

North Dakota State University Graduate School

Title

Revitalizing Ghosts:
Breathing New Life Into Disused Developments To Foster Resilience

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REVITALIZING GHOSTS:
BREATHING NEW LIFE INTO DISUSED DEVELOPMENTS TO FOSTER RESILIENCE

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ABSTRACT

This thesis aims to study the “intangible connector” and apply it to a master plan development. The “intangible connector” are the words used to describe the feeling, the pull, and the attachment people have to a place. The idea of figuring out what is the connector for people and buildings. Taking these key factors that make up this connection, then applying them to a new site development design.

Landscapes and environments should not be limited to nature, but continued through what is designed in the built environment. A sense of place, human scale, and taking cues from the natural world should be a necessity in the creation of architecture. The goal of this thesis is to design for the overall human experience and establish a stronger connection with the surrounding environment, both built and natural. The study of an “intangible connector”, which could be described as the attachment and pull of people to an entity, is analyzed and applied to the built environment. The consideration of how this feeling can be enhanced and designed within the scope of a master plan development is applied. Therefore, the incorporation of biophilic design in an adaptive, mixed-use development master plan aims to create this connection.

Through the adaptive reuse of abandoned box stores and sites which lay across the American landscape of cities and towns today, revitalization can breathe life back into ghost areas. Designing a development which promotes walkability, interactions, and connections, a resilient form of the urban environment can emerge. The adaptive reuse of a site, along with biophilic design, are integrated to revitalize a dimming area and create a catalyst for human connection to the built environment. Architecture should aim to create for the future, with the notion of a world that is not static.

CHAPTER 1 - INTRODUCTION

1.1. Problem Statement

An outburst of population growth within a city invokes the need for new developments, resulting in an expansion of the city. The expansion of a city is driven by the desire for the location, and new sites are developed. As more developments are designed in the United States, it is crucial that these new areas serve as connectors to people, otherwise the resiliency of an area is lost. The ghost sites of abandoned box department stores, and large parking lots are strewn across the landscape of the United States today. Turning to look at revitalization and adaptive reuse, the potential of these empty sites becomes something greater. These sites have the potential to host life again and can become places that foster communities and interactions. The design and establishment of a new development should also look upon future area needs and use, rather than solely present times. Designing for resiliency is designing and preparing for change and the flexibility of what is to come.

The purpose of this thesis is to examine and study key concepts of the built environment and apply them to a disused site. The future of what developments may look like with the incorporation of biophilic design in a master site plan will be studied. The comparison and contrast of a disused area to the vibrancy of another area is examined. The factors which seemingly differentiate the two are then applied to the selected site in an attempt to revitalize the area. Can the design of spaces around buildings and the building forms themselves improve human connection to the built environment?

1.2. Objective Statement

This thesis examines how biophilic design and other key elements observed in a historic development can help enhance a greater connection. The aim is to find the “intangible connector”

which ties people to an environment. This project will be an implementation of this theory in the design of a new development, as well as an experimental design of biophilia in a larger-scale context. The goal is to design for the overall experience of establishing a stronger connection to the surrounding built environment therefore creating resilient sites in the process.

Designers and developers should create for the experience and connection to a space on a deeper level. Placemaking and developing a connection with surroundings should be a vital element that is taken into consideration when designing. The project aims to create a built environment which invokes a connective response from humans through the design implementation of nature and application of key factors concluded through historic development observations.

2. CHAPTER 2 - BACKGROUND

2.1. Biophilic Design

Currently within the realm of design the implementation of biophilic design and biophilia has become a hot button topic with a lot of misapplications and misconceptions. Biophilia can be accredited to Edward Wilson, as he investigated the relationships and connections humans have with nature on a deeper level through evolutionary history in his book, *Biophilia*. “Ranging from awe of the serpent to the idealization of the savanna and the hunter’s mystique, and undoubtedly including others yet to be explored, they are the poles toward which the developing mind most comfortably moves. And as the mind moves, picking its way through the vast number of choices made during a lifetime, it grows into a form true to its long, unique evolutionary history” (Wilson, 1984).

However, there is a large misconception of what it consists of and what does not factor as an element in the design application of biophilia to the built environment, known as biophilic design. Biophilic design is not just placing potted plants in the corner or making a fancy curved wall. A large contributor to the elements and studies around the concept of biophilia is Stephen R. Kellert. The definition of biophilic design from his perspective is “an innovative approach that emphasizes the necessity of maintaining, enhancing, and restoring the beneficial experience of nature in the built environment” (Kellert, 2012). Therefore, biophilic design should incorporate the mimics of natural design elements found in nature rather than simply copying forms. An example being the Oriente Station in Lisbon, Portugal, designed by Santiago Calatrava, shown below in Figure 2.1. The shelter structure mimics a tree canopy overhead. The forms are not an exact copy of a tree, but rather a reflection or mimicry of the natural order that occurs. The purpose of the structure, which provides shade and shelter, mimics the purpose of what occurs naturally in the form of trees and tree canopies.



Figure 2.1 Oriente Station - The Steel Forest. (Source: thebeautyoftransport.com, 2017)

Copying the purpose of nature, along with mimicking forms, materials, and patterns is an essential part of biophilic design.

Within the biophilic design theory, there are 70 attributes that can contribute to the application of the design method (Kellert, 2012). These include, but are not limited to, light, natural materials, biomimicry, fractals, placemaking, and hierarchical ratios (Kellert, 2012). He also proposed that while designing organic forms especially, there should be intention behind the design and for it to serve a purpose rather than simply copying an exact form (Kellert, 2012). This battles the misconception that organic forms are simply biophilic design solely because they are organic and fluid shapes. If there is no intention or purpose behind the form other than it looks pleasing, then it is not necessarily considered to be biophilic design.

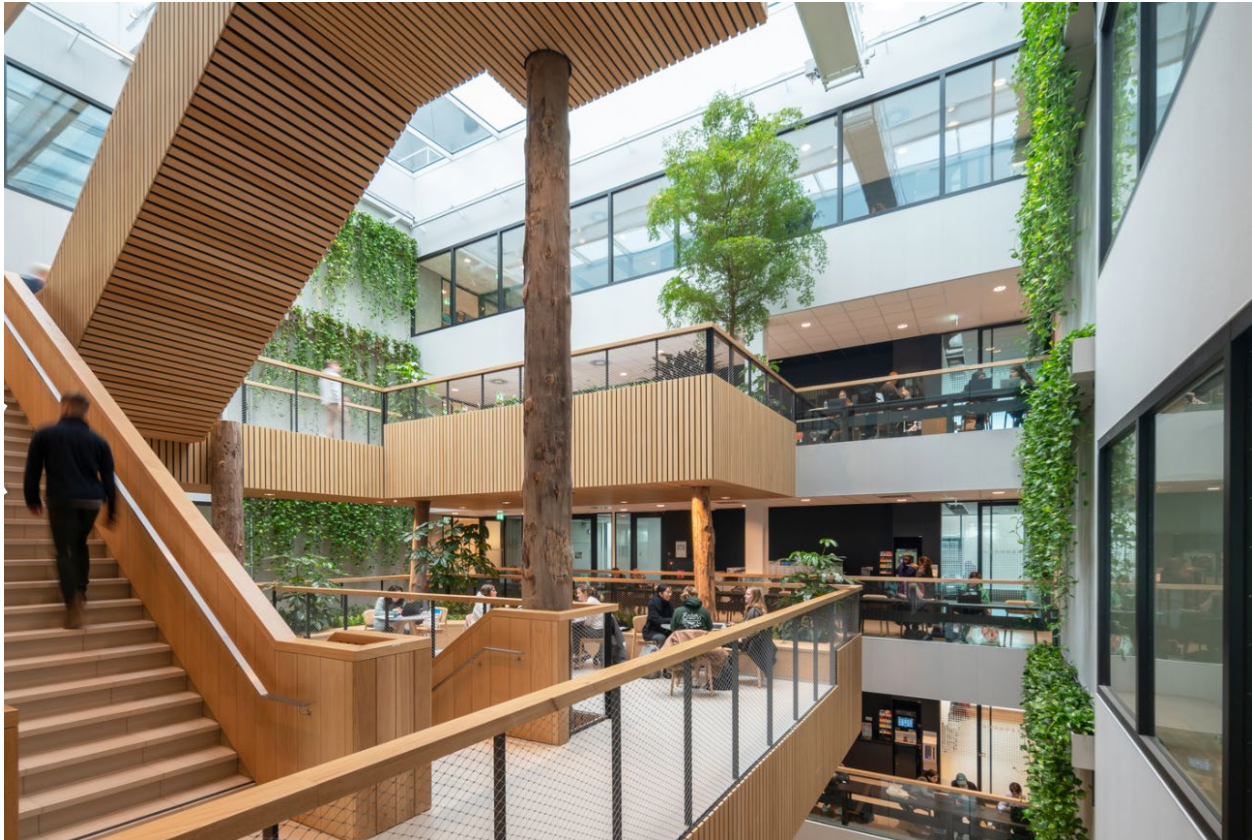


Figure 2.2 Interior of the Langeveld Building. (Source: archdaily.com, 2023)

