



STILLWATER COMMUNITY CENTER

A THESIS PROPOSAL FOR STILLWATER MINNESOTA - LOWELL PARK SOUTH

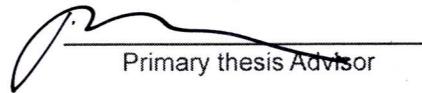
STILLWATER COMMUNITY AND RECREATIONAL CENTER

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

By

Matthew M. Hoefler

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



Primary thesis Advisor

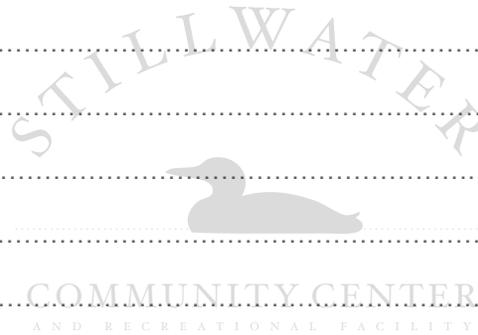


Thesis Committee Chair

May 2015
Fargo, North Dakota

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THESIS PROPOSAL



Figure 1



Figure 2

THESIS ABSTRACT

THESIS ABSTRACT

Title.....Stillwater Community and Recreational Center
Typology.....Community driven gathering space
Site.....Stillwater, Minnesota

How can current needs be addressed to form a space that adds value and connectivity to a community?

This is a study of how community driven needs creates a structure that can be used in multiple ways. Using common needs of the area this project aims to solve the problem of connecting this city. By creating multiple uses the building can attract different activities and gatherings depending on the seasons. This project connects residents to the water, the land and all types of trail activities, biking and hiking. By providing access to this building we can create a common space and area for residents and tourists to gather.





Figure 3

**THE NARRATIVE OF THE
THEORETICAL ASPECT OF THE
THESIS**

THE NARRATIVE OF THE THEORETICAL ASPECT OF THE THESIS

The Narrative Introduction.....

The premise for this project is creating a space in which multiple users can have access to different types of functions. There is a common problem among most of the area's residents which includes not having a common space for all. The solution to this problem would be to create a "center" for the area. This would create a sense of place and community for all. Stillwater is currently in a new development phase that includes creating a new bridge to access Wisconsin. Along with the new bridge, the old bridge will then become a trail/walking path for pedestrian uses. Using the current development and information I can conclude that certain issues need to be addressed and therefore can create solutions.

There are many studies that have been connected to the problem of city integration and community gathering spaces. I will examine several articles and research documents to help create a design that will be proven to work.

Community enterprise is a continuing process. As the authors recognize, there are no instant solutions: communities change in their needs and aspirations, cities grow and shrink, and there is a continuous process of a renewal which can be helped - or hindered - by experts. The real task for today is to create a partnership between those different sectors that have different resources to offer: the public sector, which can often assist with supply of land; the private sector, which has the finance; the professionals, who have the skills; and the voluntary movements - housing associations, cooperatives, self-build associations, etc., Which know the immediate needs and have the commitment to resolve them.

This quote explains the difficulty in designing within a community, for a community. The needs and requirements are constantly changing and the goal becomes to find a solution that will work now and in the future.

Claim: Create a common gathering space to connect and integrate land and water in a small community.

1. Connection of community – research and examine current population demographic and community involvement to provide a space that would be suitable now and in the future. Using the new bridge south of the town as an anchor for new development to examine how the bridge could positively affect the area.
2. Connection to water access from the St. Croix River. By integrating this design with the water I will research and analyze the connection to the water. Stillwater is a river town except there are currently no public slips for boaters or canoe/kayak uses. By developing this plan to include water access the design will work for both land and water uses.
3. Connection of bike travel and new bike trail system currently in development now. Using this design the current city development project could utilize this facility for biking use.



Figure 4

**PROJECT TYPOLOGY-BUILDING/
LANDSCAPE TYPE**

PROJECT TYPOLOGY-BUILDING/LANDSCAPE TYPE

Building Typology.....

My proposed typology is assembly mixed use with retail/rental/event services – this combination will allow for many different users and attract a lot of people in the area. The project is set into an urban environment with access to natural outdoor activities. The goal is to integrate the body of water with the existing site so that it becomes accessible for all. Creating docking and natural areas to combine in one particular site is exactly what this area needs.

