

THESIS PROPOSAL. ARCH 763
MEGAN OAKES



-HASTINGS NATURE & INTERPRETIVE CENTER- MASTER of ARCHITECTURE THESIS-

NATURE AND INTERPRETIVE CENTER

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

By
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In Partial Fulfilment of the Requirements for the Degree of
Master of Architecture



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THESIS ABSTRACT



FIGURE 01

For centuries cities have been formed and various cultures shaped by the natural formation and flow of fresh water resources. Nature has an ever-changing pattern, rich-complexity, and various textures and forms that appeal to the deepest aspects of human consciousness. What was once a centerpiece of daily life has now shifted into the subconscious and is often taken for granted. In today's changing society, this cultural issue leads to concerns such as pollution and the tremendous amount of wasted water. It has been understood that immersion in nature brings peace and happiness to the human mind. Nature has a way of changing our senses, minds, optimal health and well-being. One can learn about nature from an intellectual stand point, or with direct and more emotional experience. Being educated and reminded of the importance of a major fresh water system in the United States is something that would improve on the protection of the Mississippi River and the nature and wildlife that surrounds it.

With these circumstances apparent, through research it provides architectural solutions to further develop and revitalize the historic downtown. Research suggests that human interaction with nature is extremely beneficial and provides successful outcomes by informing, educating, and inspiring communities about our natural environment.

NARRATIVE OF THE THEORETICAL ASPECT

THE UNIFYING IDEA

Nature has a way of pleasing our emotional sense of awe and amazement. It has been shown that being interactive with our natural environment have positive effects on humans that include levels of both happiness and depression. Architectural movements have opportunities of providing openings to nature in our everyday lives, whether it is in the country or the city- at home, in the workplace, in schools and in neighborhoods. Being connected to nature also allows for the development of a creative mind and to improve on the overall well-being of a person.

Protecting our environment is becoming more crucial as each day passes, and it is becoming important to find ways to let nature balance our lives. Protecting our natural world can be accomplished in a few different ways, but the most successful form of protection is to inform and educate our communities about what is happening and to not allow for the rich complexity of nature to fall into the subconscious. Today's changing society has created a tremendous gap between culture and our environments natural aspects. Architects and several types of scientists have seen this gap, and are now trying to reinforce this connection for our own protection. In order to solve these critical issues, architectural spaces can provide for educating and informing communities about the past, present, and future of nature that surrounds us.

THE SITE

The community of Hastings is filled with a beautiful culture and is surrounded with rich and intriguing history. With the site being settled directly on the Mississippi River in downtown Hastings, it provides a sense of place and natural beauty to the area. Simon Unwin once said, "Place is where the mind touches the world", and Hastings does just that. The city has been steadily growing in population, bringing more experience and lively culture to the area. With new developments happening, the city has veered away from the historic downtown area.

Being in a river town also means that many people pass through the city on a daily basis to cross the river, with the next closest crossing points are in St. Paul, Redwing, and Prescott each being roughly ten to twenty miles away.

With this Nature and Interpretive Center being located on a site on the banks of the Mississippi River, there are many aspects that must be considered. The Mississippi is a valuable part of America's history that has played a spirited role in millions of lives. The River winds from Lake Itasca all the way through the country down to the Gulf of Mexico. The culture of the River has inspired generations of people, going back to Lewis and Clark, and of today's generation of poets and songwriters. People have lived along the banks and shores of the Mississippi, and it has been a source of power, provides drinking water, and has been used by many generations of farmers.

In order to revitalize this area, and bring the city back to the historic downtown, creating a destination for visitors to come to would produce a lively community for the city of Hastings. With a future urban renewal project in close proximity to this site will also offer this area to be more developed and connected to the rest of the city. Architectural solutions can be established to engage in the city to make it a more spirited river town.

THE TYPOLOGY

Having a Nature and Interpretive Center in downtown Hastings would create a new atmosphere for the city and would have a positive influence to the downtown. Through design exploration and various research methods, the community of Hastings has opportunities to become a more spirited and cultural place that it offers.

PROJECT TYPOLOGY

BUILDING TYPE

The architectural type of this thesis is defined as a Nature and Interpretive Center located directly on the Mississippi River in downtown Hastings, Minnesota. With the typology being a type of mix-use allows for many users to be attracted to the building. Since the site is located on the River, having connections for the consumers to experience would provide for a tremendous amount of cultural values.

A facility to educate and inform communities about the past, present, and future of our natural surroundings will have positive benefits to this location. In order to bring lively spirit into the downtown, a destination for the community to visit would have an encouraging outlook to the city.

LANDSCAPE TYPE

The landscape has a huge influence on the site, since this is the main factor of where the building will sit and how the landscape will shape the form and structure of the building. With being located in a climate with four seasons, there are many design factors to take into consideration. There is also an incredible amount of connections to history on the site, being in downtown Hastings and directly on the Mississippi River just south of St. Paul, Minnesota.



FIGURE 02

TYOLOGICAL RESEARCH

CASE STUDIES

EASTMAN NATURE CENTER CASE STUDY NUMBER ONE

The Eastman Nature Center is located in Dayton, Minnesota in the Three Rivers Park District and is a size of 12,000 square feet. This center has a strong characteristic creating a holistic visitor experience directly in the forest that provides passive solar energy with a south facing glass façade. It also accommodates an active solar array with a geothermal based heating and cooling system, and provides natural ventilation with operable windows that bring in sounds and smell from the forest. Another element to this nature center is the water collection from the roof is fed into a pond which attracts wildlife for observation. (1). The layout of this building allows for the visitor to be drawn to the natural surroundings with the large glass façade, and it also provides functional rooms for the building typology ; reading rooms, classrooms, observation rooms, exhibits, and a deck.

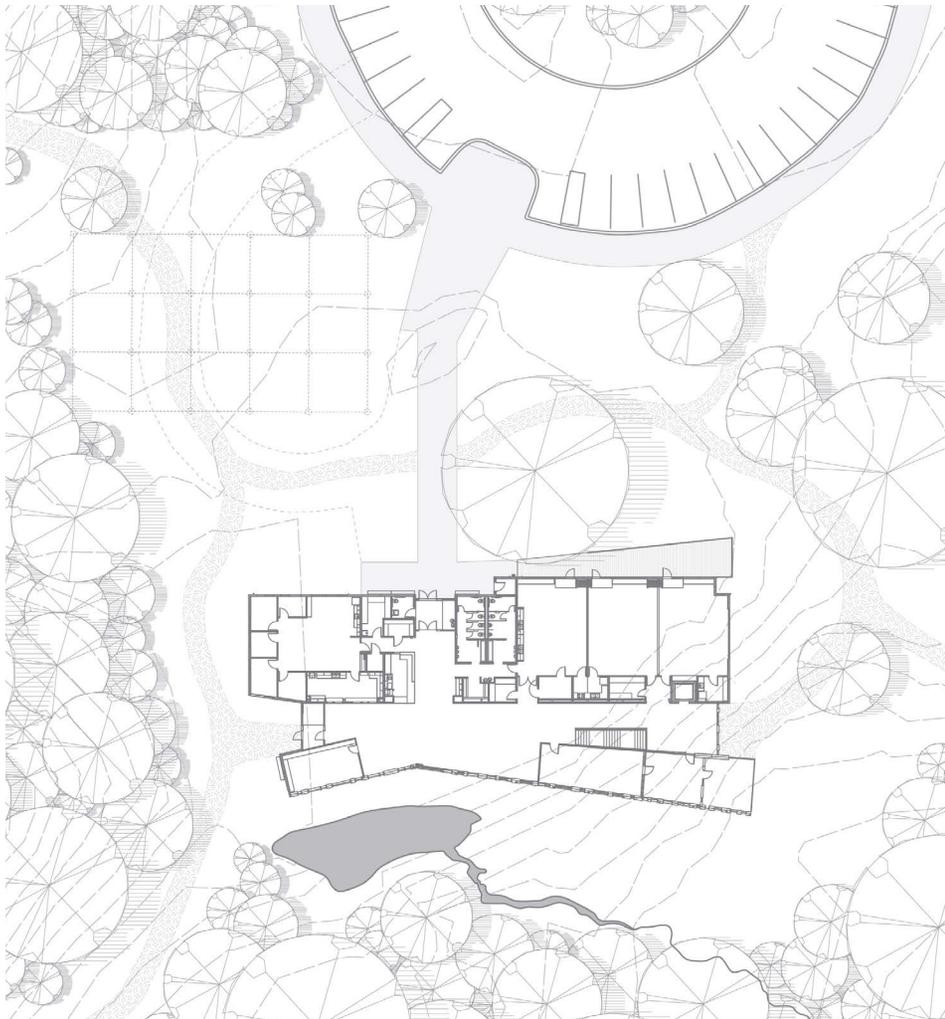


FIGURE 03



FIGURE 04



FIGURE 05

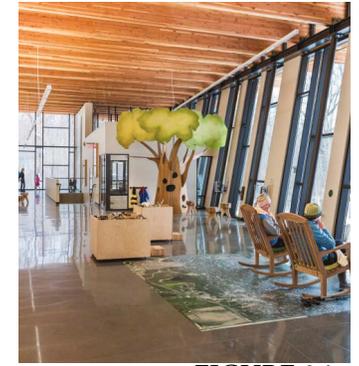


FIGURE 06

TYOLOGICAL RESEARCH

CASE STUDIES

The Eastman Nature Center is in close relation to the other case studies in a way that it expresses the outdoors with a large south facing glass façade. This center provides reading and gathering spaces for visitors along with the other studies, which is beneficial in all types of seasons when considering the northern climate that the case studies are located.

Although the other studies that have a south facing wall; the Eastman Nature center emphasizes this more by angling the wall outwards with taller ceilings, which sets this apart from the other studies. The façade also emphasizes the various colors of the building envelope, which is fitting in the climate of Minnesota; making it seem almost camouflage nestled into the woods.

The Nature center responds well to the surrounding environment and location. The center provides great culture both environmentally and socially. The community gathers together in forms of school groups, workout groups, and with family and friends to visit the Eastman Nature Center. With sustainable strategies such as water collection and geothermal systems, the design of the building fits cohesively into this location.



FIGURE 07



FIGURE 08

TYOLOGICAL RESEARCH CASE STUDIES

SCHAARS BLUFF GATHERING CENTER CASE STUDY NUMBER TWO

Located along the Mississippi River in Hastings, Minnesota is where Schaars Bluff Gathering Center is located and is within the Spring Lake Park Reserve. Situated on a dramatic landscape sits a 3,500 square foot building that focuses on the active stewardship of ecological and cultural resources. This building also houses a 35 kW wind turbine that provides 83% of energy used by the gathering center.

The Gathering Room at Schaars Bluff was designed to capture views across the Mississippi River and holds a capacity of one hundred in theatre style, or eighty in a dining setting. The Gathering center also provides complete kitchen facilities and an outdoor ceremony location. The site accommodates summer hiking and winter ski trails, along with a large shelter picnic area.

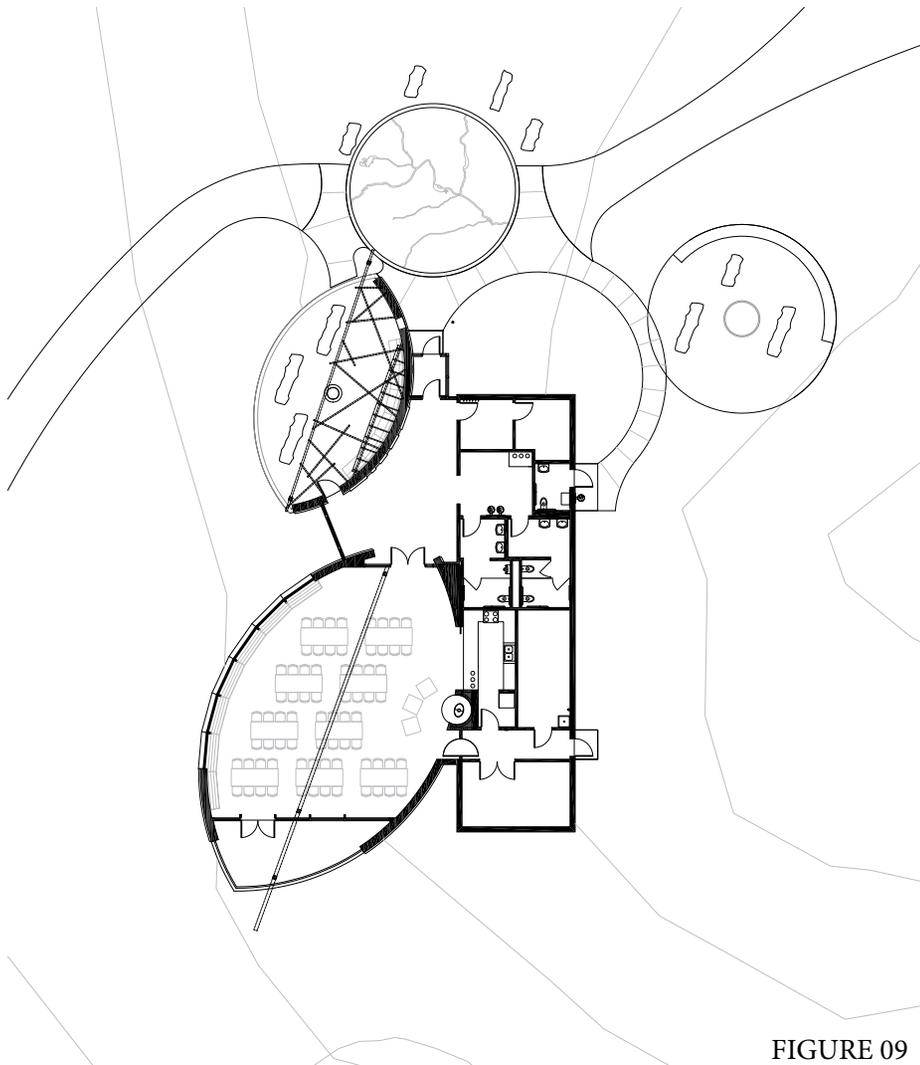


FIGURE 09



FIGURE 10

TYOLOGICAL RESEARCH

CASE STUDIES

Schaars Bluff Gathering Center is closely related to the other cases because of its size, even though it is the smallest of the four studies. The materiality of the building is also a close relation to the other buildings, wood and steel construction. The interior in the main gathering space also has a long bench along the glass wall, which is fitting for the types of buildings these are and the sites they are situated on.

The distinction between Schaars bluff and the other case studies is that this gathering center is located on a dramatic site, which is an elegant aspect to this building type. The face of the building that allows for views out overlooking the river has a smooth elegant curve that creates an organic and natural feel to the building.

This gathering center acts as a getaway destination with its beautiful site location overlooking the river. The structure connects into the site by having strong environmental, social, and political aspects that bring together a memorable culture to the area. Since the building is located within a park reserve, it brings a large variety of communities together that hosts weddings, receptions, presentations, and other gatherings.



FIGURE 11



FIGURE 12



FIGURE 13



FIGURE 14

TYOPOLOGICAL RESEARCH

CASE STUDIES

GRAND TETON DISCOVERY AND VISITOR CENTER CASE STUDY NUMBER THREE

Situated in the mountainous city of Moose, Wyoming is the Grand Teton National Park and Visitor Center with a size of 23,000 square feet. This U-shaped building has a larger perimeter of windows that are zig-zag shaped to allow for a panoramic view to the north landscape (10). Spaces line the east and west sides of the building to allow for the central spaces to be open for generous lighting. With Wyoming having cold winters, the building still allows for the symbolic aspect of a north facing window to emphasize the rugged landscape . The building is characterized with a compressing entrance, and then emerging into an expansive light- filled space.

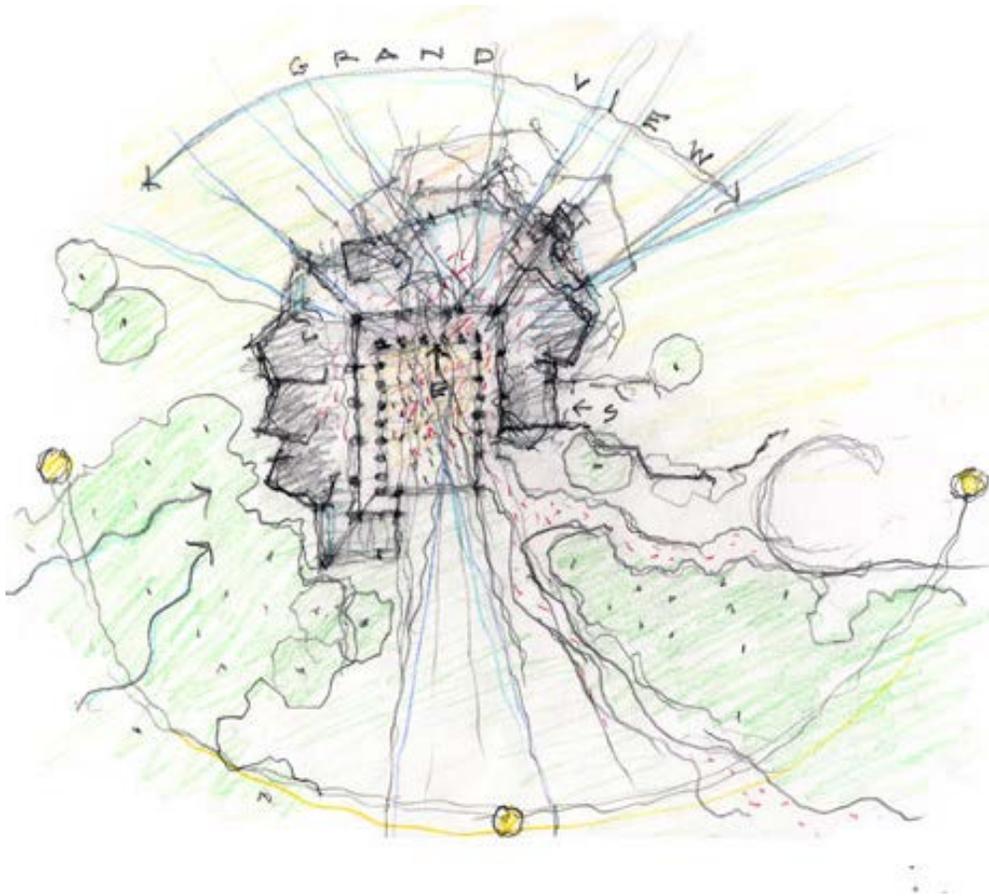


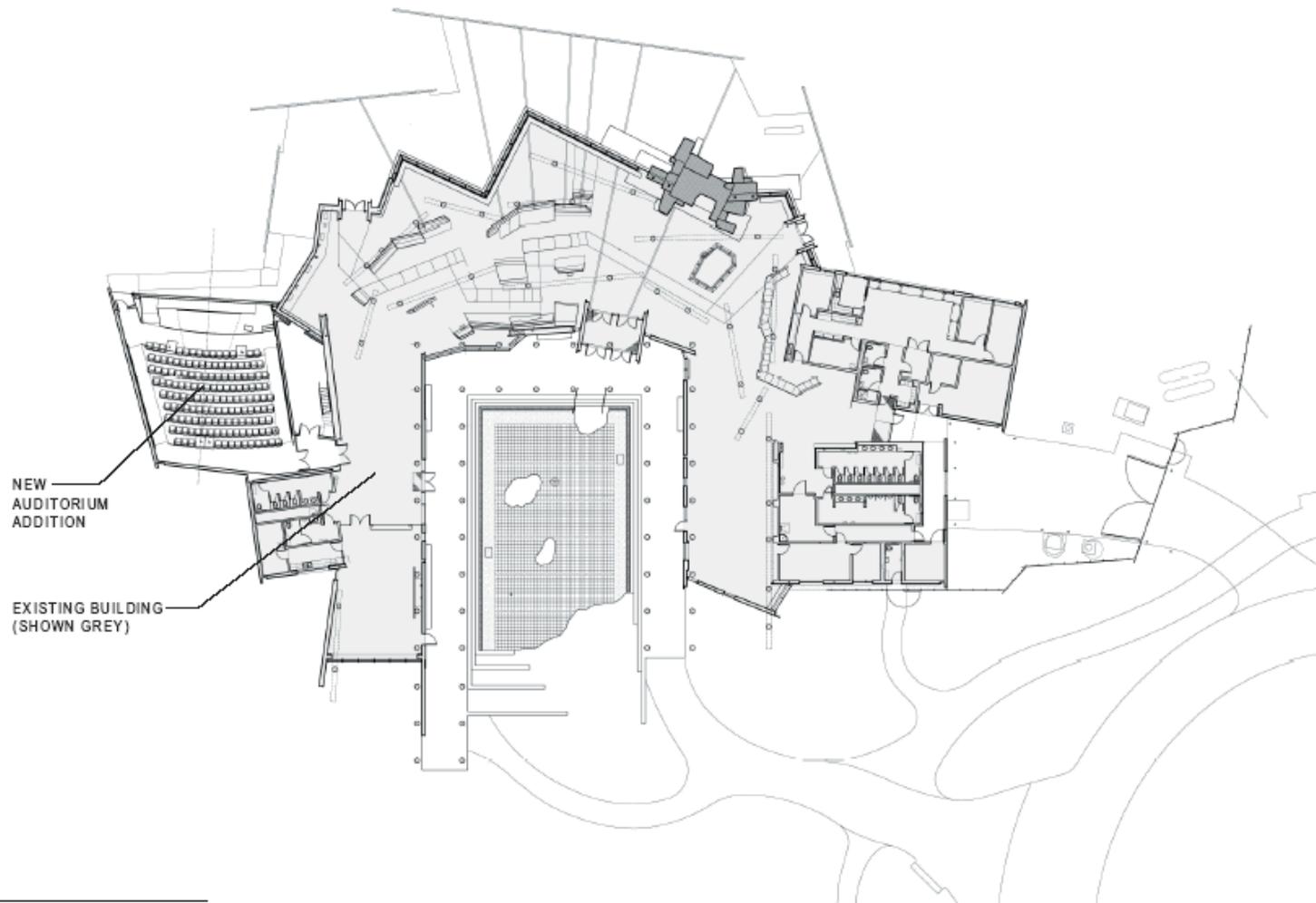
FIGURE 15



FIGURE 16

TYPOLOGICAL RESEARCH CASE STUDIES

GRAND TETON DISCOVERY AND VISITOR CENTER



BUILDING FLOOR PLAN
1/32" = 1'-0"

Craig Thomas Discovery and Visitor Center Auditorium

FIGURE 17

Bohlin Cywinski Jackson

TYOLOGICAL RESEARCH

CASE STUDIES

The Grand Teton Visitor Center has a few things in common with the other case studies. The materiality of the building is similar to the other cases with wood construction, and the use of a large window façade. The roof structure is exposed tongue and groove decking that is shown within the interior, which is also used in the Eastman Nature Center.

