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Title

MIND THE GAP: Bridging a Community Bisected by an Interstate

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MASTER OF LANDSCAPE ARCHITECTURE

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MIND THE GAP: BRIDGING A COMMUNITY BISECTED BY AN INTERSTATE

A Thesis
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ABSTRACT

As a result of discrimination in urban design, many communities of color have been forced to pick up the pieces of their neighborhood after they have been paved through by major interstate developments. Anong these communities is the historical neighborhood of Bronzeville, Milwaukee, which was destroyed in the 1950s by discriminative urban planning and the development of Interstate 43. In recent years, there has been an uptake in restoration to these communities. Urban design factors such as land caps or land bridges over freeways have been proven successful in reconnecting the communities that have been bisected by interstates.

In this context, this thesis focuses on implementing a freeway cap park to address issues of community fragmentation, pedestrian and bicycle safe circulation, missing amenities, shortage of green spaces for passive and active use, and new and restored housing developments.

ACKNOWLEDGMENTS

I would like to acknowledge and thank all my professors who helped me in this thesis's journey, Professor Kost, Professor Fischer and my primary advisor, Professor Visilia, without any of them, I would have been completely lost and confused. I would also like to thank everyone I interviewed and who took interest in this project, without your support, I would not have had the courage to continue. A final thanks to my support circle of friends, my sister and my cat who kept me sane and focused while working on this year long endeavor.

DEDICATION

This thesis paper is dedicated to my friend Angel, who invited me into a new space with wide arms and opened my eyes to the injustice in urban design.

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1. INTRODUCTION

1.1. Problem Statement

Due to the onslaught of racism in urban development, many thriving communities of color were cast aside in the era of Redevelopment in the United States. Almost every major city today has a story of a prominent minority community destroyed by the Interstate Act of 1956. To atone for previous wrongdoings, many large urban areas are turning to urban redesign solutions such as freeway caps. The thesis in this report will explore the implementation of a freeway cap park and its ability to re-stitch and restore a community in northern Milwaukee to its former vitality.

When looking at the current state of the former Bronzeville neighborhood today, most of the neighborhoods are in disrepair and in need of a helping hand. Houses either stand dilapidated and vacant or are barely held together and in need of renovation. Road conditions are not faring any better. Many of the roads in the neighborhoods are outdated and need major maintenance. Akin to the roads are their adjacent sidewalks, which are too small in width and have been clearly forgotten about with tree roots buckling through. On a social level, the area is suffering serious depopulation and needs a new wave of residents to call it home.

Factors such as circulation, existing amenities, and housing design developments are all important topics when looking at creation of a freeway land cap park. Community engagement was also critical in gauging how to design a space that best fits and serves its surroundings.

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1.2. Objective

The proposed project is a mixed-use land bridge designed to connect two halves of a community located in Milwaukee, Wisconsin. Land bridges, or freeway caps, are growing in

popularity. There are a few others similar to the one being proposed here located around the state. The freeway cap would provide new spaces for not only residential buildings but also commercial buildings. Alongside new building construction would be the creation of new green spaces. Complete with playgrounds for a variety of ages, the green space would also provide new sport fields as well as a community garden. Because of the bridge's location, these areas would help support new African American business and families. The goal of the bridge is to reconnect the neighborhoods of North Division and Harambee, while providing new spaces for these communities to flourish. The research for the proposed project focuses on how to create a beautiful area for the surrounding community as well as the commuters on I 43.

2. HISTORY OF DISCRIMINATION IN URBAN DEVELOPMENT

In true and traditional colors of the United States, discrimination is present in every crevice of history. This portion of the paper outlines and delves into the history of discrimination in urban development.

2.1. History of Redlining in the United States

In the first half of the 20th century, Americans in the United States were dusting themselves off and trying to start life anew post Great Depression. To combat their shortcomings, the federal government created intense reform policies to 'help'. One of these policies focused on revitalizing and overhauling the housing market. The Home Owners Loan Corporation (HOLC) was a federal agency created as a part of the New Deal in 1933 (Mitchell and Franco, 2022). Its claim to fame was a series of maps for over 200 cities documenting the relative riskiness of lending across neighborhoods as a part of its City Survey Program (Aaronson et al., 2021). On paper, the classification of neighborhoods was categorized by housing age and price. However, research done by Aaronson et al. (2021) shows that other non-housing factors were influential in map design, "… nonhousing attributes such as race, ethnicity, and immigration statues were influential factors as well". Many of the lowest-rated homes were home to African American residents, resulting in the term "redlining". This practice outlines how borrowers were denied access to credit due to the demographic composition of their neighborhood. Most of the large urban populations had maps like these drawn up across their city limits, indicating this effect happening throughout the nation.

2.2. Effects of Redlining in the United States

Even though the maps were drawn up almost a century ago, many of the effects they caused are still felt in communities today. According to Mitchell and Franco (2022) areas in the

red zones were denied critical capital, “neighborhoods considered high risk, or ‘hazardous’ were often ‘redlined’ by lending institutions, denying them access to capital investment which could improve the housing and economic opportunity or residents”. This blockage furthers the investment in the community and in turn, furthers the improvement of the community is the main trunk from which all other issues stem. In their report, “HOLC ‘REDLINING’ MAPS: The persistent structure of segregation and economic inequality” Mitchell and Franco delineate their findings, “the economic and racial segregation created by ‘redlining; persists in many cities… persistent economic inequality … persistent residential segregation … gentrification is related to some lessening of segregation, but also with increased economic inequality … regional differences in changes of HOLC ‘Hazardous’, and LMI and majority-minority areas” (4-5). With the persistence of economic and racial segregation tenacity deep in American cities, most of the ‘redlined’ neighborhoods are now low-to-moderate income today and minority neighborhoods (Mitchell and Franco, 2022). Economic inequality and residential segregation are also at an all-time high in areas graded high-risk or ‘Hazardous’ by the HOLC, indicating a lasting impact of the mapping and little to no change is being implemented in these cities (Mitchell and Franco, 2022). Often in these areas of inequality, developers will try to reconcile and help the neighborhood. However, their efforts often result in gentrification of the neighborhood, which worsens the economic inequality. Lastly, the report discovered that many “cities in the South showed the least change in the HOLC-evaluated “Hazardous” neighborhoods that today have lower incomes and higher populations of majority-minority residents” (Mitchell and Franco, 2022). Ultimately, Mitchell and Franco’s report shows how regardless of the time, there is still a blight of discrimination.

3. RESEARCH METHODS

Alongside big picture historical analysis, research into the site's specific history was needed. The paragraph below briefly outlines the timeline of the Bronzeville neighborhood in northern Milwaukee, Wisconsin.

