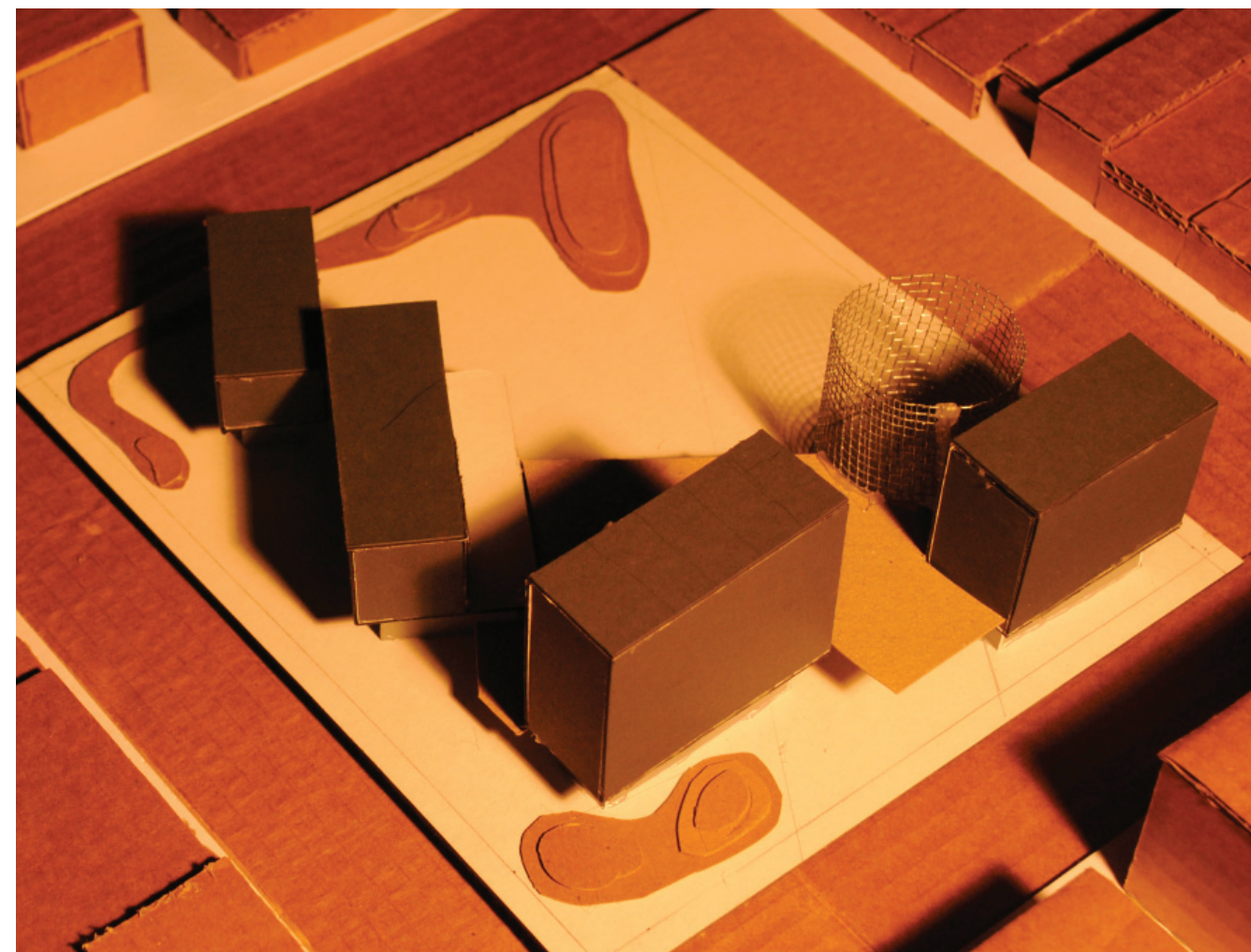
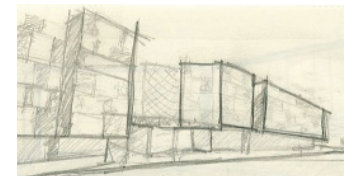
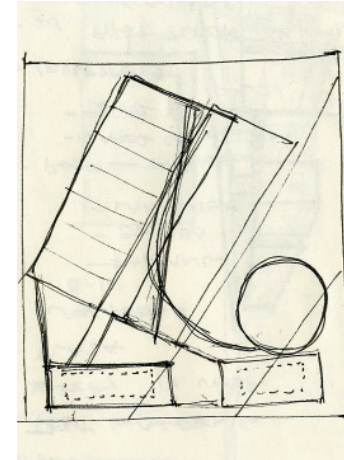
Models and Sketches



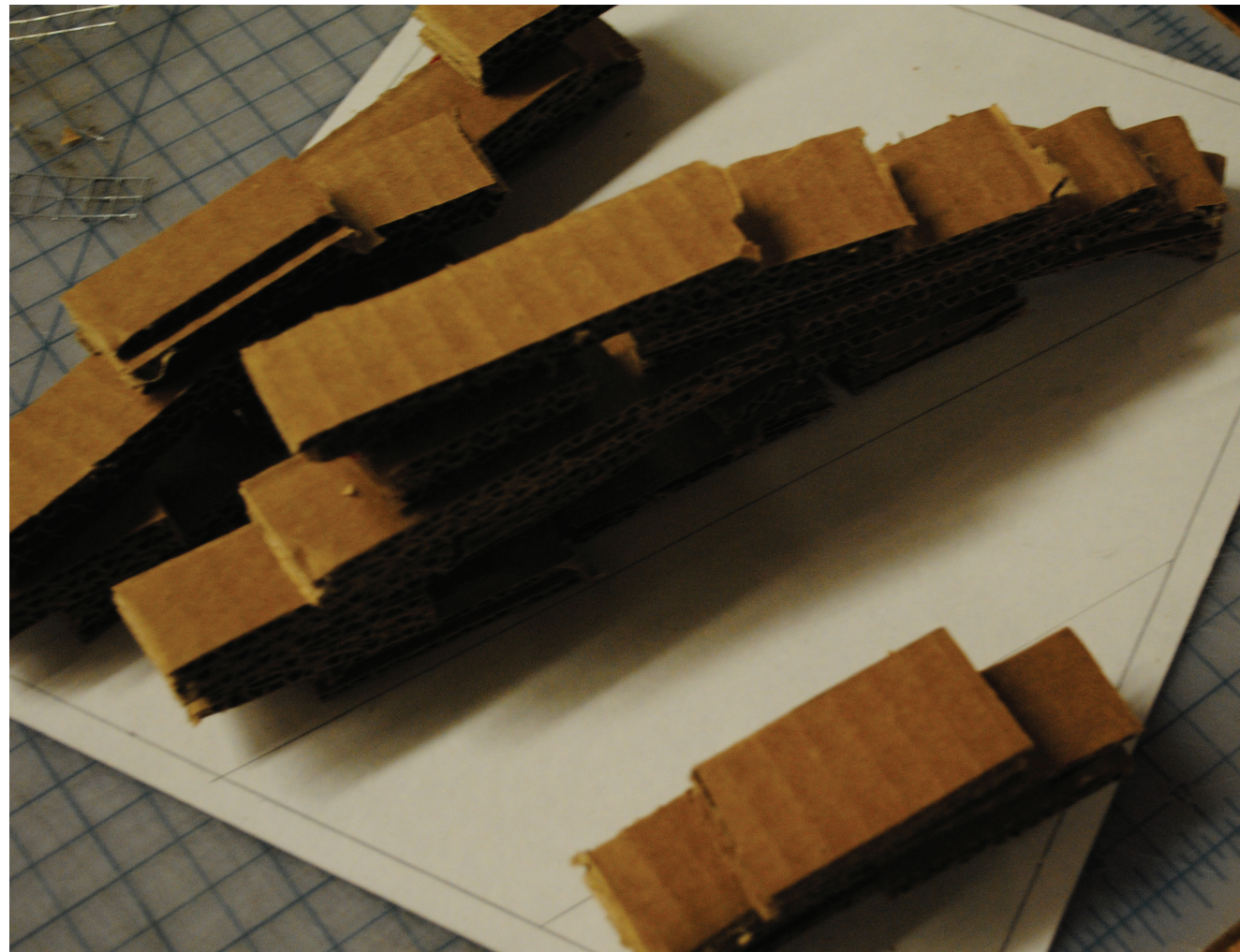
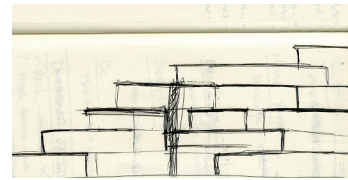
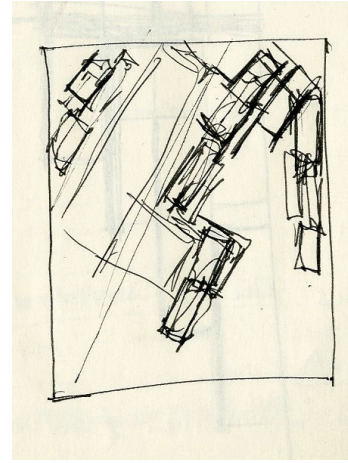
Models and Sketches



