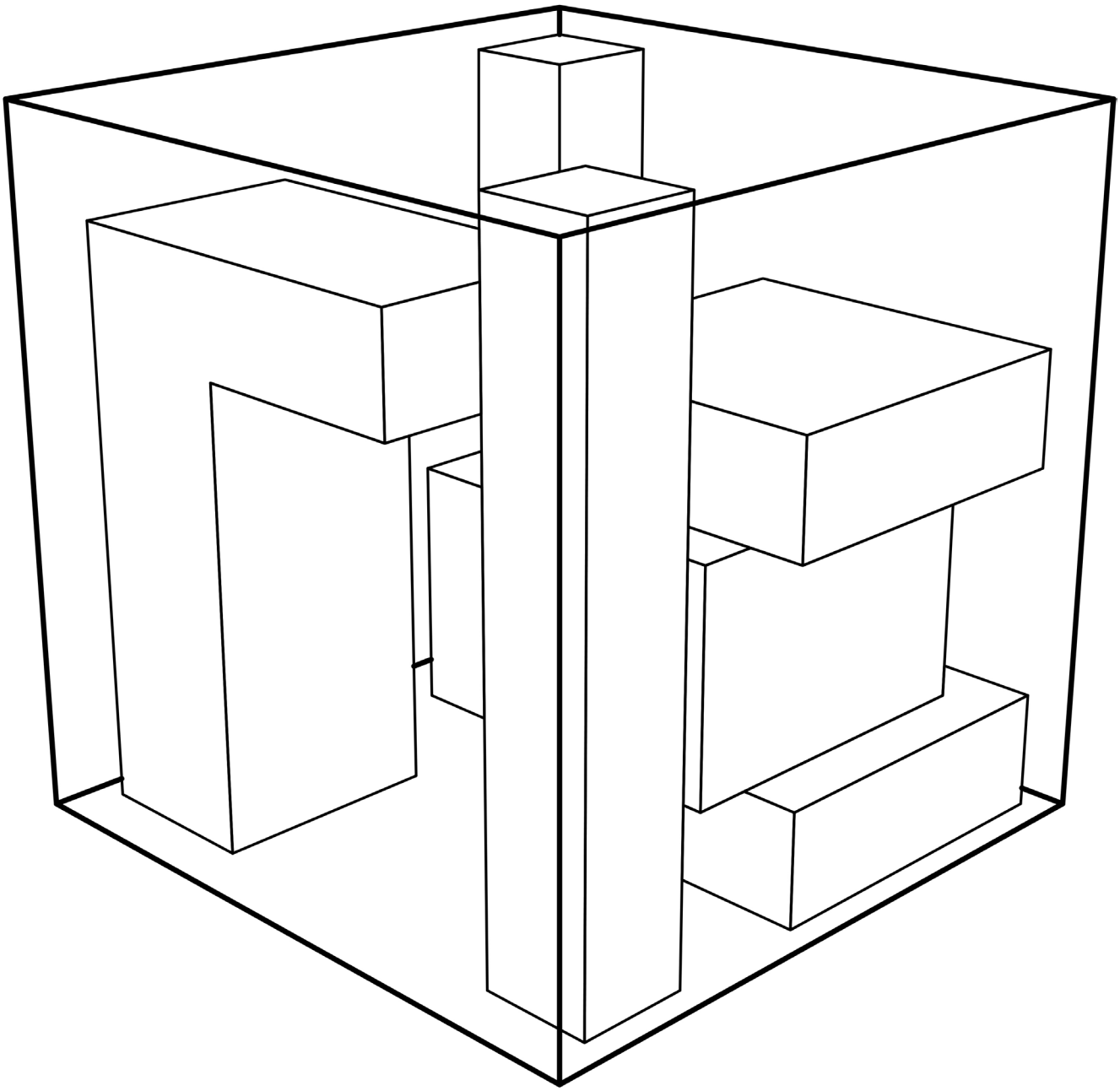
WITHIN AND WITHOUT

ST. PAUL MUSEUM OF ARCHITECTURE



MITCHELL ABRAHAMSEN

WITHIN AND WITHOUT
ST. PAUL MUSEUM OF ARCHITECTURE

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

By

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

Primary Thesis Advisor

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PART I: PROPOSAL

ABSTRACT

This thesis project revolves around how museums influence our perception of objects and ideas. Through research on museum design and architectural theory, I have come to understand the idea of framing and its importance in how museums and museum exhibits are designed. Framing, in an abstract sense, is the foundation from which our perceptions are built. The same object, space, or idea can be framed in different ways and will therefore be perceived differently. Framing in museums an be very literal, such as a wooden frame around a painting, and it can be more metaphorical, such as the spatial volume of a gallery. A museum has almost absolute control over how the exhibits within are framed, but they have less control over how they frame external elements. When walking through an art exhibit, a person's ideas of art in general may be challenged, reinforced, or distorted which means the museum is framing something beyond the reaches of its walls. Through this project, I aim to design a building that intentionally frames internal exhibits on architectural theory as well as the external concept of architectural theory.

THEORETICAL ASPECT NARRATIVE

THESIS PREMISE

Through architecture, the museum can frame the exhibits held within as well as the context surrounding the building, both physical and conceptual.

SUPPORTING PREMISE 1

A museum frames its contents in two primary ways: through the architecture of the museum and through the administration of the museum. In the book *New Museum Theory and Practice: An Introduction*, Janet Martine writes, “Framing is a metaphorical process that creates a vision of the past and future based on contemporary needs.” Marstine also writes, “Architectural features, lighting design, audio-tour headsets, the museum café, and the larger museum itself are all framing devices.” If a certain museum is simply a collection of objects on display, we still see those objects in the context of the physical museum. The size, arrangement, color, and materiality of the exhibition spaces alter the way we perceive the objects on display. If the goal of a museum is focus solely on displaying famous pieces of art, then the architecture of the museum must be simple and minimalistic so as not to distract from the artwork. Similarly, the administration of this museum may do little more than provide information on the pieces or artists and maintain the exhibition spaces. But if the goal of a museum is to challenge our perception of the art on display then the architecture plays a different role in the framing of that art and the administration may play a more active role in the framing of the artwork through events, classes, or interactive displays.

SUPPORTING PREMISE 2

The architectural features of a museum are as much a part of the galleries as the objects on display. The displays in a museum do not exist in a vacuum, the wall that a painting hangs on or the pedestal that a model rests on are as much a part of the experience as the pieces themselves. The Van Gogh Museum in Amsterdam presents the paintings of the Dutch master within the context of pure white spaces and minimal supporting materials for the artwork. These kinds of spaces put a greater focus on the artwork and how each piece relates to the others, but the architectural quality of the space still informs our perception of the artwork. An example museum that focuses more on the interactivity of the exhibit is the Mill City Museum in Minneapolis. This museum is built into a flour mill that was destroyed by an explosion and presents a history of the mill industry in Minneapolis through a series of activities and demonstrations. The experience culminates in a dramatization of the events leading up to the explosion of the mill integrated with a restored freight elevator. After the dramatization, visitors are lead into the ruins of the old mill. Throughout the museum, architectural elements of the old mill are left exposed, as if they were on display along with the other pieces of the exhibit. The spaces in both of these museums tell a narrative but the difference is in how the architecture is used in that narrative. In the Mill City Museum, the architecture plays an active role in the narrative which I believe will be crucial for a museum of architectural theory.

THEORETICAL ASPECT NARRATIVE

SUPPORTING PREMISE 3

A museum is like a living textbook that condenses knowledge and culture for our consumption. The “living” aspect is very important for a museum; there is a certain level of interactivity that many museums offer that one cannot find in a textbook or documentary. Some examples of more interactive museums include The Science Museum of Minnesota in St. Paul, The Mill City Museum in Minneapolis, and The Exploratorium in San Francisco. There are certainly museums that offer very little interactivity but are instead praised for their extensive collections of authentic work. In visual art, authenticity is very easy to define; paintings or sculptures are usually done by one artist or group of artists and any reproductions lack the level of authenticity of the original piece. But in architectural theory, how does one define authenticity? Is authenticity even important for a museum of architectural theory? I believe that interactivity is more important than authenticity for a museum of architectural theory. This type of museum should include ways for people to learn about architectural theory through doing. Some of these activities could include drawing, model making, and virtual reality tours.

PROJECT SIGNIFICANCE

The institution of the museum has experienced constant change throughout history, especially in the last 100 years. With this project, I aim to explore the fundamental elements of museum design and the ways in which I could transform those elements to create a new museum experience. By using architectural theory as the subject for this museum, the architecture of the building will do more than just frame the content, it will be part of the content. I also hope to find new ways to connect people to the information they consume in a museum. With a traditional art museum, it makes sense to maintain a certain level of separation between the audience and the art. But in a museum of architectural theory there is an opportunity to form a tangible connection between the audience and the contents of the museum.

Museums also play an important role in society as living collections of human knowledge and culture. In a time when almost any painting, movie, scientific paper, historic photo, book, etc. can be found on the internet it is important to examine what the role of the museum is and how that role affects the design of museums. It is my belief that the museum will need to become more than a space to see art or history or science, it will need to become a place where people can connect with these subjects on a deeper level. With this project I hope to find innovative ways to bring a deeper understanding of architectural theory to the visitors of this museum.

ADDRESSING THE QUESTION

The first phase in addressing this question will be the research phase. This phase will consist of thorough analysis of architectural theory, museum design, and the site of project. The research on architectural theory will include an examination of multiple texts on the subject from different points in history and how the ideas presented relate to each other. This research will allow me to properly design a building based around the core ideas of architectural theory. The analysis of museum design will center around various texts on the subject as well as a series of precedent studies of different types of museums. This research will help me build an understanding of museum theory and design and how I can transform those ideas. The site analysis will consist of taking extensive inventory of the existing site conditions and examining how those conditions might affect the design of this museum. The site analysis will also include an examination of the social context of the area.

The second phase in addressing this question will be the design phase. In this phase, I intend to synthesize the information gathered in the research phase into an in-depth design for a museum of architectural theory. Through an iterative process, I intend to explore different avenues for this design in order to come to the best strategy for the design of this museum. This process will include the generation of floor plans, building sections, study models, detail drawings, and diagrams.

PRECEDENT STUDIES

DANISH JEWISH MUSEUM- DANIEL LIBESKIND

The Danish Jewish museum, designed by Daniel Libeskind, tells the unique and powerful story of the Jewish people in Denmark. The project is located in Copenhagen and sits within the renovated royal library of Denmark. The driving concept of the design comes from the Hebrew word “mitzvah” which translates to “obligation” or “deeply felt reaction”. This deeply felt reaction comes from the story of how the majority of the Jewish population in Denmark was saved from the holocaust by the brave intervention of the Danish people.

Libeskind has described the corridor spaces of the museum as text running through a frame, similar to how Jewish core texts are commonly presented within a ‘frame’ of written commentary. The reference to Hebrew text is further emphasized by the shapes of the corridors. Libeskind has said that the organization and form of the corridors mirror the Hebrew letters that form the word “mitzvah”. The visitors of this museum will find themselves surrounded by Hebrew text both literally and figuratively.

Another important aspect of this museum is the impact the spaces have on human senses, especially, sight. The form of the corridors along with the undulating ceilings and walls bend light in a way that creates a different type of experience all throughout the spaces. Small, angular slits of glass are scattered about the walls to let natural light into the building in very interesting ways. These windows are another reference to Hebrew text but also add to the sensory experience of the museum.

Fig 1.1: Exterior and Interior images of The Danish Jewish Museum by Daniel Libeskind found on the museum website, http://jewmus.dk/en/architecture/

DANISH JEWISH MUSEUM- DANIEL LIBESKIND

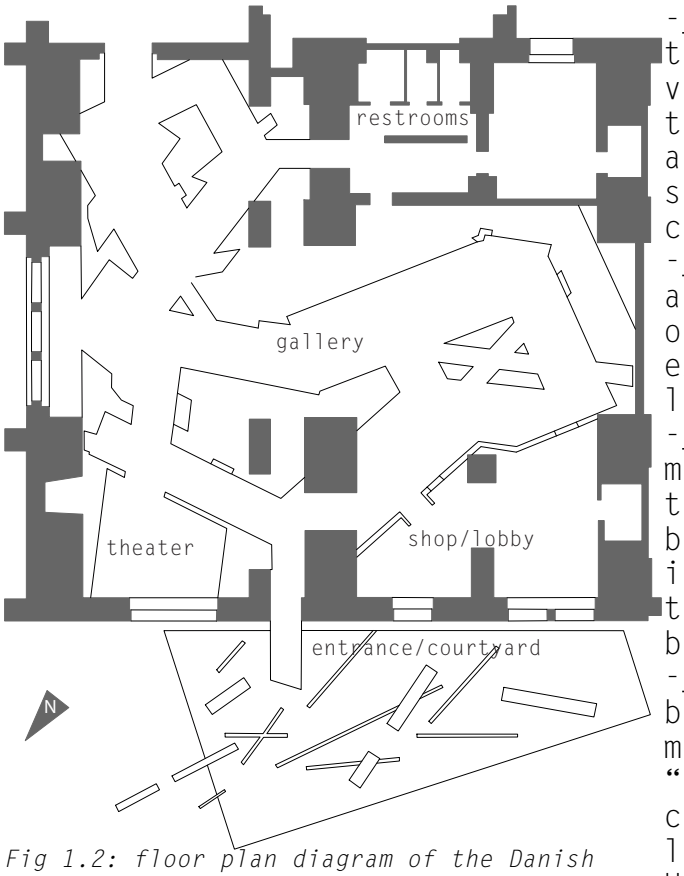


Fig 1.2: floor plan diagram of the Danish Jewish Museum

-<u>Natural light:</u> In this museum, the corridors of the gallery have very controlled light through the narrow slits in the walls and ceiling while the more open spaces like the lobby have less controlled natural light.
-<u>Circulation:</u> The galleries are made up almost entirely of corridors which makes the experience of this museum very linear and almost maze-like.
-<u>Structure:</u> The structure of this museum is completely dependant on the structure of the old royal boat house. Libeskind's renovation is mostly a restructuring of the spatial organization of the building.
-<u>Geometry:</u> The geometry of this building is what informs the metaphor of the Hebrew word "Mitzvah". The organization of the corridors is meant to mirror the letters of the word written in Hebrew. The geometry of the spaces in 3-D is a further reflection of the maze-like organization of this museum.

The Danish Jewish Museum is a fine example of architecture as a narrative. With his design, Libeskind takes the visitor on a journey through a lesser known part of Jewish history through his manipulation of space, volume, light, and acoustics. This museum is similar to Rem Koolhaas' proposal for the Netherlands Architecture Institute in the sense that both architects use their designs to influence the museum. A significant difference between these two projects is that the Danish Jewish Museum focuses more on linear story-telling while Koolhaas' NAI proposal focuses more on an abstract representation of a museum.

In conclusion, I find that this precedent supports the idea of architecture as a narrative that I am trying to explore with this project. Libeskind's design presents a unique approach to museum design that takes visitors on a sequential journey. While my project may not be as linear as this one, I can find ways to employ the story-telling and metaphorical aspects of this design in my own design. Perhaps the spatial organization or structure of my project will change as one progresses through the museum to represent the progress of architectural theory. Or perhaps the building will be a collage of different architectural styles.

PRECEDENT STUDIES

NETHERLANDS ARCHITECTURE INSTITUTE PROPOSAL- REM KOOLHAAS

This competition entry for the design of the Netherlands Architecture Institute (NAI) museum done by Rem Koolhaas' firm, OMA, plays with the idea of spatial generation. The floor plans are made up of an irregular triangle that houses a quadrangular core space. The relationship between this triangle and rectangle define spaces at the corners of the triangle that become the exhibition spaces and the library. The more intimate spaces (offices, storage, restroom/ coats, auditorium, etc) are housed within the rectangular forms called the "socle" and the "podium".

The socle houses the model storage, restrooms/coat room, offices, and cafeteria within three levels. The auditorium is "excavated" from the socle on the second level. Also on the second level are the offices. Light reaches these offices via a patio that sits at the bottom of a "negative tower" or atrium. The third level of the socle houses the cafeteria, kitchen, and bar wrapped around the negative tower. From the exterior, the socle appears as a solid box sitting behind a translucent screen.

The other part of the quadrangular core is a tilted tower called "the podium". The podium is a black form that rises perpendicular to the slightly sloped roof of the triangle. Koolhaas has said that this podium represents "ownership" and the "collection" of the museum. The podium houses the drawing storage, computer room, archives, study and research area, and the archive director's office. Where the podium meets the ground is where the entrance sits. Visitors enter through the shell of the triangle and into the ground level of the podium and socle. From there, each visitor's path is determined by the individual.

With this proposal, Koolhaas presents that translucent triangle form as a representation of "museum", a space for people to come and experience the "collection" represented by the podium. Within the open gallery spaces sits a grid of thin, steel columns that support the sloped roof. This strict grid juxtaposed with the irregular triangle creates a series of encounters between the structure and the skin of the building. Koolhaas refers to these encounters as "events" and "incidents". The relationship between the triangular and rectangular spaces create what Koolhaas calls a Programmatic Specificity" within each of these shapes. In this building, each of the main elements define one another and one element cannot exist without the others.

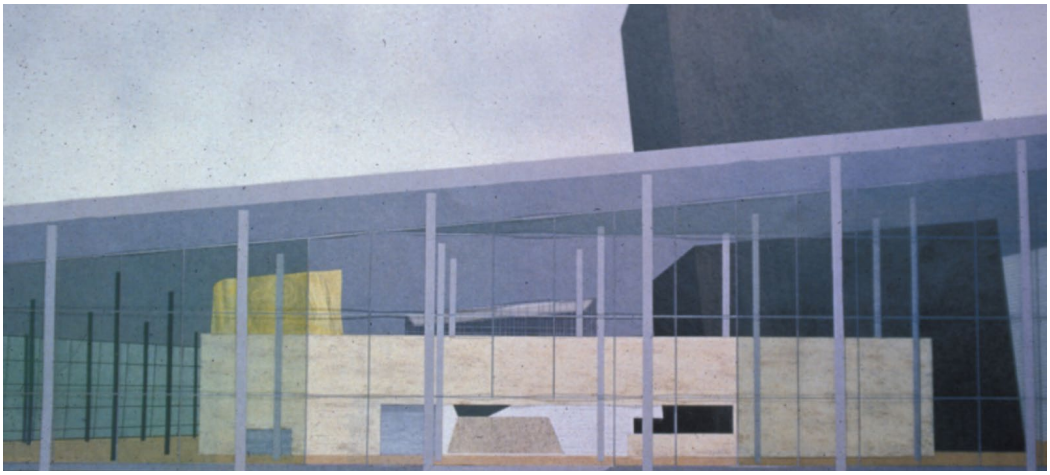


Fig 2.1: elevation drawing of OMA's NAI proposal found on the OMA website

NETHERLANDS ARCHITECTURE INSTITUTE PROPOSAL- REM KOOLHAAS

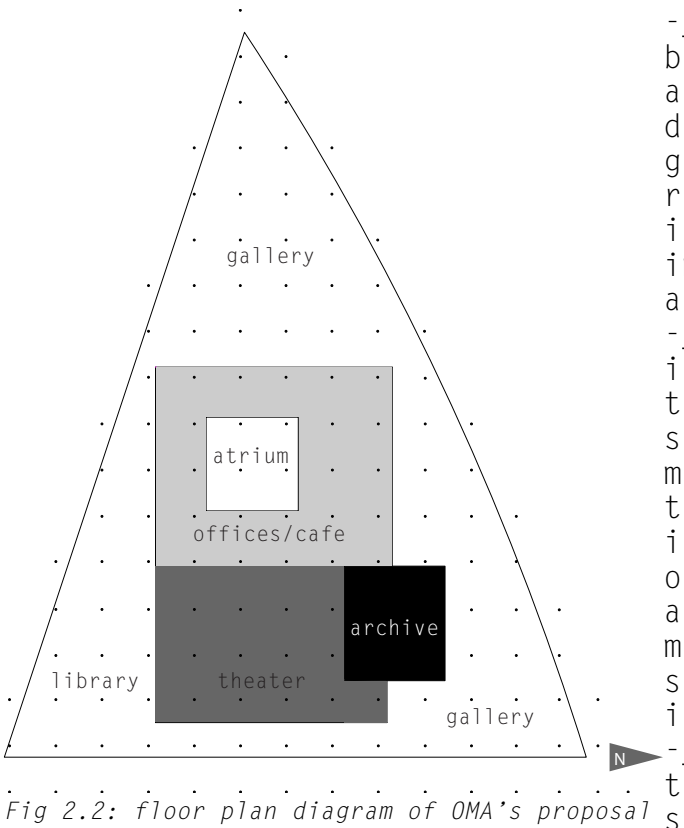


Fig 2.2: floor plan diagram of OMA's proposal for NAI Rotterdam

-<u>Geometry:</u> The interaction between the rectangular socle and the triangular outer shell divides the main floor into the galler and library spaces. The rectangular nature of the socle is further explored through the implementation of the square atrium and podium.
-<u>Natural Light:</u> Light is filtered into the main floor galleries through frosted glass on the outer shell to give the galleries a more open and airy feel. In the theater and archive spaces light is tightly controlled. In the office and cafe spaces light is admited through the atrium. This manipulation of natural light signifies a hierarchy of privacy in these spaces.
-<u>Structure:</u> The main structure of the museum is a grid of slender steel columns that interact with the triangular plan in a way that creates interesting nodes.

With this proposal for a museum of architecture, Koolhaas presents a design steeped in metaphors for the concept of the museum. The museum doesn't tell a narrative as much as it presents an abstraction of what Koolhaas feels a museum represents. This design relates to The National Building Museum in a sense that the architecture is taking a backseat to the exhibits. But, similar to the Danish Jewish Museum, the architecture of this proposal frames the exhibits in a unique way. Koolhaas' proposal for the NAI is a fine example of a metaphorical approach to design, Koolhaas is presenting his own ideas of what a Museum is through the architecture of this project.

In conclusion, I find this precedent to be an example of a unique approach I can explore with my own design. Instead of telling a linear narrative of architectural theory, I may be able to use my design as an abstract representation of architectural theory and allow the individual exhibits to tell the narrative.

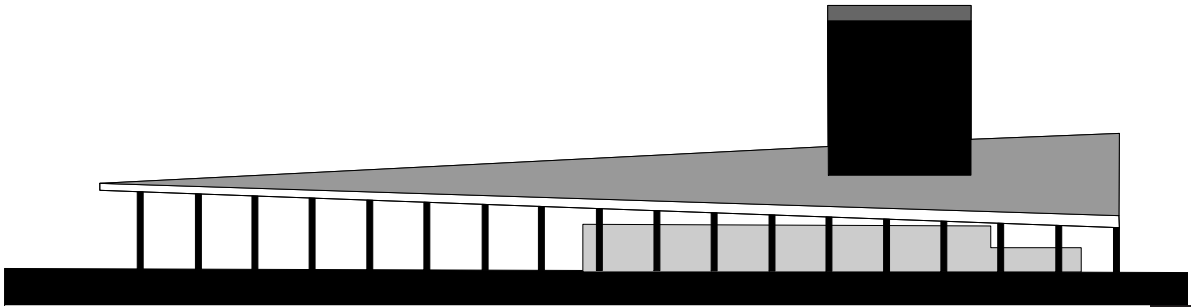


Fig 2.3: elevation diagram of OMA's proposal for NAI Rotterdam

PRECEDENT STUDIES

NATIONAL BUILDING MUSEUM- MONTGOMERY C. MEIGS

The National Building Museum, located in Washington D.C., occupies what was once the Pension Bureau building, designed by Montgomery C. Meigs. The building was completed in 1887 to very mixed reviews. Instead of the Neo-classical style that dominated Washington D.C. at the time, Meigs opted for an Italian Renaissance style for this design. The brick building features a vast central hall surrounded by spectacular Corinthian columns and a 1,200-foot-long terracotta frieze honoring union soldiers of the civil war.

In the 1960s, the Pension Bureau building had begun to fall into disrepair and was being considered for demolition. Preservationists across the country lobbied for the building to be preserved and used for a new purpose. It was architect Chloethiel Woodard Smith who proposed the idea that the building be turned into a museum for the building arts. In 1969 the Pension building was put on the national register of historic places and in 1980 congress created the institution of the National Building Museum as a private, non-profit museum to showcase architecture and engineering.

Since opening in 1985, the National Building Museum has hosted over 200 exhibits focused on architecture, engineering, and construction. These exhibits range from simple galleries of drawings and pictures to very hands-on, interactive exhibits. In addition to these exhibits, the museum also offers learning programs for people interested in architecture and engineering. These programs include “The Building Zone”, which is a daily class for children aged 2-6 can learn about design through play, and “District of Culture”, in which local teenagers were sent around Washington D.C. to document their impressions of the city through photography, art, and writing. The National Building Museum relies more on administration and programming than architecture to create the experience for its visitors.

Fig 3.1: Exterior shot of the National Building Museum found on the museum’s website

NATIONAL BUILDING MUSEUM- MONTGOMERY C. MEIGS

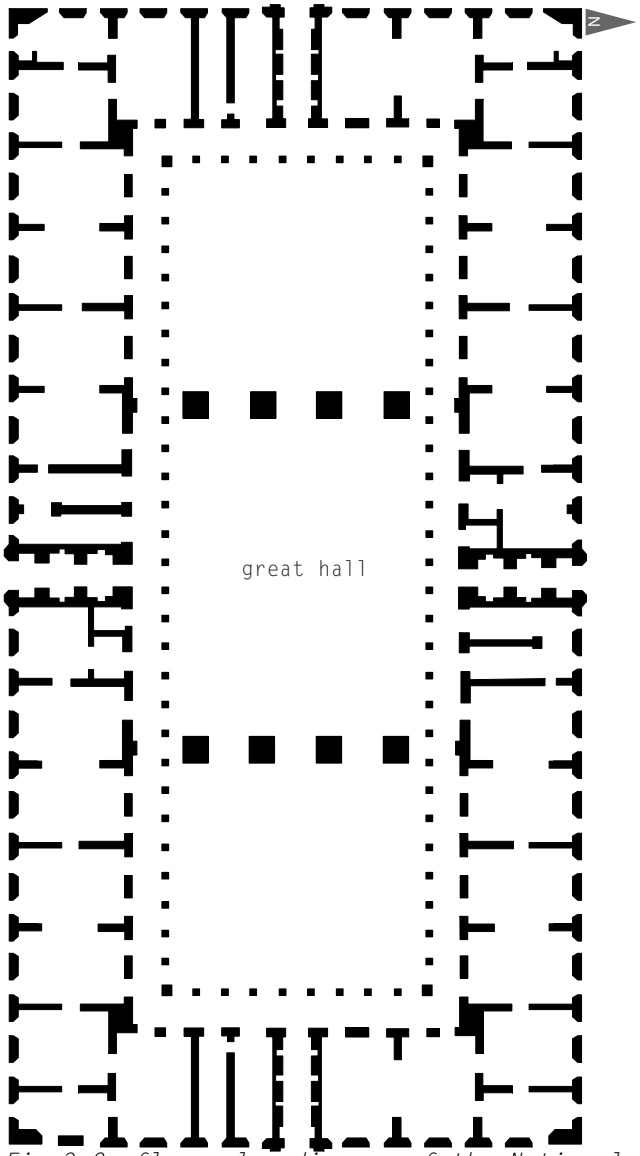


Fig 3.2: floor plan diagram of the National Building Museum

-Natural light: Natural light in this building is very controlled due to the nature of the old Pension Building. This allows the galleries to be lighted in very intentional ways.
-Structure: The structure of this building is left unchanged from when it was first constructed. The large, Corinthian cloumns of the great hall have become iconic symbols of the museum and serve as a wonderful backdrop for galleries of architecture and engineering.
-Ventilation: Meigs designed the Pension Building to naturally draw in coll air at the lower levels and release warm air through the top of the great hall to create a more comfortable atmosphere in the humid climate of Washington D.C.
-Circulation: This building is divided into two types of spaces. The openness of the great hall contrasts wonderfully to the intimacy of the former offices. This allows for the administration to set up exhibits of various sizes and intimacy throughout the museum.

With this museum, the driving force behind the experience is the exhibit. The architecture of this museum is merely a backdrop for the collection of knowledge on display. Meigs never intended for this building to be used as a museum, but the openness of the great hall and the privacy of the former offices present the opportunity for a variety of exhibits to take place in this building. Like the Danish Jewish Museum and the Mill City Museum, this museum takes place within a historical building. But unique to The National Building Museum is a fact that the old building is almost entirely preserved. With this museum, the narrative is told almost entirely through the administration and programing.

In conclusion, this museum presents an interesting avenue that I may be able to take with my design. I'm unsure if historical preservation is the best direction for my project, But I may explore the idea of letting the architecture simply be the backdrop for the exhibits. This would require me to be very careful in minimizing the influence that the architecture has on each gallery and letting the collections tell the narrative of architectural theory.

PRECEDENT STUDIES

MILL CITY MUSEUM- TOM MEYER

The Mill City Museum was designed by Minneapolis architect Tom Meyer and built in the ruins of the Washburn A. Mill on the banks of the Mississippi River. The Museum opened in 2003 but the history of the mill dates back to 1874 when it was constructed as the largest flour mill in the world. On May 2nd, 1878, the mill was destroyed by an explosion caused by a spark igniting the flour dust in the air. In 1880, the mill was rebuilt again as the largest flour mill in the world. The mill was in operation until 1965 when it was shut down along with eight more of General Mills' early mills. In 1983 the mill was designated as a national historic landmark for its role in the history of Minneapolis. Then in 1991, the mill was nearly destroyed again by a devastating fire. Throughout the following decade, preservationists in Minnesota fought for restoration of the mill. After the city of Minneapolis cleared the rubble and reinforced the damaged walls, The Minnesota Historical Society announced the opening of a milling and history museum to be opened in the ruins.

In his design, Meyer was careful to keep much of the ruins of the old mill exposed to emphasize the history of the place. Throughout the museum are remnants of the old brick walls of the mill as well as old milling machinery, the old rail corridor, and the old engine and wheat rooms. The most prominent aspect of the design is an eight-story glass façade that overlooks the river and serves as a backdrop for the ruins of the old mill. At the foot of this façade is a courtyard surrounded on three sides by charred walls and steel members. Through intense excavation work, a large portion of the ruins have been preserved as they were after the 1991 fire.

The Museum presents visitors with a unique experience to really interact with the history of Minneapolis and the milling industry. Throughout the museum are various interactive rooms or kiosks that let people learn about milling and flour production through play. The tour of the museum culminates in a dramatization the night of the 1878 explosion that takes place in the old freight elevator shaft. The visitors are seated on a platform that moves up and down in the shaft while a series of projections depict what happened on that infamous night. After the elevator tour, the visitors are lead to the courtyard where they can see the ruins of the mill up close. Through a mix of new construction and preservation, the Mill City Museum presents visitors with an interactive narrative of the flour industry in Minneapolis.

Fig 4.1: Image of the museum facade resting behind the ruins of the old mill found on the Atlas Obscura website

MILL CITY MUSEUM- TOM MEYER

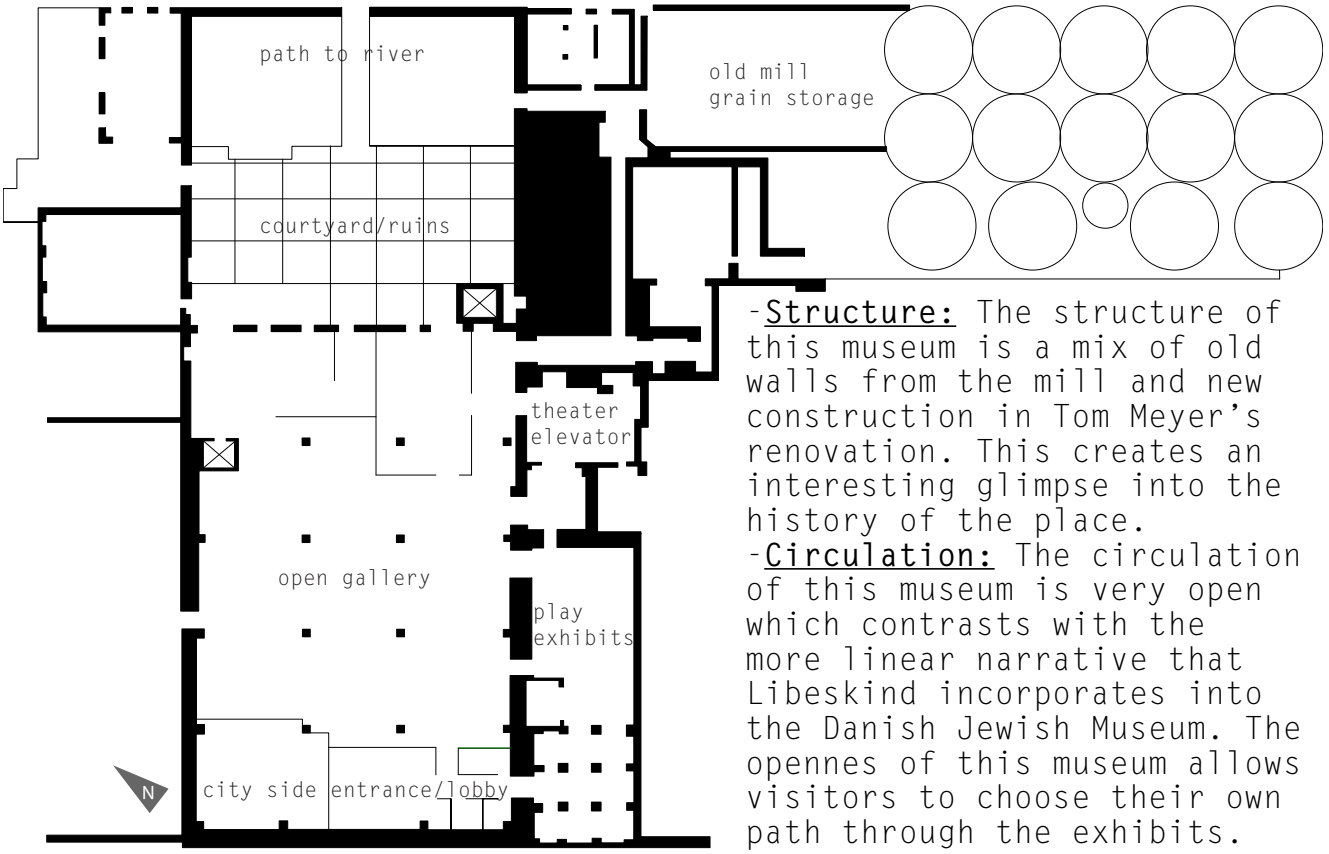


Fig 4.2: floor plan diagram of the Mill City Museum

-<u>Structure:</u> The structure of this museum is a mix of old walls from the mill and new construction in Tom Meyer's renovation. This creates an interesting glimpse into the history of the place.
-<u>Circulation:</u> The circulation of this museum is very open which contrasts with the more linear narrative that Libeskind incorporates into the Danish Jewish Museum. The opennes of this museum allows visitors to choose their own path through the exhibits.
-<u>Context:</u> The courtyard has become rather iconic in Minneapolis as a place to hold events and gatherings.

This museum presents a unique blend of old and new which creates a very interesting and informative experience for its visitors. While not as linear as the Danish Jewish Museum, the Mill City Museum presents a narrative of history through both the architecture and the exhibits. In this project, it can be argued that parts of the architecture truly are on display as part of the exhibit which is unique from the other precedents I've analyzed. The ruins of the old mill aren't a metaphor that frames the museum, they are a glimpse into the past, the strongest exhibit in the museum. Tom Meyer's design for the renovation of the museum does a great job of letting the exposed ruins of the old mill speak for themselves. Meyer's design acts as a simple, elegant backdrop for the crumbles and charred walls that surround the courtyard.

In conclusion, I find that this precedent represents a good mix of architecture and administration informing the narrative. Visitors of this museum can experience real, tangible history in a unique way while also experiencing simulations and recreations of history. As for my design, I feel that this precedent supports the idea of architecture as a backdrop as well as the idea of architecture as a narrative. I should explore designs that strike a balance between allowing both the architecture and exhibits of the museum to inform the narrative of architectural theory.

PRECEDENT STUDIES

CONCLUSION

Through this series of case studies, I have identified four museums that frame their contents in different ways. Each of these precedents have reinforced my premises in unique ways and have given me insight into how I might explore my thesis question. Museums like the Danish Jewish Museum or Mill City Museum use the architecture to tell a narrative of history that augments the collections on display while Koolhaas' proposal for the NAI presents an architectural metaphor of the museum that serves as a backdrop for the collections. Museums like the National Building Museum allow the collections to inform most of the experience. The simplified spaces of the National Building Museum create an opportunity for multiple different exhibits to take place. Through examination of these cases, I have found that I must explore a balance between using the architecture as a driving force behind the narrative of architectural theory while also allowing the exhibits within the museum to drive the narrative in some spaces. This may result in a blend of more traditional gallery spaces and spaces built for a more interactive and guided experience.