What biophilic design in architecture and interior design consists of is a tricky subject. More of a trendy topic at the present moment, the term biophilic design seems to be thrown around without the true intention behind design choices. While the intention behind the design may incorporate an aspect of nature such as plants, it is within a multitude of elements and considerations that true biophilic design in the architectural design process occurs.

2.1.1. Resiliency in Biophilic Design

Designing for resilience is designing for the future and the changes that may occur. With an investigation into the use of biophilic design there may be a connection to resiliency. Creating connections is an invitation into the continuation of future use. Thinking of historical buildings and the attachments people have to them, is there an inclination for people to thrive in an environment which establishes mental familiarity? What if new developments took more consideration of the

extra expense required in making a building that will last and be reused? Designers should aim for resiliency and sustainable design in the life cycle of the building instead of buildings being served for a single purpose in mind. The implementation of biophilia in building design allows for a human connection to nature. Designing for connection is designing for the continuation of building use, and in turn, resulting in resiliency.

Creating a development that thrives and fluctuates in adjustment to future needs is necessary when designing for the future. What this may look like could result in the design of buildings with spaces for future adaptive reuse possibilities. Flexibility and adaptability is resiliency. The visual connection to buildings today is largely through signage (Bloomer, 2000). Since signage is a flexible part of a building, the flexibility of the reuse is strong due to the ease of signage removal. However, relying mainly on signage to differentiate one building from another is not the best design practice in terms architecturally speaking as signage being the main point of visual connection to humans does not say much in connection to the actual building itself (Bloomer, 2000). While the adaptability of the building switching companies, businesses, or owners may be easier, it loses the potential for connection to the past with simple sign removal. The buildings should speak for themselves and live lives of their own, in turn establishing connections to people all on their own, regardless of signage. It could be concluded that signage and the main connections established through signage are not connections to the architecture or buildings themselves.

2.1.2. Ornamentation in Design

As previously mentioned, biophilic design gives us something to connect to. However, through research, the ideas surrounding ornamentation in buildings strongly correlate with aspects of biophilic design. Ornamentation itself deals with rhythm, forms, and depictions of nature and the human form (Bloomer, 2000). Kent Bloomer, author of *The Nature of Ornament*, describes ornaments as a form of metamorphosis (Bloomer, 2000).



Figure 2.3 Ornamentation on building facades in downtown Stillwater

The changing of forms found in ornamentation, especially forms found in nature, create stimulation for the human mind to piece together and interact with through visual communication (Bloomer). This communication between buildings and people could perhaps lead to a connection point.

Curiously, through my research I have found a connection between historic buildings and the concept of biophilic design. Traditional ornamentations and design patterns line up seemingly with larger concepts and ideas surrounding the practice of biophilic design and biomimicry today. The traditional ornamentals in building design are misrepresented as being only copies of nature. “In its expressions is far more, a distillation of geometrical connective rules that trigger our neurophysiology directly” (Kellert, 2012). Within ornamentation there is complexity drawn from natural geometries that stimulate the human brain during this experience.

Although ornamentation is not always cost efficient, there are reasons as to why it should remain in practice in some form or way. Critics of ornamentation may see it as unnecessary and something that can be done away with. Opposing this way of thinking, and in support of ornamentation, the reasoning is the matter of ornamental serving a larger purpose than simple decoration, but rather a mimicry of natural environments and hierarchies found within nature (Bloomer, 2000). Therefore, ornamental design could possibly serve as a connection point for people and the built environment. The idea assigns ornamentation as a mesh for blending building aesthetics and nature in design to create a cohesive environment that stimulates and nourishes the human experience. Ornamentation in buildings could be a key factor in what creates a certain pull or feeling of attachment to a building or place.

2.2. Response Architecture

Designing with nature may inhibit a connection people could have with a building. A neurological nourishment can be established by connecting people to complex hierarchical systems in buildings which mimic and learn from nature (Kellert 2012). Also, according to Kellert, nature exhibits an ecological complexity (Kellert). This means there are layers and depths within nature, along with patterns and fractals. The complexity and reading of these hierarchical designs, mimicked and inspired from organic forms, might allow people to establish a connection with the building as

they would with the natural environment. Hierarchical designs could be read through ornamentation or by the arrangement and placement of elements on the building.

In creating a connection to the built environment, people would perhaps feel more inclined to spend time there. They are tethered to the built environment on a deeper level as they would be tethered to the natural environment. This can be achieved through the creation of not an artificial feeling, but something which communicates back to the depths of human nature. A response is invoked, indicating a translation of the space which does not require an intellectual reflection, rather a physiological one (Kellert, 2012). Meaning, this reaction and connection is naturally done, responding to the reaction that occurs naturally between humans and nature.

While looking at buildings and developments designed more than a century ago, there is a certain effect and attraction to these historic buildings and districts. For the sake of this thesis, it will be the idea of this “intangible connector” which leads to this feeling. Is it the discovery that these buildings perhaps provide placemaking and wayfinding, a connection to the past, the present, and current surroundings? Is it the idea of something “lived-in” and not being afraid to make a connection to different lived stories already told in the same place? It is something that draws and attracts people but not in a trendy way. It is creating spaces with a focus on human-scale and designing for the occupants. Our minds need nourishment in an environment (Kellert, 2012). How can designers provide that in the world of modern design?

2.2.1. Discovery and Nourishment in an Environment

Kellert explains that the reaction to a neurologically nourishing environment is physiological and natural, requiring little intellectual thought and he goes on to formulate the idea of serendipity and discovery of small worlds within spaces (Kellert, 2012). Thinking in terms of historic architectural design seen in churches, are spiritual places led by the discovery of small worlds brought forth through biomimicry and biophilic design? Therefore, designers should create detail,

curiosity, and nourishment that will establish a mental connection to an environment. Thoughts invoked by nature and the effect of natural processes implemented in design might be brought into everyday spaces to strengthen human connection to the built environment.

Turning to the idea of creating the feeling of spirituality within spaces using biophilic design, I speculate that these spaces intentionally were designed to function in a way to form a connection to the user experience. We can turn toward examples of gothic design doing this and the strong correlating relationship to biophilic design. However, the concept of natural forms implemented within gothic design was achieved way before the theory and practice of biophilic design as we know today was formed.

The hierarchies of elements and ornamentation within gothic forms tie back to the idea of providing nourishing complex spaces that read and connect to the mind. In the gothic age, natural forms and metamorphosis were applied to architectural design to create forms based on axial contraction and expansions (Gökmen, 2020). Seen in figure 2.3, the fractals and expansions of form create a dynamic movement through the morphing of the form.