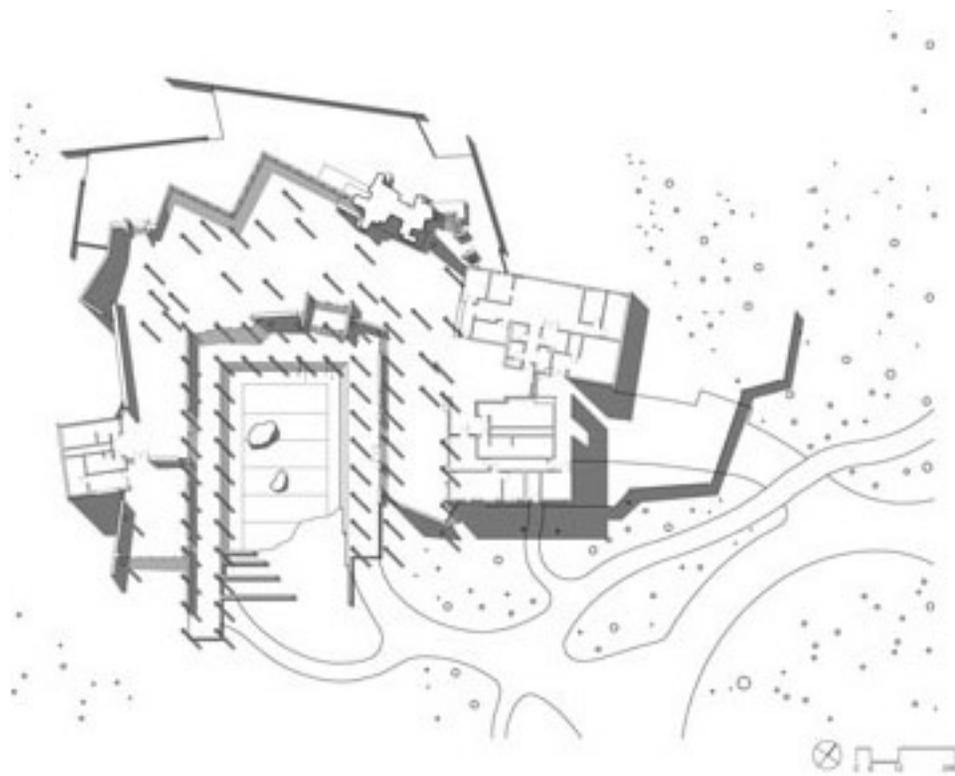


FIGURE 18

The Grand Teton Visitor Center has a north facing glass façade, which in a harsh climate is not ideal, but it fits the symbolic aspect of being located in the mountains. The Visitor Center also accentuates a zig-zag curtain wall that makes it unique, and fits into the site with the topography and the beauty that surrounds it allowing views in multiple directions. The shape of this building is also uncommon when comparing the other three cases I have chosen to study. This U-shape allows for the structure to be open, and it also creates an outdoor space that seems enclosed from three sides. This outdoor space the building shape creates fits well in the site. The interior of this building is also uncommon to the others because it uses timber columns throughout to create a feeling of being in the forest and connecting with the outdoors.

The community of the Grand Teton National Park is very pleased to have such a beautiful and spirited visitor center that responds cohesively. The environment around the assembly provides two hundred miles of hiking trails where the Snake River winds around. The center offers ranger led programs, and houses Native American artefacts to bring together the strong cultural community.



FIGURE 19

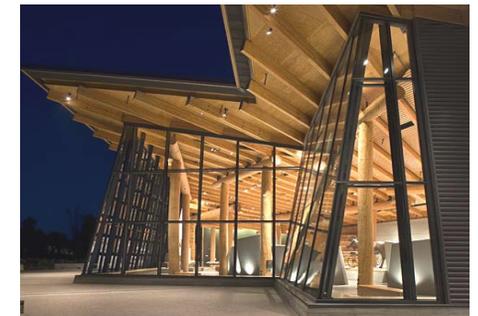


FIGURE 20

TYOPOLOGICAL RESEARCH

CASE STUDIES

MINNESOTA VALLEY WILDLIFE REFUGE VISITOR CENTER CASE STUDY NUMBER FOUR

Located in Carver, Minnesota along the Minnesota River is the Minnesota Valley Wildlife Refuge Visitor Center at a size of 12,800 square feet. This innovative environmental education center allows for visitors to explore the refuge on a beautiful landscape, and educated about the local ecosystem and the advantage of energy efficiency. The architectural characteristic of this center is the views through the strategically framed windows that accentuate the beauty of nature.



FIGURE 21



FIGURE 22

TYOLOGICAL RESEARCH CASE STUDIES

MINNESOTA VALLEY WILDLIFE REFUGE VISITOR CENTER



The plan emphasizes the importance of the window openings that frame the beauty and nature of the landscape.

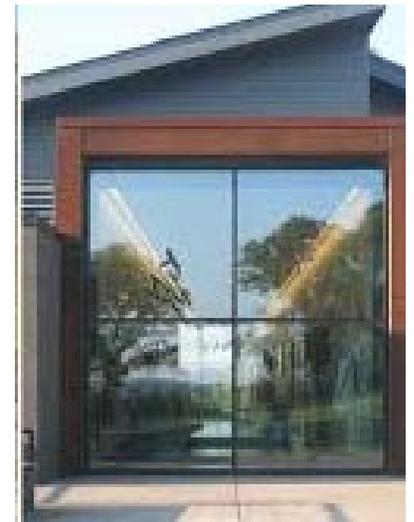


FIGURE 23

FIGURE 24

TYOLOGICAL RESEARCH

CASE STUDIES

The Wildlife Refuge Center has a few things in common with the other cases such as; goals to educate the community about wildlife and protecting our environment and providing recreational activities for the community to come together. This structure also has similarities in expressing the outdoors and nature of where the site is located.

The frames that the visitor center emphasizes would be the first physical appearance that makes this project different than the others. The floor plan has simple organization pattern with a few slight angles that the framed windows create.



FIGURE 25

The Wildlife Refuge is always trying to improve the protection of wildlife and they provide for migratory birds, fish, and various other wildlife species that are threatened by many forms of commercial and industrial developments. The center responds to the site well, which is comprised of more than fourteen thousand acres, and offers recreational activities in all seasons.

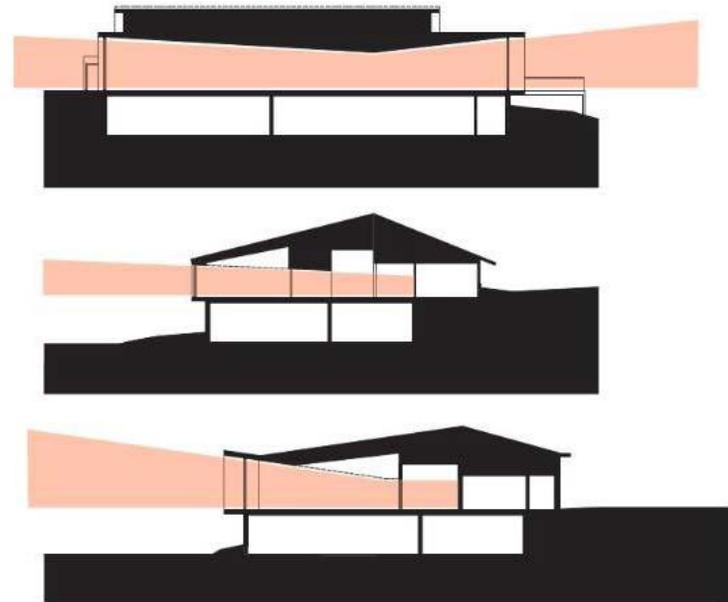


FIGURE 26

TYOLOGICAL RESEARCH

CASE STUDY SUMMARY

CASE STUDY SERIES AND THE TYOLOGICAL SUMMARY

While gathering, investigating, and researching these four case studies, a great amount of information was taken into consideration. Through this process, each of these studies has similarities and differences that are beneficial in my research methods. Out of the four case studies, three are located in the Twin Cities, and the other is located in the mountainous city of Moose, Wyoming. Choosing to study typologies in close relation to one another would include Visitor Centers, Gathering Centers, and a Nature Center, and to also study within the same type of climate to relay sustainable and site strategies.

Since these studies are in close relation to one another, meaning similar climate, typology, and users of the building, they had many things in common. Even though they were all different in their own ways, they still had the same main ideas such as materials and structure. There are things to take away from the common characteristics such as the large glass façade that expresses the outdoors to emphasize the view during all climates. Another aspect to take away was the small bench that ran along the glass façade that was a simple gesture that fit perfectly in the typology.

Every study has different aspects that make it unique, and choosing these four studies have their own personal feeling about them. While investigating each of these in a great amount of detail, considering using unique ways to apply these aspects into design would be very interesting. Each case works cohesively with each chosen site it inhabits.

With each study acting in the environment and how they respond culturally, socially, and politically are each successful in their own ways. Each have a spirited culture and receive many visitors per year, with sustainable design solutions that make the building environmentally friendly on the landscape. Each case provides gatherings and recreational activities to make it a destination for their visitors.

Each study has similar functional relationships such as gathering spaces, offices, and exhibit spaces. Also, each being similar in size and climate they display practical use for the typology. When examining a special relationship, each provides for large open spaces for gatherings and views to the exterior. Working and designing in a climate where temperature swings vary at a tremendous amount, technical issues come with options of materials and super structure. To allow for visitors at all times of the year, the centers provide for activities in all seasons to keep the building open and functioning.

MAJOR PROJECT ELEMENTS

DESCRIPTION

Through investigation that is already complete about the site and the building typology, there are elements that will be included into the building based on the known information about the site. The elements will get further developed as more investigation continues, and will be designed using different factors to create a unique design.

SPACES TO INCORPORATE

- Exhibit Space
 - Nature & Wildlife
 - Water- Mississippi River
- Reception desk
- Rental desk
- Rental equipment storage
- The Commons
- Historical and Inspirational Library
- The creative 'nest' - Reading Space
- Classrooms
- Employee break room
- Meeting spaces
- Restrooms/ Locker rooms
- Storage
- Electrical/Mechanical
- Parking
- Waterfront Development
 - Picnic/ seating area
 - Connections to water and existing trails

BREIF DESCRIPTIONS

EXHIBIT SPACE

Including spaces to inform and educate the visitors about nature and wildlife, and how we affect our surrounding environment.

RENTAL EQUIPMENT

With existing biking/ hiking trails located along the river provides for opportunity to develop recreational activities for the community.

THE COMMONS

A common gathering area allowing for meeting spaces, school group gathering, or to be rented by groups of the community.

LIBRARY

To inspire those interested in learning about the historic city

READING SPACE

A comfortable space allowing those to enjoy literature.

CLASSROOM

For a presentation style meeting, used by school groups.

WATERFRONT DEVELOPMENT

To connect the community with the outdoors providing a developed waterfront area with seating and outdoor activity.

MAJOR PROJECT ELEMENTS GRAPHIC

SPACIAL USAGE



PROGRAM SPACES

Exhibit Space
The Commons
Storage
Waterfront Development

Library
Electrical/ Mechanical
Meeting Spaces
Classrooms
Employee Break room
Parking
Equipment Storage

Reception Desk
Rental Equipment Desk
Offices
Reading Space
Restroom/ Locker rooms

ACTIVITIES- DESCRIPTIONS

Gathering the community of visitors to learn about nature, wildlife, and the Mississippi River. Connect community to the outdoors with waterfront development

A more personal gathering space for visitors to collaborate, learn, and understand elements of nature. School groups, families, and friends will gather to enjoy outdoor activities such as biking or snow shoeing.

Personal spaces for the employees and visitors to use these spaces in order to interact with activities and to be inspired by our environment.

USER AND CLIENT DESCRIPTION

With this Nature and Interpretive Center being owned by the City of Hastings, it would be consumed by the community of Hastings. Since the purpose of this Facility is to educate people about their surrounding area, this is not limited to the community of Hastings. Hastings lies on the south-west corner of where the Mississippi River and the St. Croix River connect, meaning that this Facility would draw a larger population to this area. Hastings is a medium size town with a population of twenty thousand people, and many people pass through since it is a River town. The nearest river crossings are in Prescott, WI (8 miles away), Redwing (28 miles away), and St. Paul (21 miles away).

The building would be owned by the city of Hastings and would be funded through the city in the construction phase, but then would later create revenue to keep the facility open. The Nature and Interpretive center would achieve this revenue by being functional all year, providing year round activities, and being open for event spaces to rent. In the summer months, the City of Hastings has Car Shows that

would attract numerous visitors to the area. The facility would also provide spaces for the car show gathering, and would also have cars on display/ exhibits year round.

The consumers who would occupy this Facility would be the workers and the visitors. Since this is a Nature and Interpretive Center, it would also be inhabited by students of nearby school districts and higher level students who are studying in this career field. With the center providing recreational activities and supplying equipment for that as well, would draw families into the area.

The city of Hastings provides a rich nature to the community, making this a very unique town to live. Many families in Hastings are related to one another, meaning that large groups of people gather for many of the same events and have the same interests. There are many small businesses located on the downtown strip which has special cultural heritage.



FIGURE 27



FIGURE 28

SITE INFORMATION

HASTINGS, MINNESOTA

A Nature and Interpretive Center, located directly on the Mississippi River and in the heart of Downtown Hastings on a site that currently displays a parking lot. The main aspect of the nature center will be based on the natural environment that surrounds it, and to enlighten the future in order to protect our surroundings and our main source of inspiration. The surrounding downtown needs to be brought back to its social, cultural, and environmental qualities for the cities distinctive community.

CITY MAP 1867. FIGURE 30



FIGURE 29

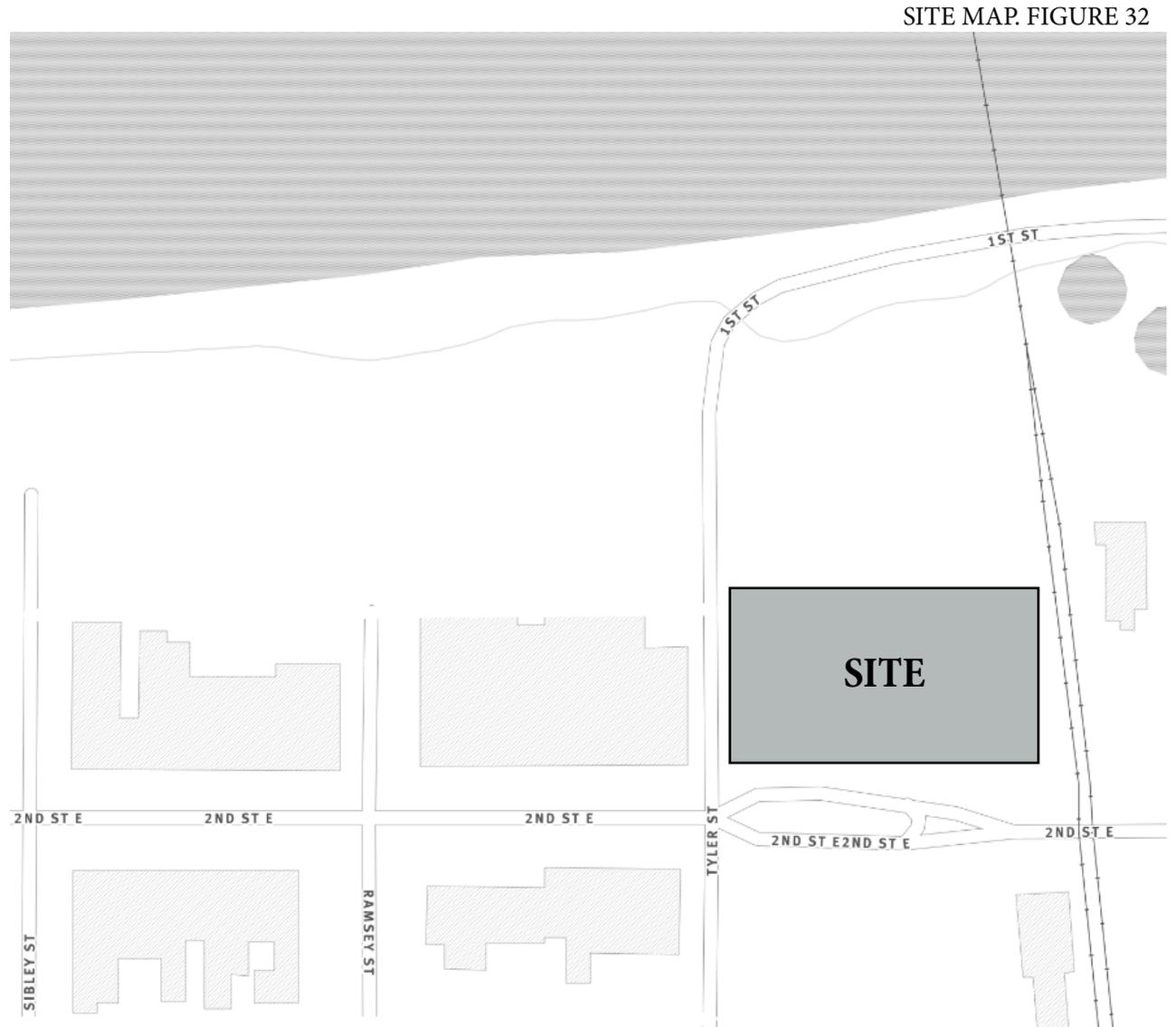
SITE INFORMATION

PHYSICAL CHARACTERISTICS OF SITE

- Site is currently a parking lot
- There is a vehicle bridge a few blocks west of the site, and a railroad bridge directly east of the site.
- Located along the main street of downtown are small clothing shops, antique stores, restaurants, and small private businesses.



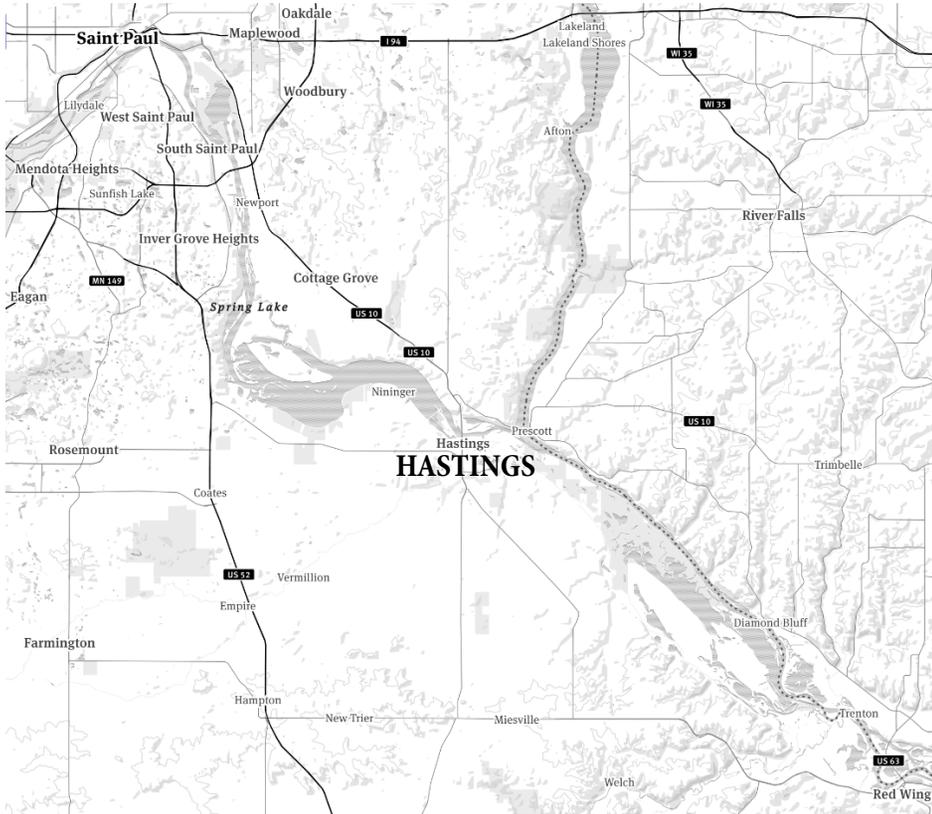
SITE MAP. FIGURE 31



SITE MAP. FIGURE 32

SITE INFORMATION

REGIONAL MAP. FIGURE 33



MAJOR NEARBY CITIES
 NORTH: ST. PAUL, WOODBURY
 EAST: RIVER FALLS (WI)
 SOUTH: RED WING
 WEST: APPLE VALLEY

HISTORIC MAP. FIGURE 34

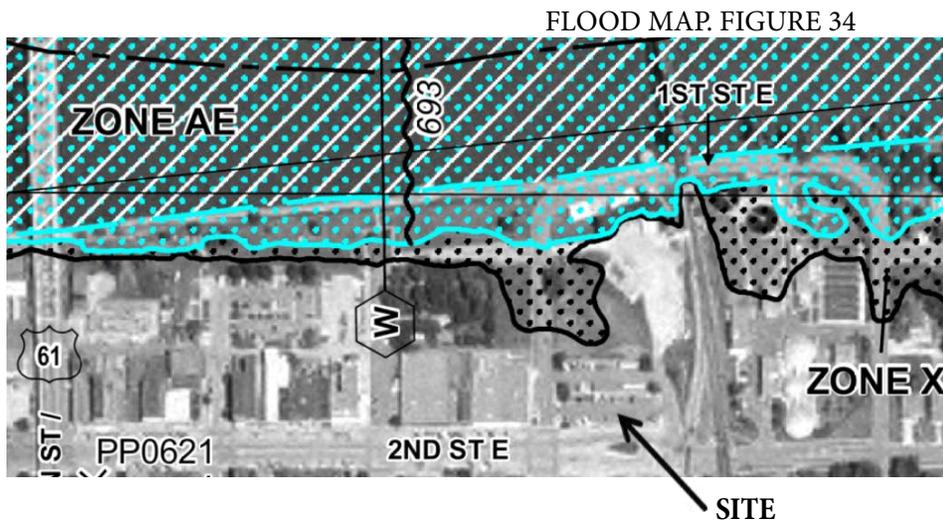
City of Hastings Heritage Preservation Sites



SITE INFORMATION

WATER SETBACK

With this site being located on a body of water, the setback is 150' from the water to the closest face of the building. For being in the Downtown area, there is very little setback towards the street (the south side of the site), to stay consistent with the downtown development pattern.