Specific elements that I have identified as key element of a museum through this analysis include: multiple galleries of various type and size, flexible open spaces, theater/auditorium spaces, control of natural and artificial light, and intentional circulation spaces. The relationship between the galleries, open spaces, and theater/auditorium is essential to the experience of the museum. How will visitors progress through these spaces and in what sequence? Questions like this must be explored in the design process. The manipulation of light, acoustics, and temperature will influence the experience as well the preservation of the collections. Paying close attention to the detailing of the project will be essential in my design. One of the most important aspects of this project will be the circulation through each space. The circulation will be the driving force behind how visitors perceive the narrative of architectural theory. Should the narrative be more open or linear? Should it include multiple paths or just one? How can I blend more

DESIGN DEVELOPMENT PLAN

PROJECT TYPOLOGY

Museum of architectural theory

MAJOR PROJECT ELEMENTS

-Gallery/Exhibition Spaces
-Interactive Exhibits
-Lobby
-Café/Lounge Space
-Offices
-Storage
-Circulation
-Information Area
-Parking

USER/CLIENT DESCRIPTION

The two main User groups of this museum will be visitors and staff. The visitor group will be made up of a wide variety of people including children, adults, seniors, and people with disabilities. The staff group may include administrators, maintenance staff, tour guides, and event planners. The people in these groups will have similar needs and many unique needs that must be met.

The visitors of the museum may include students, teachers, parents, professional architects, people interested in architecture, senior citizens, local citizens, tourists, and people with a wide range of disabilities such as blindness or the need for a wheelchair. To meet the needs of this user group, universal design strategies such as elevators, wheelchair ramps, handicap parking spaces, brail signs, etc. must be used. Other design elements that should be included may include seating throughout the museum for people to rest, an adequate number of easily accessible restrooms, and railings at various heights. Since the integration of the architecture with the museum galleries is an important aspect of this project, these design elements must be carefully examined and seamlessly integrated with the narrative of architectural theory that I am trying to tell with this design.

The museum staff will include the curator, administrators, receptionists, tour guides, event coordinators, security, and maintenance staff. If a café is included in the museum then a kitchen crew will also be needed on staff. Needs of the staff may include offices, storage rooms, service elevators, meeting rooms, a break room, mechanical/electrical rooms, and designated, on-site parking. Similar to the design elements for the visitor group, these elements for the staff will need to be seamlessly integrated with the narrative of architectural theory.

THE SITE

SITE DESCRIPTION

The site that I have chosen for this project is located on the northern edge of Downtown St. Paul, MN at 100 East 10th Street. This is a part of the city that has been slowly going through changes with new buildings being constructed sporadically over the past few years. Currently, this site contains an unused building and a small public garden area known as Pedro Park. The building on the site was once an annex building owned by the public safety department of the city. The park on the site is mostly concrete with small planting areas for a public garden. Across the street to the northwest of the site is a mixed-use building known as The Penfield. To the northeast of the site is another mixed-use office buildings with street level shops including restaurants, cafes, and bars. To the south of the site are more office buildings and a couple of churches. Within walking distance of the site is Mears Park, The Minnesota Children's Museum, multiple bars and restaurants, and the riverfront.

SITE SIGNIFICANCE

I have chosen this site in particular for its urban context, close proximity to a city center, and ease of access. I believe that the backdrop of a metropolitan city will add to both the tangible and intangible contexts of the project. It can be said that cities are true museums of architecture, with an organic mixture of both old and new buildings that tell the narrative of the evolution of architectural theory. To locate this project within an urban context is to allow for direct comparisons between these two different museums of architecture. The fact that this building sits on the edge of downtown St. Paul means that people from many different backgrounds can come to experience this building very easily. Connecting people to the narrative of architectural theory is a key component of the project and each person will have a different perception of the museum, so it is important to locate the project in a place where people from all walks of life can easily access it.

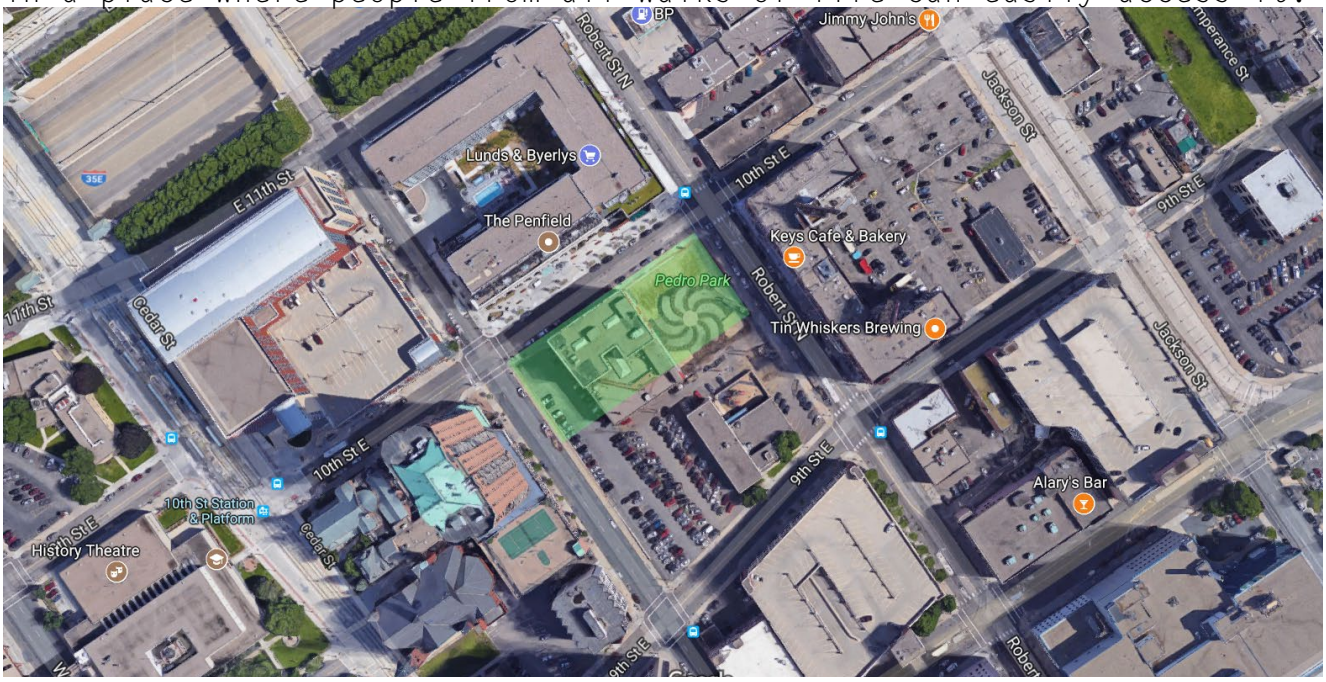


Fig 5.1: aerial view of the site taken from Google Maps

Fig 5.2: photograph of Pedro park and the surrounding buildings taken by myself

Fig 5.3: photograph of the mural overlooking Pedro Park taken by myself

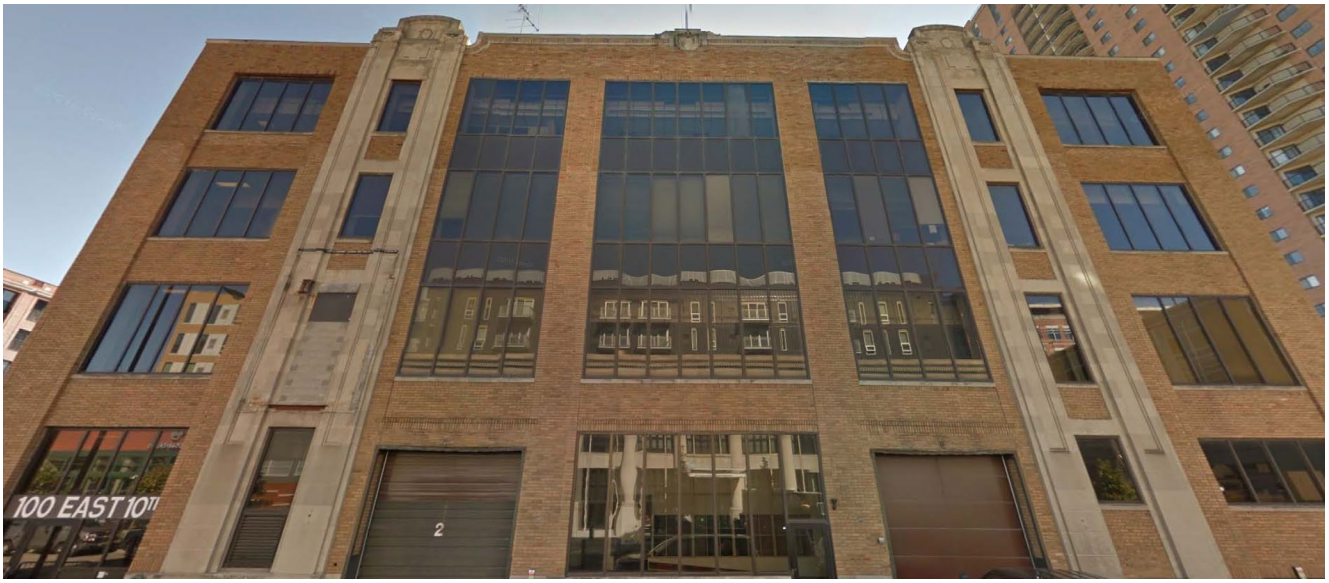


Fig 5.4: photograph of the annex building currently on the site taken by myself

PROJECT EMPHASIS AND GOALS

PROJECT EMPHASIS

The main emphasis of this project will revolve around using the architecture to tell a narrative about the evolution of architectural theory. I hope to design a museum that involves the architecture in a more active role than the traditional museum. To do this, I intend to closely analyze the effects that architecture has on our perception. I also need to analyze museum design and theory and how those concepts have evolved over time in order to explore the design for a new museum experience. This project can also be considered a study on how the information in a museum is conveyed and consumed.

Another key component of this project will be in the detailing of the architecture. I plan to examine how this narrative of architectural theory will take physical form and the methods of construction that will allow that to happen. Elements such as the finish materials, lighting, window type and placement, and many others will be the driving forces behind how these spaces are perceived.

Lastly, I believe the final presentation of a project must be carefully planned and reflect the essence of the project. I plan to explore multiple different methods of representation for this project to find the best way in which I can convey these ideas. What is the best way to present schematic architectural drawings for this project? How will I go about showing the quality of interior and exterior spaces of this project? How can the narrative of architectural theory be told through the final presentation? These questions, among others, will need to be answered in order to ensure a successful final presentation.

PROJECT GOALS

The goals of this thesis project revolve around the idea of a narrative. Museums are living records of human achievement and human achievement is an ever-changing narrative. Therefore, museums are vehicles that tell a story. With this project, I intend to use tell the story of the evolution of architectural theory through the medium of a museum. Through my research, I aim to explore the evolution of architectural theory and how to apply new methods of museum design to tell that narrative.

Physically, I intend for this project to produce a well thought out, beautiful piece of architecture. Development of drawings for this building will be just as important as the design development. Since this museum will not be built, the task of telling the narrative falls on the shoulders of the drawings and models that represent this building. Creating a final presentation that tells both the story of architectural theory as well as the story of this thesis project will be crucial. Ultimately, this project should be a synthesis of everything I have learned through my research on architectural theory and museum design.

DEFINITION OF A RESEARCH DIRECTION

The first phase of research will center around building knowledge of architectural theory and its evolution through time. If I aim to use this project to tell a narrative of architectural theory then I must understand how different architects and events have shaped the subject. To do this, I plan to analyze defining texts on architectural theory throughout history. These texts will include:

- *The Four Books of Architecture* by Andrea Palladio
- *Toward a New Architecture* by Le Corbusier
- *Complexity and Contradiction in Architecture* by Robert Venturi
- *Collage City* by Colin Rowe
- *Privacy and Publicity: Modern Architecture as Mass Media* by Beatriz Colomina
- *Theoretical Anxiety and Design in the Work of Eight Contemporary Architects* by Rafael Moneo
- *Theories and Manifestos of Contemporary Architecture* by Charles Jencks and Karl Kropf
- *Architectural Theory Since 1968* by K. Michael Hays

The next phase of the research will be to develop an understanding on museum design and how it has changed throughout history. I cannot begin to experiment with the museum experience until I have a good understanding the museum's place in society. To do this, I plan to analyze various texts on Museum design as well as some additional precedent studies. These texts and precedent studies will include:

- *Towards a New Museum* by Victoria Newhouse
- *New Museum Theory and Practice: An Introduction* edited by Janet Marstine
- *The Future of the Museum* a study by the research department of Gensler
- *Reinventing the museum: the evolving conversation on the paradigm shift* by Gail Anderson
- *Kunsthal* by OMA
- *Castelvecchio* restoration by Carlo Scarpa
- *New Museum* by SANAA

The third phase of the research will be the site analysis. Integration with the site is a crucial aspect of any architectural project and this integration requires extensive analysis of the site and its context. Key aspects of the site that will be analyzed include zoning restrictions, climate, soil conditions, vegetation, and physical/social context. Through this analysis I intend to develop a list of opportunities and constraints for the project that will help determine the spatial organization and overall form of this museum.

PLAN FOR PROCEEDING

DESIGN METHODOLOGY

I intend for my design process to build from the foundation of knowledge that I gain from my research. Once I understand the narrative of architectural theory, the elements of museum design that I can use to tell that narrative, and the opportunities and constraints of the site I can begin to explore different avenues of the design. I also intend for this design process to be very iterative with multiple solutions for each question being generated in order to determine the best path for this process to take. Each week, I intend to have a variety of new solutions generated that include drawings, digital models, physical models, and analytical diagrams.

Throughout this iterative process, I will need to constantly re-examine my theoretical question and premises to make sure that the design reflects those premises and answers the question. If my question must be modified to reflect the path of the design then I must be careful to modify it accordingly. My intention is for the theoretical question and premises to be solidified through the research I will be performing in during the rest of the fall semester and for the design process in the spring to be tailored to that question.

DESIGN DOCUMENTATION

The documentation and presentation of the design are just as important as the design itself. To ensure that this project is cohesive and understandable, I must be careful to document each step of the design process in a thoughtful way. I intend for the design documentation to be added on to the thesis proposal and program to form one document that tells the story of how my design came to be. Because this process will be so iterative, I must also include design solutions that did not get implemented in my final design to show my exhaustive and progressive process. As for the final presentation slides and boards, I must be thoughtful about what kinds of drawings and images will best convey my design. Each week I will need to create a list of drawings that show the strengths of the design and how these drawings will relate to each other. I must also consider the progression that oral presentation will take. How will be both complete and concise in telling the narrative that of this project? Answering this question will lead to a stronger overall project. Keeping thorough notes on the progress of my design and updating the thesis book on a weekly basis will ensure that the narrative is intentional and cohesive.

SCHEDULE

- October 27th: completed research on at least three books on architectural theory and documented results from this research
- November 3rd: completed research on remaining books of architectural theory and completed documentation of the results of this research
- November 10th: completed research on museum design and completed documentation of the results of this research
- November 17th: completed thorough site inventory and started site analysis
- November 24th: completed documentation of the project justification and the social, cultural, and historical context of the project
- December 1st: completed site analysis and started the documentation of the site analysis
- December 8th: completed documentation of site analysis and performance criteria
- December 11th: turn in thesis program
- January 19th: have diagrammatic floor plans and sections drawn, begin creating physical models of these diagrams, have context model made
- January 26th: have physical models made, begin creating digital models
- February 2nd: have multiple finished floor plans and sections drawn
- February 9th: completed examination of floor plans and sections and begin to further develop one of these schemes
- February 16th: have plans and sections fully drawn in digital model for further development, begin façade studies
- February 23rd: have multiple façade designs drawn and examine each scheme
- March 2nd: have façade design completed, begin development of interior spaces
- March 9th: completed multiple designs for key interior spaces and examine each design
- March 16th: completed interior designs, have digital model fully up to date and begin test rendering and site design
- March 23rd: have multiple site designs drawn and examine each scheme
- March 30th: completed site design and begin designing board layouts as well as presentation slides
- April 6th: have final plans, sections, elevations, details, and diagrams completed
- April 13th: have final rendering and final board layout completed as well as presentation slides completed
- April 20th: turn in digital copies of presentation boards and slides
- April 23rd: have physical displays up
- April 27th: begin editing final thesis book
- May 11th: turn in final thesis book

PART II: PROGRAM

ARCHITECTURAL THEORY

What is architectural theory?

Architectural theory is the act of writing about, thinking about, and discussing architecture. Architecture is the 'what?' and architectural theory is the 'why?'. In the same way that scientific theory helps the sciences progress, architectural theory helps architecture progress. When architects and designers theorize, they are building upon knowledge of the past as well as laying the foundation for future knowledge. When a scientist sets out to solve a problem, they look through existing journals or studies for any knowledge that has already been uncovered. They can then add to this knowledge by testing it in new ways or changing the methods. When a judge needs to make a decision on a legal case, they will look at the legal precedents that have been set by past cases and use that knowledge to make an informed decision. Similarly, when an architect sets out to design a new building, they will look at the ways buildings have been designed in the past and why they were designed this way. The architect may only come to one of many possible solutions, but by referring to existing knowledge and theories, the solution they come to can be a good one.

However, architectural theory is stagnant without practical applications, just as practice is stagnant without theory. Roman architect Vitruvius said it best when he said, "Wherefore the mere practical architect is not able to assign sufficient reasons for the forms he adopts; and the theoretic architect also fails, grasping the shadow instead of the substance. He who is theoretic as well as practical, is therefore doubly armed; able not only to prove the propriety of his design, but equally so to carry it into execution." This suggests that theory and practice are two sides of the same coin, that one cannot exist without the other. New ideas in architecture must be tested against real world situations or else they will remain as only ideas, never being truly realized. If an architect has an idea for a completely sustainable design, the best way to test that it works would be to build it and analyze it. However, buildings cost money, resources, and space, so it's not so easy to test every idea with a real building. This is where the idea of precedence comes in, both in theory and in practice. By analyzing how architects of the past have either embraced or ignored sustainability, the architect can make more informed decisions on how they should go about designing a 100% sustainable building. The architect can also look at completed buildings that are renown for their sustainability and what methods the architects of those buildings employed. What's interesting about the current state of architecture is that there is a wide variety of computer programs that can help test designs before they ever get built. It will be incredibly important to track how these tools change the landscape of architectural practice as well as theory.

Another important distinction must be made between architectural theory and architectural styles. Styles such as gothic, baroque, modernist, post-modernist, etc. are just that, styles. Styles are basically lists of features that a building has that makes it unique from other buildings but similar to buildings of the same style. And example would be the use of simple square

forms and minimal color in modernist buildings. In the book Unified Architectural Theory, Nikos Salingaros writes, “As a result of a serious misunderstanding (due to scientific ignorance by three generations of architects), a voluminous body of writings has been mistaken for “architectural theory”, even though it is nothing of the sort.” Though I agree with the idea that modernism and post-modernism, and all of the movements that came before them, don’t necessarily constitute architectural theory, I would argue that the writings and reasonings behind these movements do count as architectural theory. As stated above, architectural theory builds upon knowledge of the past while also building the foundation for future knowledge. In the case of a movement like modernism, the ideals of the movement were based around technological advancements in material sciences and construction methods. Things like reinforced concrete, mass steel fabrication, and the curtain wall made modernism as a style possible. But this style didn’t come out of nowhere. It took people like Adolf Loos, Mies Van Der Rohe, and Le Corbusier to experiment with these technological advancements and develop the values of modernism. While architectural styles themselves may not fit the bill of architectural theory, it’s the reasoning behind these styles and their historical relevance that contribute to the progression of architectural theory.

Through this research into what architectural theory is, I have slightly altered the intention of my museum design. I had been considering the idea of a single building as a sort of collage of the different styles of the 20th century. But after investigating architectural theory and how it differs from architectural styles, I will need to reconsider this idea. Perhaps the idea of a collage of styles is too literal for this project. If I would like to document the progression of architectural theory through the 20th century I may need to look deeper into why architectural theory evolved the way it did and how that may translate into a museum. Perhaps the museum wouldn’t be a collage of styles as much as a collage of experiences, coupled with displays of models and drawings woven into the architectural experience of the building, to give visitors a sense of the building blocks of the current state of architectural theory.

How do architects theorize?

Architectural theory has primarily been recorded through writing, drawing, building, and lecturing. The earliest written treatises on architectural theory are Vitruvius, a Roman architect and engineer. The most notable of Vitruvius’ writings are The Ten Books of Architecture, in which he describes his core values in architecture. In the renaissance, Andrea Palladio continued the literary tradition of architectural theory with his Four Books of Architecture, in which he lays out a set of rules to follow in the design and construction of buildings. Some of the more notable writers of the 20th century include Le Corbusier with Towards a New Architecture, Robert Venturi with Complexity and Contradiction in Architecture, and Rem Koolhaas with Delirious New York, as well as countless others. Since the invention of the printing press,

ARCHITECTURAL THEORY

writing has been one of the most efficient and accessible methods of communicating information to the masses.

In the introduction to Architectural Theory from the Renaissance to the Present, Christof Thoenes writes, “Knowledge had become a consumer good like any other and could now circulate freely - this was understood as the core of the Gutenberg revolution.” This, of course, is a reference to the invention of the printing press by Johannes Gutenberg in the early 15th century. From this moment on, any information, including architectural treatises, could be more easily mass produced and spread to the public. This would lead to the production of more books and more books lead to higher literacy rates. In recent years, we have seen a similar information revolution with the invention of the internet at the end of the 20th century. With the internet, anyone is able to publish their ideas for the world to see. Blogs, online journals, internet forums, etc. have exponentially increased the rate at which information can be spread.

Drawing and model making have also played important roles in the development of architectural theory, perhaps the most important role. In many architecture schools, the main aspect of learning is through model making and drawing for schematic designs that will likely never be built. Throughout the 20th century, architects like Mies Van Der Rohe would build conceptual models to convey ideas. One such model is Mies’ conceptual model of how a structure wrapped in glass might look. This model marks an important point in the development of the curtain wall as well as modernism as a whole. The idea of the perfect modern city was also explored during the 20th century and the main vehicle for conveying this exploration was through drawings, such as Le Corbusier’s conceptual drawings of megablocks separated by large motorways. These models and drawings served as a way for the architects to communicate new ideas that couldn’t necessarily be built yet. This practice of using the architectural

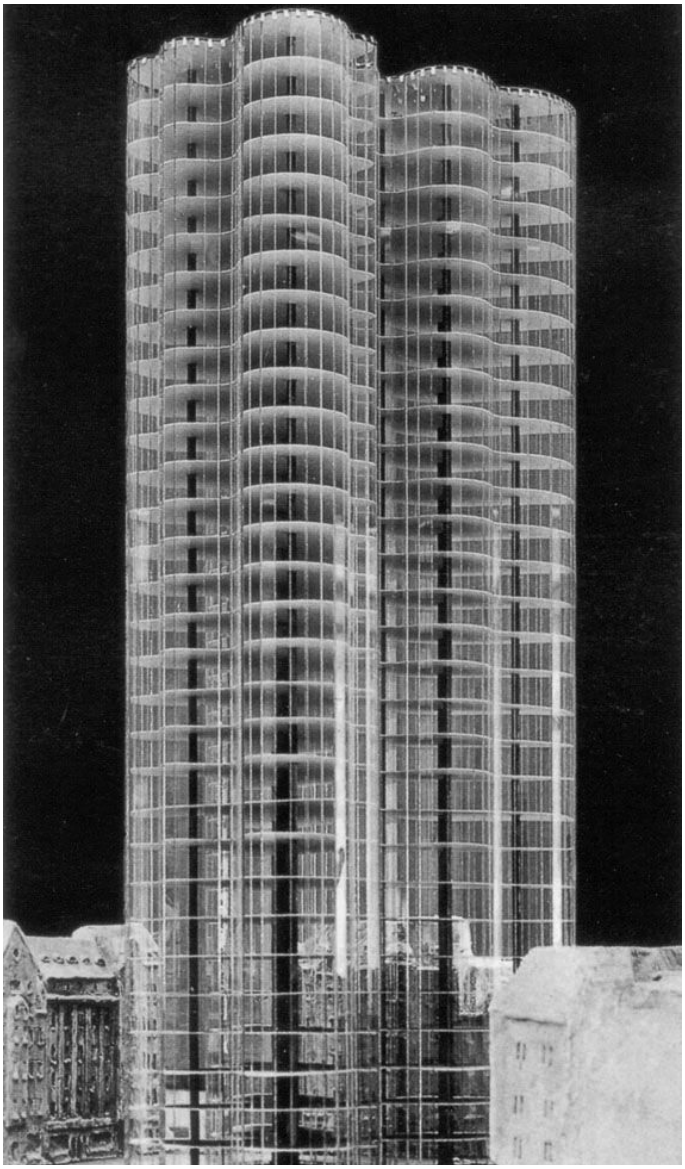


Fig 6.1: Mies’ model for a glass tower

model as a means of testing ideas before they are built can even be seen during the renaissance. In his design for The Florence Cathedral Dome, Filippo Brunelleschi created a series of models to visually explain how this dome should be built. In an online article for The Architectural Review titled Architects do it with models: the history of architecture in 16 models, Jon Astbury writes, “Many models built for Florence Cathedral were for this purpose of verification and control, making sure that what was to be built had been tested beforehand. It was much later that the objectification of these models gave them a new form of beauty.” This statement confirms that the scale model has been an integral part of architecture and architectural theory from the beginning, but it also brings to mind another question, what is the role of the drawing or model after it serves its purpose to communicate or test ideas?

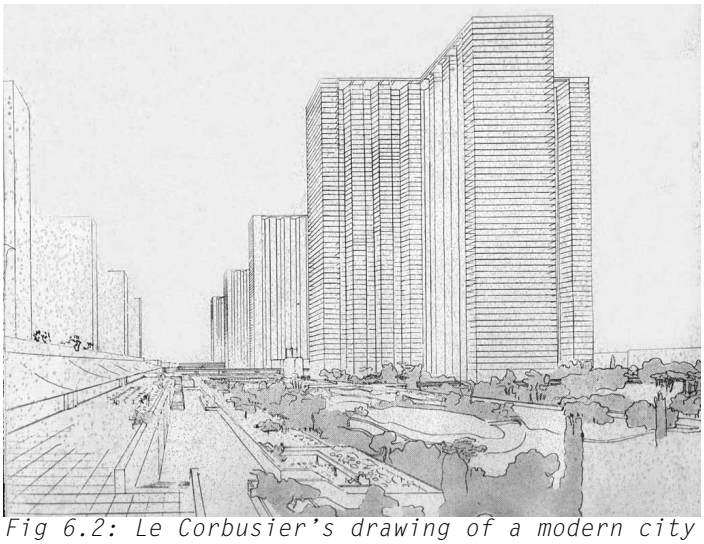


Fig 6.2: Le Corbusier’s drawing of a modern city

Fig 6.3: Brunelleschi’s model of Il Duomo

The act of building is complex and usually cannot be done without the aid of scale models or diagrams. This is a primary role of the architect is to create plans, sections, detail drawings, models, and anything else that will allow those constructing the building to know exactly what needs to be done. But there are some architects who have experimented with the idea of the architectural drawing as more than just a tool but as a piece of art as well. One of the more recent architects to explore this idea is Rem Koolhaas, who’s examples of experimental drawings can be found in the book S,M,L,XL. This book acts as a sort of portfolio of projects done by Koolhaas’ firm, OMA. In collaboration with Bruce Mau, a graphic designer, Koolhaas assembled countless drawings, photographs, and pieces of writing into a kind of systematic collage of work. The result of this unique approach to architectural representation is something that one needs to spend some time with to begin to understand. The images by themselves don’t resemble anything that another architect would produce, and they certainly wouldn’t aid in the construction of a building. However, the images are beautiful in their own right and evoke a certain curiosity that prompts one to dig deeper and peel back the layers of what they mean. Through this voluntary exploration, the reader earns a small glimpse into the mind of Koolhaas himself.