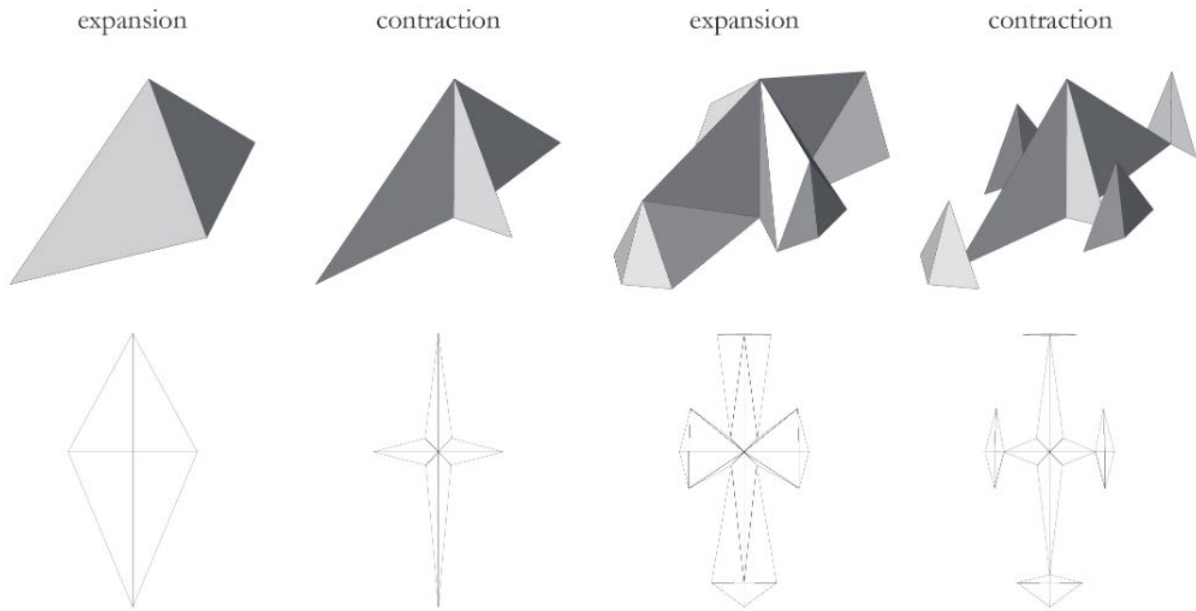


Figure 2.4 Rediscovering Goethe's Concept of Polarity. (Source: Gökmen, 2020)



Figure 2.5 Laon Cathedral. (Source: laon-ville.net, 2021)

The forms shown in figure 2.3 follow fractal and hierarchical elements transforming into the main concept of the Laon Cathedral, shown in figure 2.4. We can investigate the application of biophilic design and what the translation was like before modern design methods. Formulating the question of how designers can use modern methods and materials to create the effect of biophilic design done traditionally, it could provide answers on how designers can incorporate these factors in the process of designing today's built environment. Many of the forms follow fractal and hierarchical elements along with the metamorphosis of the overall form.

2.2.2. Fractal and Hierarchical Design

Organic design and the way that nature designs introduce the topic of not merely symbolic design, but rather fractal design. Like mentioned earlier, this is a large misunderstanding around biophilic design. Designing for the mimicry of nature's reaction instead of directly copying shapes from nature is the correct application. Similarity in form design rather than the copying of a form is a main factor in biophilic design. The idea and implementation of form inspiration without exact replication, as that is what is done in nature, should be applied (Kellert, 2012).

It is within the overall design that hierarchical complexities should be read. The mimicry of hierarchies which occur in the natural environment stimulates the mind and provides humans with an unconscious connection to nature (Kellert, 2012). This application of design hierarchies drawn from nature is a large factor not only in the application of biophilic design, but also in the overall result of establishing a connection.

Another interesting historical approach to hierarchies and fractal design has been done with the use of kaleidoscopes (Malliet, 2012). In the use of a kaleidoscope, the form created is inspiration without exact replication, as that is what is done in nature. The main idea revolves around kaleidoscopes and the patterns and hierarchies they reveal and create (Malliet, 2012). Like organic

forms and patterns established in nature, this tool has been used to inspire ornamental design in some forms traditionally (Malliet, 2012). Biophilic design elements revolve around the idea of fractals and organic forms rather than the copying of nature. The idea of kaleidoscopes being a tool for design is highly applicable in the incorporation of biophilia in architectural design.



Figure 2.6, 2.7 The Schofield Building modernized 1960s (left) and restored 2016 (Right)

(Source: sandvickarchitects.org)

The Schofield Building, located in Cleveland, Ohio, is a wonderful example of hierarchical design and how the façade of a building can change the connection and add to the placemaking of an area. According to the architecture firm that restored the building, Sandvick Architects, it was modernized in the 1960s to appeal to the sleek modern design trends at the time (Sandvick Architects, 2020). It was restored and returned to its original design in 2016. In the restoration you

can see hierarchical elements of the building brought back. Instead of copy paste repetition and a two-dimensional façade which was brought forth by the modern design, the restoration seemingly adds back the effect of three dimensions. It establishes a connection to the building with the use of material, ornamentation, and hierarchies. Proponents of ornamentation and traditional design styles may claim the original design is one of excess, but that excess might be precisely what enables us to connect. Either way, there should be agreement that through observation the two designs read very differently to the human mind.

2.3. City and Development Planning

Cities in the United States were typically designed with a grid street system. However, in the 1930s, a post war reaction ultimately set forth the design development of the suburbs as we know them today (Gehl, 2011). The suburban development style was a push to move out of the city and to have more space while living in a nice surrounding environment (Gehl, 2011). However, this also pushed for a more car dependent society to form and the idea of walkability became lost in the design of suburban developments. The loss of walkability decreases the chances of impromptu interactions and observations happening in-person, not just driving by in the car. Minimal interactions, both passive and active, lead to an increase in isolation, as these potential connection moments are now lost (Gehl, 2011).

2.3.1 Urban Sprawl

The push of the automobile into society shifted relationships between people and their environments. In the beginning, the street was designed for everyone, and people had a right to use the street in a multitude of ways, not always for transportation. (Montgomery, 2013). However, the life of the street shifted in the 1920s with the introduction of the automobile and changed the way people behave and interact with that space (Montgomery, 2013). People became pushed out, and the vehicle entered the scene.

Pockets of parking lots and box department stores scatter the American landscape and create bubbles that people are forced to drive to, in their own bubbles. In the creation of more walkable developments, we are able to create connections and chances for face-to-face human interactions on the journey to a destination, not only interactions at the controlled destination. “For thousands of years, city life naturally led people toward casual contact with people outside of our circle of intimates” (Montgomery, 2013). Casual contact and social interactions are key factors in society that are lacking and lost today, due to the lack of walkability in places and the increase of urban sprawl and the car driven society.

2.4. Creating Connections

City and development planning should push for the potential to establish more connections, not less. This could be achieved through the creation of walkable cities and sites. More connections would also increase the sense of community and a sense of self in a place, as you would be forced to interact with people, either actively or observationally, both of which is good for people socially (Gehl, 2011). According to Charles Montgomery, author of *Happy Cities*, “Oxytocin studies point to a dynamic, generative quality in societal trust. The molecule is both an incentive and a reward for altruism. Not only does it feel good to experience positive social signs from others – smiles, handshakes, opened doors, bargains kept, and cooperative merging in traffic – but it feels good to reinforce those feelings for trust among both friends and strangers (Montgomery, 2013). Therefore, in creating an environment that fosters these social signs and interactions, the quality of happiness should increase.

It is called the built environment, so why should it vastly differ from the natural environment? At which point did society determine it is no longer a part of the natural world? Rather, humans create a separate environment in which we live and work, but how can we transform our environment to be as connected to us as we are fundamentally to nature? We can

look to nature as the guide that gives inspiration from which our creative designs can follow, as nature is evolving and adapting to best fit. When designing for resiliency, we could design for mimicry in nature, therefore adapting like nature does. It would not only form human connections to the built environment through the mimicry and reflection of nature, but also provide design solutions based on climate and how nature would respond to it.