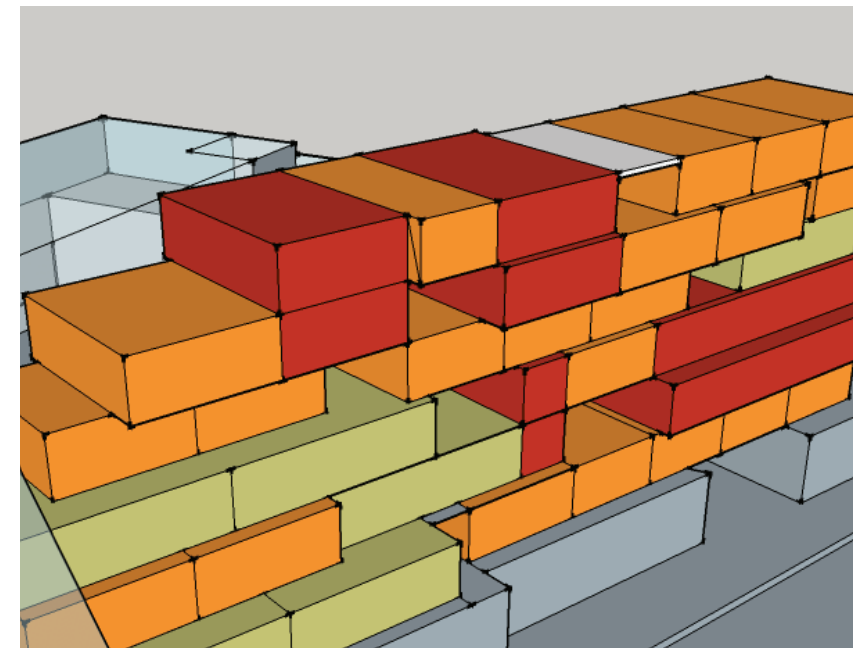
Models and Sketches



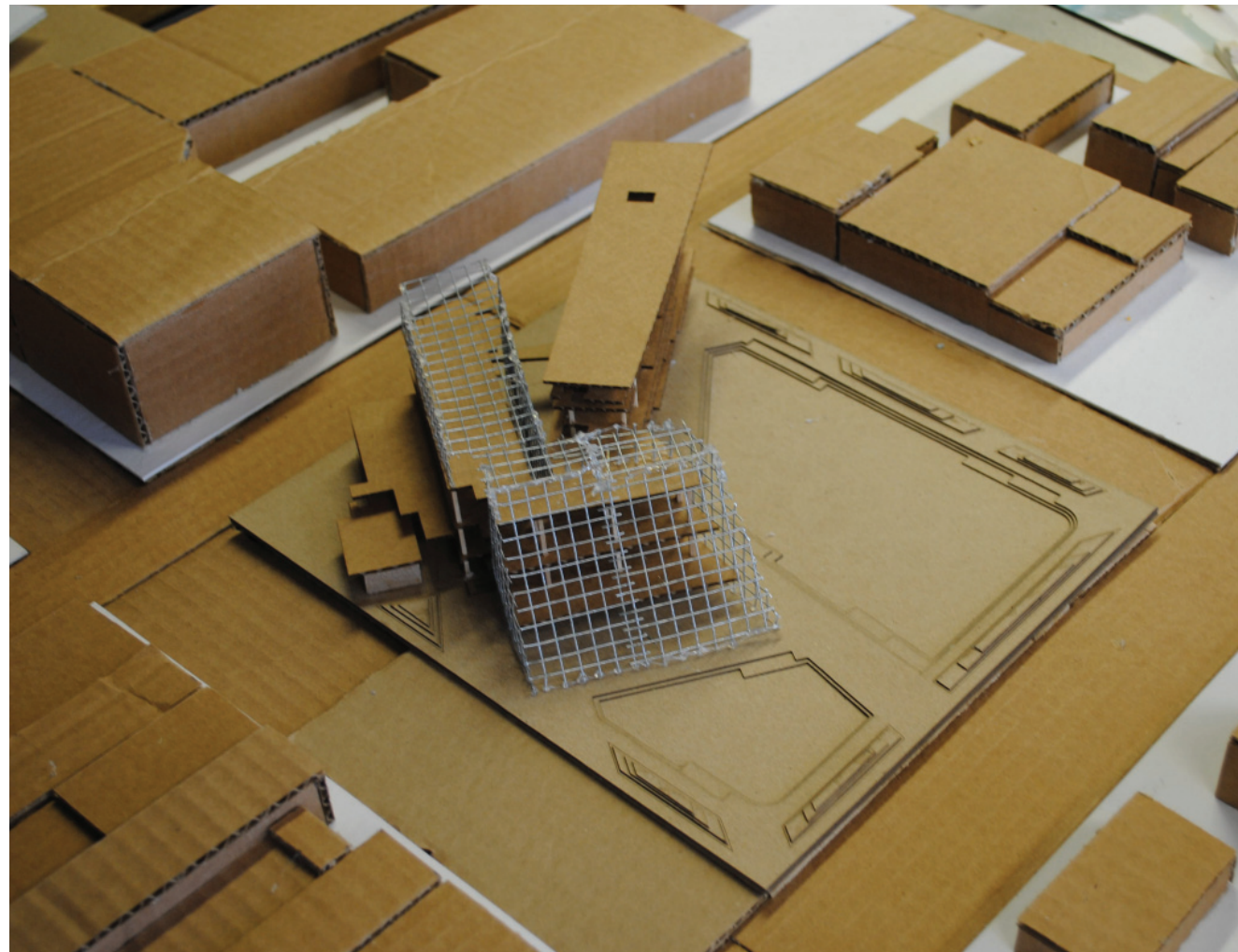
Models and Sketches



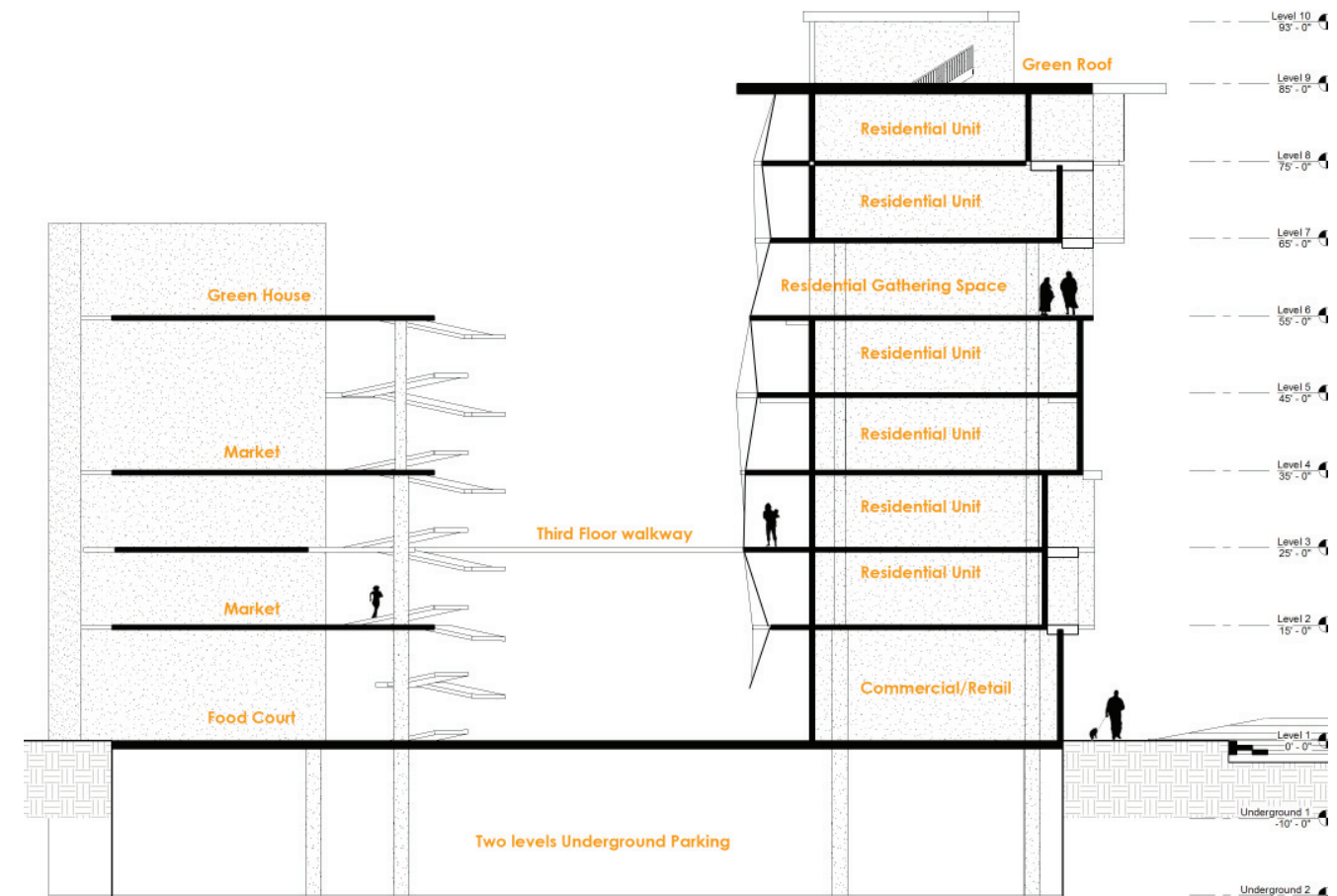
Models and Sketches



Models and Sketches



Process Drawings