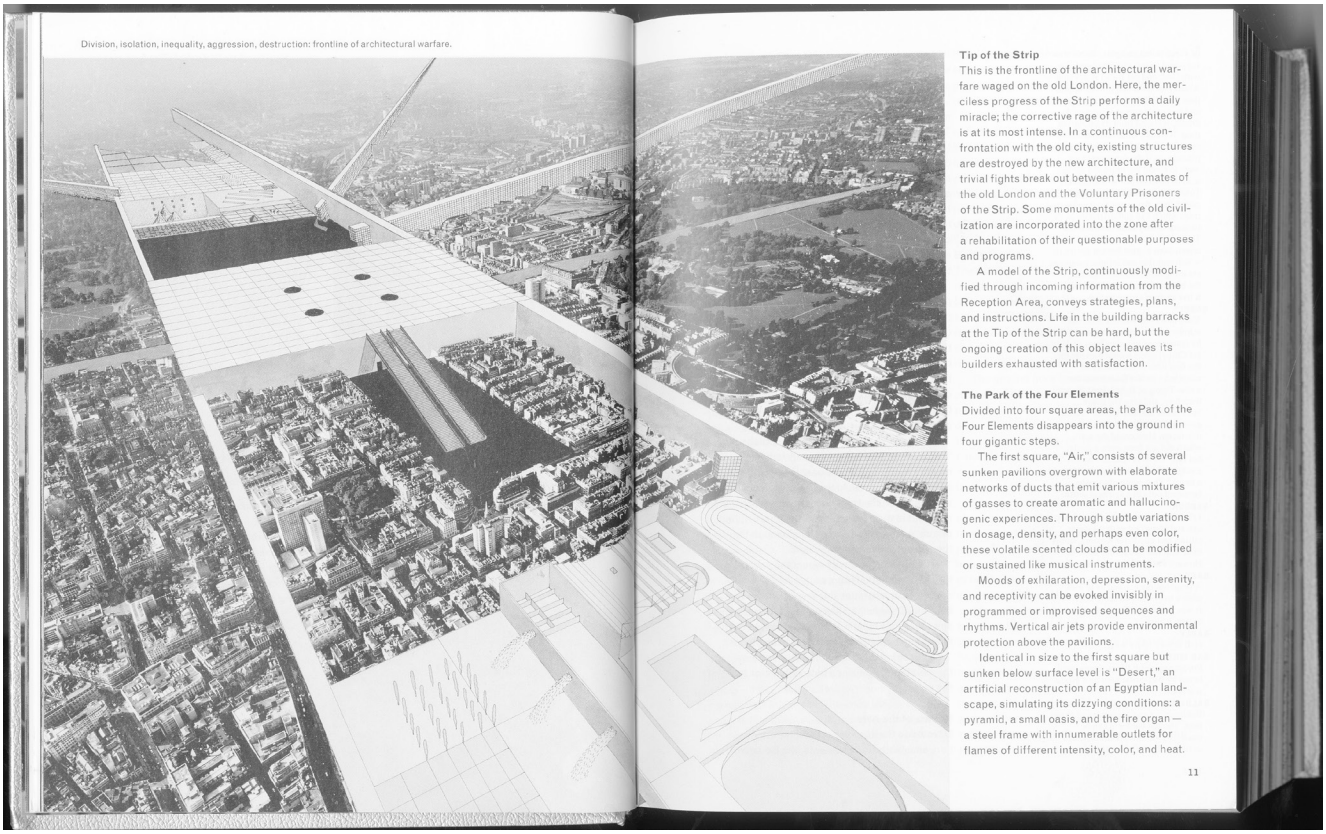


Fig 6.4: scanned pages from Koolhaas' S,M,L,XL

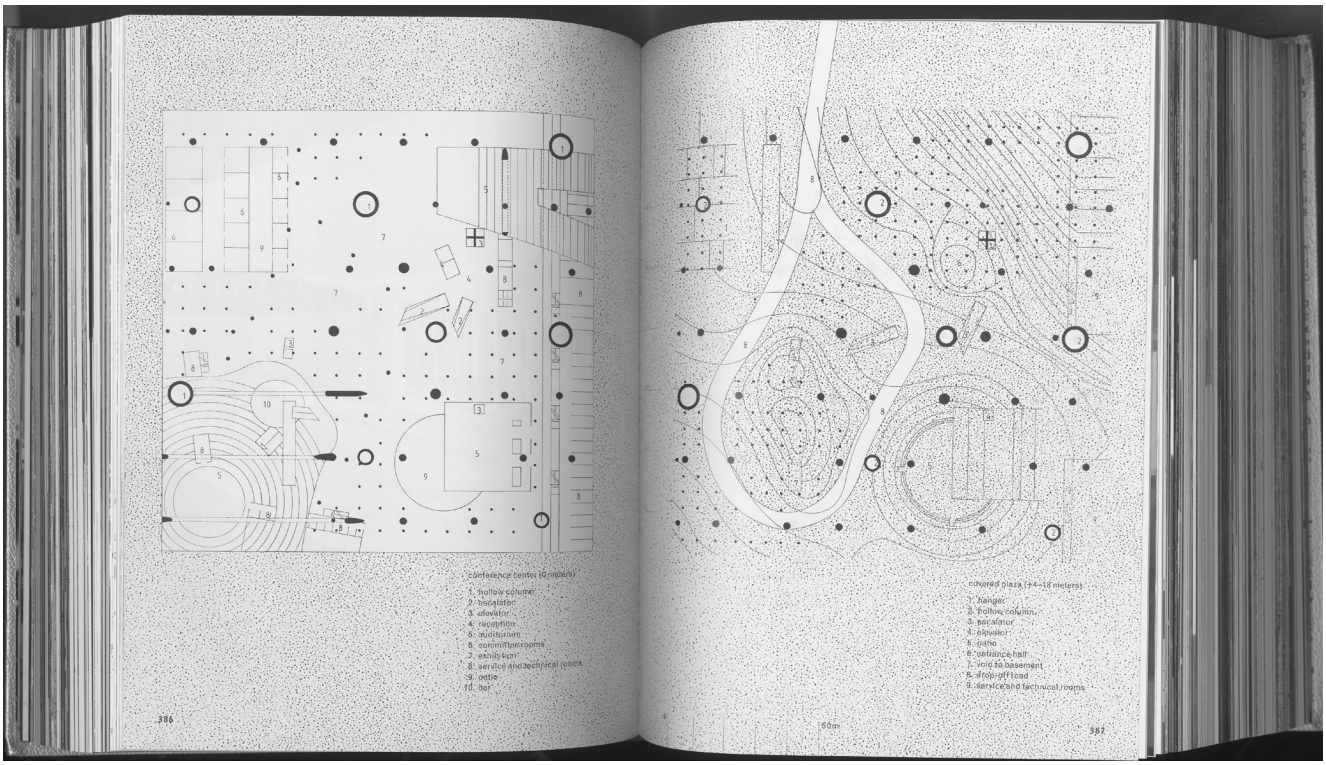


Fig 6.4: scanned pages from Koolhaas' S,M,L,XL

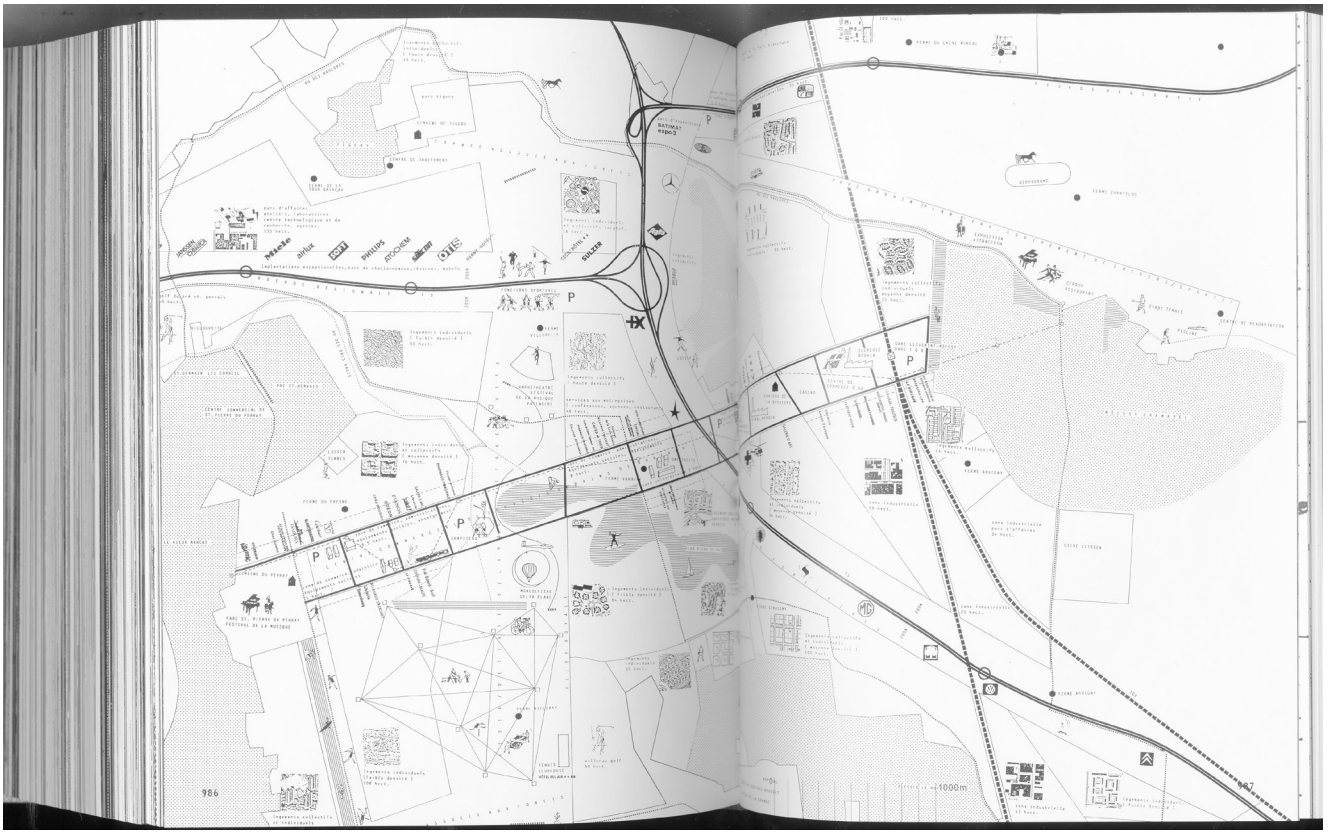
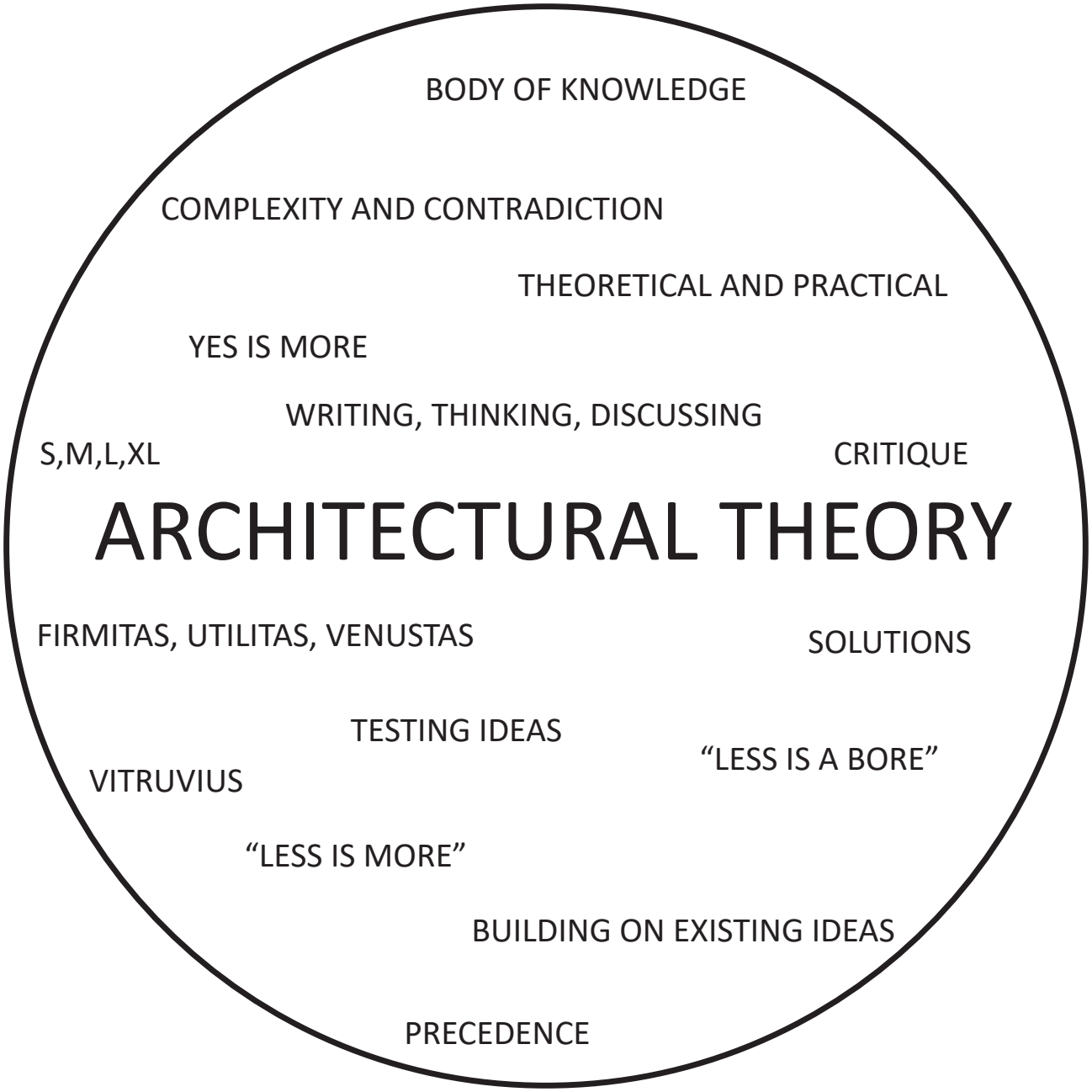


Fig 6.4: scanned pages from Koolhaas' S,M,L,XL

Through this research into how architects theorize, I've learned a great deal in terms of what my museum design may become. From the beginning, I had planned to design a unique kind of building that utilizes the building structure and spatial organization as parts of the exhibit. While this is still a core component of what I hope to achieve, I have opened my mind up to the idea of including more traditional galleries that may include simple displays of drawings, models, or computer simulations to demonstrate some of the products of architectural theory.

COLLAGE EXPERIMENTS

The following images are a series of experiements I conducted in Photoshop to visualize what a collage of 20th century architecture may look like. The idea of the collage is something that I have been thinking about for some time now and is but one possible avenue I may explore in my final design. While I expect any final design to be far less literal than these images, they provided a great avenue for this idea to begin to take shape.


BODY OF KNOWLEDGE
COMPLEXITY AND CONTRADICTION
THEORETICAL AND PRACTICAL
YES IS MORE
WRITING, THINKING, DISCUSSING
S,M,L,XL
CRITIQUE
ARCHITECTURAL THEORY
FIRMITAS, UTILITAS, VENUSTAS
SOLUTIONS
TESTING IDEAS
“LESS IS A BORE”
VITRUVIUS
“LESS IS MORE”
BUILDING ON EXISTING IDEAS
PRECEDENCE

MUSEUM DESIGN

The museum is a relatively recent idea that came about during the 19th century as a way to house culturally significant objects. In the book New Museum Theory and Practice: An Introduction, Michaela Giebelhausen writes, “Even if not always Arcadian, typical museum buildings such as the Glyptothek and the Pinakothek, which was to become the blueprint for the nineteenth-century picture gallery, retained strong symbolic links with the collections.” With this sentence, Giebelhausen presents the idea that the early museums tried to emulate the era of history that their contents belonged to. Giebelhausen goes on to describe the Glyptothek, a museum of sculpture in Munich, as a neo-classical building to mirror the pieces of classical sculpture inside. The building featured four wings of equal size and a pedimented portico with eight ionic columns as the main entrance. The goal of this design was to create an air of authenticity around the objects inside. If the setting of the gallery looked like a classical building, then the classical sculptures would seem more authentic and less out of place.

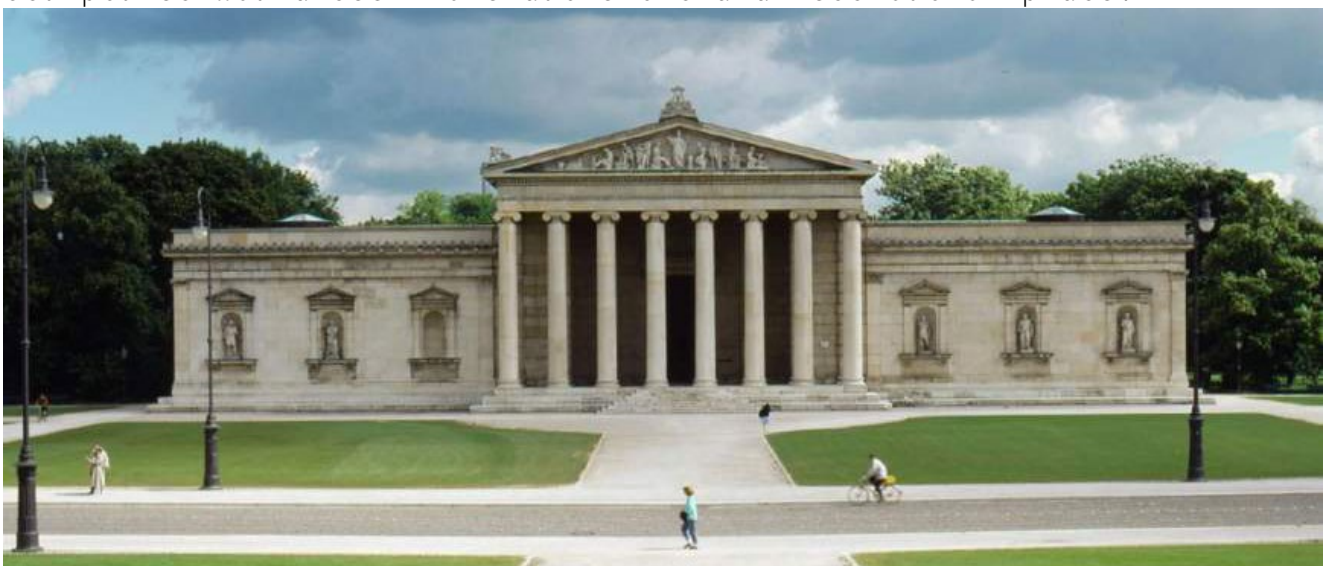


Fig 7.1: glyptothek in Munich, Germany

Giebelhausen continues the narrative of museum design by analyzing the Museum of Modern Art in New York. She writes, “Conceptually, MoMA was a museum in flux. Unlike its nineteenth-century predecessors, it had no desire to write permanent histories.” MoMA was the first museum to focus only on exhibiting the current art landscape and not the historical. The galleries would be cycled out and replaced with new pieces as the art world evolved. She ten continues to say, “MoMA invented a new display aesthetic, which Brian O’Doherty has called the white cube: spaces that aimed to focus attention on the individual work of art.” MoMA’s galleries were designed to isolate the art from any historical or social context. The intent was for the art to speak for itself and for the viewer to make their own conclusions, removed from historical or social context. Giebelhausen concludes this analysis by writing, “Previous types of display aimed to construct a contextual, educational, or illustrative connection between the objects and the overall gallery space. They presented the history of art as part of a larger celebratory history of national

achievement. In contrast, MoMA's galleries suggested the art work's independence from the outside world." Though the design of MoMA didn't necessarily mirror the style of the objects it contained in the same way that the Glyptothek did, it represented a core tenant of modern art, the separation from historical and social context. The conclusion of this analysis is that the museum should have some sort of connection, either visually, physically, or philosophically, to the objects it contains.

Fig 7.2: interior of the Museum of Modern Art

In her analysis of recent developments in museum design, Giebelhausen references The Groninger Museum by writing, "The Groninger Museum acknowledged that the contemporary museum could no longer be conceived as a unified and unifying representation of culture. The museum had to accommodate diverse collections (fine art, decorative arts, and local history), provide spaces for temporary exhibitions, and meet the needs of different audiences… The Groninger Museum celebrates the contradictions inherent in the building type in a very immediate and flamboyant fashion." The Groninger Museum was designed by a diverse team of architects with unique styles as a series of connected, yet distinct pavilions. This approach to museum design digs into the idea of a museum as a collection of diverse objects that relate to one another, yet retain their own distinct characteristics. Many museums house a wide variety of collections, yet not many museums highlight the differences between these collections through their design.

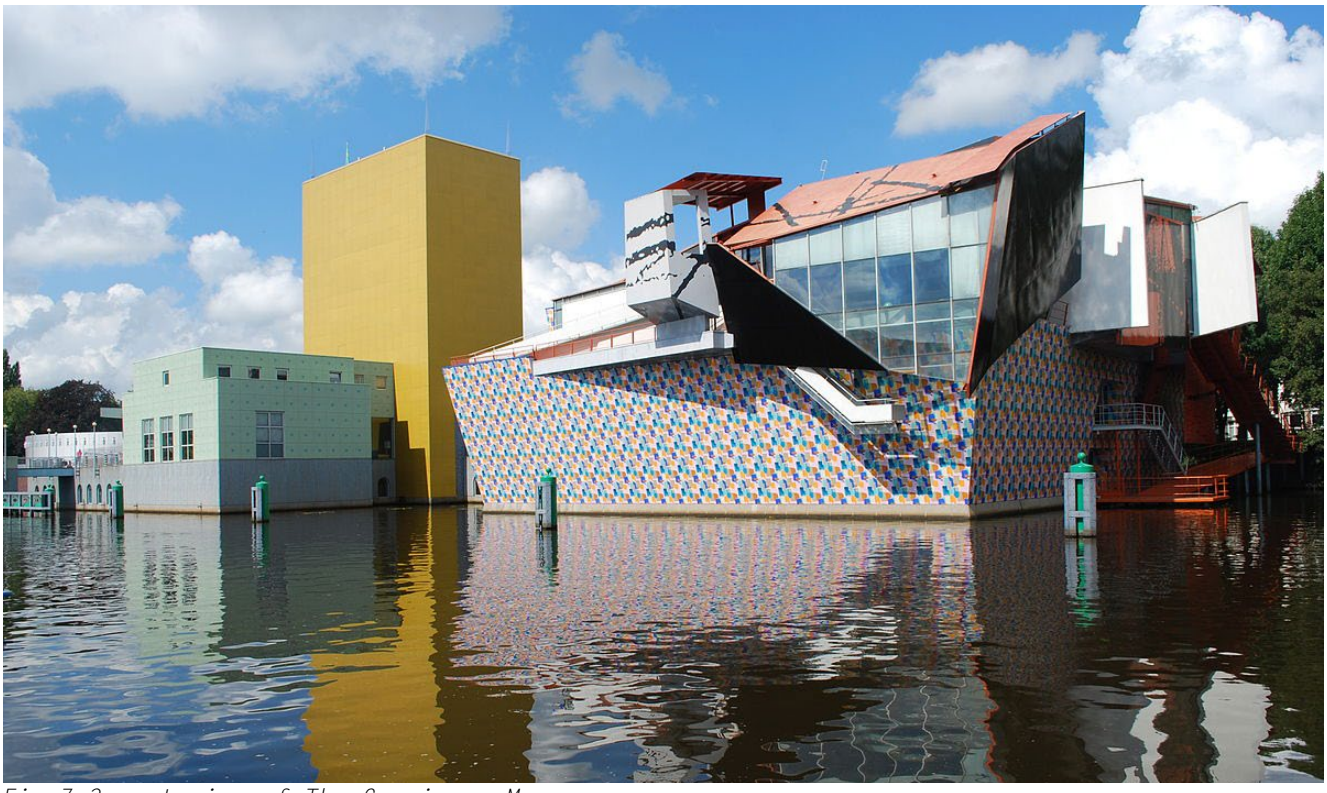


Fig 7.3: exterior of The Groninger Museum

Fig 7.3: exterior of The Groninger Museum

MUSEUM DESIGN

Continuing with this examination of more contemporary museums, Giebelhausen writes, “Frank Gehry’s exuberant architecture has invigorated museum design. In particular, the Bilbao Guggenheim, which opened in 1997 functions as an urban landmark and a global indicator.” This calls upon the idea that the architecture of the museum can act as more of an icon than the objects it houses. Indeed, Gehry’s Guggenheim has drawn much attention to the little city of Bilbao, serving as an icon for the city and invigorating its cultural significance. While Gehry’s designs draw attention and controversy wherever they appear, Daniel Libeskind takes a different, yet equally impactful approach to his museum designs. Giebelhausen writes, “Daniel Libeskind’s designs aim to give expressive form to the specific nature of the museum. This is evident in Berlin’s Jewish Museum (2001) and the more recent Imperial War Museum of the North… In both, Libeskind provided a symbolic and emotive expression of the museum’s specific historical contents and display narratives.” Libeskind has seen great success in creating museums as experiences. In a Libeskind museum, visitors do more than observe objects, they experience the historical and cultural significance behind these objects.

Fig 7.4: The Jewish Museum in Berlin

MUSEUM DESIGN

In reading Giebelhausen's chapter in New Museum Theory and Practice: And Introduction, I have come to realize that, even if not obvious, the museum's architecture must have a connection to the objects it houses. This connection may be visual, such as a neo-classical building housing classical art, physical, such as a series of distinct pavilions mirroring the diversity of collections in a museum, philosophical, such as the design of a modern art museum reflecting the values of modernism, or experiential, such as Libeskind's Jewish Museum representing the experience of Jews in Europe. But how does the museum affect our perception of the collections it contains? How does the museum frame its contents?

In the introduction to New Museum Theory and Practice: An Introduction, Janet Marstine writes, "Framing is a metaphorical process that creates a vision of the past and future based on contemporary needs." Marstine also writes, "Architectural features, lighting design, audio-tour headsets, the museum café, and the larger museum itself are all framing devices." The objects in a museum do not exist within a void, even when the architecture takes a minimal approach to framing its contents, such as the Museum of Modern Art, it still has an influence on how those contents are seen. In a museum of architectural theory, one might find themselves in a gallery dedicated to structural systems. Perhaps the gallery features drawings of structural layouts or scale models of structural grids. The visitor of this gallery would see the contents in the literal sense twice, as they would be looking at the drawing and models as well as the structure of the physical museum around them. This creates an interesting opportunity for the visitor to look at the drawings and models on display and immediately connect that information to their greater surroundings.

I have established that the museum frames its contents physically, through the architecture of the building. But Marstine's statement in New Museum Theory and Practice: An Introduction implies there is a less tangible method of framing as well with, "The larger museum itself is a framing device." This means that the administrative programming of the museum impacts the way its contents are perceived. But what about how the museum fits into it's physical surroundings, and what about how the idea of a museum is perceived by different people? Surely, everyone has a unique idea of what a museum is and what it means to them, and when they make the conscious decision to go to a museum they will have preconceived notions of what to expect. The objects in a museum do not happen in a void, nor does the museum itself. The way the museum looks and feels in comparison to the surrounding city will influence how it looks and feels on the inside, which will influence the way the objects on display look and feel.

What distinguishes a building as a museum? Certainly, a sign proclaiming the building as a museum would alleviate any confusion on the matter. But what if the museum had no sign and someone from out of town happened to walk past it? That someone would perhaps have no idea what the building was. In the book Privacy and Publicity: Modern Architecture as Mass Media, Beatriz Colomina writes, "Is 8-10 square du docteur Blanche private or public? A

house or an exhibit, an archive or a library, an art gallery or a museum? The dilemma was already present in the original program, since La Roche had an art collection to display in the house." This is in reference to a private residence that Le Corbusier designed in Paris. The residence would surely be well known as a design of Le Corbusier, and the art collection inside may act as a private gallery of sorts. But what separates this residence from a museum? People would come to the house to view the architecture and the artwork, they would even sign in in a book by the door. Yet the owner of the house lived, slept, and ate there. It is clear that museums and galleries of all sorts walk a fine line between what is private and what is public.

Fig 7.5: 8-10 square du docteur Blanche

MUSEUM DESIGN

Going further into the role of the museum in society, the question “does a museum contain an object because it is art? Or is the object art because it is in a museum?” In the television series Shock of the New, hosted by Robert Hughes, the world of modern art is explored. In the final episode of this series, Hughes includes a segment about a piece by minimalist sculptor, Carl Andre. The sculpture in question is called “pile of bricks” and is an array of 120 bricks arranged in a perfect rectangle. Hughes brings up the point that if these bricks were laying somewhere on the street, they would be merely a pile of bricks. But since this particular pile of bricks sits in the Tate Museum, does that automatically make it art? Whether or not the piece can be called art, the question about the museum’s role in society remains. Are museums arbiters of culture? Do they define what is and isn’t art, what is and isn’t history? In a museum of architectural theory, would the objects on display automatically become relevant to architectural theory? This thought brings us back to the basics of architectural theory with the idea that theory is necessary to test ideas before they are fully realized. In this sense, museum exhibits must be tested against real knowledge. Each visitor to a museum will ultimately draw their own conclusions about what the contents mean to them, they are testing the contents of the museum against the knowledge they already possess.

Fig 7.5: Pile of Bricks

MUSEUM DESIGN

Finally, we must explore the future of the museum and how to get to that future. In Privacy and Publicity: Modern Architecture as Mass Media, Beatriz Colomina writes, “What makes a museum obsolete as a nineteenth-century accumulative institution is the mass media. Thus, when Le Corbusier says that the true museum should contain everything, he is talking about an imaginary museum, a museum that comes into being with the new means of communication, something close to what Malraux would later call the “museum without walls.”” Le Corbusier’s museum that contains everything has come in the form of the internet. Truly a “museum without walls”, the internet displays everything anyone could hope to find in a way that almost anyone can access. In this internet age, where anything that someone might find in a museum can be found online, what purpose does a museum serve?

The research arm of Gensler attempted to answer the question of the changing role of the museum with an article titled What is the Future of the Museum? Perspectives on the Evolution of the Museum from the People Leading the Charge. In this article, Gensler explains that they held roundtable discussions with influential museum leaders in Chicago, Houston, New York, Los Angeles, London, and San Jose. The discussions revolved around innovations in audience engagement and operational models and how these innovations were influencing the role of the museum in the community. Gensler compiled the responses and drew a series of results on how museums are changing. The general results of the study state that museums will become more interactive and self-directed, that the digital age will allow for greater individual control over the museum experience. The results also state that museums will become even more community focused by including more community outreach programs and greater collaboration with other community-based institutions. Finally, the results state that museum design will become more public, welcoming, and flexible. However, what’s really interesting about the results of this study is the idea of a balance between digital and physical experiences, welcoming and iconic architecture, quiet and active spaces, etc. The article states, “Architecture must play a balancing act. Digitized collections and self-directed experiences are on the rise, but museum leaders worry that over-emphasis on technology is displacing human interaction. The importance of welcoming, contemplative spaces must be balanced with the pull of iconic architecture and activity focused programming.” Museums will have to become more interactive spaces for learning about and experiencing culture, but they must be wary of abandoning their traditional role as quiet, contemplative spaces.

PROJECT JUSTIFICATION

I have always had a great interest in museums as well as history in general. I believe that museums are physical manifestations of knowledge and culture that give us a us a more tangible and interactive relationship with this knowledge and culture that cannot be found through books. As a kid, museums were magical places to me where history, science, and art came alive right before my eyes (It should come as no surprise that one of my favorite movies was Night at the Museum). With this project, I have been able to delve deeper into what allows this magic to happen and how I can play a role in its future. This project is also an important step in my academic development as a test of all the knowledge I've gained through my time in school. Synthesizing extensive research into a cohesive and comprehensive design will be the culmination of my academic career. For my professional development, I expect this project to become the most important part of my professional portfolio. This is an important project for the profession of architecture because, as I have found in my research, the role of the museum in society is changing which means the way we design museums will begin to change as well. This project will serve as an example of just one possible avenue of change for the museum.

Economically, this project may be expensive up front, but will likely pay for itself and more through increased community interest in architecture and increased tourism to the city. Museums provide an invaluable amenity to the city by being spaces of learning and creation. Since there are no other architecture related museums in the Twin Cities area, this project will inject a new type of knowledge into the community. As far as funding the project, I would expect most of the cost to be covered by donations from individual philanthropists as well as from the community as a whole. To cover the operation costs, the museum would take voluntary donations as well as host events or programs to generate funds. The return on investment for this museum would be invaluable. If just one person visits this museum and becomes inspired to pursue a career in design, then that one person will have the opportunity to positively impact so many other people. The effect that this will have on the community will be more than enough to justify this project.

Environmentally, I aim for this project to achieve LEED platinum status. I believe that sustainability should be a basic requirement for any building to be justified. Through an extensive site analysis, I will identify a set of opportunities and constraints that will shape the form and detailing of my project in order to be as efficient and environmentally conscious as possible. The fact that this building is being designed for an already developed plot of land in an urban area adds to the sustainability of the project. Being in the core of a city will mean that people can easily walk or take mass transit to the site instead of driving which will cut down on pollution. Building on already developed land will mean that the project isn't harming any untouched land elsewhere.

CONTEXT

HISTORICAL

The historical context of this project rests upon the shoulders of architectural theorists and architectural theory as a whole. What does it mean to theorize about architecture and how has this meaning changed through time? What will happen to architectural theory as we progress into the 21st century? It can be said that all great advances in architecture have been somehow tied to advances in technology and industry. With the rapid development of digital technology, what will architecture's role be in the coming years? With this project, I aim to create a physical and interactive documentation or what architectural theory is and what it means in a changing world. If the public can come to observe the history of architecture and architectural theory and how it integrates with the history of humanity as a whole, then we can come to a better understanding of where we are going.

More important than the context of architectural theory is the context of the museum as an institution. For this project, architectural theory is simply a vehicle through which I can explore the changing role of the museum in the digital age. Museums of the past were places where people could gather to look at history face-to-face. The museum came out of the Victorian era of historical discovery, a time when western society was uncovering long forgotten pieces of our history. It wasn't until the 20th century when museums began to document culture and history as it happened. The Museum of Modern Art ushered in a new era of museums. With MoMA, museums began to display pieces of contemporary culture as well as historical pieces. This approach to the museum was almost like a mirror being held up to society, a way to look at what we were doing as we were doing it. With this new approach to museum subject matter cam a new approach to museum design. Where many museums that housed historical works of art took on a neo-classical design style, museums like MoMA took a more contemporary approach to design, focusing on neutral spaces where the artwork could speak for itself. As the 20th century progressed, so too has museum design. In recent years we have seen museums such as Frank Gehry's Guggenheim where the building itself is more iconic than the artwork inside.

Now that we have entered a period of time where people no longer need museums to obtain information and experience culture and history, what will be the role of the museum going forward? What does the museum have to offer that the internet does not? Again, we can look to the historical context of the museum to begin to answer these questions. What did museums of the past have to offer that books, radio, and television couldn't? The argument can be made that the interactivity and authenticity of the museum are what keep the institution alive. People have a real desire to see "the real thing", seeing Picasso's Guernica on the internet is one thing, but can the piece really be experienced in any way but in person? The same can be said for a Pollock or one of Michelangelo's renaissance sculptures. This idea of experience is also what drives people to go to museums. The physical space of the museum frames the contents of that museum in a way that the internet cannot. Seeing The Mona Lisa online is a vastly different experience from seeing her on the wall of the Louvre, surrounded by throngs of people. As society moves

into the digital age, this experience may become the core element of successful museums. Perhaps museums may shift from being institutions that collect objects to institutions that collect experiences.

CULTURAL

The cultural context of this project revolves around how culture is seen through an architectural lens as well as the idea of the museum as a collection of culture. First, an examination of architecture's connection to culture is in order. Architecture is a unique facet of culture because it is largely unavoidable. Even if one were to completely separate themselves from human society, they would still require shelter to live, and that counts as architecture. Architecture is also unique in the sense that it reflects the time in which it was built, but it also usually stands long enough to serve as a glimpse into the past, much like the rings of a tree. Take the Eiffel Tower for example, this structure was meant to stand as a display of the industrial revolution and what it could accomplish and would later become a cultural symbol of Paris. On a smaller scale, think about a mill building in a Midwest town in America. These structures are hallmarks of an industry that formed the backbone of many midwestern towns and stand today as artifacts of that industry. Some of these mills have even been transformed into offices or apartments, blending the new with the old while continuing to play an important role in a city's culture. One may go as far as to say that cities are the true museums of architecture with a healthy blend of historic and contemporary buildings, vernacular and iconic buildings, ugly and beautiful buildings. It was Winston Churchill who said, "We shape our buildings; thereafter they shape us." Indeed, our buildings shape us as mush as we shape them, and these building stand as testaments to the evolution of how we have shaped ourselves.

The museum serves many cultural purposes. It can act as a sort of treasure chest of cultural significance, displaying objects that have impacted culture throughout history. The museum can also serve as a mirror to culture, showing culturally significant objects not of the past but of the present. No matter how the museum is designed, it becomes an essential part of human culture. The museum presents a physical space where culture can be measured against itself. In an art museum, one can look at two equally iconic pieces of art and compare their roles and messages, one can critique the pieces against each other. In a museum of architectural theory, one may be able to compare architectural ideas and weigh their cultural significance. This critique is essential to architectural theory, only through examination can an idea or theory grow and progress. Museums are also places of inspiration, they are a place for people to go to take in new knowledge and apply it to their own endeavors. A budding artist might visit a gallery of Van Gogh's work and be so moved that they try to emulate Van Gogh in their own work. Similarly, it is my hope that with this museum of architectural theory, people may leave the space with a new appreciation of architecture and maybe even an inspiration to pursue it as a career.

CONTEXT

SOCIAL

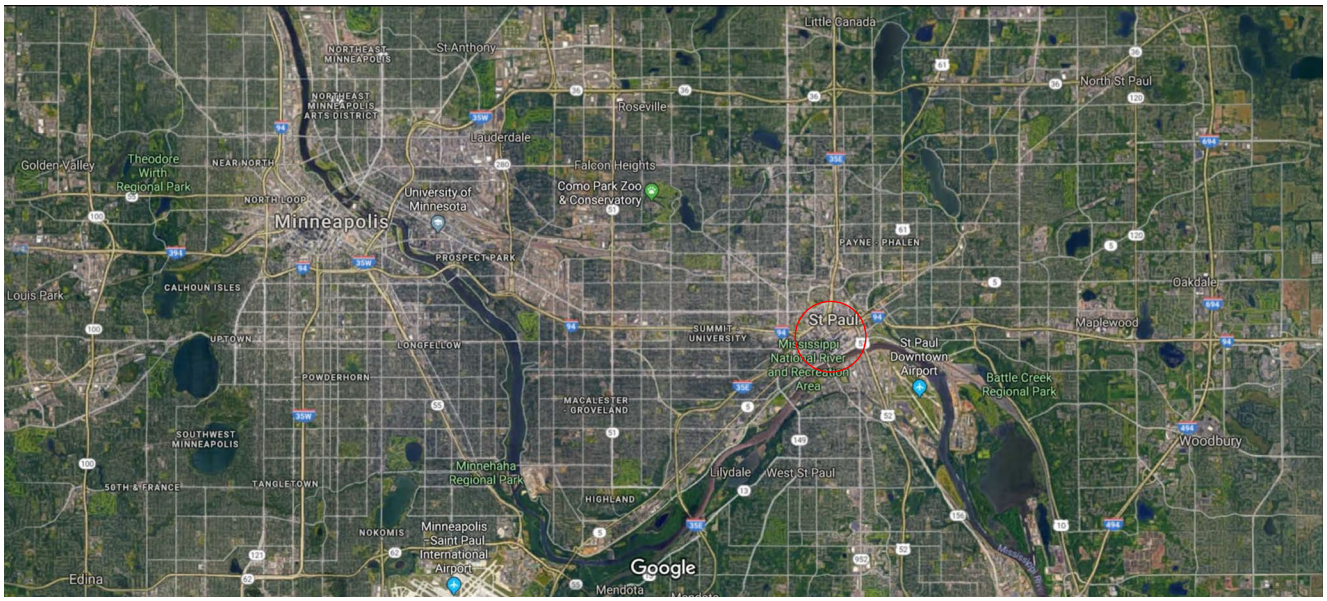
The social context of this project revolves around the roles of architecture and the museum in society and how those roles may change. Architecture at its most basic form is simply a way for human to shelter themselves from the elements. We build buildings simply because we need a place to stay dry when it's raining or warm when it's cold out. But then why do we put so much effort into making our buildings beautiful? This is where architectural theory comes into play. It's no mystery that beautiful architecture has a positive impact on people's lives, people enjoy looking at beautiful things. But how do we make buildings beautiful? And how do we even know what is and isn't beautiful? And perhaps most importantly, how do we make it easy and affordable to make beautiful buildings? These are all questions that would make up a theory of architecture. Th modernists thought that simple, rectangular forms with no ornament and little color were beautiful because they were of the mind that the opulence of art nouveau was not beautiful. Modernists also knew that new technologies such as reinforced concrete could aid them in the formation of their ideals. In recent years, architects like Frank Gehry have come to believe that beauty lies in organic, curvy forms and they have used new technologies in computer aided design to achieve these forms. Buildings like Gehry's Guggenheim or Mies' Villa Savoye go beyond what is necessary for shelter and move into a realm of expression of what the architect believed true beauty was. This project aims to explore what architecture's true role in society is.

The role of the museum in society is the main focus of this project. Why do people go to museums? And why should the museum continue to exist when almost anything anyone could ever want to see can be found on the internet? I believe it is the experience of going to the museum that sets it apart from the internet or books or television. The architecture of the museum plays a very important role in this experience. They way a space is designed influences the way it makes people feel which influences how they feel about the exhibit they are looking at. The museum also provides a public place of learning and collaboration. Many contemporary museums include classrooms or creative spaces in their design to help promote community involvement. This has shifted the museum away from simply displaying objects to a role of promoting a community driven experience.

SITE INTRODUCTION

Minnesota:

Minnesota has a fairly average population size, with the Largest cities being Minneapolis, St. Paul, Rochester, Duluth, and St. Cloud. The state has a rich history of agriculture, mining, milling, freighting, and brewing. The state is located in the northern Midwest region of the United States which means the state has a continental climate characterized by extreme temperature differences between winter and summer. Typical meteorological events in Minnesota include rain, snow, blizzards, tornadoes, and high winds. Major geographical features include over 10,000 lakes, Lake Superior, the Mesabi iron range, The Red River valley, and the source of the Mississippi River.



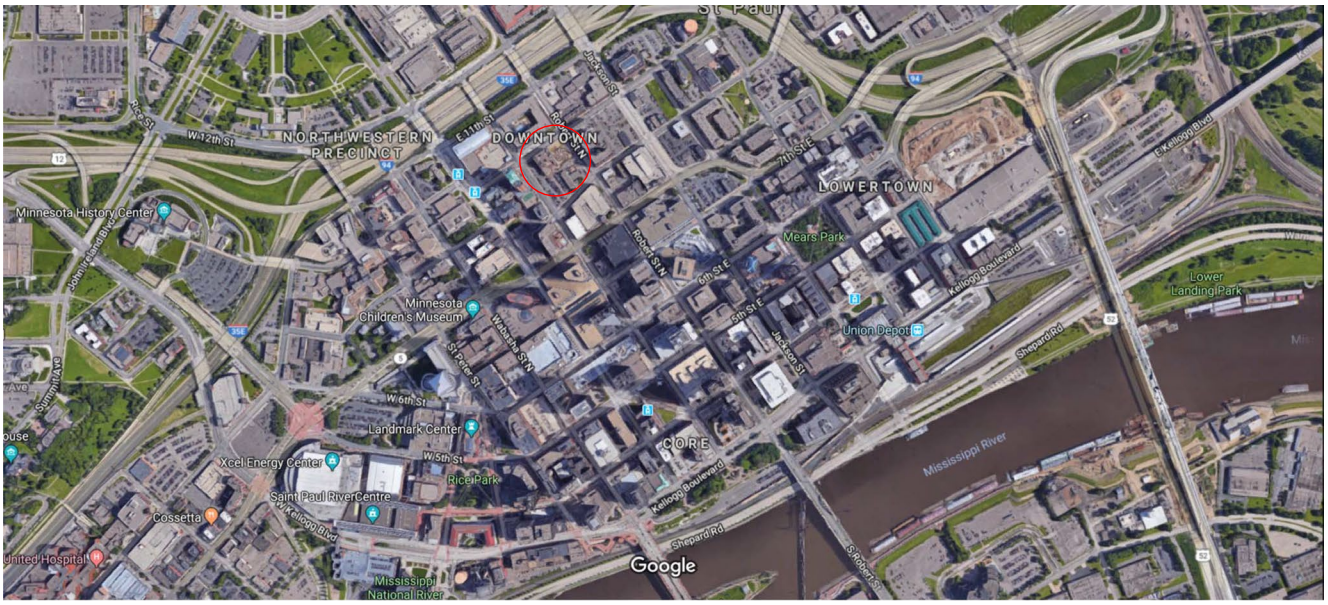
Twin Cities:

The twin cities metro area is the largest urban area in the state of Minnesota with a population of 3.28 million people. The metro area is made up of the cities of Minneapolis and St. Paul.