3.1. Timeline of the Bronzeville Neighborhood

In northern Milwaukee during 1910s – 1950s, lies the neighborhood of Bronzeville. Geographically, it was defined by North Avenue, State Street, Third Street, and 12th Street and was centered around Walnut Street. The community bloomed in population from the "Great Northern Migration", where African Americans from the South moved north, seeking employment opportunities, and fleeing segregation ([History of Bronzeville], 2024). Despite economic and social challenges, the Bronzeville community thrived while creating an unmistakable sense of community and identity. Unfortunately, their communal strength was not enough to keep them safe from discrimination. In the early 1960s, the neighborhood met its abrupt end by a double edge sword of the Housing Act of 1949 and Interstate 43 being built through the center of the area ([History of Bronzeville], 2024).

4. COMMUNITY ENGAGEMENT

The heart and soul of the project was focused on community and community engagement. Both the nature of the site and project needed to be centered around the voices of the residents. To take this into account, interviews with local citizens were essential.

4.1. Interview with Cassie Steiner

One of the residents was Cassie Steiner, an activist from Milwaukee and a leadership figure of the Wisconsin chapter of the Sierra Club, who is currently fighting against the latest Interstate 94 expansion. Steiner had a lot of insider knowledge when it came to the expansion of interstates and the Wisconsin Department of Transportation (WisDOT). They talked about how the majority of the WisDOT funding is funneled into highway expansions, repairs, and general maintenance. Another thing they talked about is how there is a constant battle against WisDOT and its ramifications. One of the biggest takeaways from the interview was their knowledge of the proposed site. Steiner talked about how the residents' main mode of transit was walking, biking, or taking the bus. They also gave insight into the area, noting how the site is in a food desert. Overall, it was super insightful to learn about the area from an insider's perspective.

4.2. Interview with Carl Glasemeyer

The second interview that took place was with someone Cassie recommended, Carl Glasemeyer, a Milwaukee resident who works at Thousand Friends of Wisconsin. Like Steiner, Glasmeyer was an activist specializing in fighting freeways. He briefly talked about the current project he was involved with, removing Interstate 94 completely (Our Streets MN). Glasmeyer also talked about the ultimate dream of freeway fighters: removing interstates in their entirety and replacing them with public transit lines and pedestrian boulevards. Being a local of Milwaukee, Glasmeyer knew a lot of the history of the roads. He mentioned how Milwaukee had

plans to make a larger, more extensive interstate network but it was never completed due to funding. Glasmeyer proposed removing the Interstate 43 and replacing it with a high-speed rail rather than capping over it due to lower flow of traffic, in comparison to Interstate 94. In support of a light rail mode of transportation, Glasmeyer also mentioned there was an existing train route running from the north to the center of the city, indicating a prior reliance on long distance public transportation. When looking at the site, he expressed the area's struggle with depopulation. Many of the residents had to leave due to numerous factors, leaving businesses and homes to stand empty. Homes in the area are in dire need of repair and restoration, or total demolition. Glasmeyer alluded to design elements such as diversity in housing, bike lanes, additional sidewalks, green spaces, and bus bump outs being good candidates for the area.

4.3. Bronzeville Redevelopment Plan

Alongside personal interviews with locals, research was conducted on the Bronzeville website where a redevelopment plan was discovered. On the Bronzeville website, there is a development tab with three sub tabs of 'Area Plans & Studies', 'Real Estate' and 'Redevelopment Plan' ([Bronzeville website], 2024). Area Plans and Studies details the previous visionary work of the Bronzeville neighborhood looking at 'Equitable Growth Through Transit Oriented Development', 'Dr. Martin Luther King Jr. Drive 2013 Visioning Charette', 'Northeast Side Area Plan' and 'Anti-Displacement Plan' ([Bronzeville website], 2024). These plans were briefly analyzed but they focused more so on the entire northern half of Milwaukee and not quite so much as the refined site area. The 'Real Estate' tab just highlighted opportunities to own homes or a business in the area. Again, it was not quite the focus of the research needed for the site area. The 'Redevelopment Plan' tab was where gold was struck. Not only did it show there was already interest in redeveloping and restoring the area, but there was also community backed

proposed plans. The proposals also took place in the Harambee neighborhood, the east neighborhood the thesis site would be connected to. Also located in the tab was previous community engagement and interest meetings, where locals were encouraged to speak their truths and desires for the neighborhood. From this, the need for many design elements was created. Some of the desired elements included brick and stone as primary building materials, pocket parks and green spaces, art in public spaces, and gathering spaces both indoor and outdoor alike ([Bronzeville website], 2024).

5. RESEARCH CONCLUSIONS & APPLICATION

A few key highlights were derived from the research conducted. To start, the site is home to many walking pedestrians, so it is wise to note: sidewalks need a serious update. There is also the foreboding danger of crossing the roads on foot that needs to be addressed. New pedestrian only crossings would be worth looking into. Akin to heightened awareness for pedestrian foot traffic, the research shows that there is also a need for bike lanes. Proposing new bike lanes, at least along the main arterial roads, would be beneficial to a large audience. The second key focus is the lack of certain amenities. These amenities include a grocery store, green spaces, gathering spaces, and a new community space. Because there is a dire need for these amenities, they will be some of the main focuses when it comes to master planning. The third and final key focus is on housing. As stated earlier, many homes in the area either need serious renovation or a total makeover. Housing diversity is also critical when it comes to discussing this theme. Home layouts such as townhomes and smaller, more manageable family homes will be a pioneering design. Vacant and city owned lots will also be reimagined as new housing opportunities. Circulation, amenities, and housing are going to be the key pillars of this thesis.

6. SITE

In the following two subheadings, the site of this thesis will be detailed.

6.1. Site Context

The site is located above Interstate 43 in north Milwaukee, Wisconsin. It is between the bridges of West Center Street to the north and West Wright Street to the south. It is also bordered by north-bound frontage road North 7th Street to the east and south-bound frontage road North 8th Street to the west. The site itself is roughly 11 acres or 481,000 square feet.