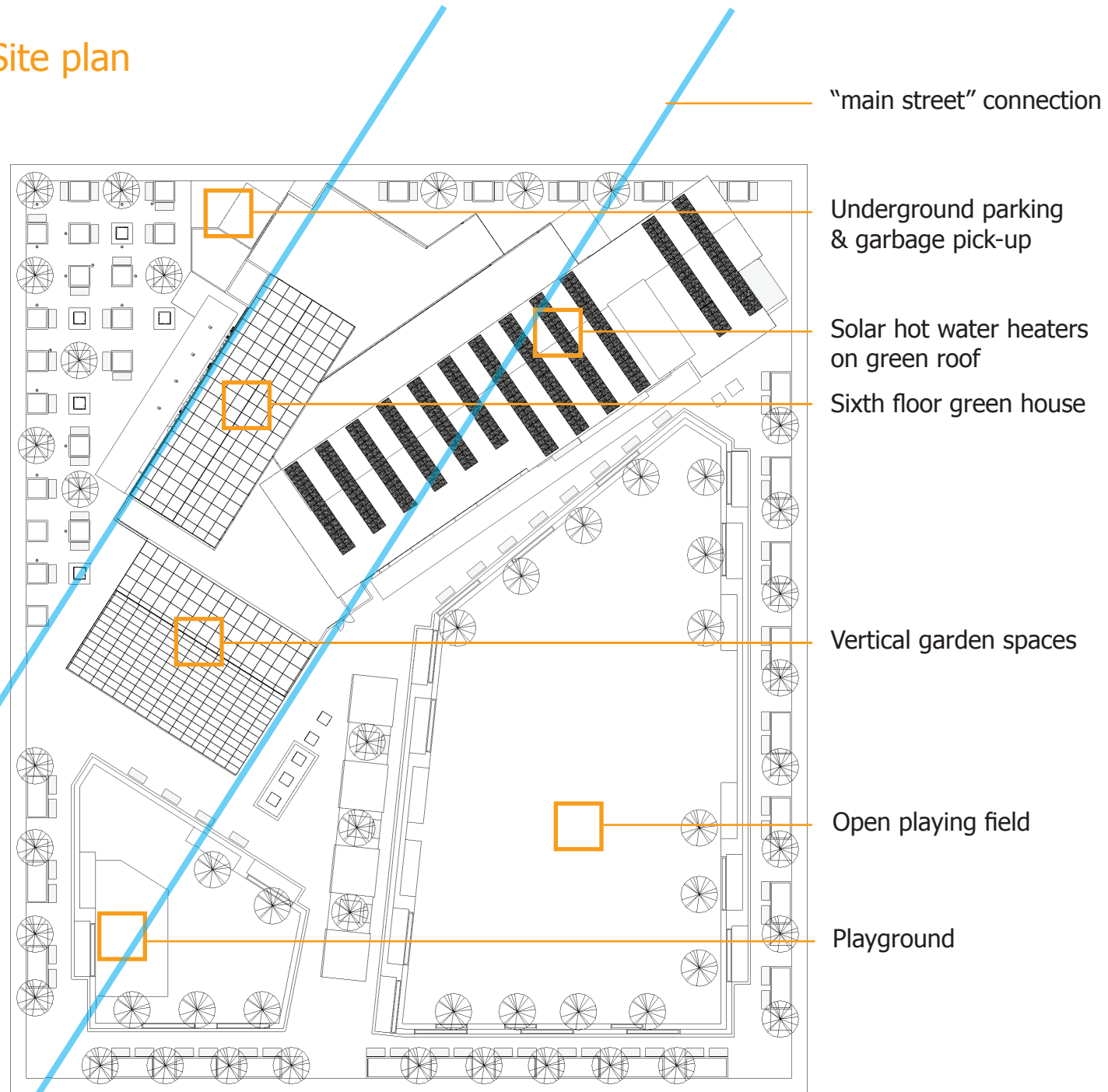


Final
DESIGN

Final Design

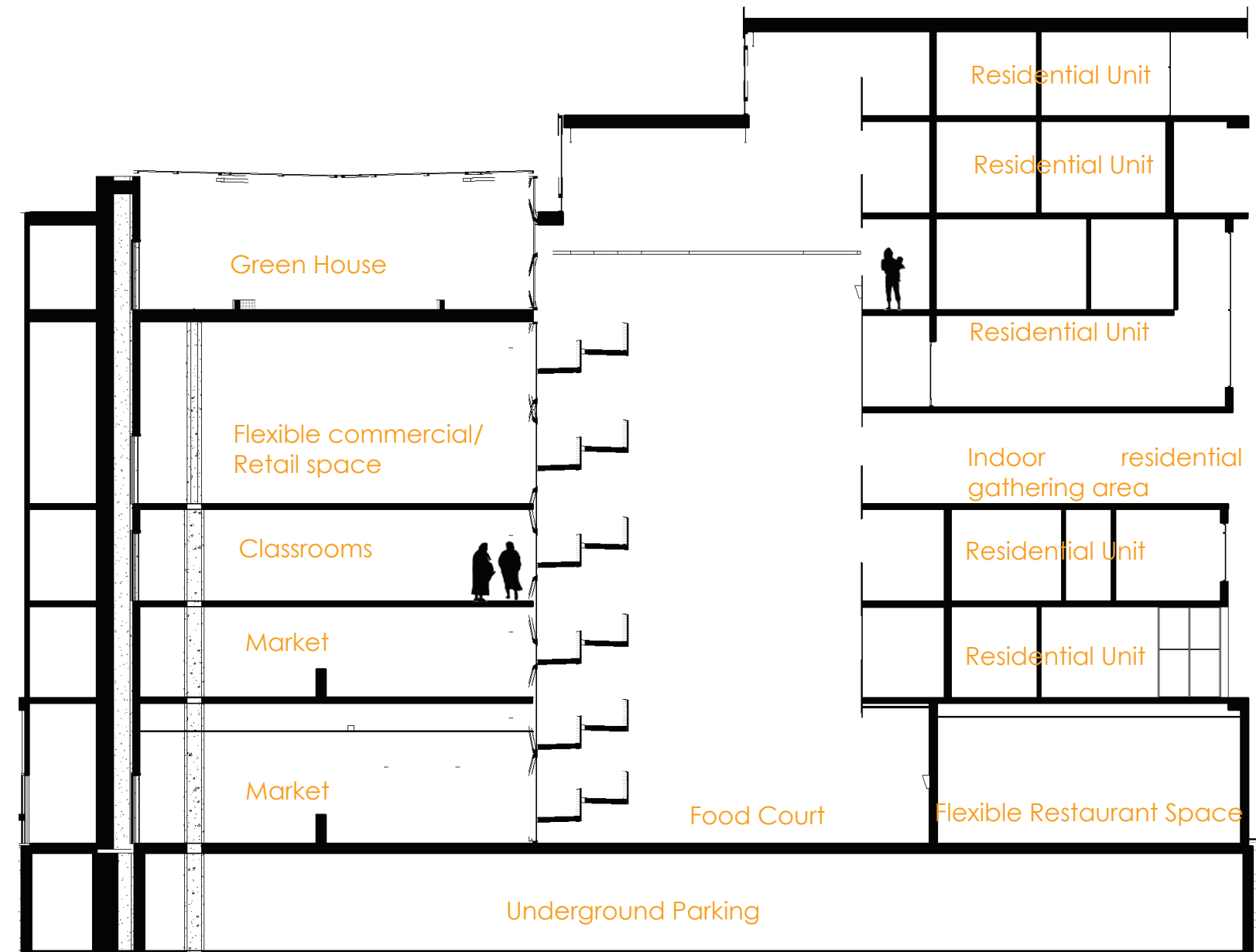
Site Plan

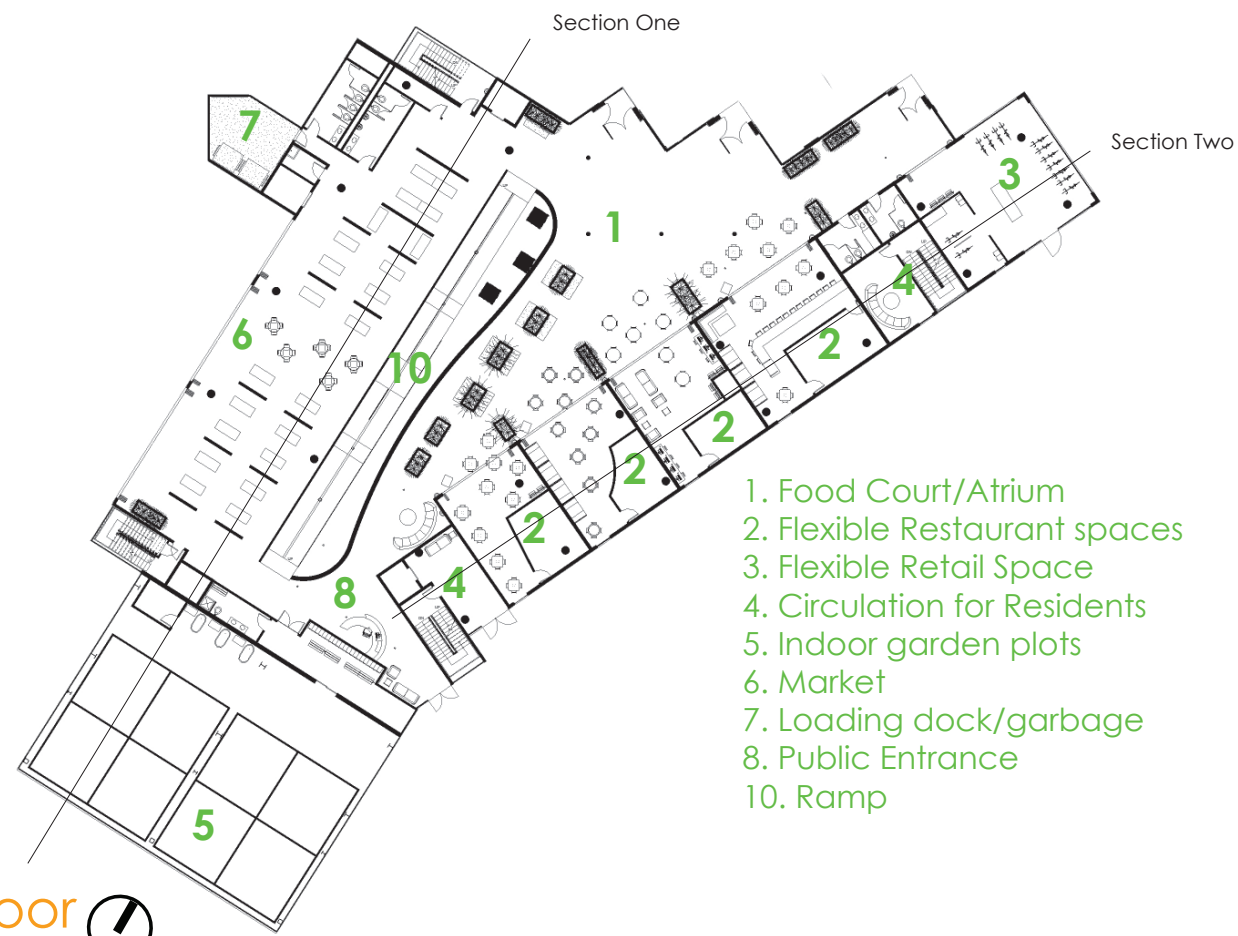
Site plan



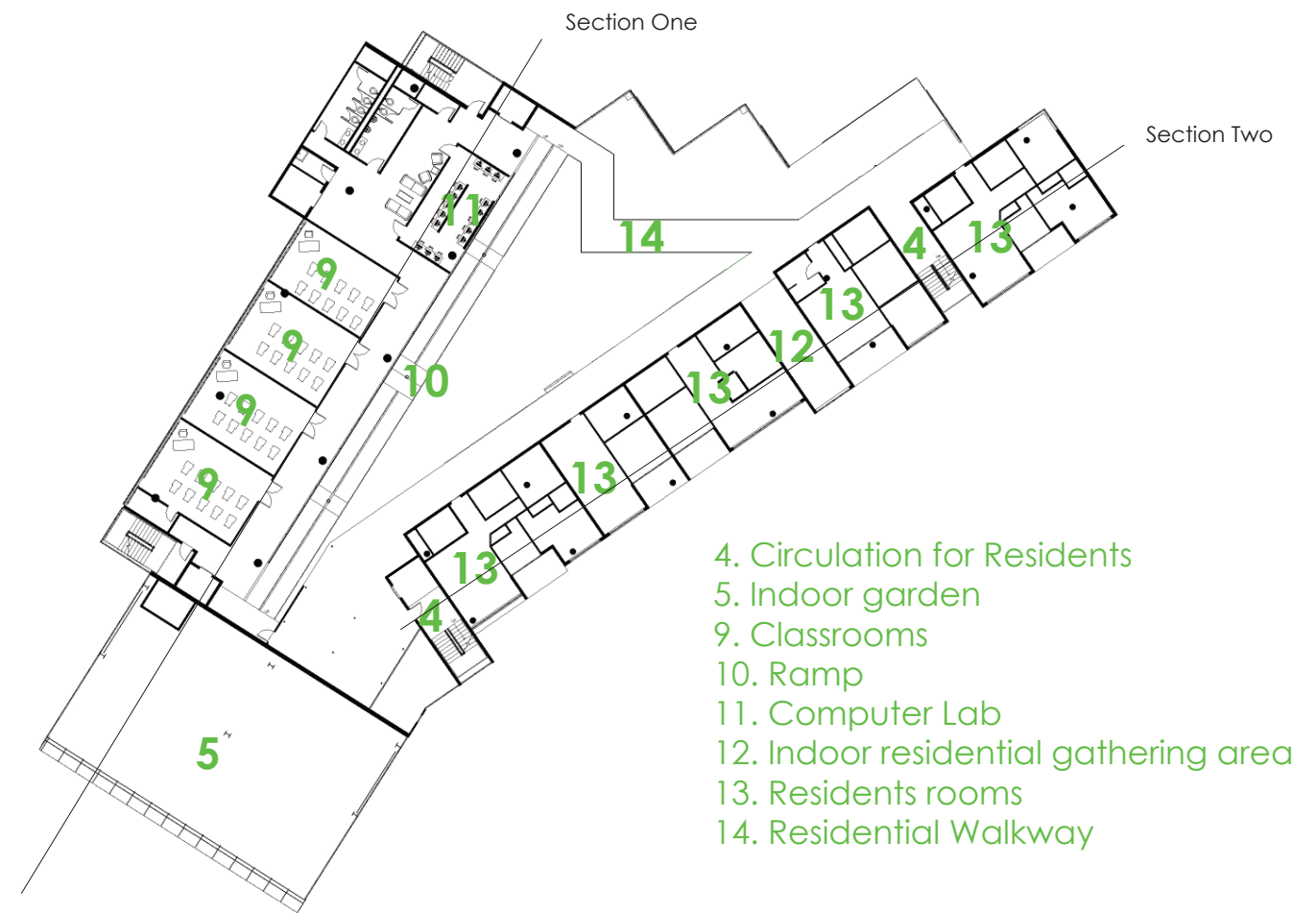