SITE ANALYSIS

SITE INTRODUCTION

St. Paul is the capital of the state of Minnesota while Minneapolis is the largest city in the state and the state's economical and cultural center. Growing from the banks of the Mississippi River, the milling industry formed the industrial and economic backbone of the twin cities. Major commercial organizations have come out of the twin cities as well, some of these organizations include: Target, 3M, Land O' Lakes, Best Buy, and Cargill. The twin cities also have a rich cultural history of music, art, theater, and festival. Uptown Minneapolis was an epicenter of the funk genre in the 70s with Prince at the forefront of that movement. More recently, the twin cities have been a hotbed of alternative, independent, pop, and hip-hop with groups like Atmosphere and Motion City Soundtrack enjoying world wide praise. Minneapolis and St. Paul are also home to a number of art museums and creative studios, most notable are the Walker Art Center and Minneapolis institute of art. The twin cities metro area is a very diverse and colorful place with a burgeoning creative community, an extensive network of public parks and greenways, and a rich history.



St. Paul is the capital of Minnesota and the second largest city in the state. While Minneapolis and St. Paul are known as the "twin cities", St. Paul has a certain character that is distinct from Minneapolis. Where Minneapolis has a vibrant night life, dozens of tall, glass high-rises, and eclectic art scene, St. Paul is more known for it's craft breweries, modest brownstones, and delicious food. Some of the main attractions of St. Paul include the Capitol building, the cathedral, the Landmark Center, Kellogg Park and the river bank, the Children's Museum, Summit Avenue, and the Xcel Energy Center. Downtown St. Paul is also very walkable and easy to get around.

SITE INTRODUCTION

100 10th St E:

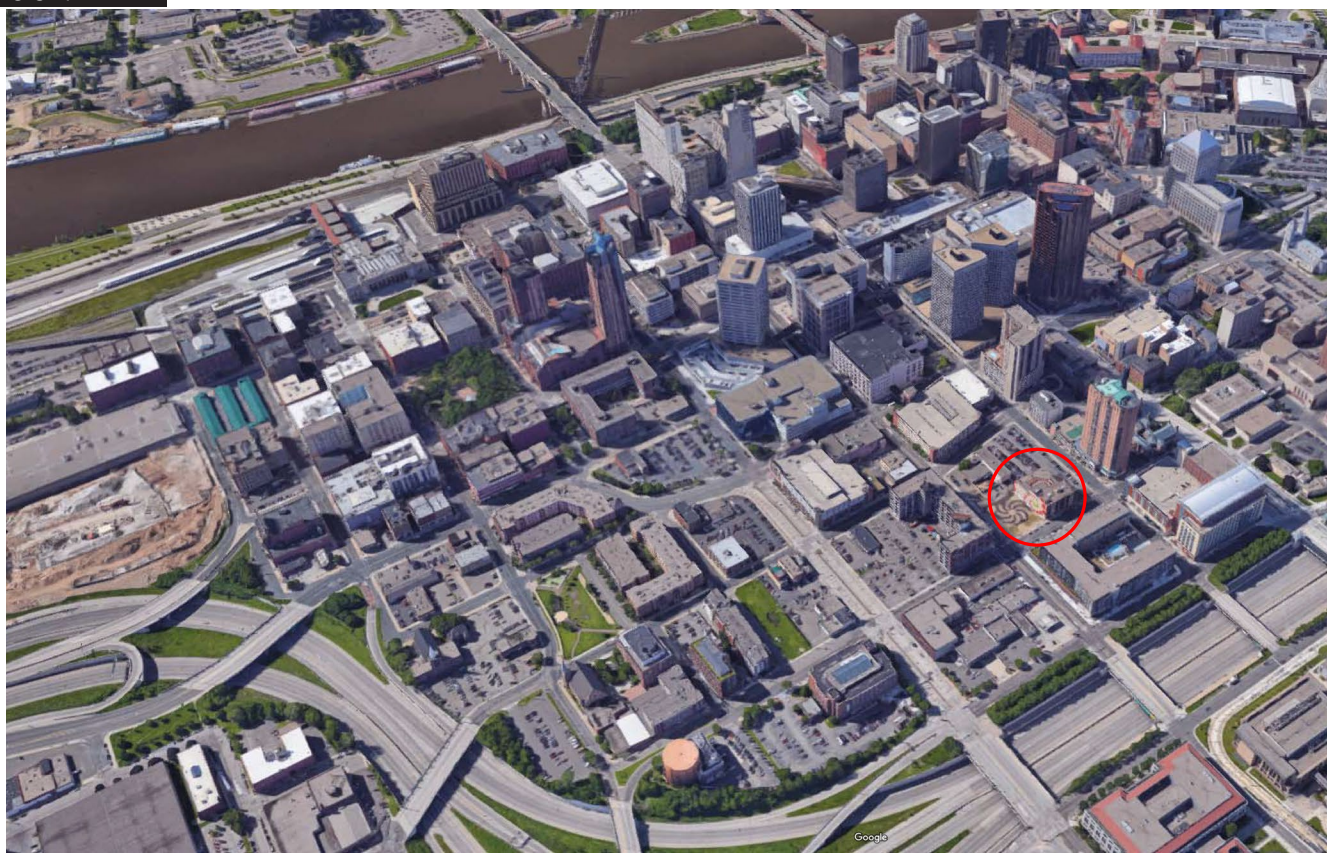
The site of this project is located at 100 10th St E on the northern edge of downtown St. Paul. Currently on the site is a building annexed by the St. Paul police department to house their public safety office. The structure was built in 1925 and is now largely unused, and the site is being slated for commercial development. Adjacent to the site is a public garden/park known as Pedro Park. The site is 17,859 square feet in area according to Ramsey County's official property map. The site is easily recognizable as one exits I-35E into downtown. Around the site is an apartment building known as The Penfield with a grocery store on the ground floor, a mixed-use building with various restaurants and bars in it, an office tower, and a parking garage. Within walking distance of the site is most of downtown St. Paul, including Kellogg Park and the Mississippi River.

SITE ANALYSIS

SITE CONTEXT

The site is marked by the red rectangle on the map. As one can see, most of downtown is easily accessible from the site. Some notable places within downtown St. Paul include The Landmark Center, The Wells Fargo Tower, The EcoLab Tower, The Children's Museum, The Farmer's Market, and the bank of the Mississippi River. These landmarks are mostly clustered within the southern portion of downtown, leaving few landmarks close to the site. My museum has the potential to become a landmark in the city and spark some development of the northern half of downtown.

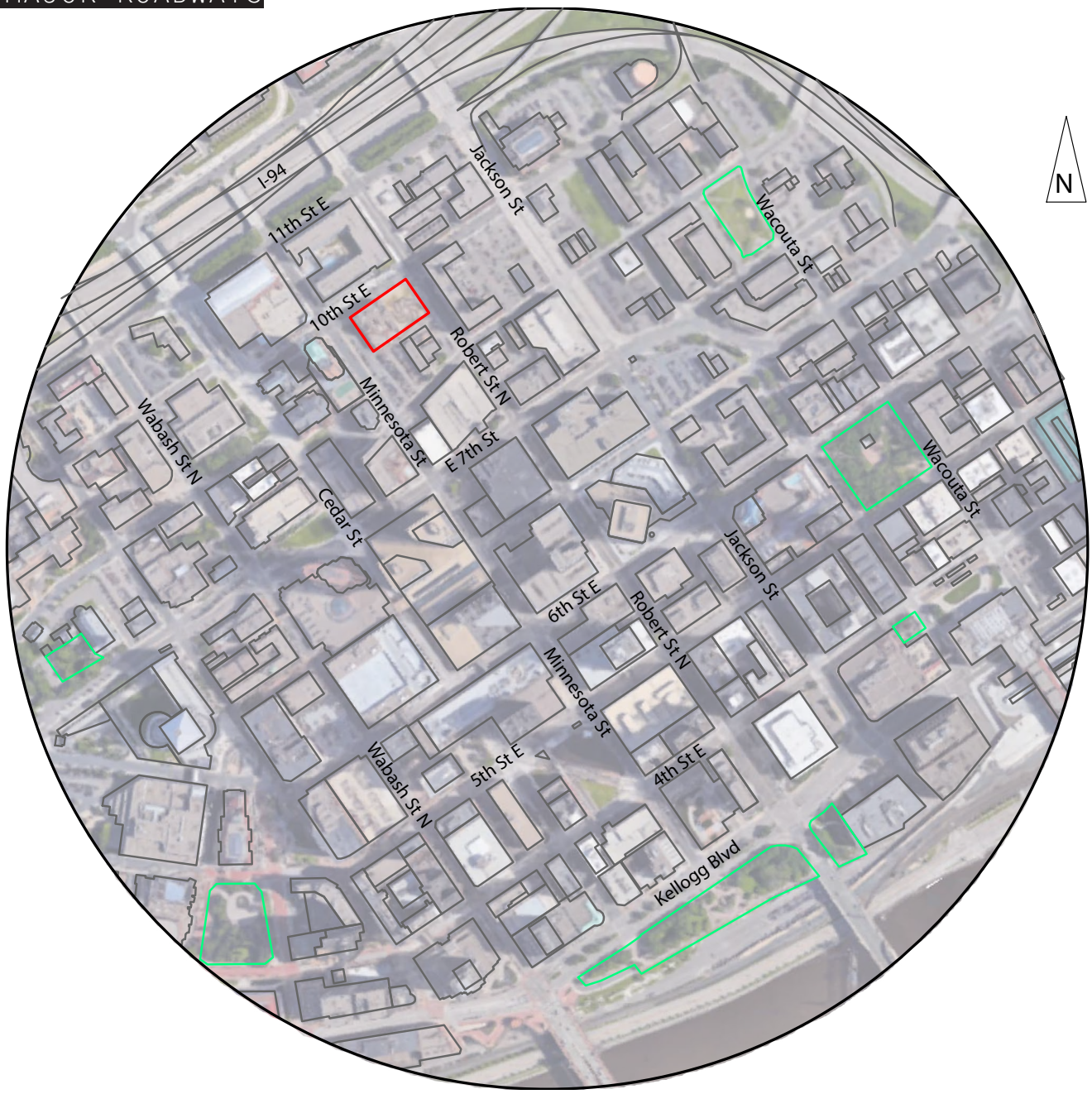
CONTEXT



This aerial view of downtown taken from Google Maps places the viewer on the northern corner of downtown looking south. The site is marked by a red circle. It's clear that the heights of buildings are fairly modest around the site while they get progressively taller as one travels south. It is also easy to see that the materiality of downtown St. Paul is a bit more modest than that of Minneapolis. In St. Paul, many buildings are clad in brick or stone, even the high-rises. Human scale is also an important aspect of the city. Most of the large towers meet the street with a smaller entrance to prevent making the streets feel like canyons. In places where the density of the city increases, there is a usually a park to relieve some of the congestion.

SITE ANALYSIS

MAJOR ROADWAYS



The site is located at the corner of 10th Street E and Robert Street. As you exit I-35E into downtown, you enter on to 10th Street E, making it an essential artery of downtown. Robert Street is also and important street because it runs directly through the middle of downtown and across the river. The site's proximity to the interstate and two major arteries of downtown St. Paul makes it accessible from both the city and the surrounding suburbs.

VEGETATION

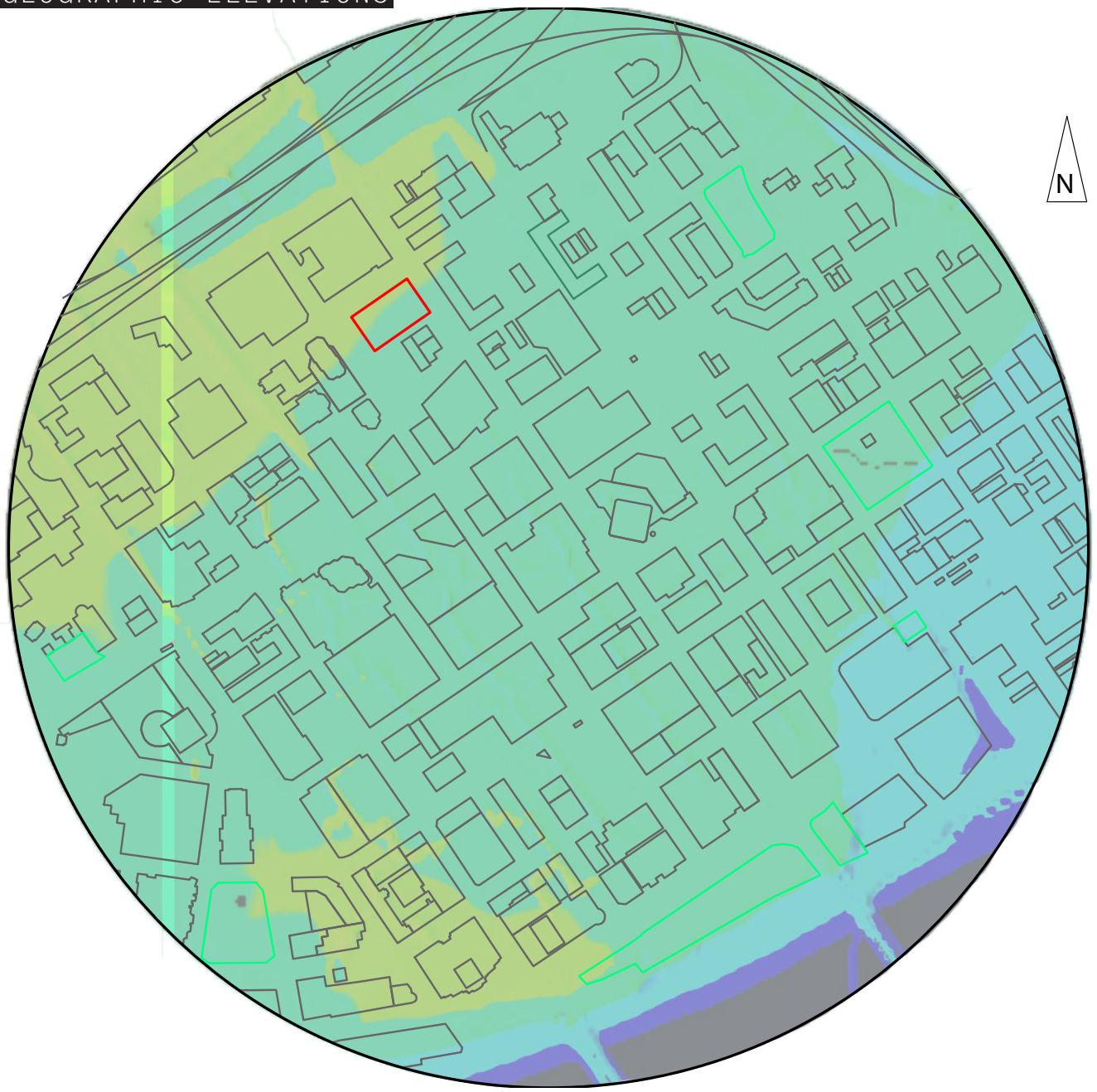
Vegetation seems to be very common on the western and eastern sides of the city. Many of the streets around Rice Park and the Landmark Center are full of trees and plants, the same can be said about the area around Mears Park. On the north side of the city, near the site, the vegetation is mainly used to block the noise coming from I-94. The area immediately around the site is fairly sparse in the vegetation department. Some of the only greenery around the site is the public garden in Pedro Park, and even that is limited to small planters. Since Pedro Park contains valuable greenery near the site, it is important that I maintain that level of greenery and preferably add more. One way to make this project very successful would be to add public green space to the area to draw people in.

SITE ANALYSIS

TRAFFIC

In this map, red lines denote heavy auto traffic while blue lines denote pedestrian traffic. Heavy traffic in the city occurs mainly on the major corridors leading in and out of the downtown area. Since downtown is organized in a grid, the traffic has a tendency to build up at rush hours. The site for my project is located at the intersection of two main corridors in downtown and thus has a lot of traffic flowing around the space. This traffic generates noise that may not be conducive to the experience I am trying to create with this museum. To mitigate negative effects of noise pollution, the use of trees and planters will be essential. Fortunately, Pedro Park occupies the corner of the block and that open space, when developed with vegetation and public gathering space, will act as a buffer against the busy traffic noise.

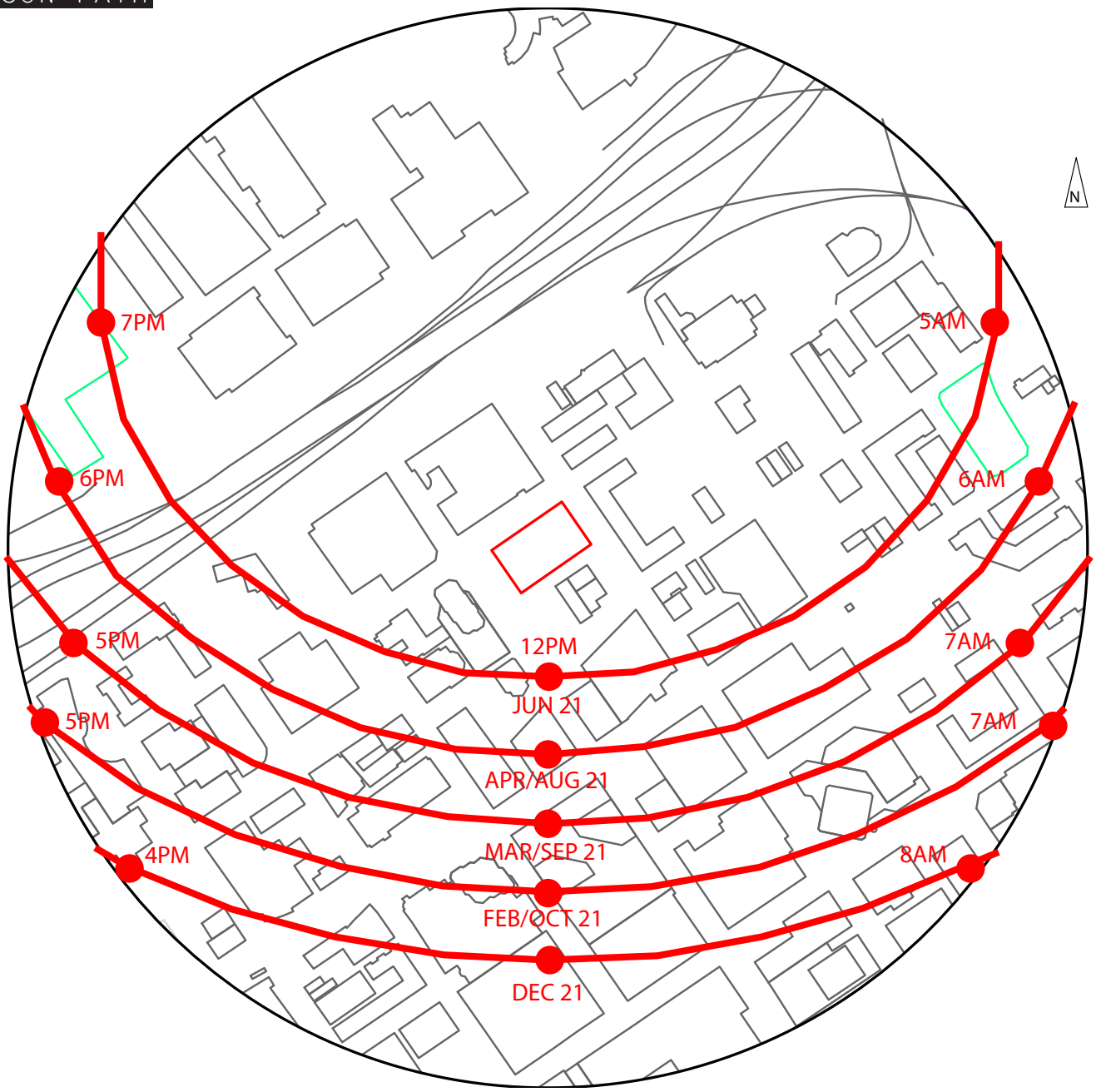
GEOGRAPHIC ELEVATIONS



In this map, the blue areas denote lower elevations while the green areas are higher. As one can see, much of downtown St. Paul is very flat, with slight slopes down towards the river and up towards the interstate. The site for my project is completely flat with a very slight change in elevation just to the north. However, Pedro Park does slope down away from the street a few feet. This change in level could create some interesting opportunities for public terraces or quiet open spaces in and around the building.

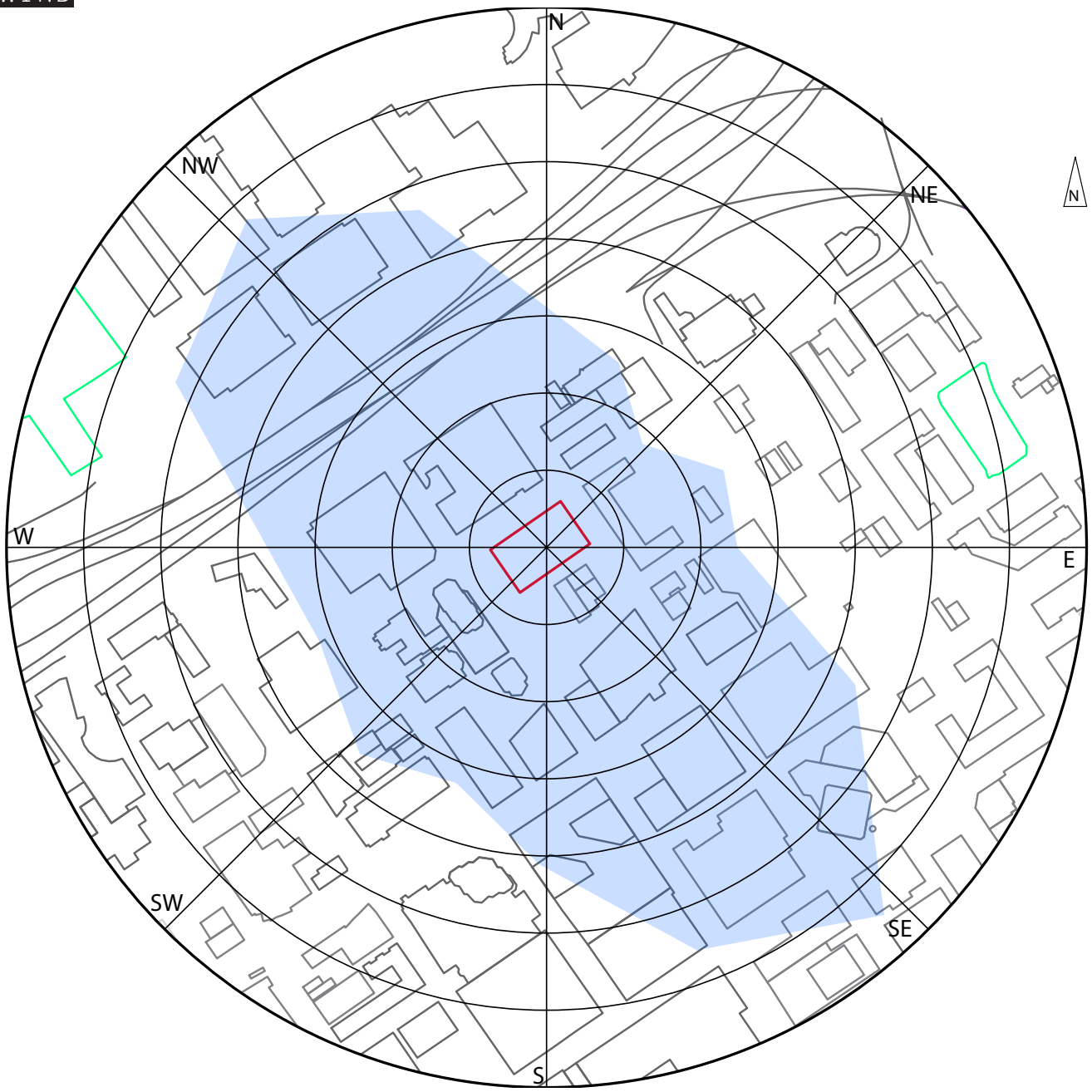
SITE ANALYSIS

SUN PATH



St. Paul sits on the 45th parallel, which means the sun is at an exact 45-degree angle relative to the ground of the spring and autumn equinoxes. This also means that the city enjoys relatively long days in the summer but some very short days in the winter, this only adds to the extreme temperature differences between seasons. Fortunately, since the sun is lower in the winter and higher in the summer, design choices can be made to shade interior spaces in the hot months and let warm sunlight in during the colder months. These design strategies may include artificial shading devices as well as natural sheading methods like trees that lose their leaves in winter. To the south of the site is a parking lot, which means that the site enjoys full access to the sun throughout the day, this will provide a great opportunity to naturally heat and light the interior of the museum.

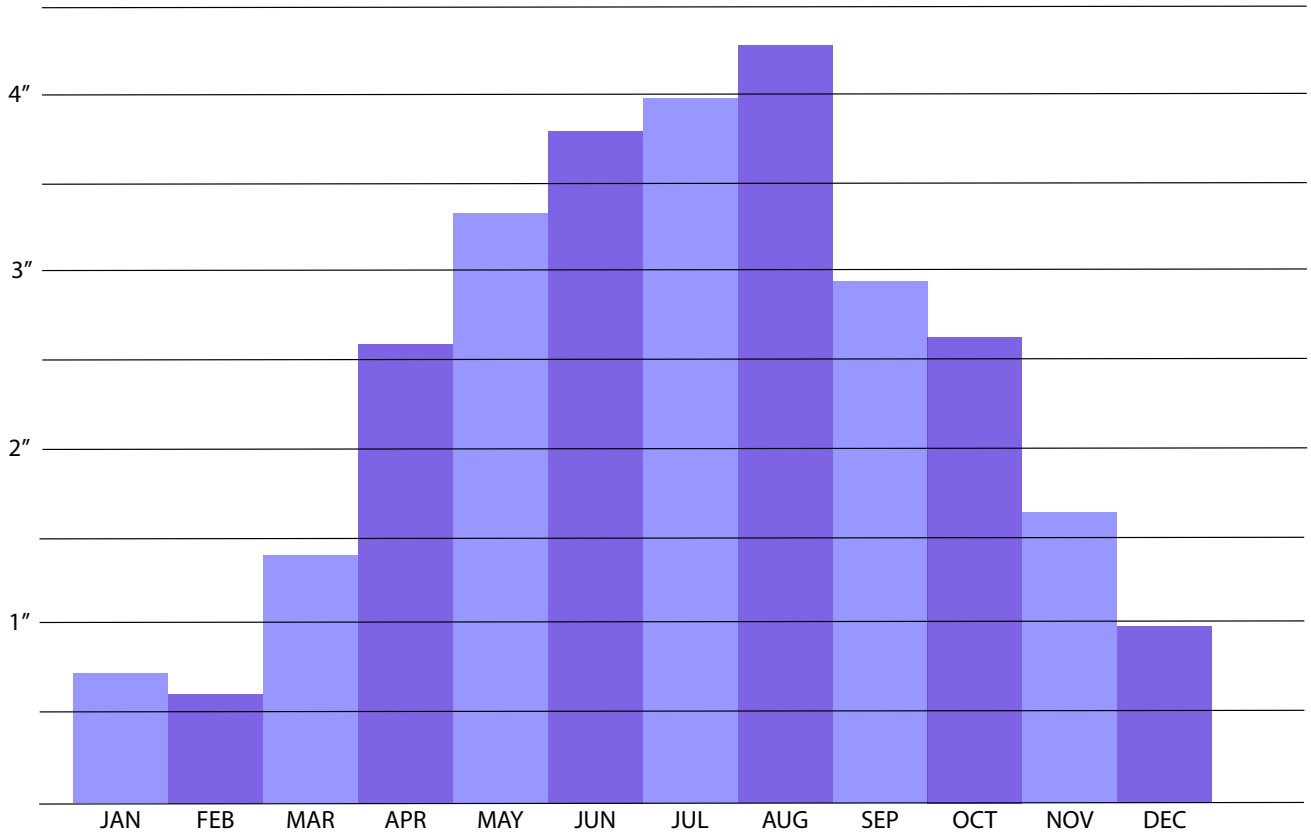
WIND



This map shows the average wind direction throughout the year based on data taken from MSP international airport. As one can see, the wind primarily blows to the northwest and southeast throughout the year. Opening the site to warm southeast winds in the summer will be very beneficial to any outdoor spaces as well as any design strategies that utilize natural ventilation. However, in the winter it will be crucial to shield the site from cold northwest winds. This can be done with strategically placed walls or vegetation that retains its leaves such as evergreens.

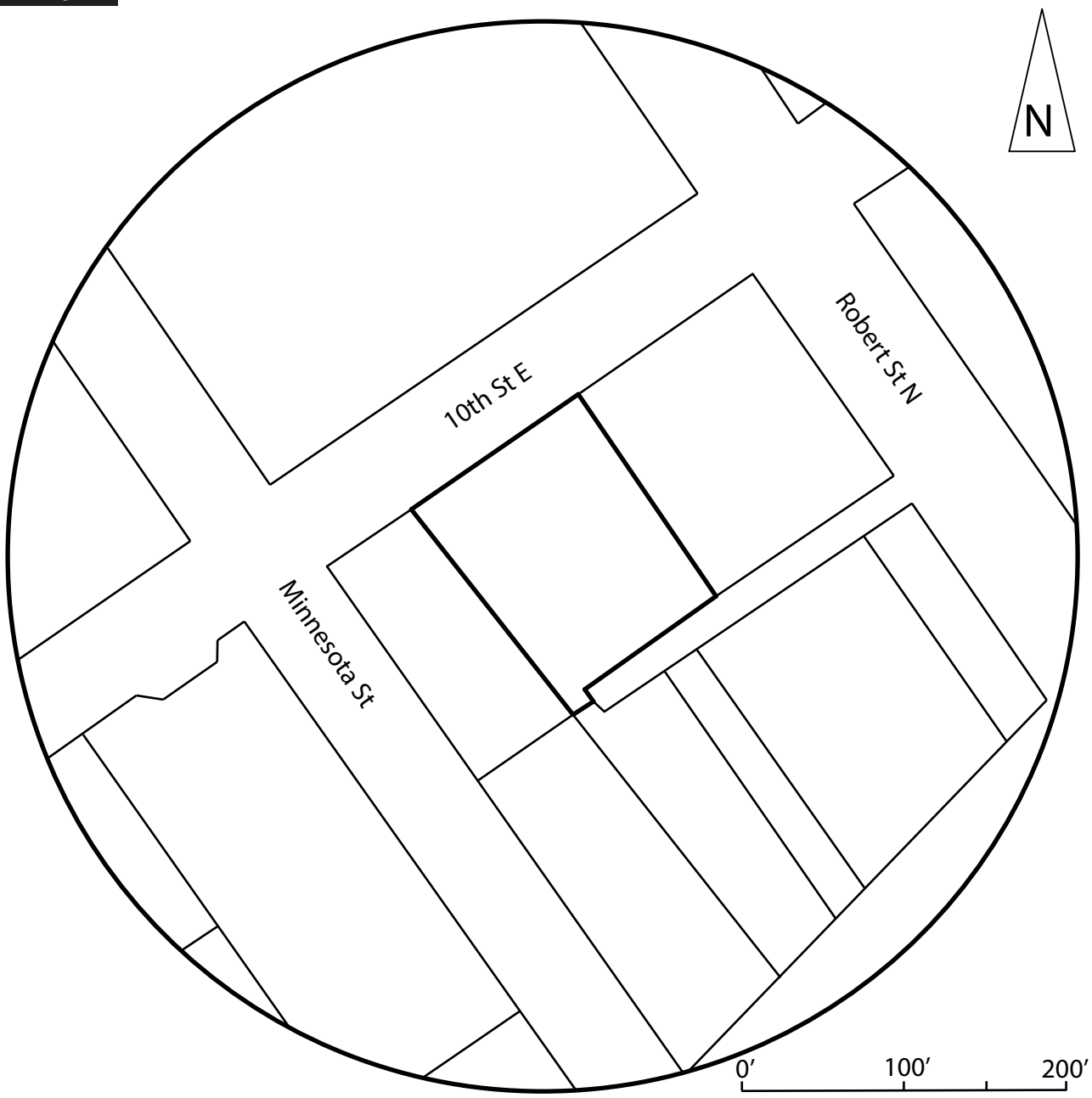
SITE ANALYSIS

PRECIPITATION



This graph shows precipitation throughout the year based on data taken from MSP international airport. As one can see, the summer months experience the most precipitation while the winter months see significantly less. Of course, in summer the precipitation comes in the form of rain while in winter it usually falls as snow. Knowing that the most rainfall will be seen in summer opens up possibilities for rainwater harvesting to occur during those months. This water can then be stored for later use. Designing a comprehensive rainwater harvesting system for the building will be a crucial step in achieving the rank of LEED platinum and providing a beacon of sustainability for the city. Runoff is an important consideration as well. Since Pedro Park slopes downwards, drainage will be a major concern within that space.

PARCEL



This is a map of the legal parcel boundaries of the site and surrounding sites. The parcel for my project is 17,859 square feet in area. The adjacent lot to the southwest is 10,890 square feet in area and currently being used as a parking lot. I plan on developing this lot as well but whether it will remain as a parking lot or be used as a public plaza remains to be seen. Pedro Park to the northeast is 19,602 square feet in area. I plan to redevelop the park but keep it as a public park. This mean that the total area to be developed in this project amounts to 48,351 square feet, with the main building development taking place within 17,859 square feet.

SITE ANALYSIS

ZONING REGULATIONS

-Zoning District: B4- central business.
-Museum use is permitted
-FAR: 8.0
-Maximum buildable area of the main lot: 17,859 square feet
-Maximum floor area: 142,872 square feet
-FAR bonuses
    -10 extra square feet of floor area for every square foot of setback (minimum 10 ft setback)
    -7 extra square feet of floor area for every square foot of arcade space
    -7 extra square feet of floor area for every square foot of plaza space
    -5 extra square feet of floor area for every square foot of setback from the side lot line
-No minimum setback
-No height or story limits

PERFORMANCE CRITERIA

1. Space Allocation

-Performance Measure: The space will be measured in terms of square footage and efficiency of circulation space to usable space. I will need to make sure that I followed the program I set for myself as closely as possible and that the building is as efficient as it can be.

-Performance Measure Source: These square footages can be obtained through BIM software such as Revit.

-Performance Analysis: Floor plan diagrams will be used to visually and mathematically compare the square footages of each individual space as well as how the broader categories of spaces such as Exhibit, Open Space, Offices, Mechanical, etc. compare to one another.

-Performance Judgement: I will make sure that the allocation of the spaces in my final design are in lice with the spaces I set in my program.

2. Energy Consumption

-Performance Measure: Energy consumption will be measured in the amount of energy it takes to run the building compared to the amount of energy saved through design elements such as PV panels, natural lighting and heating, etc. A good way to determine if the building is successful in this department would be to shoot for LEED platinum certification.

-Performance Measure Source: Approximations on energy usage can be made through the use of tables and formulas found in the textbook for my Environmental Control Systems classes. The standards that must be met to obtain LEED points can be found in a spreadsheet available for free on LEED's website.

-Performance Analysis: I will create a series of energy use diagrams to visually portray the energy efficiency of the building. These diagrams may include energy used in lighting, HVAC, and other electrical applications as well as energy saved through sustainable design practices.

-Performance Judgement: LEED platinum certification is the standard I will try to achieve through my design. After examining the building's performance and tallying the points I will consider the building successful in this department if it meets LEED platinum standards.

3. Environmental Performance (luminous, thermal, acoustical environments)

-Performance Measure: Environmental performance will be measured through the quality of light, temperature, and sound. This will translate to the color and glare of light, the rate at which spaces lose heat, and the echoes generated in a space.

-Performance Measure Source: Through extensions in Revit, I will be able to approximate the light, temperature, and heating quality of the building.

-Performance Analysis: Diagrams of the lighting, temperature, and sound quality will be made through an examination of the data collected through Revit.

PERFORMANCE CRITERIA

-Performance Judgement: Acceptable goals for light, temperature, and sound quality will be set through an examination of the Environmental Control Systems textbooks.