Comparison Typology.....

In comparison this project resembles community activities buildings that are utilized throughout this country. By creating a building that is located near the center of town we can create a place for all people to congregate. This project is meant to bring people together in all four seasons. This typology of building is very unique for the fact that it will embody several different, yet similar functions. There will be large gathering areas, rental spaces for small business to rent products, and boat slips, which will help combine the water and land.

Components of Typology.....

The gathering area will allow for large groups to gather for any number of events. Using common sizing and area requirements, these spaces will accommodate all types of events. From small gatherings to large weddings the spaces can be adjusted to fit whatever is necessary.

By adding a rental component to the project the building will have the ability to rent all types of activity related items. Anything from small bicycles to kayaks for the river and all other types of gear. Boat slips will provide an excellent spot for people to stop by boat and travel onto downtown. This will add to the already robust economy in the area in the summer and fall.

Landscape Type.....

The landscape is a big part of this project because it affects how the building will need to be designed. Stillwater Minnesota is in the Midwest and thus has 4 very different seasons that need to be accounted for. Using the changing seasons will help develop the overall program and lead to a design that will be functional all year. Using natural elements found at the existing site will allow for a better integration into the surrounding area. This site is unique because of its location and proximity to a large river body. The site is a favorite area among locals and tourists alike, for its natural setting and views.





Figure 5

THE TYPOLOGICAL RESEARCH

THE TYPOLOGICAL RESEARCH

Typology Research Findings.....

This project aims to create a center for all individual users in the area. The spaces can be used in multiple different ways to accommodate the use needed. My project typology is unique in a way that is slightly different from other similar typologies. This project creates both an area for people to gather as well as creating a connection between land and water.

After researching several different building types I found the following architectural articles that are similar in nature to my project. This project utilize several different functions and materials that I propose on using in this thesis.





Figure 6

CASE STUDY ONE

Thebarton Community Centre

Architect.....MPH Architects
 The project type.....Community Center
 Location.....South Road, Thebarton, Adelaide, Australia
 Size..... 2,898 Square Meters
 Year.....2013

Introduction / Description.....

This design utilizes many large capacity spaces to allow for gatherings and events of different sizes. My plan would also include multiple spaces and other spaces like roof and site areas. This building proves the need for a common gathering space within an existing park area. There are many impressive design techniques that were utilized both interior and exterior. Glazing elements were used to control sun penetration as well as sun shading devices.

The exterior is made from materials that are proven to work in the specific climate. Interior spaces have folding walls and expansion areas along with storage spaces for chairs and tables. My design will incorporate many of these similar features in order to work in the harsher climate.

Research Findings Common / Uncommon.....

In my individual research I have found several different master plans for the area that include some sort of common gathering space for the city. Stillwater is a historic city in Minnesota and the design will need to incorporate elements to make it blend in at some degree. The importance is creating a design that respects the historical nature of the site while providing all new technologies.

Architectural Information.....

Structure:

The overall structure for this building is structural steel, including structural steel columns, wide flange beams, and metal roof decking.

Natural Light:

Natural lighting conditions are handled very well in this building - the architects paid attention to the south facing sun by providing a large sun screen (as shown in the Figure). The space configuration was designed around views and also natural day lighting into the large gathering space.

Massing:

Massing consists of an overall rectangle that has a folded plane on the roof structure. The design is very rectilinear in form and mass, this type of massing works well in a large gathering space.

Circulation to Space:

Circulation happens throughout the whole space except for the more private offices on the west side. The architect really encourages the transportation from space to space by reducing the columns and form the spaces in a way that allows a user to travel freely.

Geometry:

The geometry was created from the interesting shape of the site. This site really influenced the design and created a set of parameters that needed to be addressed.

Hierarchy:

The overall space layout includes an interesting dynamic of spaces that give certain areas more importance. On one side of the building there is a large public [park and outdoor gathering space. On the other side is a moderately traveled road that creates traffic noise. With both of these factors the architects decided to put the gathering space on the park side and the less important spaces on the road side to reduce the noise level. The overall interior layout of space is very impressive and can be seen in the figure.