6.2. Site Inventory

Table 1: Site Inventory Matrix

Topography	The interstate the site sits over is roughly 675 ft above sea level. The streets that the site bridges together are 686 ft above sea level. The surrounding neighborhood is at a similar level to the streets with little to no elevation change for at least 1 mile.
Vegetation	The area is home to a variety of trees. The Wisconsin Department of Natural Resources has a master document of all the trees listed near the site (https://pg-cloud.com/Wisconsin/).
Soil Types	The surrounding neighborhood's soil survey consists fully of Minard clay loam.
Land Use	The area directly surrounds the site is a mixture of residential, primarily to the east and west, and commercial, primarily to the north.
Infrastructure	Both West Center Street and West Wright Street are preexisting bridges spanning over and above the interstate. N 7th St and N 8th St are frontage roads at fixed elevations of the surrounding neighborhood. Interstate 43 is a four-lane freeway with two lanes going northbound and two lanes going southbound. Most of the buildings to the east and west of the site are residential homes. There are five designated green spaces (parks or sports fields) within a 10-mile radius.
Climate	The climate in Milwaukee consists of four distinct seasons: summer (average temperature range: 67.6 F – 72.3 F), fall (average temperature range: 40.4 F – 65.0 F), winter (average temperature range: 24.0 F – 29.5 F), and spring (average temperature range: 36.4 F – 57.1 F). Due to its size and location, Milwaukee experiences both the Urban heat Island effect as well as effects from Lake Michigan. The average precipitation (rain) in inches from May to September is a range of 3.16 – 4.38. The average snowfall range in inches from October to April is 0.3 – 14.9.
Cultural	The site is in what used to be known as Bronzeville in the early 20th century (see 3.2). It is also located 0.6 miles from the America's Black Holocaust Museum.
Accessibility + Connectivity	Outdated sidewalks on every road. No outlined bike lanes. Bus routes on both frontage roads run the length of the frontage road. Routes are also alongside both W Wright St and W Center St.

7. PRE-DESIGN PROGRAMMING & DESIGN PRECEDENTS

To have a better understanding of what a functioning freeway lid looks like, there was a need to identify and research successful cases. Located below is the case study matrix.

7.1. Case Studies

Four case studies were used as a precedent for this thesis; they included Klyde Warren Park, Jim Ellis Freeway Park, The Stich, and Reconnect Rondo. Each case was scrutinized by size, topology, and the benefits it brought to its respective area.

Table 2: Case Study Matrix

Title	Size	Typology	Benefits
Klyde Warren Park	5.2 acres	Tunnel	- Reconnect Districts - Improved accessibility in/out of downtown CBD - Air quality improvement through reduced traffic congestion - Additional lids proposed in other parts of Texas
Jim Ellis Freeway Park	5.2 acres	Tunnel	- Value addition for the residents and local businesses - Municipal parking garage benefits - Provision of a passive space for users while providing value to the Park Place building - Increase in property tax revenues - First freeway cap in the United States
The Stitch	35 acres	Tunnel	"The aim of the Stitch is to advance the equitable revitalization of north Downtown through enhanced access to affordable housing, low-cost transportation, jobs and community resources" (Stitch, 2024)
Reconnect Rondo	60 acres	Tunnel	- Neighborhood reconnection - Affordable housing - Equitable development - Public health/Green space - Community leadership

8. SCHEMATIC DESIGN

The schematic design illustrates the preliminary thoughts and concepts when it came to designing the thesis. Many of the ideas illustrated below started to explore how to implement the community's desires into a full thesis design. The following figures include a zoning map and concept drawings done by hand.

8.1. Preliminary Concepts

Below are roughly drawn preliminary ideas, starting with an outline of the site into three separate zones.

Figure 1: Zone Map

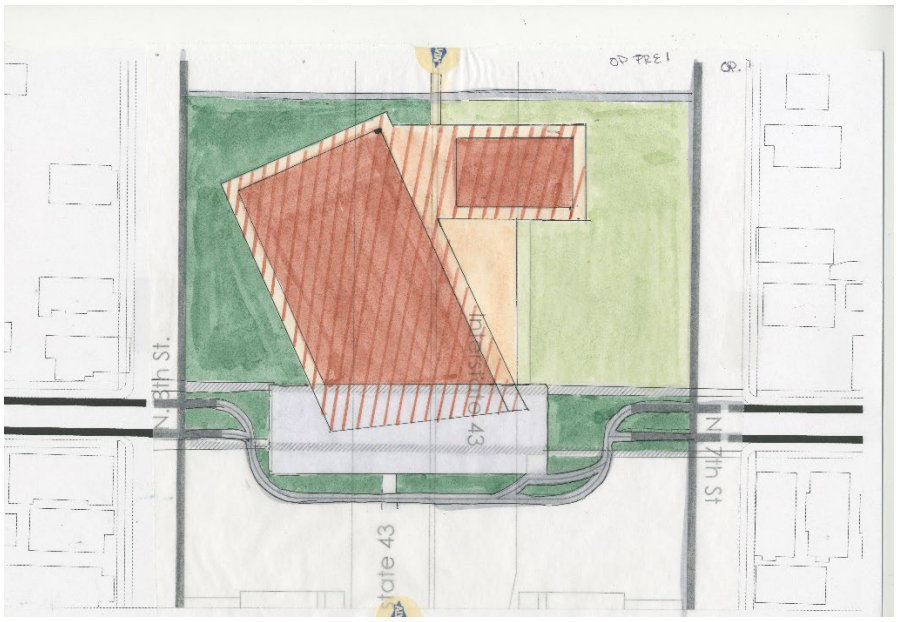

Figure 2: Preliminary Library + Plaza Design

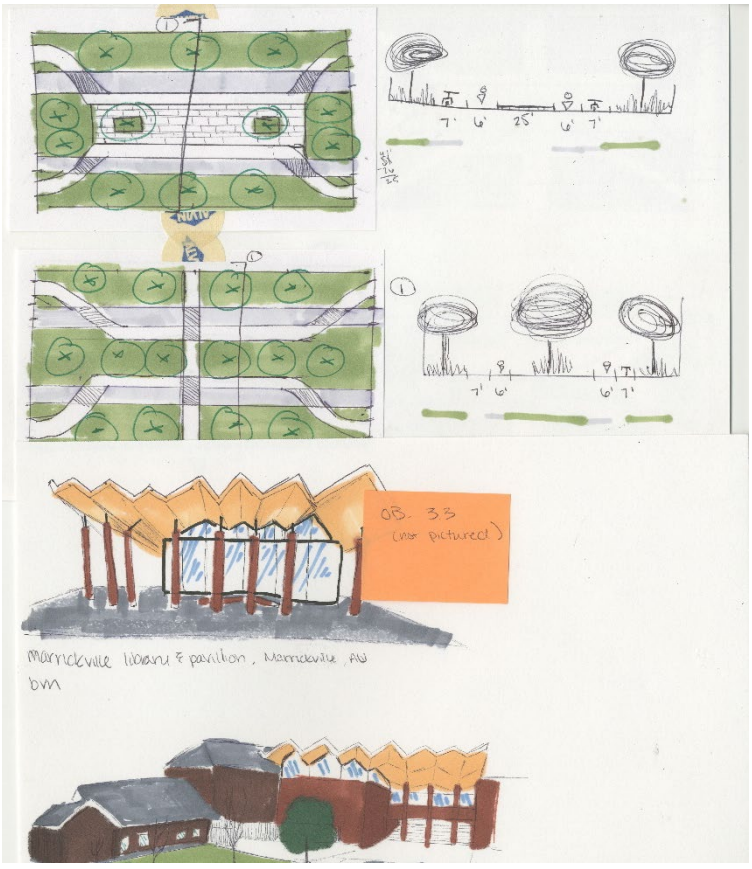

Figure 3: Preliminary Building Design + Plaza Design
Note: The top half of the figure outlines the preliminary design for the plaza space and the bottom half of the figure outlines the preliminary building design.