4. Behavioral Performance (usage patterns)

-Performance Measure: The usage patterns of the building are determined by the efficiency of the spaces as well as the environmental quality of the space. Identifying the major programmatic elements such as the lobby and galleries will allow me to focus on creating a better environmental quality for those spaces.

-Performance Measure Source: This performance criteria is more subjective than objective so the source of these measurements may have to come from the response of peers or a jury.

-Performance Analysis: The usage patterns can be analyzed by examining the relationship of major spaces to one another and to secondary spaces.

-Performance Judgement: Overall, the judgement of this criteria will be based of off the subjective responses of the jury to the quality of spaces in this project.

5. Psychological Impact

-Performance Measure: This is another subjective criteria that will be perceived differently by different people. However, there are certain standards in aesthetics that can determine the psychological impact of a space.

-Performance Measure Source: Through the visual representation of my project I will be able to compare the spaces to those of other successful museums to determine if my design has similar psychological impacts.

-Performance Analysis: The primary product of the project will be the visual representations of the design such as scale models and renderings. These visual representations can be examined to make an approximation of what the psychological impact of the spaces will be.

-Performance Judgement: If the psychological impact of the project is determined to be similar to those of other successful museums, such as the ones examined in my precedent studies, then I will consider it to be a successful project.

6. Environmental Impact

-Performance Measure: To ensure a minimum negative environmental impact, I will strive to meet LEED platinum standards with my design.

-Performance Measure Source: LEED standards spreadsheet that can be obtained through LEED's website.

-Performance Analysis: I will review the aspects of the design related to LEED standards to ensure that the building meets these standards

-Performance Judgement: If the project meets these LEED platinum standards then it will be a successful project.

PERFORMANCE CRITERIA

7. Code Compliance

-Performance Measure: The building will have to meet zoning regulations of downtown St. Paul. These regulations may include FAR limits, height and bulk limits, the preservation of view corridors, etc. The building will also have to meet IBC and ADA requirements for accessibility and safety.

-Performance Measure Source: These codes can be examined through the City of St. Paul's website and the IBC and ADA guidelines.

-Performance Analysis: Through plan and section diagrams I will be able to make sure that certain codes such as egress, corridor size, etc. are met.

-Performance Judgement: If all applicable codes are met, this will be a successful building.

8. Cost

-Performance Measure: The overall cost of the project can be measured in the amount of money it would take to construct this project.

-Performance Measure Source: These costs can be estimated through research on material and labor costs associated with the materials needed for the project.

-Performance Analysis: The overall cost of the project can be compared to an expected revenue of the project through a Pro-Forma spreadsheet.

-Performance Judgement: If the expected revenue of the project is greater than the overall cost of the project, then it will be successful.

PERFORMANCE CRITERIA

SPACE ALLOCATION

Exhibit
-Interactive Gallery- 5,000 square feet
-Traditional Gallery- 3,000 square feet
-Auxiliary Gallery- 750 square feet
-Informal Galleries- 500 square feet

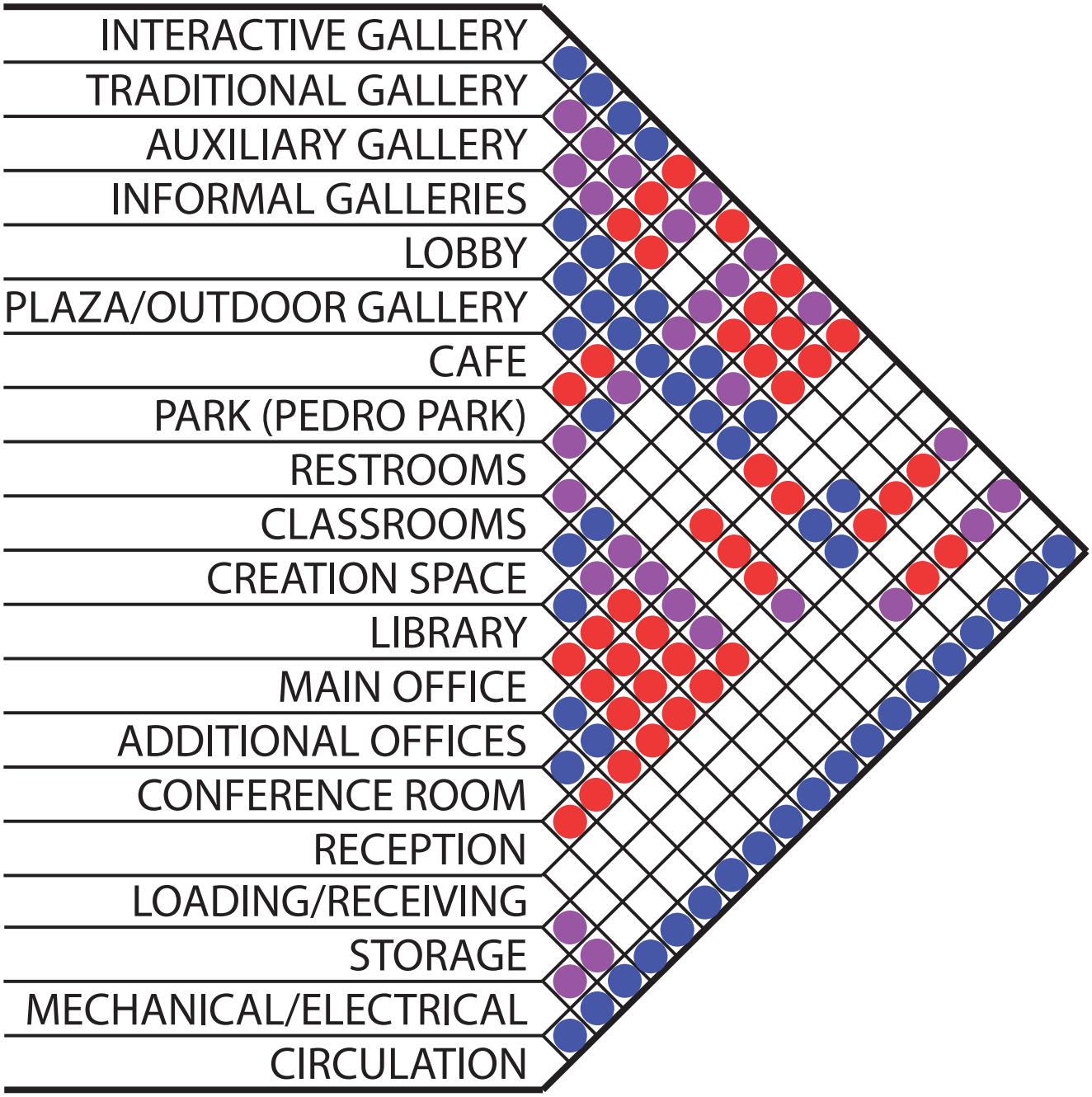
Public
-Lobby- 1,000 square feet
-Café- 500 square feet
-Restrooms- 500 square feet for both men and women
-Entrance Plaza/Outdoor Gallery (adjacent lot)- 10,000 square feet
-Park (Pedro Park)- 19,000 square feet

Educational
-Classrooms- 2,700 square feet (3 @ 900 square feet each)
-Creation Space- 1,000 square feet
-Library- 2,000 square feet

Administrative
-Main Office- 300 square feet
-Additional Offices- 900 square feet (6 @ 150 square feet each)
-Conference Room- 300 square feet
-Reception- 100 square feet

Support
-Loading/Receiving- 500 square feet
-Storage- 500 square feet
-Mechanical/Electric- 700 square feet
-Circulation- as needed

SPACE ALLOCATION MATRIX



PART III: DESIGN

INTRODUCTION

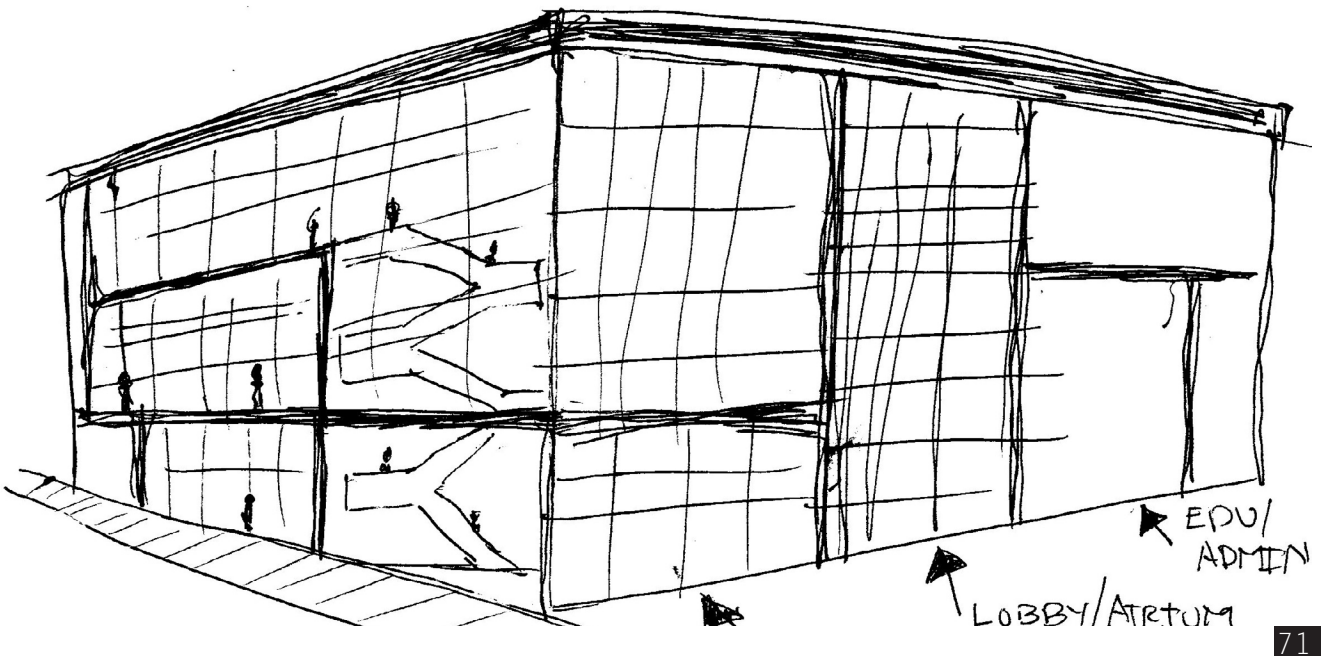
The process for this design solution was very iterative in nature, with multiple avenues explored until a clear, coherent concept was achieved. Through sketching, drawing, modeling, and writing, I have developed a complete design for a museum of architecture based on the ideas of museum design and architectural theory that I developed through my research. The primary concept explored through this design is the idea of framing and how it is used in the design of a museum. Secondary to that is the idea of showcasing architecture in multiple different ways simultaneously. In this section of the thesis book, I will explain the process used to reach my final design solution, then I will explain the solution in detail and how it addresses the context of this project, both physical and conceptual.

TWO INITIAL SCHEMES

The design process began with two initial schemes. The first scheme revolved around the idea of detailing the facades of the building to look like a section drawing and the second scheme revolved around the idea of having the building look like an artifact within a glass case.

The facade as section scheme stemmed from the idea that one could blur the lines between architectural representation and construction. With this idea, people who see the exterior of the building would begin to form an idea of how the building looks in the interior as well as how architectural drawings form a physical building. In turn, the appearance of the building itself would become an exhibit of the museum.

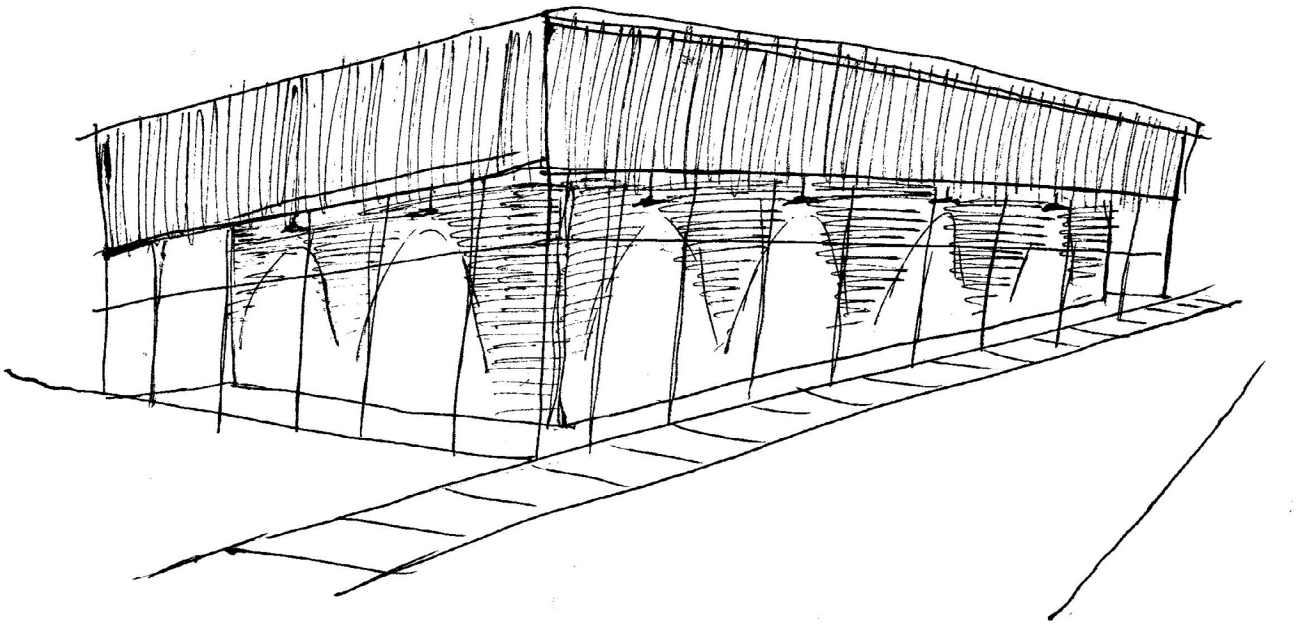
The object within a case scheme came from the idea of how 3-dimensional artifacts are framed in a museum. People passing by the building would see the interior spaces of the museum as objects within the case of an all glass exterior. This scheme was a direct metaphor for framing in museum design.



PROCESS

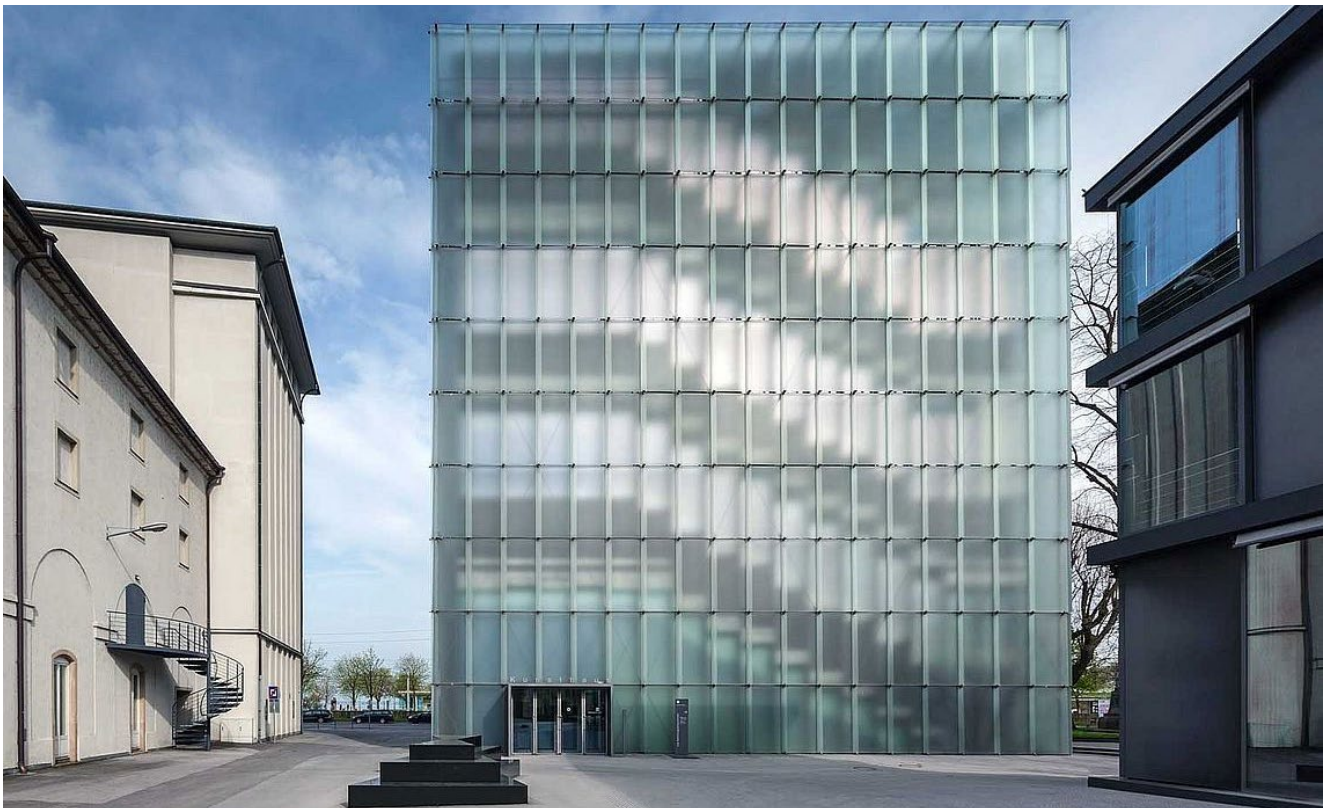
TWO INITIAL SCHEMES

THE GALLERY AS AN OBJECT WITHIN A CASE REPRESENTED BY A GLASS CURTAIN WALL.



PRECEDENT STUDY: PETER ZUMTHOR'S KUNSTHAUS BREGENZ

After establishing these two initial ideas, I began to analyze Peter Zumthor's Kunsthaus in Bregenz. This project serves as a fantastic combination of the two initial ideas that I developed early in the process. The building is organized in a simple square, similar to my initial schemes, and features facades made entirely of frosted glass. The galleries and circulation spaces are all housed within this glass prism. The frosted glass obscures these interior spaces so that they appear as simple masses held within a case. The facade at a distance is a 2-dimensional plane which means that the masses seen beyond appear as shapes on a drawing, almost like a spatial diagram of the building. The analysis of this project led me to what would become the final design solution, a combination of my two initial ideas.

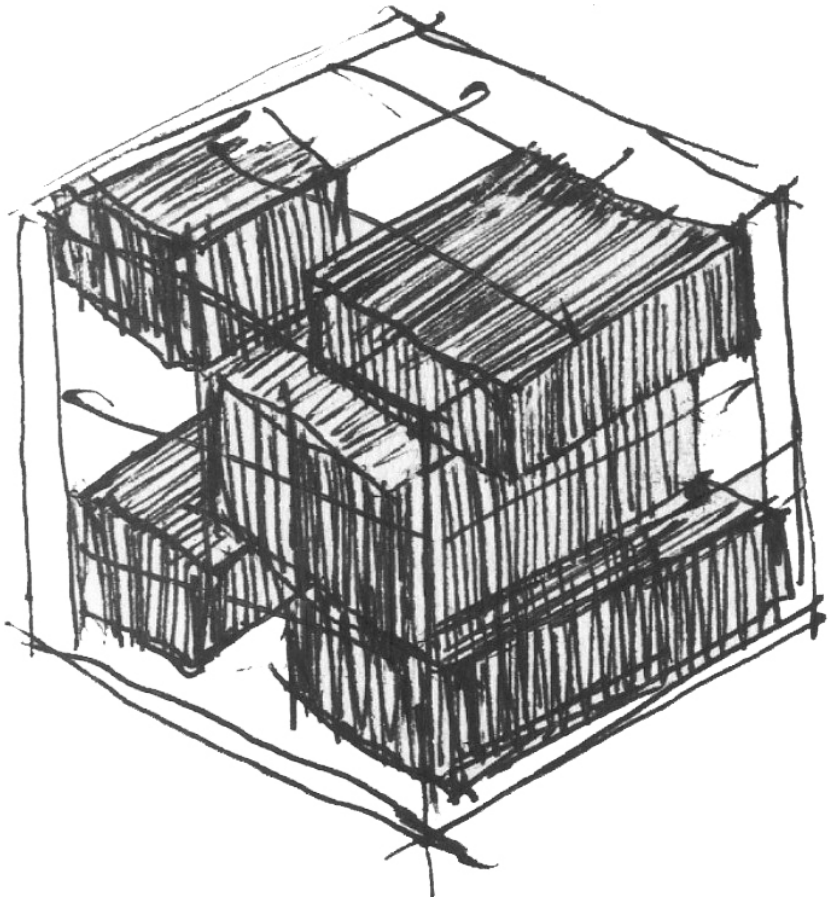


PROCESS

COMBINATION OF THE INITIAL SCHEMES

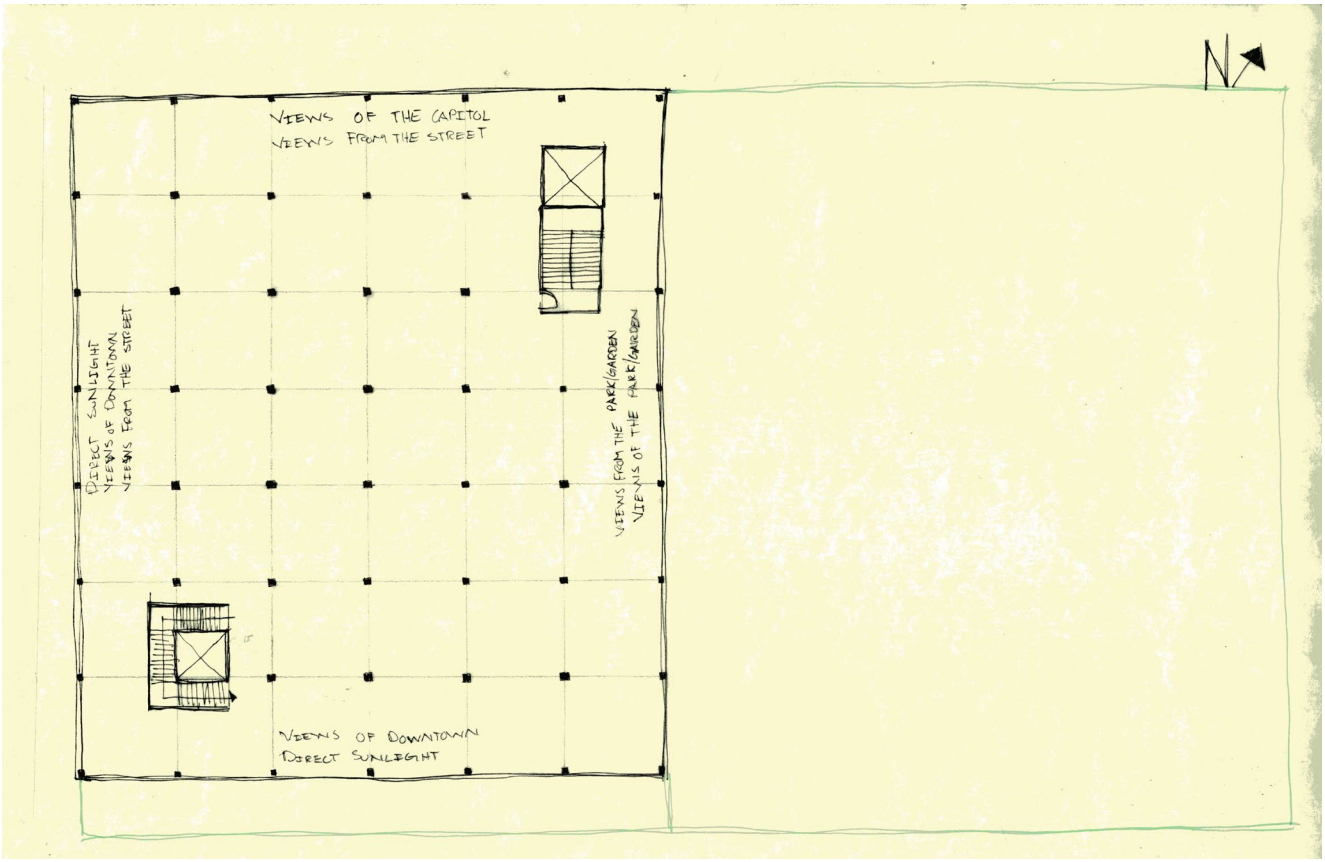
Drawing the strongest ideas from these two schemes led to what would become the final design of this museum. The strongest aspect of detailing the facade to look like a section was the idea of blurring the lines between representation and construction. These two aspects of architecture, how we draw and how we build, have been integral to the field since its beginning. By trying to reveal how the building looked in drawing form through the final constructed form would allow the building to become both a technical exhibit as well as a historic exhibit. The facade might not look exactly like a section drawing or even an elevation drawing. But, as seen in Zumthor's Kunsthaus Bregenz, a facade can begin to look like an architectural diagram with the right detailing.

The strongest aspect of an object within a glass case was the idea of designing the building as a direct metaphor for framing. The initial idea revolved around one single mass within a glass case but it appeared to be very monolithic and resulted in a lot of wasted space. I shifted my thinking of the interior spaces to the idea of a collection of volumes organized in the best configuration in response to sunlight, views, and circulation. The idea at this point was to design the building as a collection of masses within a glass case. From certain angles, the building would appear as an artifact or sculpture inside of a case in a gallery. From other angles, the facade would appear as a 2-dimensional diagram of the spaces inside.



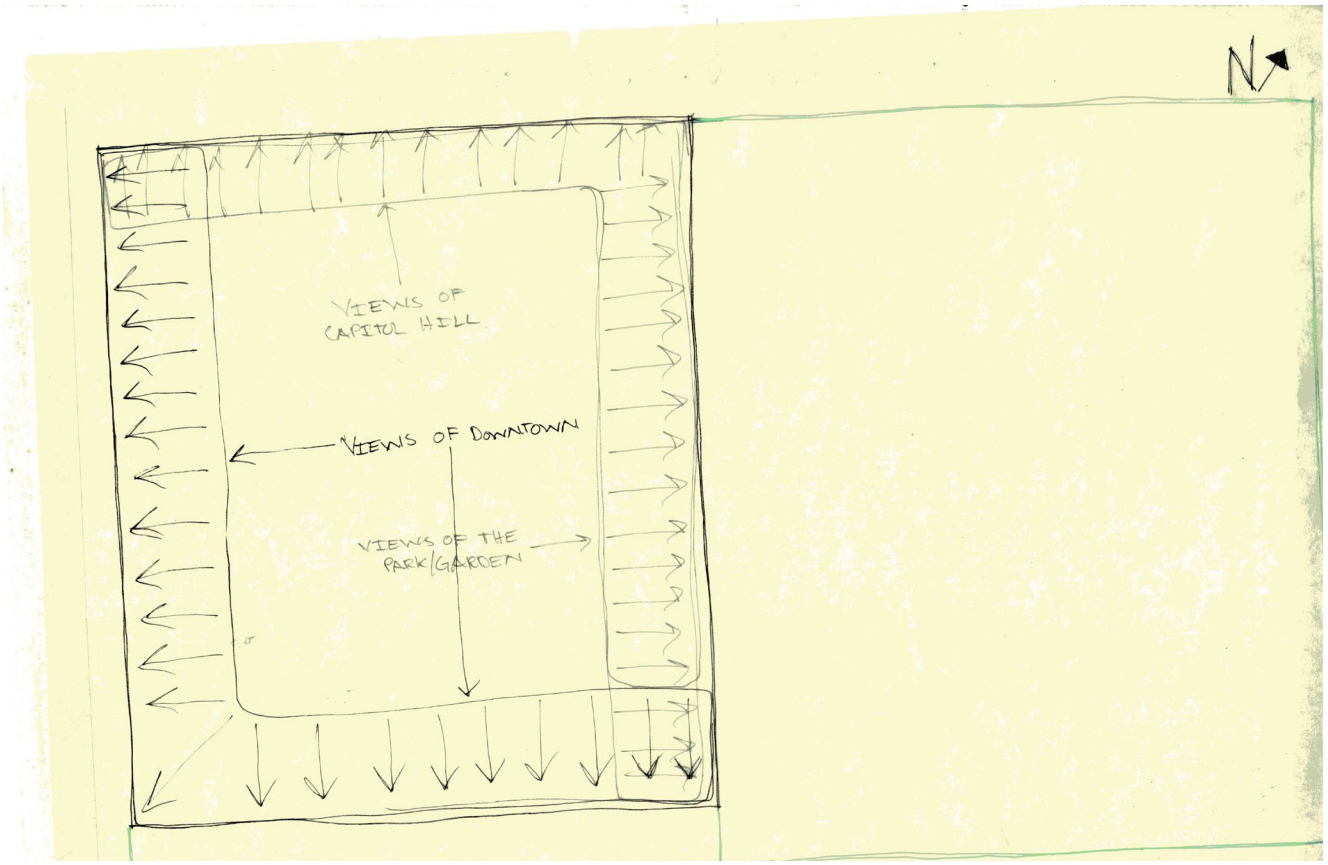
SPATIAL ORGANIZATION

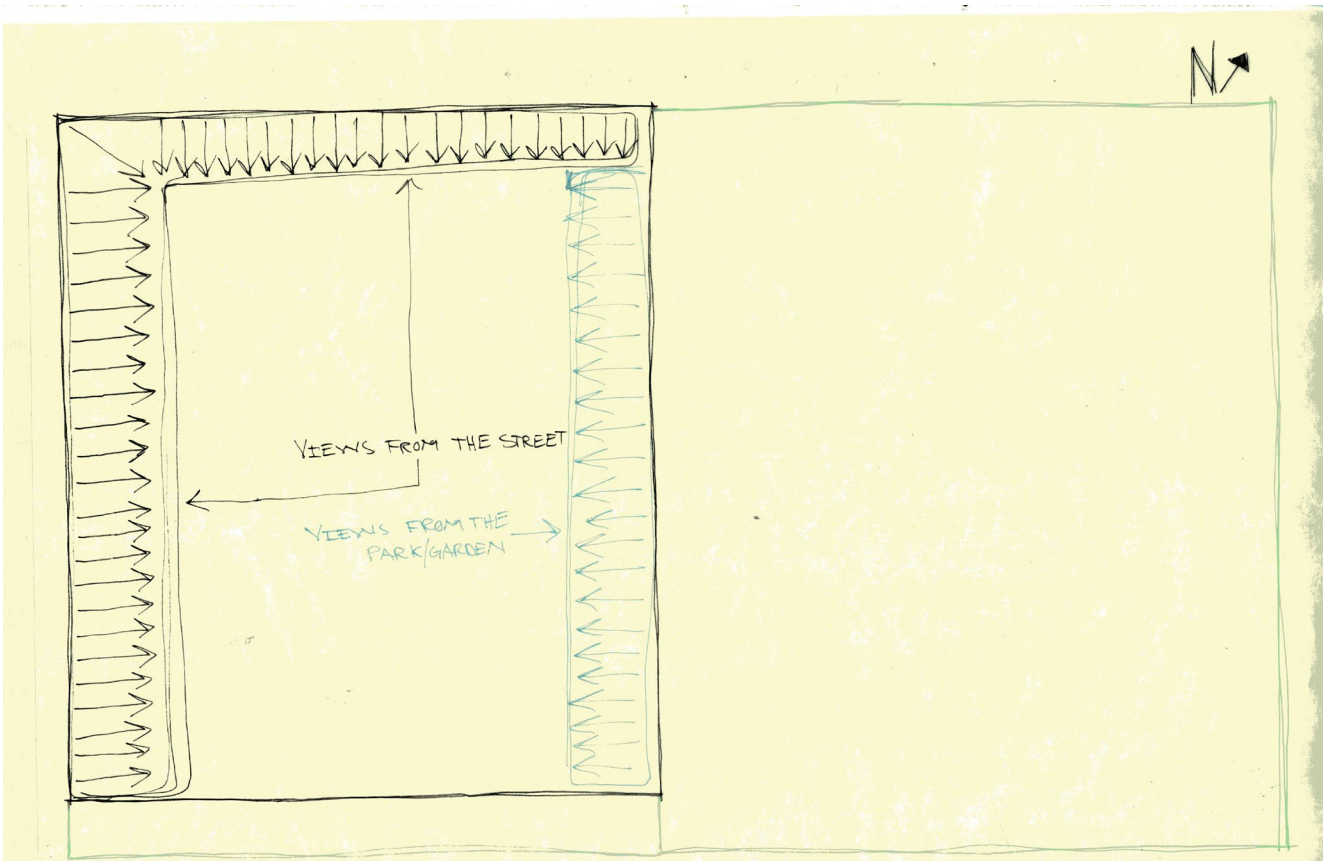
Using trace paper, I developed multiple versions of each floor plan and was able to lay them over each other to develop a basic idea of how the building would be organized. I developed an idea of how much natural light, privacy, and views each programmatic space would require. More public spaces like lobbies, the cafe, and studio space would be closest to the inside of the facade in order to fill these spaces with light and provide views of the city. Spaces like the small classrooms would be pulled just a few feet from the inside of the facade to allow for less natural light without sacrificing views. Spaces like the permanent galleries would be pushed further inside and contained by solid walls to provide complete control of lighting and air quality. Once i had these basic organizations established, I was able to arrange each volume in three dimensions.