2.4.1. Providing an Interaction of Spaces

In the *Manifesto of the Third Landscape*, Gilles Clément describes this idea of the third landscape, which is abandoned land where nature takes over (Clément, 2018). With the idea of human interaction interfering with the boundaries of nature, Clément describes differences and the connections between the natural primary landscape, neglected abandoned landscape, and reserves that preserve nature (Clément, 2018). Examining the connections established in nature, communication can come across different boundaries of nature, with human and non-human influences (Clément, 2018). The space between buildings could be looked at in a similar way. How can the mesh boundaries be established between nature taking over versus the entanglement of human interference? It could be analyzed and applied, especially in consideration of the use of the space between buildings.

Along with human interactions between nature, the interaction between buildings should also provide spaces for human interactions between humans. Human interactions should be fostered as, “the greatest of human satisfaction lies in working and playing cooperatively with other people” (Montgomery, 2013). Allowing and promoting interactions in space is a crucial part of maintaining relationships and trust in a community environment. “What we need are places that help us moderate our interactions with strangers without having to retreat entirely” (Montgomery, 2013).

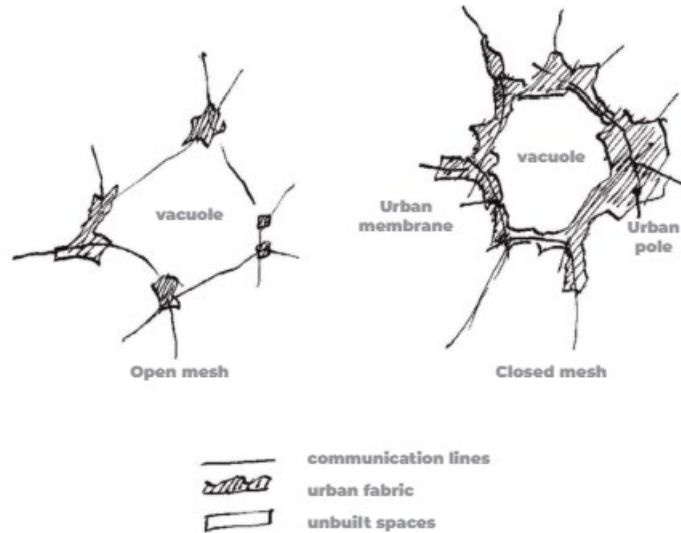


Figure 2.8 Meshes in the urban fabric (Source: Clément, 2018)

With the idea of meshing the landscape, designers could figure out how to communicate the boundaries between buildings. There is room for life between these buildings. Whether that be human or nature, that is up to the designer's choice. If left solely to nature, the third landscape would take over. The remnants and ghosts of what once was would grow and mix in with the abandoned landscape to create the new third landscape (Clément, 2018).

Looking at human interaction in the landscape, exterior spaces such as pathways, parks, and courtyards, would be examples of humans interacting with the spaces outside. These spaces between could lead to more interactions, whether that be human or nature, and provide a connection point to the area. Manicured lawns between buildings are not ecologically complex, and they provide the same visuals as a slab of concrete would (Kellert, 2012). The elements that are meant to be set aside for nature should be done with the intent of letting nature remain wild. Therefore, there should be a mesh between the natural landscape, the built environment, the third landscape (which is the abandoned built environment), and the people. Greenspace is necessary to build strong communities and according to the book *Happy Cities*, "The less green the environment, the higher the rate of

assault, battery, robbery, and murder” (Montgomery, 2013). What do people do if there is no natural landscape left? Only the third landscape would exist, nature crawling back to its claim.

2.4.2. Mimicking Nature in Design

Examining the response of nature in the natural elements can be a factor in learning from nature’s design. Researchers Demers and Potvin led a graduate class to perform an architectural experiment which incorporated eroding salt blocks with water (Demers, 2017). They examined how that relationship changes to analyze pedestrian movement in the wind pattern, cave formation, crevice areas formed, and solar and lighting relationships that developed (Demers, 2017). Demers and Potvin tested the relationship of organic erosion to shape structural elements and design the building envelope and structure (Demers, 2017). The movement of water, effects of sunlight, and wind erosion were all factors in that experiment (Demers, 2017).

The analysis of this experimental study allowed the consideration of a unique approach to designing with nature. Results that could be produced and mimicked in large scale building design can be elements such as adaptive facades and moving parts in relationship and response to environmental flux factors. This way nature could shape opportunities for occupants interacting with the facade, nature, and building itself. This study could also lead to studying observations of the natural environment, not set forth by an experiment, and the appearance of natural erosion and wear. The study of the natural landscape could be applied and mimicked in a design form.



Figure 2.9 Bluff north of Stillwater, Minnesota. (Source: Own Work)

3. CHAPTER 3 – METHODOLOGY

3.1. Project Location – Stillwater, MN

In order to study the intangible connector, an area needed to be selected that has this pull and magnetism towards it. A place where this exists in one area but can be compared with another part of the area. The project location was selected to be in Stillwater, Minnesota. The historic downtown of Stillwater could be observed and compared to newer developments in the area. This contrast was necessary to find to determine factors that were present in the downtown area but were lacking around the selected site.

3.1.1. History and Development of Stillwater, MN

Stillwater is considered to be the birthplace of Minnesota. Settlers in the St. Croix Valley relied heavily on the lumber and logging industry. The early settlers were in tune with using natural materials, with wood being the main one and Birch, Linden, Pine, and Basswood were some of the common trees logged and used for lumber (Washington County Heritage Center, 2021).



Figure 3.1 Log drivers on the St. Croix River (Source: Minnesota Historical Society)

The river was used to move and transport these large lumber fells to other areas therefore resulting in the development of Stillwater's downtown being located next to the river (Washington County

Heritage Center, 2021). Up beyond the river bluffs, the land was open and used for farmland (C.M. Foote & Co, 1887). While the lumber industry remained strong for many of the town's developing years, there was no control or regulation over the cutting down of trees and this led to issues with the stunting of the population growth of Stillwater after the boom of the logging industry (Washington County Heritage Center, 2021).

While doing research in Stillwater, the Washington County Heritage Center was a great resource to visit and a place to gain more information. I had a great conversation with Emily Krawczewski, the site manager there. She discussed some of the area's history.

With the development of the town, along came natural progression and growth for what was needed in the area. The company store was the place to shop for goods and neighborhood grocery stores were common (Krawczewski, 2024). However, in the 1920s and the rise of the car, more parking and square footage was desired, therefore making larger department and grocery stores which catered to the car the places that thrived (Krawczewski, 2024). The neighborhood grocery stores dimmed.

From the small connectedness of the historical downtown and the personal relationships that existed there, to the more recent boom of Stillwater in the 1950s-1980s, Stillwater has seen its changes. In the 1950s, largely due to the new headquarters of the 3M facility East of St. Paul, Minnesota, people wanted to live outside of the city yet stay close to their work (Krawczewski, 2024). This led to a resurgence of people moving to the Stillwater area and the result of designing for the car-driven society. In this frame of time, new housing developments, such as the Croixwood and Deerwood developments, were constructed (Krawczewski, 2024). Now, we are left with some consequences of this boom, and the urban sprawl left in the wake to create and provide for this quick population resurgence.

3.2. Project Location Selection

The downtown of Stillwater, Minnesota has an attraction and feeling to it. What makes it magnetic? Why do people want to be there? Why has it become such a tourist destination? People seem to love going there on a nice summer day and walking the sidewalks, going to restaurants, walking by the water, and perusing the shops. However, Stillwater is not just the downtown. There is a very large portion of the town, specifically the newer developments, that vary greatly from the feeling of the downtown. These newer developments I realized contribute to serving the vehicles, traffic, and are the side effect of urban sprawl. I selected a ghost site that has the potential to become something more. A site located on the busy highway 36, a corridor that connects Minnesota to Wisconsin.

