



CATALYTIC CONVERTER

**FACILITATING CHANGE
IN THE PLACES THAT
NEED IT MOST**

A Design Thesis
By Dane P. Andersen

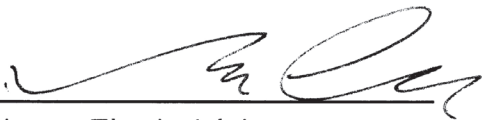
Catalytic Converter: Facilitating Change in the Places that Need it Most

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

By

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



Primary Thesis Advisor



Thesis Committee Chair

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Abstract

This thesis investigates the question, *how can struggling American cities be rejuvenated in the rapidly evolving context of the twenty-first century?* The typology explored is a community design center. The site for this project is Detroit, Michigan, USA. The theoretical premise that guides the research is, *Architecture can serve as a catalyst for change in cities suffering from the effects of deindustrialization and depopulation.*

Key Words:

Community Design Center

Catalyst

Collaborative Design

Post-Industrial Cities

Detroit

Urban Design

Community Activism

Problem Statement

How can struggling American cities be rejuvenated in the rapidly evolving context of the twenty-first century?





Figure 1.
Downtown, viewed from NW
Woodbridge
(Dane Andersen, 2013)

STATEMENT OF INTENT

- project typology
 - claim
 - premises
- theoretical premise
 - justification

Project Typology

Community Design Center

Claim

A community design center can facilitate grassroots, bottom-up change to aide in the rejuvenation of Detroit and perhaps other deindustrializing American cities.

Actors: Urban designers, architects, community organizations, residents of the city, visitors

Action: Providing a space for collaboration between design professionals and community members

Object: Community Design Center

Premises

Many professionals and citizens alike are interested in the host of problems faced in Detroit and other cities like it. Ideas on how to remedy these problems range from the mundane to the radical. If a place existed where problem solvers from all points on the spectrum could discuss their ideas and further research alternatives, solutions could more easily be set into motion.

In the past several decades, Detroit has become an incubator for new strategies of urban living, such as urban agriculture and the sharing of capital. As elder activist Grace Lee Boggs puts it, “Instead of putting our organizational energies into begging Ford and General Motors to stay in Detroit, we need to go beyond traditional capitalism. ... Instead of buying all our food from the store, we need to be planting community and school gardens and creating farmers’ markets.” (Binelli, 2012.)

New strategies must continue to be explored, in a way that brings together the expert and the layman, the local and the tourist, the schoolchild and the baby-boomer, so that all people of the city can experience a higher quality of life.

Theoretical Premise

Architecture can serve as a catalyst for change in cities suffering from the effects of deindustrialization and depopulation.

Justification

Over the course of the last half-century, and at an accelerated rate in the last decade, the city of Detroit has seen its primary lifeblood, the automotive industry, dramatically change through automation and globalization. These changes have had profound economic ramifications, and were partially responsible for a mass exodus of residents and companies, along with the tax base they represent, from Detroit proper to the surrounding suburbs, leaving the remaining residents with diminished city services and an abundance of vacant land and abandoned buildings.

In absence of outside assistance or sympathy, many neighborhoods and individuals in the city are stepping up with their own solutions to living in absence of a properly functioning government or economic system. People are growing their own food, both on their own property and on abandoned, vacant land. Cooperatives and community improvement organizations are being formed.

The Architect's role in the next part of urban evolution is to provide a means for investigation and collaboration, and to bring it to the grassroots scale, available to community residents, students, small organizations, and the like.

Metropolises across the country are facing short- and long-term problems similar to that of Detroit as the Industrial Epoch fades and gives way to a new Post-Industrial Epoch. With community engagement and the collection and collaboration of the many minds interested in solving these problems, a new model for living could most certainly be developed within cities.



Figure 2.
*Street Art in the Woodbridge
Neighborhood*
(Dane Andersen, 2013)



PROPOSAL

- a narrative
- client-user description
- major project elements
 - site information
 - project emphasis
 - research direction
- design methodology
 - documentation description
 - design schedule
 - previous studio experience

A Narrative

The sky was gray, and low-lying clouds let out a light drizzle on the day we landed at Detroit Metropolitan Airport. I chided the weather for being so cliché. *Of course*, I thought, *this is how it should be when I visit Detroit. I've yet to see an article in the news about the city's bankruptcy, crime, or political scandals that doesn't include a photo of downtown Detroit under storm clouds, with people in black trench coats and umbrellas hurrying around with eyes fixed on the ground. The sun still shines here, doesn't it?*

Emma and I had transferred to our Detroit-bound flight at O'Hare, after gazing, noses against acrylic, upon the marvelous Windy City. No other view of the city is as magnificent or revealing as from the air. Jeffersonian streets extend for miles, making order of this dense human infestation, drawing nutrients from Lake Michigan and pulling them out to the farthest reach of human touch, which itself is indecipherable. Coming in closer, as the floor of the plane rumbled with the unfolding of its landing gear, the urban organism's veins drew into view - gently curving highways and rail lines all but ignoring the structure of the grid. All the streets and veins seem to lead to one place, down by the lake, standing tall, an image etched in every American child's memory. Rectilinear icons, towering over man and nature alike, representing all mankind's accomplishments to date. Landing on the runway, a sense of pride and belonging warms the heart and stiffens the brow. But this is Chicago, not the Motor City. That entry experience was a completely different one.

When we finally descended below the storm clouds, I wondered briefly if we were still out in the rural region

of southeastern Michigan, approaching the outer suburbs, with isolated towns connected by long straight highways - sense of scale is easily obscured from the air. I quickly realized that, no, this is not the outskirts. Nor is this Chicago, that much is obvious. In contrast with Chicago's relatively uniform density, pockets of activity haphazardly dotted the landscape, separated by nearly empty expanses of brown-green autumn vegetation. The closer we got, the more detail we could see in the varying conditions of the homes, factories and businesses that scattered the landscape. The lack of density coupled with the visible scarring of fires and neglect painted a picture that, in this dreary weather, was not much unlike the negative stories perpetuated through the mainstream news media. From the air, I had a hard time finding optimism and ingenuity I had read in Grace Lee Boggs, heard in Motown, and seen in photos of the Heidelberg Project. When we touched down, I did not have the same feeling as in Chicago.

But later that day, a new understanding began to unfold when we made our way to Eastern Market, an area northeast of the downtown core. Within the neighborhood is a collection of eclectic shops and eateries all centered around two massive, enclosed farmers' market sheds dating back to the early twentieth century. Never before have I seen such a wide variety of home-grown foods. Since it was mid-October, the harvest was in full swing and these vegetables, fruits, pastries, and meats looked absolutely perfect - dare I say, even better than what you may find in the farmer's markets of the upper great plains. To think that this food, being sold by humble vendors amid the soft trumpet jazz of an elderly busker, was grown from the soil of the former industrial capital of the world blew my mind.

The next day we met up with John, our tour guide of the city. We contacted John through his website, Detroiturbex.com. The name is an abbreviation for urban exploring, as John and his colleagues make their living photographing and researching abandoned structures in the city. At the time of this writing, [Detroiturbex](http://Detroiturbex.com) has first-hand records of

over 200 buildings. John took us all around the sprawling city, and while there was no shortage of amazement at the frequency of derelict sites - especially the amount of burned out buildings - it was here, on the ground, that hope was visible. I have never seen street art as beautiful or as plentiful as in Detroit. Likewise, I have never seen people living so ingenuitively, so naturally, and so humanely.

When I first decided to base this project around the rejuvenation of Detroit, I naively thought I could devise a radical scheme to somehow *save* the city and its people. Now I realize that I should be focusing on how the people of that city are already saving themselves, and that if I simply tap into the lifeblood of grassroots Detroit, I will have no problem finding answers to the question of how to live in post-industrial urban America. Detroiters have been figuring that out for years.



Figure 3.
Eastern Market, Detroit
(Dane Andersen, 2013)

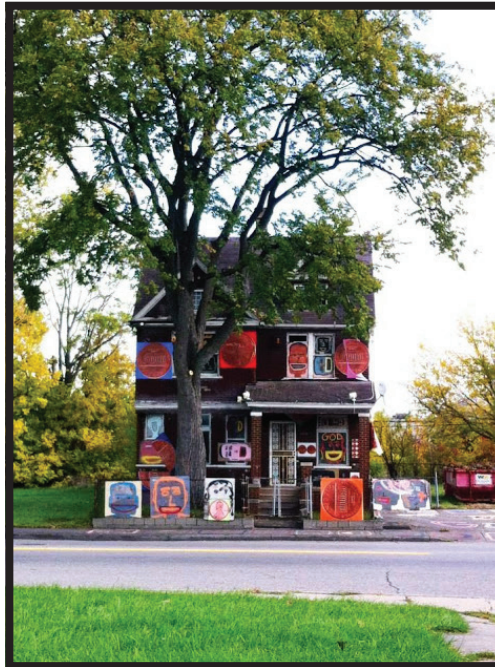


Figure 4.
“The Penny House” and “House of Soul,” Heidelberg Project.
Both since destroyed by arson.
(Dane Andersen, 2013)

Client-User Description

The primary client for the research center is the Detroit Collaborative Design Center. The DCDC is an organization founded in 1994 at the University of Detroit Mercy that is concerned with developing solutions to problems faced by the residents of Detroit: depopulation, blight, unemployment and underemployment, lack of city services, crime, and others. The organization's purpose can be summed up in their mission statement:

“The Detroit Collaborative Design Center (DCDC) is a multi-disciplinary, nonprofit architecture and urban design firm at the University of Detroit Mercy School of Architecture dedicated to creating sustainable spaces and communities through quality design and the collaborative process.” (DCDC, 2013.)

The DCDC is currently located in the architecture building on the campus of the University of Detroit-Mercy, somewhat insulated from the struggling areas they are trying to assist.

In addition to housing the employees and volunteers of the Detroit Collaborative Design Center, the building will serve as a gathering space for the Woodbridge neighborhood and the greater Detroit area. An observation tower will be open to the public to learn about Detroit and watch it transform over the years. A 300-person auditorium and associated spaces will be available for lectures, school plays, concerts, debates, movie nights, poetry slams, religious services, social rebellions, and the like.

Major Project Elements

Spaces will be provided for the functioning of the Detroit Collaborative Design Center, as well as spaces to be utilized by the general public for education, meetings, and presentations.

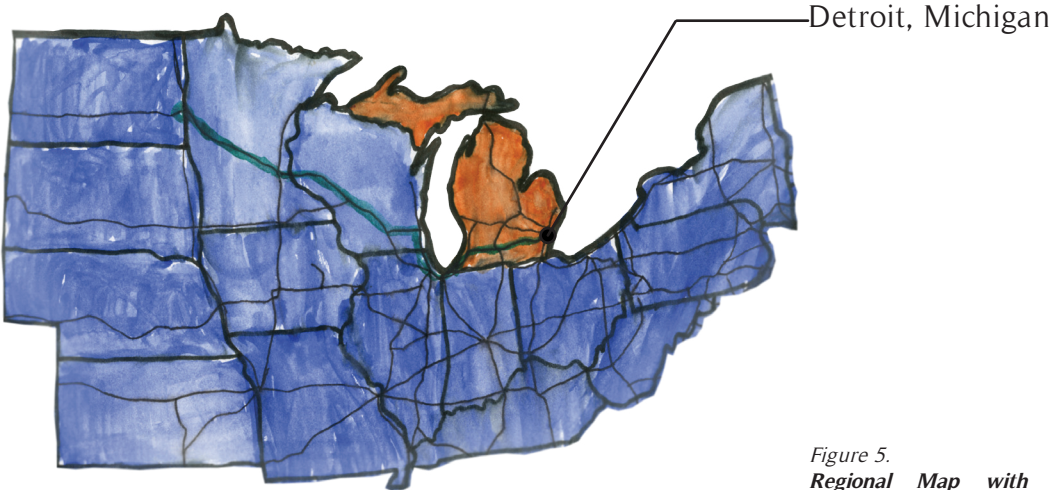
DCDC offices

1. Collaborative meeting spaces
2. Open-air offices
3. Resource library
4. Digital laboratory
5. Exhibit of the organization's work
6. Fabrication shop

Shared spaces with the public

1. Observation tower
2. Auditorium
3. Conference hall
4. Ballroom
5. Rentable studio spaces

Site Information



*Figure 5.
Regional Map with Interstate
Highways*

Region: American Midwest



*Figure 6.
Map of Detroit with Major Roads*

City of Detroit

Site Information

The site is located within the historic Woodbridge Neighborhood of Detroit, located north and west of Downtown. Woodbridge is a neighborhood in the midst of revitalization fueled by a burgeoning arts scene mixed with its proximity to Wayne State University and the relatively stable neighborhoods of Midtown and Downtown.

The lot and existing building chosen was once the home of the Detroit chapter of the Danish Brotherhood. In 1915 the organization built a lodge hall, which in later decades served as an African American lodge and later a church. The building has been empty since 2001.

The combination of a mid-sized, structurally sound abandoned building, along with ample adjacent land made this particular site attractive.

The site will be further explored in the Site Analysis section, page 73.

Site within Woodbridge Neighborhood

The Site
1775 W. Forest Avenue

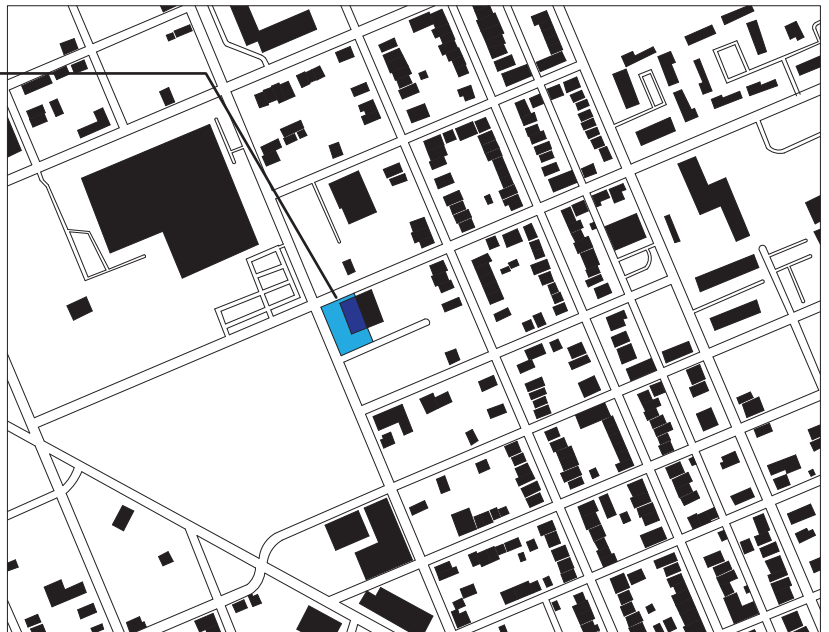


Figure 7.
Site Figure/Ground Map

Project Emphasis

This project focuses on three primary areas of research to examine how post-industrial American cities can be revitalized:

1. Exploring Urban Theory and the different precedents around the country and the world which typify different theories of urban design.
2. Examining architecture as a catalyst for improving the conditions of urban neighborhoods and facilitating bottom-up change as a way of transforming the socioeconomic conditions of a city.
3. Investigating how architecture can aide in the progress of social organizations and their constant struggle towards societal betterment.

Research Direction

Research was conducted in a multitude of ways. To investigate the issue of examining architecture as a catalyst, the investigation of books and other media related to catalytic design was imperative. Several case studies of existing buildings and project proposals were researched to learn more about facilitating new growth and better design in cities through architecture.

The site was explored through a comprehensive site visit, with photographic, sketch, and written documentation. Aside from the visit, research was conducted regarding the sun, wind, climatic, geological, geographical, and vegetation conditions of the site. Historical research was also essential to the contextual investigation of this project.

Design Methodology

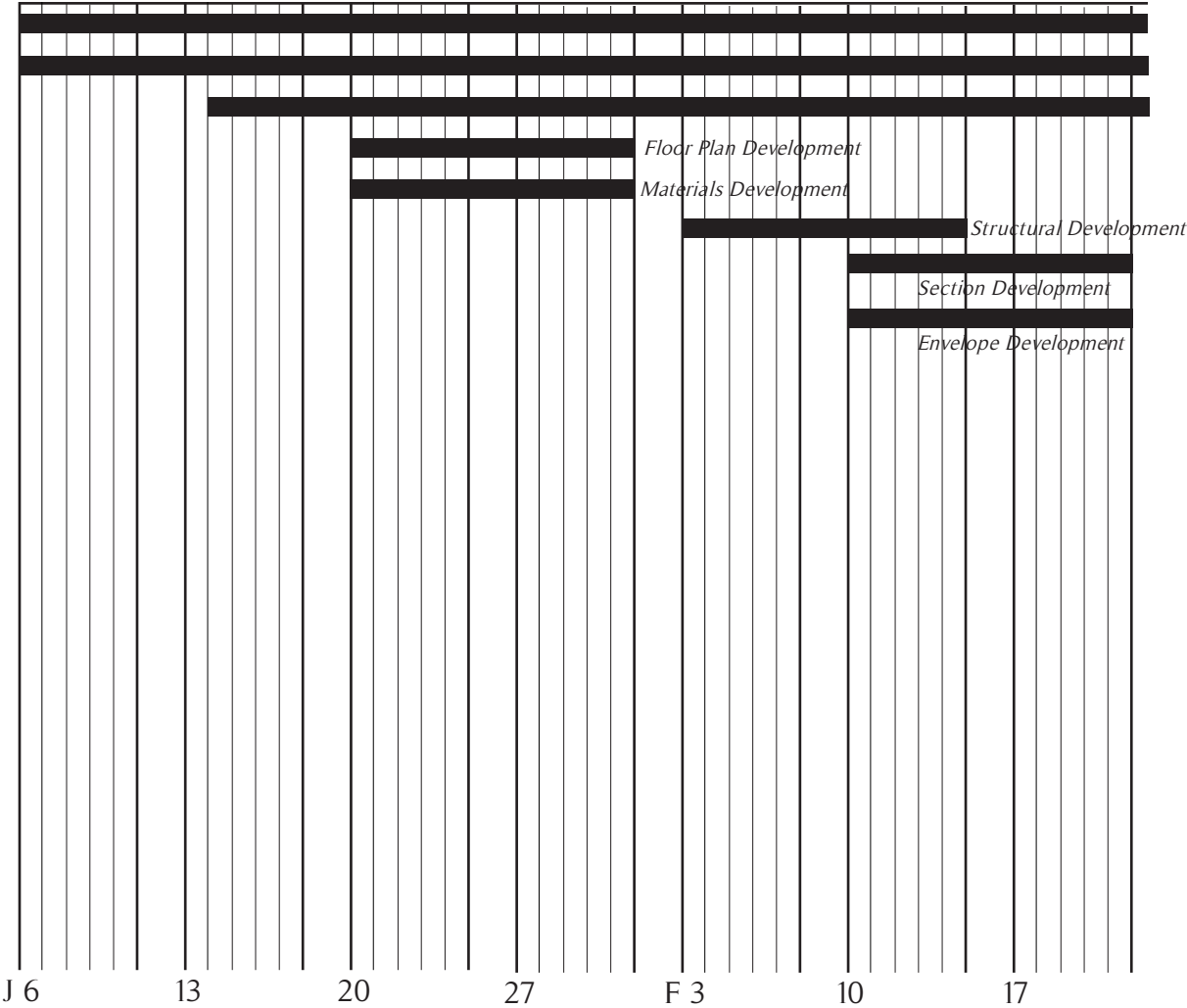
Research and design for this project was be guided by the Theoretical Premise stated in the Statement of Intent. Research was mostly conducted prior to the design process, including both qualitative data, like interviews, photographs, sketches, and other artistic representations, and quantitative data, like statistics, figures, scientific findings, and the like. However, additional research was at times collected and conducted during the design phase of the project as it was seen fit.

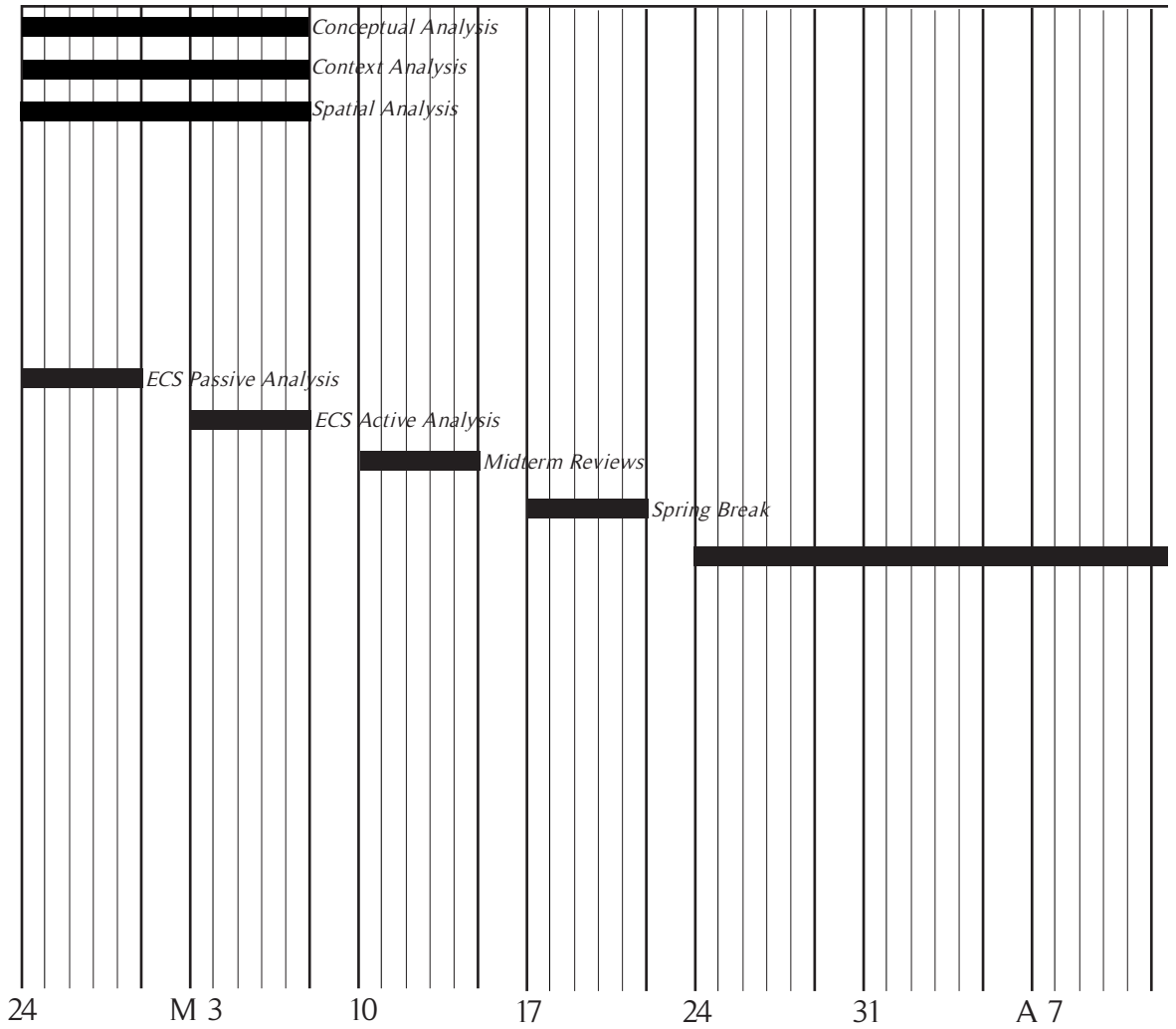
Documentation

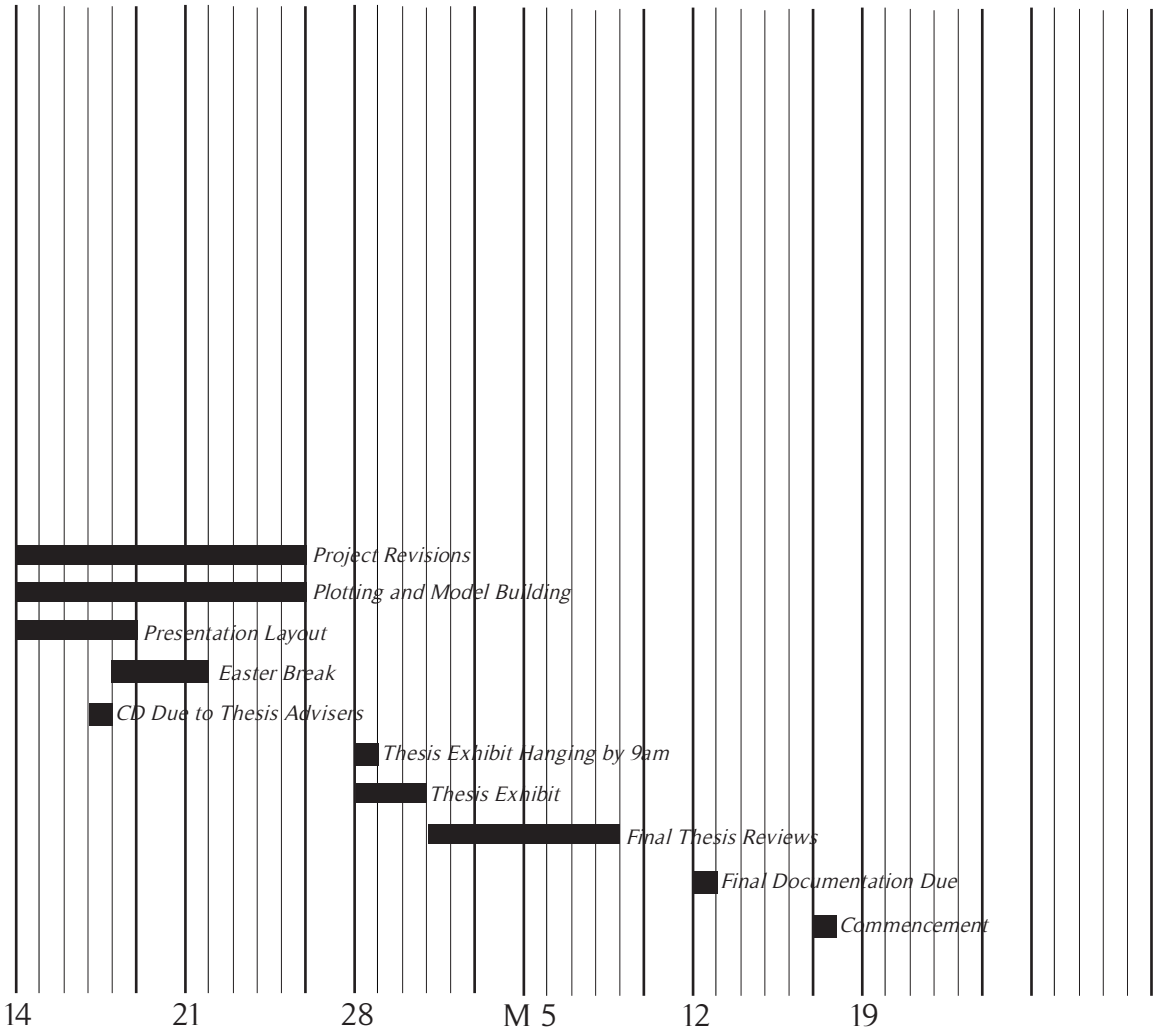
All materials were compiled into a digital form, stored on the internal hard drive of my laptop and an external hard drive as a back up. Digital drawings and models were periodically saved to preserve changes. Final work was submitted digitally to the NDSU Institutional Repository for use by future researchers. Results were given in a final presentation, combining digital, physical, and oral media.