CONTOUR MAP (ONE FOOT). FIGURE 35



OTHER RESTRICTIONS

- The building height restrictions in this area are -47 feet, or 756.5 feet above sea level; whichever is greater.
- There is a maximum of 4 stories in height, which is set by the tallest building in downtown Hastings (the Finch Building)
- The soil type in this area (SSURGO) MUSYM 1039, MUKEY 396768. Shallow bedrock is in the northern 1/3, and Prairie Du Chien on the southern 2/3.

PROJECT EMPHASIS



FIGURE 37



FIGURE 38

Through examination and observation, I have chosen to elaborate and emphasize certain aspects and pieces of my thesis. To continue this emphasis, further research and investigation will be completed to organize a unique and functional proposed thesis. Looking at my proposed thesis as a whole, these areas will require more emphasis than others:

BRING SPIRIT TO THE RIVER TOWN BY OBSERVING NATURAL ELEMENTS THAT THE SITE OFFERS

- Wildlife
- Strong Community

EUDCATE VISITORS ABOUT THE HISTORICAL AND CULTURAL ASPECTS OF THE MISSISSIPPI RIVER

- Natural surrounding Environment
- How to Protect it

INTERPRETIVE CENTER FOR THE CREATIVE MIND TO FIND INSPIRATION FROM THE NATURE OF THE SITE

- Musicians
- Writers
- Dancers
- Artists
- Photographers

WATERFRONT DEVELOPMENT

- Connections from building to water
- Landscape plans
- Water Access

GOALS OF THE THESIS PROJECT

There are various goals that I have in my education, and that will continue through my career. When looking at the architecture field, I have found myself making short term goals and long term goals, which have all began with my education. I have found that my goals feed off of each other and most of the time work hand in hand. I am excited to see what this final year brings me with each of my academic, professional, and personal goals.

To start with my academic goals, since I believe they work hand in hand, I have already achieved some of these goals. My first goal as I started in the Architecture Program was to focus on the details and the construction of our built environment. I had a hard time understanding how things were put together, and because in many instances you cannot see the structure and the connections buildings have. I wanted to make this my goal because it is the most important part of architecture, to make sure buildings wont collapse and to keep the consumers of the building safe. This is a goal that in my personal opinion will not ever be fully accomplished, but it is rather gaining experience in construction since materials and ways of building things are always changing.

Another goal of mine as my college career continued was to focus on how buildings affect the community and how people interact with structures. When communities gather together is brings a warm and comforting feel to spaces and creates a spectacular experience. Human interaction is something that occurs in our everyday lives, which can either be a good or a bad experience for some. I will continue to focus on spaces as a comforting experience while still considering the needs of the inhabitants of the building as a whole. This is a goal that I also see as not being fully accomplished, but rather through experience and research will better my ideas of spaces and how they come together for communities.

As I look forward on my final year, I have many goals for myself that are strictly focused on my academics, and also some that will carry over with me into my professional career. The biggest goal I have set for myself is to create and design a project that in the end I am completely satisfied with, with taking in the needs from clients. I believe that no project is perfect, but for myself I hope to do the best that I am able to accomplish with the capabilities I have to offer. A goal that I've always had and will carry with me this semester and into my professional career would be to stay focused and consistent with my work. If I am not consistent and focused, my thesis project and my future work will not be successful. In the past, I have found that if I find myself getting off track and not being happy with where I am at, I look for advice from my peers and professors. I find myself being the most successful when I communicate with others to bounce ideas off of, and in the career of architecture I believe that is very important.

When considering my professional career, I have set goals for myself based off the experience I've had over the past two summers working at an engineering and architecture firm. I don't only want to find any architecture position after I graduate, but one that I find interest in, and one that I will be happy with. I have goals to grow in the company I work for, and to always look to my role models to see what I do want and what I don't want for myself. I have found it beneficial to work with other people, and to gain insight on their profession because it makes me more aware of what is related to architecture. The major goal I have set for myself is to be open to new ideas and considerations. There are thousands of ways to complete one task, and I enjoy learning from others observations and experiences. All of these goals I have set for myself have allowed me to have the privilege of serving others in the architecture field.

GOALS OF THE THESIS PROJECT

QUOTES FOR INSPIRATION

“Those who look for the laws of nature as a support for their works collaborate with the creator”
-Antoni Gaudi

“Architecture is not a private affair even a house must serve a whole family and its friends, and most buildings are used by everybody, people of all walks of life. If a building is to meet the needs of all the people, the architect must look for some common ground of understanding and experience”
- John Portman

“Architecture is a continuum of discovery and investigation. A river of challenge and delight. it must be learned and practiced whole by wading in and engaging the current while enjoying the beauty”
-Bill Beyer

PLAN FOR PROCEEDING

DEFINITION OF A RESEARCH DIRECTION AREAS OF RESEARCH TO BE ACCOMPLISHED

THEORETICAL PREMISE/ UNIFYING IDEA

1. Patterns of existing Nature and Interpretive Centers
2. Architectural patterns of organizational layouts, materials, and lighting qualities
To do: Visit case studies through observation and documentation
Achieved: (will come in the spring)

TYOLOGY

1. Goals for the surrounding communities
2. Identify specific qualities to inform and educate
3. How to successfully include the past, present, and future
To do: Research various qualities of relationships between communities and how to inform them on protection of our natural environment
Achieved: (will come in the spring)

HISTORICAL CONTEXT

1. How have other Nature and Interpretive centers been successful?
2. How do social/ cultural/environmental/ political issues relate to the typology and site individually and in relation to one another?
3. What aspects of the historical downtown area can be highlighted?
To do: Local history of Hastings. Comparison of various issues and activity of site/ Nature and Interpretive centers
Achieved: (will come in the spring)

DESIGN METHODOLOGY METHODS TO ACCOMPLISH A RESEARCH CONCLUSION

To have continuous research throughout the thesis process will be beneficial towards my thesis and design. A tremendous amount of research is needed to create a proposal and program, but to continue this method of research is important to build your project and creates options to make design decisions throughout the process. To also gather data through direct observation, direct interviews, archival searches, and with qualitative and quantitative analysis will help further my research conclusion. To conclude this research will answer design questions to advance my thesis proposal.

RESEARCH THE FOLLOWING:

- Project Typology
 - o Case Studies
- Site Analysis
 - o Historical Context
 - o Local/State/Regional Environments
- Explore new tools
 - o Sustainable strategies
 - o Materials

PLAN FOR PROCEEDING

DOCUMENTATION OF DESIGN PROCESS DECISION MAKING TOOLS

Through the entire phase of the design process, I intend to compile information with various methods and strategies to strengthen the development.

METHODS OF INVESTIGATION AND REPRESENTATION

1. Hand Drawing
2. Model Making
3. Autodesk Revit
4. Autodesk AutoCAD
5. Adobe Photoshop
6. Adobe InDesign

PRESERVATION OF MATERIAL

1. Exploration
 - Photographs of process models
 - Photographs of site visits/ case study visits
 - Scanning hand drawings
2. Save and back up feedback from advisor(s) on all work
3. Save, scan, and back up notes taken in class or out of class in relation to thesis process
 - date notes, and know background point of notes
4. Computer files backed up weekly
5. Thesis book updated weekly or as per the schedule



FIGURE 39

PLAN FOR PROCEEDING SCHEDULE

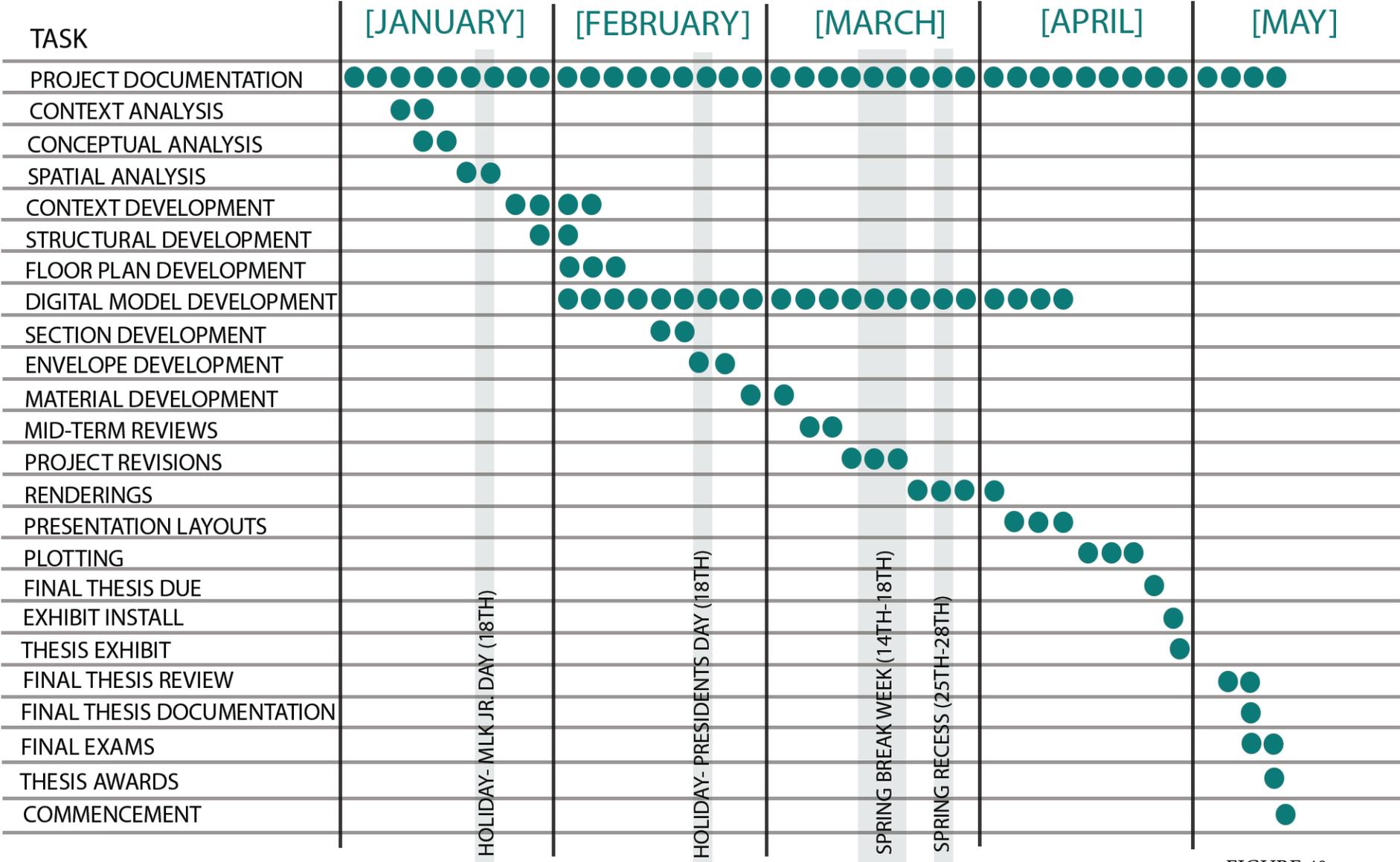


FIGURE 40

THESIS PROGRAM



RESULTS FROM UNIFYING IDEA RESEARCH

Research has been conducted in the following areas that relate to my project emphasis and unifying idea; Materialism, Sociology, Historicism, and Biology.

MATERIALISM

Researching material choices and opportunities is crucial in designing for a building. Depending where the site is located will make design decisions more or less apparent. Such aspects as climate and topography will make design decisions such as structure and building envelope. A way to research materialism to understand design decisions is through case studies, taking what was effective and what was not. Materials have a strong importance to a building and its typology, which is a factor that leads to choices made by the design team.

Luke Barley describes how our imagination is affected by materiality: *Understanding and thoughtfully incorporating materials gives physical presence to the imaginations of architects and designers. Structure can exist conceptually, but without the elements that constitute it, a building would never exist*

SOCIOLOGY

Interaction with the community is an important aspect of the unifying idea, and a challenge that will always be changing. Communities change in size, which comes with interest and behavioral interaction. There is no correct answer to solve the question of how to successfully engage a community in certain activities or events, but to find what the community is missing and fill that void with spirit and existence is what would bring the community together.

“a large portion of our human experience and social interaction occurs in the buildings in which we live and work. Therefore, architectural sociologists use sociological perspective to enhance building design.”
–Jean Beaman

RESULTS FROM UNIFYING IDEA RESEARCH

HISTORICISM

The city of Hastings has very strong historical presence and values throughout the city. With being in close proximity to St. Paul and directly on the Mississippi River, the downtown area was first settled by a military detachment sent from Fort Snelling to guard a blocked shipment. The city also has a strong Railroad influence, which is now used by the Canadian Pacific Railroad and the Amtrak Empire Builder which crosses here between Minneapolis and Chicago that has an estimated of twenty eight trains per day.

History is a strong cultural value that the city has, and in order to protect how the city was built it is important to emphasize the cities characteristics. As time goes on, history is created and methods are changing as generations pass by, and because of this we see evolution of cities and how they are developed and how they will become developed in our future.

BIOLOGY

Architecture and our biological environment influence one another based on structure, function, and form. The environment that surrounds us impacts human behavior by inspiring creative minds. Architects and designers are looking to biological forms to develop inspirations to create beautiful and elegant buildings. Designing with biology- inspired ideas and methods creates a feeling of inspiration, and it makes heads turn whether they like it or not they will still look.

*“..give back an extraordinary piece of landscape, rather than engulf it”
-Thomas Heatherwick*

“..the things that capture people’s imagination in arts or architecture or fashion are the most inventive things. The best entrepreneurs have invented new ideas for business. And for me, the art of something is very often in its invention.” - Thomas Heatherwick

*‘Nature and planting mediate between the scale of the human and the megacity. They reframe the city around you in a way you don’t expect’
-Thomas Heatherwick*

RESULTS FROM UNIFYING IDEA RESEARCH

RESEARCH SUMMARY

RESEARCH SUMMARY

These research topics describe how my unifying idea can be understood and related to one another in various ways. Using the research topics of; Materialism, Sociology, Historicism, and Biology bring forth several design ideas or what will be successful and what will not. All of these topics cover the main ideas of my thesis topic. With all of the topics being related to one another I have found that many ideas can be brought to design thinking while still focusing on my unifying idea.

I have found that history plays a large role in how communities interact with one another, and through architecture we experience moments and ideas with our current lifestyle choices. Architecture plays a large role on how communities interact with the building, which also depends on our environment and surroundings.

With Hastings being a River Town and located just south of St. Paul, many people pass through Hastings on a daily basis. As these travelers cross the bridge, they pass over the downtown area and in this moment they either find it interesting or they keep passing as each day goes on. Hastings lacks tourism in several ways, because the city does not have a destination for people to interact with. As the downtown becomes more developed, people will become interested in what is being built.

Bringing people down to this area will also help the small businesses stay in operation. Architectural values and culture can define a city and keep it alive through its community and visitors.

RESULTS FROM UNIFYING IDEA RESEARCH LITERATURE REVIEW

THE RIVER WE HAVE WROUGHT. A HISTORY OF THE UPPER MISSISSIPPI. JOHN ANFINSON

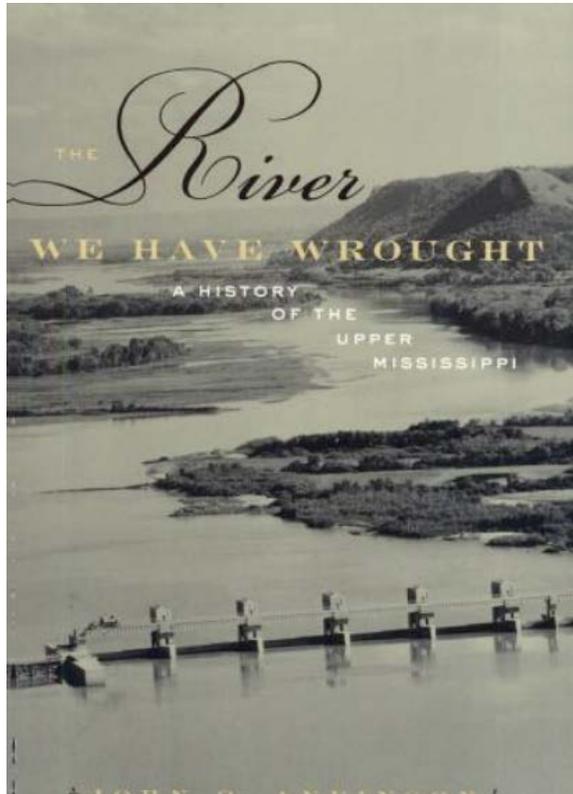


FIGURE 41

The Mississippi is a formation that was caused by glaciers and formed itself by large amounts of pressure, and even created several rivers off of the main artery that runs from northern Minnesota to the Gulf of Mexico. Once this watershed was discovered, it was a main source of navigation. The Virginia was the first steamboat to navigate the upper Mississippi River in 1823. A passenger by the name of Giacomo Beltrami captured this moment as he traveled to Fort Snelling (St. Paul), and described it as; “Our passage to this place forms an epoch in the history of navigation. It was an enterprise of the boldest, most extraordinary nature”. This moment of navigation in history showed that people and goods could move much more quickly in larger quantities than boats with poles, paddles, or sails. Steamboat traffic increased quickly after 1823, with a record of arrivals in St. Paul of 44 steamboats in 1841, and 95 in 1849. By 1857, nearly 1,000 steamboats arrived each year.

This research resource has provided insight to further understand the rich history and time that was spent on this bold piece of landscape. In order to develop a Nature and Interpretive center, research must be found to inspire design development and areas of focus. The Mississippi River has tremendous amounts of history, and the City of Hastings is only one small part of that.

RESULTS FROM UNIFYING IDEA RESEARCH LITERATURE REVIEW

OLD MAN RIVER- THE MISSISSIPPI RIVER IN NORTH AMERICAN HISTORY. PAUL SCHNIEDER.

“It commands every sense. There’s the sound a truly big river makes—not loud but nonetheless vast and soothing, more like wind over grasses than a waterfall. There is an odor to the river as well, vaguely sweet and earthy, though oddly more like the sea than like a mountain stream or a lake.”

-Paul Schneider

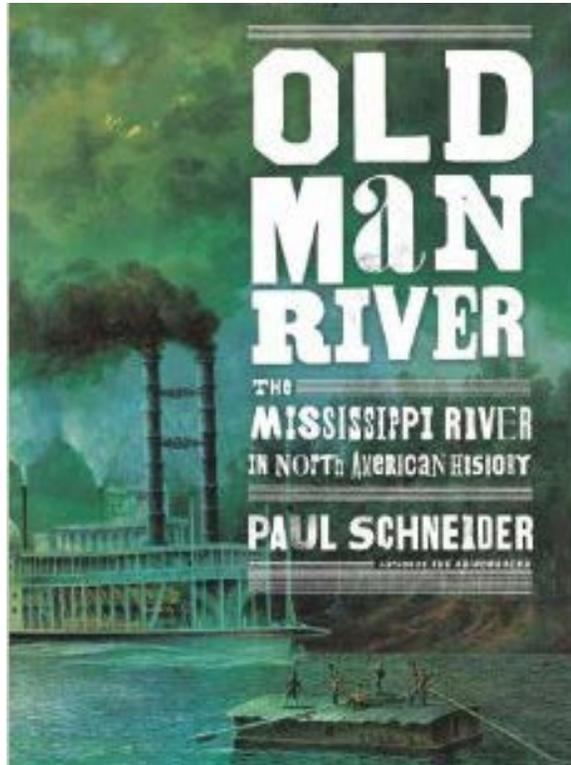


FIGURE 42

In *Old Man River*, Paul Schneider takes the reader on a journey that he has taken himself that encompasses several aspects of the Mississippi River. Everything from the prehistory to the engineered of this beautiful source. Schneider states “As soon as you are in the coffee-colored water, you know immediately that you belong to the Mississippi River”

“It commands every sense. There’s the sound a truly big river makes- not loud but nonetheless vast and soothing, more like wind over grasses than a waterfall. There is an odor to the river as well, vaguely sweet and earthy, though oddly more like the sea than like a mountain stream or a lake.”

Schneider describes the river as “the world’s largest plumbing project” as he observes the dams and the other man-made structures that have altered the character. Even with this natural formation seeming to take on many generations and forms of history, it did not always exist. In the primeval times, the melting of glaciers created this vast formation across that is known as the Midwest. This runoff carved out several channels along the Mississippi including the Missouri, Ohio, and Arkansas River.

This literature has aided in the development of this thesis with information about the history of the Mississippi River and how it has affected various people including; loggers, slaves, hunters, and archeologists.

RESULTS FROM UNIFYING IDEA RESEARCH LITERATURE REVIEW

THE EXPERIENCE OF NATURE. A PSYCHOLOGICAL PERSPECTIVE. RACHEL KAPLAN & STEPHEN KAPLAN

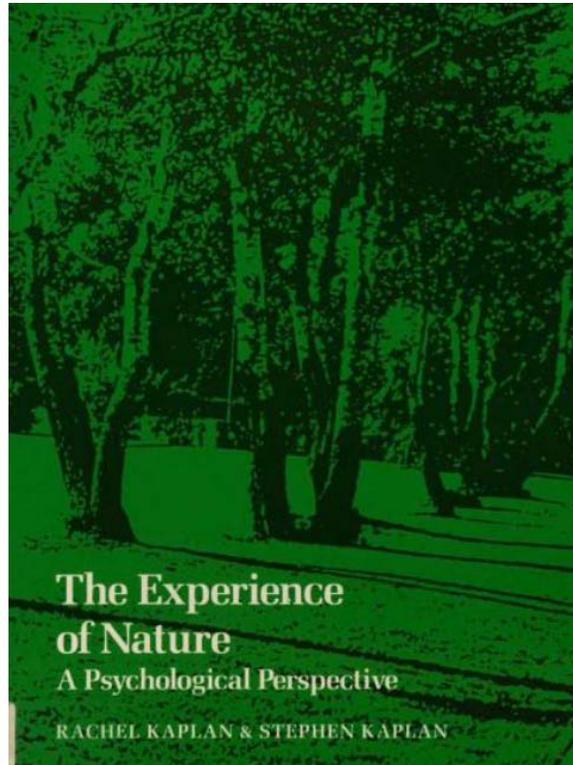


FIGURE 43

This book thoroughly describes the relationship between people and the environment that surrounds them. Nature is a very valued and appreciated part of life, and has great importance to many people. The Experience of Nature describes that, although large amounts of money is spent on nature and natural settings, it is hard to justify the role nature plays in rational terms. There have been many situations that have been studied on the psychological perspective of nature and humans including an gesture as simple as showing views out of a window plays a significant role in the recovery of patients in hospitals. Nature provides spirit to humans that are different for each individual, and to embrace that spirit allows for good health and well-being of humans.