Final Design

Section

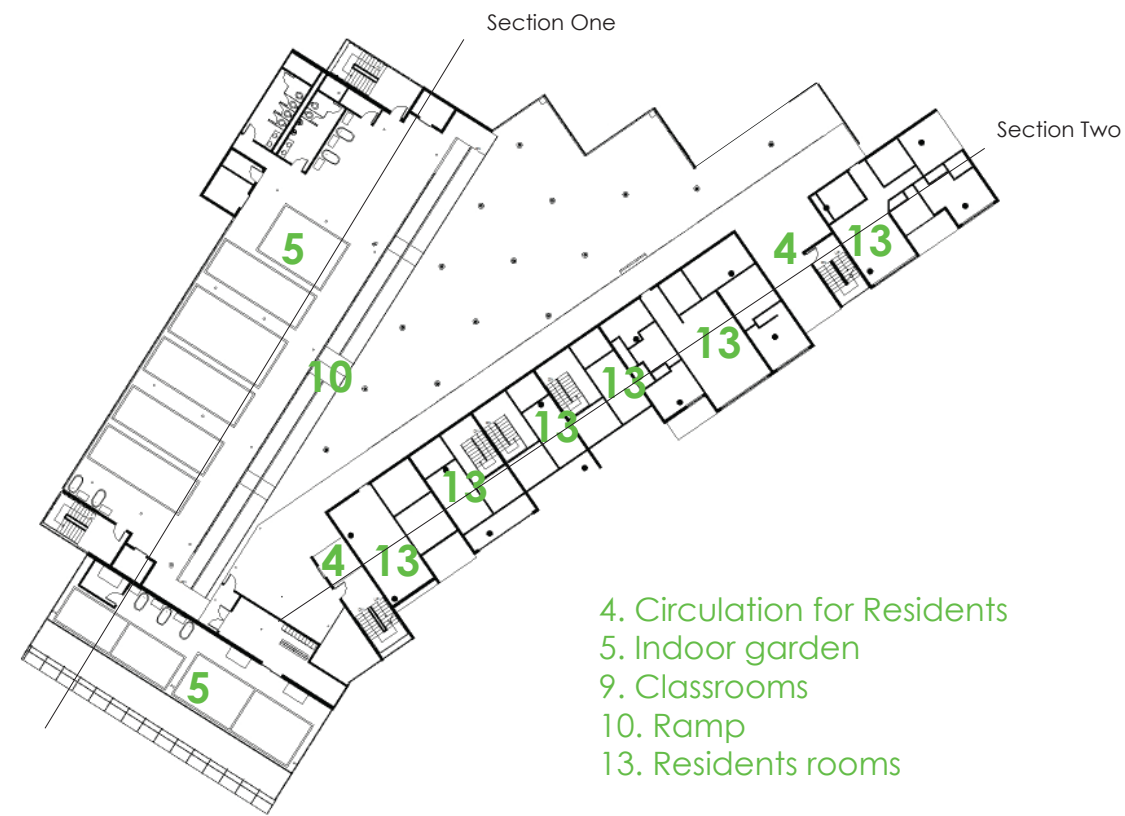




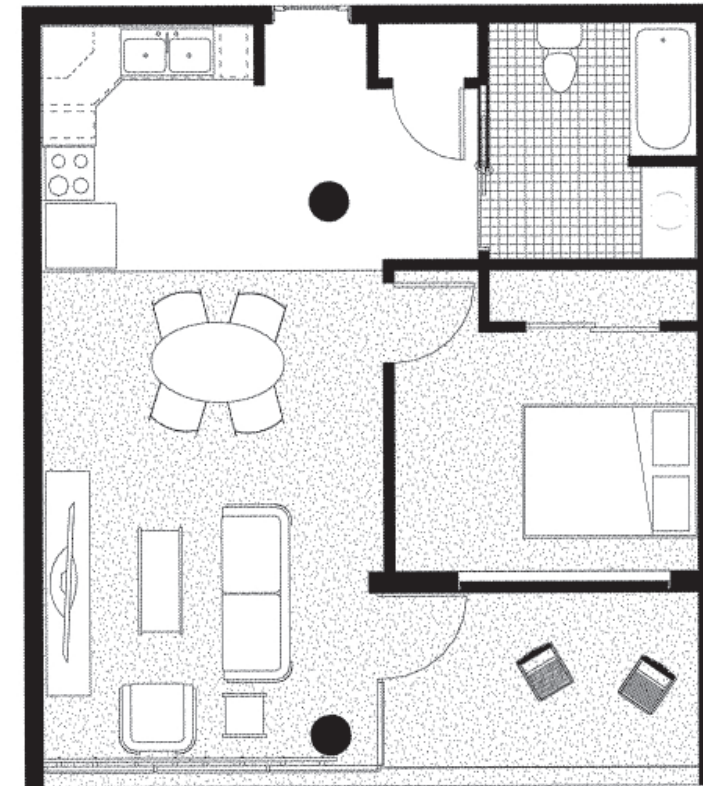
First Floor
Market



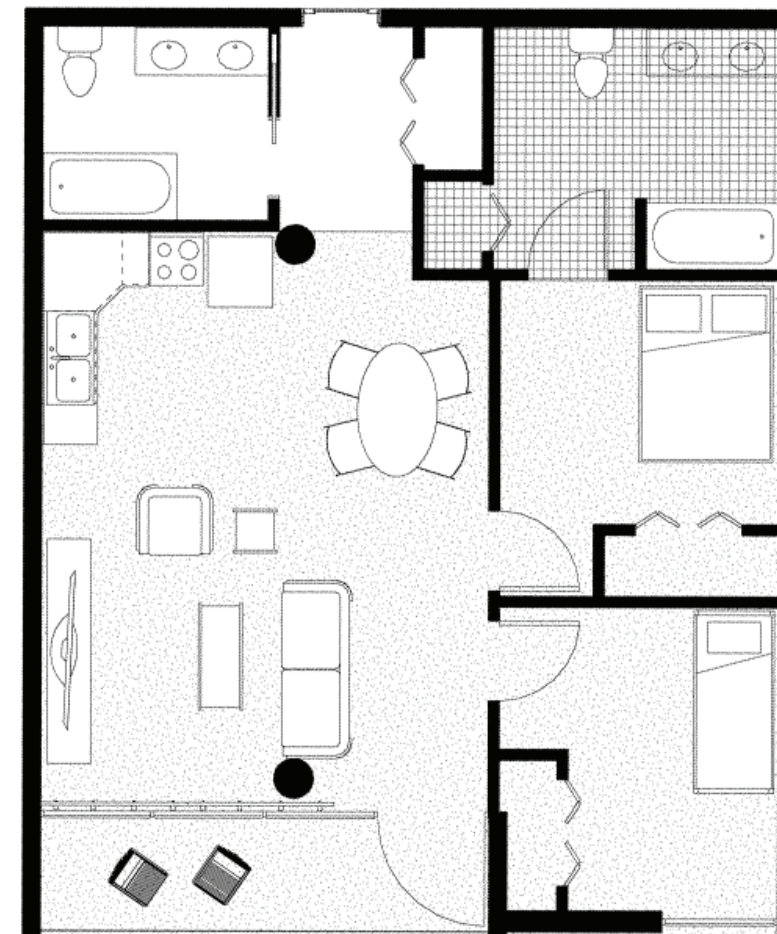
Third Floor
Education



Sixth Floor
Garden