The process of documentation was carried out in the form of sketches, drawings, diagrams, photographs, and writings.

Design Schedule







Previous Studio Experience

Arch 271 - Architectural Design I - Fall 2010

Prof. Darryl Booker

Projects:
Tea House
Boat House

Arch 272 - Architectural Design II - Spring 2011

Prof. Joan Vorderbruggen

Projects:
Montessori School
Dwelling
Pritzker Bird House Competition - *Honorable Mention*

Arch 371 - Architectural Design III - Fall 2011

Prof. Steve Martens

Projects:
Wildlife Research Center
Stone Masons' Guild Hall

Arch 372 - Architectural Design IV - Spring 2012

Prof. Rhet Fiskness

Projects:
Presidential Library
Visual Arts School

Arch 471 - Architectural Design V - Fall 2012

Prof. Don Faulkner

Projects:
San Francisco High Rise
Conceptual Design Competition

Arch 472 - Architectural Design VI - Spring 2013

Prof. Don Faulkner & Prof. Frank Kratky

Projects:
School Campus in Ghana
Marvin Windows Competition

Arch 472 - Architectural Design VII - Fall 2013

Prof. Mike Christenson

Projects:
Scripting Parasites





Figure 8.
***Church in Detroit, Currently
Empty***
(Dane Andersen, 2013)

PROGRAM

- research document
 - case studies
 - historical context
- goals for the thesis project

Research Document

Theoretical Premise:

Architecture can serve as a catalyst for change in cities suffering from the effects of deindustrialization and depopulation.

INTRODUCTION

In order to better understand the theoretical premise, it is important to take an in-depth look into the many issues which it implies. First, we will examine the urban theories that have informed the way many of our cities appear today, and how differing theories have converged in the design of American cities. Once we have a better understanding of how different urban planning theories have formed the realities we find in today's cities, we will take a look at a current comprehensive plan offering radically new solutions for Detroit. We will then explore the idea of architecture as an urban catalyst, and how we can design places that cause improvement in the urban life of whole communities. Finally, we will take a look at the nature of society's constant struggle for social progress, and how architecture can aide that need.

EUROPEAN THEORY, AMERICAN APPLICATION

In the design of cities, what is distinctively American, as opposed to European? Since urban life in the United States is so young in comparison to great cities elsewhere in the world, it is logical to assume that it is a combination of a number of different ideas imported from elsewhere in the world and evolved over time as public opinion shifts. In their book *American Urban Architecture: Catalysts in the Design of Cities*, authors Wayne Attoe and Donn Logan define four European theories of urban design that constitute the primary influences on the design of American cities today:

1) Functionalism: rationality is paramount and cities are often viewed in plan. Uses and functions are separated. The rectilinear grid is common.

2) Humanism: view from the eye of the inhabitant is deemed most important. Social interaction and natural beauty is essential throughout the city. Perspective drawings are the primary method of conveying information.

3) Systemic: the underlying systems of the city are deemed most important. It is thought that if transportation, sewer, electric, and pedestrian motion can be made optimally efficient, then the city as a whole will be optimally efficient and livable as a result.

4) Formalism: also known as the Beaux-Arts style of city planning. Public space is created for life to change around it, not to respond to changing conditions.

A city like Detroit displays evidence of each one of these theories. The Beaux-Arts street grid - comprised of numerous boulevards radiating from the downtown core - is still visible as a defining characteristic of Detroit from the air. As the city grew and sprawled, a more functionalist grid filled in the gaps between the large boulevards, and zoning practices separated industrial, residential, and other uses. The Humanist view is identifiable throughout the city when walking on the street, though many such experiences are now relics of the past, having since deteriorated or been completely wiped away. Beautiful civic buildings form cultural nodes throughout Detroit, and great or once-great parks provide recreation for residents. The Systemic theory took firm hold of Detroit's city planning practices in the mid-twentieth century, as it did in many other cities across the U.S. It was as if planners thought if they could "solve" the traffic problem - that is, make cars flow as quickly as possible with a minimal amount of stopping - then all other issues facing cities would fall in line. Super highways were

cut through neighborhoods, forming the quickest route from the city limits to the downtown core.

Why have these theories worked better in European cities than in American ones? At the outset, many American towns and cities were mapped out purely from an economic standpoint - land cut up into privately owned money-making enterprises. When this is the case, any proposed intervention is deemed a threat to the economic engine. As a result, projects are analyzed with a scrutiny that demands answers to unanswerable questions, taking into account criteria that may only be defined by the people who use the building over a long time. This American pragmatism measures not just the validity of a project, but also its beauty and meaning, only by the economic success which it turns out as a result. American cities also lack the history of cities in Europe. Even the 300 to 400 year histories of some of our earliest colonial communities pale in comparison to cities in Europe, some of which have been continuously inhabited for millennia. As societal trends and economic conditions continue to evolve in the United States, its cities will gradually accrue a deepened sense of history.

“DETROIT IS CLOSER TO ITS FUTURE THAN WE IMAGINE”

If you look at Detroit’s recent filing for bankruptcy through an optimistic lens, perhaps you can see it as a grand new opportunity. Now that the city government has admitted its own failings, perhaps it can finally commit to realizing new solutions - solutions that are sustainable, both economically and ecologically; radical, in that they are dramatically different from the kinds of urban implementations that were common in the American cities of the twentieth century; and grassroots, originating in the minds of the very people who need change the most: the residents of Detroit.

One comprehensive plan that has emerged in recent years is made up of countless such solutions. It is called Detroit Future City: Detroit Strategic Framework Plan, formerly known as the Detroit Works Project. “The Detroit Works

Project was introduced in 2010 as a process to create a shared, achievable vision for Detroit’s future to improve the quality of life and business in Detroit” (DCDC, 2012).

The project was spearheaded by the Detroit Collaborative Design Center, in cooperation with multiple city government agencies, many community organizations and charitable foundations, a multitude of local and regional institutions and private companies, and basically any other entities wanting to voice an opinion. The DCDC also engaged the public in a number of ways, including informal and formal conversations with residents and community leaders, dissemination of surveys, and public documentation of analysis of critical data about the city.

From the outset, Detroit Future City acknowledges that a number of comprehensive plans with similar goals of urban revitalization for Detroit have been proposed, with little zeal for implementation and little positive change as a result. Where the Detroit Future City plan differs, however, is that it provides a comparatively much longer trajectory and much more specific guidelines for groups within the city to follow. There is a sense of realism tied to the writing of the Strategic Framework. It makes no promises or “golden bullet” solutions, but instead encourages the individual to take an active role in the transformation of Detroit:

“Detroit won’t be ‘fixed’ because no city is ever ‘fixed.’ Cities are living places that require ongoing awareness and firm yet flexible approaches to decision making which acknowledge changing realities and multiple voices, leading to pragmatic and agreed-on solutions.” (DCDC, 2012).

In a survey conducted for Detroit Future City, it was revealed that nearly one-third of respondents plan to leave the city within the next five years (DCDC, 2012). This means that the depopulation crisis is still bearing down on the city. It is predicted that Detroit will have a stabilized population, that is, no longer declining, by 2030, and that population will be

practices is destructive to any kind of economic growth.

LAND

Much has been said in the media, and it is clearly present when visiting the city, about the sheer amount of vacant land in Detroit. There are about 20 square miles of vacant land within the city, an area roughly equivalent to the size of Manhattan (DCDC, 2012). One of the most important ideas to get out of the Strategic Framework Plan is that while land is Detroit's greatest liability, it is also its greatest asset. While vacant land often currently represents a cost for upkeep with a complete absence of revenue, Detroit Future City envisions a variety of uses that can contribute to the health of Detroit's residents and the regional ecosystem. "Green and blue infrastructure" systems can achieve these goals while serving to replace decaying infrastructure built fifty to a hundred years ago for a larger and more dense population. Carbon forests, swales, and retention ponds are some examples of these systems.

In the new zoning scheme, a high percentage of land is zoned as Landscape, which is intended to serve as low-cost park land that is still beneficial to the health of Detroiters and to the systems that flow throughout the city, especially water systems. These landscapes range from open community space occupying, say, a vacant neighborhood lot, to ecological landscapes of vast - city blocks in size - open land. Figures 10 and 11 on the following pages show Detroit's existing land use and what is proposed for land use by Detroit Future City.

CITY SYSTEMS

Currently, Detroit's infrastructure is at a critical time in which decisions must be made soon regarding whether to build anew or not, and how new infrastructure should work. Needless to say, the roads, sewage and storm water systems, and other systems, were built for an enormous population, one that has since been halved. This means great inefficiency in a system that is already crumbling. Detroit Future City suggests a number of solutions that are

EXISTING: CURRENT LAND USE

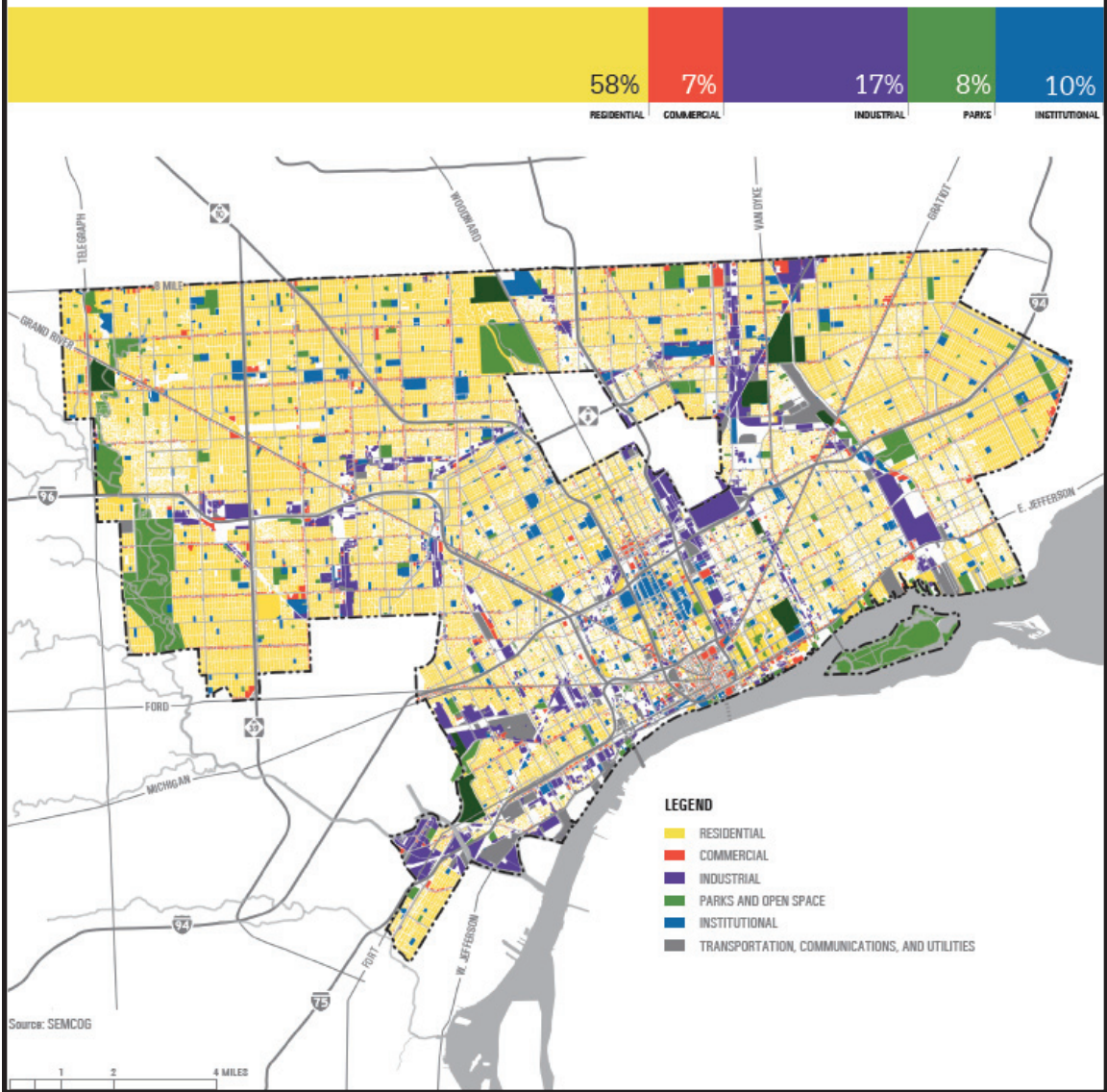


Figure 10.
 Detroit current land use
 (DCDC, 2012)

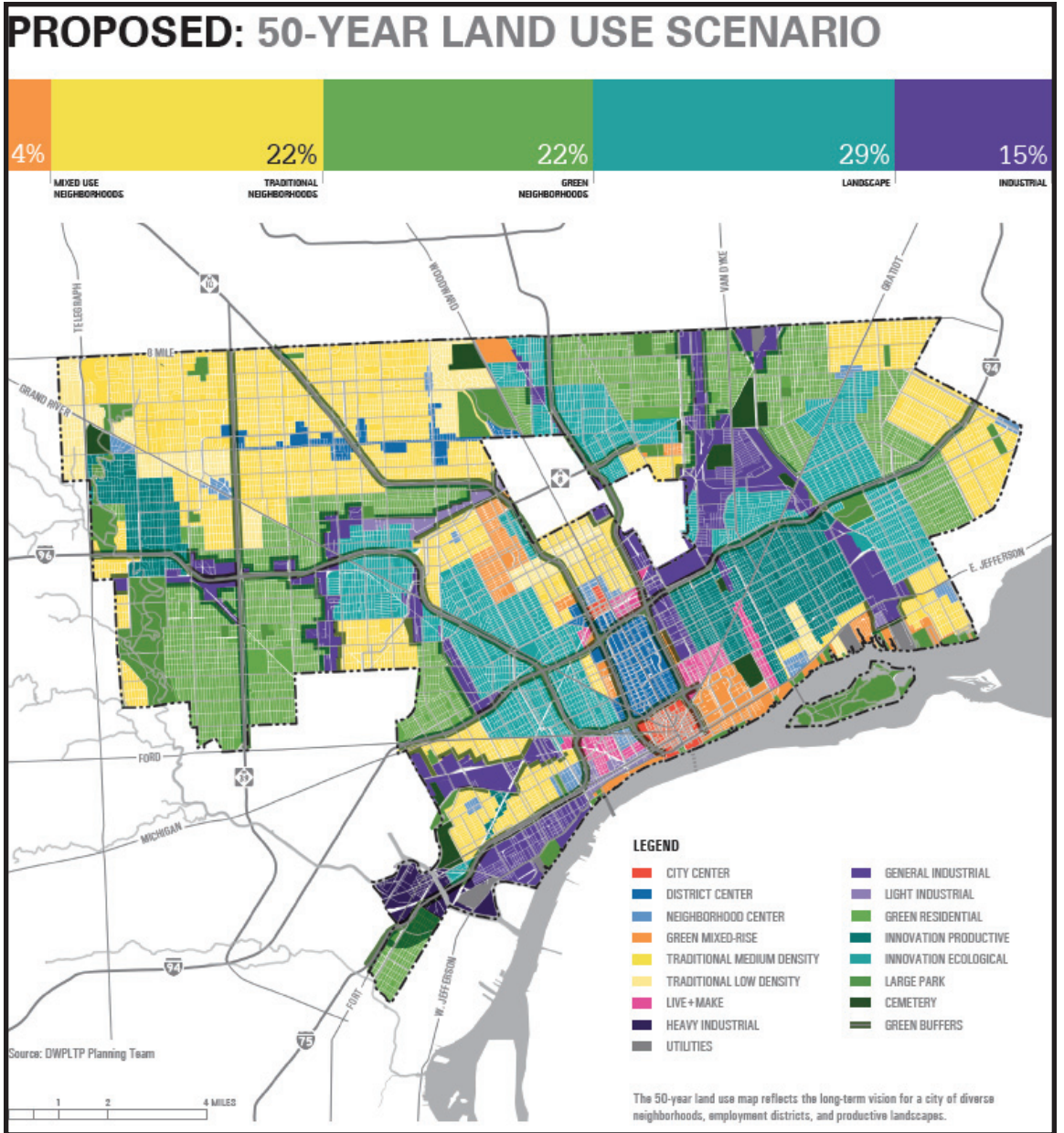


Figure 11.
Detroit proposed land use
 (DCDC, 2012)

more beneficial to the environment as well as the health of residents, and cost less to build and maintain.

The implementation strategies defined to improve the quality of city systems include reforming the delivery system, creating landscapes that work, reconfiguring transportation, enhancing communication access, improving lighting efficiency, reducing waste and increasing recycling, and actively managing change.

The most fundamental change proposed by Detroit Future City is the transition from traditional infrastructure systems to what is termed as “green and blue infrastructure,” which is vegetation- and water-based systems that mimic and capitalize on natural ecosystems to achieve more than one goal. For instance, a 500 foot setback from the highway made of newly cultivated trees, or *carbon forest*, can work to clean the air of carbon dioxide and other pollutants and provide a noise buffer for residents. Shallow, natural swales constructed on either side of a busy automotive thoroughfare can capture stormwater runoff, clean it of large particulate matter, and slowly deliver it to the overall system, as to not overwhelm the system in the event of a heavy rain. This method is called a *stormwater boulevard*.

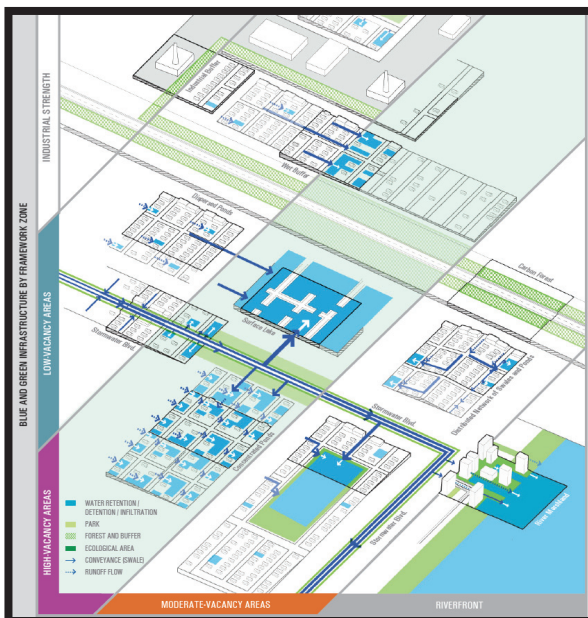


Figure 12.
Blue and green infrastructure
(DCDC, 2012)

Figure 12 displays a number of these proposed solutions.

This analysis only scratches the surface of the Detroit Collaborative Design Center's Detroit Future City Strategic Framework Plan. In all, it is a thorough proposal that is sure to provide new insight into city planning for city planners and officials.

ARCHITECTURE AS URBAN CATALYST

“A catalyst is an urban element that is shaped by the city...and then, in turn, shapes its context. Its purpose is the incremental, continuous regeneration of the urban fabric” (Attoe & Logan, 1989).

Architectural catalysis can be seen in a variety of typologies and scales in the American urban landscape. One example of the large scale that comes to mind is an architectural transformation that the Twin Cities of Minneapolis and St. Paul seem to be undergoing due to public investments in public transportation. In 2004, the Hiawatha Line light rail opened to commuters, providing 12.3 miles of dedicated right-of-way through one of the area's busiest transportation corridors (Metropolitan Council, 2011). Riding along the line, one will notice the amount of new construction - apartment and condominium buildings, retail markets, food joints - that have gone up around the new train stops. The revitalization of once-empty and decaying buildings is also evident. But how does this relate to the small scale project?

Simple projects like a vacant storefront being redeveloped into a bar, a row of several new locally-owned shops, or an empty retail space redeveloped into a museum and art workshop can transform a neighborhood. New social activity circulates around the new developments. Talk spreads through the community and encourages local entrepreneurs to try something new.

Public space can provide an important element of neighborhood revitalization and social and economic catalysis as well. A good public space brings together

people of all socioeconomic backgrounds in a community on a daily basis, for every-day functions like shopping, recreation, and discussion. A good public space also brings these same folks together to collaborate in extraordinary circumstances, such as in celebration, in protest, or in official community meeting.

Good public spaces that fulfill these purposes can be found in any large American city. But in those cities can also be found the poorly designed public spaces: parks that seem to cater to only one class; parks that sit almost uninhabited for hours of the day; parks that house illicit activities like drug trade, crime, and prostitution. Why do some public spaces succeed while others fail? The organizations Projects for Public Spaces, Inc. (PPS) and Un-Habitat, the United Nations Human Settlement Program, collaborated in 2012 to produce a guide to humanistic urban development called *Placemaking and the Future of Cities*. They devised ten ways for civic leaders to improve their cities through public space projects:

- 1) Improve streets as public spaces
- 2) Create squares and parks as multi-use destinations
- 3) Build local economies through markets
- 4) Design buildings to support places
- 5) Link a public health agenda to a public space agenda
- 6) Reinvent community planning
- 7) The power of 10
(This refers to the practice of offering a variety of activities for people in each public space.)
- 8) Create a comprehensive public space agenda
- 9) Lighter, quicker, cheaper: Start small, experiment
- 10) Restructure government to support public spaces
(PPS & Un-Habitat, 2012).

While the items of the list are generally broad, they can serve as a good framework for the development of public spaces that encourage vibrancy, diversity, and stability. As a result, they help to catalyze these same values throughout the communities they inhabit.

Placemaking and the Future of Cities provides a great case study to help prove this point, one conveniently located in Detroit. “Rebuilding Detroit’s Neighborhoods through Placemaking and the Power of 10” is an initiative created by the city of Detroit in collaboration with PPS and the Kresge Foundation. The initiative recognized the need for fresh food in the Detroit inner-city and the abundance of vacant lots and too-wide streets. There is also a lack in much of the city of public gathering spaces. Much of inner-city Detroit is a “food desert” and a “place desert.” To combat these problems, the initiative supported the creation of new markets fueled by locally owned and operated gardens, and an annual harvest festival, held in the informal location of an underused street outside one of the new produce markets (PPS & Un-Habitat, 2012).

ARCHITECTURE AS A CATALYST FOR SOCIAL PROGRESS

“A major revolution to be won in the immediate future is the dissipation of man’s illusion that his own welfare can be separate from that of all others. As long as man is shackled to this myth, so long will the human spirit languish.”