Through the development of the thesis unifying idea, The Experience of Nature has provided insight when considering ideas of focus and connections of typology. This literature has supported decision making and solutions to research the typology of a Nature and Interpretive Center on a site that embraces the natural environment that is inhabited by a strong community.

“These studies are not just to explain why nature plays a significant role, but to make it clear that there is a meaningful phenomenon to examine and that there are important implications in them of basic human needs”

-Kaplan

RESULTS FROM UNIFYING IDEA RESEARCH LITERATURE REVIEW



FIGURE 44

SUMMARY

Through the process of researching these sources and conducting research, this thesis is focused on how our natural environment and humans relate and interact with one another, and how the history of the upper Mississippi River has impacted how we live our lives today. These three sources in the literature review does not include the full extent of sources used, but rather the main focus of inspiration and understanding. Other sources include journals, magazine articles, videos, and case study research.

These sources have provided for various ways of understanding a certain subject of the thesis project, while still being informational to the unifying idea. Thought this process, gathering valuable information has aided in decision making, which will lead to design strategies and methods.

PROJECT JUSTIFICATION

INTRODUCTION

This project and typology inspires me since I am from the city of Hastings, and the city lacks downtown development along the river. The beauty of the city is not emphasized to its full potential because the community does not have a reason to come to this area other than the few restaurants and bars that are in the area. The typology is also something that the city is missing and a nature center would be successful in this area of town.

IMPORTANCE OF PROJECT

Since I grew up in the city of Hastings, and my family still lives here I believe that the culture can become more spirited with a Nature Center located downtown. The community of Hastings has a population of roughly twenty two thousand people, and has many smaller towns that surround it. With Hastings being only twenty five miles from St. Paul, it is the next town that is located along the river as you go south on the Mississippi. If the downtown area was more developed and entertaining, the city and surrounding communities would have a reason to come to this beautiful river town. To bring spiritual culture to the area, having people be linked to the water would enable them to understand what beauty we have right in the city. This would also inform the community how to protect our environment and the nature that surrounds us.

KNOWLEDGE

With skills and knowledge of architectural design and the community of Hastings that I have, a successful design can be developed through research of protecting the current historical downtown. Through selection of materials and organization of spaces to merge and sit cohesively with the environment would effectively link the building to the environment and river. The city of Hastings is growing as a community, meaning the school districts are also getting larger which would be an advantage to the Nature Center located within the city. Activities that also take place downtown include bi-monthly car shows in the summer months, and a race that is held Thanksgiving Day morning every year to fundraise for the Hastings Family Service. With these activities being successful, it shows that the community acts together and cares about the town.

HISTORICAL, CULTURAL, AND SOCIAL CONTEXT

INTRODUCTION

Located at the intersection of the Mississippi and St. Croix Rivers, the city of Hastings has a unique and rich history. The city was a shipping and milling center for many years and with a deep water harbor, steamboats could unload both goods and passengers quite easily. The farmland that surrounds the city provided incentives for immigrants, and many of those farms continue today as Century Farms. To emphasize the historical culture of the city, there is a Pioneer Room located in the City Hall, which is located downtown. The Pioneer Room has

a historical photo collection and artifact collection from citizens and businesses. Hastings has evolved into a suburb of the Twin Cities but still retains its small town feel, and also provides river town characteristics.

Many cities have developed from the shape and form of the Mississippi River many centuries ago, and Hastings is one that has much potential to become a more successful River Town because it provides beauty and space, but lacks attraction in certain areas. This area can be developed into a beautiful place for the community to wander.



FIGURE 45

HISTORICAL, CULTURAL, AND SOCIAL CONTEXT

HISTORICAL ASPECTS

HISTORICAL ASPECTS

The Mississippi River trickles out of a Northern Minnesota at Itasca State Park and travels 2,348 miles to the Gulf of Mexico passing through 33 states. Hastings lies 238 miles south of the beginning of this beautiful environmental feature that enriches human life with natural and recreational opportunities. The Rivers watershed covers one-half of the nation, fosters cities, transports people and goods, and provides habitat for plants and wildlife.

Even though the Mississippi has provided many things to the country, it has also given us many issues throughout the years. The main issue that we've had is flooding. Before humans built stable homes and settlements, they were able to move when it flooded; well in today's time when cities sit by the river they don't have an easy way to move.

Another issue is that the River moves and changes course, which happens when it overflows its banks and can reach a new channel that, has a pathway. The Mississippi is also very curvy, and when the river is used as transportation of goods, people used to cut channels in order to have a straight path and cut down the amount of miles. Many human systems now depend on the Mississippi as it was in 1900 when infrastructure was being built around it.

There is a tremendous amount of history that lies in the roots of the Mississippi River and the cities that are stationed around it. Many communities live their everyday lives not knowing the historical aspects of their hometowns, which can be proposed through architectural design and space layouts.

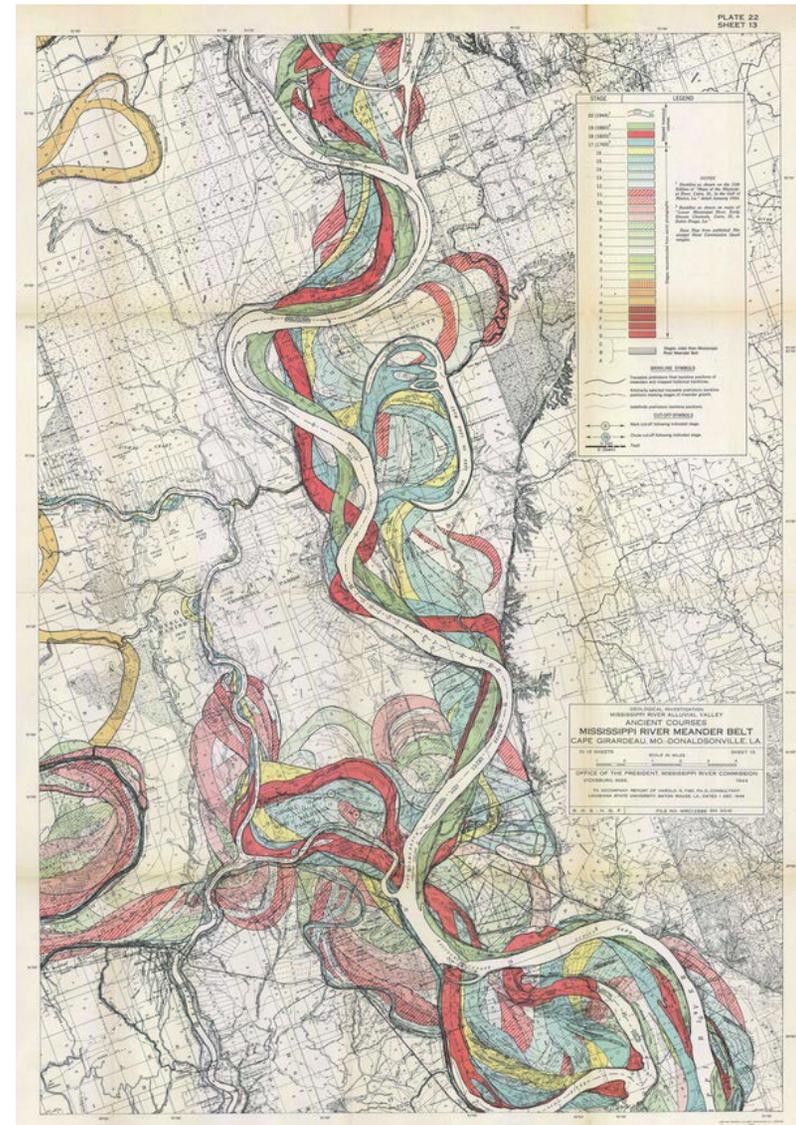


FIGURE 46

HISTORICAL, CULTURAL, AND SOCIAL CONTEXT

CULTURAL CONTEXT

CULTURAL CONTEXT

Culture- environment relations has been a very active behavior study, including meetings at the Environmental Design Research Association. The role and effects of culture have become neglected and influential. Culture plays a large role in all aspects of human behavior, such as how people shape environments, and how they use and interact with them.

Culture can be thought of as a very broad term to many people, and in fact it is. In this thesis, studying lifestyles and activities will become extremely important in analyzing and designing environments. To focus on current conditions of lifestyle choices and activities will become crucial in design strategies.



FIGURE 47

HISTORICAL, CULTURAL, AND SOCIAL CONTEXT

SOCIAL TRENDS

SOCIAL TRENDS

The city of Hastings is populated by roughly twenty thousand people, with new developments spreading and new businesses being built. Hastings is not considered a small town anymore, but rather a suburb of the Twin Cities. What makes Hastings unique and full of rich social interaction is the feeling of being in a small town.

Many families that live in Hastings or just outside of the city are related to one another, making groups of people interact on an everyday basis. Many family-owned businesses have been very successful because there is a feeling of wanting to help others who deserve it. There is a strong way of communicating with someone who you may not even know if you are standing in a coffee shop waiting to order, just because the community cares to speak to one another.

Gathering as a community is something that the city does quite often. Two main activities include Gobble Gait Run which is a fundraiser for Hastings Family Service that takes place on Thanksgiving Day morning every year, and the Car Shows that happen in the summer months. Both of these activities take place directly downtown on 2nd Street.



FIGURE 48

SITE ANALYSIS

QUALITATIVE ASPECTS

NARRATIVE

A town where culture and natural beauty comes alive through the members of its community on a site located in downtown Hastings, Minnesota. Hastings is settled on the Mississippi River, and is adjacent to the Wisconsin border where the St. Croix and Mississippi River meet in Prescott. History is a prominent feature along river towns, which brings life and desire to gather. Hastings is now a suburb of the Twin Cities, allowing for many travelers to pass through on a daily basis. The downtown area of Hastings lacks attraction to most of the community, other than a few events that bring the community together a few times a year. In order to revitalize this historic area, creating a destination for the community and friends to gather would bring its history to the lives of our future.

Hastings has a small downtown area that is filled with antique shops, boutiques, bars, and restaurants that are family owned. At the end of this downtown strip, lies an empty site that is used as a parking lot every now and then. The site is not a paved lot, but rather a gravel material that seems to be temporary. The Mississippi lies on the north side of the site, and there is street access on the south and west side. To the west, is a Rail Road bridge that is crossed roughly twenty five times a day. Between the site and the river, lies a small road that leads to a residential area, which in this thesis, will be taken out and a new route will be proposed. This allows for direct access and park space to be located on the river to emphasize the site to its full potential.

The site can be seen while traveling south on the highway 61 bridge, and it also has wonderful views of the river and the main downtown street. With the downtown developing more in the past five years, it allows for the community to gather in new areas, and it gives a small town feeling which is comforting for most. The site provides for architectural solutions to be thought through that will fit within the historic area, with quiet and peaceful surroundings. The Mississippi has inspired generations of people including; farmers, poets, and someone who simply enjoys a walk along the river.



FIGURE 49

SITE ANALYSIS

QUALITATIVE ASPECTS

PLAN INFORMATION

EXISTING GRIDS

Existing grids on the site include a two-way road on the south side, a service road that curves around the west and the north side, and a railroad that lines the east side. The walking path runs along the river to allow for beautiful scenery of the active community. These existing grids will be reflected in the final design, and the service road that curves along the west and north side will be disregarded for this project because it doesn't allow for direct links to the river.

EXISTING TEXTURES IN PLAN

Existing grids on the site include a two-way road on the south side, a service road that curves around the west and the north side, and a railroad that lines the east side. The walking path runs along the river to allow for beautiful scenery of the active community. These existing grids will be reflected in the final design, and the service road that curves along the west and north side will be disregarded for this project because it doesn't allow for direct links to the river.

MATERIAL TEXTURES

Materials used in downtown Hastings is mostly brick buildings, with store front style window fronts that face the street. There has been no completely new construction done to the downtown area, but rather renovations that keep the historic culture alive. Materials such as steel and concrete make up the two crossings over the Mississippi as well (the city bridge and the railroad bridge).



FIGURE 50



FIGURE 50

SITE ANALYSIS

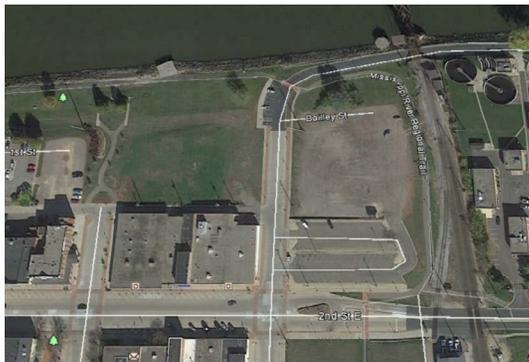
QUALITATIVE ASPECTS

PLAN INFORMATION

GEOMETRIC RELATIONSHIPS

With the site being located along the river, setbacks are a large consideration when designing. The downtown buildings are built right to the sidewalk to allow for the window shopping feel, which is on the south side. The north side of the site has views to the river and also the two bridges that cross over. The site also has access to the walking path that runs along the river.

APRIL 30TH. NOON
FIGURE 50



APRIL 30TH. 5 PM
FIGURE 50



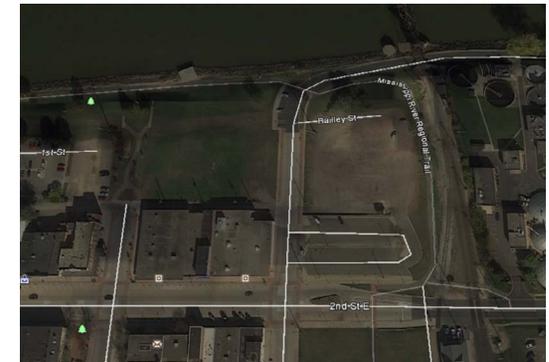
SHADE AND SHADOW CHARACTERISTICS

With the north, east, and south side of the site being fairly open to the sun pathway, it allows for natural lighting and heating for the design. Since the site is on the end of the downtown strip, the west side is where the downtown development begins, and would shade the west side of the building in the afternoon and evening.

OCTOBER 31ST. NOON
FIGURE 50



OCTOBER 31ST. 5 PM
FIGURE 50



SITE ANALYSIS

QUALITATIVE ASPECTS

SECTION INFORMATION

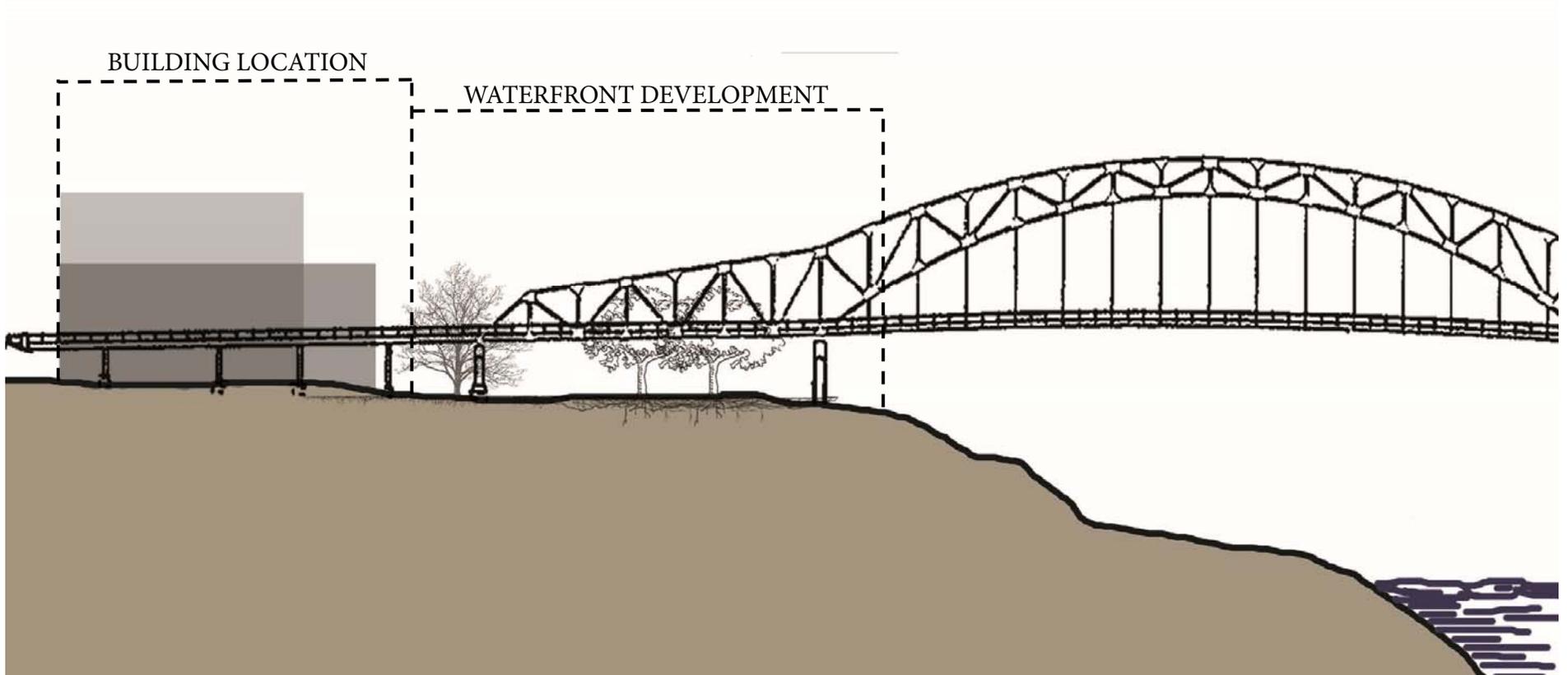


FIGURE 51

The orientation of this section is looking West from the thesis site, and is showing proportion in section of the proposed building location and waterfront development with the existing conditions.

SITE ANALYSIS

QUALITATIVE ASPECTS

WATER

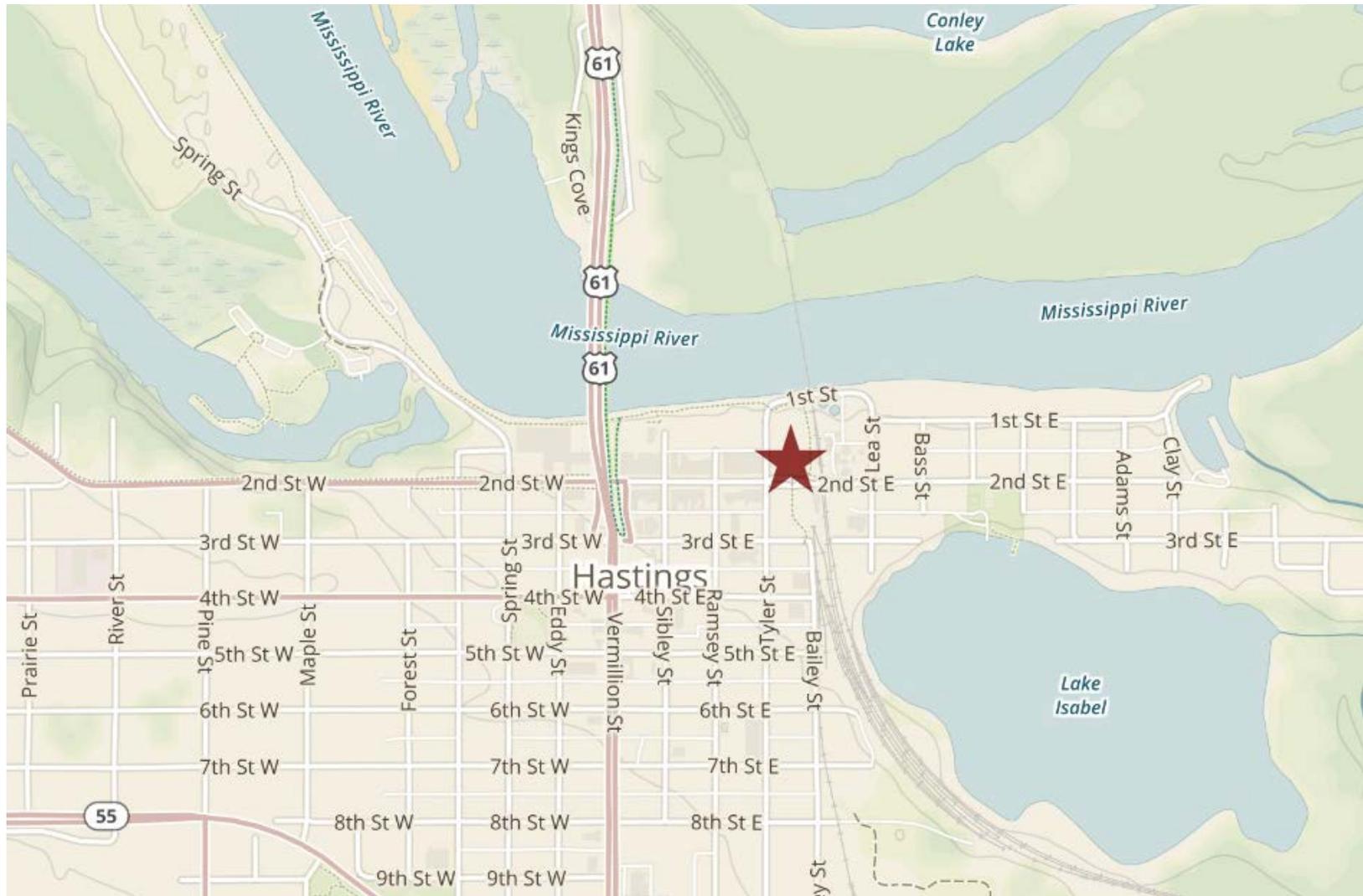


FIGURE 52

SITE ANALYSIS

QUALITATIVE ASPECTS

WATER

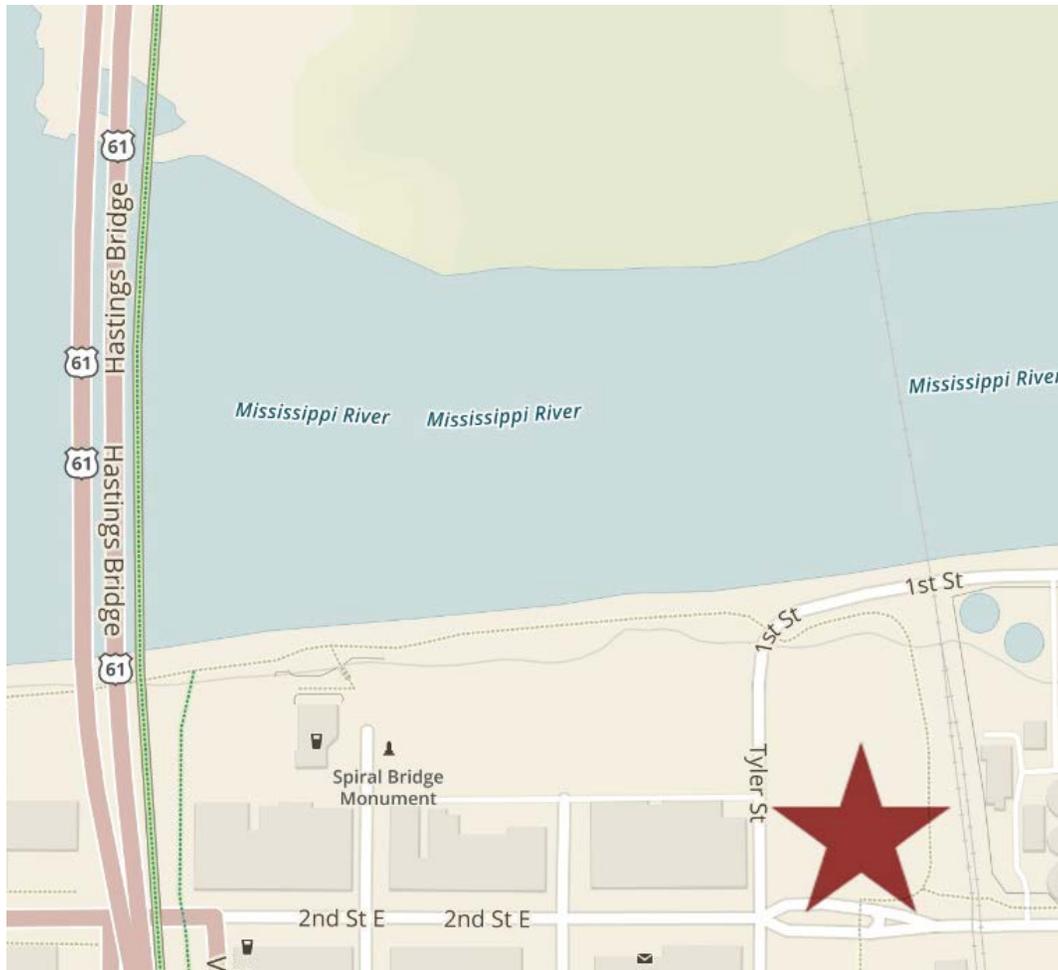


FIGURE 53

WATER

The Mississippi River has a large influence on the entire city of Hastings since it is how the city was shaped and formed many years ago. As shown on the previous page (Figure XX), there are many bodies of water that surround the city of Hastings allowing for beautiful landscapes, and a place for wildlife and nature to grow. Much research has been done on the Mississippi River since it is known to be very polluted, and even unsafe to swim in according to the research results. However, there are many other clean forms of water that surround the area.