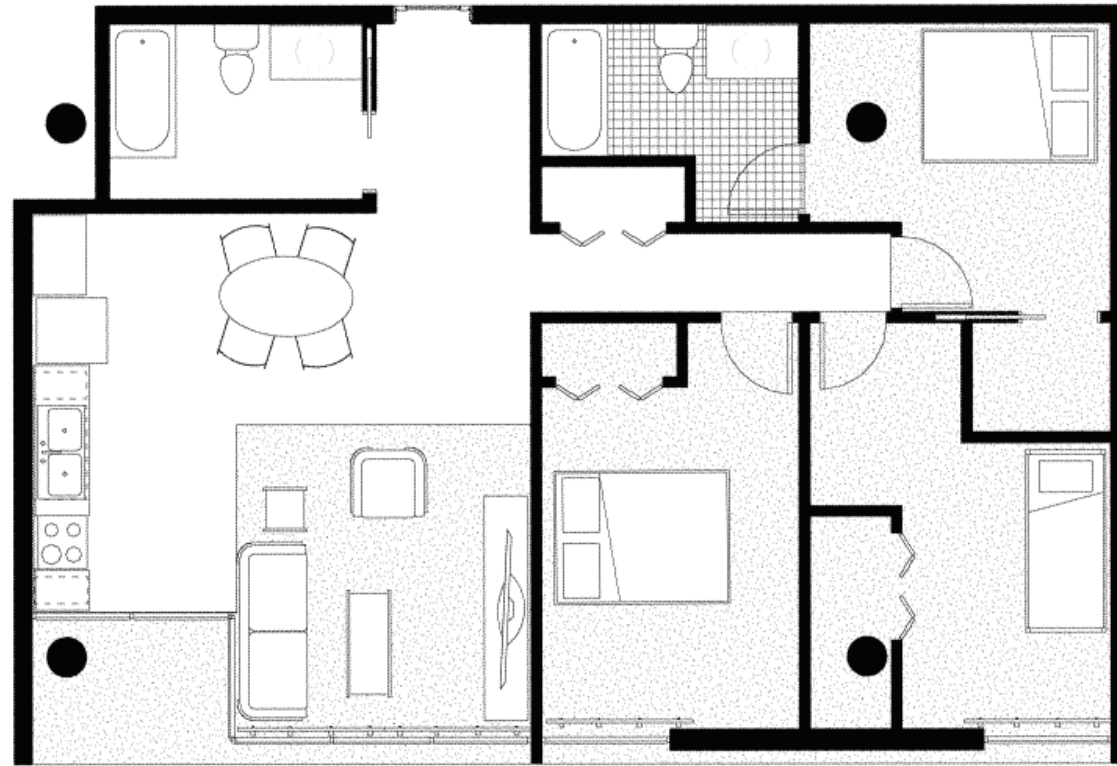
Two Bedroom



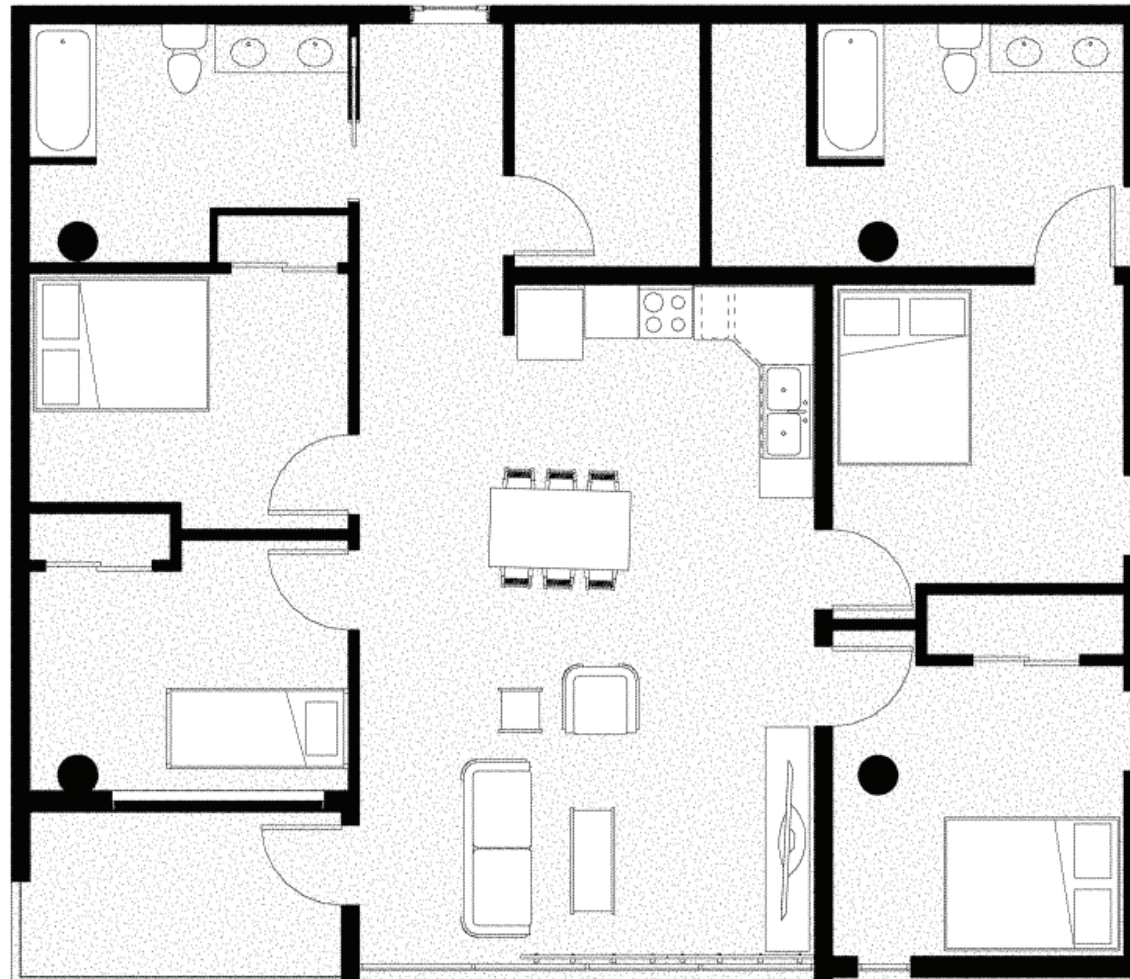
Final Design

Residential Units

Three Bedroom



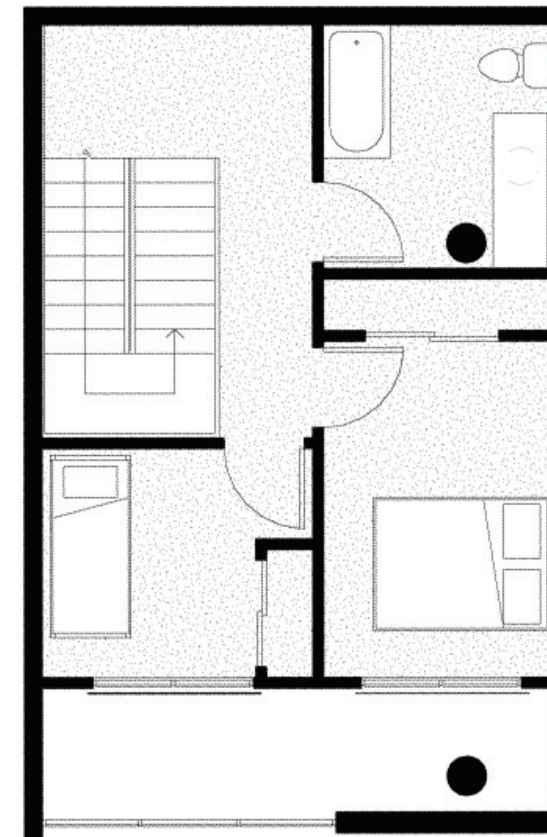
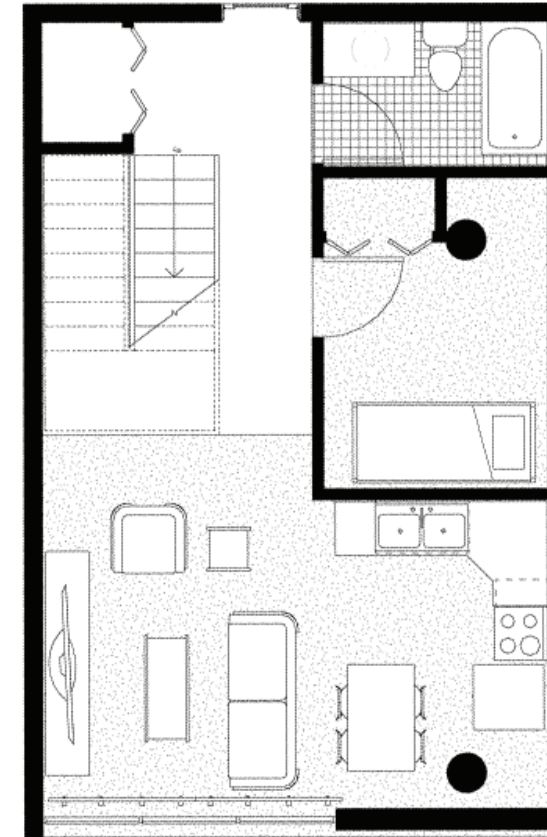
Four Bedroom