Saul D. Alinsky, *Rules for Radicals* (1971).

Detroit is a city rich with history of struggle towards social progress. The CIO, or Congress of Industrial Organizations, was founded among the factory workers of Chrysler, Ford, and GM in the 1930s, representing the working class of the largest center of industry the world had ever seen. The Civil Rights Movement of the 1960s focused much attention around Detroit, highlighting racial inequalities there. Art collaboratives such as the Heidelberg Project and the Grand River Creative Corridor raise social awareness today in new and provocative ways.

With as many social progress organizations as there are in Detroit, an effort should be made to bring these minds together. Community organizing is a fundamental outlet for

citizens to find ways to improve the quality of life in their neighborhood. Community organizing can be defined as “...a democratically-governed, values-driven process that catalyzes the power of individuals to work collectively to make the changes they want to see in their community” (Foster & Louie, 2010). Community organization is fundamentally grassroots because it strives to make leaders out of every-day laypeople. While there generally is a hierarchical order to these organizations, the general rule of community organizing leadership is to not do for the people what they can do for themselves. The empowerment of average resident, especially one who previously felt hopeless and excluded from the system, is the single most important step in pursuing change for a community. In his acclaimed 1971 book *Rules for Radicals*, organizer Saul Alinsky echoed the importance of an organizer who enables new leadership, saying, “The ego of the organizer is stronger and more monumental than the ego of the leader. The leader is driven by the desire for power, while the organizer is driven by the desire to create... Ego must be so all-pervading that the personality of the organizer is contagious, that it converts the people from despair to defiance, creating a mass ego” (Alinsky, 1971).

Any community could benefit from a place where organizing events and meetings could happen: a neutral, safe, and secure place where the worry of retributory violence or interference is minimized. Community centers such as libraries, schools, and churches serve these purposes in many cities. In Detroit, these public institutions have suffered greatly over the past several decades due to decreasing population and tax base and budgetary cuts. More than ever, community organizations in Detroit need a place to discuss, organize, and plan.

SUMMARY

In order for architecture to meaningfully create change in a city suffering from the effects of deindustrialization and depopulation, there must be a clear understanding of the many issues that affect the context. We explored only a few

issues in this document.

To begin with, it was useful to study the different theories of urban design that have influenced our cities throughout history. We found that four primary European theories of urban design converged in the United States and mixed with a vastly different natural and socioeconomic context to create what we see in our cities today. To broaden this understanding, we explored a case study of a comprehensive framework plan developed for the city of Detroit, offering radically new approaches to the way a city can work. In that study we see a shift from reliance on vast mechanical city systems to ecological solutions, harnessing the diverse capabilities of nature to perform functions such as storm water control, waste water management, air quality improvement, and quality of life in general.

We then explored the idea of architecture as a catalyst for urban redevelopment and regeneration. Catalytic architecture describes the positive impact a single project in an urban context can have on other projects that follow and, ultimately, the form of a city. These projects can take the form of small private businesses like a local bar or food market, or they can be larger public projects like a well-designed park or a community center. These types of projects can attract the diverse vibrancy of residents as well as other businesses and organizations looking to be a part of the community.

Finally, we explored how architecture can act as a catalyst for social progress. Public places can be created to pull together the efforts of many organizations and individuals to work towards affecting positive change in their communities. Having an identifiable place for community connection also encourages the involvement of other residents in a community who were not already active, and who previously felt helpless to change the neighborhood in which they live. It is the motivation and mobilization of these disenfranchised individuals that can cause the greatest strength in a movement and yield the highest

potential for success.

Hopefully through these discoveries we can approach the design of cities more surgically, focusing not on massive, costly public works projects that require the consensus of the whole public and various government entities, but rather on small projects of change that can be created by small business owners and communities. If we can utilize the potential of grassroots change, there is hope for the regeneration of even our most disparaged cities.



Figure 13.
Detroit Packard Plant
(Dane Andersen, 2013)

Case Studies

Introduction

In order to better understand the type of building that could be created to heighten the level of design discourse in Detroit, I chose to look at three different case studies. I focused on three typologies that have a combined role in the creation of a community design center. The first is a **business incubator** in Detroit. The second is a **design incubator** in Serbia. The third is an **architectural research center** in Taiwan.

Case Study #1



The Green Garage

*Office Space and Small Business Incubator
Midtown Detroit, Michigan
12,000 sf*

Program:

- Open office space
- Enclosed office space
- Conference rooms
- Restrooms

The Green Garage Collaboratory is located in the Midtown neighborhood of Detroit, a neighborhood designated as one of the seven major employment districts by the Detroit Future City project. Midtown borders the downtown core as well as Woodbridge, the neighborhood where the Detroit Design Incubator is to be located.

Owners Tom and Peggy Brennan purchased an old Ford Model T showroom in the neighborhood dating back to the 1920s. Using their expertise in energy efficient design, they conducted a historical renovation of the 12,000 square foot structure. They installed new energy efficient windows, extra insulation to all the exterior walls, solar light tubes for the infiltration of natural light into the spaces of the building, solar thermal panels on the roof for water heating, and made an amazing reuse of materials in the building. Peggy says, “We filled one-and-a-half dumpsters for this two-year project. Everything else stayed in the building” (Kirsbaum, 2012). Scrap pieces of wood are used to make artistic walls and partitions (figure 18), old gas pipes make the structure of a stairway, and discarded bricks serve as pavers in the outside landscape. After all these

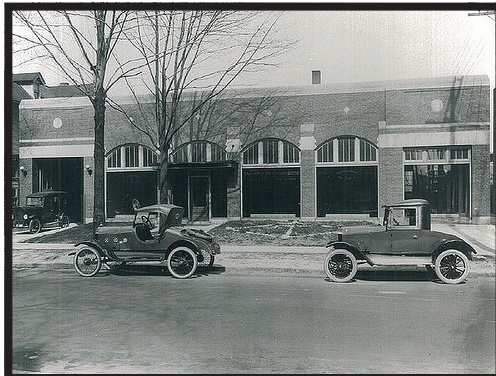


Figure 15.
Ford Model T showroom - 1920
www.greengaragedetroit.com

modifications, the Green Garage was able to be certified as a net-zero building, meaning that it produces as much energy as it consumes.

The building serves as cheap rental space for entrepreneurs looking to experiment with new business models. The Green Garage offers use of a shared table for \$50 per month, an individual desk for \$125 per month, and space for four to five employees for \$1000 per month. Some of the current tenants are web developers, photographers, healthy food providers, and business consultants.

Having the availability of cheap, flexible rental space can be a huge benefit for entrepreneurs who don't have the capital required for a long-term lease, or who are not yet sure what type or size of space their business will require. A business incubator like the Green Garage also has the benefit of bringing together like-minded individuals who can discuss the workings of a new business, and advise each other in their ventures.



Figure 16.
Entry corridor
www.greengaragedetroit.com



Figure 17.
Rentable work spaces
www.redthreadmagazine.com

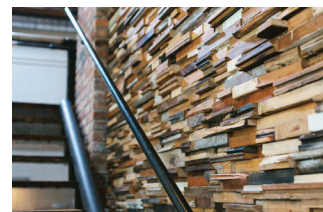
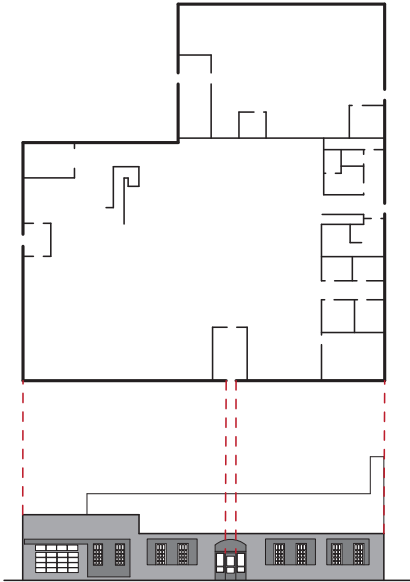
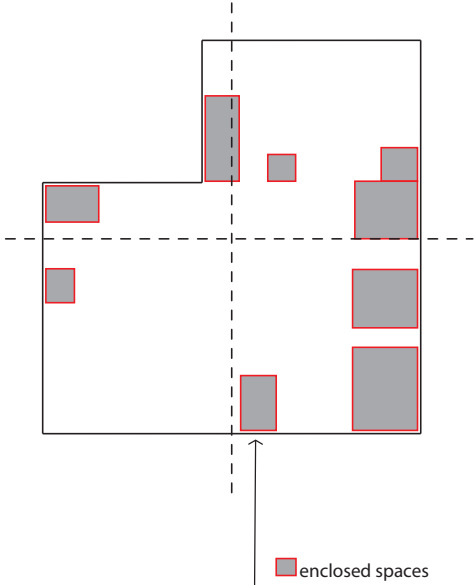


Figure 18.
Adaptive reuse
www.detroit.curbed.com

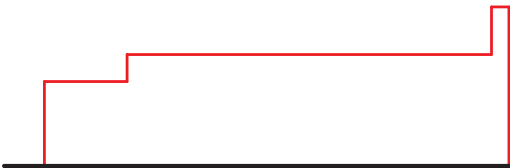
Diagrams



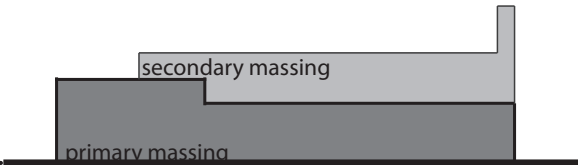
Plan to Elevation



Geometry

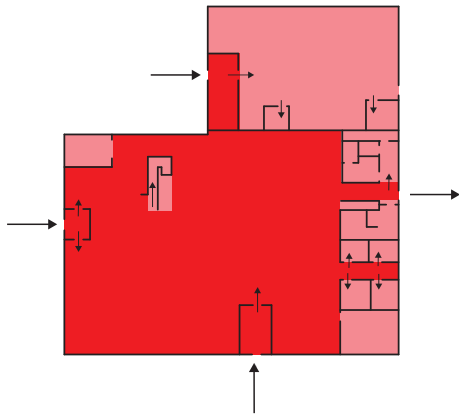


Hierarchy



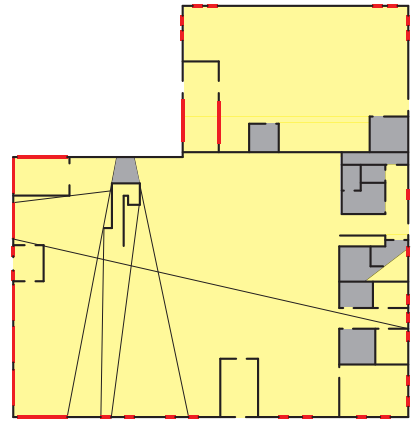
Massing

Figure 20.
Green Garage Diagrams



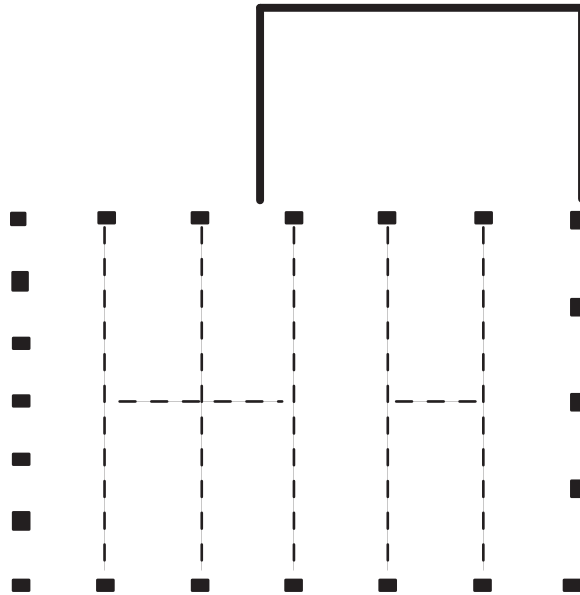
- major circulation spaces
- secondary circulation spaces
- movement of circulation

Circulation



- natural light source
- area with access to natural light
- area with access to no natural light

Natural Light



Structure

Case Study #2



Nova Iskra Incubator

Design Incubator
Belgrade, Serbia
Studio Petokraka
1,150 sf

Program:

- Open work space and presentation space
- Design library
- Modeling room
- Conference room
- Offices
- Kitchen
- Outdoor terrace
- Restrooms

Nova Iskra, literally meaning “New Spark” in Croatian, is a design incubator that opened in downtown Belgrade, Serbia in 2012. Its program is miniscule at only 1,150 square feet, but its goal is comparatively large. The people of Nova Iskra aim to provide space for young creatives in the design field, including architecture, interior design, visual communications, web design, fashion, and others, to expand their talents, all the while helping companies to understand the changing trends in marketing and manufacturing. Says its website, “We are determined to affirm the young, emerging talents and provide them with opportunities to be

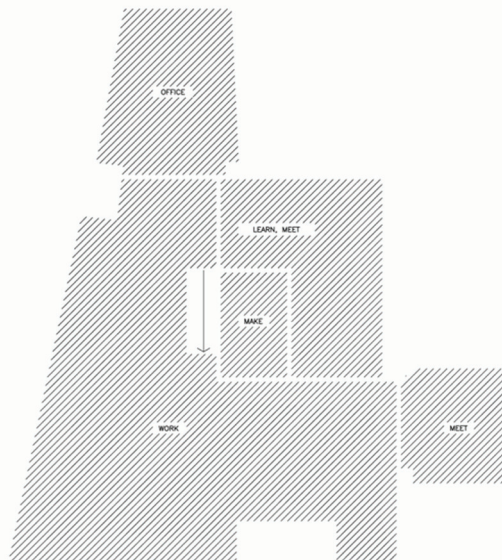


Figure 22.
Nova Iskra Level 01 zones
www.archdaily.com

the agents of change and local economic growth, alongside with the companies which share our values” (Nova Iskra).

Nova Iskra’s ability to offer innovative solutions to business clients comes from its multi-disciplinary background. The staff is made up of graduate students and former professionals from fields ranging from public relations to theatre and cinema to interior design. The Incubator’s program is made of three different membership-based networks. The first is the Designers Lab. This is a group of about 20 students and young creatives at the beginning of their careers who get access to a workstation in the building. The second network is the Creative Hub, made up of over 250 creative professionals in a variety of fields. Architecture studios at regional public universities also sometimes take part in this network. The third network is the Industry Hub, where the work of the Incubator meets economic reality. Small and mid-sized businesses work hand-in-hand with the other two networks to develop solutions in branding, product development, sustainable design, web design, etc.

Within the Nova Iskra building is included eighteen workstations in an open office environment. Each workstation is furnished minimally with only a lamp, a computer monitor, and a storage cabinet. Use of the 50 mb/s internet and a printer is available to all members. There is also space to set up for presentations to up to 50 people. In the middle of the main level is the modeling room: a single work bench with some essential model making tools, enclosed within a floor-to-ceiling glass box (figure 25). This is probably the most striking and symbolic space of the building. It tells visitors and clients that the most important aspect of the problem-solving process is making, working and re-working, trying new things.



Figure 23.
Entry corridor
www.petokraka.com

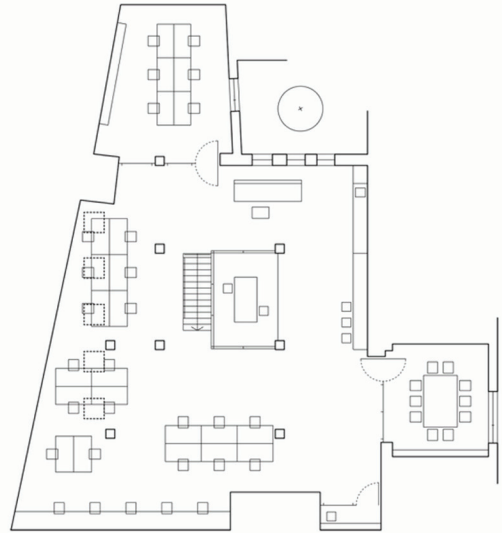


Figure 24.
Stair detail
www.petokraka.com

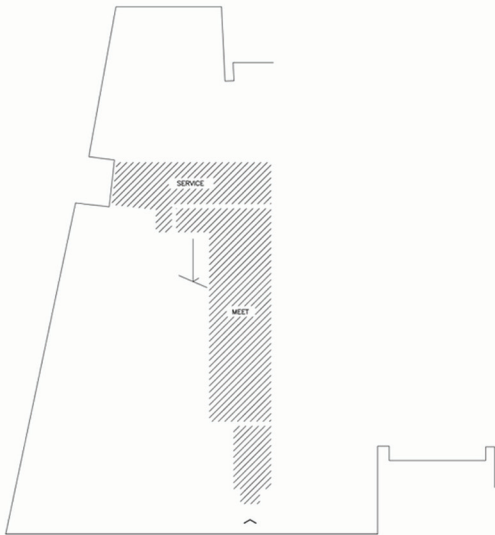


Figure 25.
Modeling room
www.petokraka.com

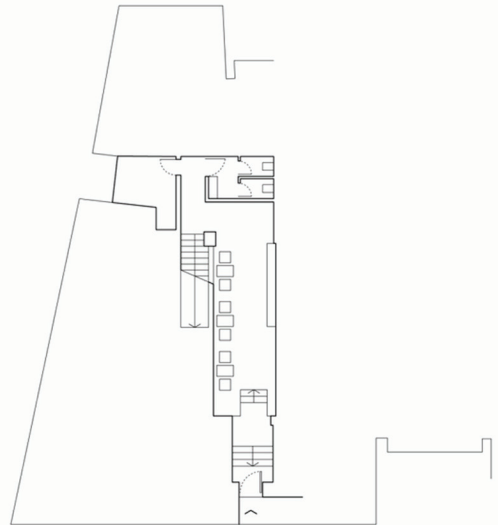
Figure 26.
Nova Iskra
Drawings from the architect
www.petokraka.com



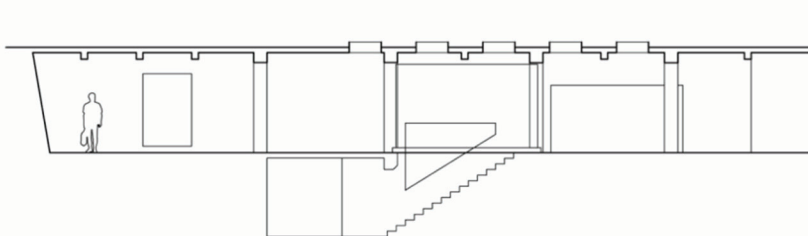
Level 01



Level 00 Zones

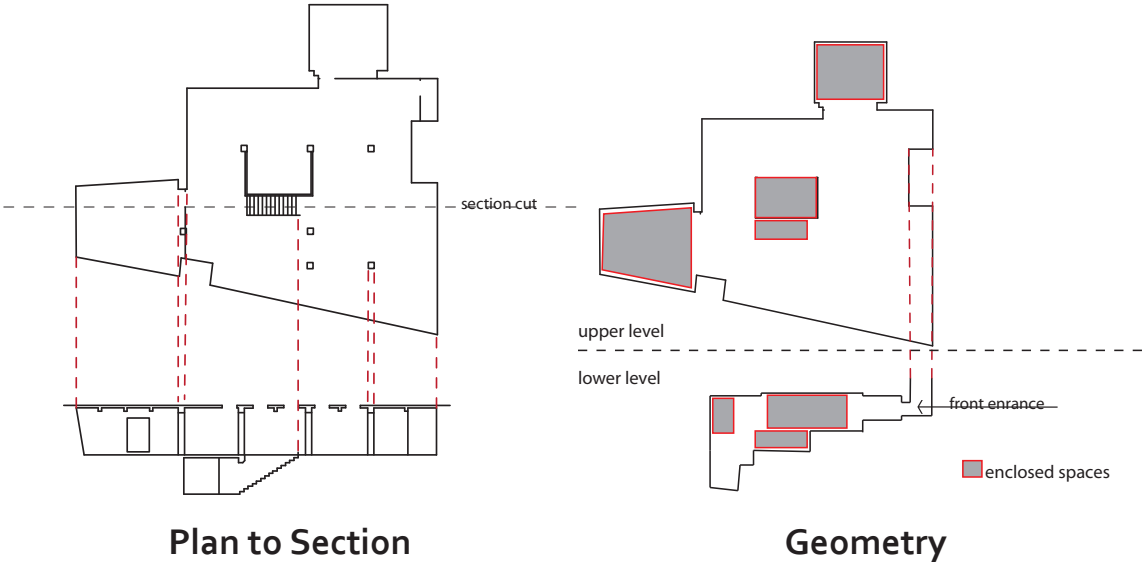


Level 00



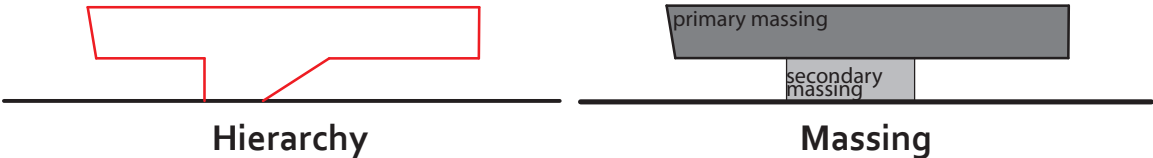
Longitudinal Section

Diagrams



Plan to Section

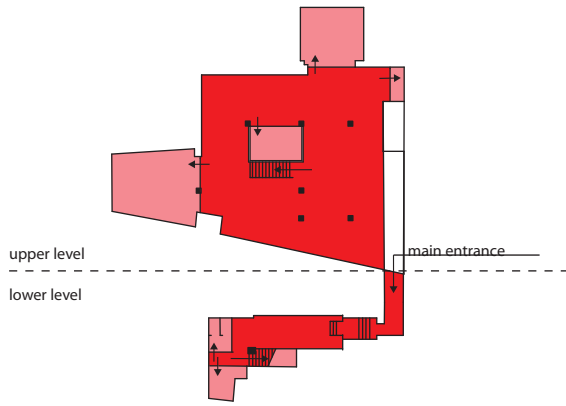
Geometry



Hierarchy

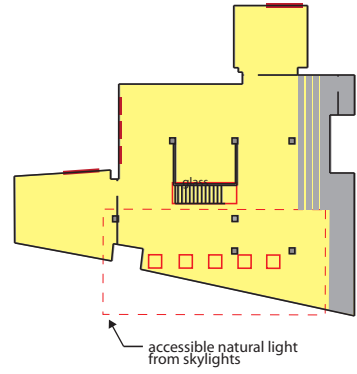
Massing

*Figure 27.
Nova Iskra Diagrams*



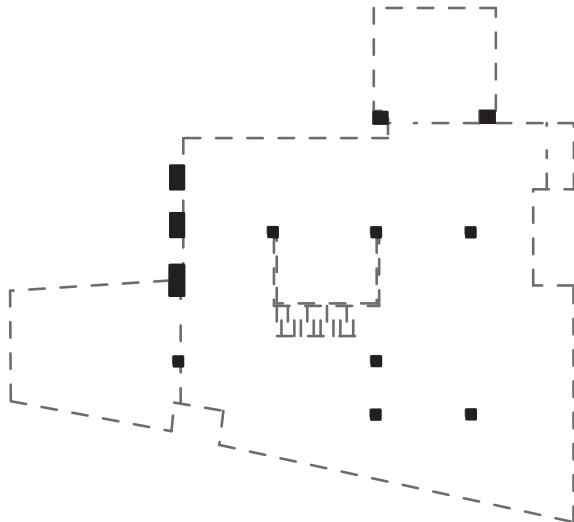
- major circulation spaces
- secondary circulation spaces
- movement of circulation

Circulation



- natural light source
- area with access to natural light
- area with access to no natural light

Natural Light



Structure

Case Study #3



Ruin Academy

Architectural Research Center

Taipei, Taiwan

Marco Casagrande Architects

1,600 sf

Program:

Student dormitories
-Professor's deck
-Archive
-Lounge

Sauna
-Chill-out room
-Restrooms

No doubt one of the first things most people today imagine when they think of Detroit is ruins: abandoned factories and office towers, fire-damaged homes and apartment buildings, crumbling schools and churches. I, too, often find myself examining countless photos of Detroit's ruins, and I even jumped at the opportunity to explore some of these empty buildings during my visit to the city. I could not escape the deep problem of what to do with the vacant skeletons that man leaves behind. That is why I found the Ruin Academy in Taipei, Taiwan to be so fascinating.

"The Ruin Academy does not rely on design, but hooks on to the local knowledge of the Taipei basin and reacts on this. Design should not replace reality. Local knowledge is pushing through the industrial city or like a humane sweat of the machine. Ruin Academy is looking forward to sweat. The Ruin Academy is looking at the ruining process of Taipei that keeps the city alive. Taipei is growing the Third Generation City - a real reality way beyond the industrial nonsense" (Casagrande, 2010).