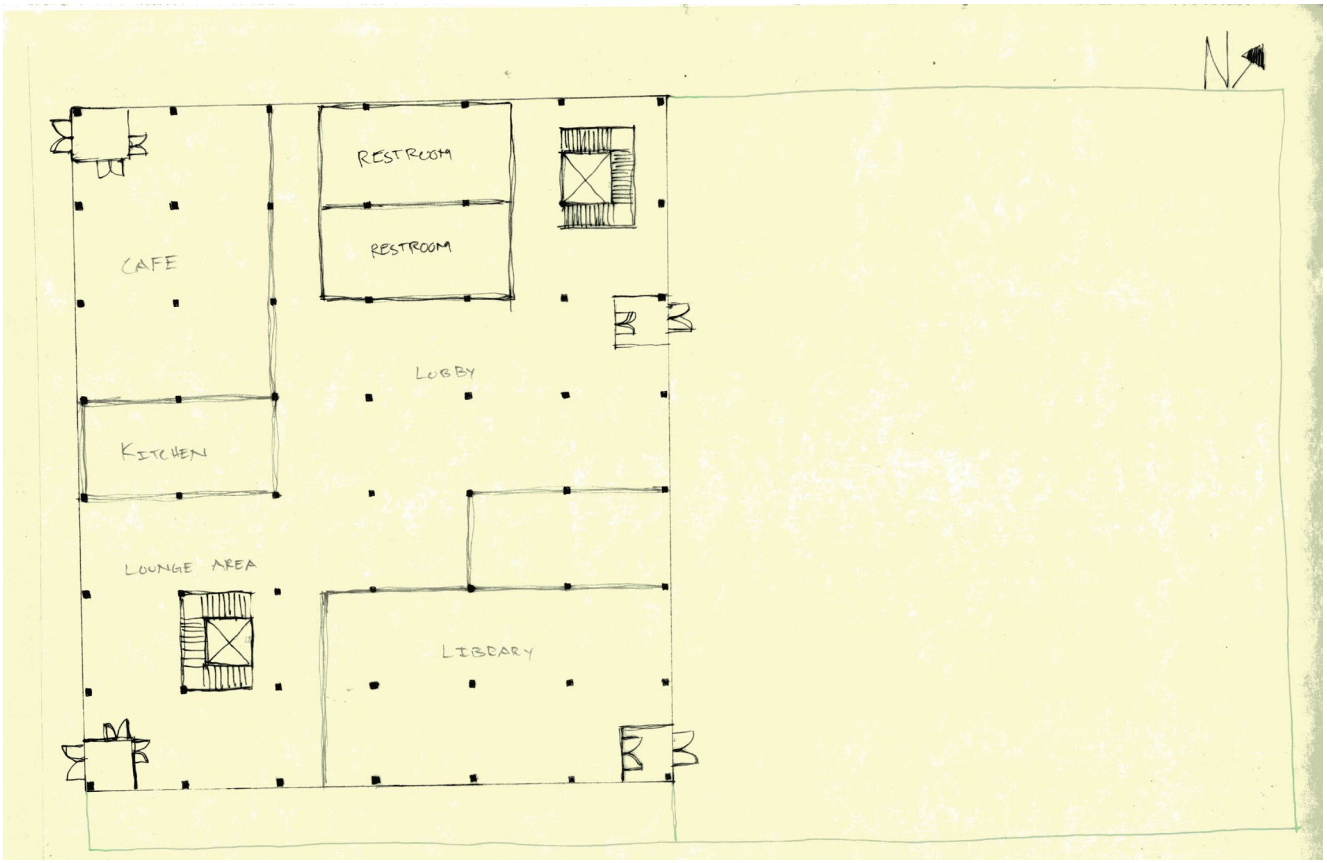
PROCESS

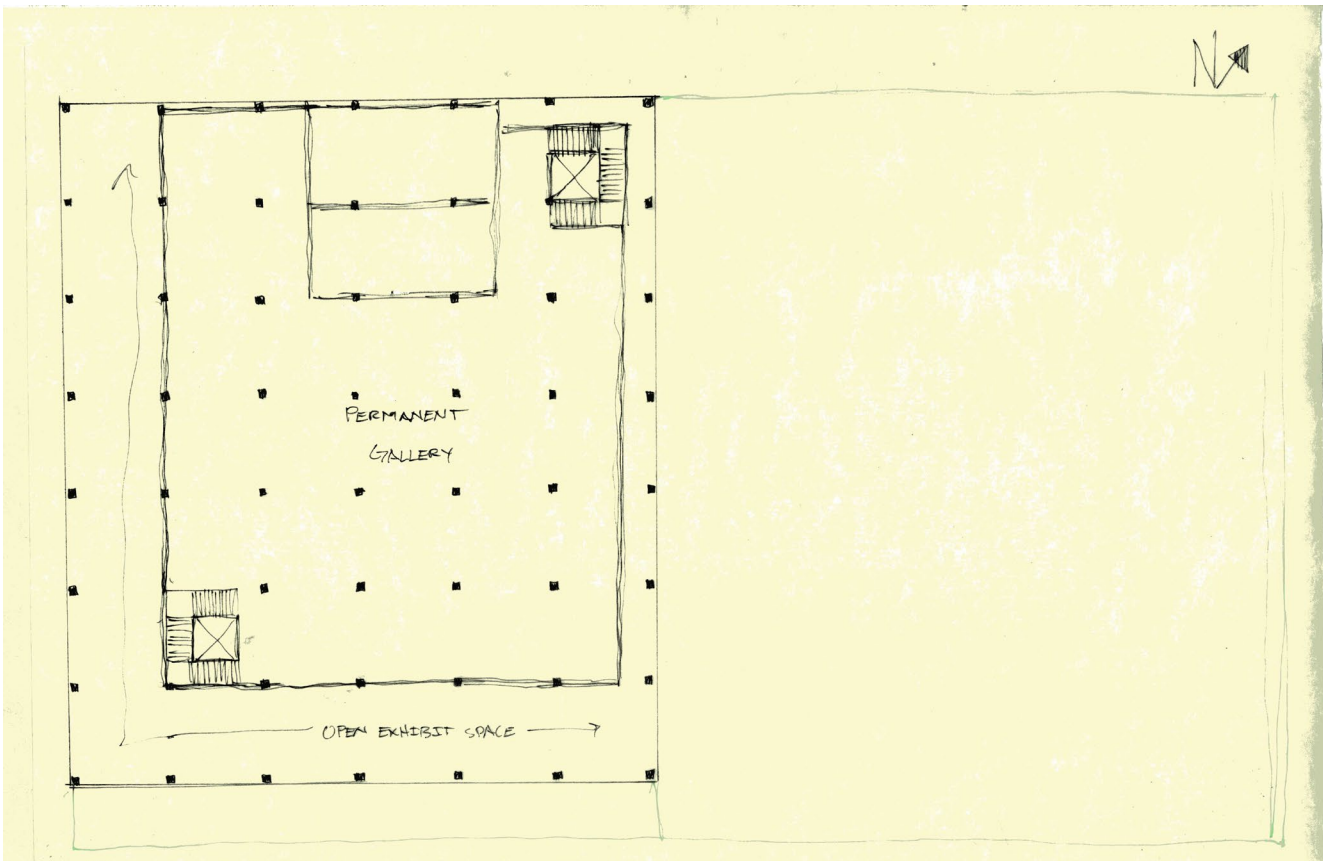
SPATIAL ORGANIZATION





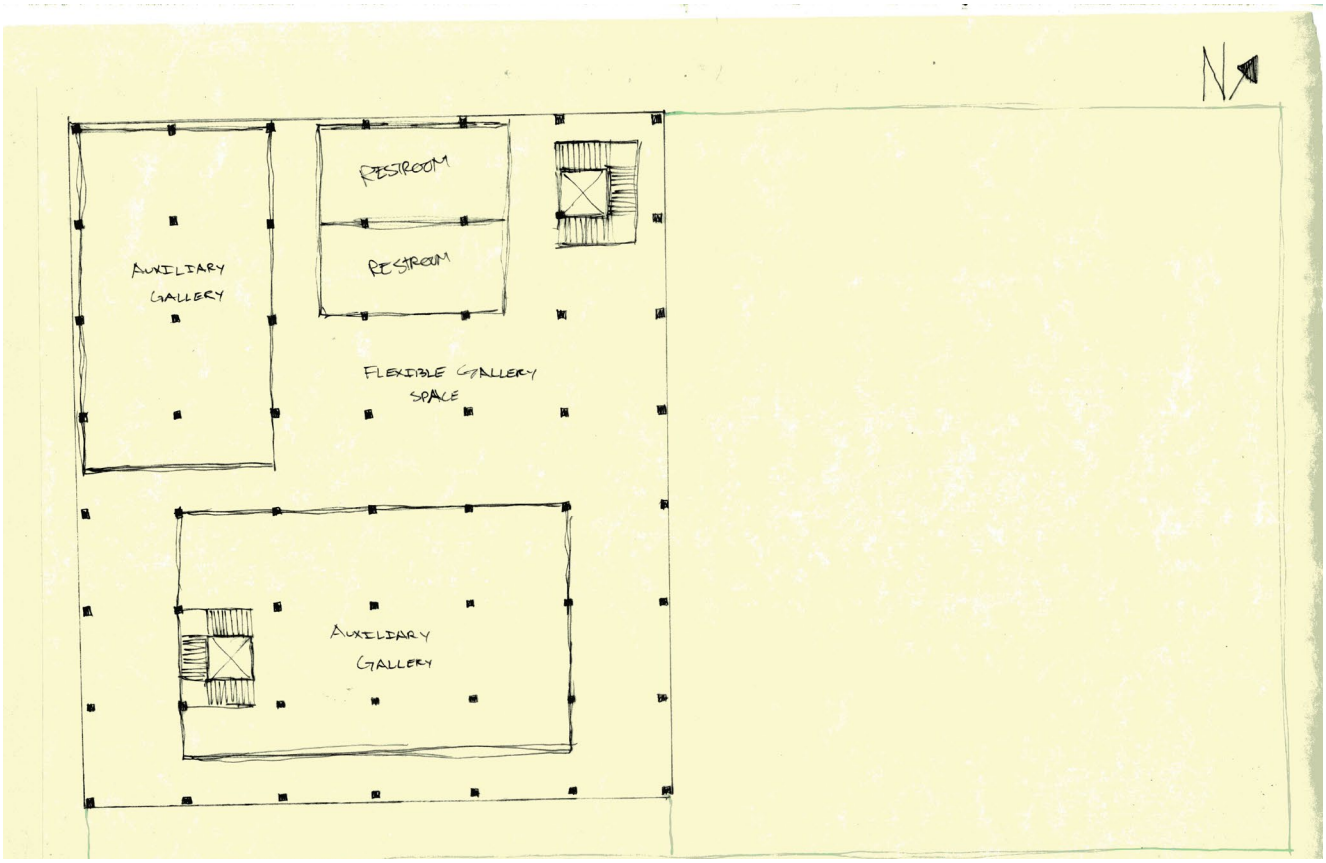
SPATIAL ORGANIZATION

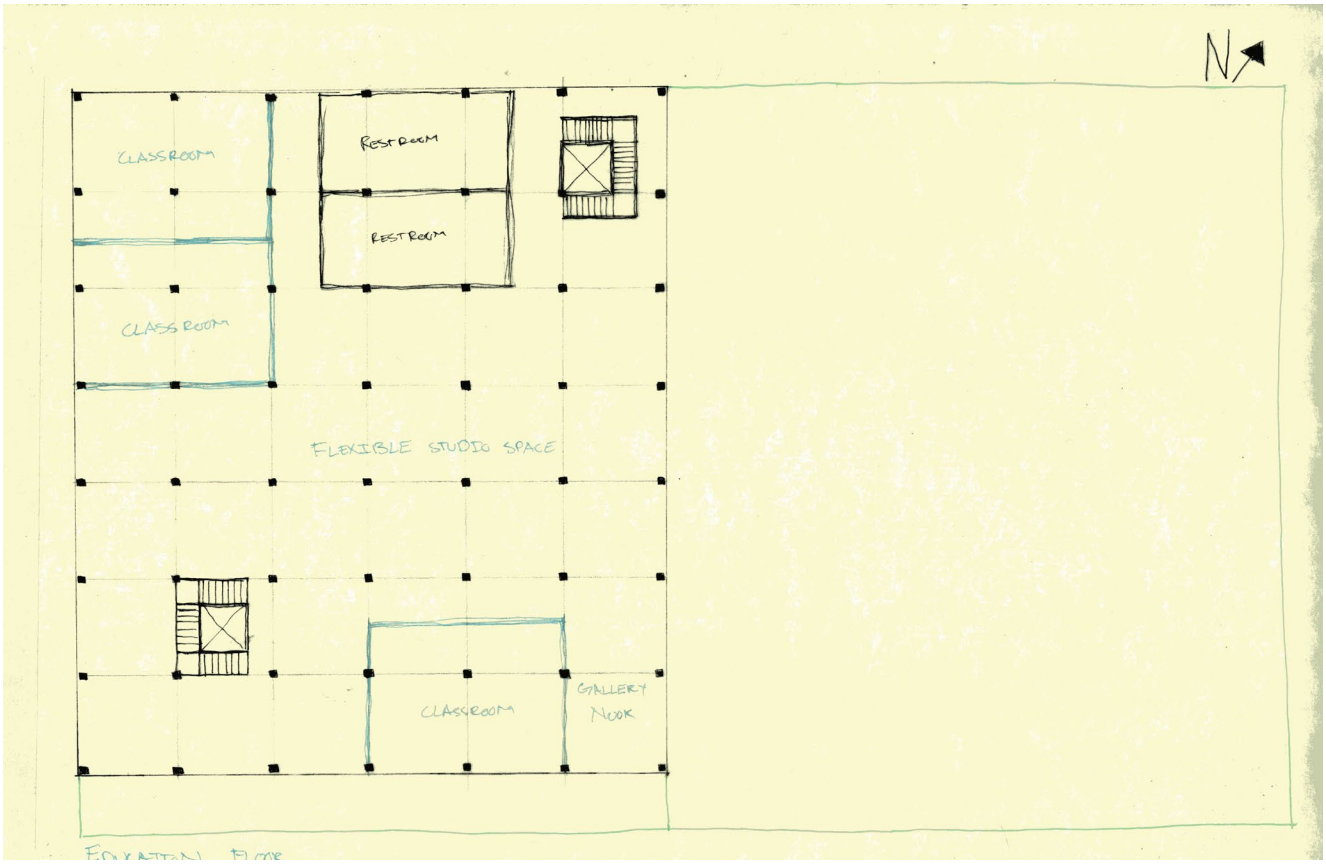




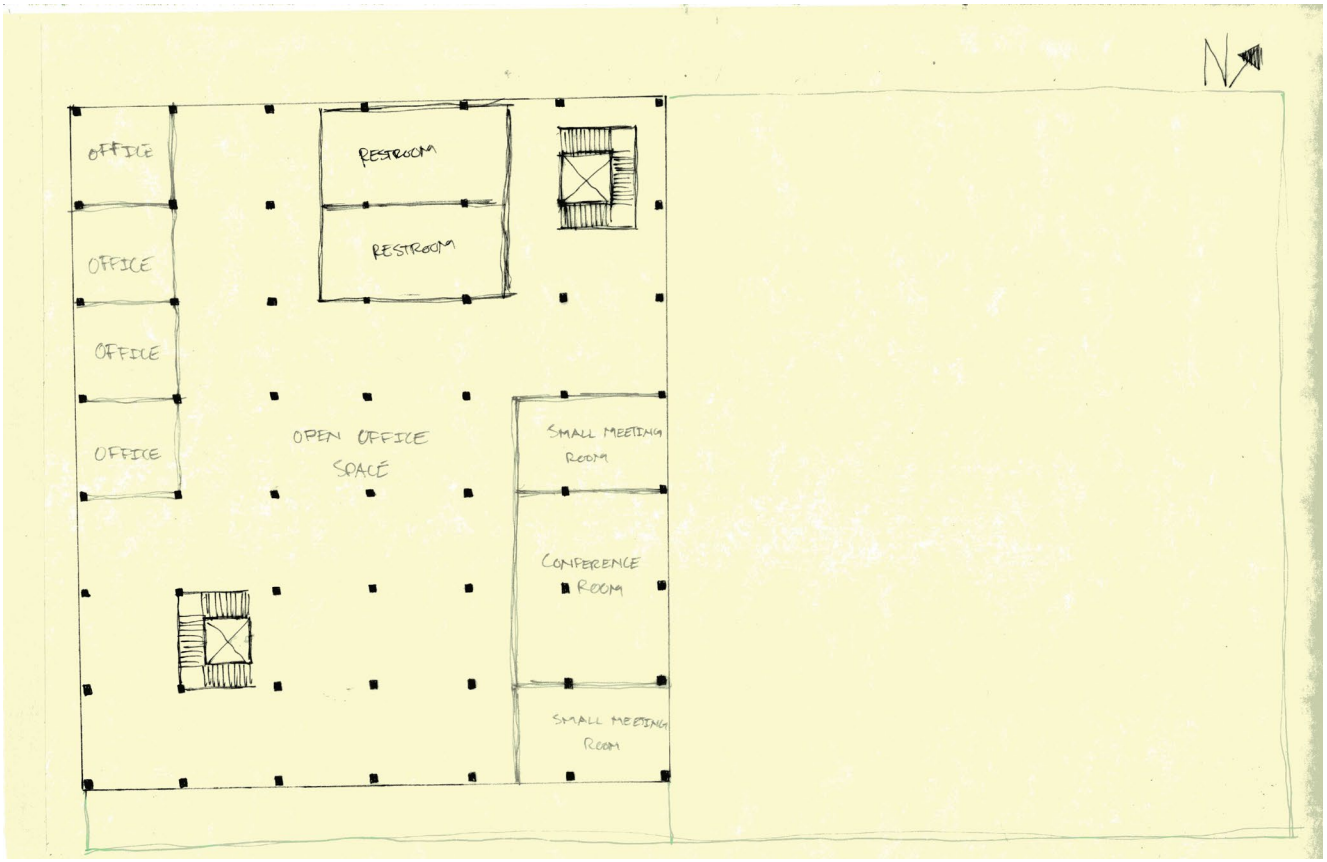
PROCESS

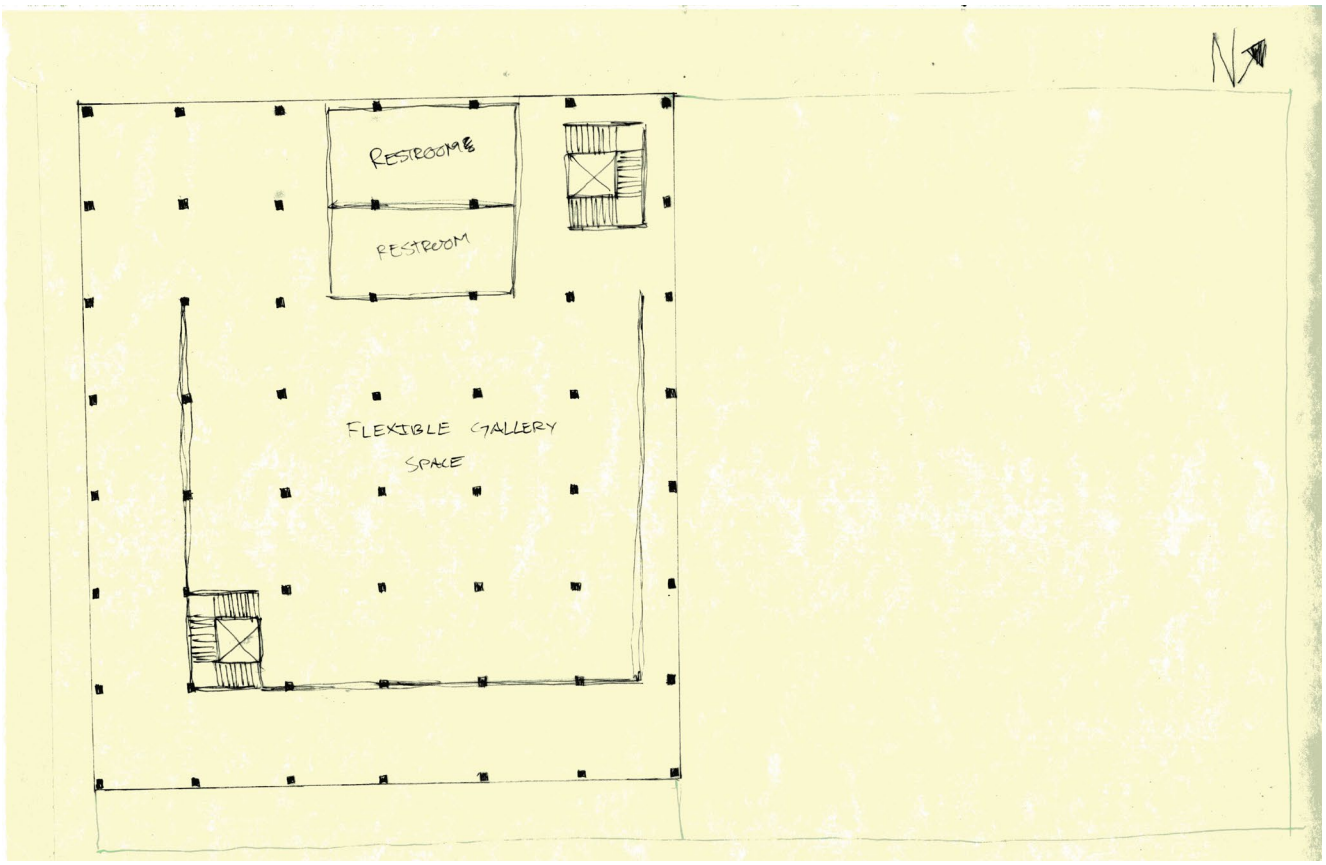
SPATIAL ORGANIZATION





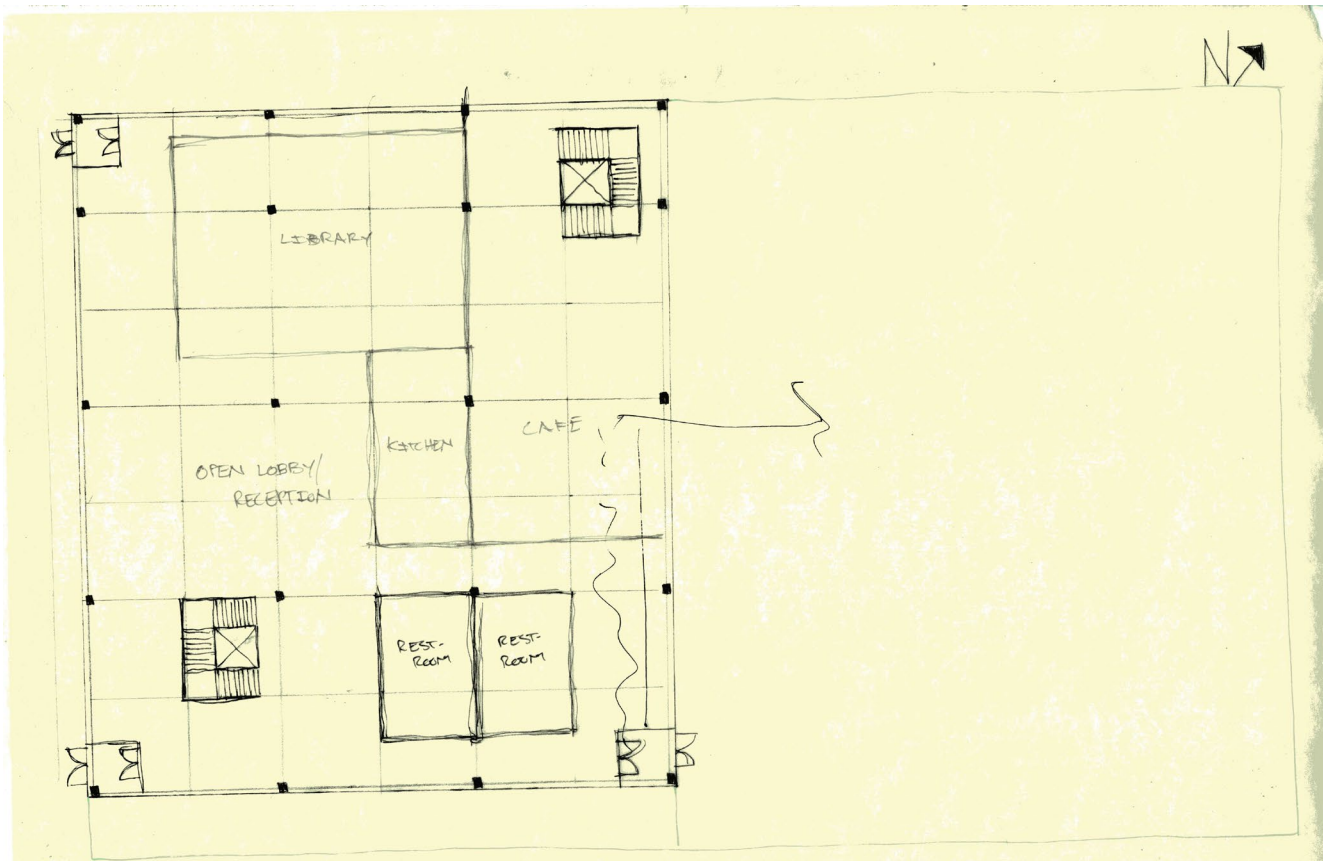
SPATIAL ORGANIZATION

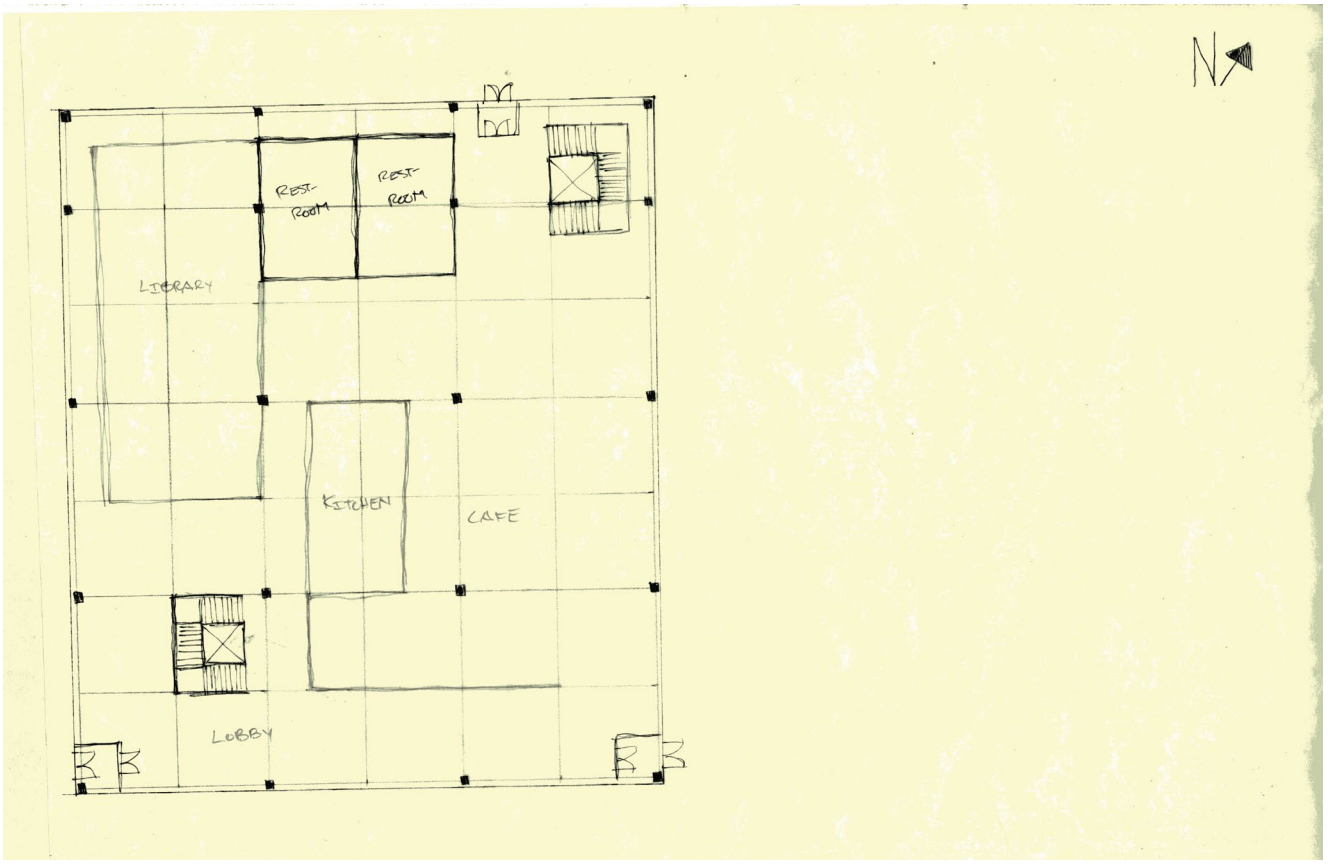




PROCESS

SPATIAL ORGANIZATION





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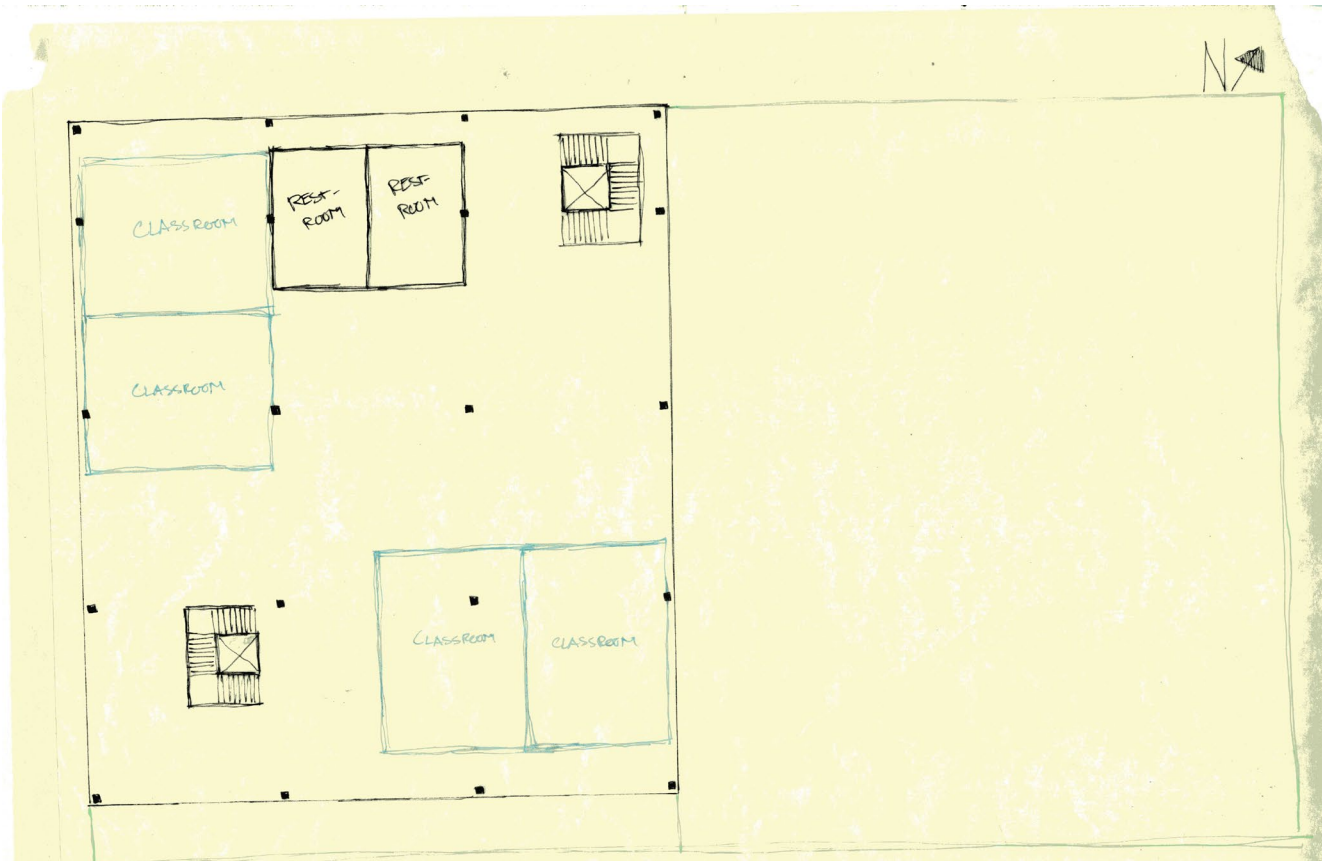
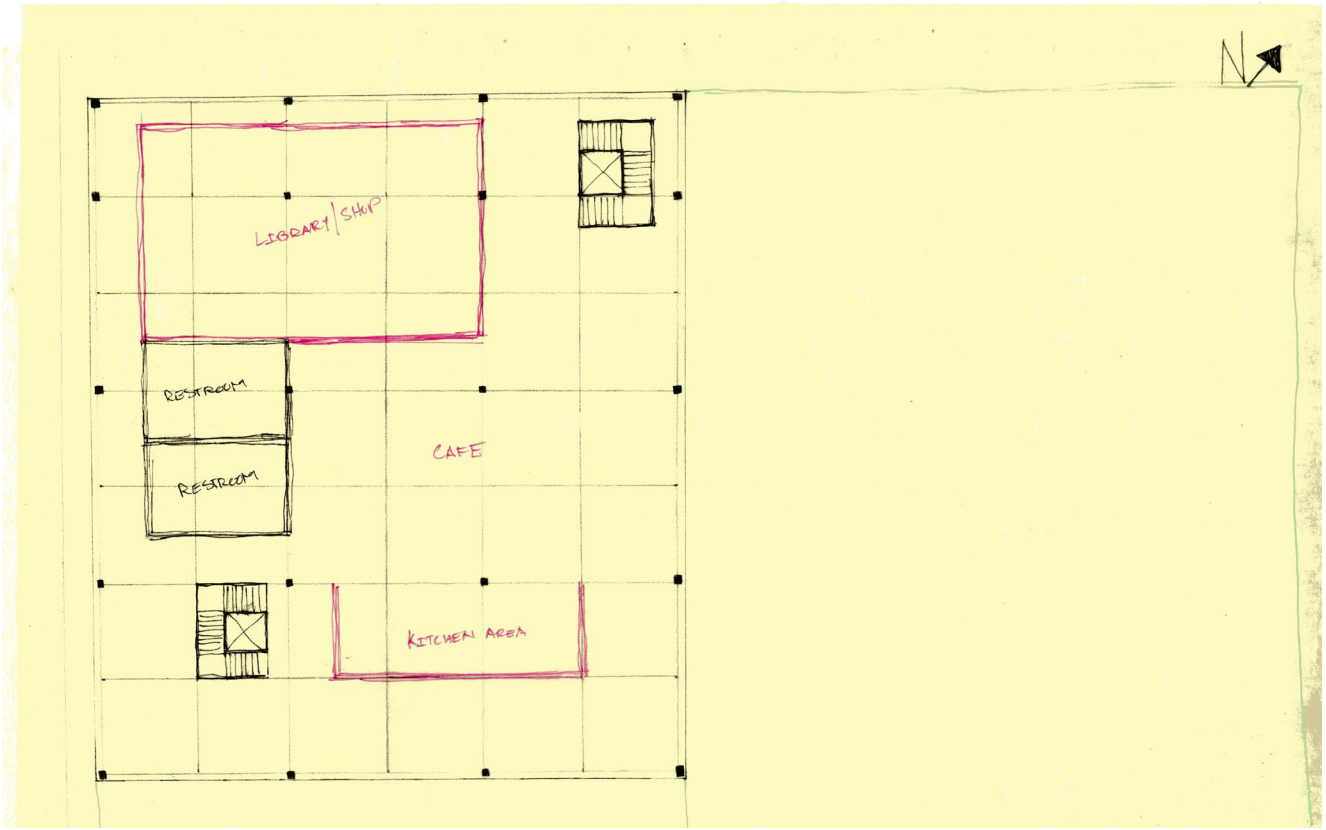
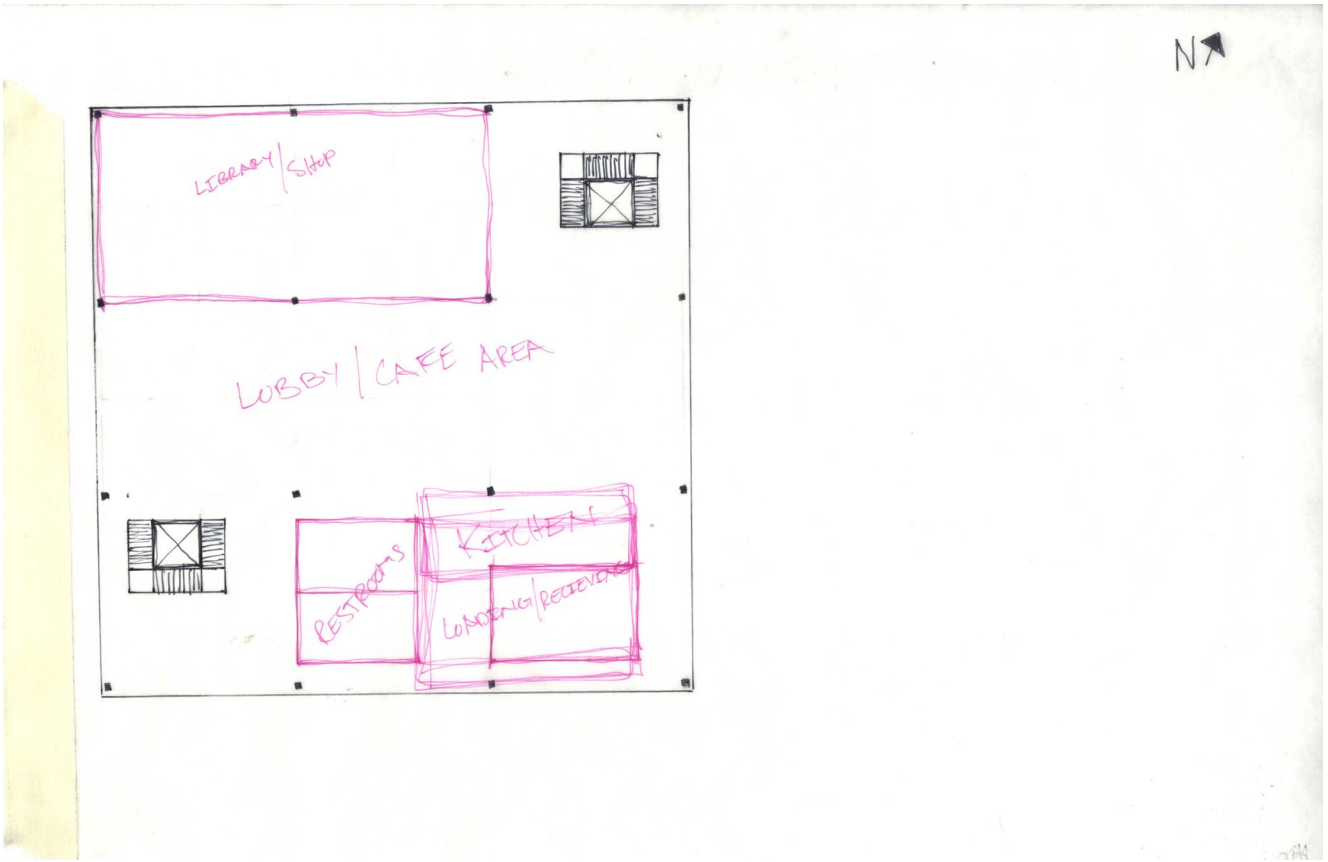
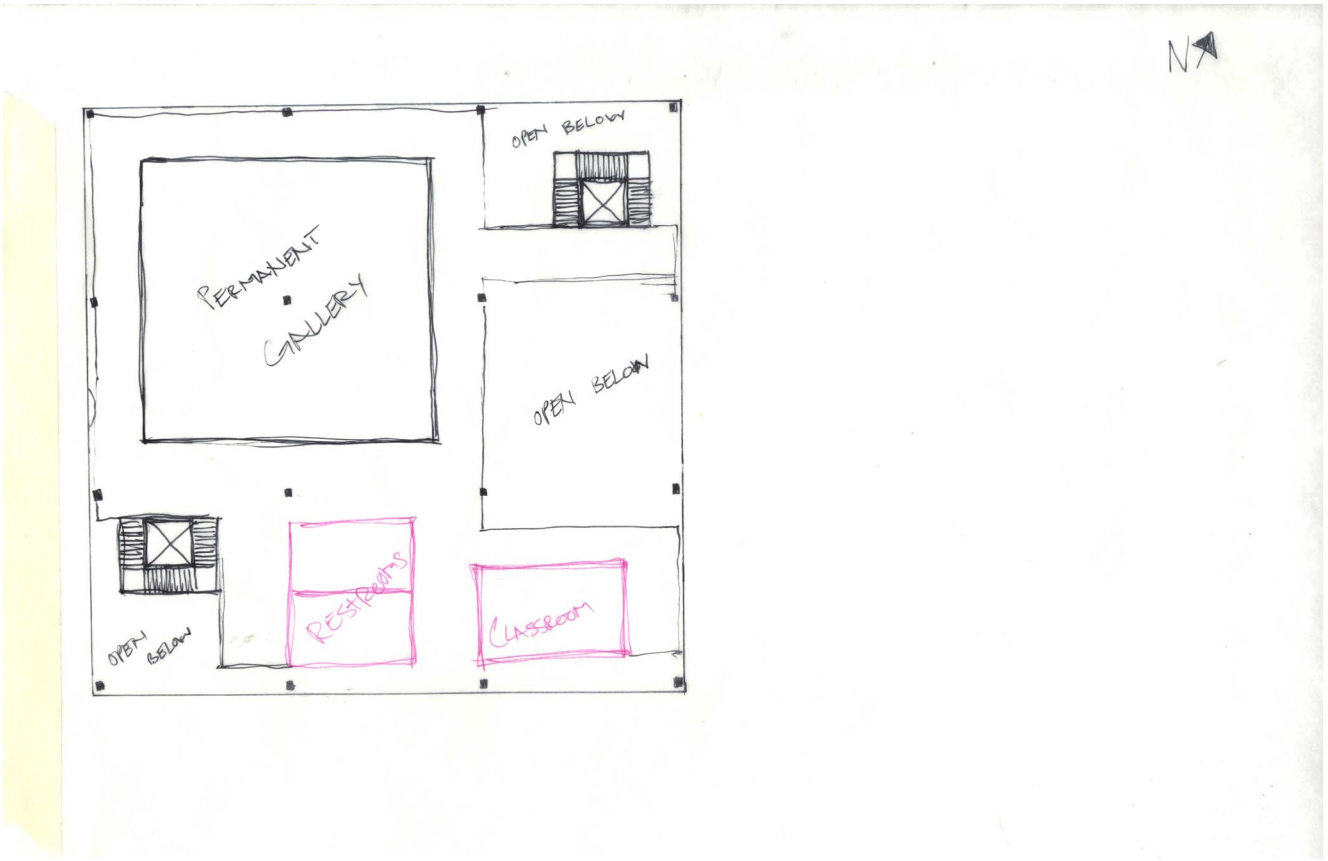