The River also plays a large role in the typology of the thesis. Many people in the community of Hastings and those that surround the area, do not know the significance of these water resources that we have that form our landscape and affect many of our everyday resources. In order to protect our resources, informing our communities is important for the future.

SITE ANALYSIS

QUALITATIVE ASPECTS

HUMAN CHARACTERISTICS & DISTRESS



FIGURE 54

HUMAN CHARACTERISTICS

As stated previously, the site is currently used as a parking lot a few times a year. The surrounding area of the site includes residential areas, and shops that line the main street of downtown. This thesis is aimed and focused on the community being welcome for all seasons in the Minnesota Climate and that embraces nature for these four seasons.

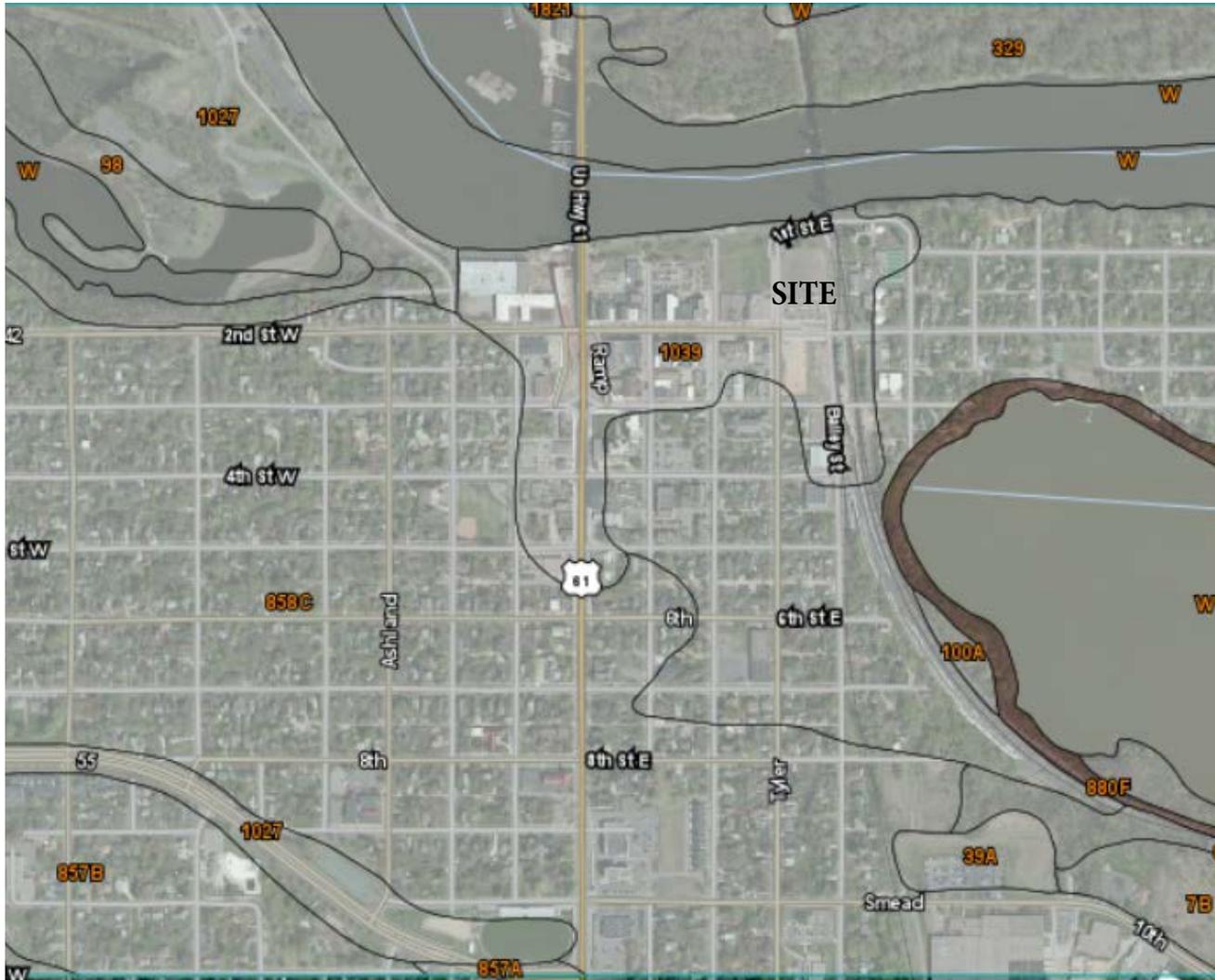
DISTRESS

Throughout many years, the distress of the site has varied. With being located on the river, erosion of the shoreline has changed and will continue to change slightly over time. With being stationed on a river bank, flooding is a major concern and through architectural solutions and setbacks, this distress becomes a beautiful thing for the users.

SITE ANALYSIS

QUANTITATIVE ASPECTS

SOILS



Map Unit Symbol & Name

- 7B Hubbard loamy sand
(1-6% slopes)
- 39A Wadena loam
(0-2% slopes)
- 100A Copaston loam
(0-2% slopes)
- 1027 Udorthents, wet
- 1039 Urban land**
- 857A Urban land- Waukegan complex
(0-1% slopes)
- 857B Urban land- Waukegan complex
(1-8% slopes)
- 858C Urban land- Chetek Complex
(1-15% slopes)
- 880F Brodale- Rock outcrop complex
(1-15% slopes)
- W Water

FIGURE 55

SITE ANALYSIS

QUANTITATIVE ASPECTS

WATER TABLE

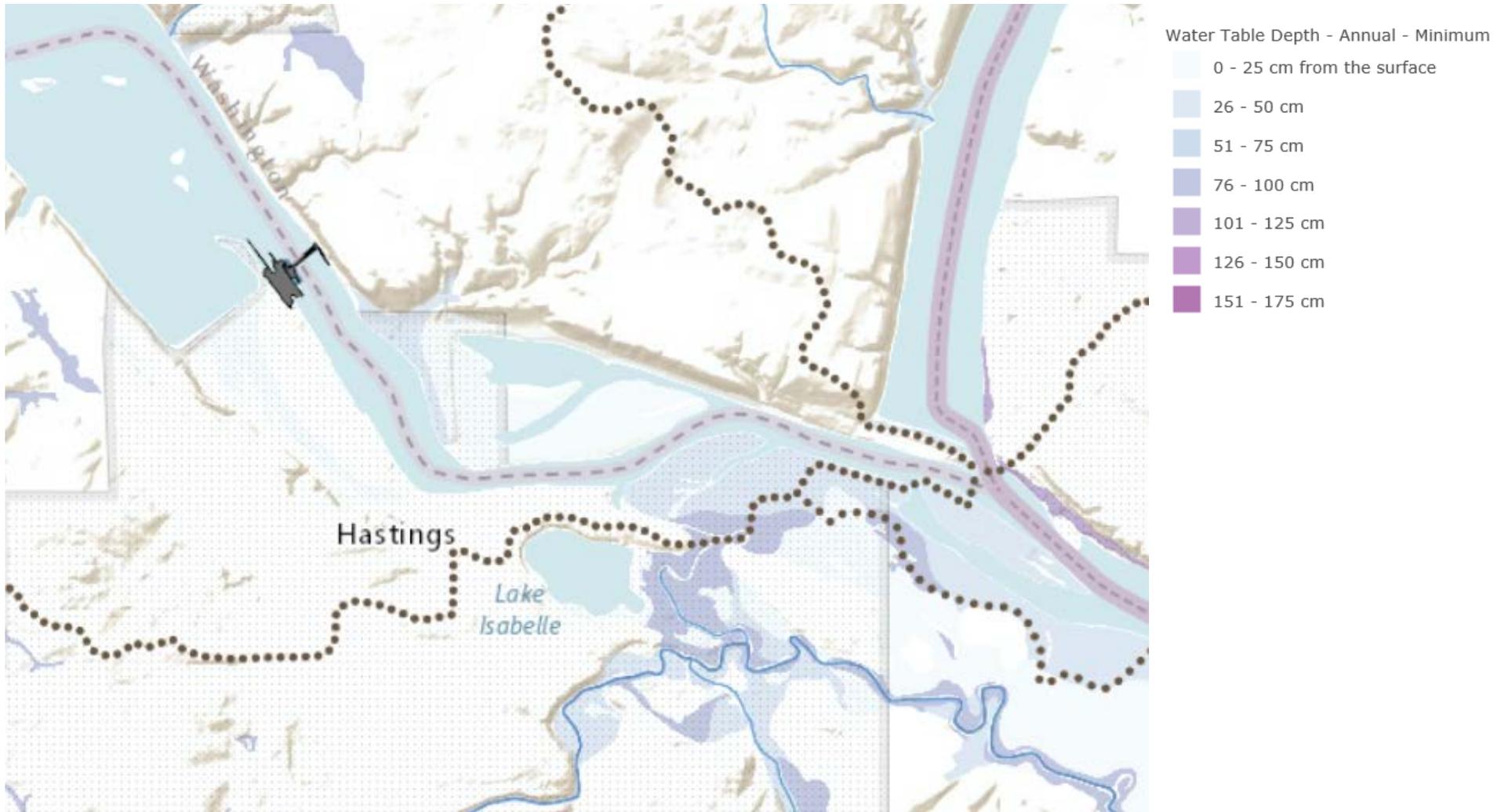


FIGURE 56

SITE ANALYSIS

QUANTITATIVE ASPECTS

TOPOGRAPHIC SURVEY (ONE FOOT CONTOURS)