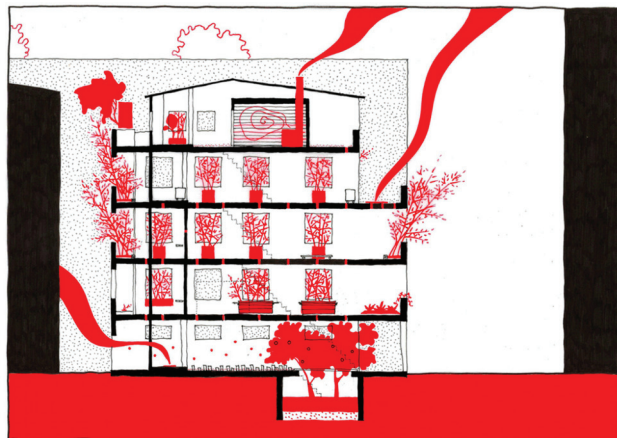


Figure 29.
Longitudinal section
www.marcocasagrande.fi

The Ruin Academy is a five-story, previously abandoned apartment building in central Taipei. The whole place was stripped down to its structure of reinforced concrete. All windows were removed and dozens of 6 inch holes were cut into the floor and walls to allow vegetables and bamboo to grow inside. The basement was blown out and filled with top soil, on top of a layer of construction waste that acts as a drainage layer. Three worn mahogany planks form a bridge that spans this new garden on the first level. The first level is called the Archive (figure 28), because it contains historical remnants of the building, including the 6 inch cylinders that were drawn from the concrete walls and floor. The second and third levels include bunks for students and professors, as well as additional vegetable gardens. A small kitchen and toilet room are also located on these levels. On the fourth level is the commons area or “Lounge” (Figure 32), including a small fire pit built atop an outdoor deck space. A sauna and related spaces are located on the fifth floor (Figure 31).



Figure 30.
Exterior alley
www.marcocasagrande.fi

The Ruin Academy approaches the study of architecture in a way completely different from anything I have experienced in school. Students take a role in the gardening aspect of the building, relating to the building around them in a contemplative, meditative way. Meanwhile, they live in nearly-barren quarters containing only wood cots and tables. The aura of the Ruin Academy offers no option but to become completely immersed in the fundamental components of the building.



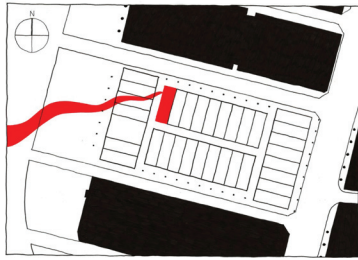
Figure 31.
5th floor sauna
www.marcocasagrande.fi

The Academy was created in part to investigate the idea of the Third Generation City. The First Generation was pre-industry, the Second Generation City was the industrial one, and the Third Generation City is the ruin of the industrial city. This is an important distinction that differs from many other views of the future of cities in that it acknowledges that in a post-industrial urban environment, there will be an abundance of outmoded building types. It is illogical to conceive a “blank-slate” city in most places. The need to make productive use of outmoded buildings is inevitable, and the Ruin Academy offers a poignant option: an “organic machine.”

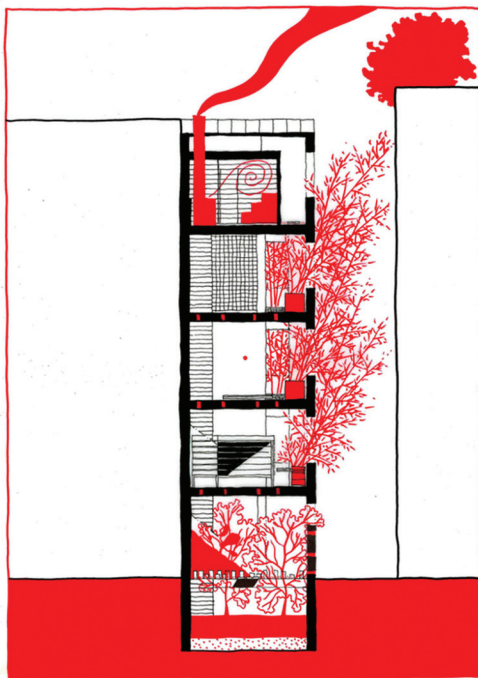


Figure 32.
4th floor lounge and fire pit
www.marcocasagrande.fi

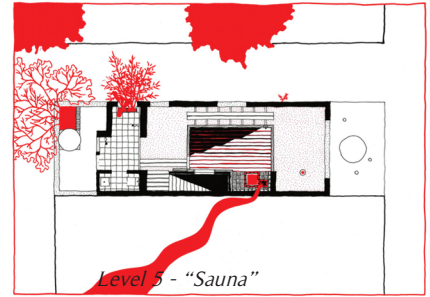
Figure 33.
Ruin Academy
Drawings from the architect
www.marcocasagrande.fi



Site Plan



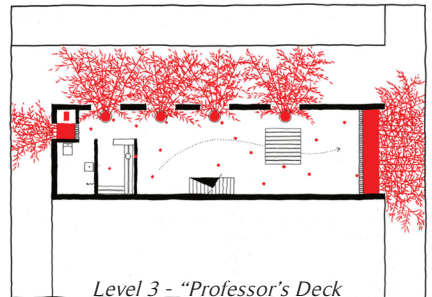
Transverse Section



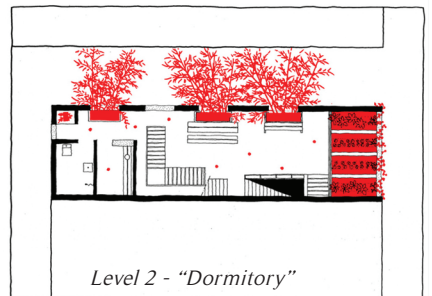
Level 5 - "Sauna"



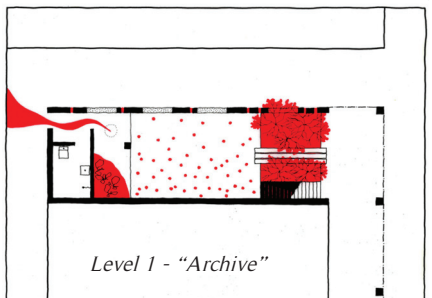
Level 4 - "Lounge"



Level 3 - "Professor's Deck"

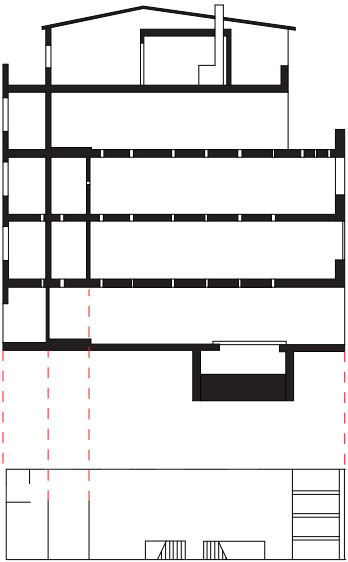


Level 2 - "Dormitory"

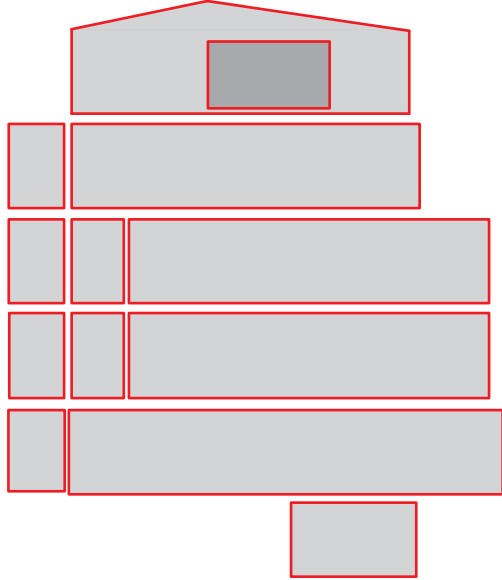


Level 1 - "Archive"

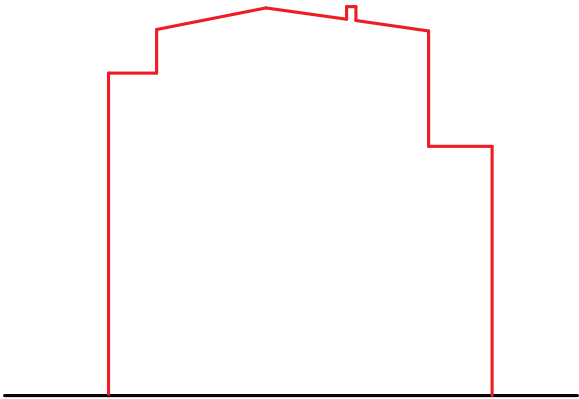
Diagrams



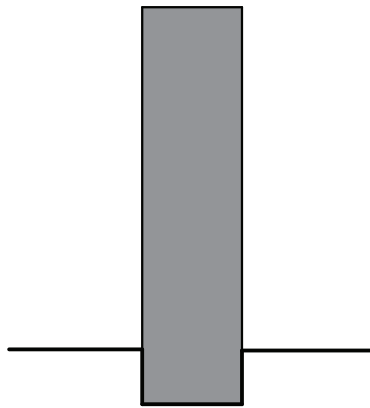
Plan to Section



Geometry

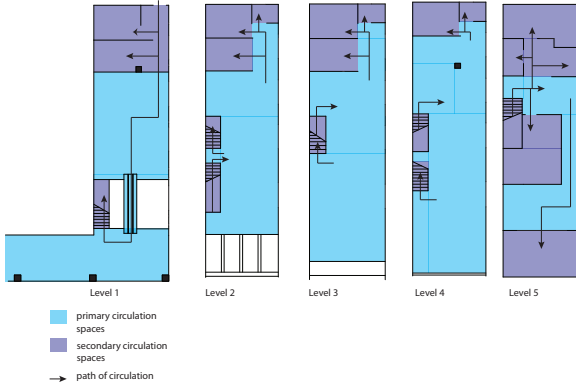


Hierarchy

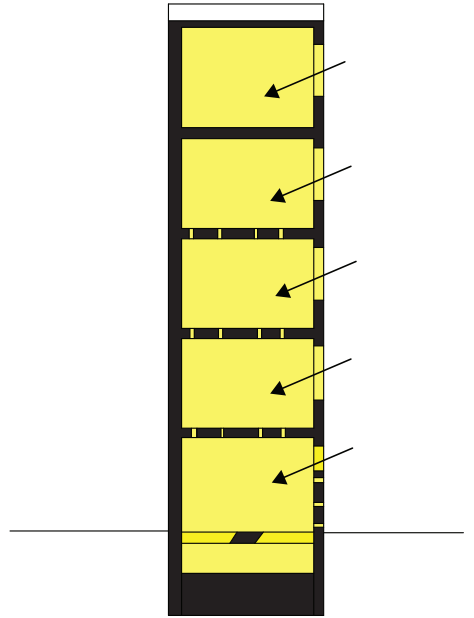


Massing

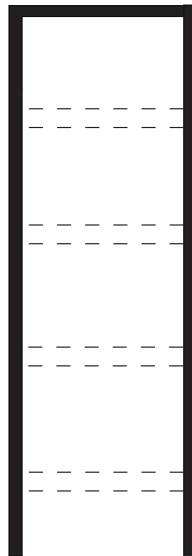
Figure 34.
Ruin Academy Diagrams



Circulation



Natural Light



Structure

Case Study Summary

The three case studies that were chosen all exemplify aspects of the previously stated Theoretical Premise: that architecture can serve as a catalyst for the development of new urban strategies in cities suffering from the effects of deindustrialization and depopulation. Each study does so in its own way, and combined these studies help to suggest what a design incubator can be and who it can serve.

The Green Garage shows the potential that can be found in an old, underutilized building. That potential can be harnessed to benefit an entire neighborhood, and, by extension through the many small businesses and entrepreneurs it advises, the grassroots potential of an entire city. It also helps to prove the demand for new and innovative solutions for the business community in Detroit, a city that has seen some of the largest companies in the history of the world fail on their own soil, only to be bailed out by the federal government. Detroiters understand that top-down economic policy does not contribute to a better way of life for the common residents of a city. Detroiters see the power in grassroots economics: small business ownership, entrepreneurial leadership, and community-scale reach. Business incubators exist to offer affordable space to these businesses and to create networks of such businesses and individuals to encourage their success.

The examination of Nova Iskra design incubator in Belgrade gives a good idea of how a design incubator can interact with a cross-section of society that includes virtually all subjects of the academic and professional worlds. It suggests a path for the talents and insights of students and young professionals to make a real, tangible impact on

the world today through creative solving of problems that businesses bring to the table. Nova Iskra exposes the power of diverse, interdisciplinary networks and the innovation that can result.

The third case study, the Ruin Academy in Taipei, offers a new perspective of the role of outdated, outmoded architecture in our urban landscapes. When the idea that cities today are effectively in a post-industrial state is taken as a given, as it is in the Ruin Academy's ethos, we are able to take a big step forward in our thinking about the role of architectural ruins. The collaborators of this building, Finland-based Cassagrande Laboratory and Taiwanese JUT Foundation for Arts and Architecture, recognize that ruins, instead of being discarded and forgotten at a high monetary and cultural cost, can live on to serve the communities they inhabit in a completely new and healthy way. Rather than serve only a purely monetary function, they can live on to reintroduce the natural world back into cities, like serene little reminders throughout town that innocently profess the complexity and timelessness of the wilderness. At the Ruin Academy this is called "urban acupuncture." The cultural customs of the East perhaps make this specific example a little more likely to take shape in Taiwan than in, say, the United States, but the principal is nonetheless intriguing.

Both the Green Garage and Nova Iskra have business models that revolve around shared capital. That is, each incubator charges a nominal monthly fee to entrepreneurs, small businesses, students, and others for the shared use of space, desks, internet access, printers, and other amenities that would otherwise have to be acquired individually, and therefore at a much greater cost. A great side effect of this shared capital is that it forms networks of professionals who have similar goals but diverse visions. Communal participation in the business building process and the problem solving process can remove people from the cut-throat atmosphere of cold, private enterprise capitalism. In a place like the Green Garage in Midtown Detroit, it is easy to identify that the success of small start-ups is directly tied

to the success of the neighborhood.

The Detroit Design Incubator is a combination of many of the principals learned from these case studies. What sets this project distinctly apart from Nova Iskra and the Ruin Academy, however, is the unique context and character of its site and setting. Detroit is a place like no other with a history unique to that of any city that has ever been.

With that, we shall begin to explore the historical context of Detroit.



Figure 35.
Cathedral ruin, Detroit
(Dane Andersen, 2013)

Historical Context

Introduction

In attempting to design for positive change, it is imperative that we develop an awareness of the great American city of Detroit: how it got to be where it is today, and what it could be tomorrow. Detroit's history is unique to that of any other city in the United States or in the world, comprised of periods of unprecedented highs and equally unprecedented lows, all the while portraying a people struggling to define its own sometimes bipolar culture and values. While it is incredibly unique, Detroit also shares similarities with other cities in the U.S., and through an understanding of Detroit's circumstances we may be able to view those other cities with enlightened, more critical eyes.

Early Detroit

Fort Pontchartrain du Détroit was a small French-Canadian settlement for much of the eighteenth century, discovered for the French by Antoine Laumet de La Mothe, sieur de Cadillac. It was captured by the British during the French and Indian War, and the name was subsequently changed to Detroit. The Jay Treaty of 1796 placed Detroit into the jurisdiction of the United States of America (Woodford, 2001). A fire destroyed much of colonial Detroit in 1805, leading to discussion of how to move the growing city forward. Just as Pierre Charles L'Enfant was just in the process of creating plans for Washington, DC., Judge Augustus B. Woodward of the Michigan territory was falling in love with the Baroque style of street planning and garnered support to create his own grand plan for Detroit. The radial pattern of high-capacity streets emanating from the downtown core is still perhaps the most apparent remnant of Detroit's early nineteenth century history (Hill & Gallagher, 2003).

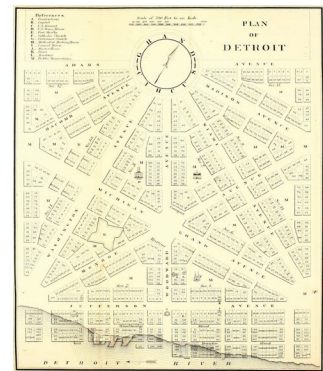


Figure 36.
Woodward's Grand Plan
(Hall & Gallagher, 2003).

For much of the 1800s, Detroit was an important trade city due to its border relationship to Canada. This adjacency also made Detroit an integral stop on the Underground Railroad during the American Civil War.

The twentieth century brought Henry Ford, Albert Kahn and the age of the automobile. Plentiful jobs and decent living wages encouraged a migration of immigrants, mostly from Europe and the American South, to work in the auto factories. At an alarming rate, worker tenements sprouted around the factories, causing a whole new set of social problems. The city sought to rectify the problems, from a planner's standpoint. Single-use zoning was implemented throughout the city, separating industrial zones from residential zones of varying densities. While the zoning did some good to alleviate problems of the day, today "the abstract dicing of the city into single-use districts has become viewed as the crux of the problem itself" (Hill & Gallagher, 2003).

As Detroit transformed into the testing grounds for an economic paradigm shift from agriculture to industry, it also became a laboratory for social change. For instance, the Congress of Industrial Organizations, or CIO, formed in the late 1930s, organizing the numerous, marginally influential labor unions, to help represent the masses of factory workers in Detroit and other cities in the US (Boggs, 1963). The CIO brought about some of the most significant progress in worker relations and rights that the Industrial Revolution had seen to date. When the United States entered World War II in 1941, Detroit's existing industrial capacity quickly allowed it to become the "Arsenal of Democracy." Detroit's factories pumped out planes, guns, bombs, ammunition, and everything else relating to the war effort at an unparalleled rate.

"SIMPLY THE MOST AMERICAN PLACE WE HAVE"

As Jerry Herron, Dean of the Irvin D. Reid Honors College at Wayne State University, puts it, "[Detroit] is so typical that it looks like an exception, but it's not, it is simply the

most American place we have” (Osantoski, 2011). Like many other cities in America, Detroit was a relatively small city in the nineteenth century, until a great new mass of people began migrating to the city in the late nineteenth and early twentieth centuries, searching for industrial jobs. The trend was even more significant in Detroit due to the sheer capacity of the industrial sector, centered around the automotive industry. Like the rest of America, typically, the urban population began leaving the city for the new suburbs beginning in the middle of the century. This trend was more significant in Detroit than in the rest of the country due in part to the prevalence of the automotive industry’s ability to leverage government support and public financing in the building of interstate highways from the city center to the suburbs, coupled with Federal Housing Administration mortgages that encouraged suburban home ownership. Plants and factories followed suit, investing in new locations in the suburbs. Another major factor contributing to the urban exodus involved the problem of racial relations with which the city has grappled for virtually all of its history. Grace Lee Boggs is a well-respected elder social activist and philosopher who was born in 1915 and has lived in Detroit since the early 1950s. She describes the racial conditions of the time:

“The workforce in the factories, instead of expanding and becoming more centralized, was being decimated by automation and decentralized by plant relocations. At the same time, Detroit itself was becoming predominantly black as middle-class and working-class whites fled to the suburbs, aided and abetted by the government providing Federal Housing Administration mortgages and spending billions of tax dollars on freeway construction to help the auto industry expand. As a result, the predominantly white police force began to act like an occupation army, and the white city government began to resemble a colonial administration, thus setting the stage for the Black Power movement, which we began organizing in Detroit in the early

1960s” (Boggs & Kurashige, 2012).

Stirring racial tensions reached a boiling point in the summer of 1967, when what we now call the 1967 Detroit Riot took place. While most of us, as outsiders of Detroit, may characterize those events as senseless violence or reactionary destruction, I think it is both fair and enlightening to hear the story from the perspective of a minority Detroiter who was socially involved at the time. Again, Mrs. Boggs:

“Then on July 20, 1967, while Jimmy and I were on vacation in California, Detroit cops raided a blind pig on Twelfth Street, now Rosa Parks Boulevard, and all hell broke loose. Thousands of Detroiters, predominantly young people, poured into the streets and began looting stores and torching large sections of the city. Before it was over, the National Guard and federal troops had been called in, over twenty-five hundred buildings had been looted and burned, and forty-three people had been killed. The media called it a ‘riot,’ but Detroiters called it a ‘rebellion’ because it was an understandable response by young people to the brutality and racism of a mostly white police force (or occupation army) and also to their growing sense that they were being made expendable by Hi-tech” (Boggs & Kurashige, 2012).

Following the episode, many of the white residents still living in the city saw it in the best interest of their own safety to join the White Flight phenomenon and move out of Detroit, usually to the suburbs.

Deindustrialization and the outsourcing of manufacturing jobs to foreign countries dramatically affected inner cities across the country through the second half of the twentieth century and into the first decade of the twenty-first. In Detroit these issues were amplified by a combination of automotive companies moving out to the suburbs in search of large lots for sprawling new factories and escaping the effects of strong unions, and the decimation of much of

the mass transit system used to bring low-income earners to the new plants (Hill & Gallagher, 2003). Thus, mobility became the primary source of socioeconomic divide. Quite simply, those who could afford an automobile were able to travel to find work and subsequently commute to that job. Those who could not, were unable. This has been reality for Detroiters for decades now.

Detroit has lost half its population in the last forty years (Hill & Gallagher, 2003). As the people have gradually left, the visual appearance of the city has gradually declined. Scores of once-prominent buildings have been abandoned, fallen into disrepair, and have subsequently been razed or fallen into the hands of arsonists. In their place sit sometimes paved parking lots, as in the downtown core, but the majority of empty lots have been given back to the natural prairie, absent almost any memory of the past. The lack of architectural preservation is simply astounding. But there is often little that the residents can do.

BLIGHT BEGETS BLIGHT

Say a house in your relatively stable neighborhood is suddenly abandoned. The homeowners would have had to put more money into the century-old home to shore up the foundation and repair the roof than their mortgage is worth, so they move. Several months pass, and a senseless act of arson strikes the abandoned home. It is a complete loss. Now, a number of your neighbors, and you, are becoming uneasy. The homeowners across the street from the burned house decide to pick up and leave as well. This house as well falls in to a deepened state of disrepair, and one night it too succumbs to the ill will of an arsonist. The very next week, two more families on your block call it quits and move out of the once-stable neighborhood, and the cycle continues. As the population and the property tax base of the neighborhood continues to plummet, the city makes the decision to close the local elementary school, the one source of remaining civic pride in your hood. It is boarded up and outfitted with an infrared security camera system in an attempt to deter vandals and scrappers. But



Figure 37.
Cooley High School
(Dane Andersen, 2013)

over time, consistent break-ins chip away at the school's defensibility, and the police are spread so thin that it is impossible to catch every trespasser. No one has yet made an offer to buy the school, and the school district does not have the funds to keep repairing the security system, the one line of defense against the school's demise. After some time, the scrappers and vandals have won, and the school is stripped of anything of value, starting with copper fixtures and wiring, leading eventually to the very steel that makes up the building's skeleton. Over the course of only a year or two, your neighborhood has been virtually decimated, save the few remaining tough homeowners and business owners refusing to leave. Figures 37, 38, and 39 show Cooley High School, perhaps the most beautifully detailed public school building I have seen. Cooley opened in 1928 and closed due to budget shortfalls for needed repairs only four years ago, in 2010 (Detroiturbex). As we parked outside the school, our Detroit-native tour guide looked with lament at the row of open ground floor windows. He told us that the school had clearly been breached by scrappers, likely within the last few weeks, and that it would now most likely begin a rapid phase of deterioration. He was effectively announcing Cooley's death sentence.



Figure 38.
Cooley High School
(Dane Andersen, 2013)

You can see from this vignette how vulnerable so many communities in the sprawling city are to rapid decline. The results of several decades of this trend are clearly visible in the countless vacant lots and open prairies you can find driving in any part of Detroit.



Figure 39.
Cooley High School
(Dane Andersen, 2013)

Those tough residents who chose to stay amid the prolonged crisis are surely among the most resilient and ingenuitive city dwellers in the nation. Current Detroiters find power in both self-reliance and community connectedness. Vegetable gardens are routinely tended in vacant lots throughout the city, their nutritional wealth spread through farmer's markets and good will offerings. Coalitions of ordinary citizens move about their neighborhood clearing away brush and debris to make the landscape safer for children and less inviting for dumpers and for organized crime.

Communities organize neighborhood watch programs to halt criminal activity.

The hope for Detroit's future is clearly in its people. In absence of many of the services we in other cities take for granted, they find solutions that share responsibility and take care of others.



Figure 40.
*The Deconstruction of a Small
Structure Near Downtown*
(Dane Andersen, 2013)

Goals for the Thesis Project

As I enter the twelfth and final semester of my post-secondary education, I find it a good time to take stock of where my views of architecture currently lie. There are endless things I did not investigate or attempt in architecture school, and I only hope that the next adventures on my horizon allow me to experiment and explore as much as I have been able to here at school. As for this next semester, there are several succinct goals I want to work towards. They are split into the categories of academic, professional, and personal.