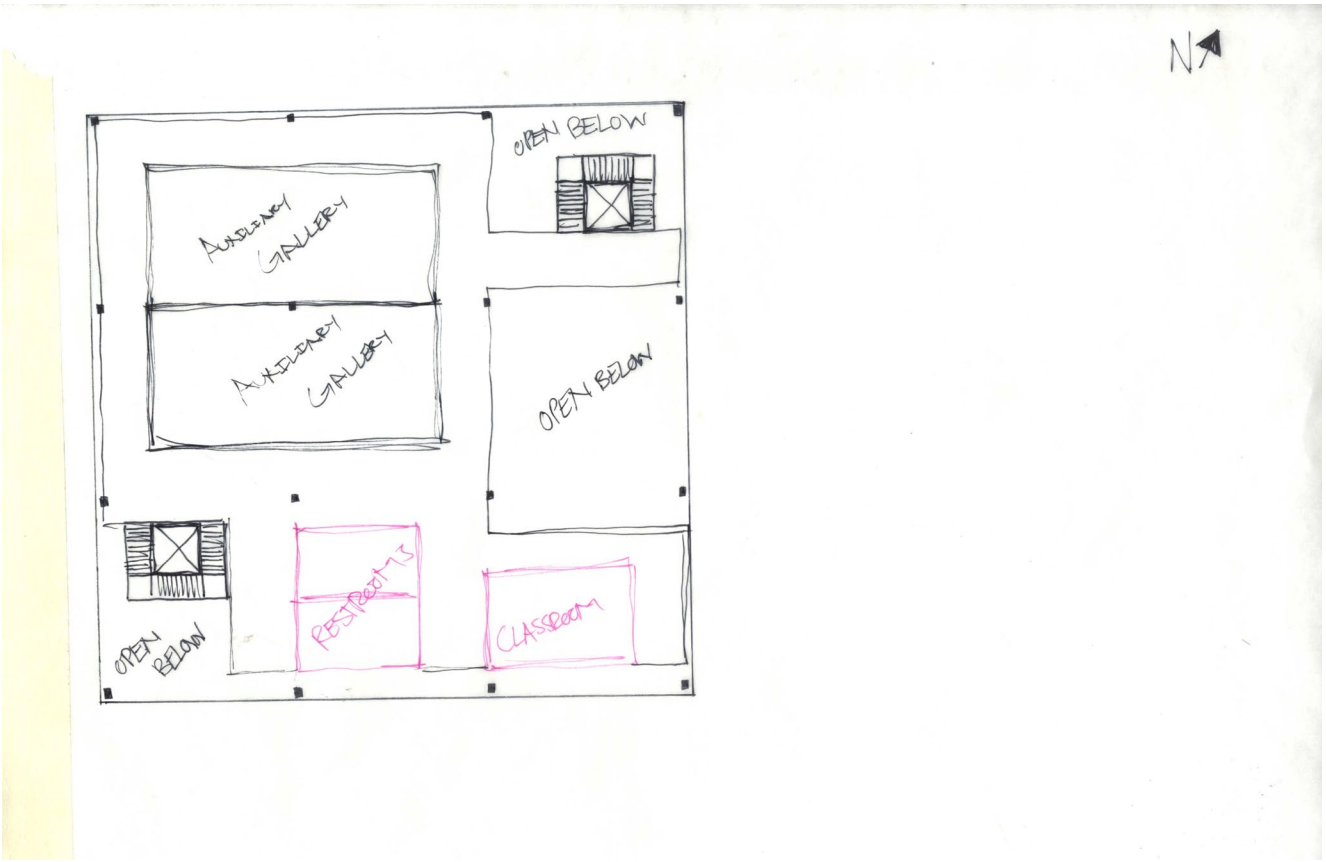
PROCESS

SPATIAL ORGANIZATION



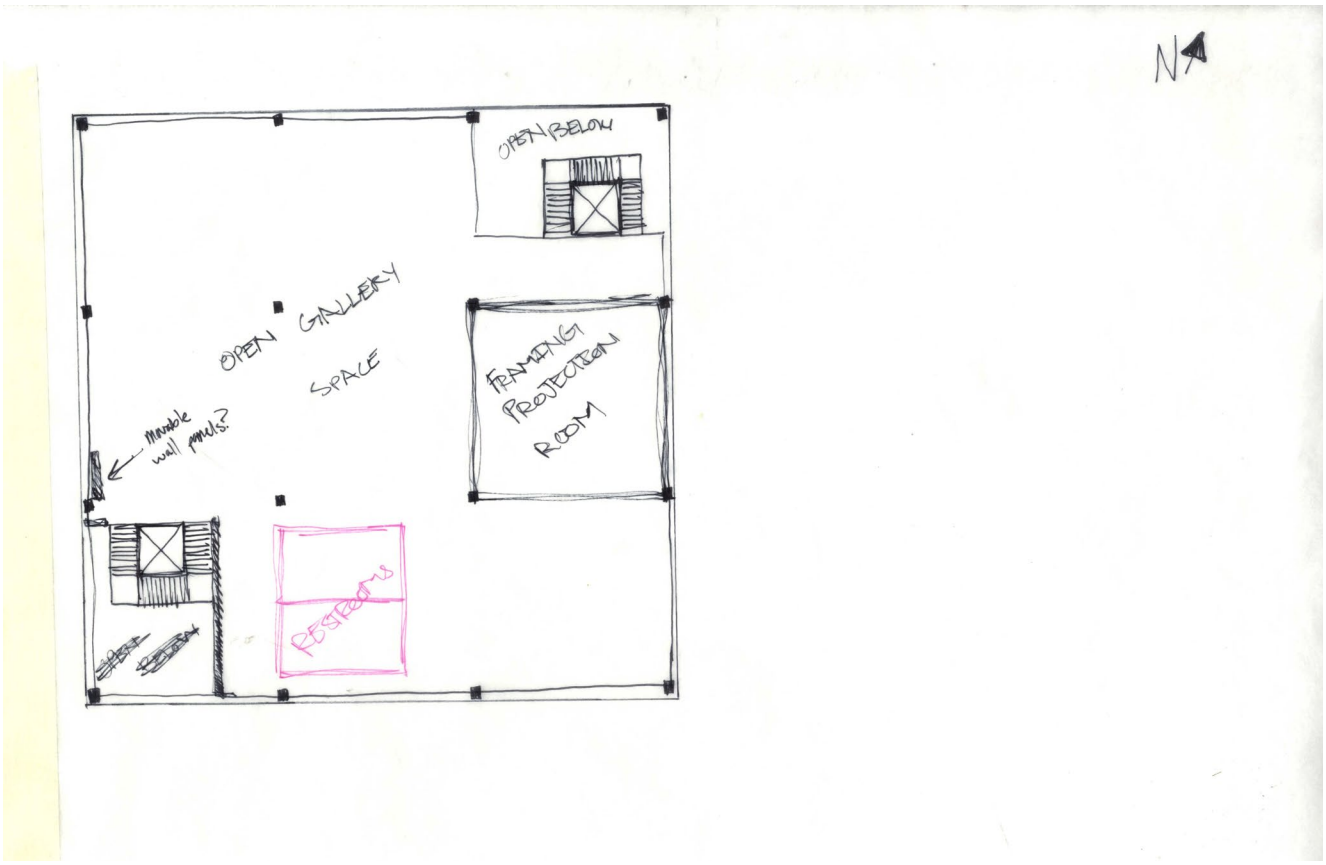


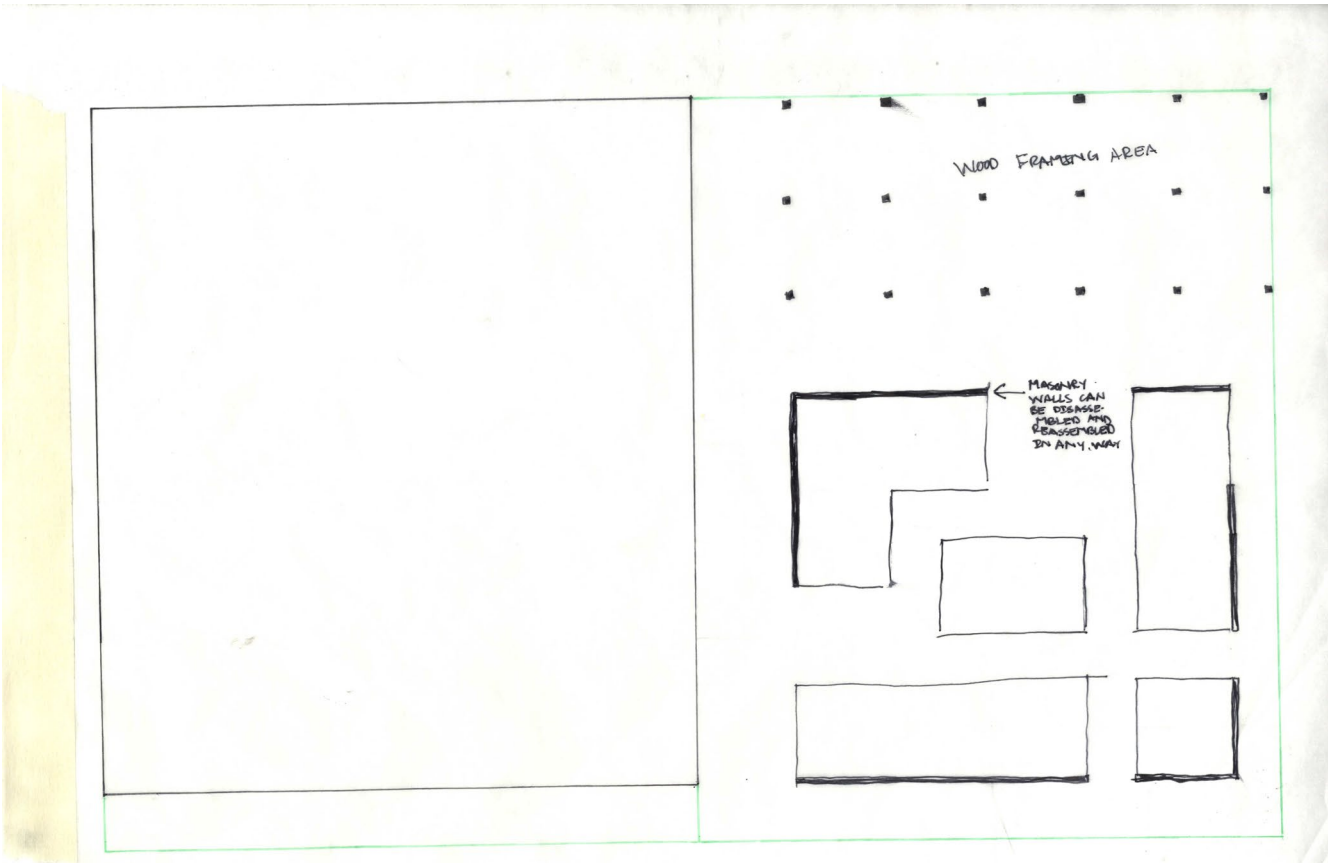
SPATIAL ORGANIZATION



PROCESS

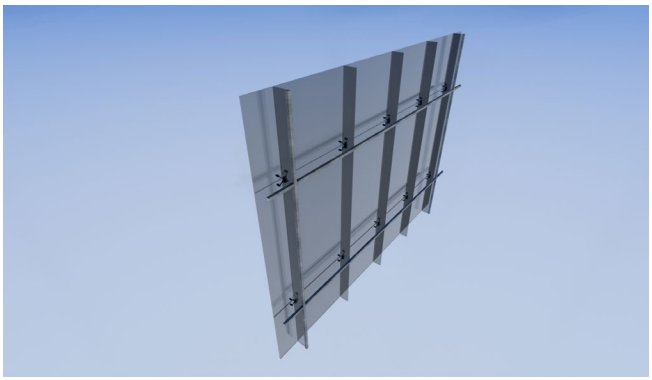
SPATIAL ORGANIZATION

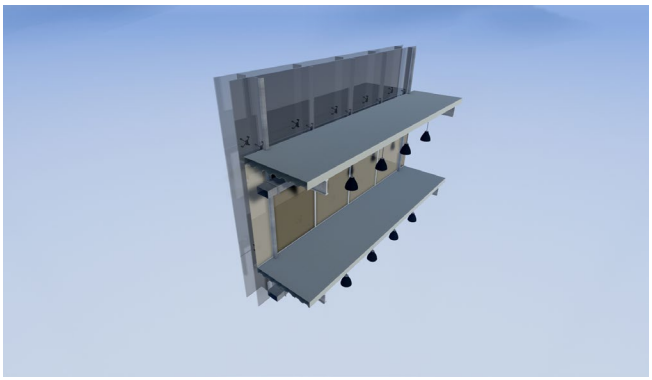


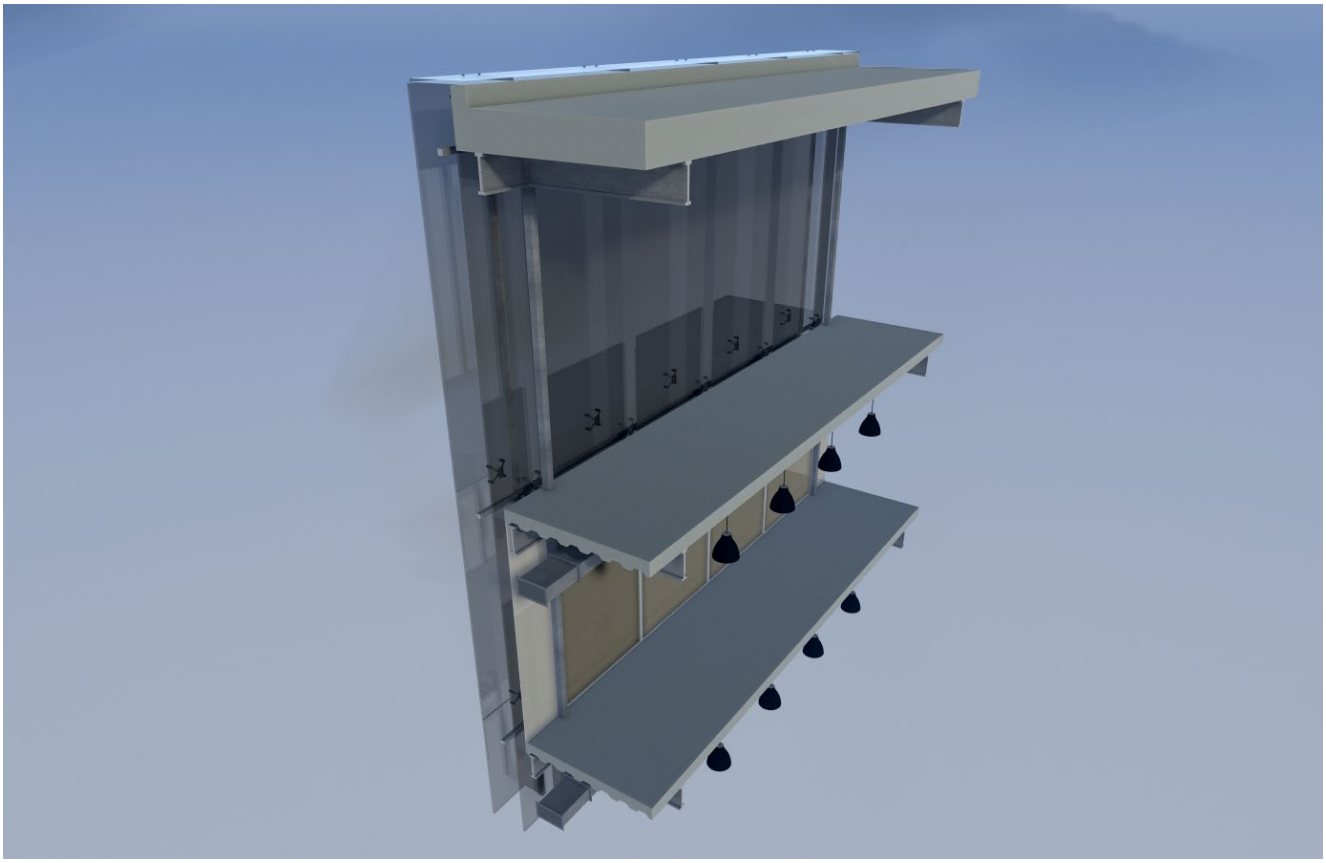


DETAILING

An important aspect of the design was detailing, as I was working with an all-glass facade on each side of the building. In St. Paul's cold climate, it was very important to consider efficiency of the building in terms of heating and cooling. Retaining heat in an all-glass structure is extremely difficult, and I had the added challenge of trying to make the windows as transparent as possible. To achieve the levels of transparency and efficiency that I desired, I needed to pay close attention to how the details were drawn for the facade. The process of detailing was directly informed by the schematic design process and, in turn directly informed the final design.







PROCESS

FRAME DEVELOPMENT

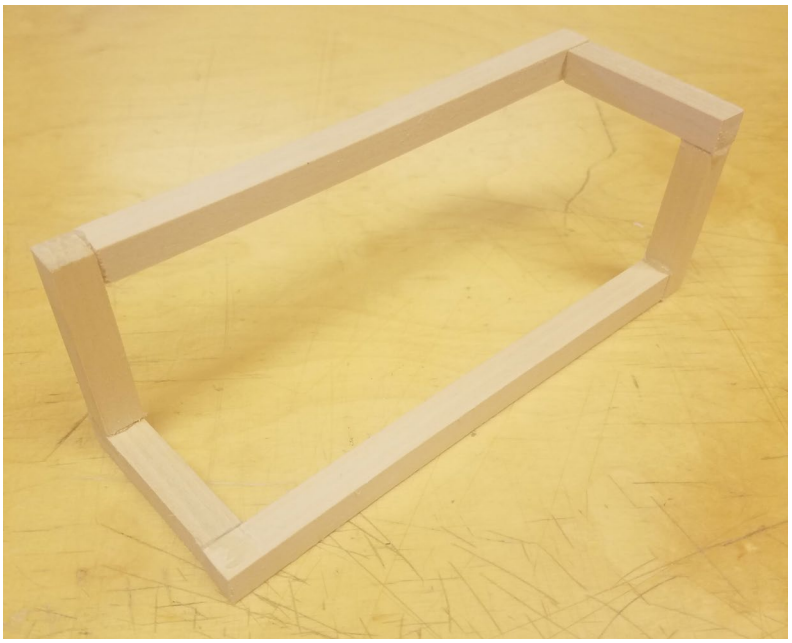
It can be said that the real museum of architecture is all around us in out built environments. Each city is a gallery, each building an artifact. If this is true, which i believe it is, then what would be the need for a museum of architecture in an abandoned lot in downtown St. Paul, Minnesota? This question led me to the development of an incredibly important aspect of the project, the design of my own frame installations.

The idea began with the thought that I could gather the global museum of architecture and display it in the museum in St. Paul through use of the internet. Then the question came of who would be the authority on this display, who would be the curator? I thought that since everyone has a unique perspective on architecture I could crowdsource artifacts for this display. With the initial idea formed, I began to explore ways in which I could get this crowdsourcing to take place.

The idea of a physical frame came to mind when thinking about this global exhibit. If I could design a frame that could be installed anywhere in the world, it could be used to encourage people to look at the architecture around them and document their perspective. The final development of this idea became a frame that could be placed anywhere in the world. When people pass this frame they'd be encouraged to pause and look at the surrounding built environment. The hope is that they may see some detail or building that they've never noticed or that they would see something they notice everyday in a whole new light. After they take in their surroundings, people would then be encouraged to take a picture and send it to the internet. In the museum in St. paul, those pictures would then be projected onto various surfaces throughout the building. The result of this process would be a collection of the global exhibit of architecture that is framed by the physical museum while also framing it.

The design of this frame went through two main iterations. The first iteration was a large piece of clear acryllic with a square hole cut though it towards the top. The transparancy of this frame was important as it implied the frame was both physical and metaphorical at the same time. The second iteration added an important third dimension to the frame. This iteration was a rectangular prism made up of only six essential lines. The unique shape of this frame made it possible to be seen in a different way from any angle.

FRAME DEVELOPMENT



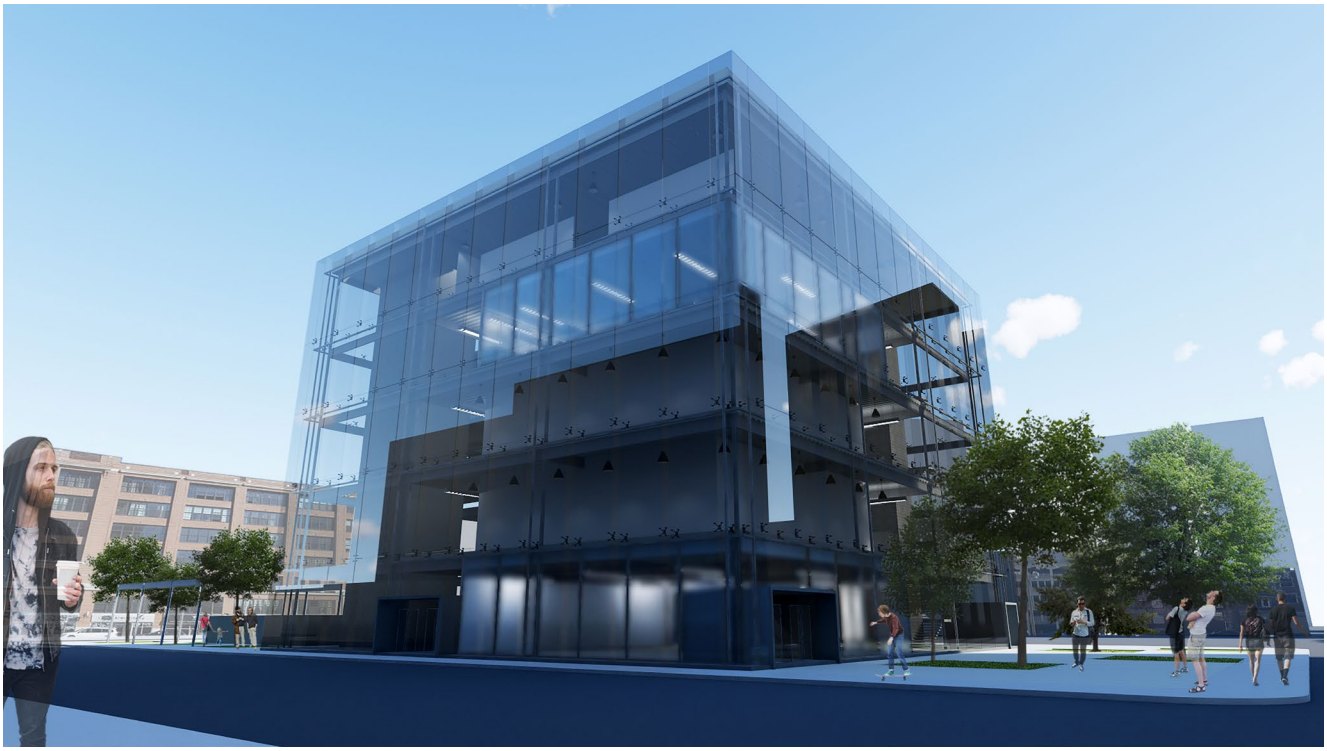
FINAL DESIGN

A NOTE ON FRAMING

If you will remember the thesis premise, you will remember that this project is all about framing in a museum and how it happens both externally and internally. In this section of the book, I will explain how the idea of framing has influenced the design and how the building frames the subject of architecture, both inside and out.

EXTERNAL AND INTERNAL FRAMING

The museum frames its context and is framed by its context at the same time. From the outside, the building is seen as a collection of masses held within a glass case. When looking at a facade straight on, the building becomes a 2-dimensional spatial diagram. The surrounding buildings of St. Paul are reflected on the glass faces of the building. These reflections are layered with the spaces and forms behind the glass, similar to how one might see their own reflection in the case surrounding an artifact in a museum. There are buildings of different scale and size around the museum, forcing one's perception of the building to alter depending on which angle they see it from. From the interior, the surrounding city appears as pictures on a wall, framed by the physical structure of the building. The structural members frame different spaces and volumes throughout the building. The projected crowdsourced images frame the interior spaces while at the same time being framed by these spaces and volumes. The result of all of this is a museum that is driven by external influences, these external influences inform the inside of the museum and the inside of the museum alters one's perception of the external influences.



EXTERNAL AND INTERNAL FRAMING

FINAL DESIGN

MAIN GALLERY

The main gallery of this museum is situated at the top floor of the building. This gallery takes up the entirety of the top floor and is left open for flexibility. For increased flexibility, I added a series of tracks to the ceiling with small sections of wall hanging from them. These wall sections can be rotated and pushed along the tracks so that they can be organized in any configuration. This allows the main gallery to become whatever it needs to be for that particular month, week, day, or hour.

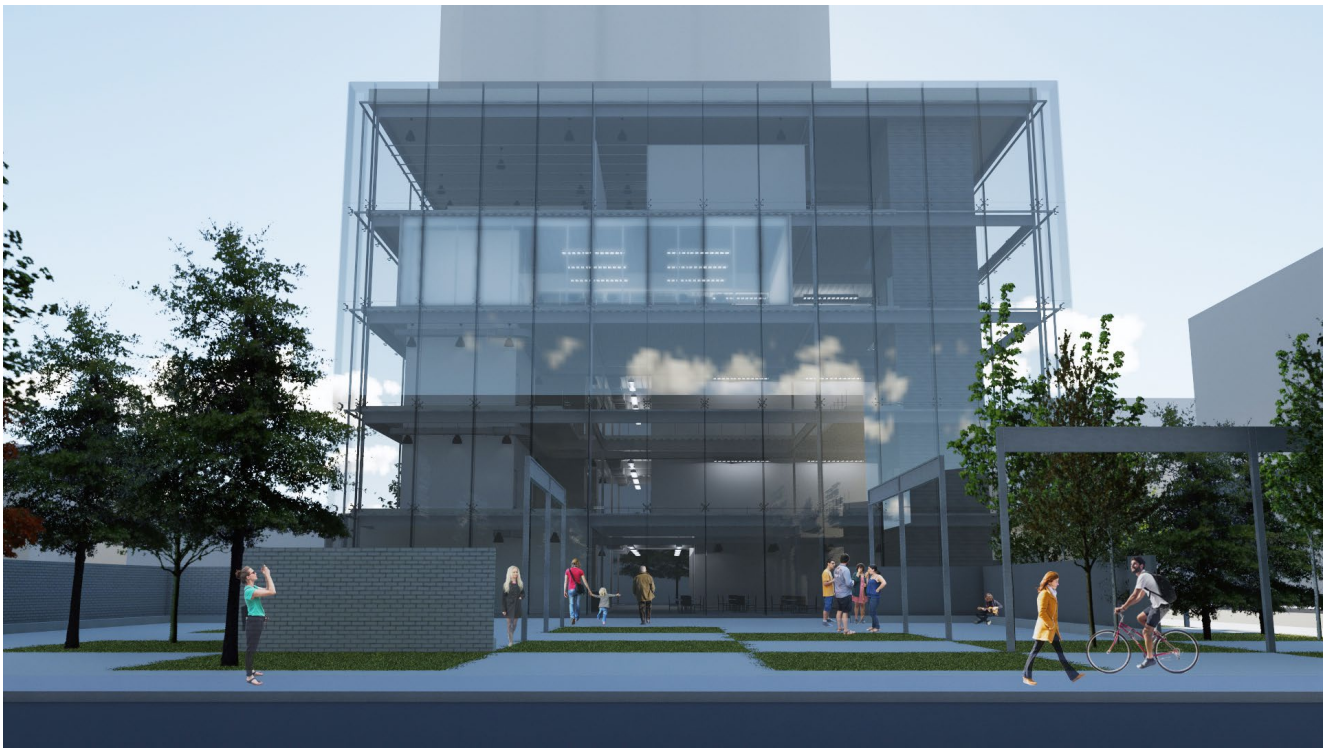
The process to reach this design for the main gallery was challenging. Throughout the design process, I kept trying to think of the perfect gallery and what exactly would happen in that gallery. I thought of displaying different architectural construction methods, creating full-size 3D wall sections, filling the gallery with building blocks, and multiple other ideas. In the end I realized that these ideas were all viable and that if I wanted all of them to be able to happen then I would need to design for maximum flexibility.

STRUCTURE

The structure of this building is organized on a simple 40x40 foot grid of steel beams and columns. The structure, along with the HVAC, lighting, and plumbing systems are all left exposed to reveal the inner workings of the building to visitors of the museum. Because of this, the public spaces of the museum become an lesson in the anatomy of a building. These exposed systems will then frame the exhibits of the museum.

STRUCTURAL GARDEN

In Pedro Park, right next to the museum, I have designed a “structural garden” space. This public space includes spaces for gardens, trees, shrubs, and other vegetation as well as spaces to sit and relax. Throughout the garden are full-size examples of different structural systems such as masonry, concrete, steel or timber post-and-beam, etc. This garden space is a leftover idea for the interior structure of the building that was explored early in the process. By seeing different structural systems side-by-side, visitors will being to understand how different materials can influence how a building looks and feels.

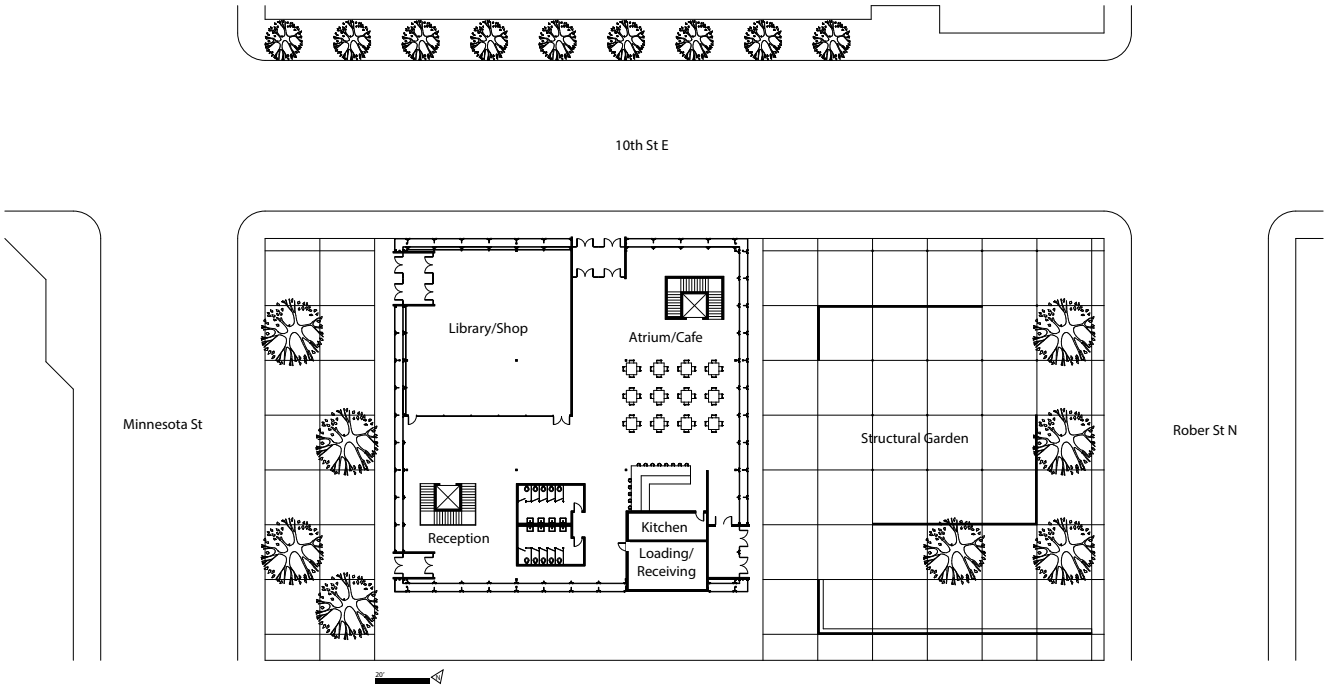


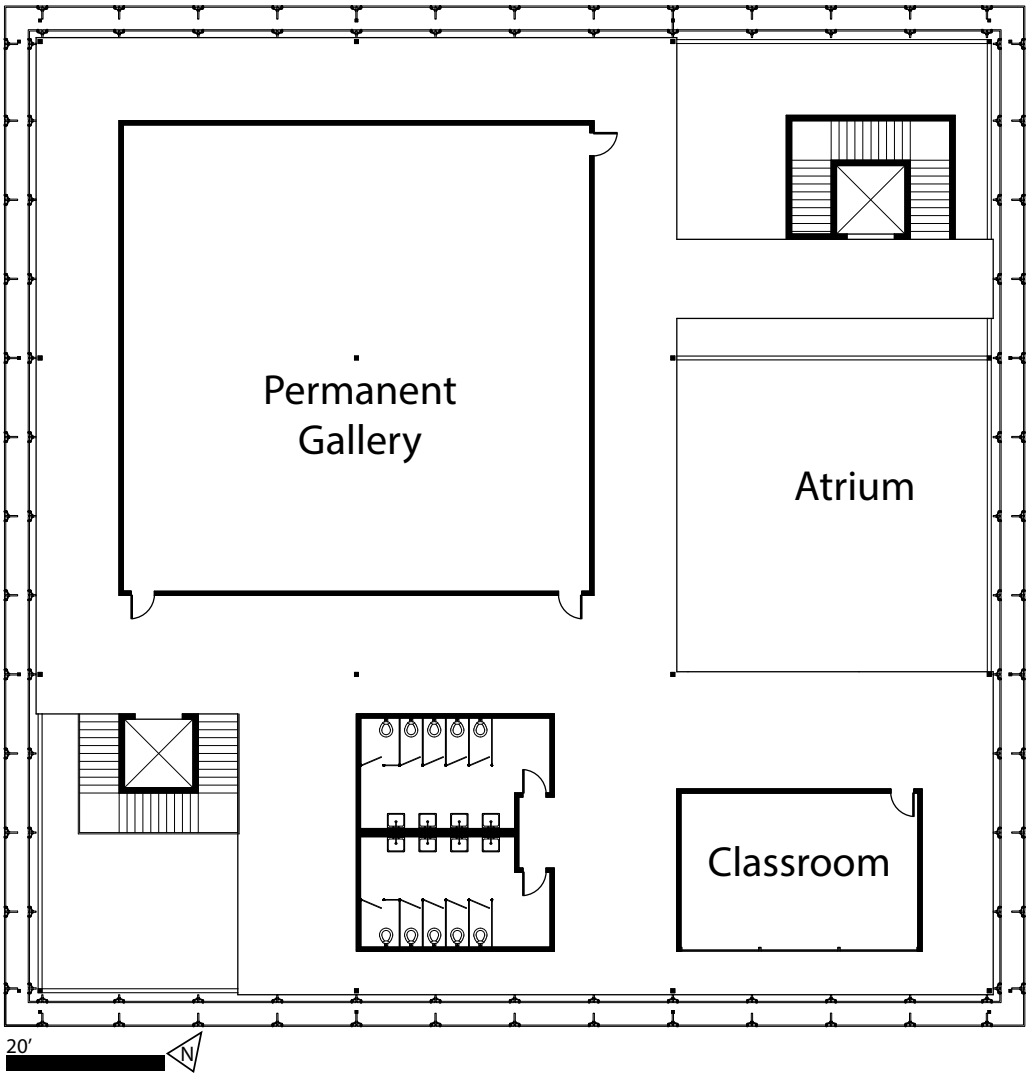
SPATIAL ORGANIZATION

The final floor plans were arranged based on the trace paper studies I did earlier in the process. The first floor hold the lobbies, atrium, cafe, kitchen, loading/receiving space, and the library/shop. The second floor holds the permanent gallery, a classroom, and a section of the atrium. The third floor holds the auxiliary galleries, a classroom, and a section of the atrium. The fourth floor holds the open creative studio space, the open offices, and a conference room. The fifth floor holds the main gallery, the culmination of the experience of the museum.