Figure 4: Preliminary Natural Playground Design

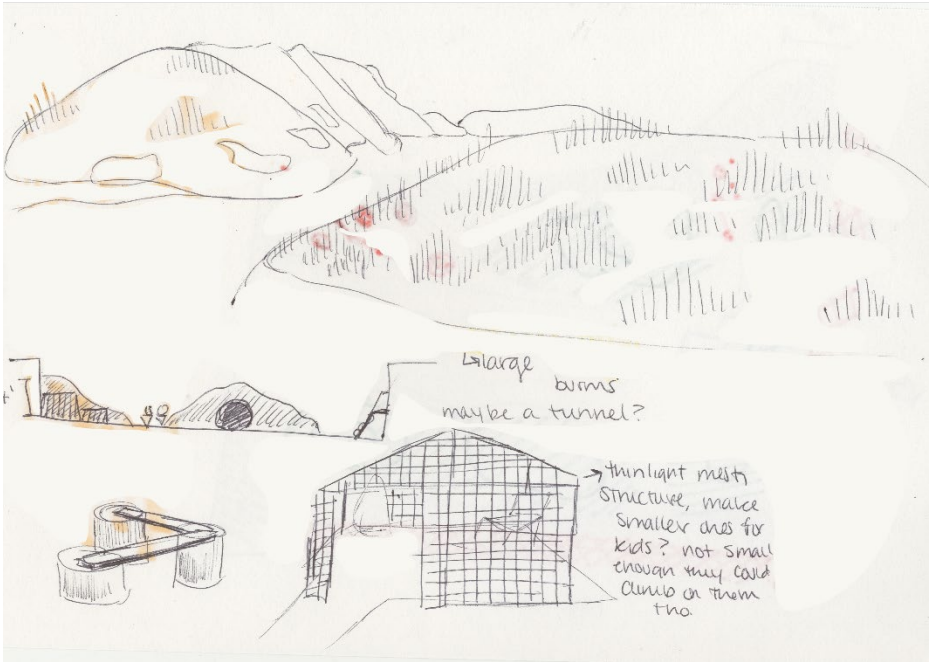

Figure 5: Rough Sketches of Natural Playground I

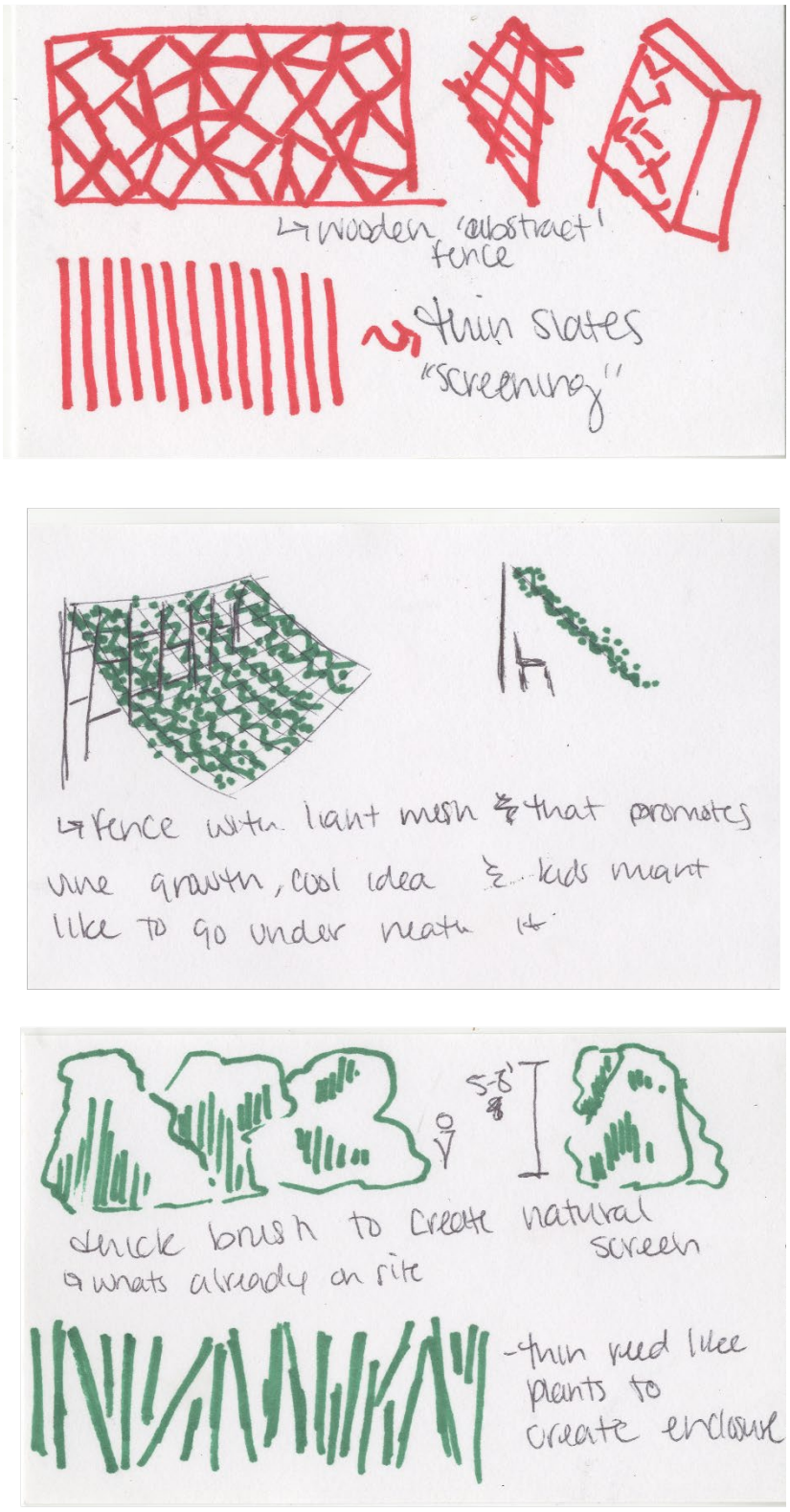

Figure 6: Rough Sketches of Natural Playground II

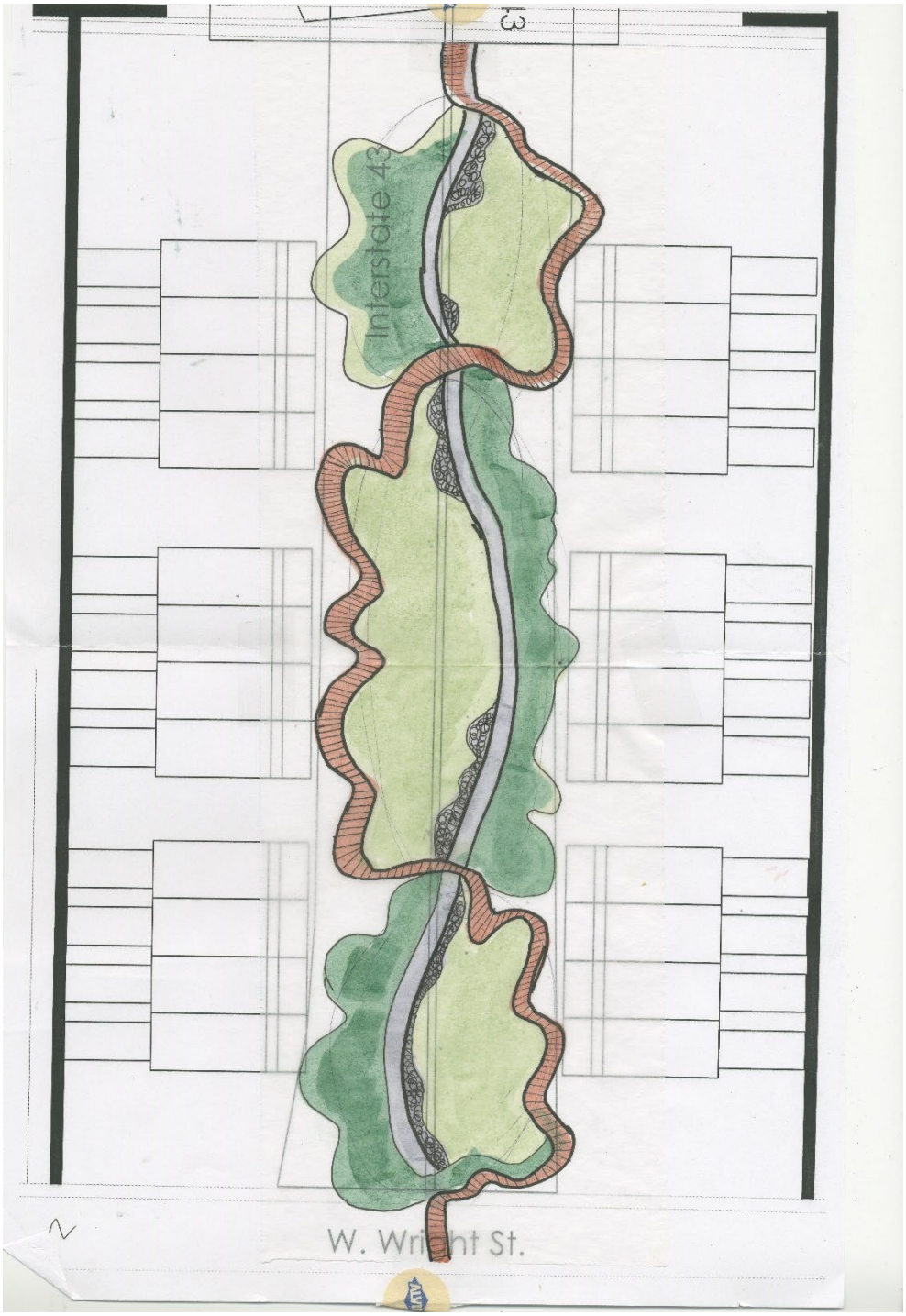

Figure 7: Preliminary Residential Corridor I

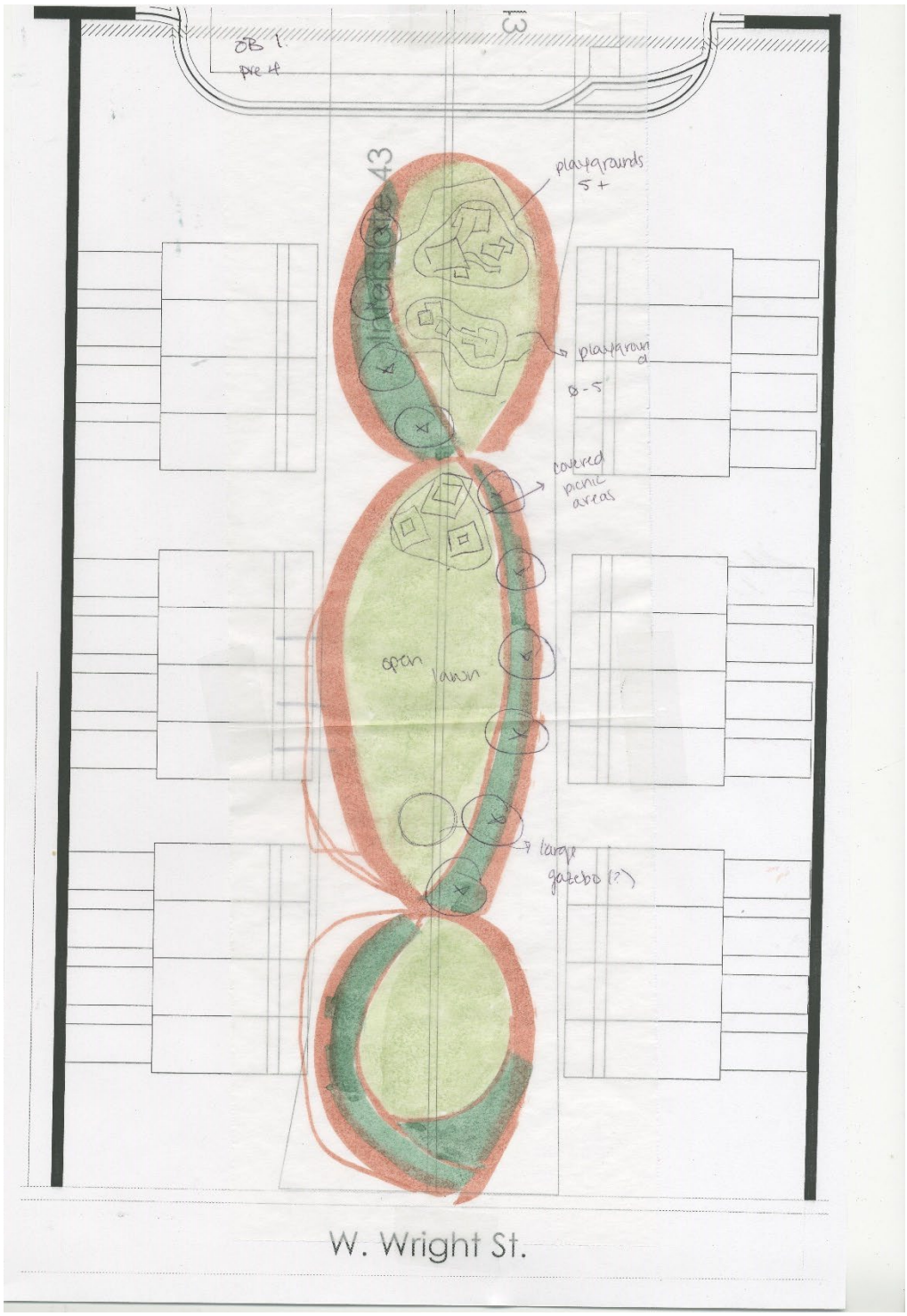

Figure 8: Preliminary Residential Corridor II

9. DESIGN DEVELOPMENT

After many months of back-and-forth planning and scheming, a final design was brought forward. As aforementioned, there was a strong desire or drive to implement as many of the community's desires into the final design. The main elements of the thesis design include new bicycle lanes along the frontage roads and W Clark St, new and