Academic

In this thesis, I hope to show the importance of studying decaying urban areas, not just flourishing ones, in search of architectural knowledge. Places like Detroit can teach us so much about how to design for people and how not to design for people, as well as the longevity of impact that design decisions can have. Through examination of Detroit we should finally be able to confront the realities of our time, be they not just architectural, but also economic, societal, moral, and spiritual. Only once we confront these realities can we begin building a brighter, more equitable future.

I also hope to challenge the predispositions and biases that have become evident to me in my four plus years of architectural education. Certain “skills architecture firms are looking for in new employees” are consistently overemphasized in most classes, at the detriment of other aspects of the breadth of traditional architectural knowledge. The most obvious of these is the use of computer software at the cost of hand skills. Architecture schools need to focus on consistently teaching a broad set

of skills that do not throw to the way-side the wisdom of centuries of architectural tradition.

Professional

Similar to my academic goals, I hope to develop a case for directing focus in the architecture field towards areas of distress, where the process of good design can incur the most good. One thing I have noticed in my research is that there is no shortage of ideas for how to improve the lives of the nation's poorest and most neglected people through design. However, there is reluctance on the part of government entities and large firms, be they architectural or otherwise, to work in full faith to implement these ideas. Instead, all the attention and lobbying and taxpayer money in the world is directed towards, say, new stadia for professional sports teams, hailed (falsely) as economic engines that can rejuvenate entire cities.

Personal

As I mentioned in the Academic section, I feel that my school, and from what I gather, many other architecture schools in this country and abroad, has not done a good job in training me in some of the traditional skills of architecture - drawing, hand-rendering, model-making (absent the use of digital fabrication tools), and others. Of course, it would be remiss to blame this on the institution alone. I accept the lion's share of responsibility for my inadequate skills in this sector, in favor of a deeper exploration of computer technology. At the same time, my most recent studio course in digital technology offered the realization that today's software programs can provide insights into the architectural design process that were never possible before. Therefore, it is my goal to find a method, my own method, to blend tactile and the digital modes of design meaningfully.

WELCOME TO
WOODBRIIDGE



BARNABAS
YOUTH
CENTER



Figure 41.
Welcome to Woodbridge
(Dane Andersen, 2013)



SITE ANALYSIS

- site narrative
- site photos
- climate data
- programmatic requirements

Site Narrative

The site is located at 1775 West Forest Avenue, on the corner of West Forest Avenue and Rosa Parks Boulevard. It is comprised of two lots. One, the corner lot, is vacant. On the second lot sits the former Danish Brotherhood Hall, a 1915 building that served as a meeting hall as well as several different churches through the years, but eventually closed in 2001 and has since sat empty.

The site is within the Woodbridge neighborhood of Detroit, an area of moderate vacancies, but which is experiencing economic resurgence. It is aided in this by its proximity to Midtown, a healthy and vibrant neighborhood adjacent to downtown. A vibrant artists community has taken root in Woodbridge in the last decade or so as well. This is clearly evident in the elaborate works of street art in and around the area. There is a small charter high school on the block northwest of the site, a closed elementary school one block north of the site, and a boarded-up church one block south of the site. The Danish Brotherhood building shares a party wall with an old warehouse-type building to the east that now functions as a small art gallery called the Woodbridge Gallery.

The downtown skyline is visible from the site, connecting it well with the character of the city. There is an incongruous mix of areas in the neighborhood that look healthy and those that look derelict. When we visited, there were promising signs of repairs and renovations underway on various homes and other buildings.

The specific site at West Forest and Rosa Parks seems to serve as an outer border to the real activity of Woodbridge:

To the east, a higher density of housing and small businesses which continues to gain density as it reaches Midtown, but across Rosa Parks Boulevard to the west sits a site of about three to four blocks of open prairie that stretches to Grand River Avenue, one of the major boulevards radiating from the downtown core. I see this as a big opportunity to build a welcoming structure, a place to declare the rejuvenation of Woodbridge and the new future of Detroit.

QUALITATIVE CHARACTERISTICS

The site is generally overgrown with vegetation right now, mostly tall grasses and shrubs. There are no trees directly on the site, but there are many trees on the empty land to the west, across Rosa Parks Boulevard. The absence of tall vegetation allows for plenty of natural light, the only shadow being caused by the existing Danish Brotherhood building. Wind moves through the site freely due to an absence of surrounding structures that could block or redirect it. The Danish Brotherhood building blocks winds coming from the east and northeast. A deteriorating, weed-covered sidewalk wraps three quarters of the perimeter of the site. This and the Danish Brotherhood building are the primary indicators of human characteristics and distress.

QUANTITATIVE CHARACTERISTICS

The soil, like much of the soil throughout southeast Michigan, is largely clay. The only visible utilities on the site are a street light and a traffic light on the corner of West Forest Avenue and Rosa Parks Boulevard. West Forest Avenue is a three-lane one-way traveling east. It carries very little vehicular traffic. Rosa Parks Boulevard carries equally little vehicular traffic in this part of town, and it is a three-lane one-way traveling north. Pedestrian traffic, too, is sparse throughout the day. Loitering in the vicinity was not an uncommon activity on the day of the site visit.

The Site

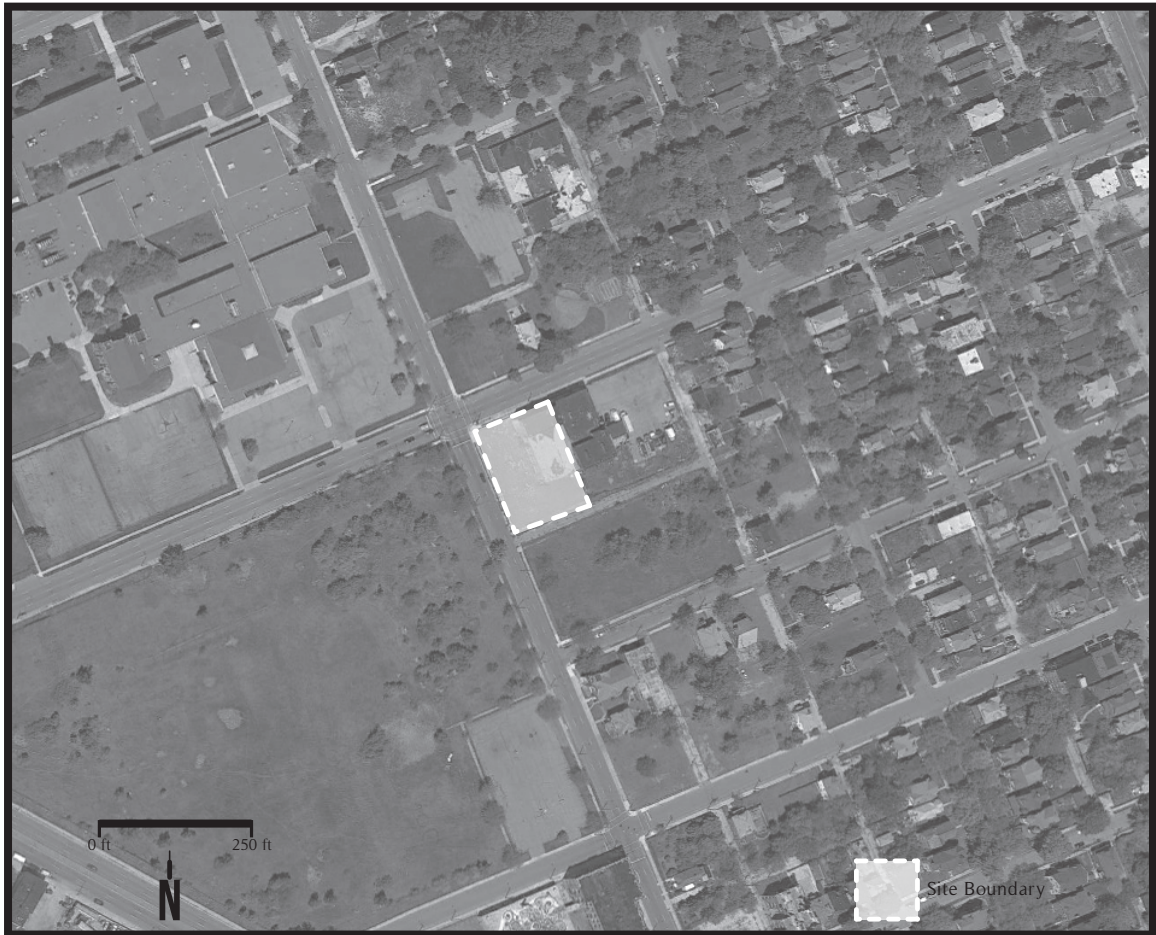


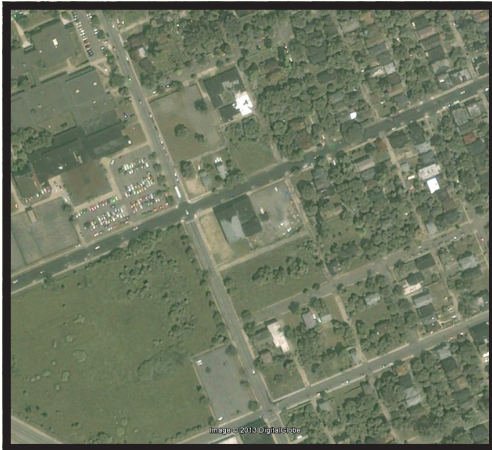
Figure 42.
The Site, 2012
Google Maps



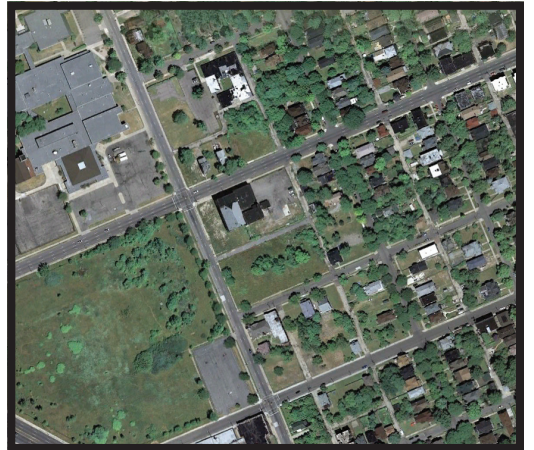
1999



2002



2005



2007

Figure 43.
The Site Through Time
Google Maps

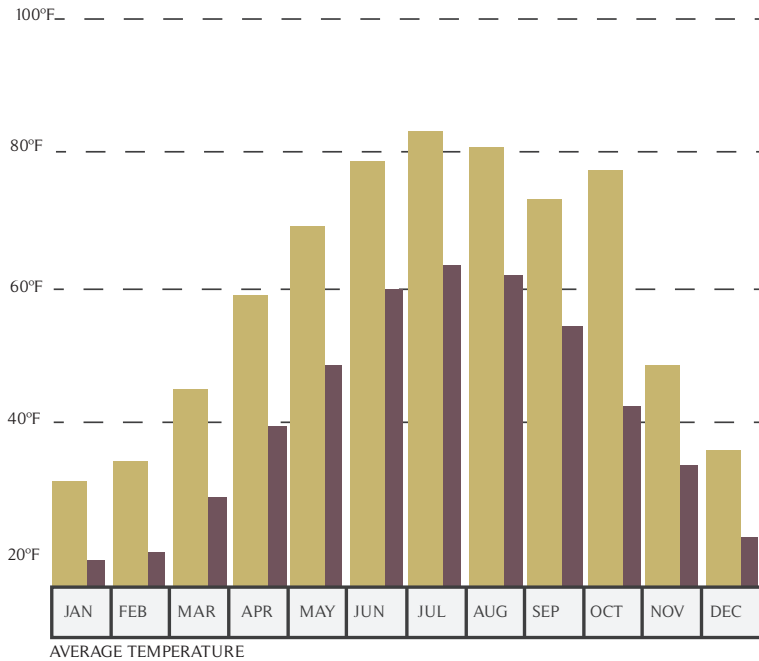
Site Photos





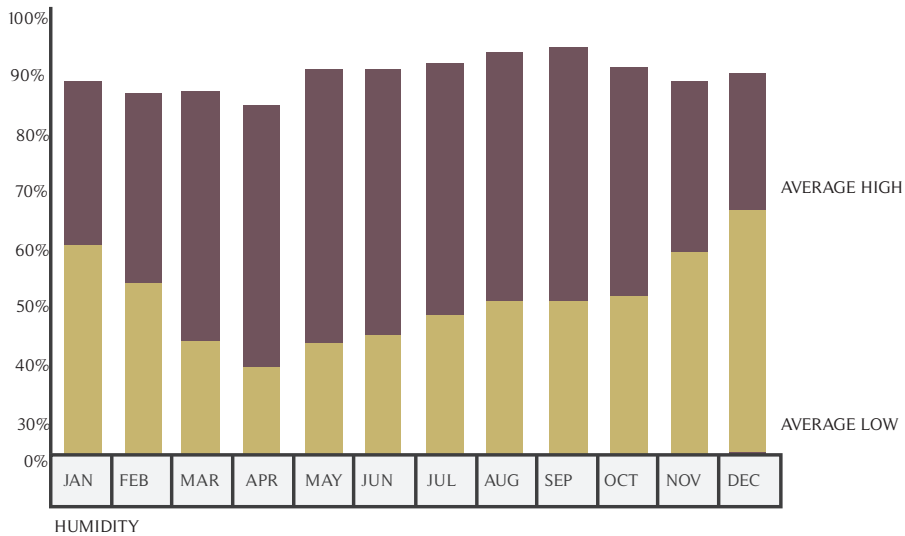
Figure 44.
Site Photos
Dane Andersen, 2013.

Climate Data



AVERAGE TEMPERATURE

Table 45.
Average Temperature



HUMIDITY

Table 46.
Humidity

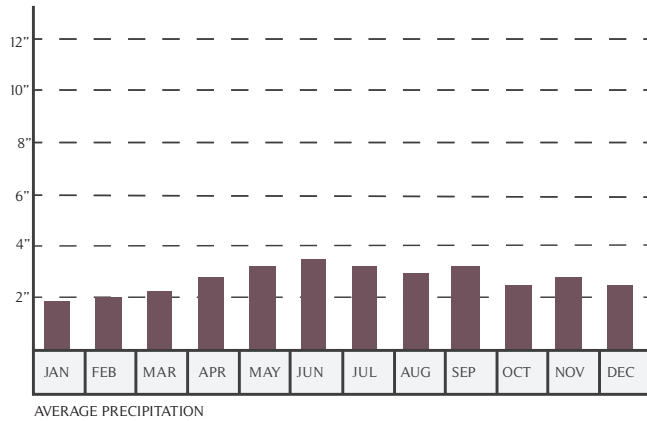
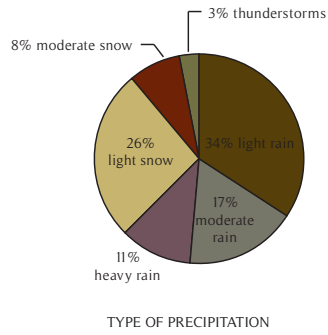


Table 47.
Average Precipitation

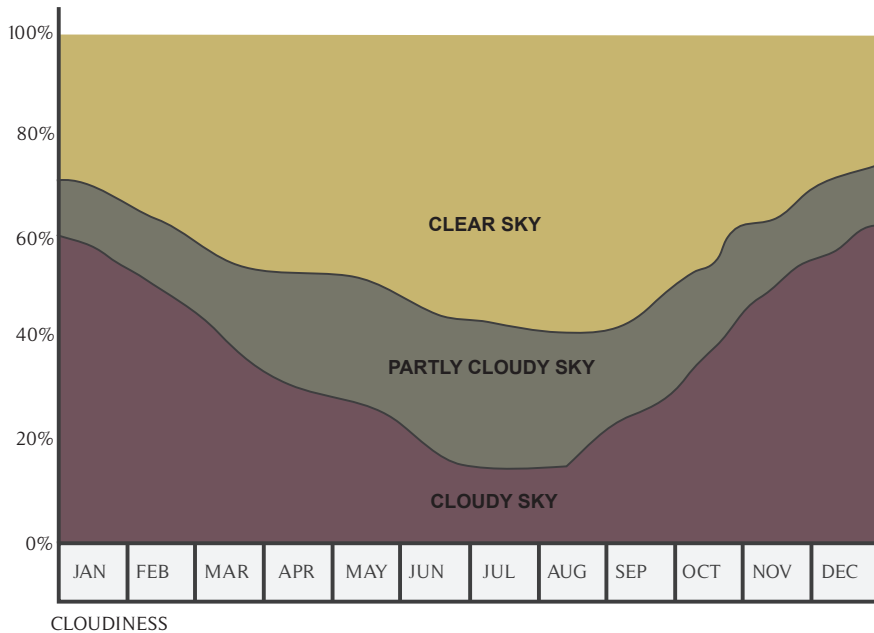


Table 48.
Cloudiness

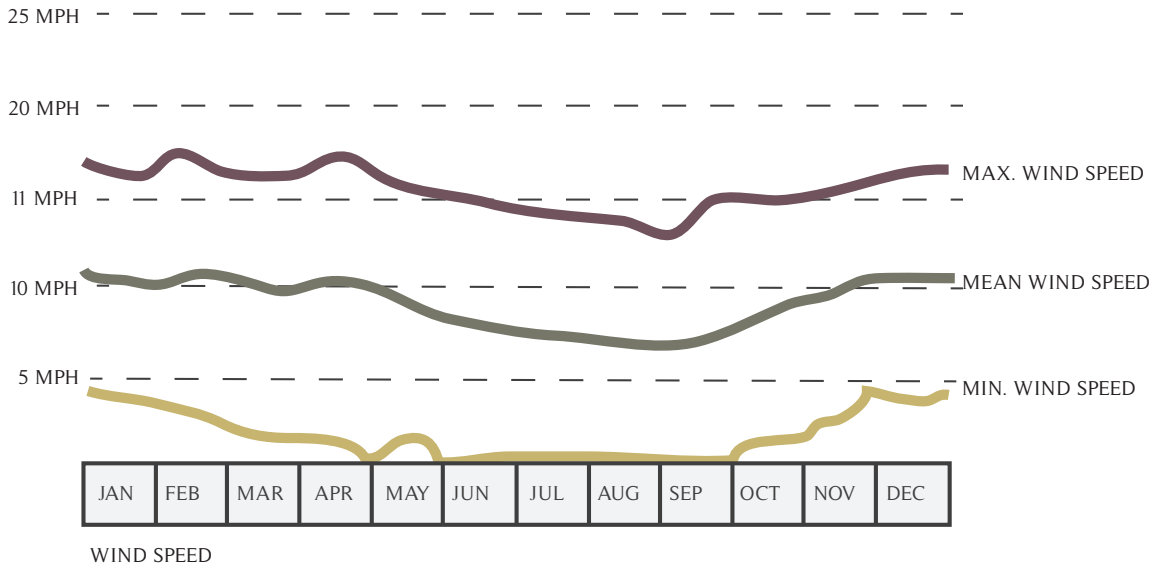


Table 49.
Wind Speed

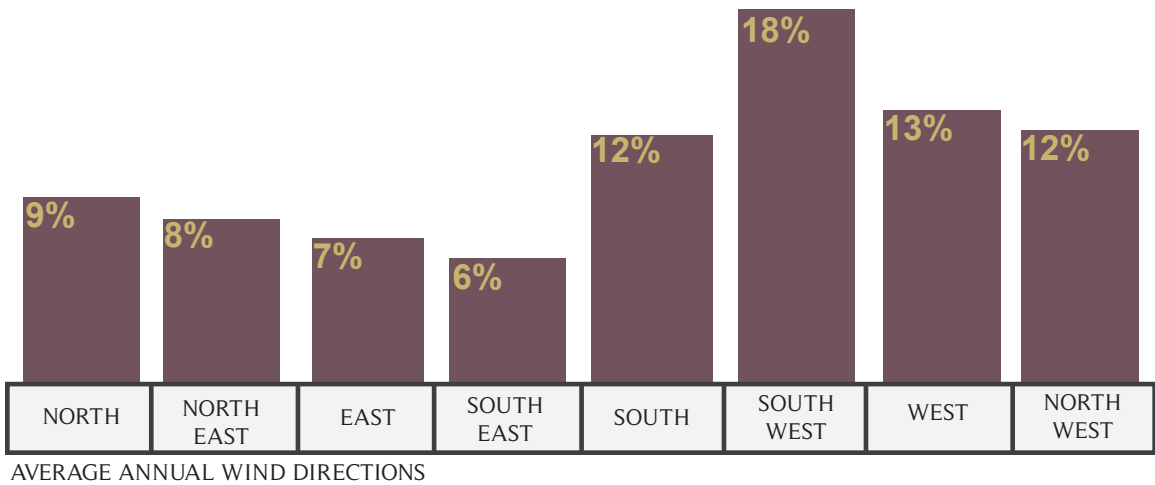


Table 50.
Wind Direction

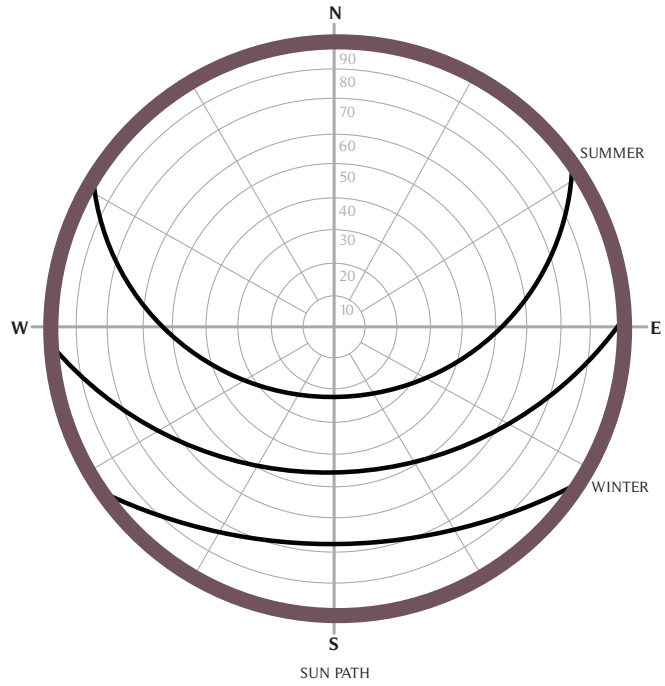


Table 51.
Sun Path



Figure 52.
Noise

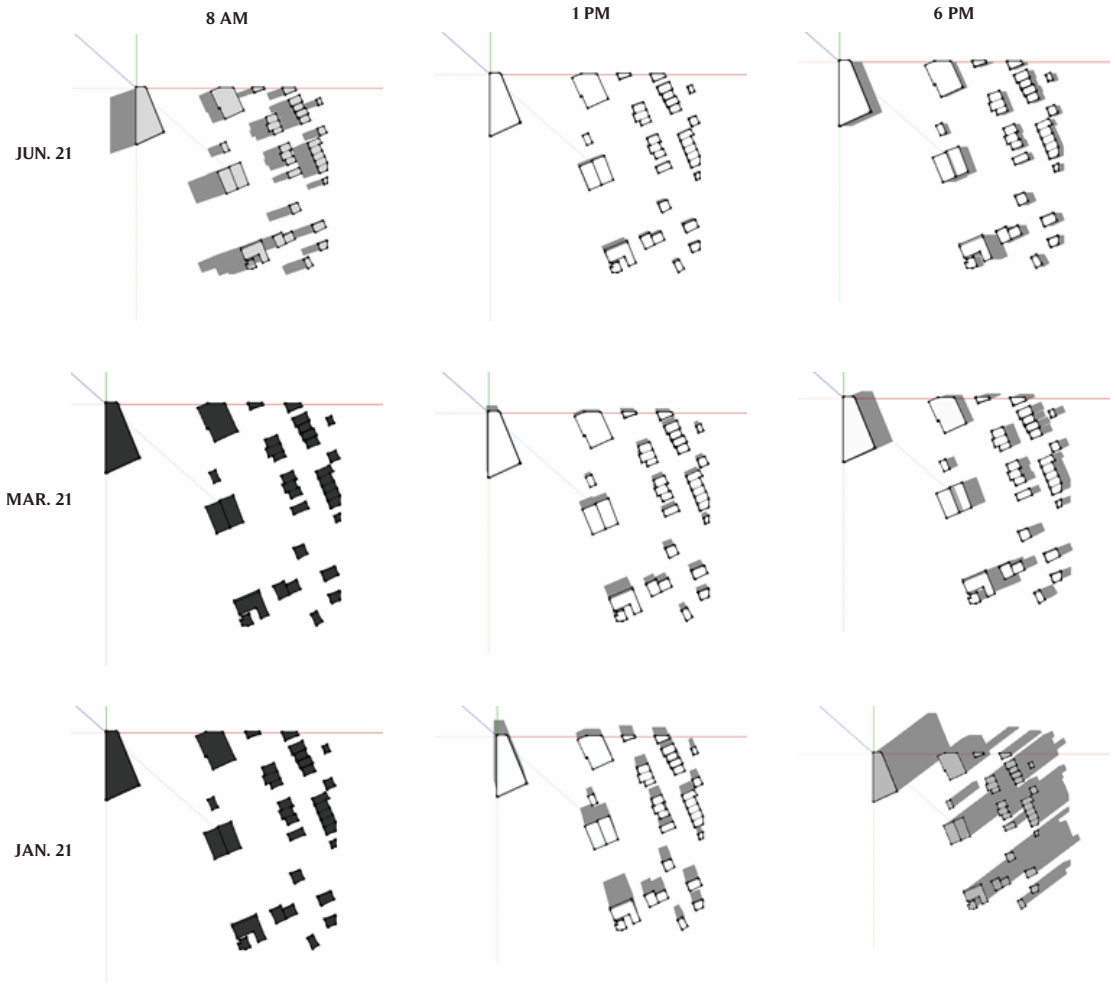


Figure 53.
Shading



Figure 54.
Topography and Air Movement

Programmatic Requirements

The Program:

Detroit Collaborative Design Center spaces:

Resource Library	1200sf	
Digital Laboratory	500sf	
Presentation Space	600sf	
Meeting room	300sf	
Offices	2000sf	
Fabrication Shop	1000sf	
Shop Storage	800sf	
Reception and Administration	300sf	
Exhibit Space	1000sf	
Total:	7700sf	

Community spaces:

Auditorium	3000sf	
Auditorium Gathering Space	500sf	
Backstage Area	400sf	
Conference Hall	800sf	
Break-out Meeting Room	100sf	
Ballroom	1500sf	
Rentable Studio Space	1500sf	
Observation Space	300sf	
Total:	8100sf	

Other Spaces:

Entry/Atrium	400sf	
Restrooms	600sf	
Mechanical/Electrical	400sf	
Circulation	10% of total = 1700sf	
Total:	3100sf	

Building Total: **19,100sf**



Figure 56.
Danish Brotherhood Hall sketch
(Dane Andersen, 2013)

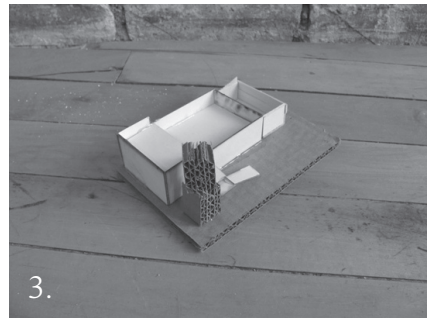
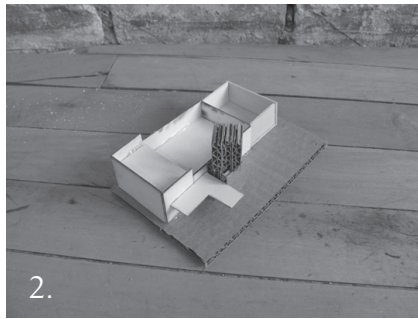
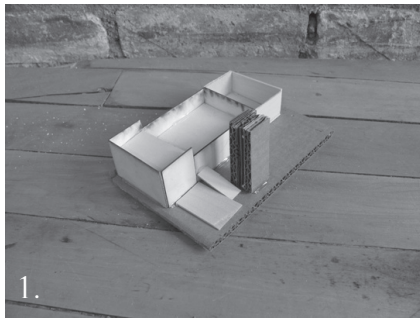


PROCESS

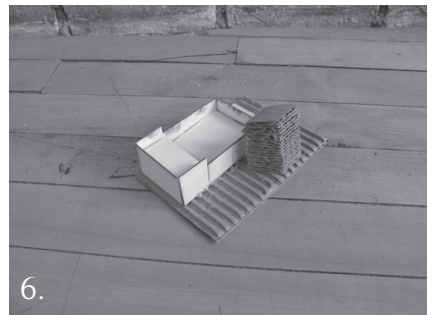
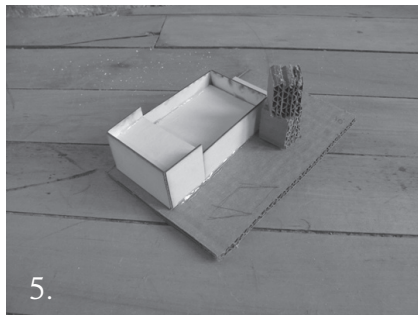
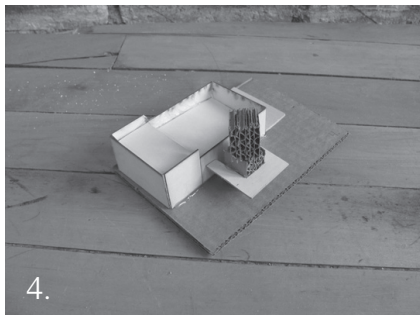
- process models
- process sketches and diagrams
- midterm review

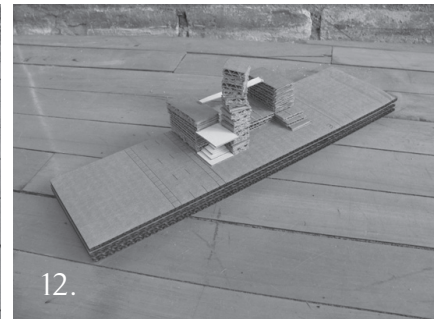
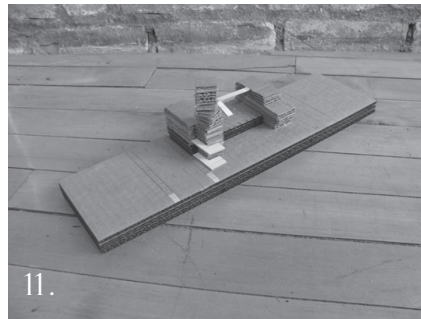
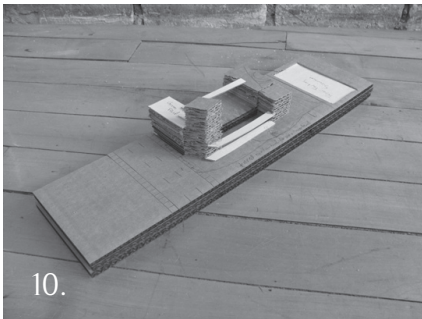
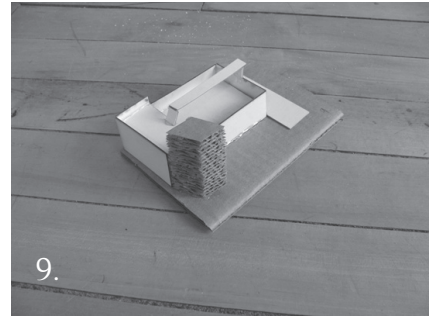
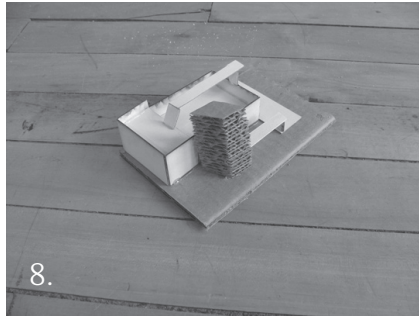
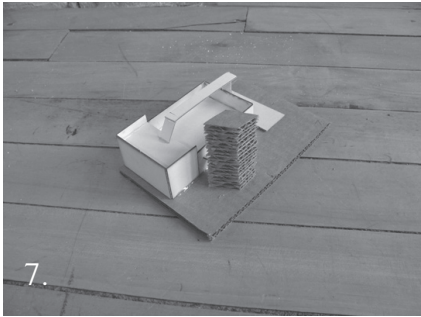
Process Models

These models served as an initial exploration of form and spatial layout. By this point I had concluded that a high point would be required for observation and lookout, and that an addition would be required to facilitate a fabrication shop with high ceilings. These models explore different locations for a tower and different ways to arrange spaces within the existing Old Danish Brotherhood Hall structure.



At the point of the second model here, I conceived the idea of twisting the tower as it rose, to symbolically align the faces with views I found pertinent to my own discovery of Detroit.





The last three models are some 3D prints I used to better visualize the interior space of the existing building and the form of the tower.

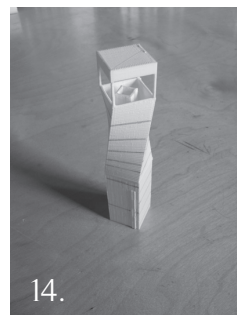
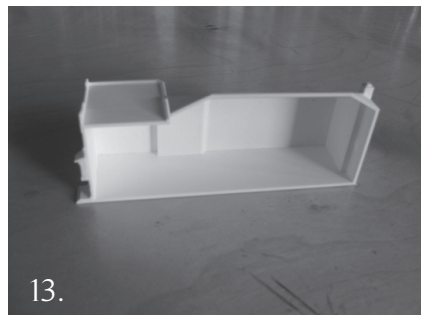


Figure 57.
Process Models

Process Sketches and Diagrams

Exploring Auditorium Configurations

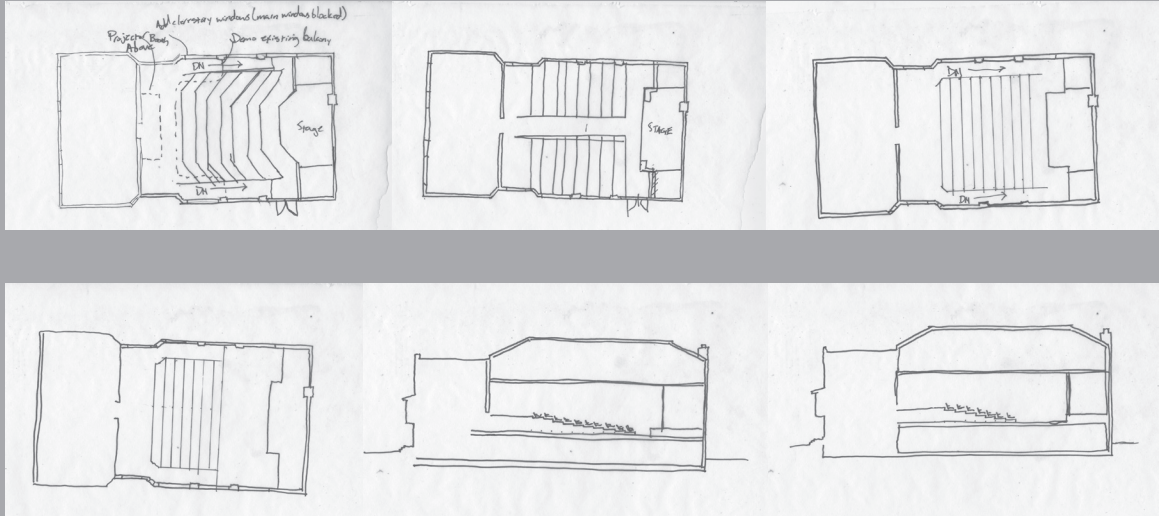


Figure 58.
Auditorium Sketches

Digital Model Progress Snapshots

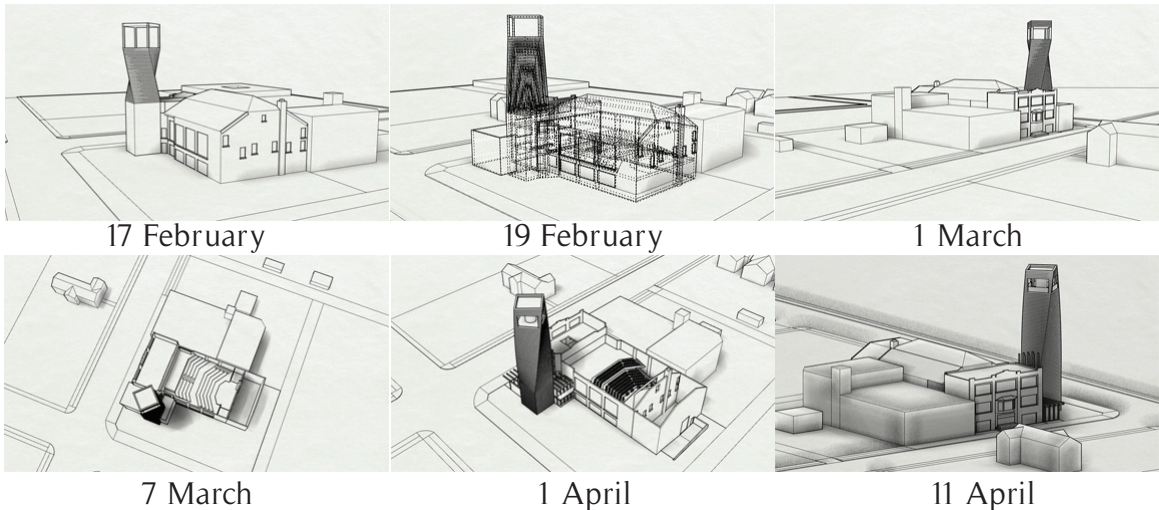


Figure 59.
Digital Model Process

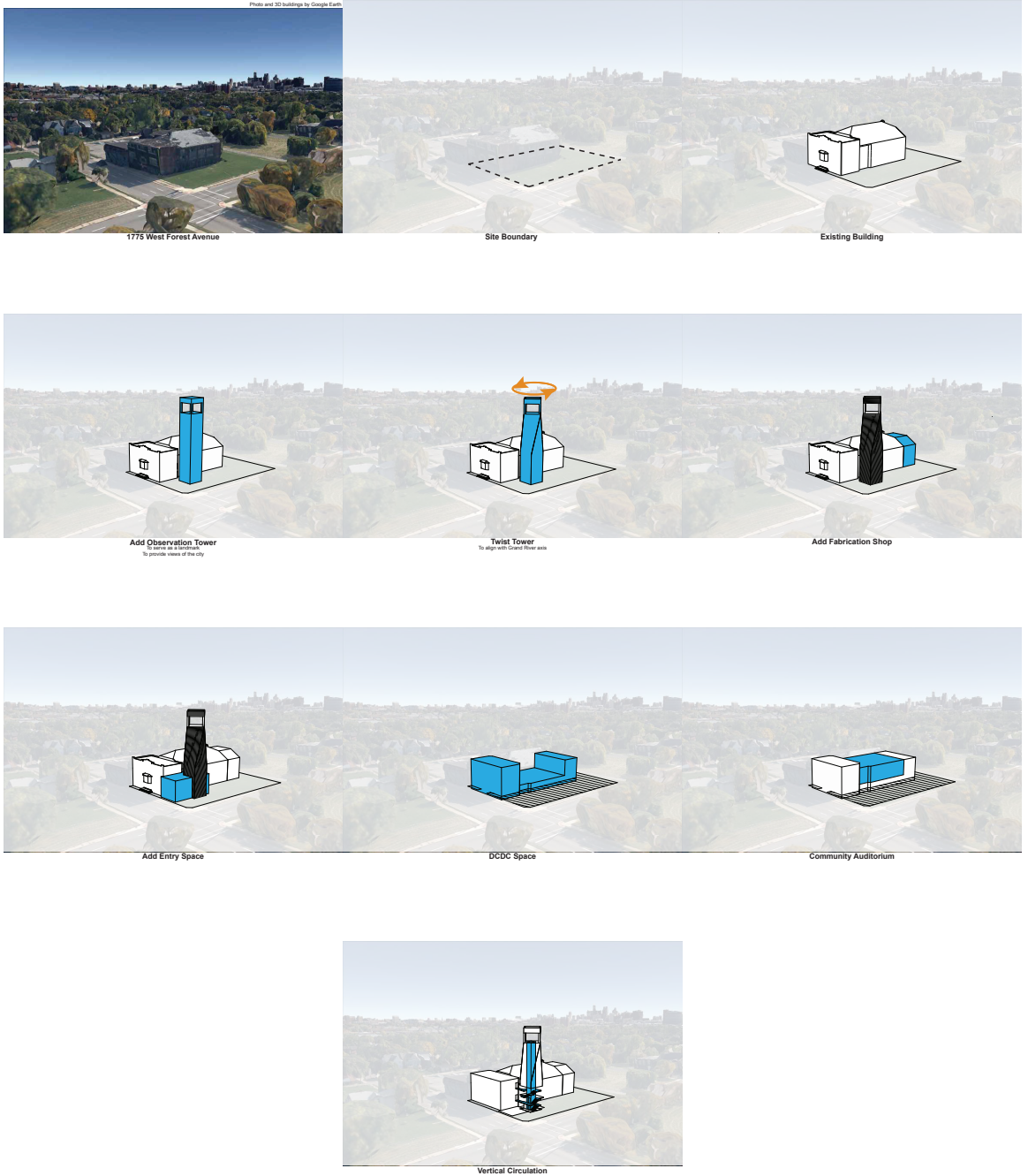


Figure 60.
Process Diagrams

Midterm Review

A midterm review was held on March 10, 2014 to provide critique and direction for moving forward. In addition to our thesis section and professor Mike Christenson, guests included Professor **Gayla Lindt** from the University of Minnesota School of Architecture, Minneapolis architect **Kathryn Olmstead**, architect **Eric Amel** of Minneapolis-based MS&R Architects, and architect **Todd Grover** of Minneapolis-based MacDonald and Mack Architects.

The panel of judges provided a number of suggestions for making this project stronger and more comprehensive. Some of the most pertinent included:

A need to show more site context. This project is very much about how the building relates to the neighborhood and the city, so each drawing should reinforce those relationships.

Further detailing the structure of the tower. The observation tower is a provocative and alluring statement, and must be fully justifiable not just through its theoretical importance, but also through the feasibility of its structure and detail.

A better conception of the entry. The part of the composition where tower meets existing structure is clunky and illogical. More investigation must be done to determine what the best fit would be.

Defining the character of the interior. It is so far unclear whether this is a historical preservation project or an adaptive reuse project, or somewhere in between. The design process must go further to determine the spatial layout and materiality of interior spaces.

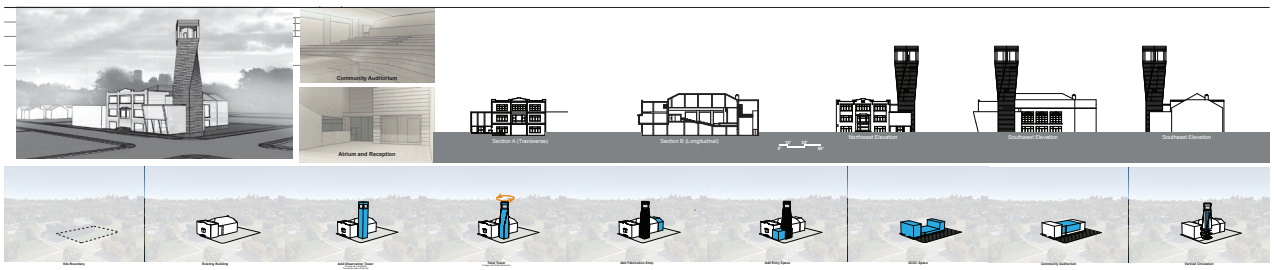
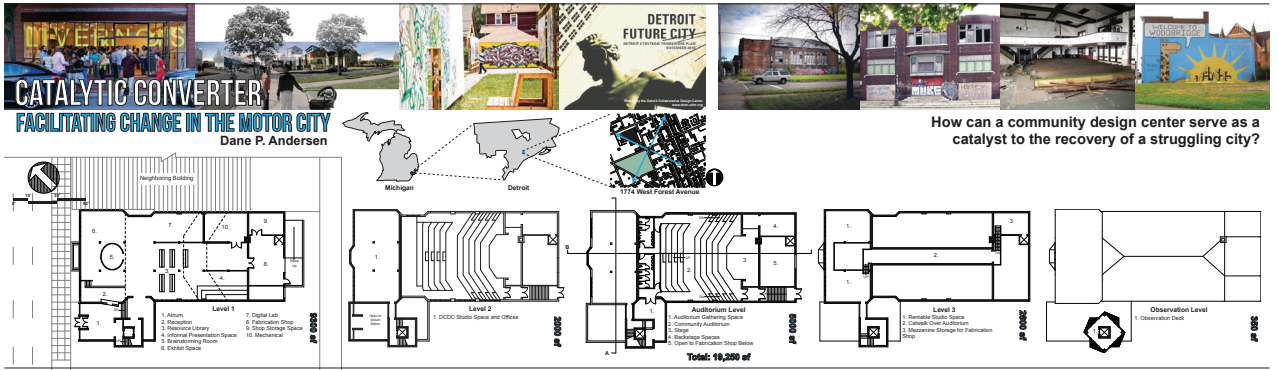


Figure 61.
 Midterm Boards

PRODUCT

- narrative
- final graphics
- project installation
- model documentation



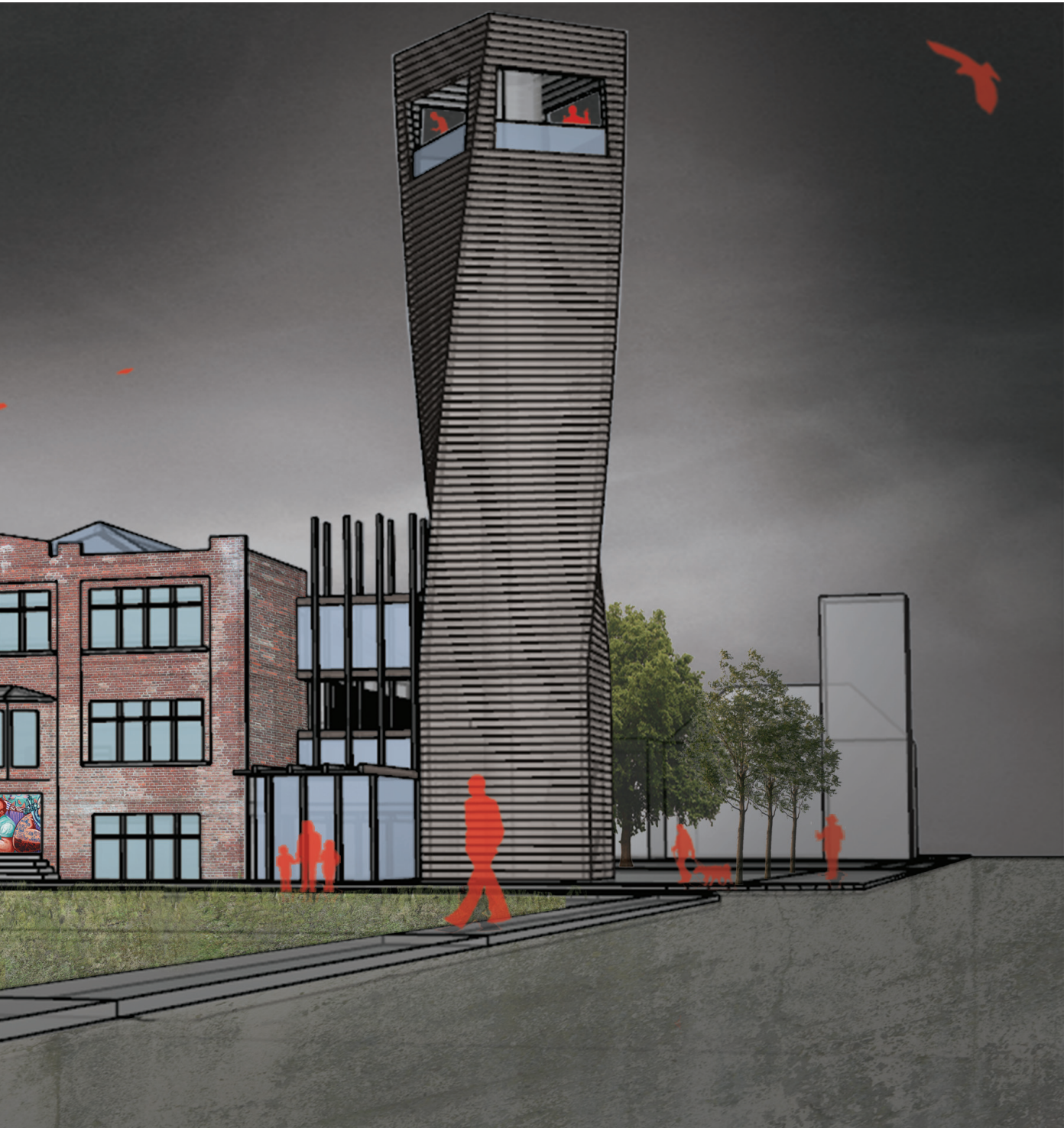


Figure 62.
Exterior Perspective 1 - North

*How can Detroit [come back]?
[rebuild]?
[renew]?
[rejuvenate]?
[re-create]?*

There is no one single answer, nor should there be. The Motor City has meant many things to the public eye, from Beaux Arts gem to Industrial Juggernaut to a symbol of despair. The recent past has dealt a discouraging hand to the city - crime, economic depression, depopulation, municipal bankruptcy, and perhaps worst of all, a lack of sympathy from the outside world. But while people across the country write off Detroit as dying or dead, the 680 000 people who still live there continue moving forward against all odds. **A movement is underway in Detroit.** Fueled by grassroots organization and community camaraderie, residents are defining new ways of living in an urban environment. They are growing their own food, starting small businesses, and relying more on each other than on the car companies and the city government.