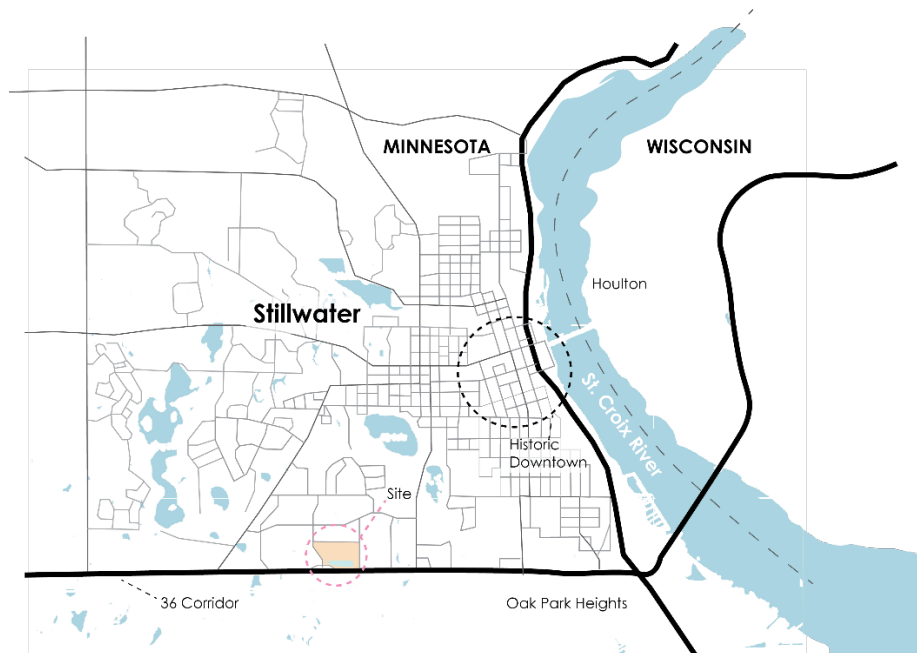


Figure 3.2 Map of Stillwater, Minnesota

In studying the composition of Stillwater as a whole, there seems to be a defining line between the older grid street system and the more recent developments. This can be observed in Figure 2.8, with the invisible line occurring vertically between the highlighted selected site and the historic

downtown. Observationally, the further west you travel, away from the historic downtown by the waterfront, is where the walkability and human-scale is less of a focus and the car-focused streets and structure seemingly take over.

3.3. Specific Site

My site, located at 2001 Washington Ave, Stillwater, MN, 55082, is the location of an empty Herberger's Department store which closed in 2018. The abandoned box store site is now occupied by Harbor Freight Tools in the southwest corner of the building, and DiaSorin medical company in the southeast corner of the building. A Caribou Coffee drive-through hut was constructed in the south end of the parking lot. The site is roughly 800 sq. ft. x 700 sq. ft.



Figure 3.3 Selected site facing north



Figure 3.4 Street located north of site



Figure 3.5 East side of site facing north

3.4. Case Studies

Parc de la Villette – OMA

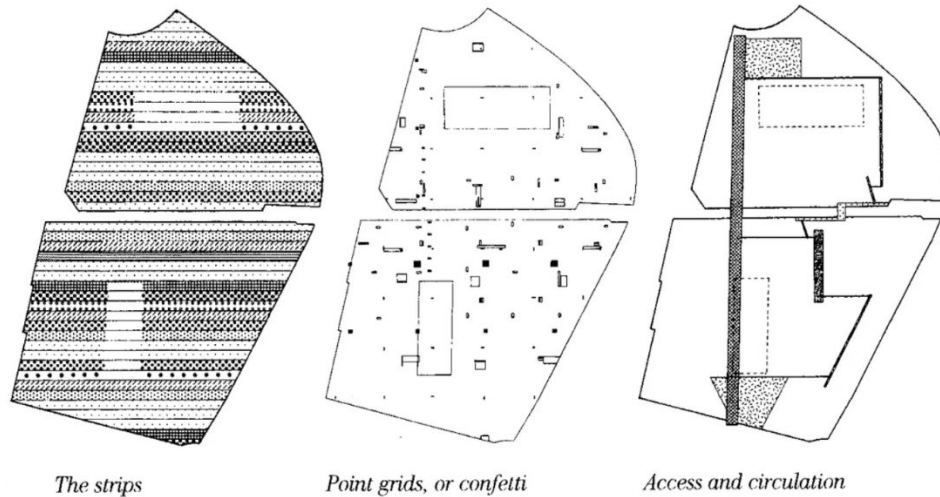


Figure 3.6 Parc de la Villette Proposal (Source: OMA)

The proposal of Parc del la Villette by OMA in Paris, France gives inspiration to the notion of master planning a site. Meshes are incorporated into the design and a large focus is on the interaction of spaces and blending of uses. Inspiration was drawn from the grid-like layout of space and the interactions and meshes that exist between them.

Re-Habit - KTG Y Program



Figure 3.7 R+D concept: Re-habit. (Source: KTG Y)

The Re-Habit concept by KTGy looks into the potential of adaptive reuse with the empty big box store. They proposed a mixed-use building that functions as transitional living spaces, as well as retail and support spaces. The Re-Habit concept attempts to imagine what a homeless housing program would look like in the revitalization of an empty space. The mixed-use and adaptive reuse of the building made for an insightful and informational case study on what building a community and designing for support entails.

4. CHAPTER 4 – RESULTS AND DISCUSSION

4.1. Final Project Description

This project aims to apply factors to a site development that establishes a connection between people and the built environment. A master plan development is created. The adaptive reuse of a box store building, a proposed residential building, and a proposed mixed-use building are all applied as conclusions to the site needs.

4.2. Meeting Project Objectives

4.2.1. Adaptive Reuse of a Site

This project could serve as a template, or tool, on how to potentially revitalize abandoned box store and parking lot sites that are scattered throughout the landscape of American towns and cities today. This involves using a site's full potential, to revitalize and acknowledge the ghosts that once were, in order to create a place that encourages human interactions and connections to the built environment.

4.2.2. Finding the Intangible Connector

Through observation and research, this project aims to discover and answer the question of what gives a certain place or area a connection and pull. These factors are concluded to be walkability, human-scale, and biophilic design. These factors are then taken into consideration when revitalizing a site to create and establish a better connection with the people and the buildings on the site.