improved pedestrian crossing on N 7th St and N 8th St, additional bus stops on both N 7th St and N 8th St for the new amenities, a small grocery store, a library with a small extension, green spaces for active and passive use, playgrounds, and new housing development. The thesis site is also designed with seamless integration into the neighborhoods in mind and many materials used on site can be found in the surrounding area. All the building structures on site are also designed with simplicity in mind, to allow for a continuous development plan. The planting palette was kept simple to match the Milwaukee vegetation in the surrounding neighborhoods and biomorphic shapes were heavily utilized to make the space feel more natural.

The following figures outline the final design results of the thesis project. They go through in order of zones, with the first zone's focus being on the library and plaza. It is composed of site sections, perspectives, and elevations. All the figures after the master plan refer to the master plan itself for clarity.

9.1. Final Design Imagery

Figure 9: Master Plan

Figure 10: Library Aerial Overview
Note: This is #2, #3, #6, and #7 on the master plan.

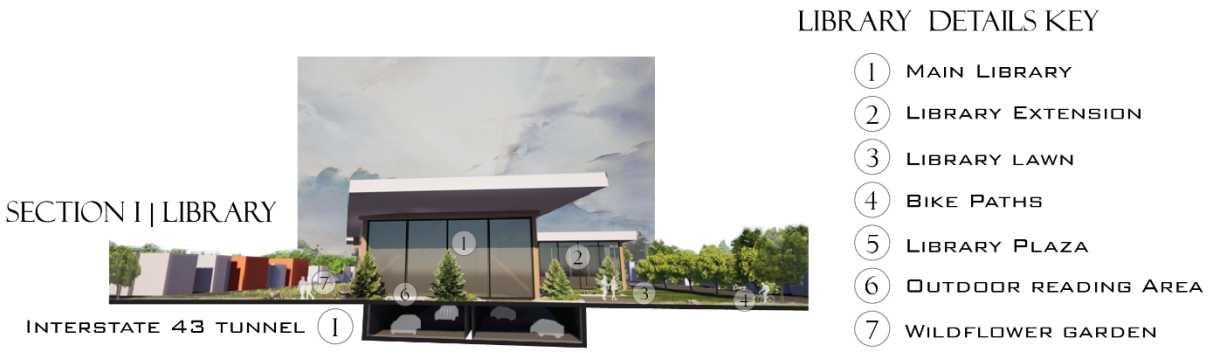

Figure 11: Library Section
Note: This is section I (Sec I) on the master plan.

Figure 12: Library + Plaza Perspective
Note: This is #2, #3, and #7 on the master plan.

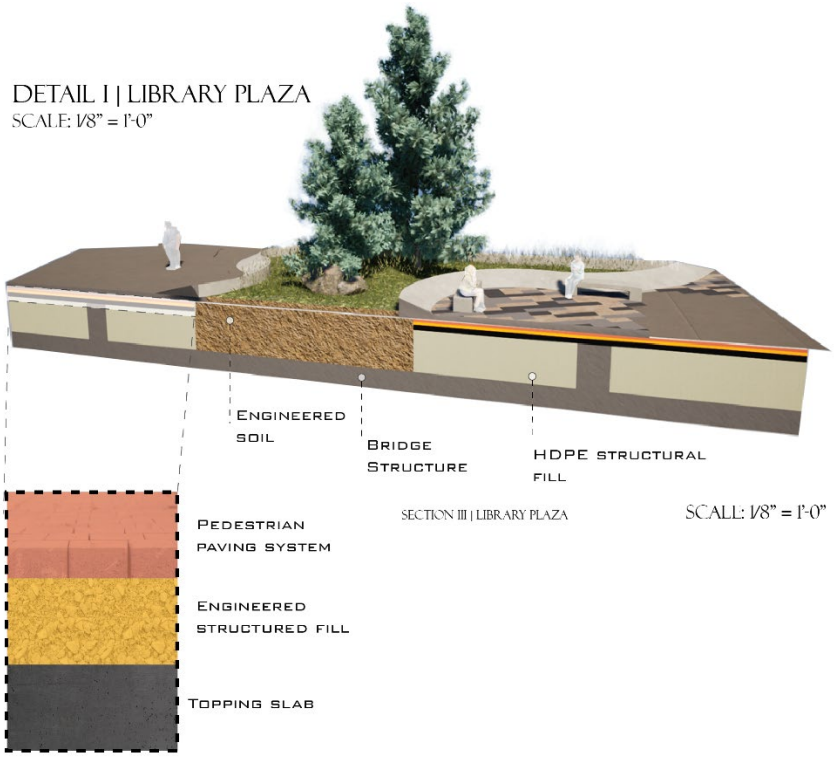

Figure 13: Library Plaza Detail
Note: This is a detail of #3 on the master plan.