Final Design

Residential Units

Two-Story Unit



Final Design

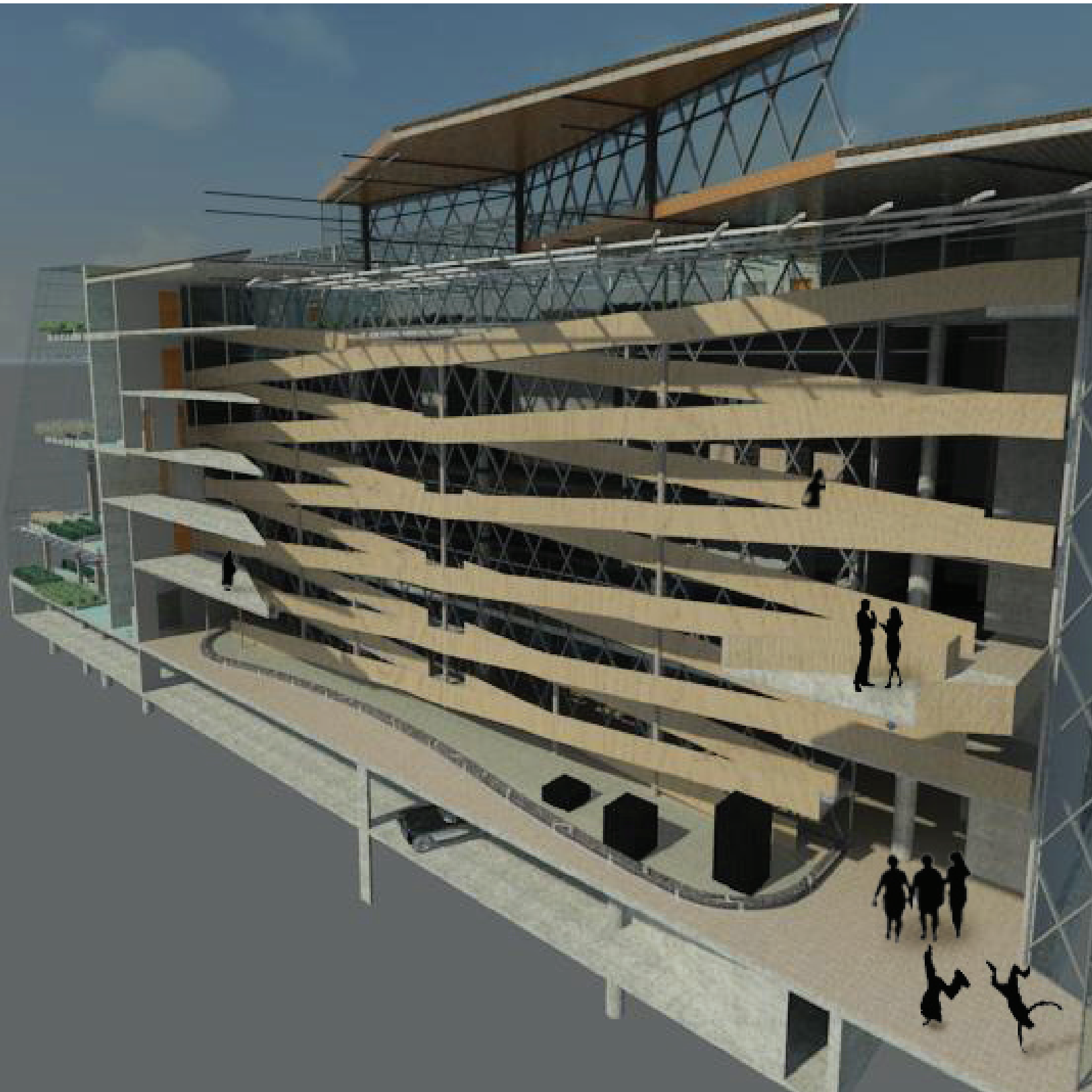
Residential Units



Final Design

Atrium



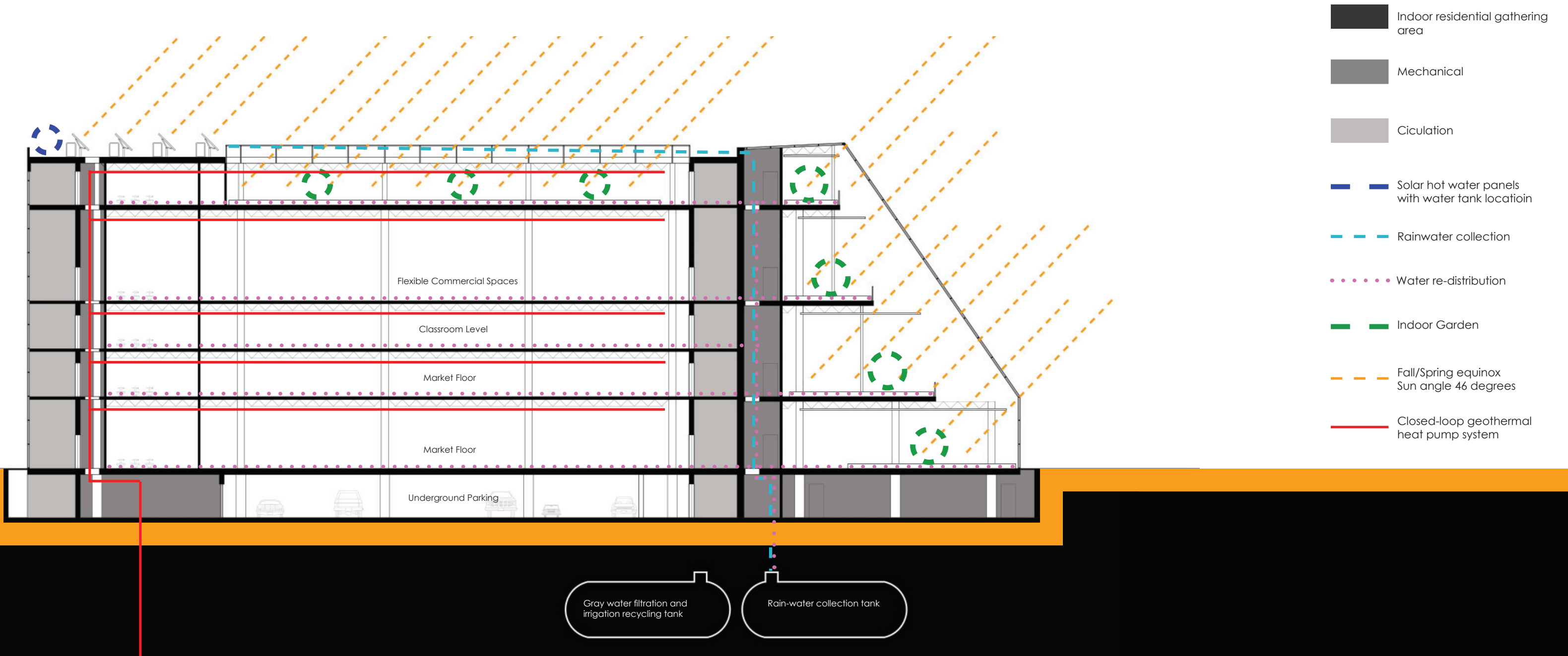


Final Design

Systems/Sustainable Features

Final Design

Systems/Sustainable Features



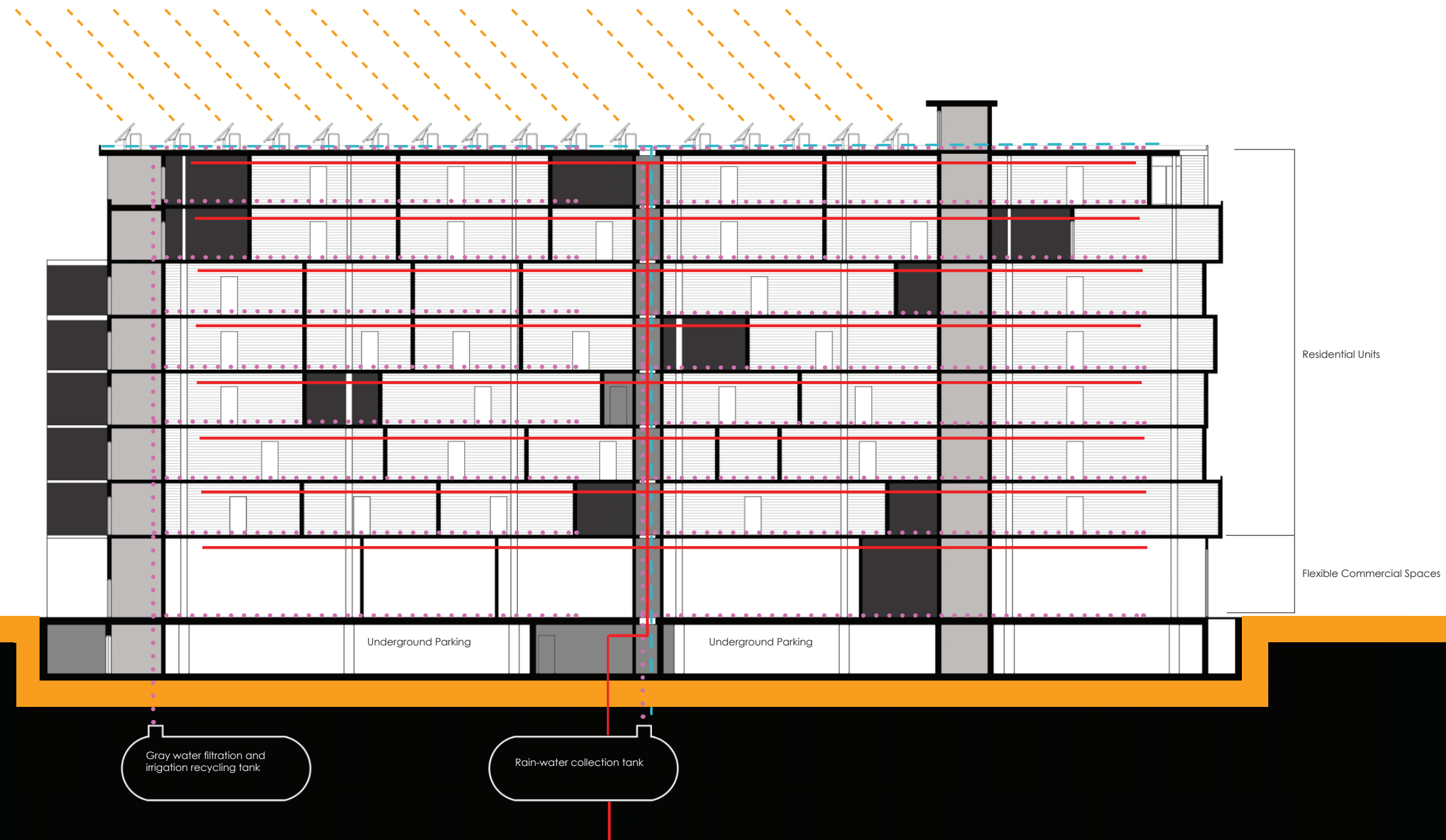
Final Design

Systems/Sustainable Features

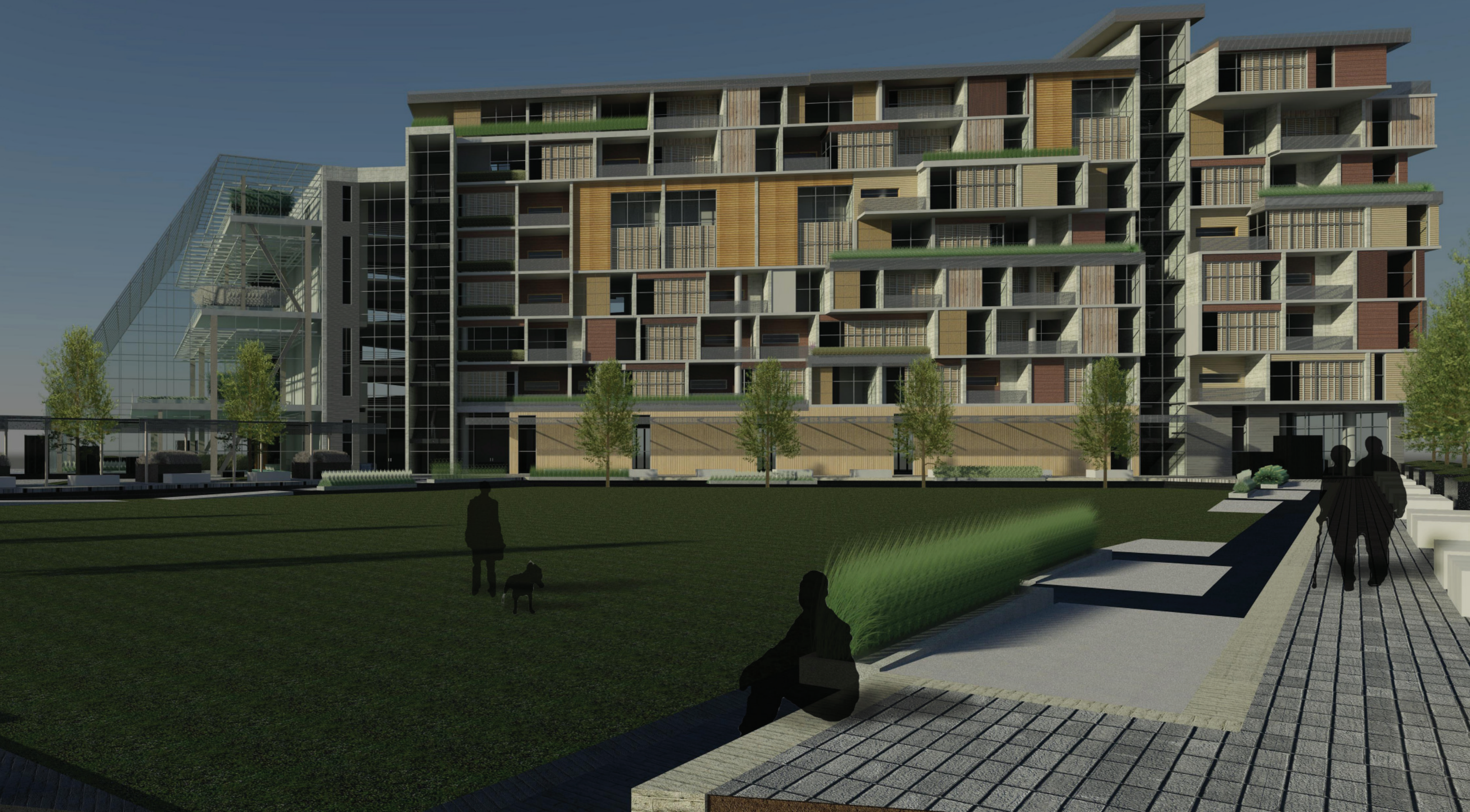
Final Design

Systems/Sustainable Features

- Indoor residential gathering area
- Mechanical
- Circulation
- Solar hot water panels with water tank location
- Rainwater collection
- Water re-distribution
- Indoor Garden
- Fall/Spring equinox Sun angle 46 degrees
- Closed-loop geothermal heat pump system