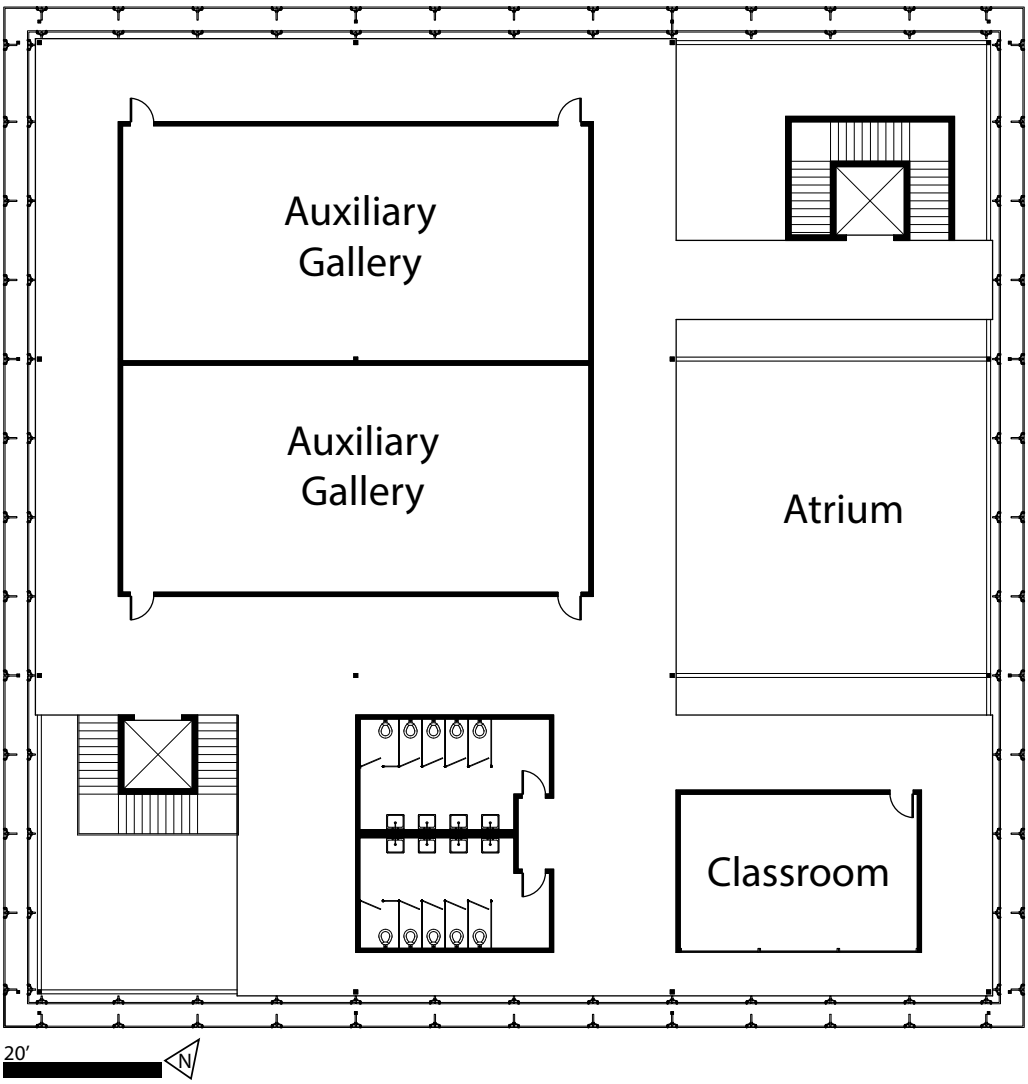
FINAL DESIGN

SPATIAL ORGANIZATION



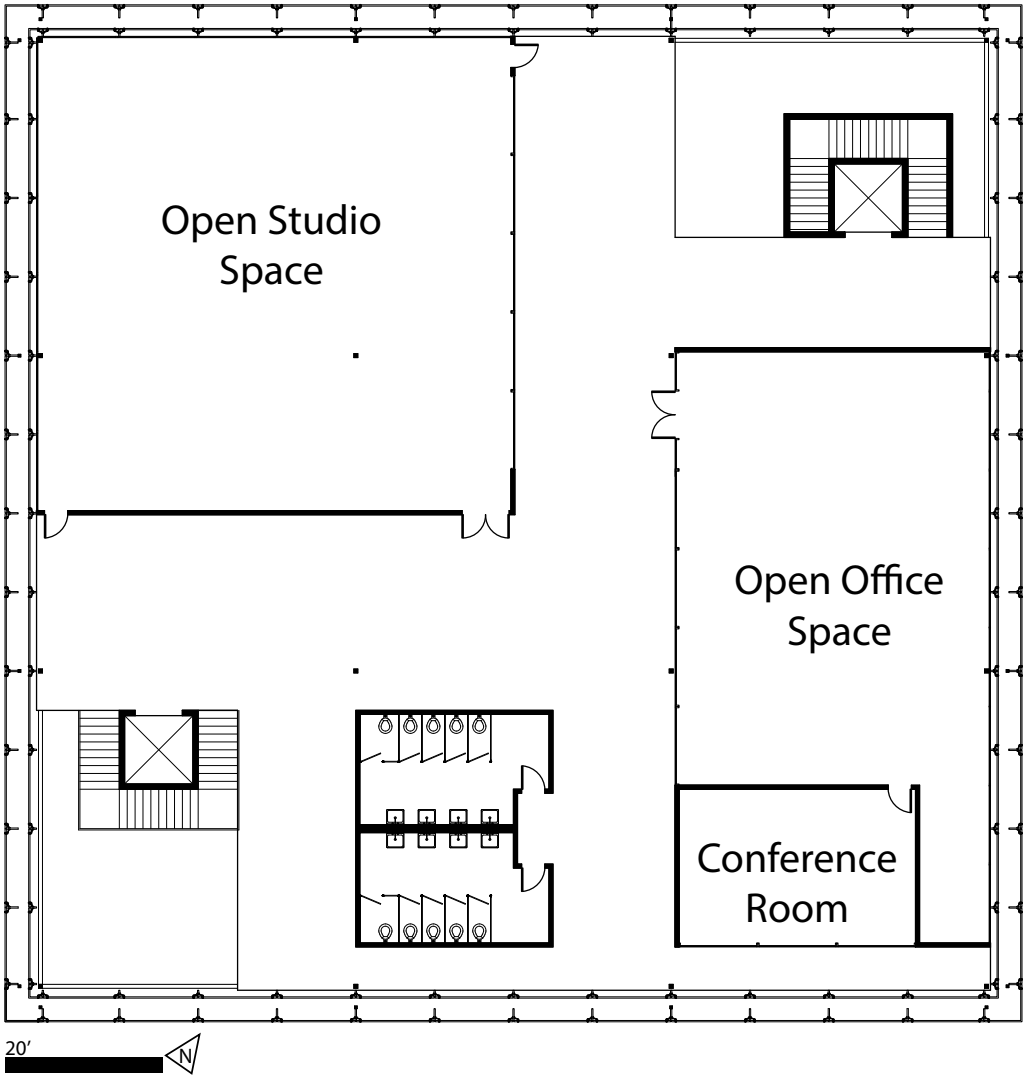


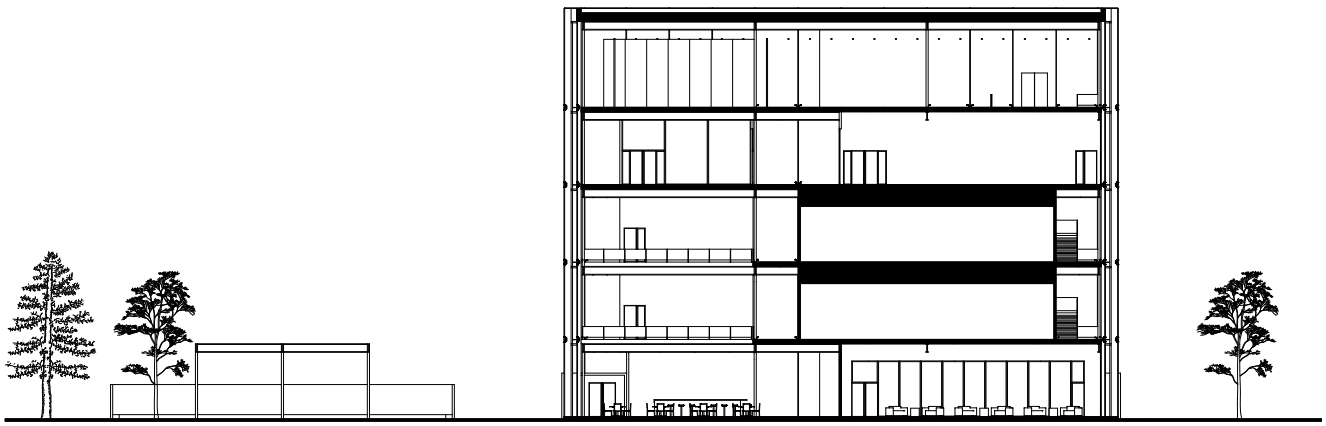
SPATIAL ORGANIZATION



FINAL DESIGN

SPATIAL ORGANIZATION





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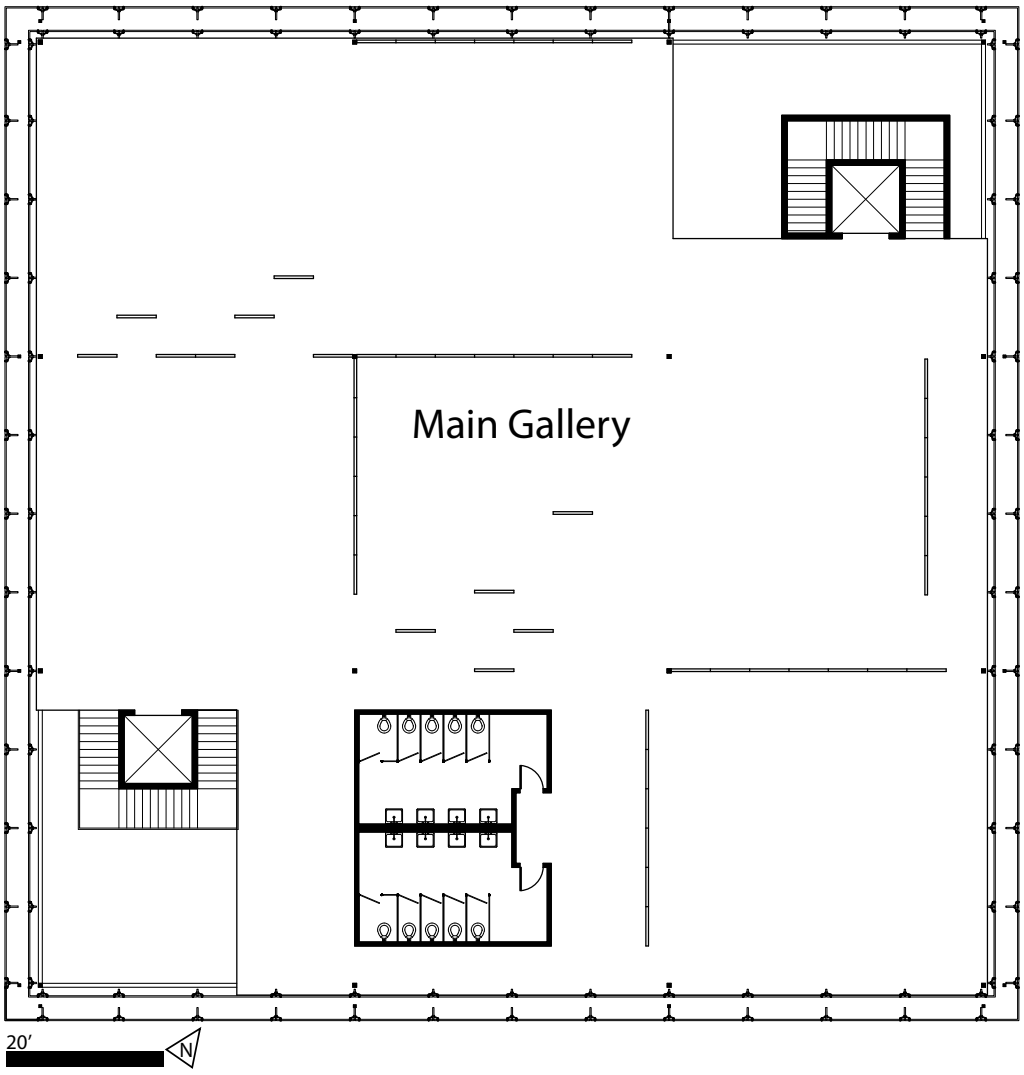
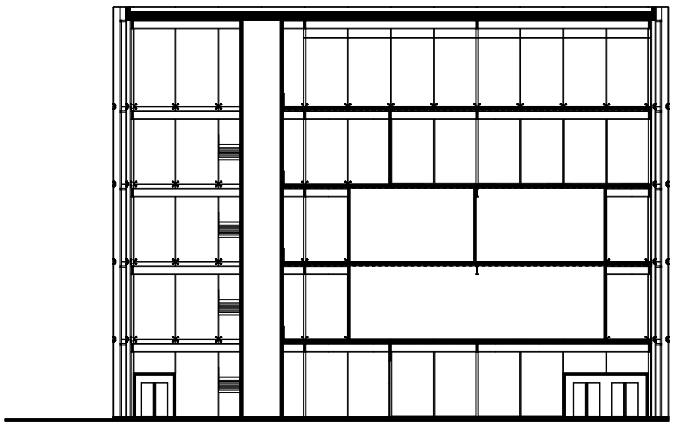
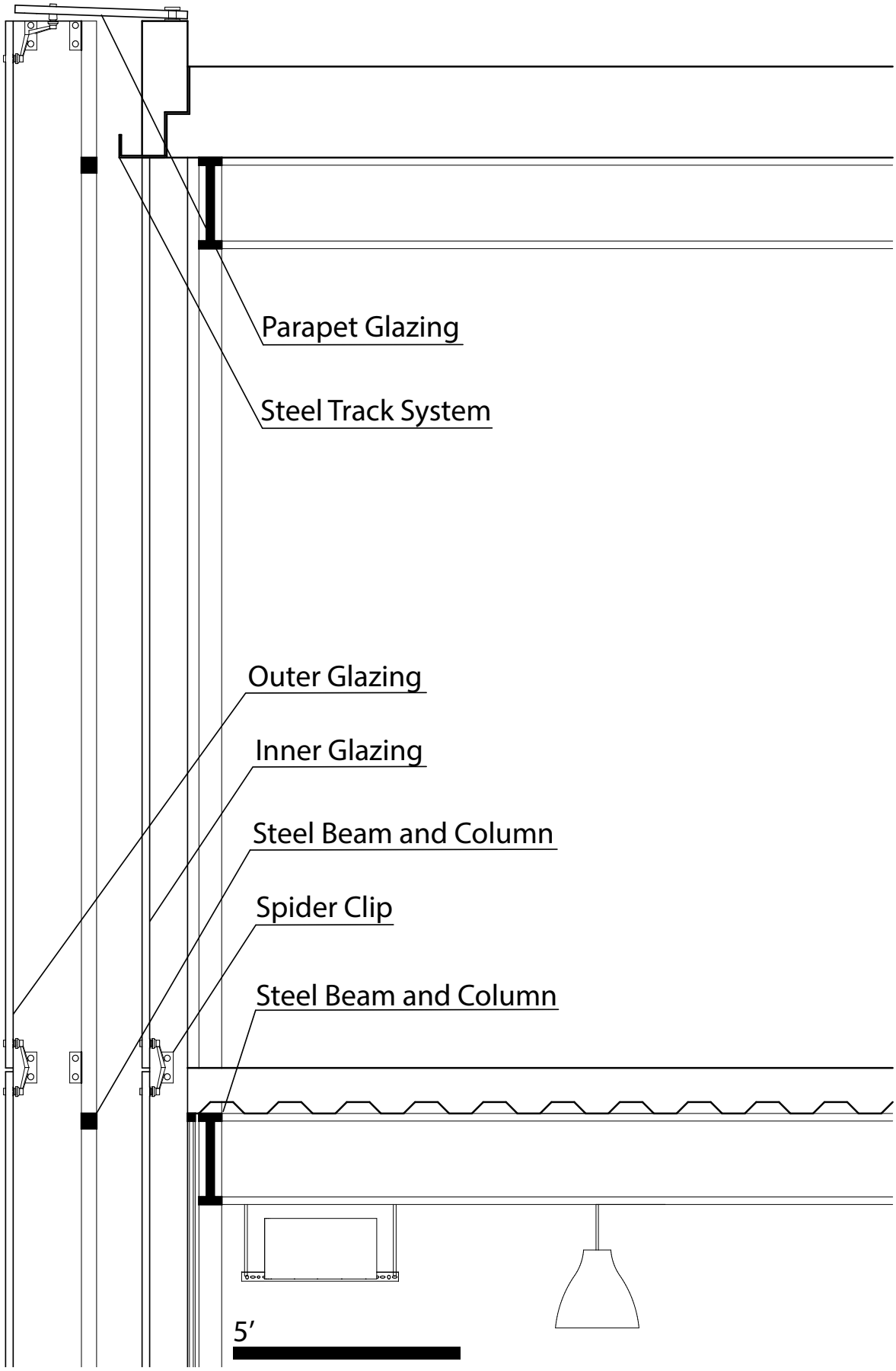
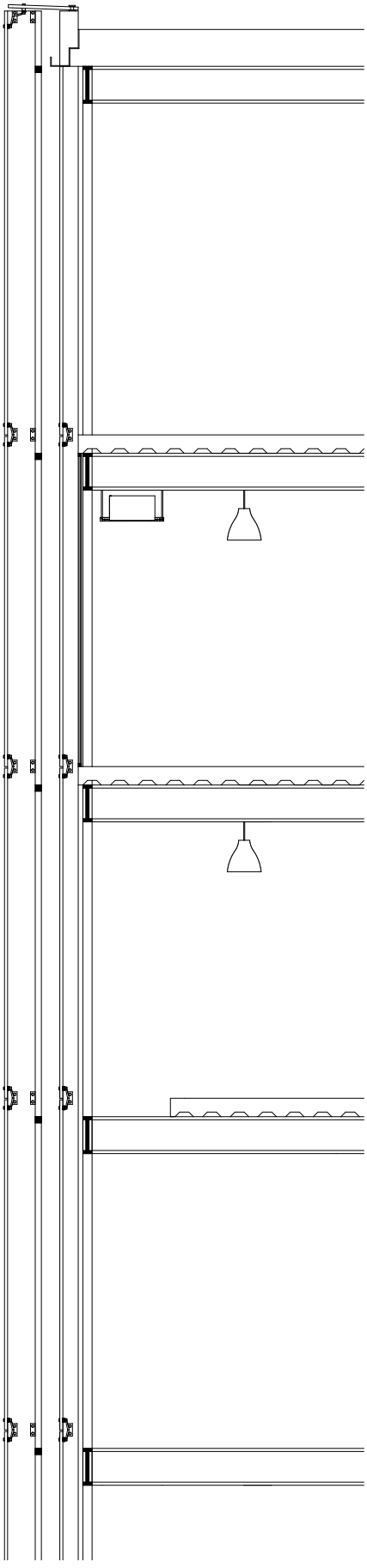


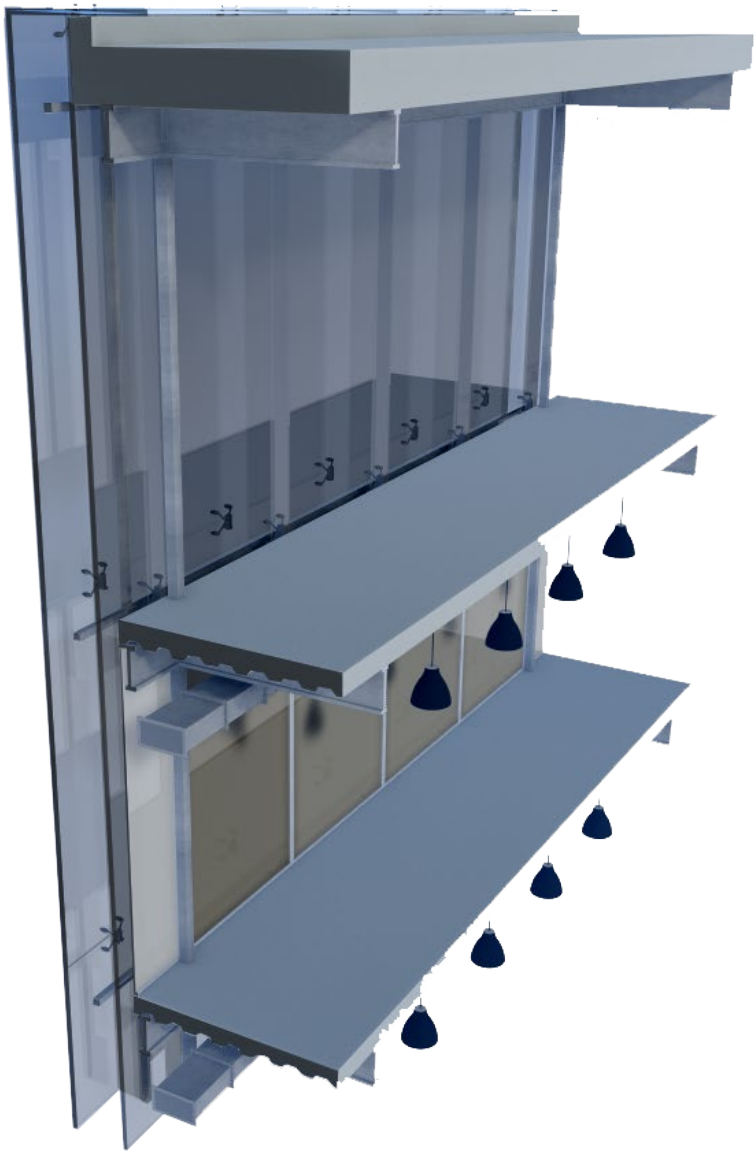


DETAILING


Parapet Glazing
Steel Track System
Outer Glazing
Inner Glazing
Steel Beam and Column
Spider Clip
Steel Beam and Column
5'

DETAILING

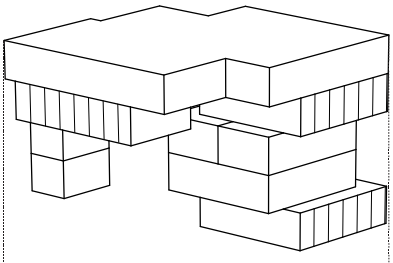




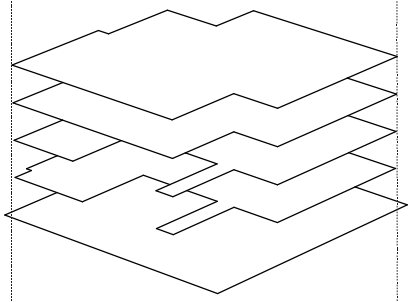
FINAL DESIGN

DETAILING

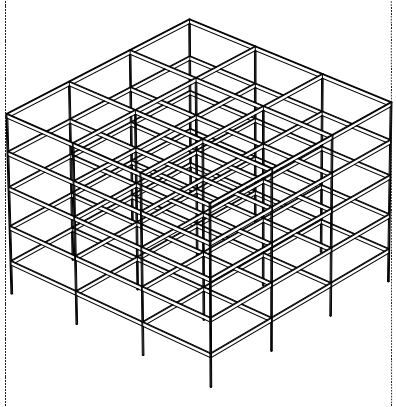
SPATIAL MASSES



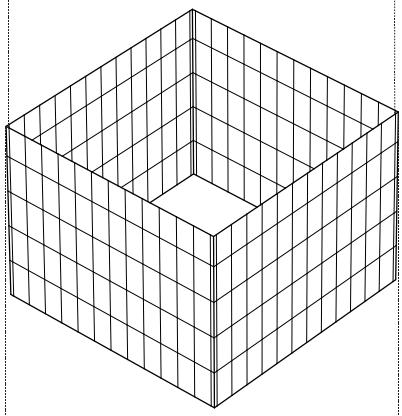
FLOOR PLATES



STRUCTURE



INNER SKIN



OUTER SKIN

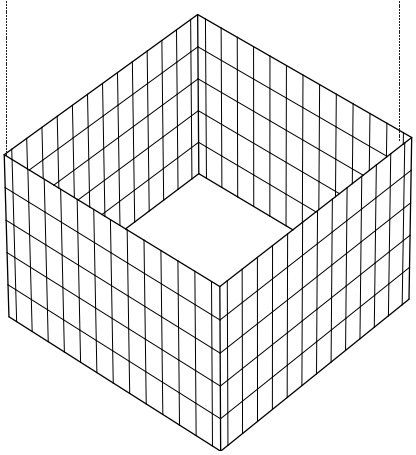


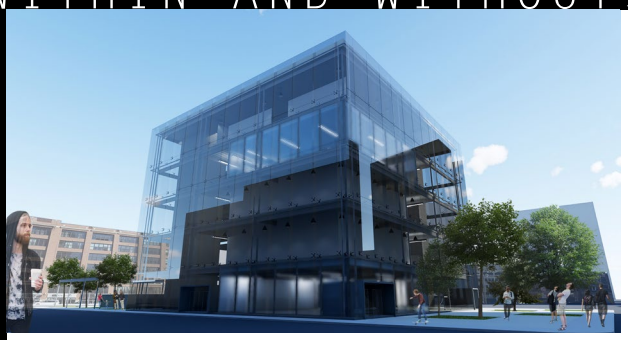
PHOTO OF COMPLETED DISPLAY

FINAL DESIGN

FINAL DISPLAY BOARDS

WITHIN AND WITHOUT

SAINT PAUL MUSEUM OF ARCHITECTURE



Through Architecture, a museum can frame external context, both physical and conceptual, as well as internal exhibits. In a museum, framing is typically found in the form of physical frames around a painting or a glass case around an object or artifact and it is seen as a way to separate that which is on display from its surroundings. However, as Janet Marstine writes in her book, New Museum Theory and Practice: An Introduction, "rather than isolating a work from the wider world, framing links the two." This thesis project is primarily an exploration of that idea and how it extends beyond the physical limits of a museum to the physical and conceptual context that surrounds that museum.

The design of this museum stems directly from the idea of framing in both the physical sense and the conceptual sense. From the outside, one will see the building as a group of objects within a case. From the inside, one will see the surrounding city as pictures on a wall, framed by the building itself. The museum becomes a frame and is framed at the same time. Beyond the confines of its walls, the museum is framed by the surrounding structures of downtown St. Paul. Beyond its physical context, the museum is framed by the global concepts of architecture.

One can argue that the real museum of architecture is all around us in our built environments. Each city is a gallery in flux, with new buildings standing next to centuries old structures, on display for anyone passing by. In order to bring this global museum of architecture into my museum, I designed a sculptural frame that could be placed anywhere in the world. When people pass by the frame, they would be encouraged to pause, document their surroundings with a picture, and post that picture to the internet. In the museum in St. Paul, those pictures would be projected on surfaces throughout the structure. The result is a museum that draws its contents from within and without.

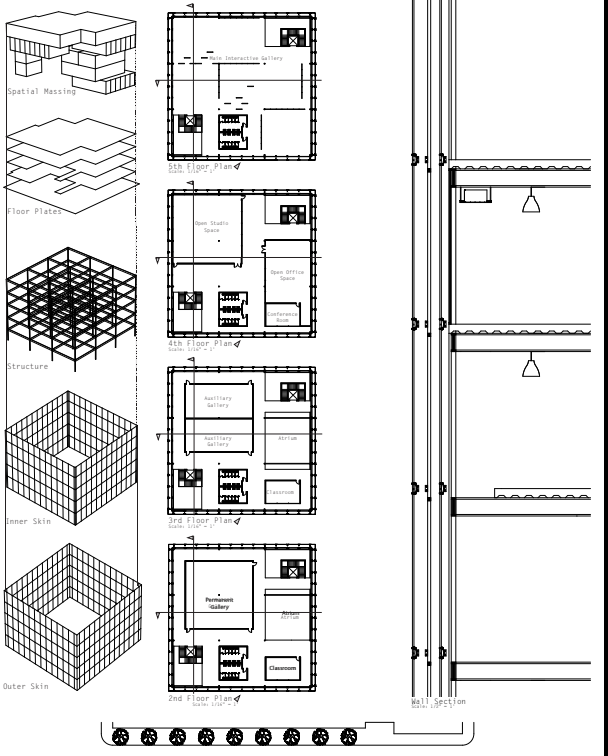
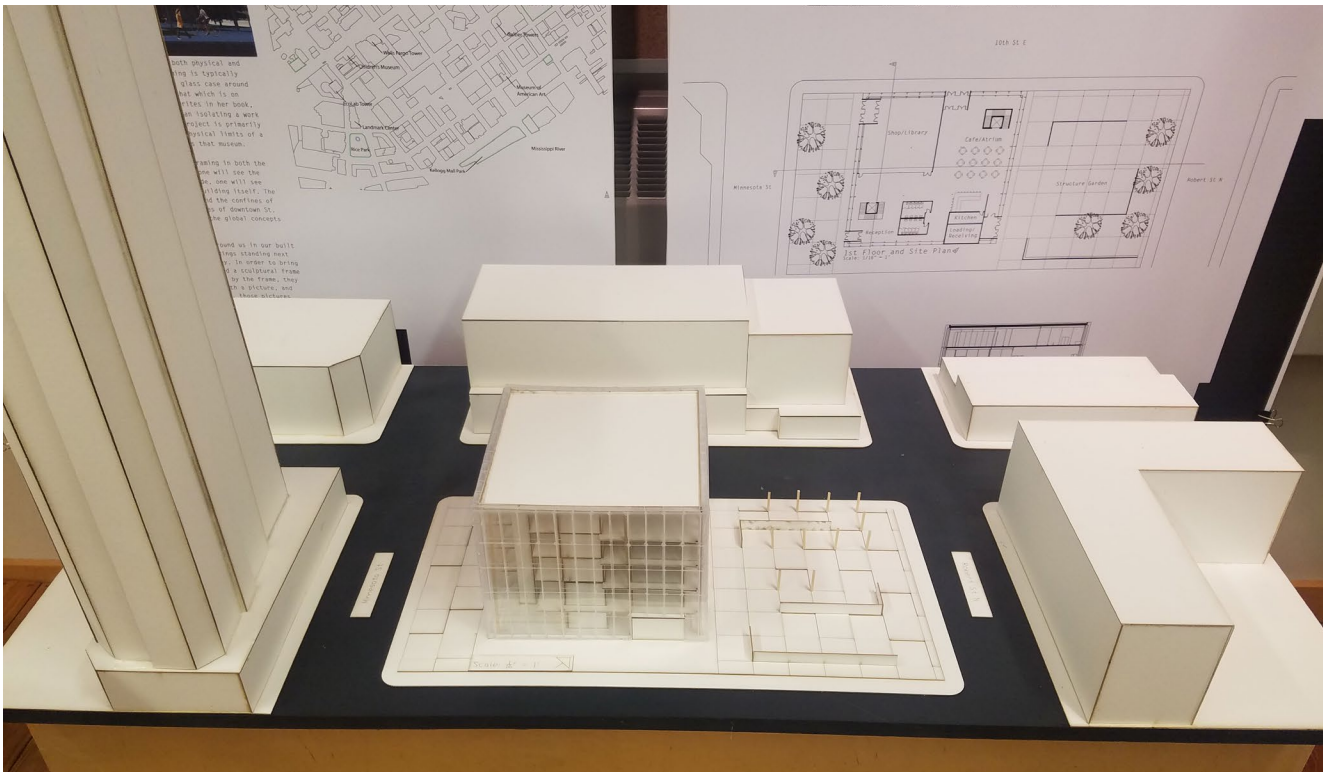


PHOTO OF FINAL MODEL



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APPENDIX

PREVIOUS DESIGN STUDIO EXPERIENCE

2ND YEAR: 2014-2015

FALL 2014: PROF. DARRYL BOOKER

TEA HOUSE: JAPANESE TEA HOUSE AND GARDEN
BOAT HOUSE: ROWING TEAM TRAINING FACILITY

SPRING 2015: PROF. CINDY URNESS

MONTESSORI SCHOOL: MONTESSORI STYLE ELEMENTARY SCHOOL
FOR THE BIRDS: BIRD HOUSE IN THE STYLE OF REM KOOLHAAS
DWELLING: TINY HOUSE FOR A FICTIONAL CHARACTER IN A FICTIONAL TOWN

3RD YEAR: 2015-2016

FALL 2015: PROF. ADAM BECK

ISLAND ART CENTER: ART MUSEUM AND COMMUNITY CENTER
262 BOWERY: MIXED-USE URBAN MID-RISE PROJECT

SPRING 2016: PROF. REGIN SCHWAEN

DRIFTING CONCRETE CLOUDS: ARTIST'S RESIDENCY AND STUDIO
CAPSTONE TOWER: BOTANICAL RESEARCH FACILITY

4TH YEAR: 2016-2017

FALL 2016: PROF. BAKR ALY AHMED

540 HOWARD: MIXED-USE HIGH-RISE

SPRING 2017: PROF. DON FAULKNER

FARGO ARCHERY & NATURE CENTER: ARCHERY RANGE AND NATURE CENTER
URBANISM STUDIES: A SERIES OF 15 SMALL URBAN PROJECTS

5TH YEAR: 2017-2018

FALL 2017: PROF. ELIZABETH MEDD

PRAIRIE PAVILION: SMALL PAVILION CONSTRUCTED WITH WOVEN GRASSES

PERSONAL IDENTIFICATION

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Permanent Address: 1350 Broadway N, Fargo, ND, 58102

Phone: 763-248-3739

E-mail: mitchell.abrahamsen@ndsu.edu

Hometown: Blaine, Minnesota

Quote about NDSU: Over the past 5 years, North Dakota State University, especially Renaissance Hall, has become as much a home as the one I grew up in.