FIGURE 57

SITE ANALYSIS

QUANTITATIVE ASPECTS

CLIMATE DATA

TEMPERATURE

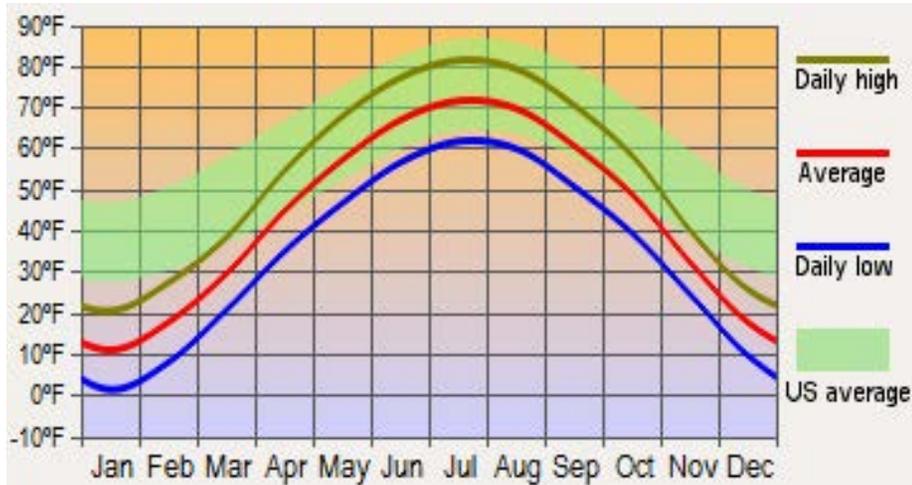


FIGURE 58

PRECIPITATION



FIGURE 60

HUMIDITY

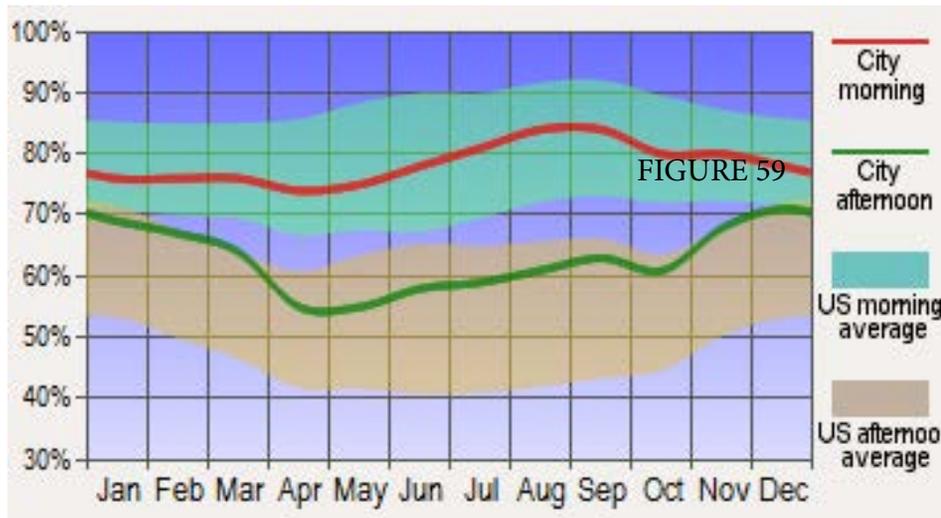


FIGURE 59

CLOUDINESS

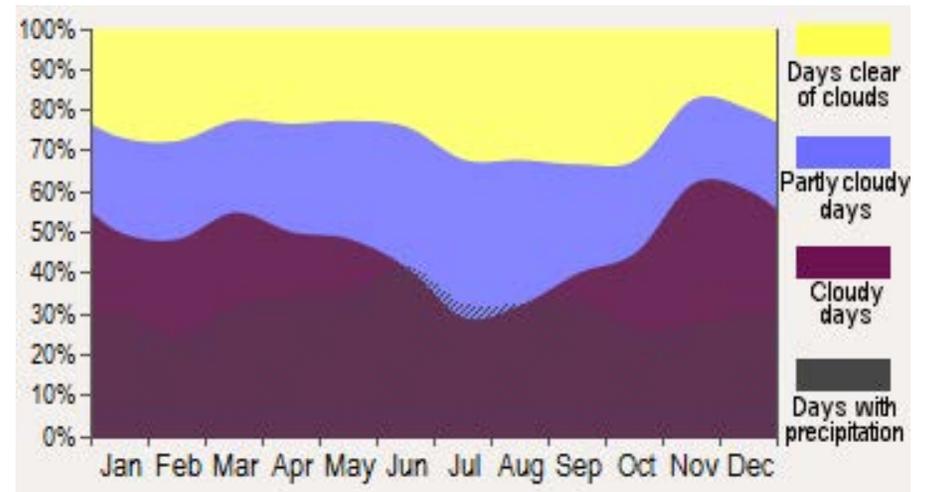


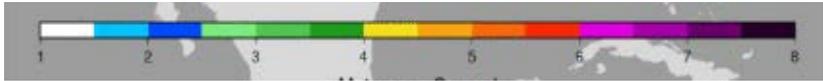
FIGURE 61

SITE ANALYSIS

QUANTITATIVE ASPECTS

CLIMATE DATA

WIND SPEED CHARTS



WIND SPEED. MAY 2015

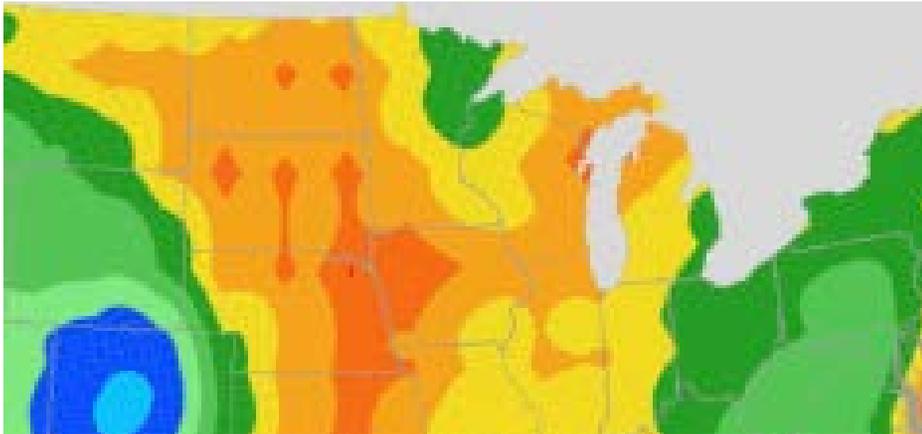


FIGURE 62

WIND SPEED. OCTOBER 2015

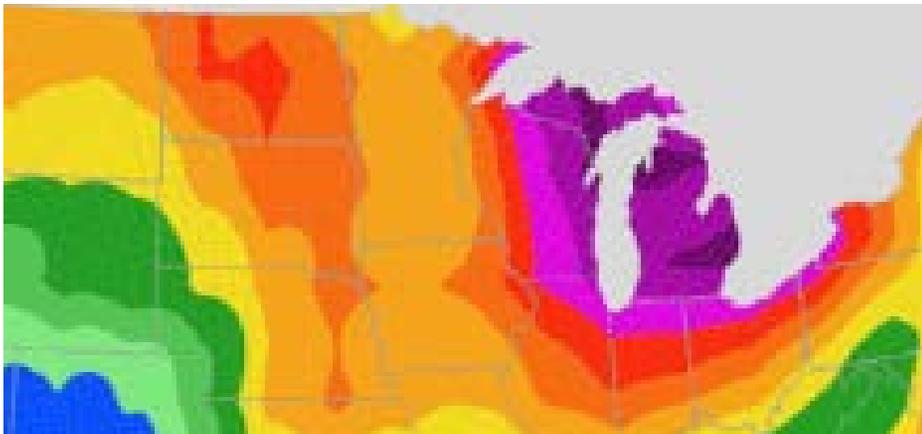


FIGURE 63

WIND DIRECTION

WIND ROSE

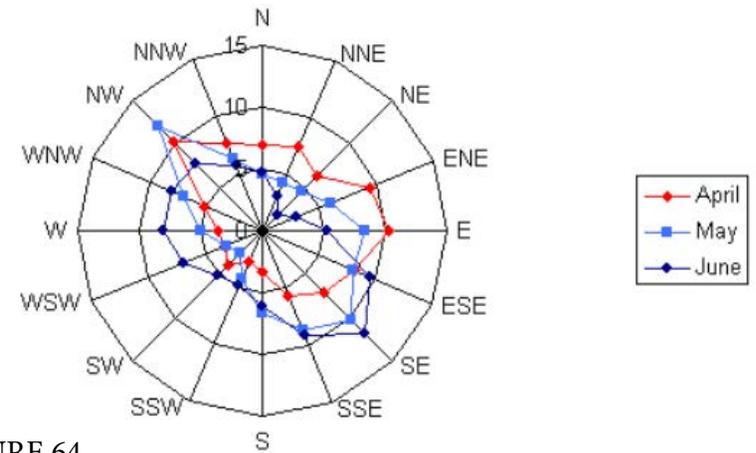


FIGURE 64

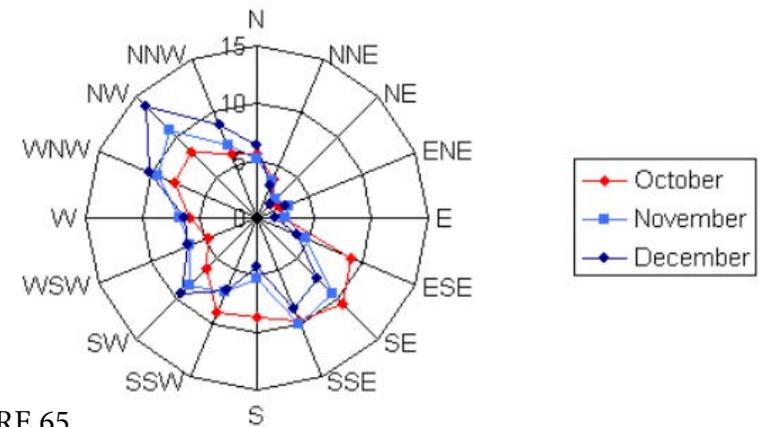


FIGURE 65

SITE ANALYSIS

QUANTITATIVE ASPECTS

CLIMATE DATA

SUN PATH

JUNE 21

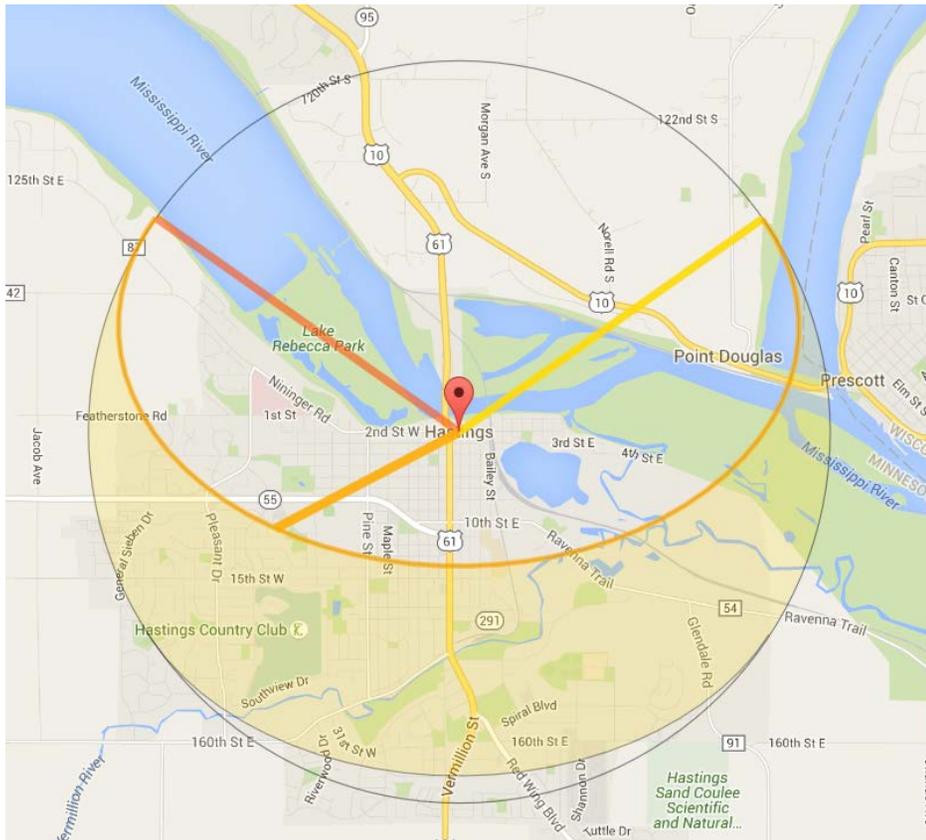


FIGURE 66

DECEMBER 21

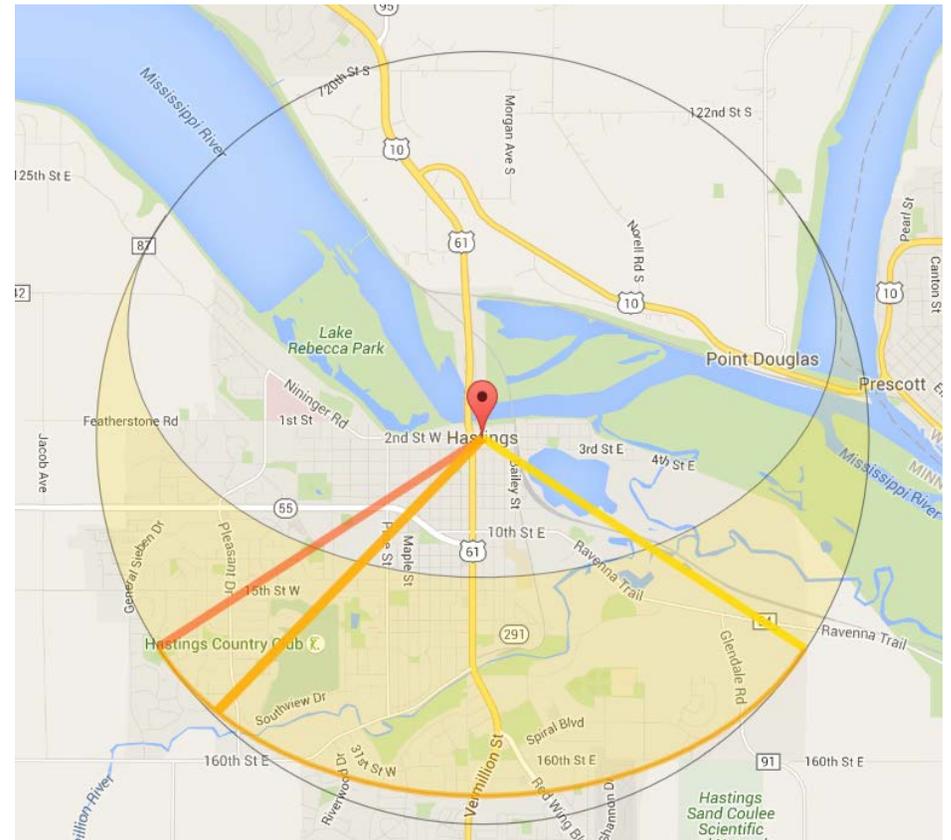


FIGURE 67

SITE ANALYSIS ANALYSIS MAP

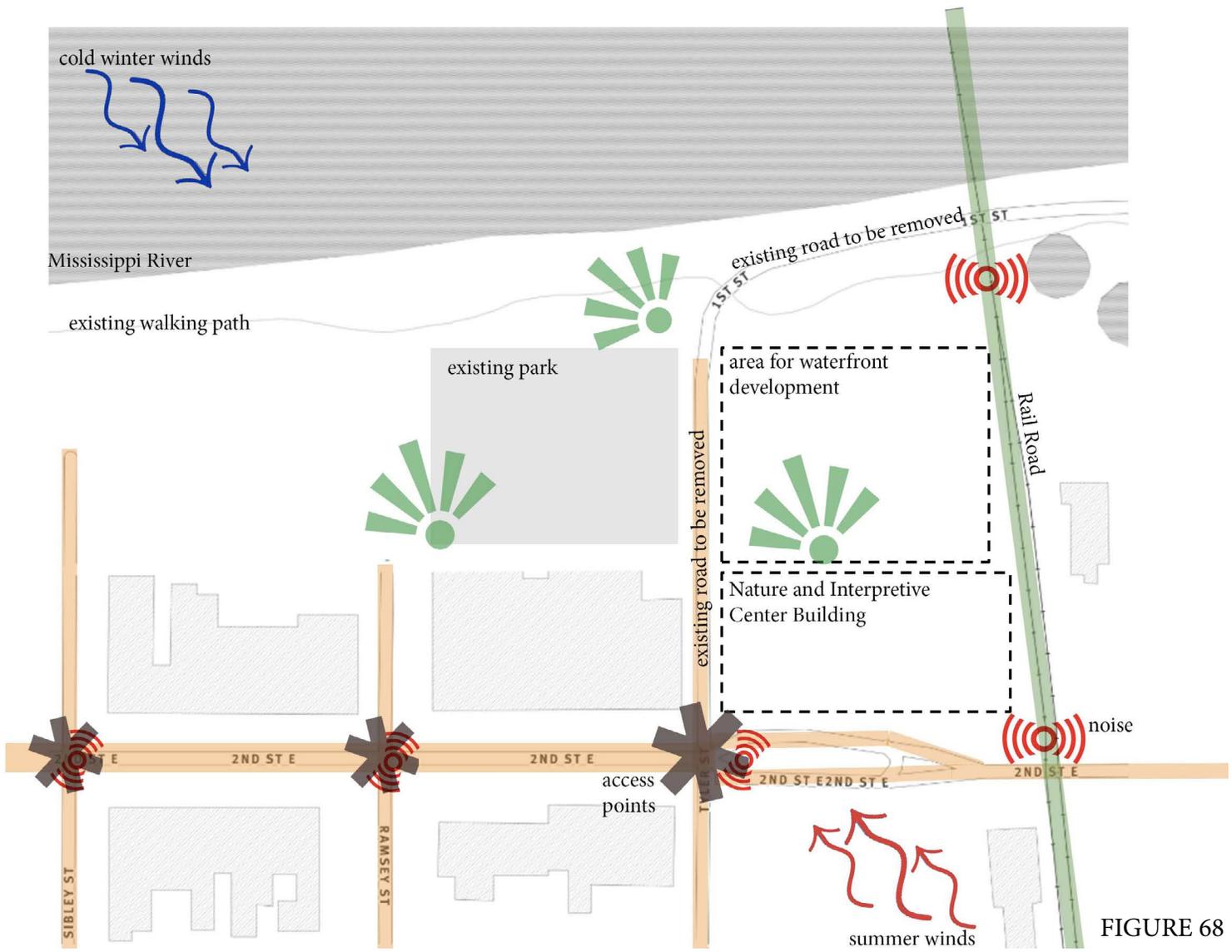


FIGURE 68

FINAL BUILDING PROGRAM

INTRODUCTION

This calculation of spaces is based on research of the typology of Nature and Interpretive centers. In order to make these spaces interactive and successful with one another, information from case studies must be taken into consideration. Based on research and the four case studies I have found to relate to my typology and area of focus, the design will include all spaces and relationships that are needed.

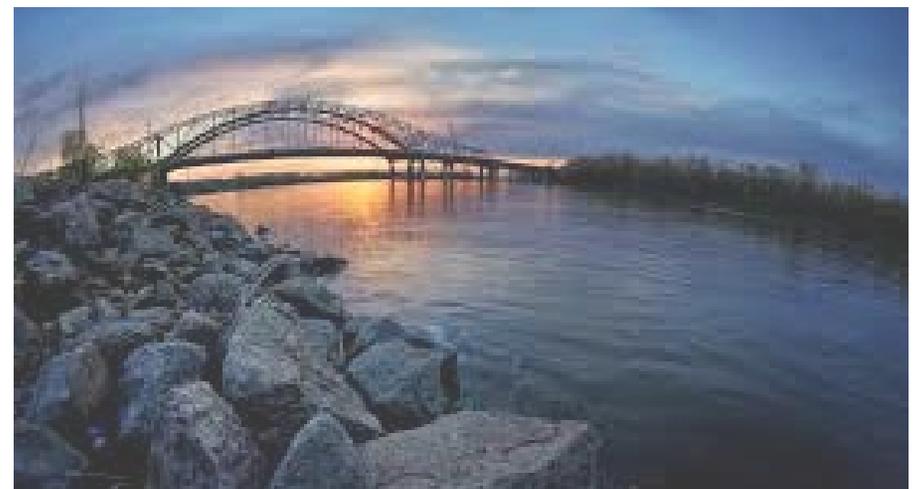
The space allocation graphic is divided into three categories of space usage; large, medium, and small. These spaces are currently located not in a final plan, but rather to study the relationship between the spaces and how visitors would interact from space to space. The quantitative and qualitative information will vary from space to space and have been considered in conducting research.

The Nature and Interpretive Center will have summer and winter hours.

Summer hours: Monday- Friday 8am- 8pm
Saturday- Sunday 8 am - 9 pm
Winter Hours: Monday - Friday 8am- 5pm
Saturday- Sunday 8am- 6pm

PRELIMINARY BUDGET

This Nature and Interpretive Center would be owned and rented by the City of Hastings. The Exhibit and Commons space are available for rent through the city directly. The overall square footage of the building would range between 9,000 and 11,000 square feet. This square footage will allow for many functions to be taken into account when designing both a Nature and Interpretive center together. A typical cost for construction ranges from 100-150 dollars per square foot. When I consider the budget overview, architectural culture will bring significance and beauty to this building that will range 200-230 dollars per square foot. The budget for this building would range from 1.8 million – 2.5 million dollars. With taking into consideration of furniture and finishes would be budgeted around 1 million, leaving the *final budget between 2.8 million- 3.5 million dollars.*



FINAL BUILDING PROGRAM

SPACE RELATIONSHIP GRAPHIC

This graphic is not the floor plan, but represents the space allocation of how various spaces can interact with one another based on the visitors and the employees needs.

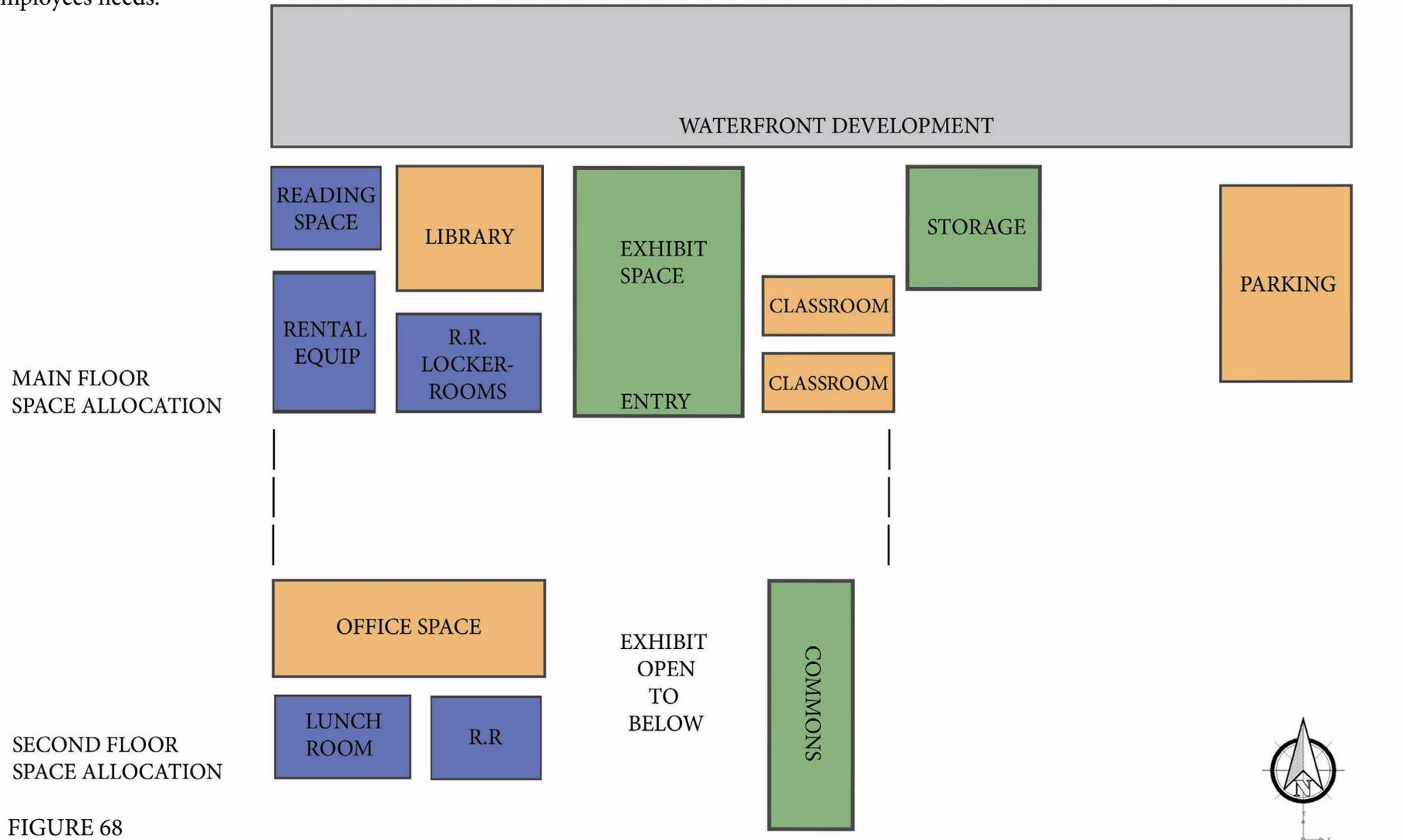


FIGURE 68

FINAL BUILDING PROGRAM

EXTERIOR SPACES

PARKING LOT

The site is currently used for various parking; however it is not a designated parking lot. This lot is used mostly in the summer months when the downtown car show is going on for people to park their old cars to display, since it has grown to be so large that not all cars can park on the main street of downtown (2nd Street). Since Hastings does not have a main bus system for the community to travel around, a parking lot for the Nature and Interpretive center is a requirement in order for people to come visit. Rather than creating a parking lot specifically for the Nature and Interpretive center, the City of Hastings will maintain the large parking lot that is to the South of the site.

Often times in downtown areas it is difficult to find parking, which favors those walking or biking. Along the River (north side of the site) there are walking trails that connect all over the city. Even though the Nature and Interpretive center will be open all year long, more people are drawn to outdoor activities in the summer months, so encouraging people to walk or bike to the facility would create a sustainable way for visitors to travel there.

WATERFRONT DEVELOPMENT

A large part of making a project attractive along a river is to develop the outdoors to allow for the visitors to enjoy the beauty of what is located directly in the city of Hastings. There are proposed plans to renovate the Hudson building, which is located on the West side of the traffic bridge. When that project is complete, the downtown area will be something new for the community to enjoy, and the Nature and Interpretive Center will add to that. The city is pushing for the community to be more of a River Town, and it is finally happening. With small businesses and walking paths in the area, many people can be active and use the parks that are in the area to bring families, pets, or even to enjoy personally.

There is an existing park along the river directly to the west of the thesis project site. To extend this park setting along the thesis site will bring this area together, and make it more appealing to the community and the visitors of the facility. The outdoor development will also bring the meaning of nature more apparent to the visitors, so see it first hand by relaxing on a park bench, or walking along the paths to view wildlife.

FINAL BUILDING PROGRAM

INTERIOR SPACES

VESTIBULE

The entry vestibule is what makes the first impression of entering a building, so creating something that is attractive and comfortable is important for this setting. For terms of ingress and egress, there will be three points within the design to allow for safety. These entry and exit points also allow for the visitors to decide on the direction they will go depending on what they are doing. Such as being in the exhibit space and either going to the park, or heading to the parking lot.

The vestibules will provide a great amount of lighting for safety and comfort. Each of these entry points will be roughly a 15 by 15 foot area to allow for a gracious space for gathering and a safe way of egress. Each of these will be entering through a glass wall to also allow for light and safety, and to design them to be blocked by the cold winds. Each vestibule will be unlocked for hours of operation to allow for guests and visitors to move about how they wish, and staff will be available for safety purposes.

EXHIBIT

Once the visitors are through the vestibule they will open up directly into the exhibit area. Since this is the main focus of the facility, to be opened up into it immediately will create an impression for the guests. Near the main vestibule and exhibit area will be a coat room for visitors to store their belongings. This space is available for rent, which would require to move the displays around for the needs of the gathering space.

The exhibit space is the largest space in the facility, and will be naturally lit with south and north lighting, which will also act as a main gathering area for all users of the building. The exhibit space will display information about nature and wildlife in Minnesota and our surrounding states. It will focus on aspects of nature and how we can protect it, how our cities were formed based on natural formations, and the beauty that surrounds us. Support services such as equipment for presentations, wall displays, and hanging displays will need to be accounted for. These displays will change every so often with seasons, to focus on informing the visitors of current conditions in the environment (various seasons on next page).

FINAL BUILDING PROGRAM

INTERIOR SPACES

Below is a list organized for each season of what is displayed in the exhibit and what activities take place.

EXHIBIT- SPRING. MARCH 1-MAY 31

Spring Wildlife & Nature

TOURS: Biking (beginner and advanced levels)
Walking- includes wildlife watching
Snowshoeing until it becomes too warm

ACTIVITIES: Outdoor Ice Skating until it becomes too warm
Easter Bunny comes for Easter egg hunt

EXHIBIT- FALL. SEPTEMBER 1- NOVEMBER 30

Fall Wildlife & Nature

TOURS: Biking (beginner and advanced levels)
Walking- includes wildlife watching

ACTIVITIES: Archery Lessons

EXHIBIT- SUMMER. JUNE 1- AUGUST 31

Summer Wildlife & Nature

TOURS: Biking (beginner and advanced levels)
Walking- includes wildlife watching

ACTIVITIES: Archery Lessons

EXHIBIT- WINTER. DECEMBER 1- FEBRUARY 28/29

Winter Wildlife & Nature

TOURS: Snowshoeing- includes wildlife watching
Walking- includes wildlife watching

ACTIVITIES: Outdoor Ice Skating
Pictures with Santa

FINAL BUILDING PROGRAM

INTERIOR SPACES

THE COMMONS

This space is the second largest space in the facility meant for large groups that visit the facility that cannot fit into a classroom that come for classes or tours. The commons is also a rentable space for parties such as weddings, work parties, or large family reunions. Since this is a large gathering area, it is located away from the quiet areas of the building.

The commons would be a space filled with natural light from as many directions as possible, but also allowing shading solutions for things such as presentations. With this space being large, to allow it to be comforting and welcoming, different textures and materials will be accommodated in design solutions. This would be a space with movable types of furniture to set up for various activities that are needed by guests.

This space would allow for 400 guests to accommodate several types of gatherings. There are not many large gathering spaces in the city of Hastings, so this would allow for the community to not rent and travel to a different city. Support services would need to be accommodated in this space for presentations, and also a kitchen for catering and dining supplies.

LIBRARY

This space is meant for those to learn on a more detailed level about what is displayed in the exhibit area. Some guests may be focused on a specific time in history that something happened, what plants grow at certain months, or even what wildlife is living in the area that we don't see often.

The library will be naturally lit with views to the outdoors for inspiration and will make a comforting space of roughly 900 square feet. Staff will be available in the library to assist with any help or direction of how the library is organized. There will be a few computers for guests to look up books that they will be looking for.

READING SPACE

Connected to the library, will be the reading space, where there are views to the river with natural light, making it comfortable by adding cozy furniture and fireplaces. This space will be rather small but will allow for roughly 20 guests to sit comfortably. The reading space will be placed on the northern side of the building in order to have views to the river, so it will need insulated glass to keep the space warm.

FINAL BUILDING PROGRAM

INTERIOR SPACES

CLASSROOMS

The classrooms will allow for 30 visitors to fit in one classroom. School groups from the city of Hastings and surrounding districts are allowed to take field trips here any time of the year. These rooms would allow for the instructor to gather the students or group in one area to give direction on what they will be doing at the Nature and Interpretive Center. Most School groups would take part in a presentation and then several activities. Activities may include such things as wildlife watching, or snowshoeing.

These rooms will need service support such as presentation screens, and tables with seating. With these spaces being mostly used for presentation purposes, the design will have sun control for lighting needs.