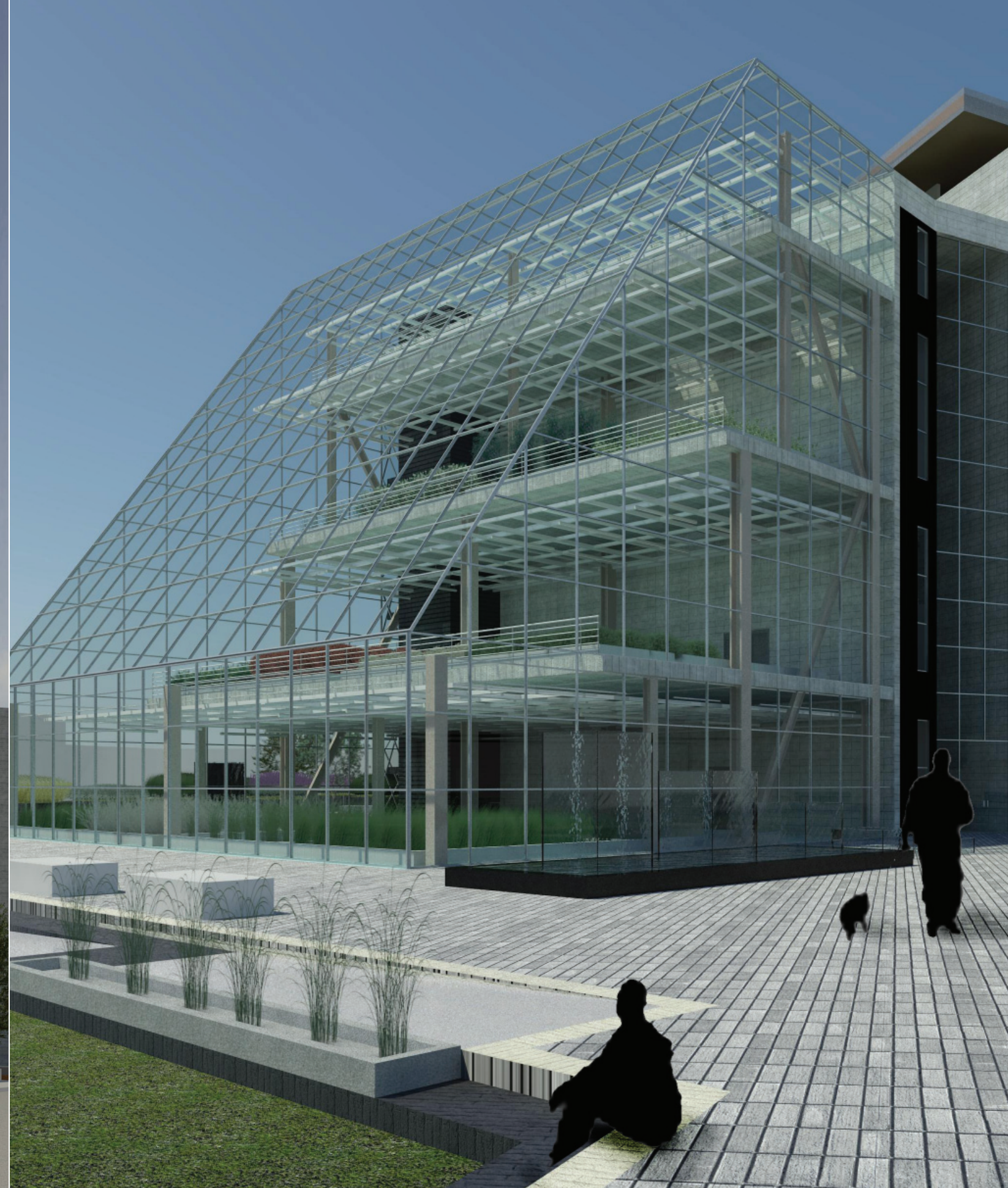






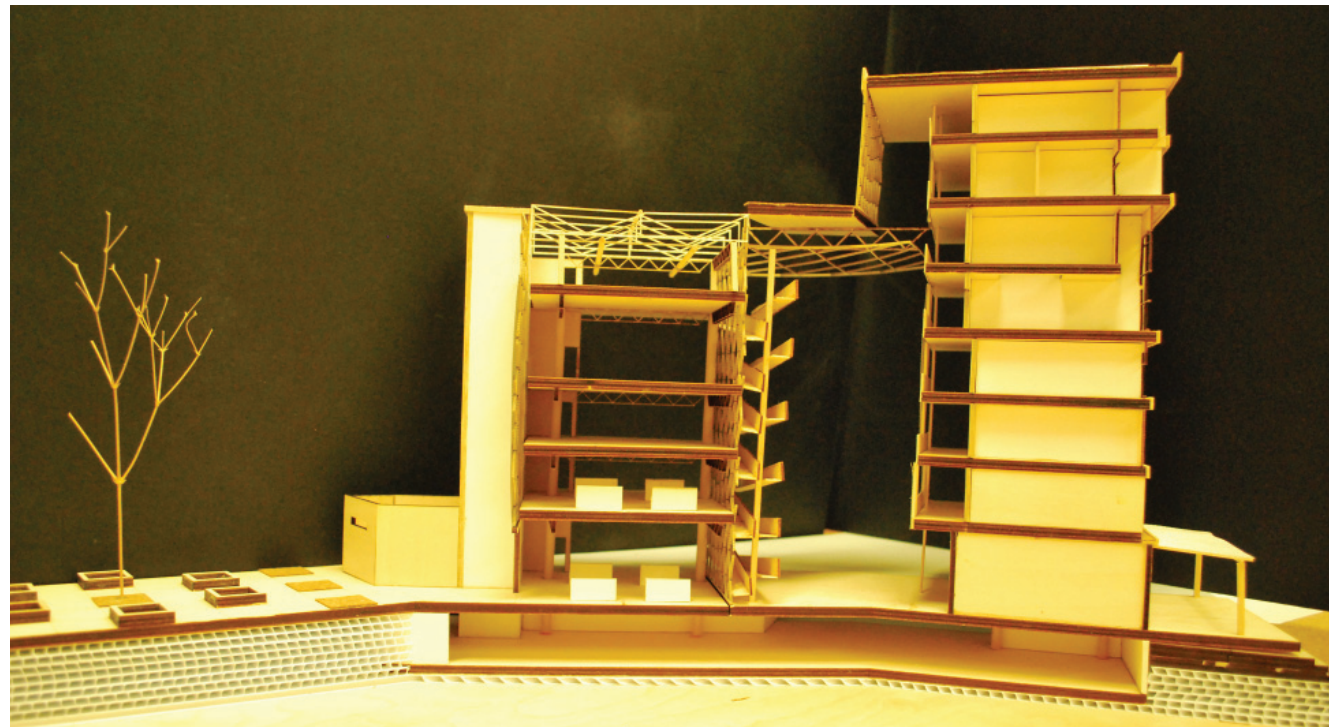
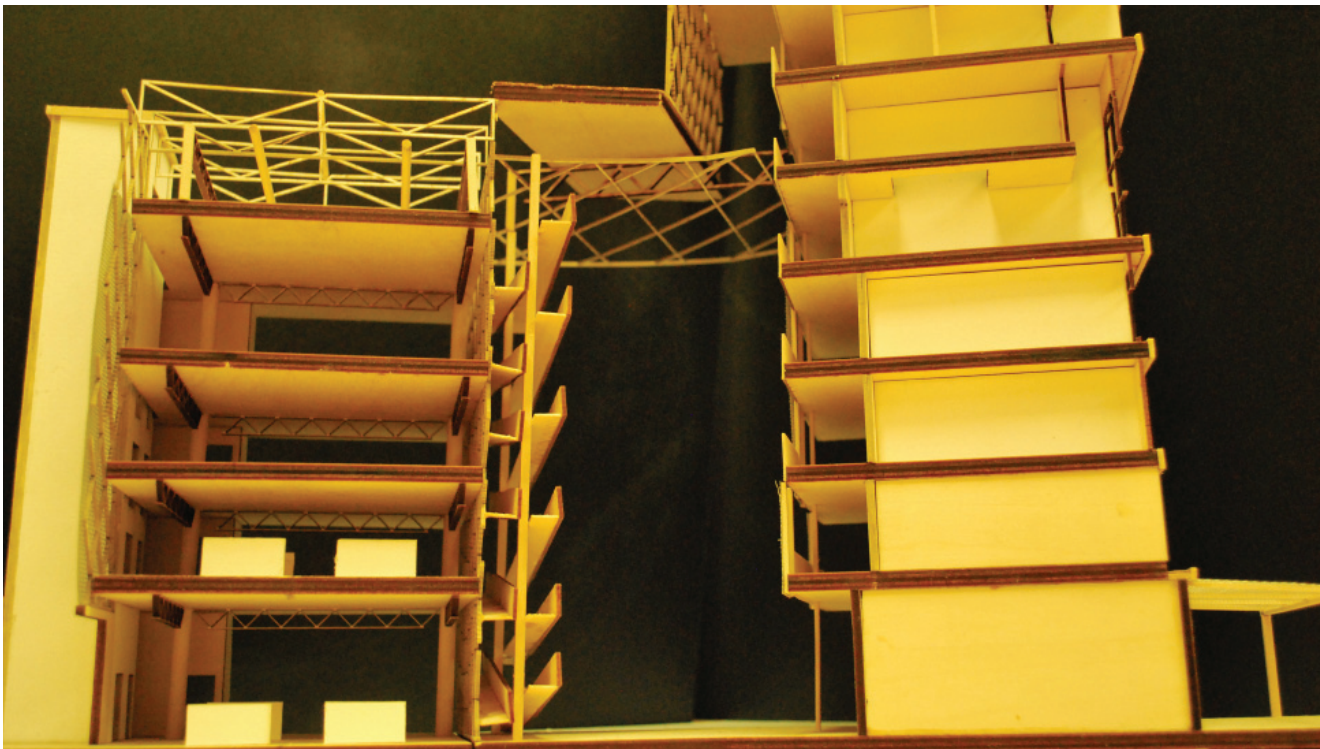