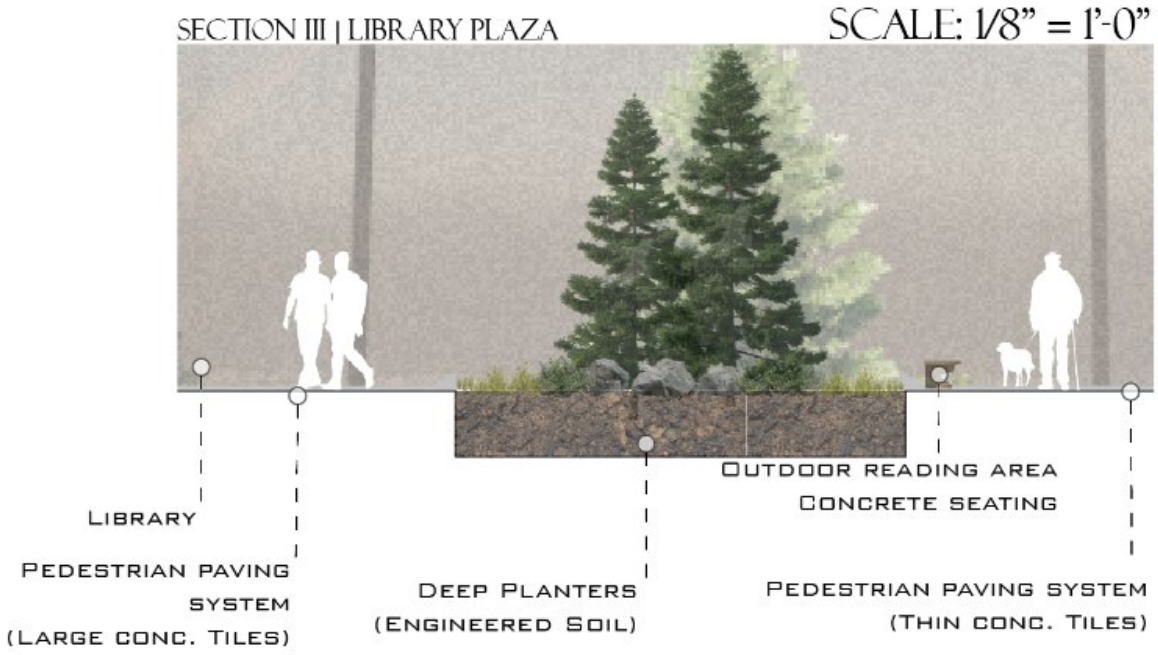

Figure 14: Small section of the Library Plaza
Note: This is section III (Sec III) on the master plan.

Figure 15: Aerial Overview of the Grocery Store
Note: This is #1 and #12 on the master plan.

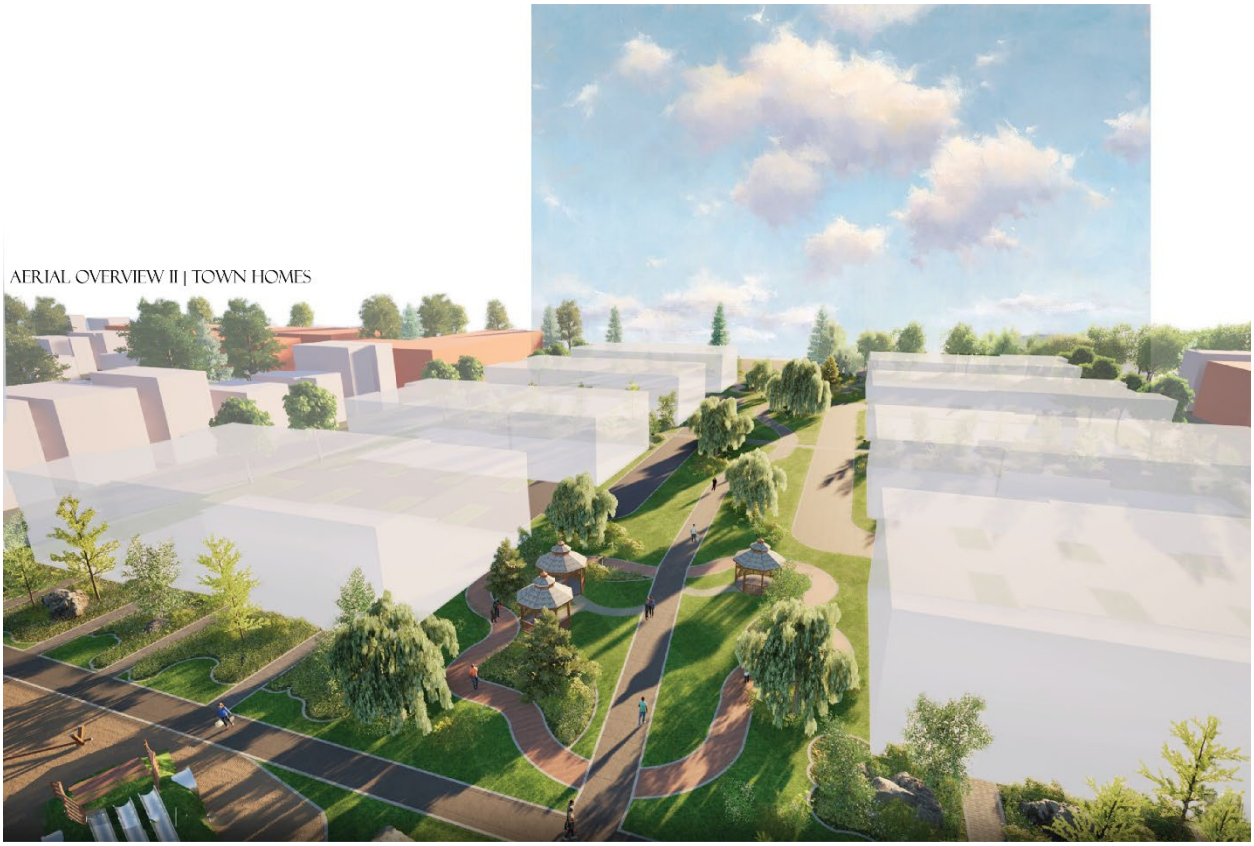

Figure 16: Aerial Overview of Town Homes
Note: This is an overview of #5, #11 and #10 on the master plan.