The Detroit Collaborative Design Center is a nonprofit design firm affiliated with the University of Detroit Mercy. The people of the center conceive and build ecologically, economically, and socially sustainable projects for the Detroit area, as well as for centers of distress around the world. Their projects range from the scale of a single building or park to a new strategic framework plan for the entire city of Detroit. The DCDC is currently located in the architecture building at the University of Detroit Mercy, separated from the distressed neighborhoods they are trying to assist.

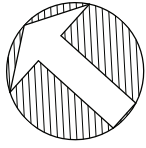
The new DCDC location places the organization in a uniquely symbolic place. To the east and southeast of the site lie Detroit's most stable neighborhoods, including Midtown, Downtown, and Corktown. To the west sits a vast

area of sparsely populated neighborhoods. **This is where Detroit's transformation will be most apparent** in the coming decades, as the city's land-use policies and trends evolve.

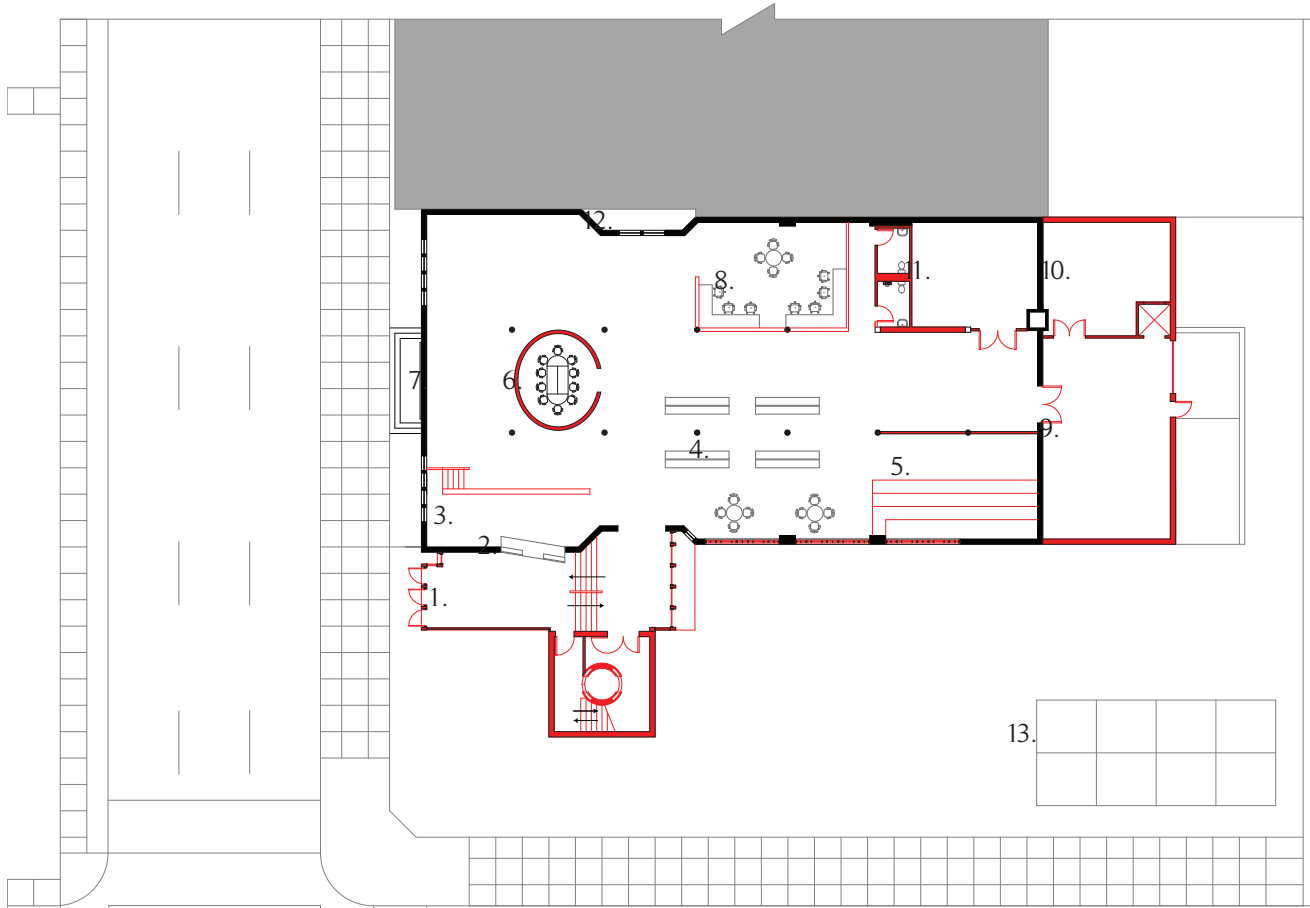
The program of the new center sits inside a historic building known as the **Old Danish Brotherhood Hall, in the Woodbridge neighborhood**. It has served as a meeting place for citizens since the early twentieth century, serving first Scandinavian immigrants, then African Americans, and finally, Christians of many cultural backgrounds, before closing its doors in 2001. It has sat empty ever since.

The new DCDC gives the people of Detroit a vantage point to witness the evolution of their city. It also stands as a beacon, welcoming ingenuity while celebrating history. It is a meeting place and an icon. It invites visitors to explore context and scale, from the familiar man-made materials of which it is built, recycled from the fallen buildings that once made up this great city, to the distant views seen from the observation tower, to the endless imagination those views inspire within the mind.

Figure 63.
Level 1 Plan



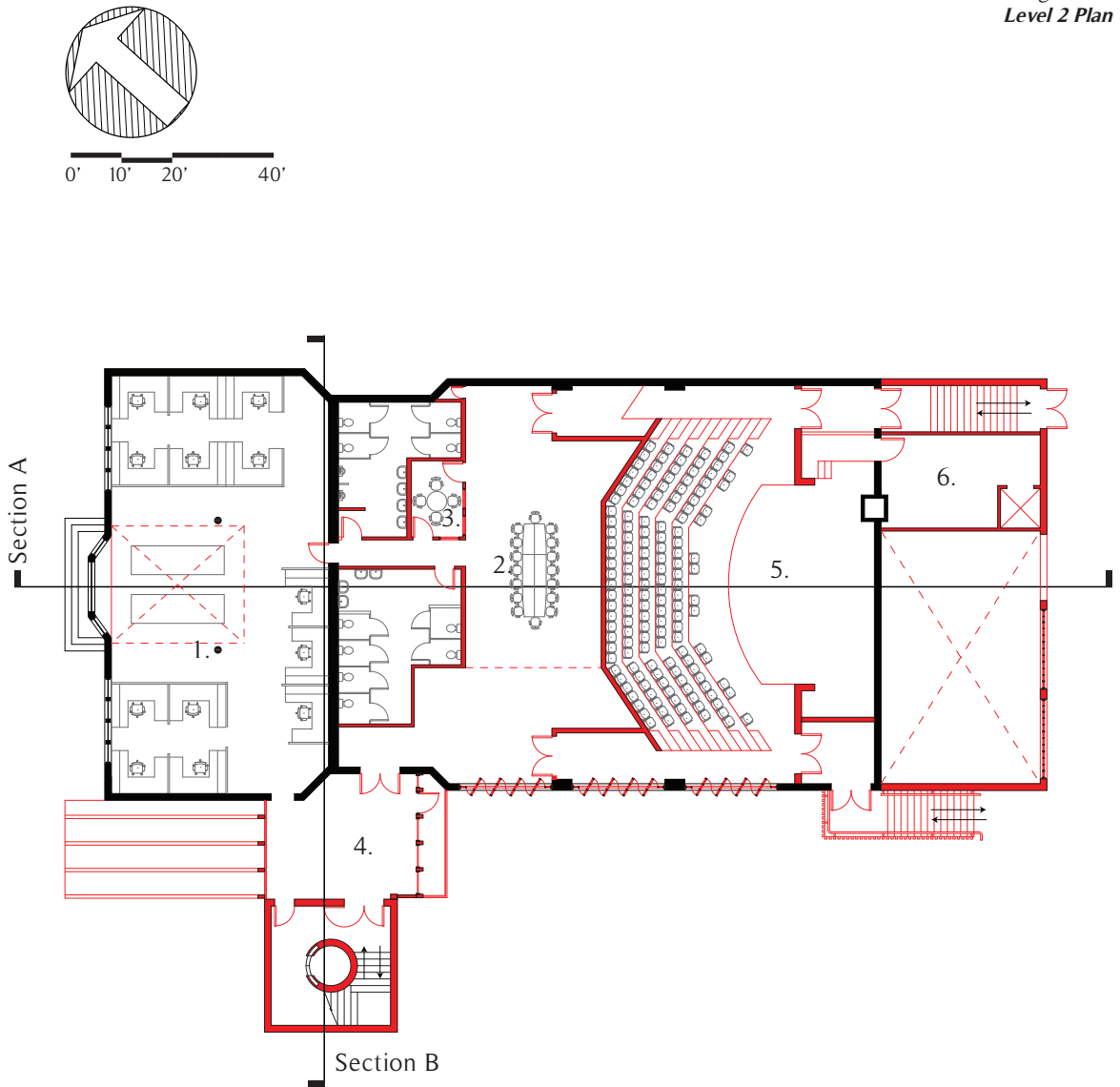
0' 10' 20' 40'



Level One

- | | | |
|-----------------------|---------------------------|----------------------|
| 1. Entry Corridor | 7. Exhibit Space | 13. Community Garden |
| 2. Reception Desk | 8. Digital Lab | |
| 3. Administration | 9. Fabrication Shop | |
| 4. Resource Library | 10. Shop Storage | |
| 5. Presentation Space | 11. Mechanical/Electrical | |
| 6. Meeting Room | 12. Light Well | |

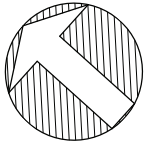
Figure 64.
Level 2 Plan



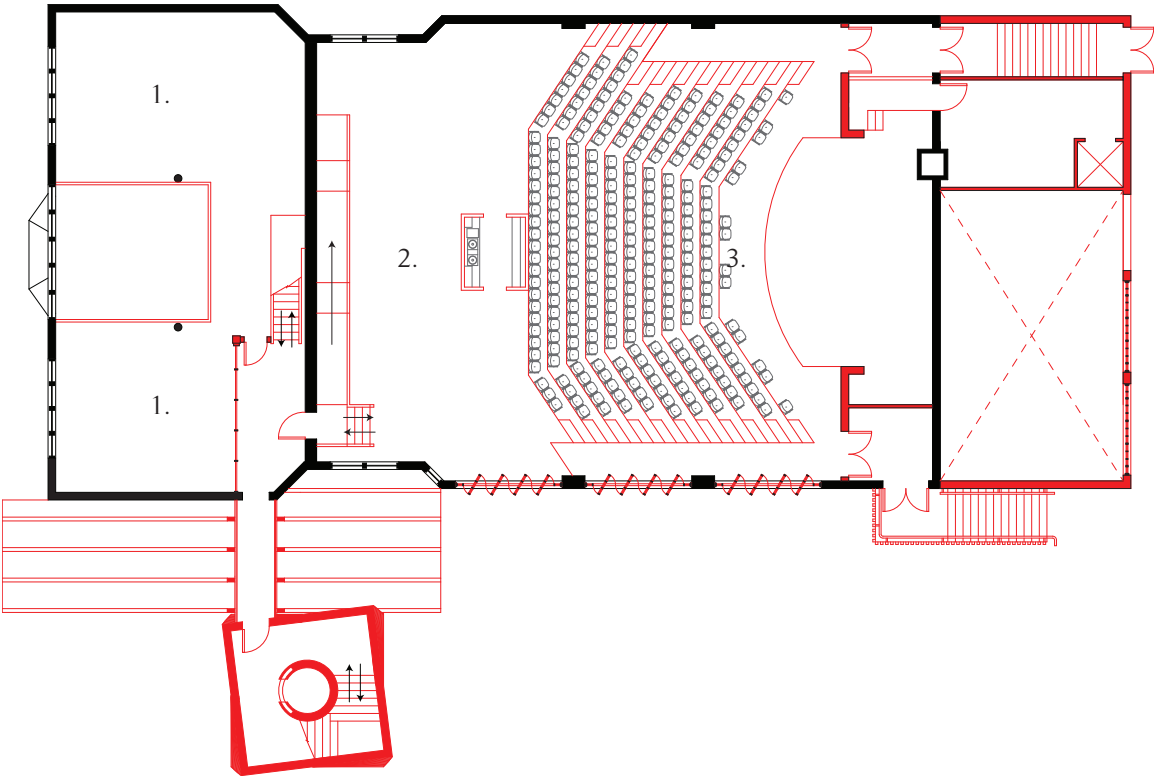
Level Two

1. DCDC Studio and Offices
2. Community Conference Room
3. Break-Out Space
4. Auditorium Gathering Space
5. Stage
6. Backstage

Figure 65.
Level 3 Plan



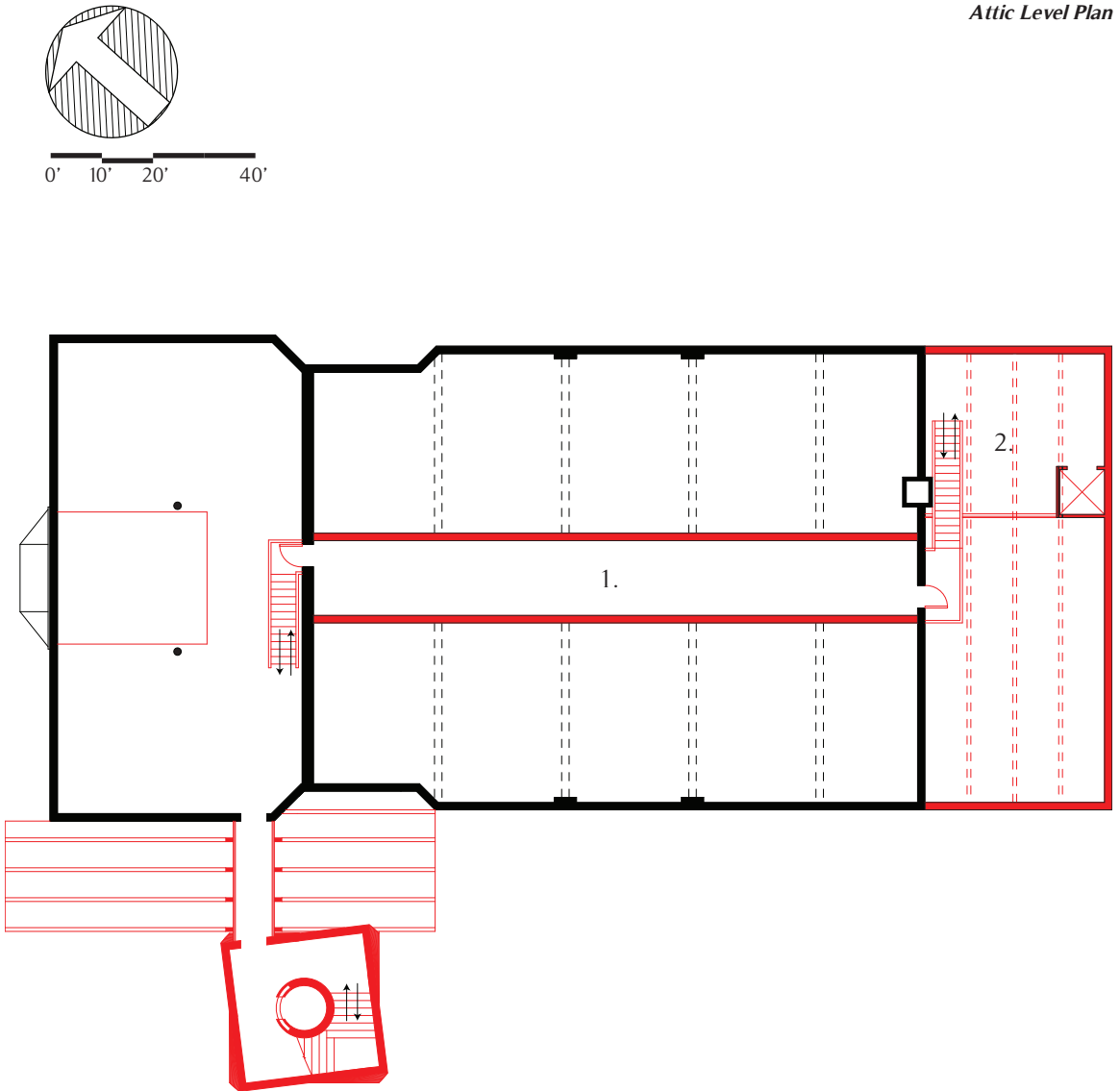
0' 10' 20' 40'



Level Three

- 1. Rentable Studio Space
- 2. Community Ballroom
- 3. 300 - Seat Community Auditorium

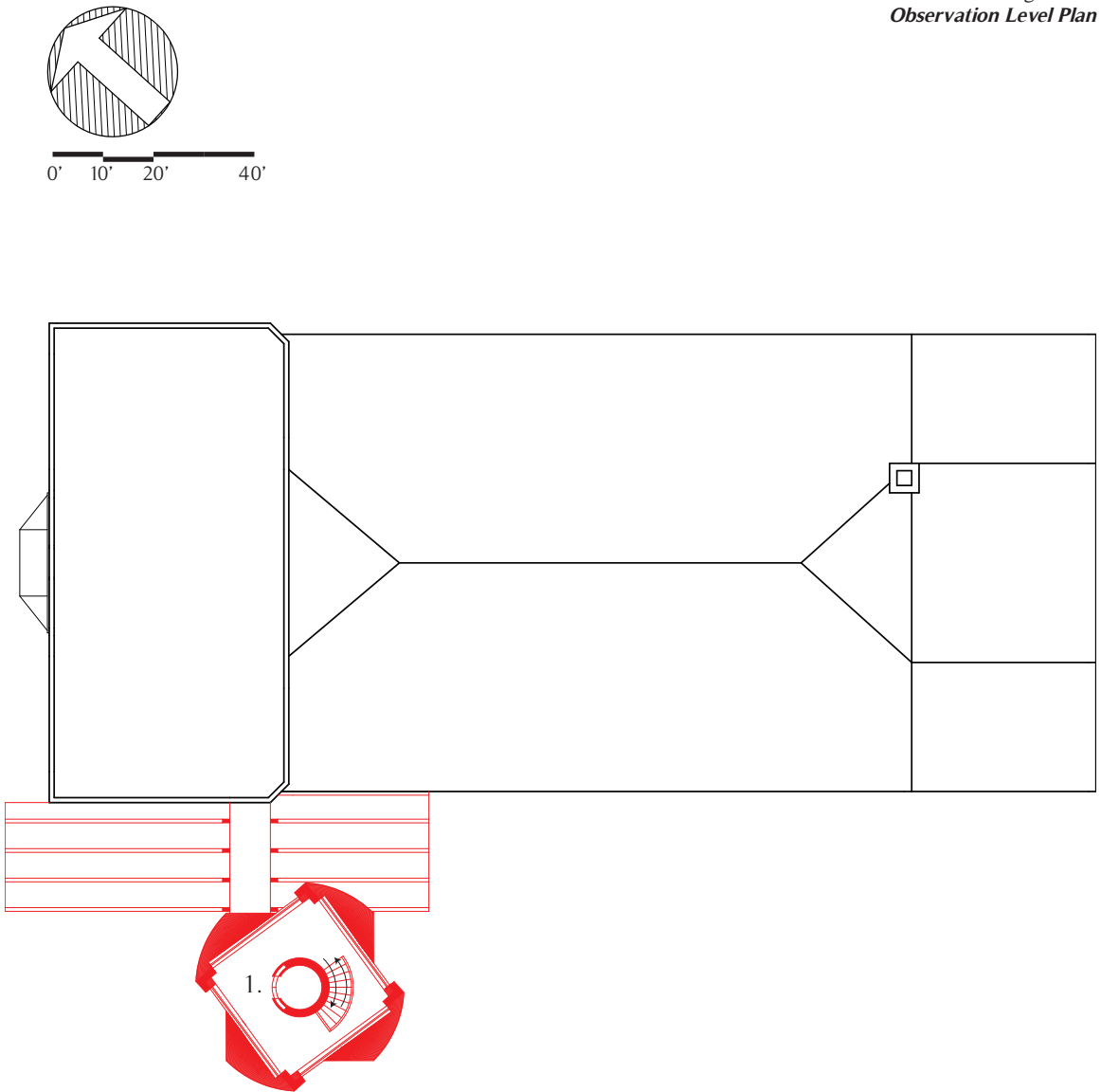
Figure 66.
Attic Level Plan



Attic Level

1. Walkway Over Auditorium
2. Mezzanine Storage for Fabrication Shop

Figure 67.
Observation Level Plan



Observation Level

1. Observation Deck

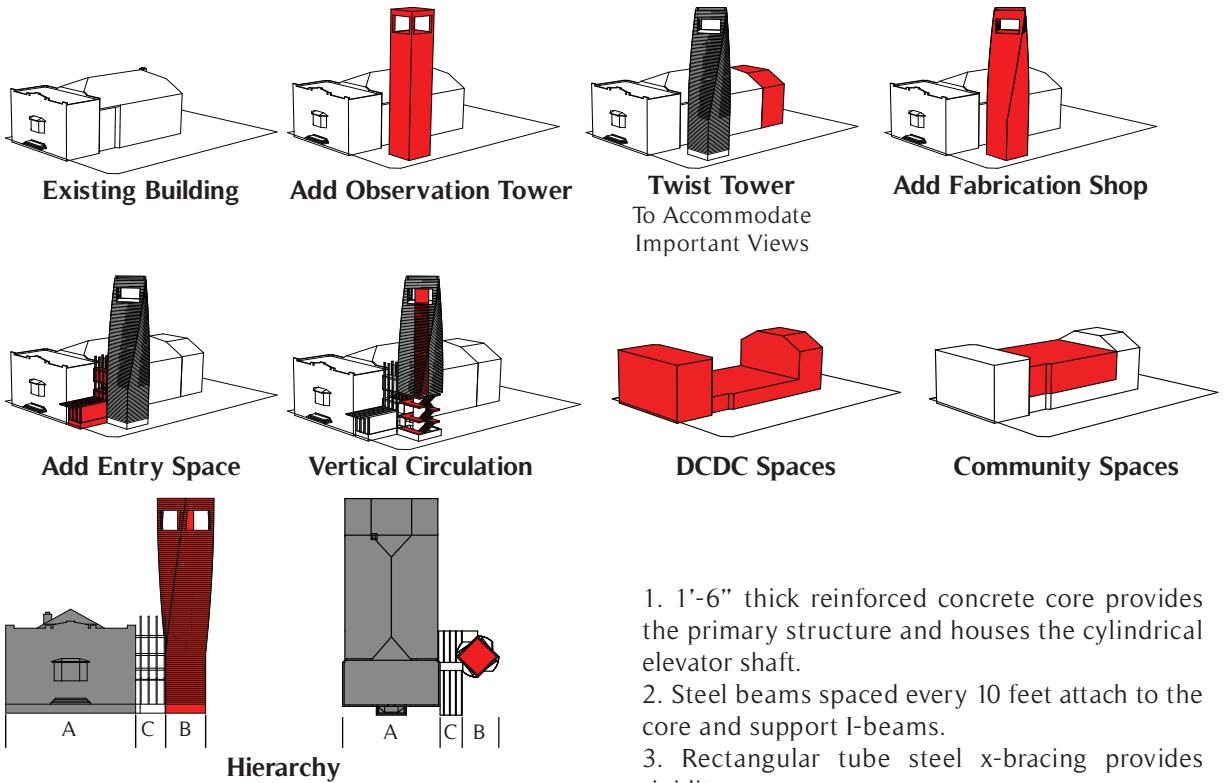


Figure 68.
Final Diagrams

1. 1'-6" thick reinforced concrete core provides the primary structure and houses the cylindrical elevator shaft.
2. Steel beams spaced every 10 feet attach to the core and support I-beams.
3. Rectangular tube steel x-bracing provides rigidity.
4. Steel clips backed by rectangular tube steel are welded to the I-beams.
5. Steel I-beams, reused from demolished structures from the Detroit area.