MEETING SPACES

The meeting spaces will be roughly half of the size of the classrooms, and used for families that come in for the weekend, or the employees that need a conference room setting to collaborate. These meeting and collaboration rooms are also meant more for presentations and gathering for informational purposes, so any natural lighting coming into the space will be controlled with shading devices. Presentation equipment will also need to be included in these rooms for staff and guests.

OFFICES

The office spaces in the facility will be enclosed offices that house the Director, Directors Assistant, and the Event Planner. These three offices will be roughly 15 x 15 feet each. These three staff members will not be the only staff working, but the other staff will not need office space. The offices will require storage compartments with computer equipment. These offices will have views to the river, and will have a sun shade solution for lighting needs. The Director, Directors Assistant, and the Event Planner will work a typical 40 hour week, and the offices will be locked and secured for the rest of the operation hours of the building.

LUNCH ROOM

The lunch room is meant for the employees to enjoy their break time away from the visitors. The room will provide kitchen like equipment for the employees to heat food, or keep it cold. The space will be naturally lit with views to the exterior.

FINAL BUILDING PROGRAM

INTERIOR SPACES

LOCKER ROOM/ REST ROOMS

Since the Nature and Interpretive Center will incorporate several different activities in all seasons, visitors and guests will need the opportunity to change into appropriate clothing. The facility allows visitors to bring their own equipment such as snowshoes, bikes, or binoculars, but also has enough for large groups to use at once. Visitors will be required to bring their own clothing for the appropriate seasons. The locker rooms will be located near the entry vestibule and will also be near the rental and equipment storage for convenience of both staff and visitors. The men's and women's locker rooms will each have about 60 lockers that vary in size, some large and some small for personal items. Within the locker rooms will also be a typical rest room, and will also provide some shower rooms for those who need it.

RENTAL AND EQUIPMENT STORAGE

The rental and equipment storage will be near the locker rooms and will house such things as bikes, snowshoes, outdoor furniture, and any other needs that the facility may come upon. This is a space that the public will be able to enter with a staff member.

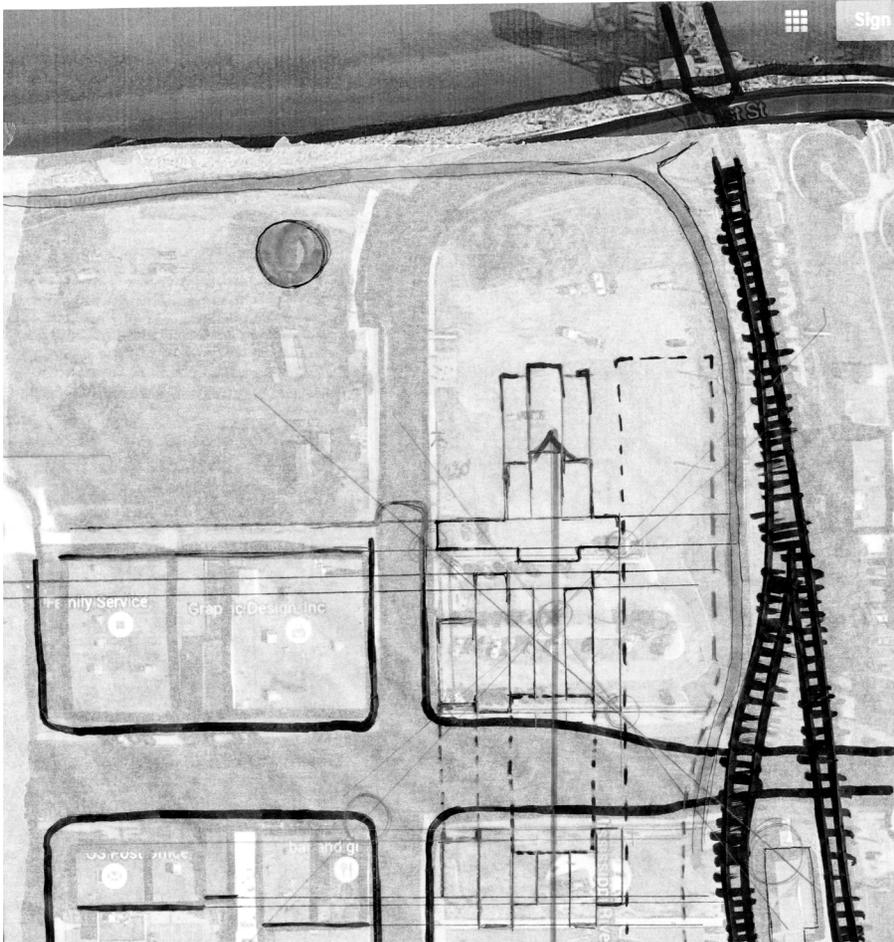
STORAGE

Storage is a building function that is used in several ways in various buildings, and many building types do not have enough storage. There is nothing specific about storage rooms, other than they store things that they do not want displayed at a specific time.

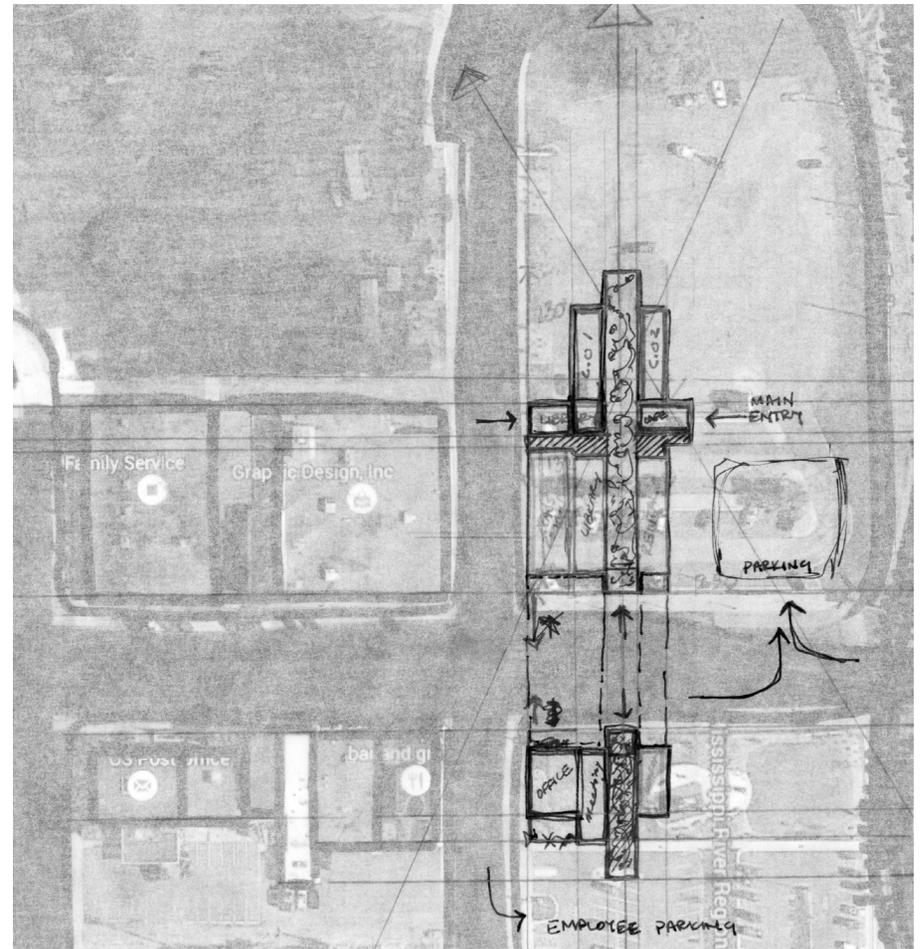
This facility will need a very large storage area, in order to accommodate the different displays for the exhibit spaces, and tables for the available rented spaces, and any other type of furniture. The janitor, electrical and mechanical spaces will also be near the storage area. These areas will be controlled by securing them away from the public spaces.

The janitor closet will house cleaning supplies and equipment needed and separate storage for these items. The electrical and mechanical room will house equipment large enough to serve the building and will provide adequate space for movement around these fixtures.

PROCESS DOCUMENTATION



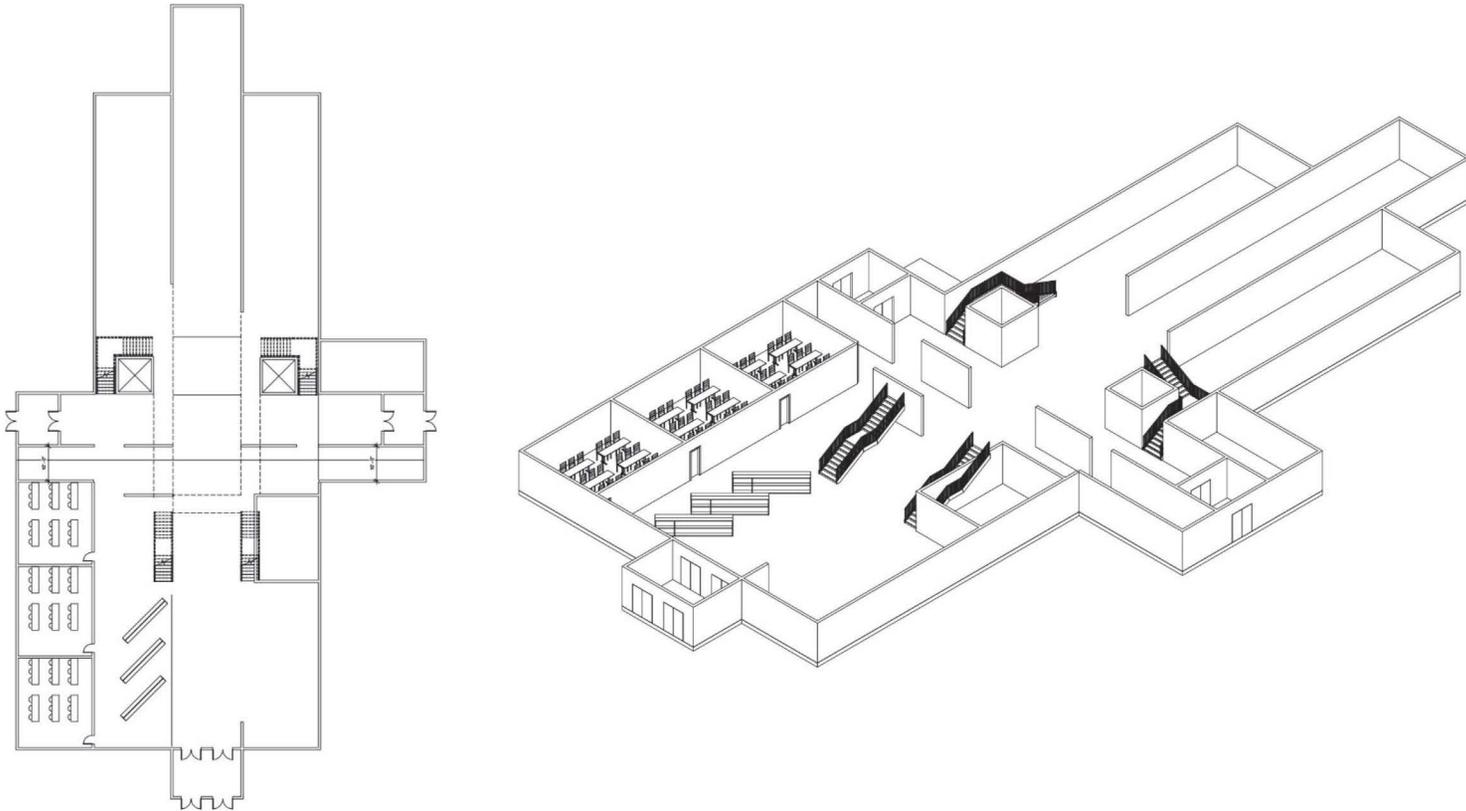
jANUARY 20TH 2016



jANUARY 27TH 2016

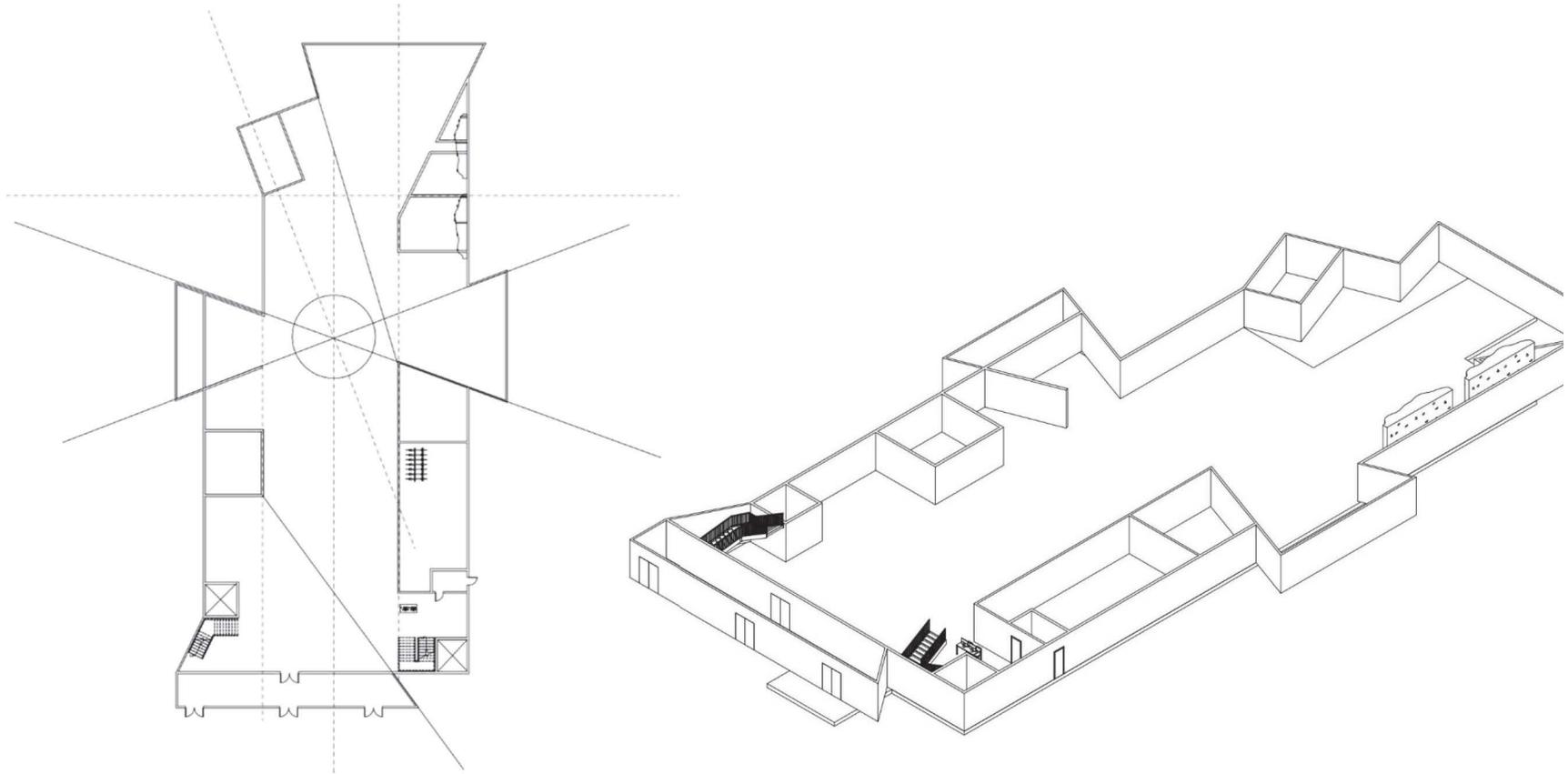
PROCESS DOCUMENTATION

SPACIAL RELATIONS- ONE



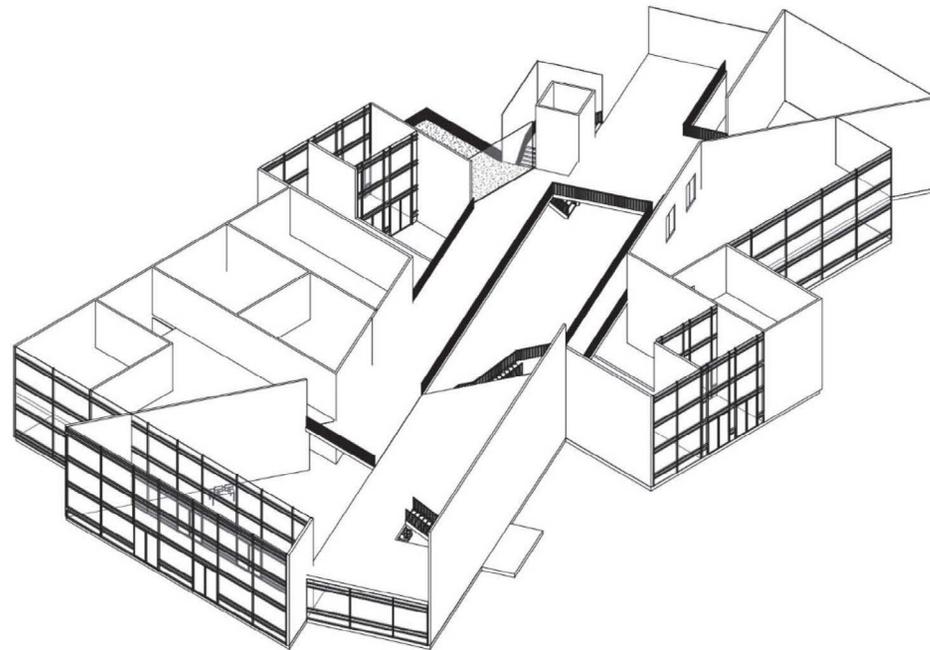
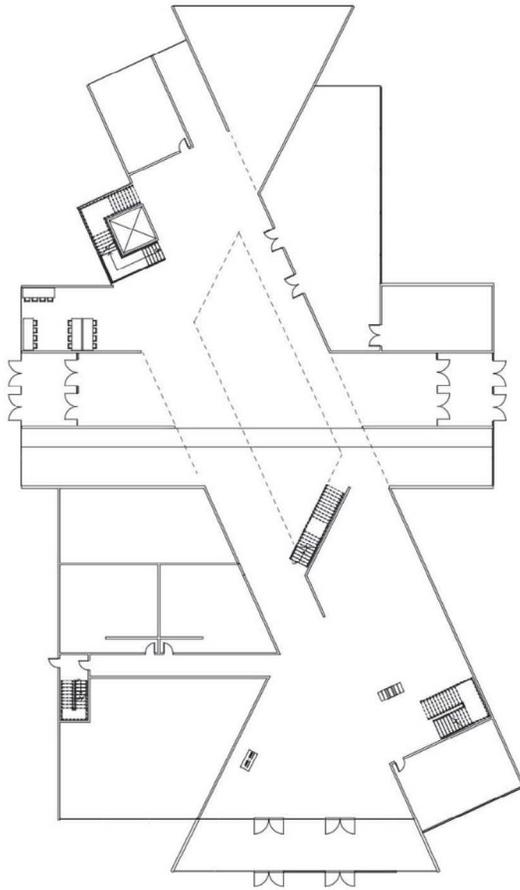
PROCESS DOCUMENTATION

SPACIAL RELATIONS- TWO



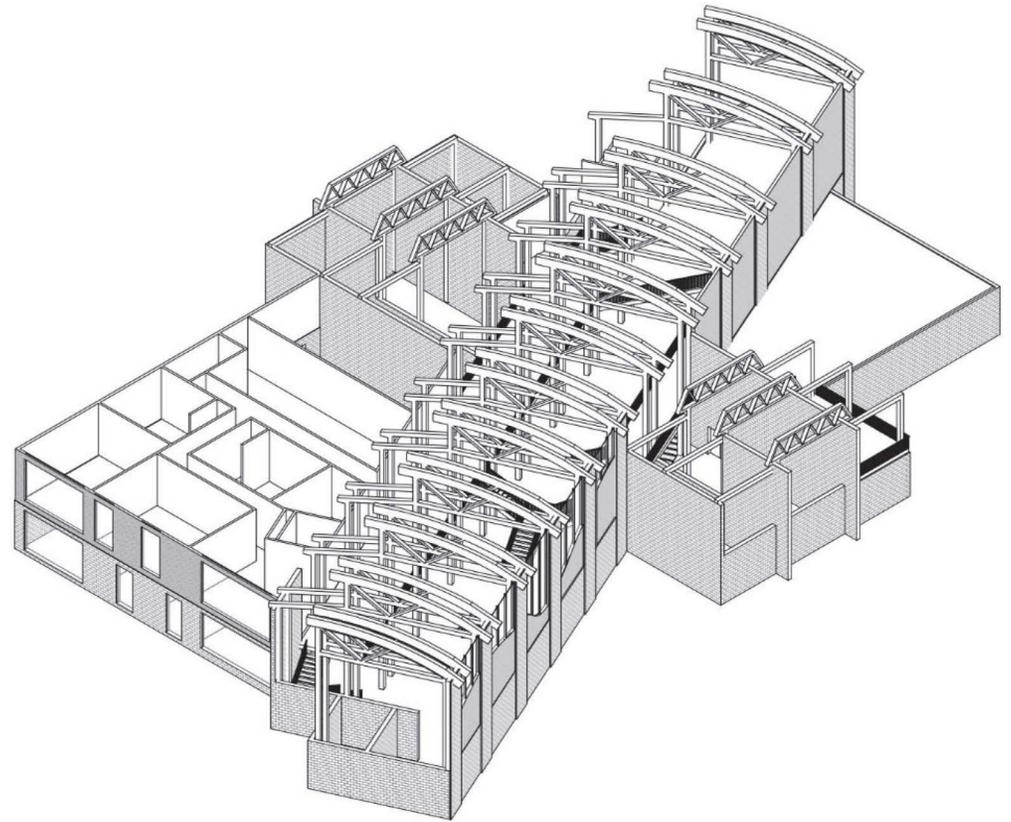
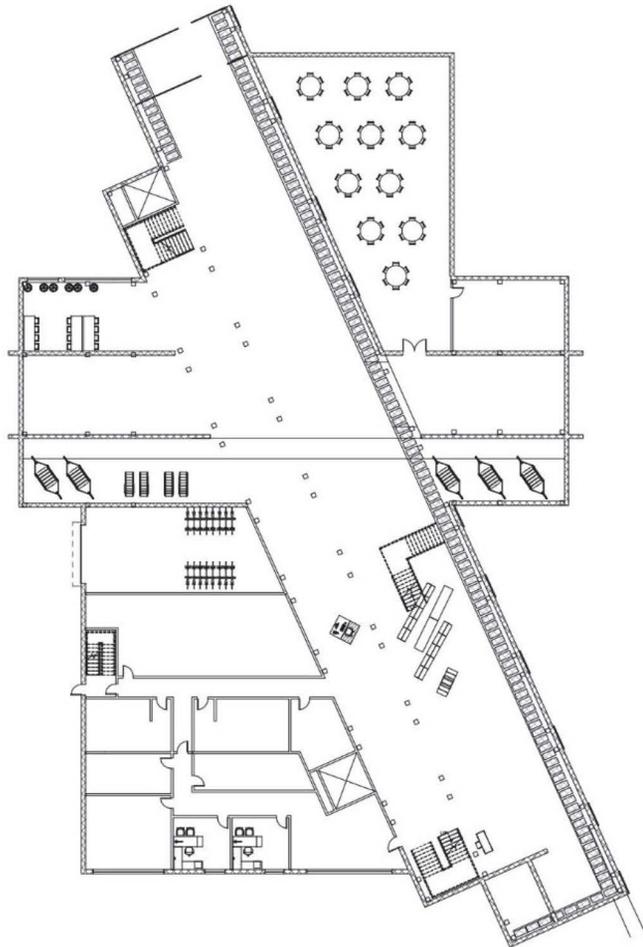
PROCESS DOCUMENTATION