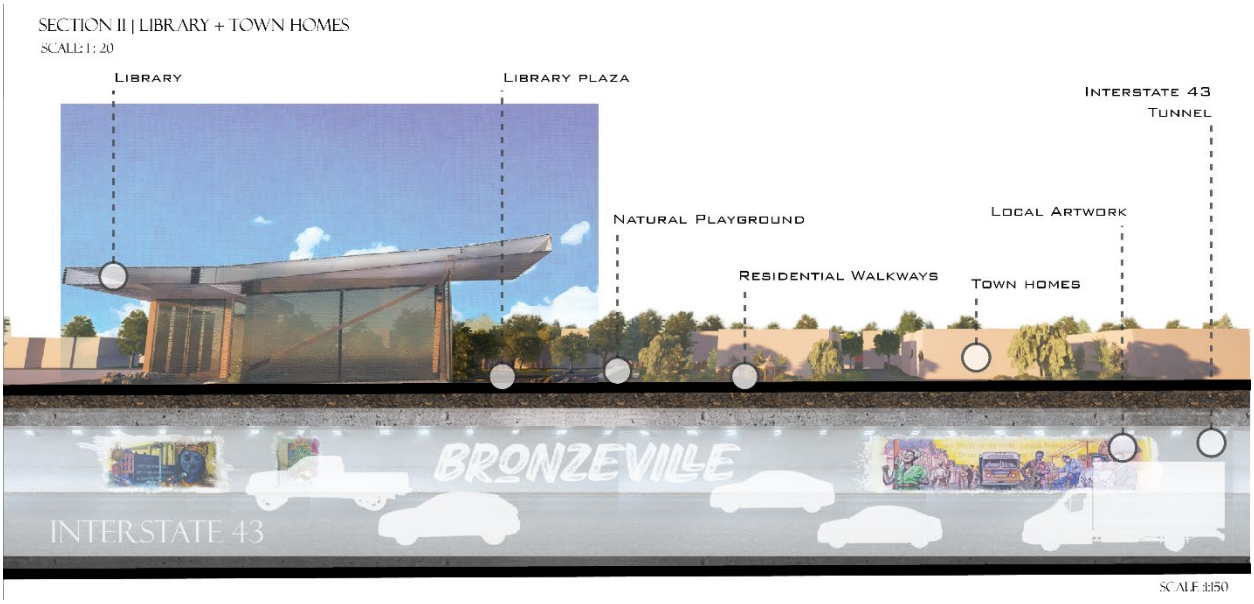

Figure 17: Library + Town Home Section
Note: This is section I (Sec I) on the master plan.

Figure 18: Natural Playground Perspective
Note: This perspective is facing south down through the residential corridor (#4 on the master plan).

Figure 19: Town Home Entrances Perspective
Note: This perspective is facing east through the entrances of the townhomes (#11 on the master plan)

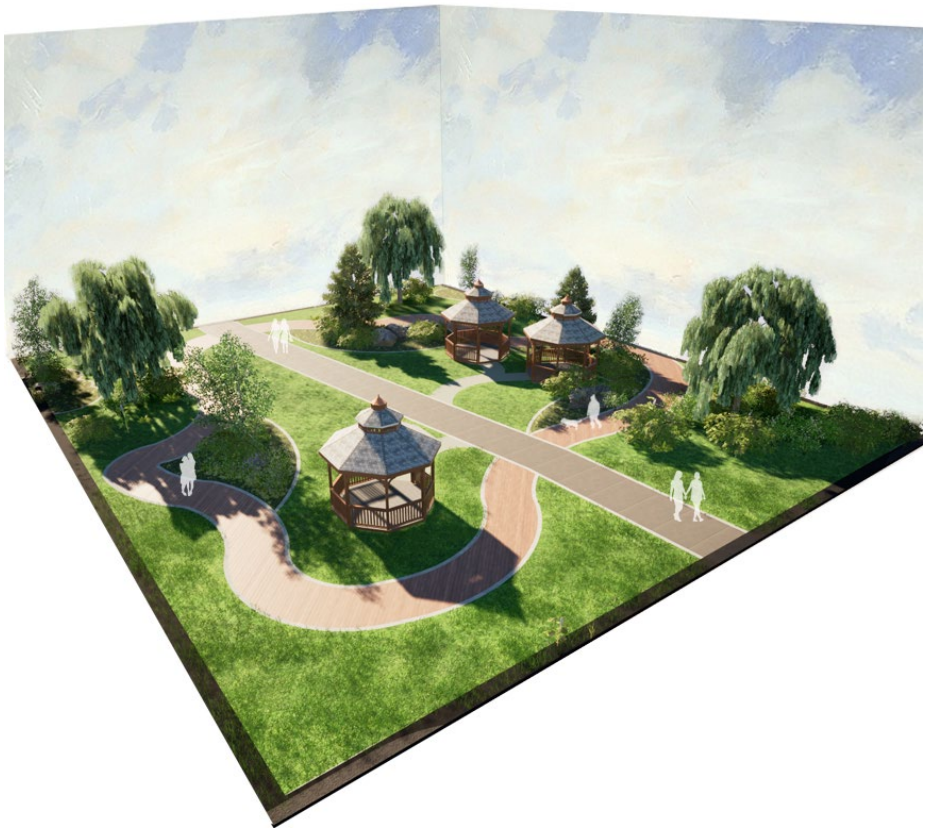

Figure 20: Aerial Overview of Town Home Walkways
Note: This overview is #10 on the master plan.

Figure 21: Detail of the Pedestrian Crossing at N 7th St. + N 8th St.
Note: This is #8 on the master plan.

10. DESIGN CONCLUSIONS & REFLECTION

Overall, the design was well received. Many of the jurors applauded how the design details were well thought out and well implemented into the surrounding site. The focus or hypothesis was achieved, to create a freeway cap park that effectively restores and reconnects a community to its former vitality. It was apparent in the design how much the community's voices shaped the final product with many, if not all, of the requested design elements being implemented. The other, lesser but prominent, goal was to create a design that fit well within the community without gentrifying the area or overshadowing it. The thesis proposed was simpler in design and felt like a piece of the community rather than a flashy, new area designed to draw in unwanted attention. However, the design itself is not perfect, and the jurors had a few critiques to further develop the plan. The first critique was how can the design make connections to the north and south roads and feel meshed fully into the area. In the final design, it did not have strong entrances on either the north or south sides and that would be something important to go back and look at. Another critique was orientation of both the grocery stores and town homes. The jurors commented on the orientation of the grocery store isolates it from the surrounding neighborhoods and it would be beneficial to think about reorienting the entrances towards the neighborhoods themselves, rather than the north side of the site. Farther south on the site, the jurors made note of the orientation of the last row of townhomes and asked for an explanation of the thought process behind them. Most of the homes had decent orientation and could be justified in their placement; however, the last row of homes was unfortunate. The fronts of the homes were parallel with the existing W Wright St bridge, leading to a loss of privacy and view. In the end, the thesis was well thought out in its design but has lots of room for further development.

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