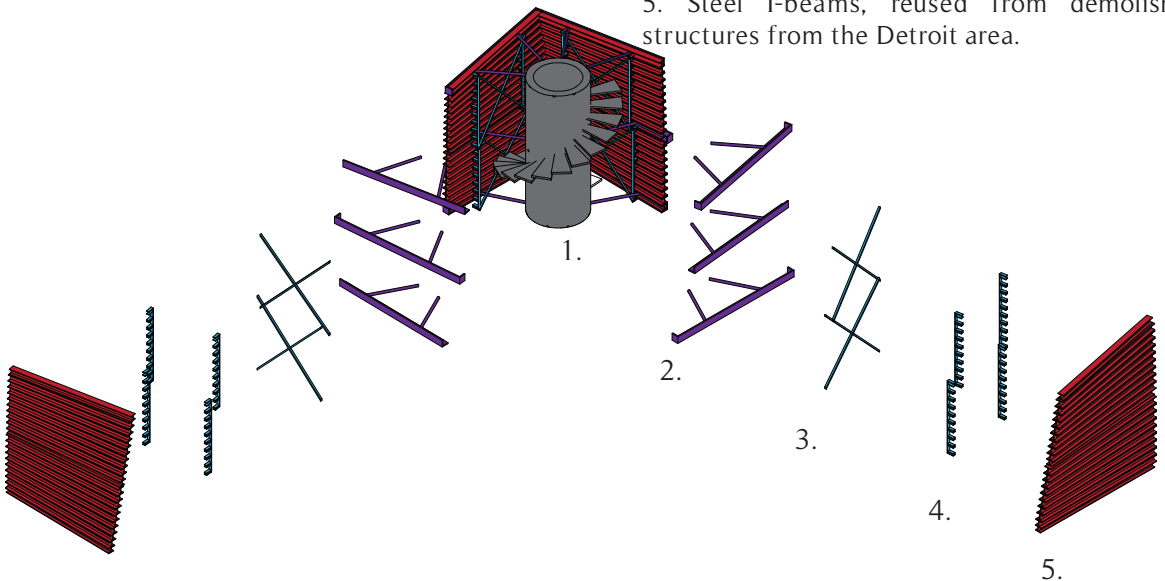


Figure 69.
Tower Structure Diagram



Figure 70.
North Elevation

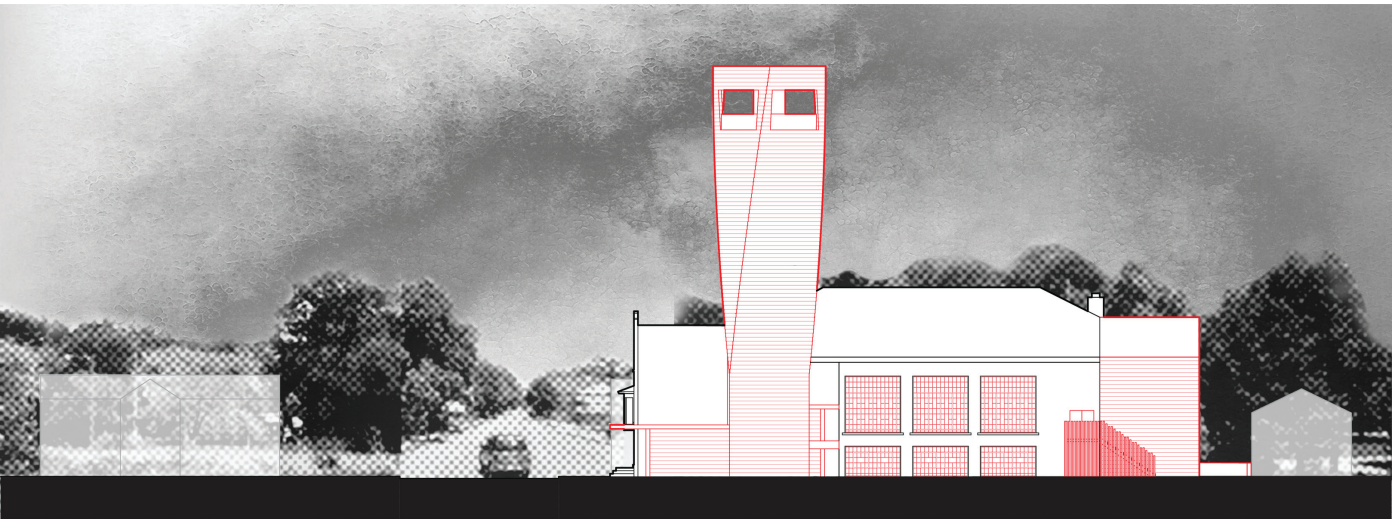


Figure 71.
West Elevation



Figure 72.
South Elevation

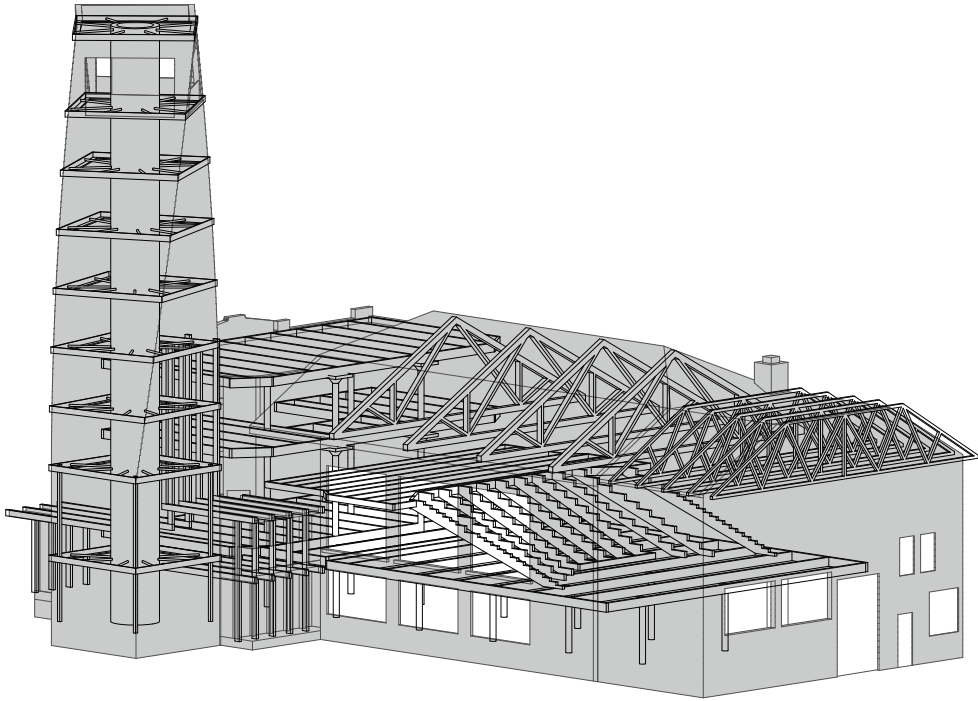


Figure 73.
Structure Diagram

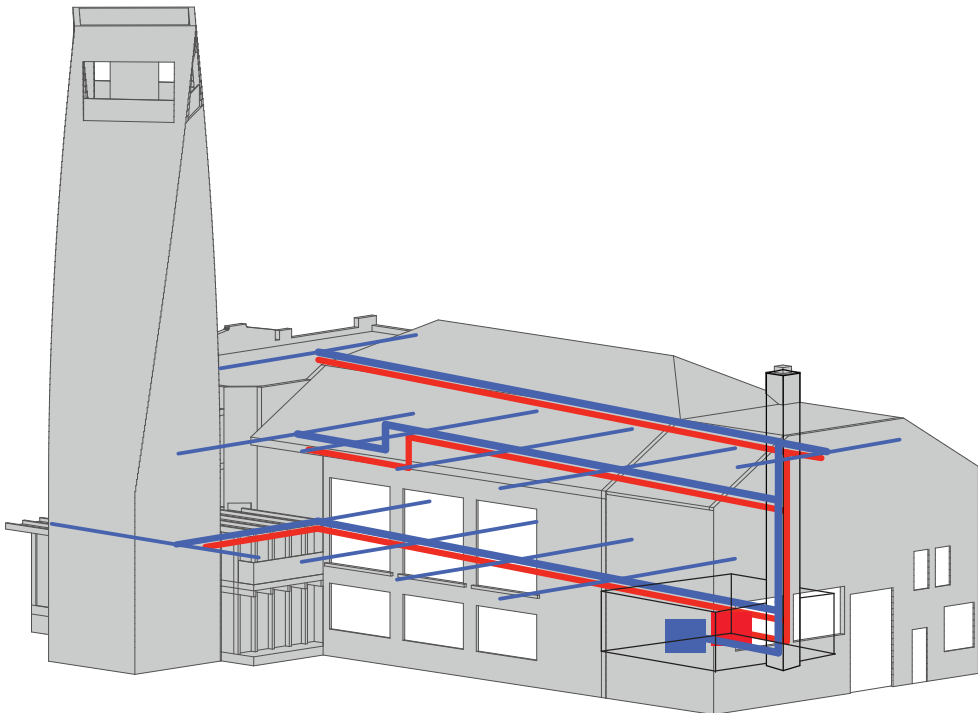


Figure 74.
HVAC Diagram



Figure 75.
Exterior Perspective 2 - Southwest

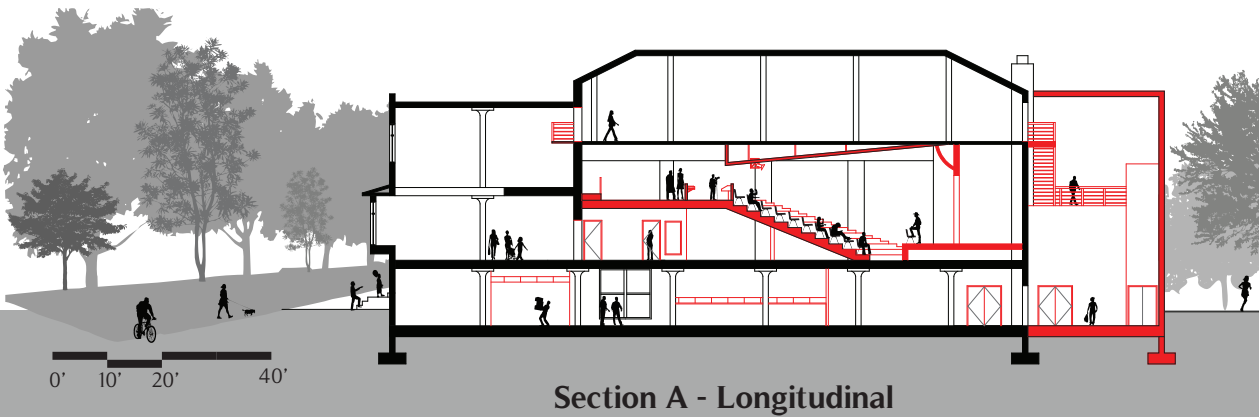
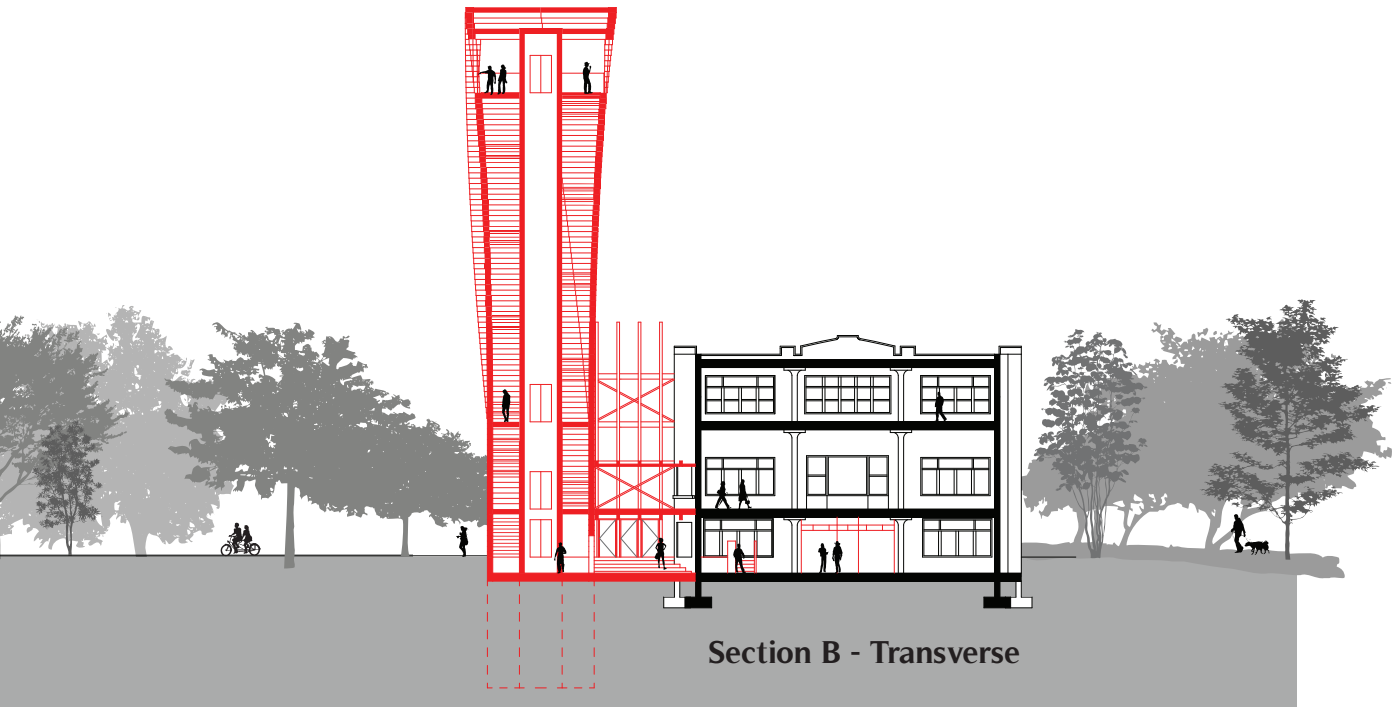


Figure 76.
Sections



Figure 77.
*Interior Perspective - Community
Auditorium*



Section B - Transverse

Project Installation

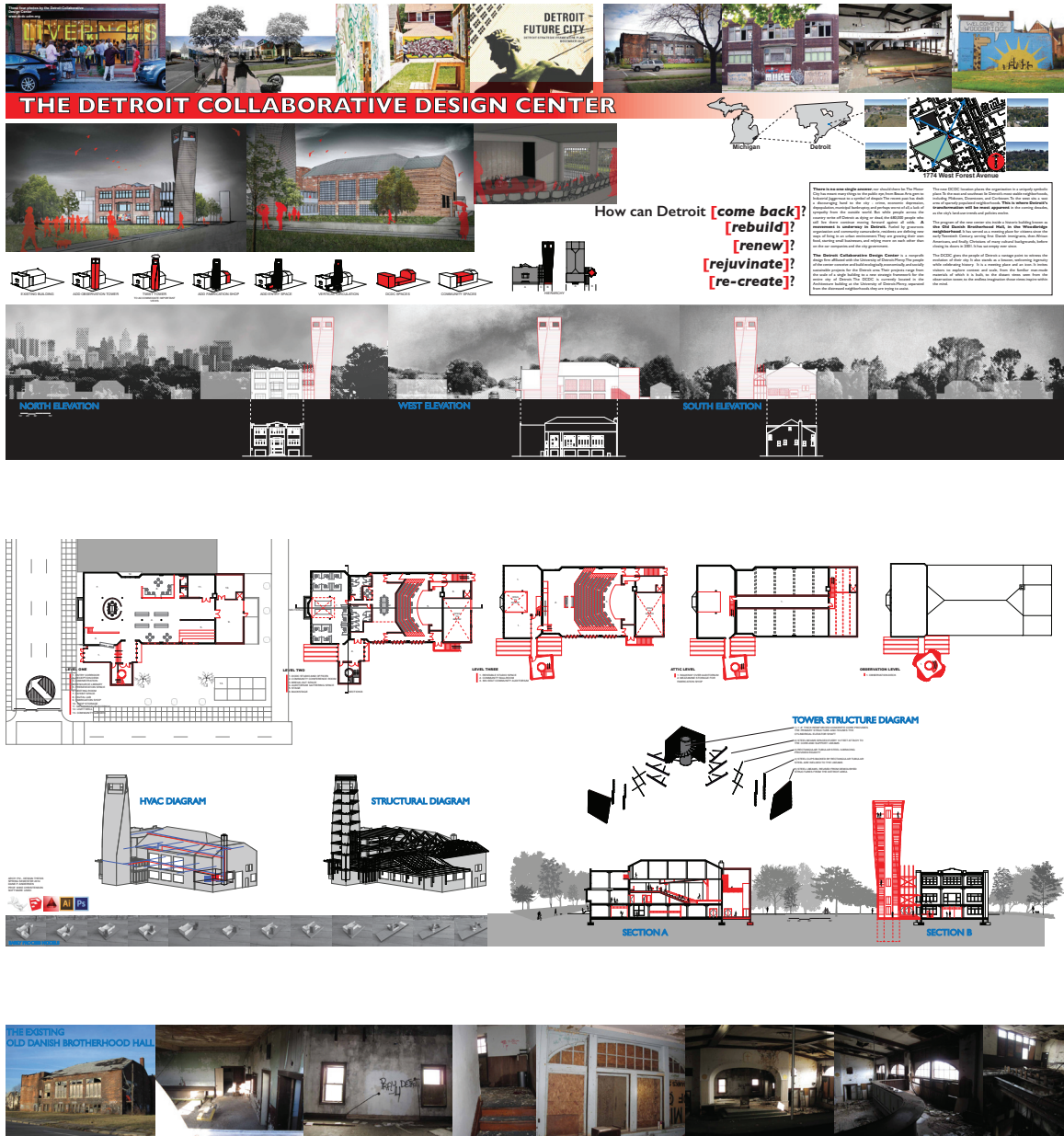


Figure 78.
Final Boards



Figure 79.
Project Installation

Model Documentation

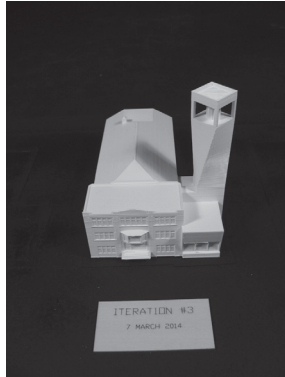
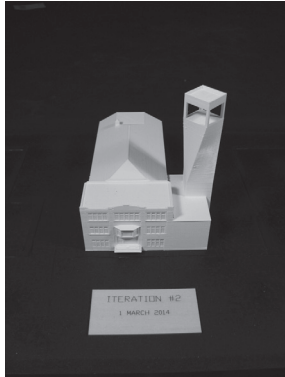
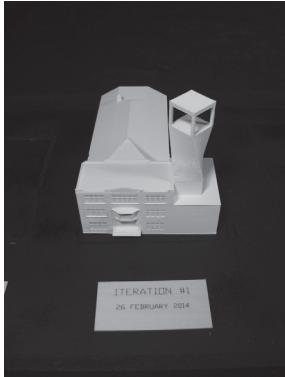
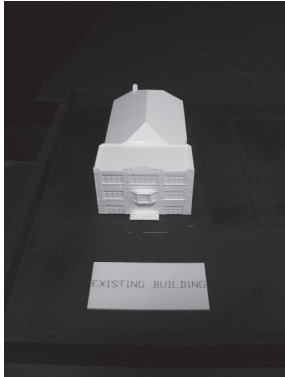
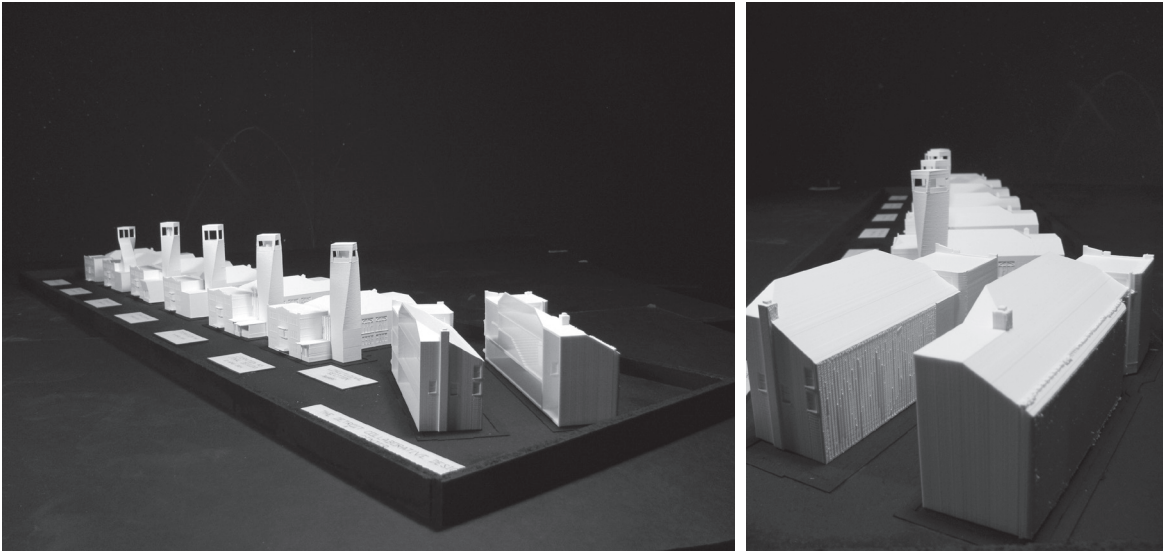
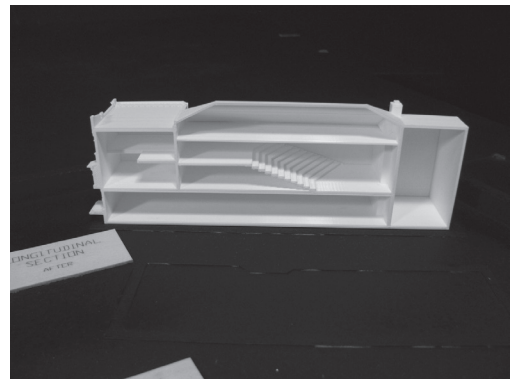
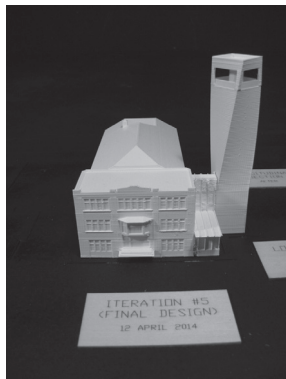
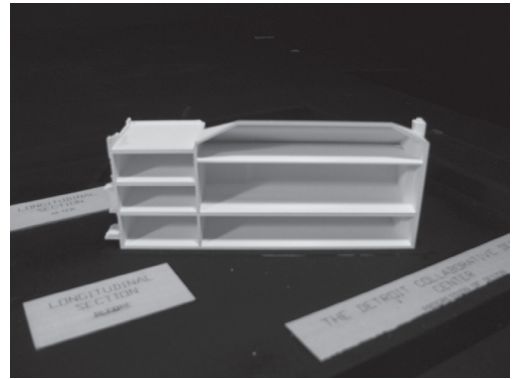
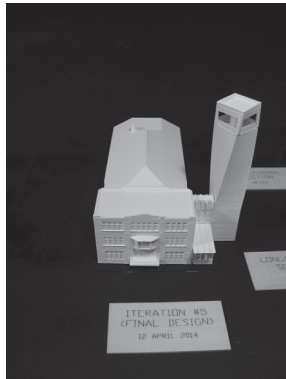
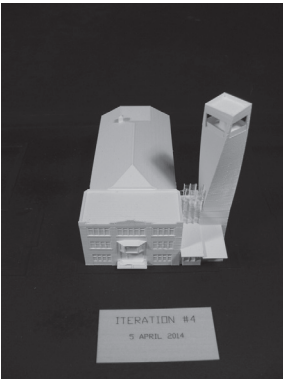
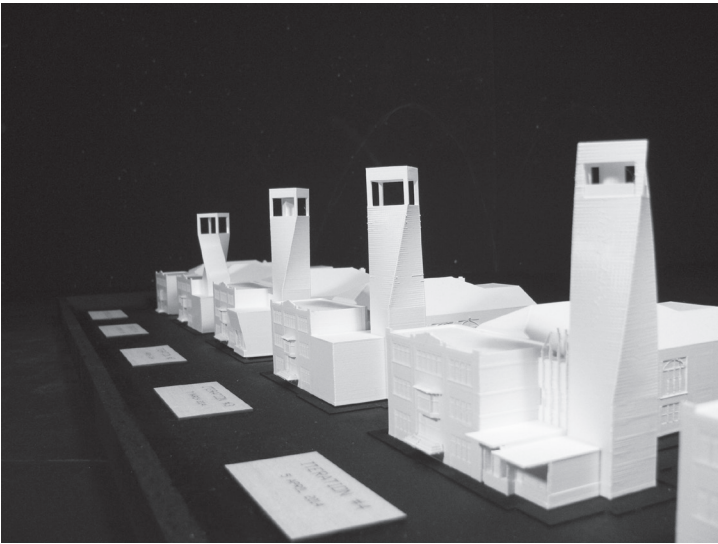


Figure 80.
Final Models



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Figure 81.
The Author

Thank You

For their ongoing encouragement and support

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