SPACIAL RELATIONS- THREE

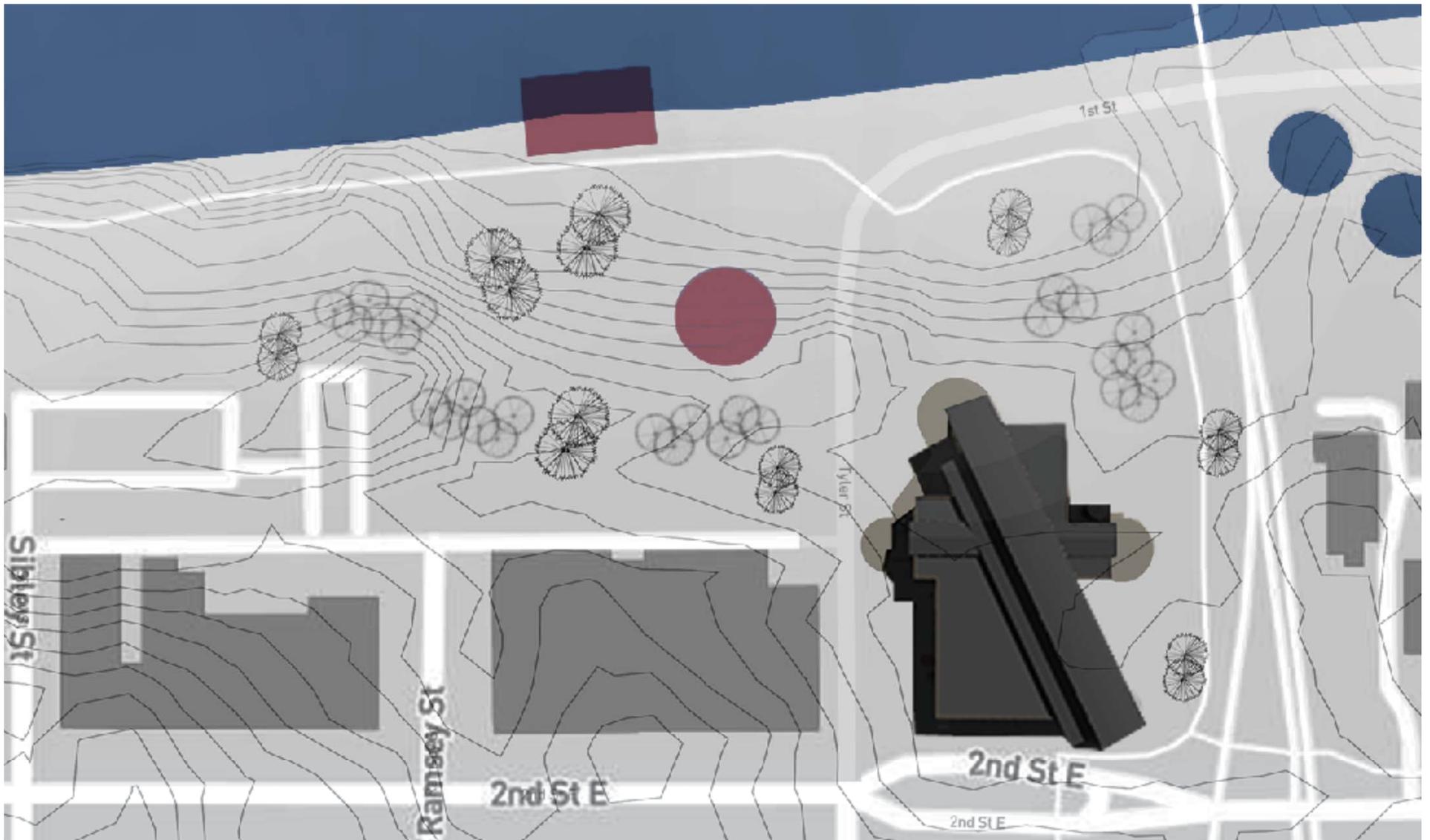


PROCESS DOCUMENTATION

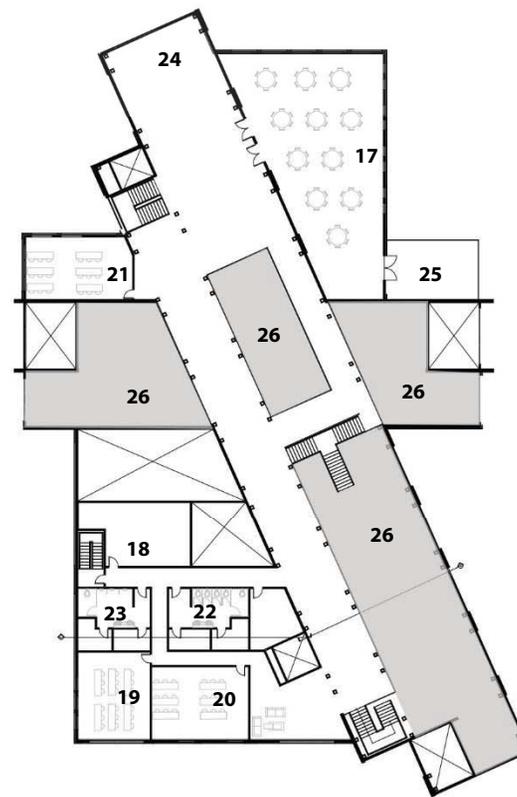
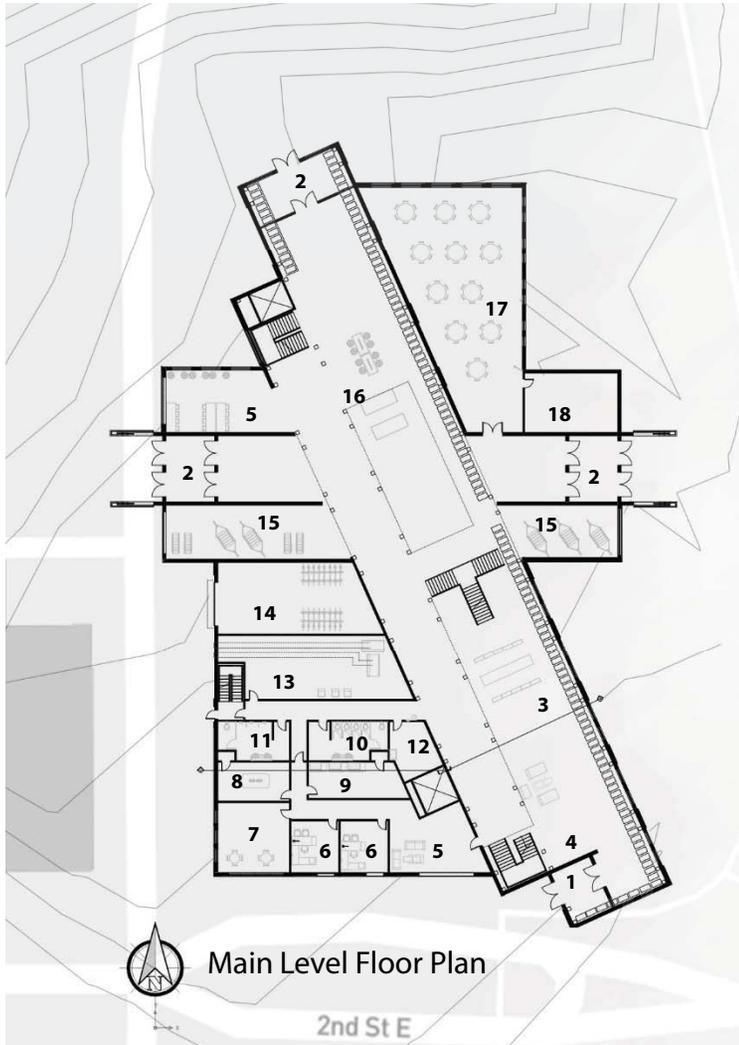
SPACIAL RELATIONS- FOUR



PROJECT SOLUTION DOCUMENTATION



PROJECT SOLUTION DOCUMENTATION



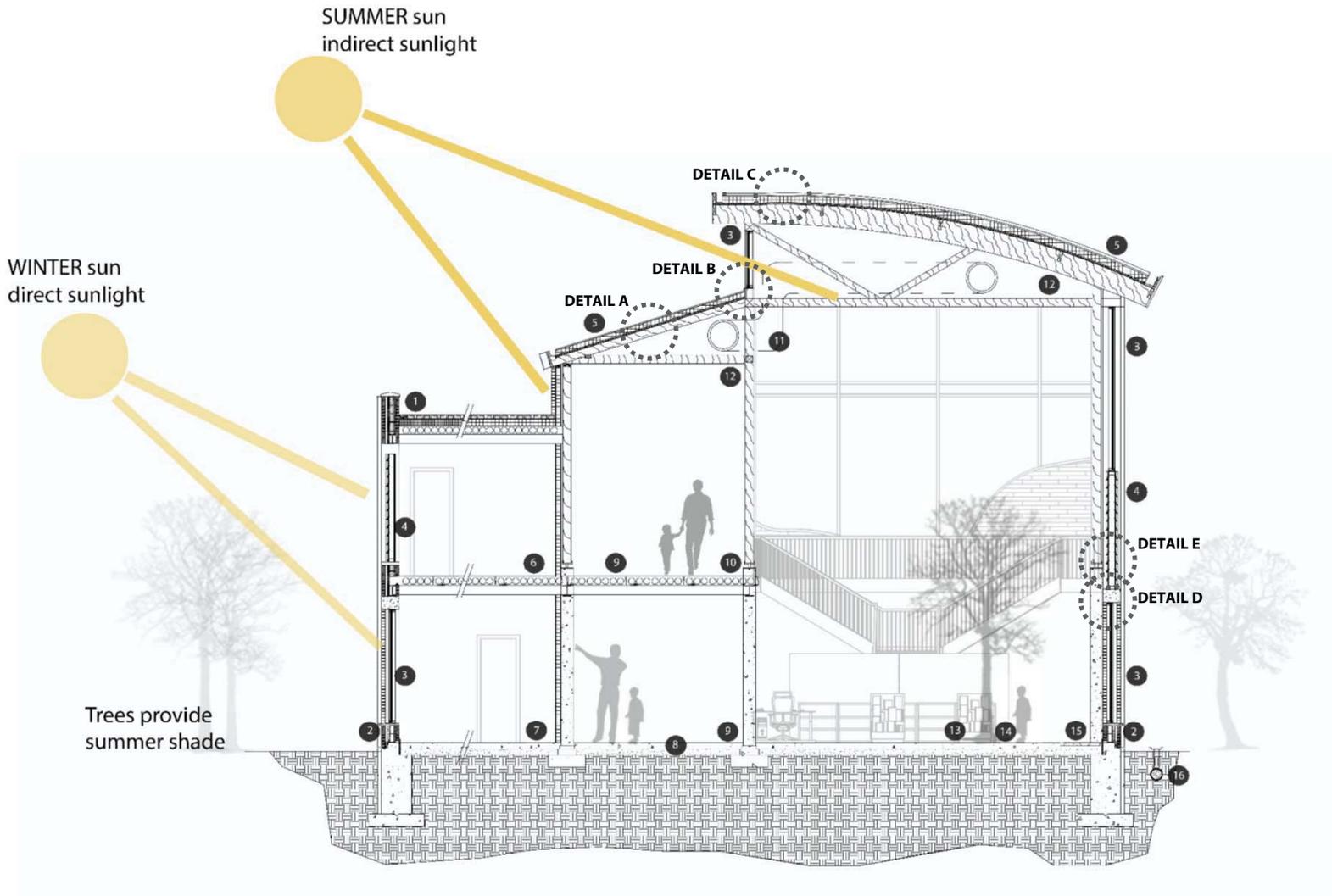
Floor Plan Legend

- 1 Main Entry
- 2 Secondary Entry
- 3 Library Space
- 4 Activities Board
- 5 Seating Area
- 6 Office
- 7 Lunchroom
- 8 Conference Room
- 9 Printing Room
- 10 Women's W.C
- 11 Men's W.C
- 12 Janitor Closet
- 13 Mechanical Room
- 14 Garage for rental equipment
- 15 Reading Area
- 16 Exhibit Space
- 17 Community Room
- 18 Storage Space
- 19 Historic Classroom
- 20 Community Classroom
- 21 River Classroom
- 22 Women's Locker room
- 23 Men's Locker room
- 24 Viewing/ Gathering Space
- 25 Outdoor Patio (private)
- 26 Open to below

PROJECT SOLUTION DOCUMENTATION



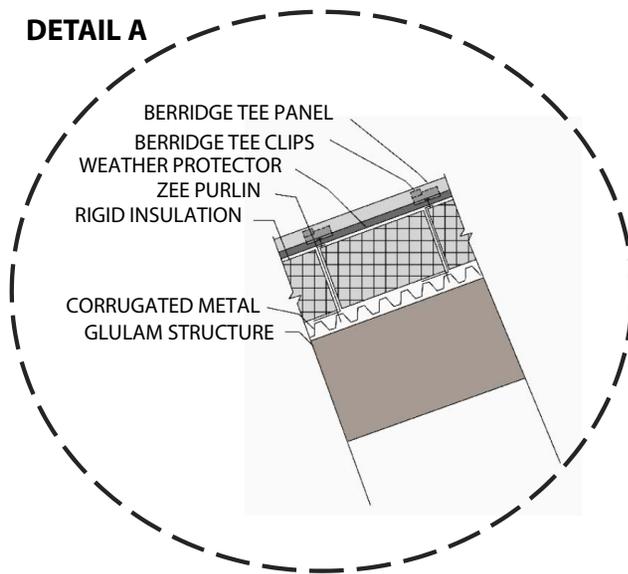
PROJECT SOLUTION DOCUMENTATION



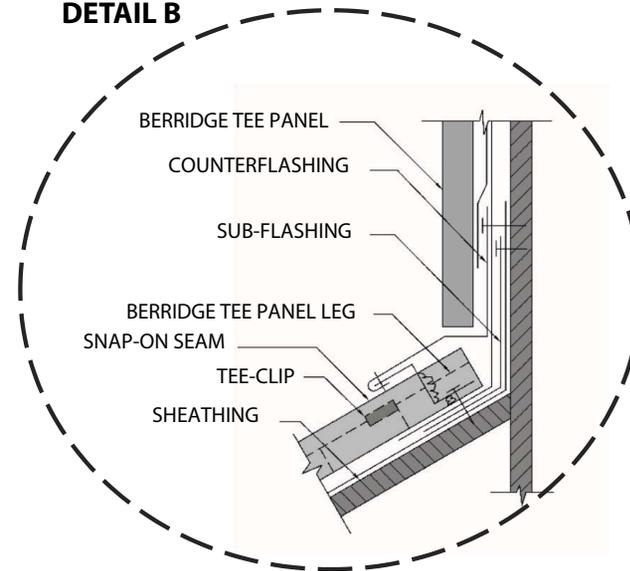
- | | | | |
|--|-----------------------------|---------------------|--|
| 1 Green roof system | 5 Metal panel roof | 9 Corridor | 13 Library (exhibit space beyond) |
| 2 Structural brick wall system (window openings in between glulam structure) | 6 Locker rooms | 10 Saddle detail | 14 Plants emit O2 for healthy indoor environment |
| 3 Electrochromic glass system | 7 Office spaces | 11 HVAC system | 15 Water feature |
| 4 SIPS with wooden paneling | 8 Concrete floor throughout | 12 Glulam structure | 16 Rainwater is harvested and |

PROJECT SOLUTION DOCUMENTATION

DETAIL A

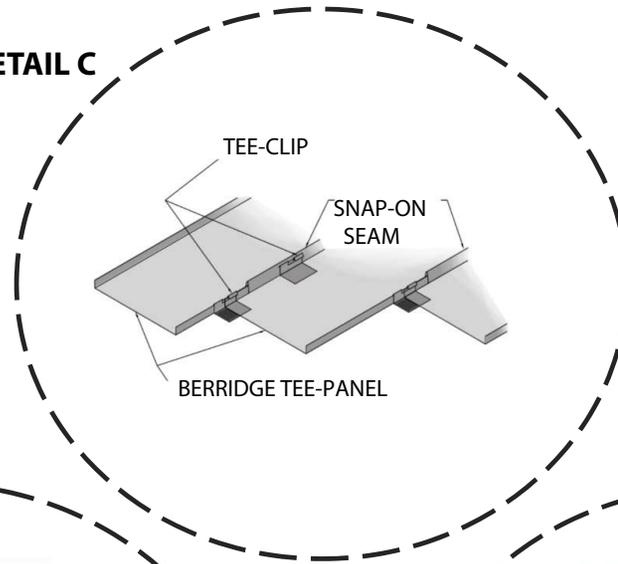


DETAIL B

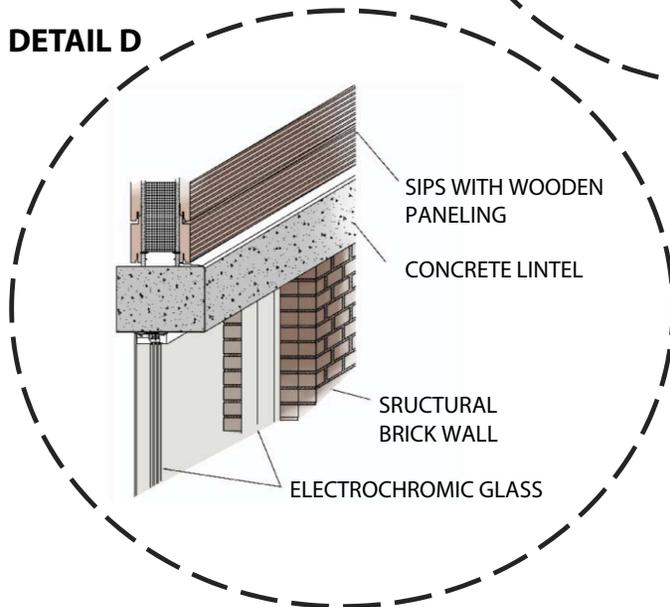


PROJECT SOLUTION DOCUMENTATION

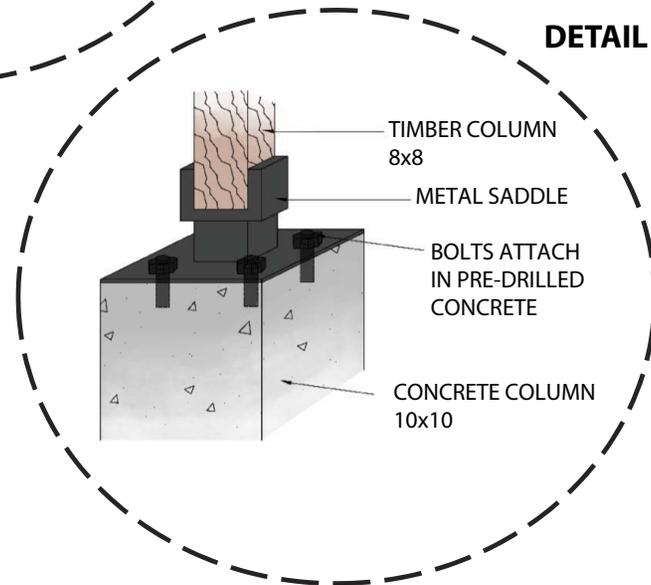
DETAIL C



DETAIL D



DETAIL E



PROJECT SOLUTION DOCUMENTATION



PROJECT SOLUTION DOCUMENTATION

Main Entrance (south)



Side Entrance (east)



View from dock



Back Entrance (north)



Side Entrance (west)



Skating rink

PROJECT SOLUTION DOCUMENTATION

Full view of interior



Reading space



Classroom (river)



Community Space



Overlooking Exhibit



Gathering/ Viewing area

PROJECT INSTALLATION



THESIS APPENDIX

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PREVIOUS EXPERIENCE

2ND YEAR:

FALL SEMESTER 2012
STEPHEN WISCHER

TEA HOUSE. FARGO, NORTH DAKOTA
BOAT HOUSE. MINNEAPOLIS, MINNESOTA

SPRING SEMESTER 2013
RHET FISKNESS

OUTDOOR PAVILLION. MOORHEAD, MINNESOTA
CULINARY ARTS SCHOOL. RIO DE JANEIRO
DANCE STUDIO. MOORHEAD, MINNESOTA

3RD YEAR:

FALL SEMESTER 2013
MILT YERGENS

FISHING MUSEUM. LAKE OF THE WOODS, MINNESOTA
LITERACY CENTER. PORTLAND, MAINE

SPRING SEMESTER 2014
DAVID CRUTCHFIELD

MID-AMERICA STEEL OFFICE. FARGO, NORTH DAKOTA
COMMUNITY CENTER. CHICAGO, ILLINOIS

4TH YEAR:

FALL SEMESTER 2014
BAKR ALY AHMED

HIGHRISE. SAN FRANCISCO, CALIFORNIA

SPRING SEMESTER 2015
PAUL GLEYE

INTER-BETON OFFICE BUILDING. BRUSSELS, BELGIUM

5TH YEAR:

FALL SEMESTER 2015
MARK BARNHOUSE

WETLANDS RESEARCH LABRATORY. ULEN, MINNESOTA

PERSONAL IDENTIFICATION



‘North Dakota State University has provided me with amazing oppoprunities that I will carry with me forever”

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