4.3. Project Design and Documentation

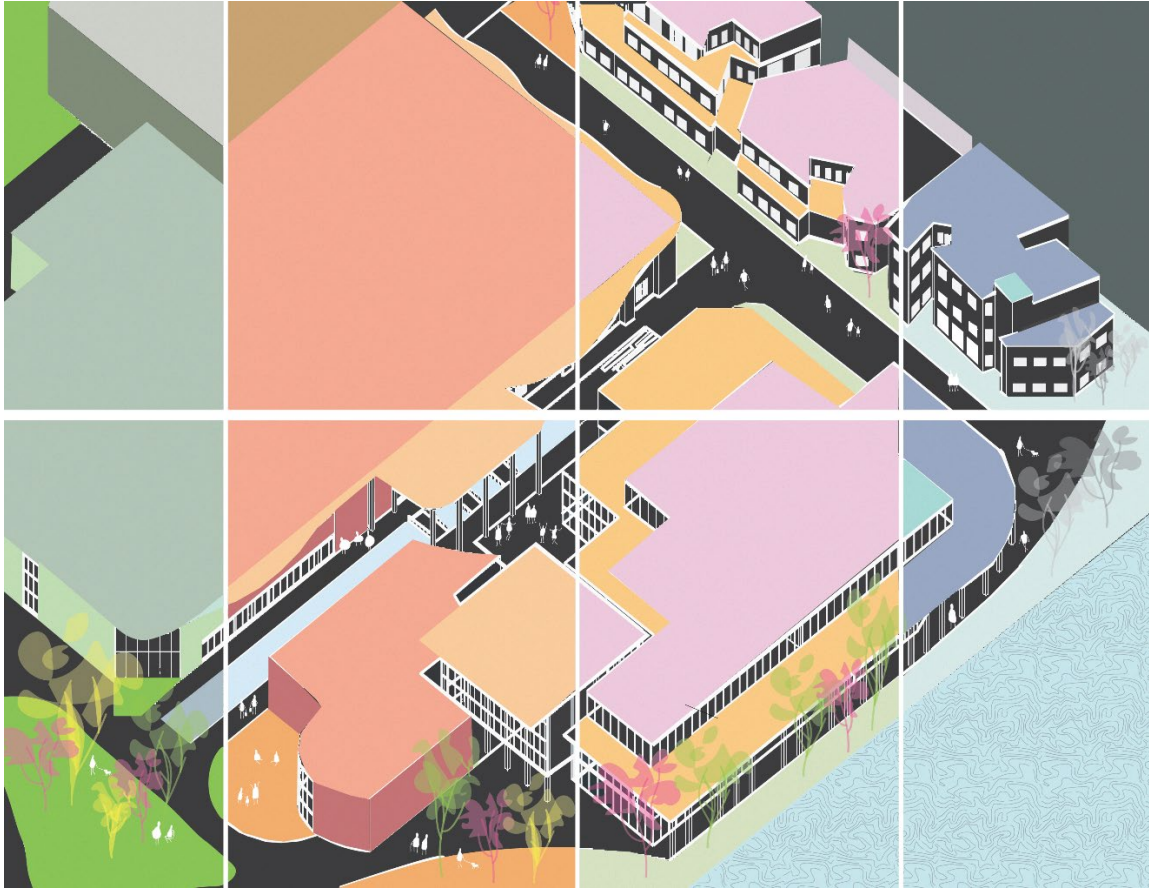


Figure 4.1 Project Site Design

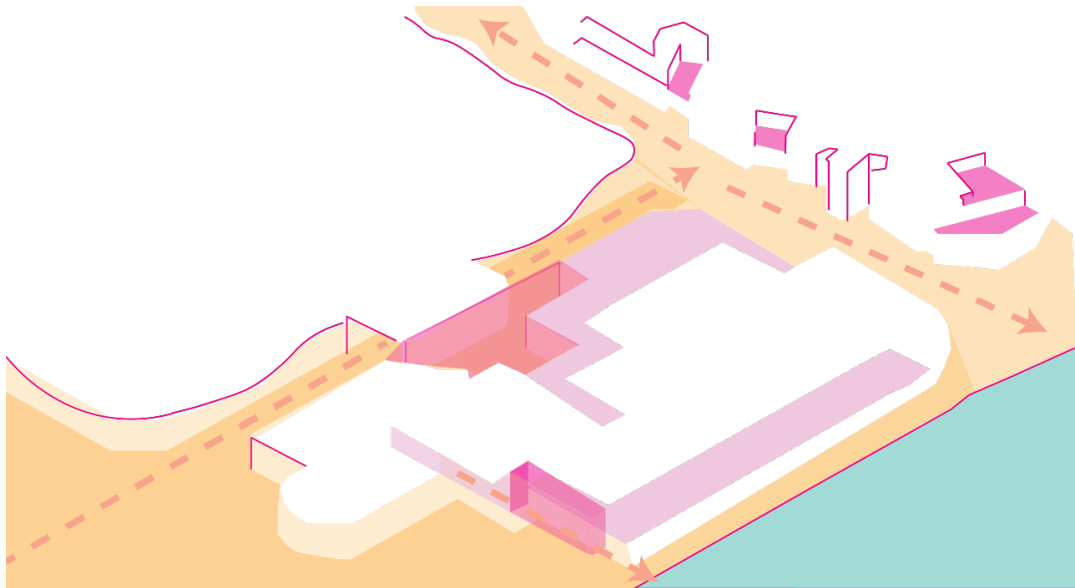


Figure 4.2 Site carving of the landscape diagram

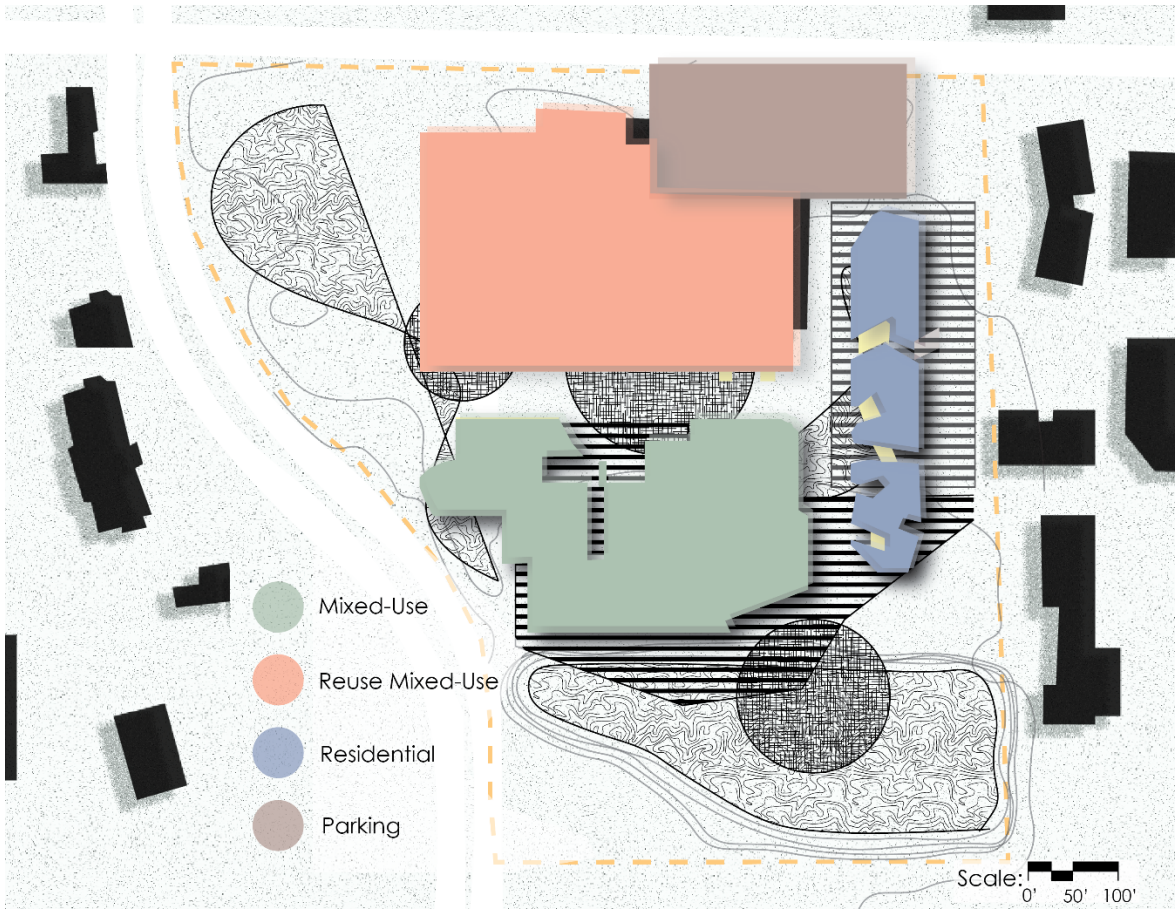


Figure 4.3 Site plan with meshes



Figure 4.4 Residential façade of glowing polycarbonate rooms at night

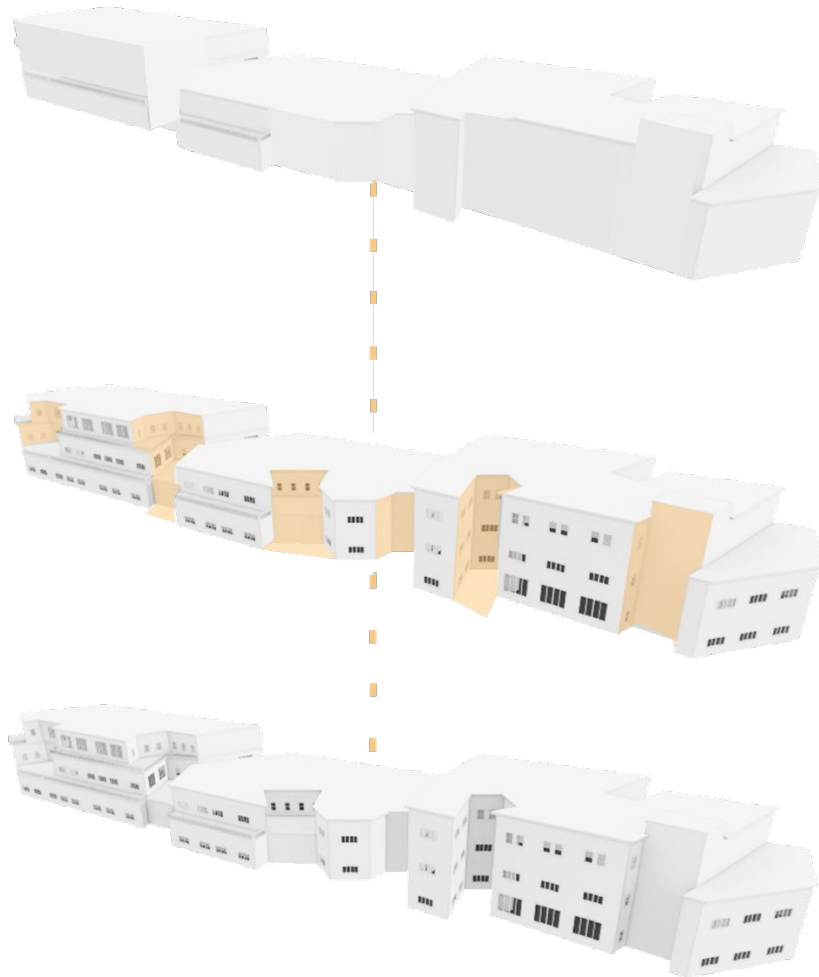


Figure 4.5 Residential carving diagram



Figure 4.6 Residential facade



Figure 4.7 Blending of daily ghosts on pedestrian focused street



Figure 4.8 Sunrise on pedestrian focused street



Figure 4.9 Intangible connections to history and beyond



Figure 4.10 A human focused street



Figure 4.11 Fostering connections

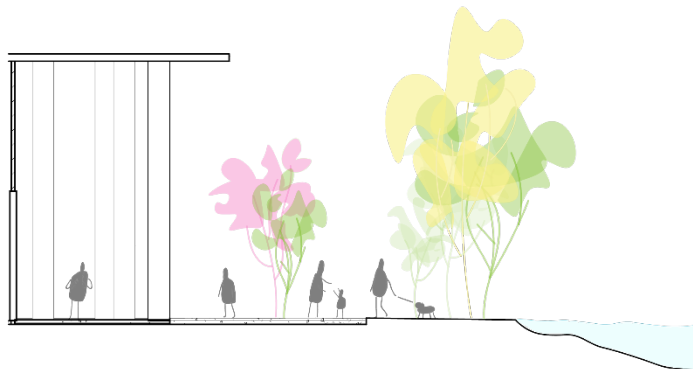


Figure 4.12 Interacting with nature