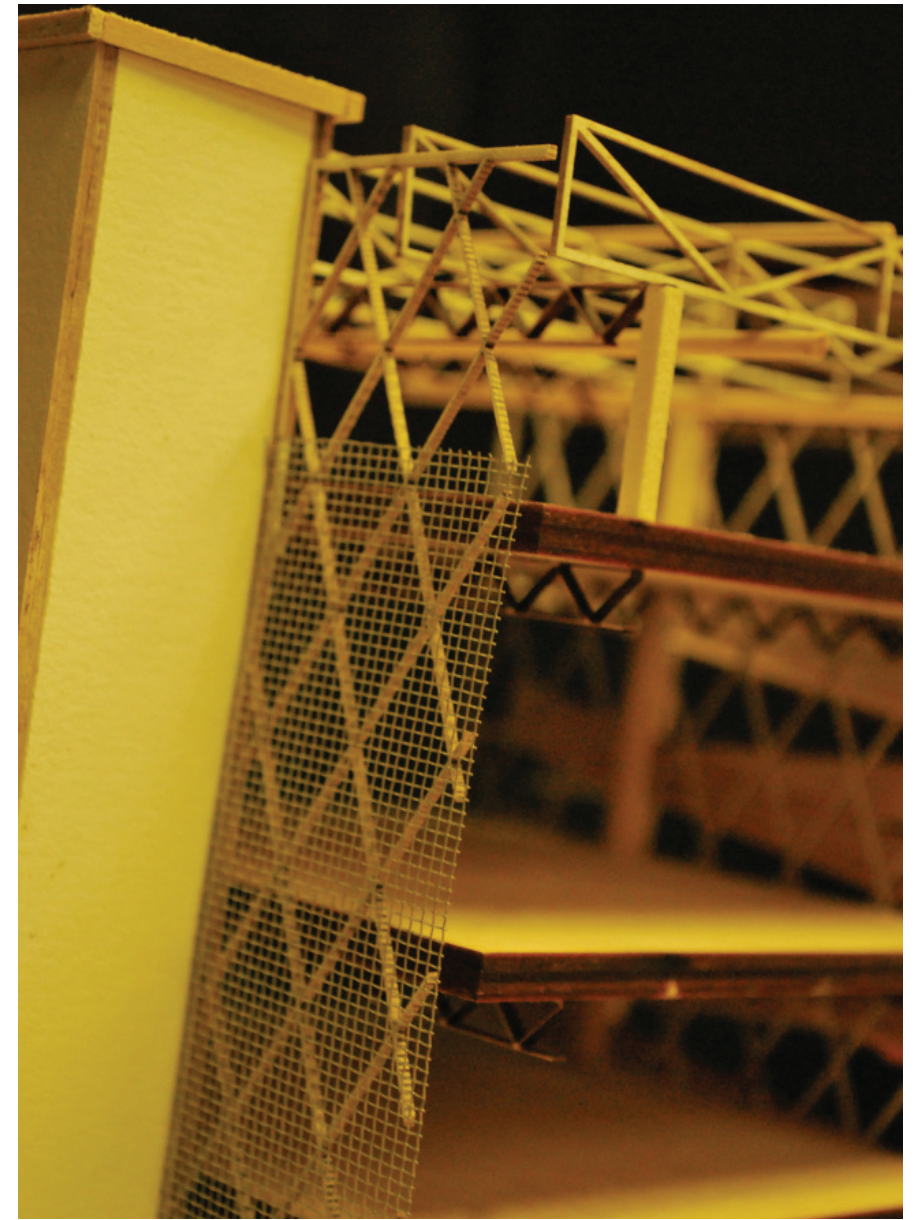
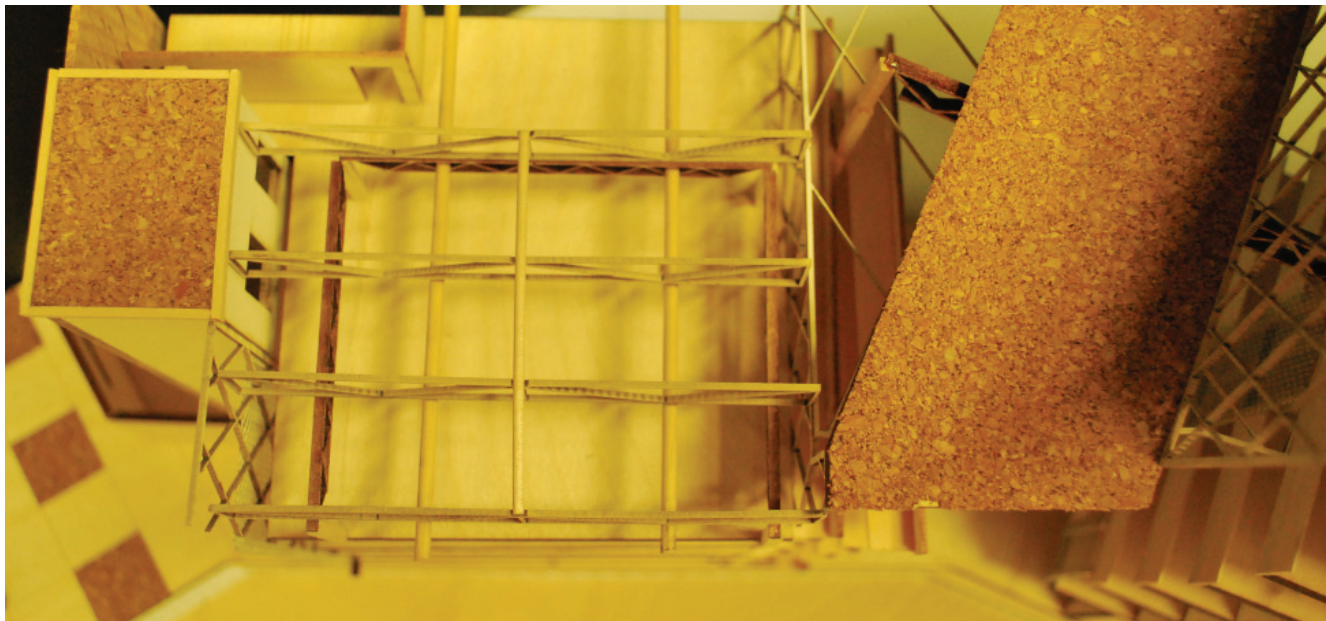
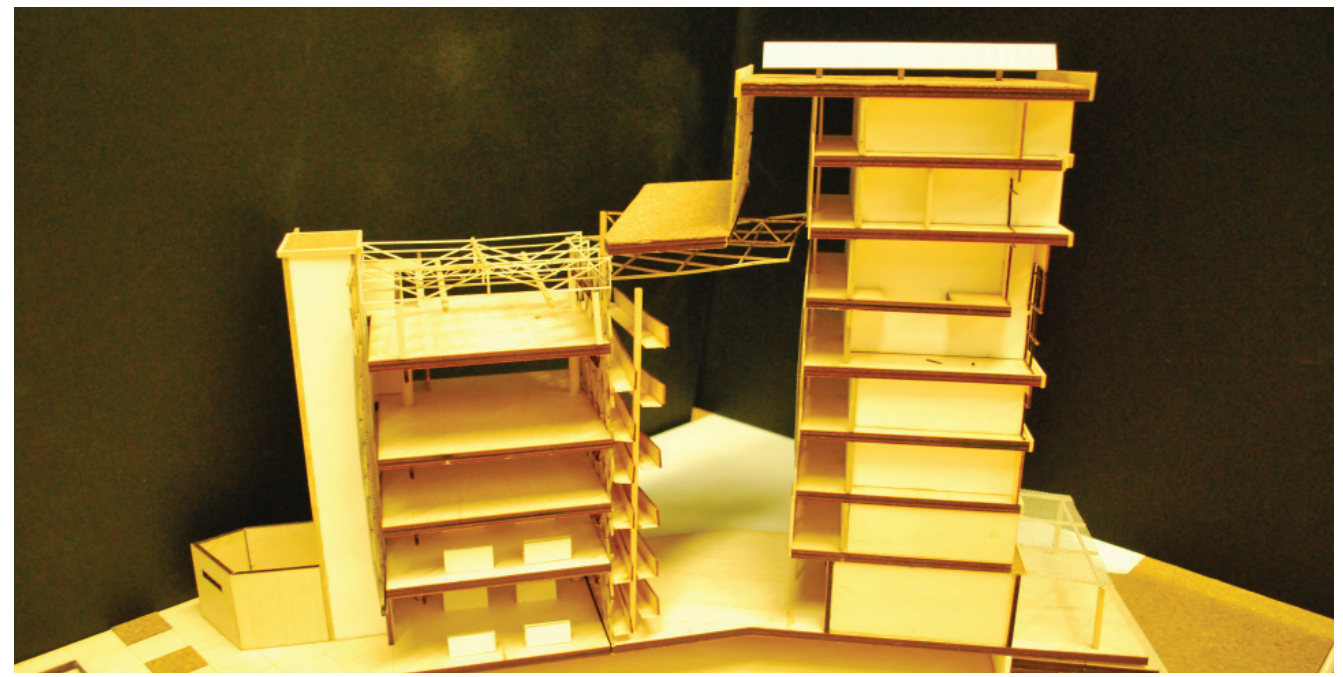
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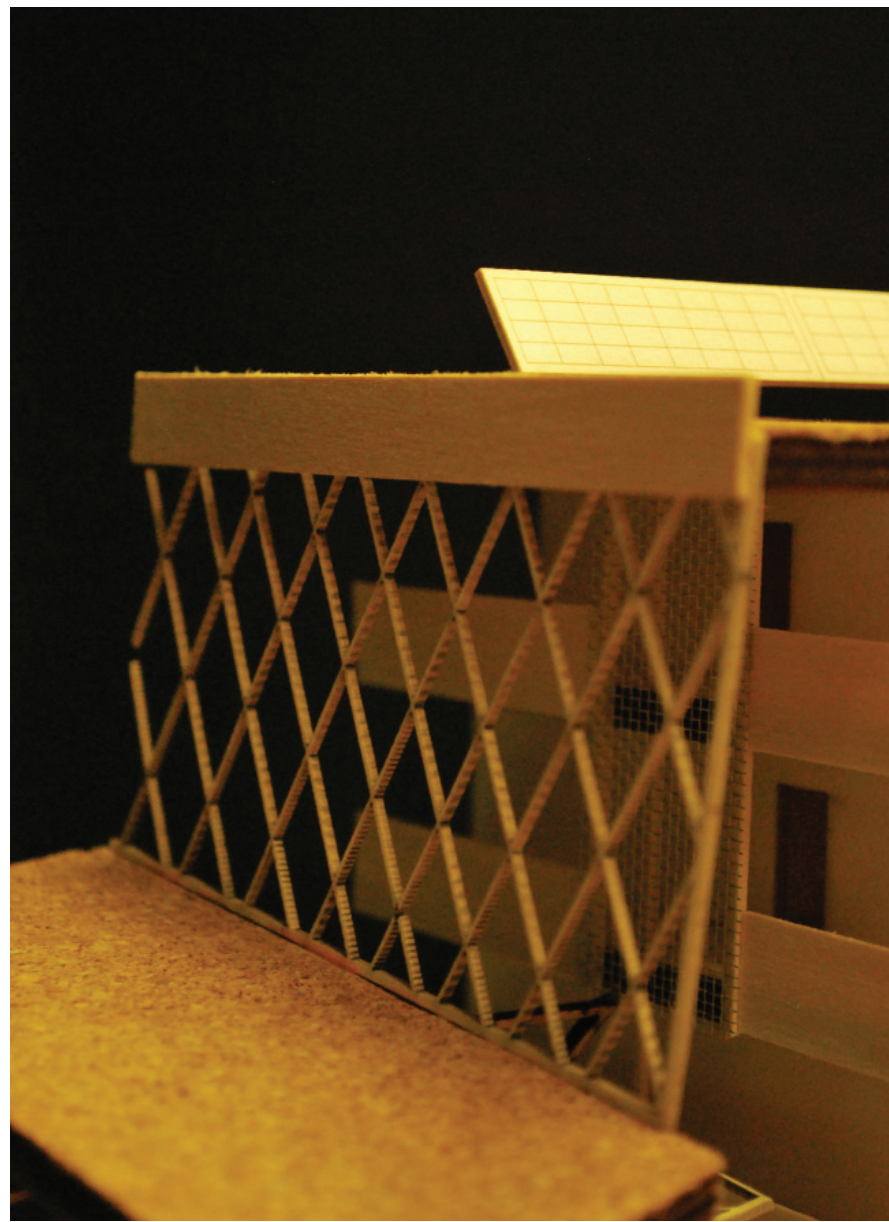
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FINAL MODEL





FINAL DISPLAY



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“The quality of education that NDSU provides has given me the ability to excel outside of the classroom and has formed a solid foundation to start my professional career as an Architect.”

THANK YOU

Dating back to last year I can remember talking and discussing my thesis project, asking professors for advice, and weekly critiques of my project throughout the design process with my advisor and classmates. I wanted to acknowledge the support and efforts to all of those people who have been there for me during this long process.

Thank you: Joan Vorderbruggen, Mark Barnhouse, Sarah Roehl, Cathy Meyer, Don Meyer, Curt Rock, Paul Riechert, Monica and Josh Guggenberger, Michael Stueven, Megan Rausch, Alex Engle, Matt Arndt, Melissa Trueblood, Kevin Zachman, Jon Thomas, Micah Deitz, Chris Anderson, Fernando Bales, Jenn Whitney, Amanda Kohn, Matt Fitzer, Mandel Mertz, John Holten, Shawn Crowley, Kara Braaten, Mitch Dressel, Jamie Walter, Adam Barnett, Nate Gough, Michael Vetter, Terry Staton, Bob Smith, Deb Wendel Daub, and Kris Proulx.