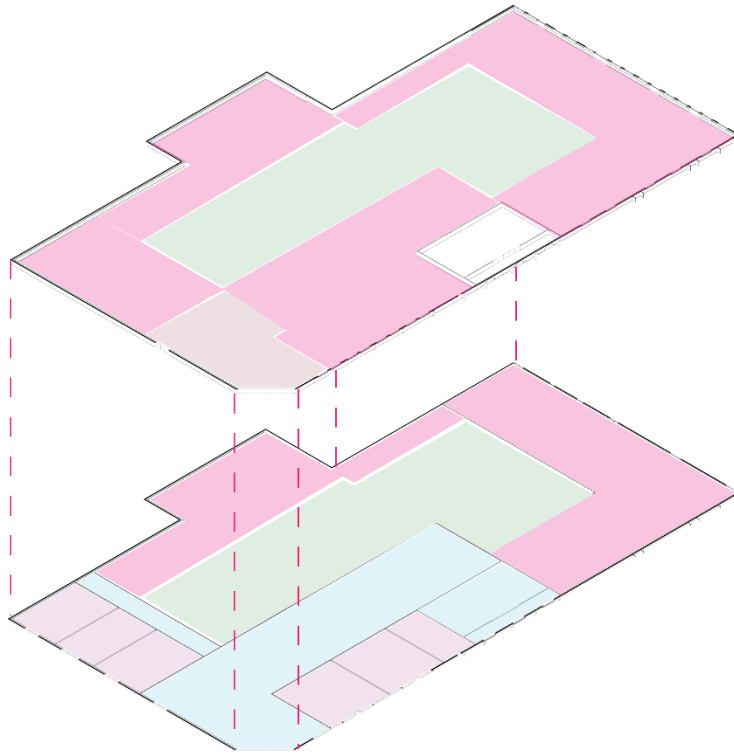


Figure 4.13 Adaptive reuse building master plan floorplan

The reuse of an existing building allows for a more sustainable approach to revitalizing the existing site. The old box store will now become a mixed-use building with retail space and residential units. A central indoor courtyard with skylights and an atrium is a multiuse space to host events, be a place for residents to relax, hold community events, and have the flexibility to serve other purposes.

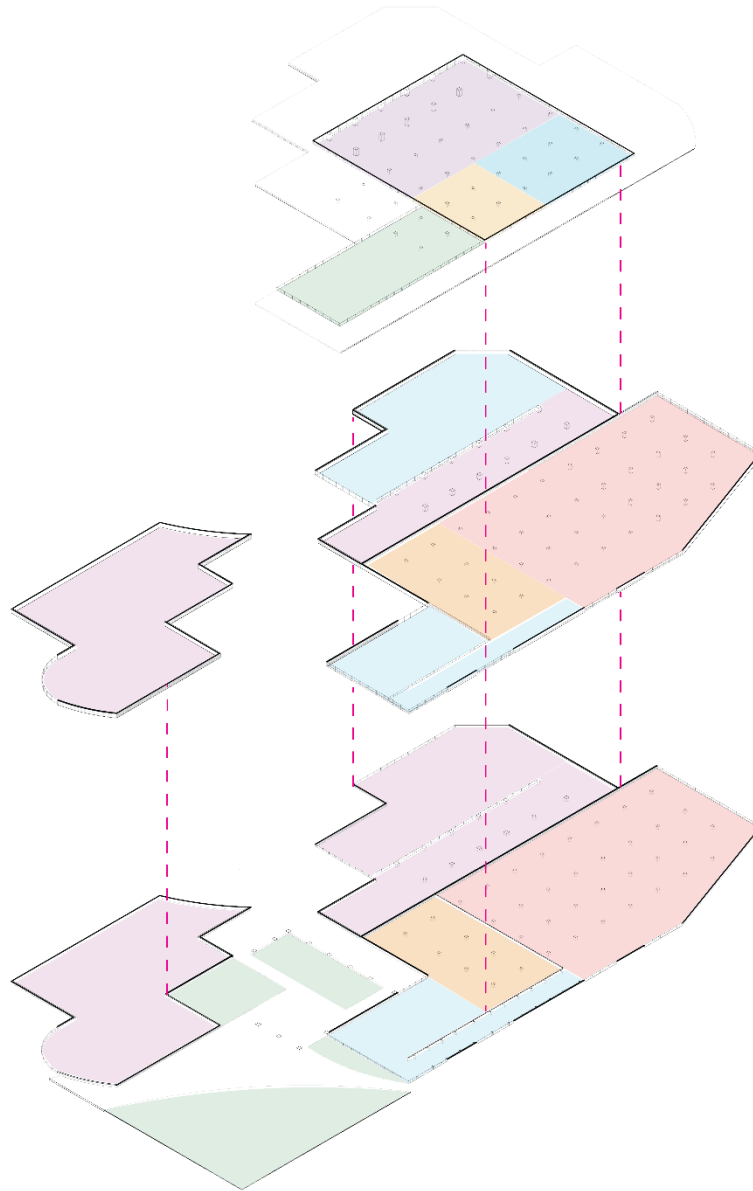


Figure 4.14 Mixed-use building master plan floorplan

A new building designed with the expectation of future change. Multiple uses and multiple lives will cycle through this shell. Designing for change is designing for resiliency.

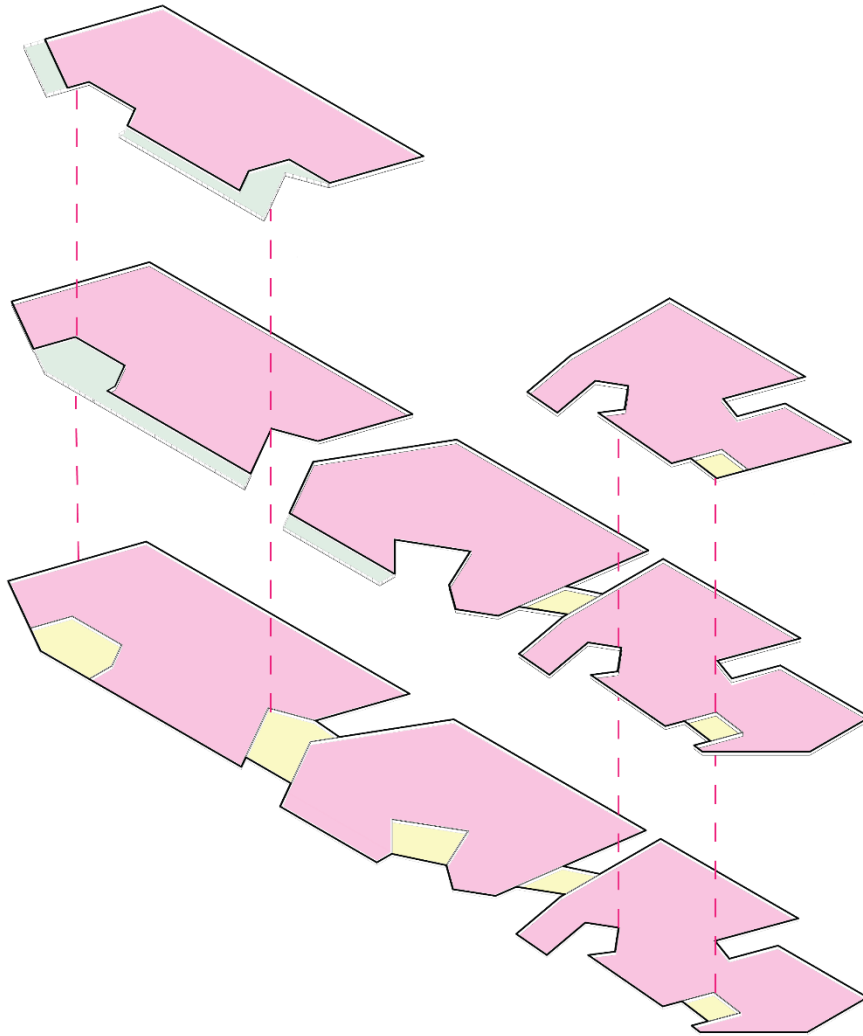


Figure 4.15 Residential building master plan floorplan

A building solely for residential units. Balconies carved out of the form, along with outdoor spaces, give residents the ability to connect with the outdoors. Polycarbonate shell rooms serve as community indoor spaces that let in daylight while giving the privacy and comfort of being indoors, especially during the winter months.

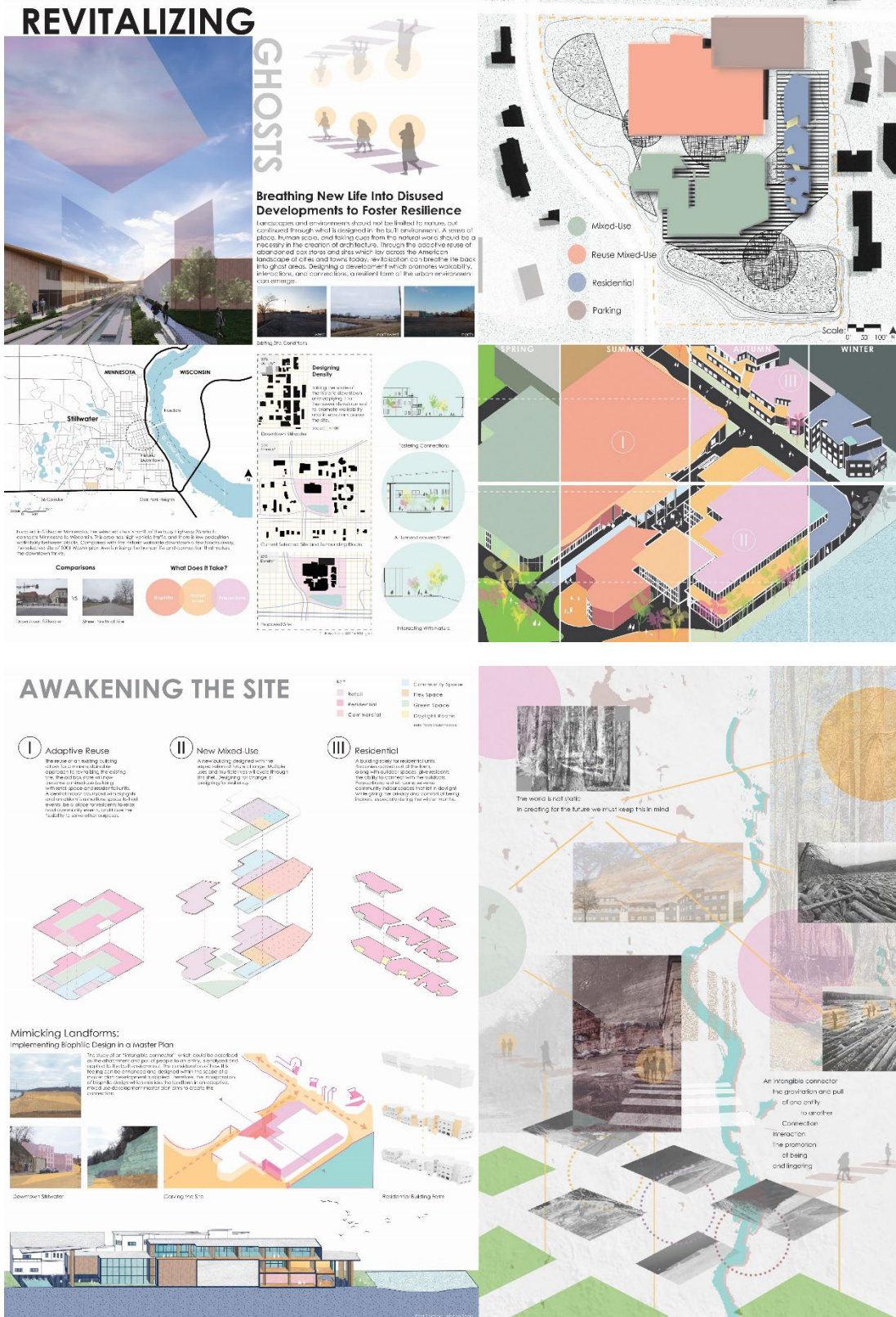


Figure 4.16 Final proposal board

4.4. Conclusions

This thesis was intended to serve as a master planning tool of site development, and to provide insight on what strengthens the human connection to a place. Through observations and research, the finding of these factors, which are concluded to be walkability, human-scale, and biophilic design, could be proposed to become an application to revitalize ghost sites.

The project proposal, while successfully completing the objectives of finding the intangible connector and applying it to a site, needs more consideration into the potential of the adaptive reuse of the box store. A feasibility study and more in-depth planning on unit types and space measurements could have been applied to this proposal for a more successful approach. Through further discussion and critique, it was concluded that more research, such as ornamentation, be placed into the project design. Including more results from the research itself and implementing that into the project would have resulted in further success of the proposed project.

If this project were continued further, the development of the connection between the retention pond and the buildings and site would be better displayed. The discussion of the lack of visualization led to the conclusion that a large portion of the connection to nature, visually, was not displayed. Another question raised included how this island-like site development would affect the surrounding area? In response to this, hopefully the development's design and implementation of concluded factors would serve as a catalyst and model to drive the development and revitalization of other ghost sites.

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