Figure 7



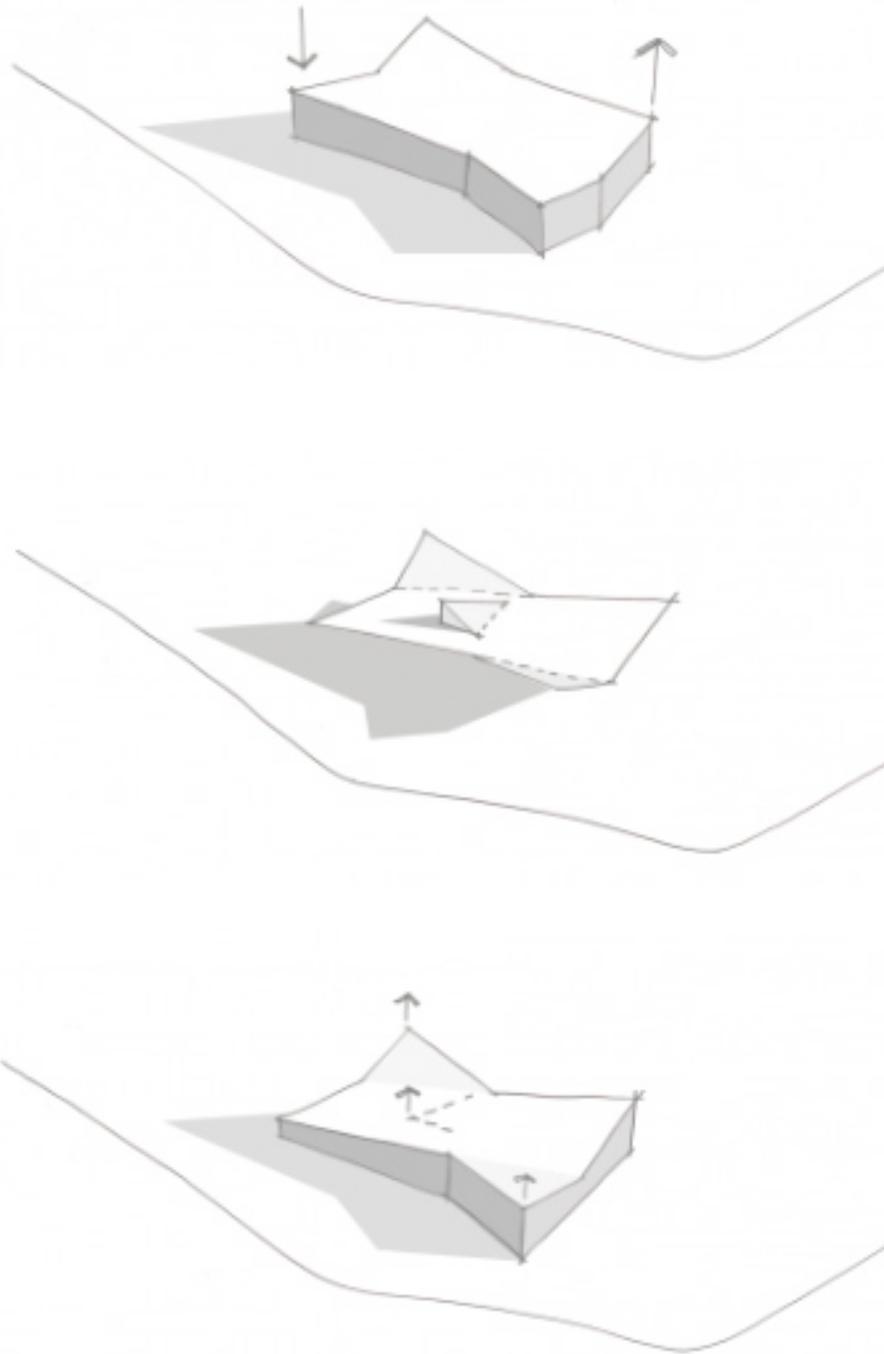


Figure 23



Figure 24

Response to Site.....

Environmentally:

This particular building site is irregular and the shape informed the design in a way that allows it to utilize the most space.

Socially:

Because this building was created with the idea of community driven design there are several social factors that are implemented. This space is used for different types of spatial gatherings and uses both indoor and outdoor spaces.

Case Study One - Conclusion.....

After examining all of these major factors of the design, one simple idea comes to mind. The idea of community gathering space, as a result this project emphasizes the sense of gathering very well. This sense has been achieved thru use of forms and natural space flow throughout the entire design. I have found a lot of valuable ideas for my design thesis and I look forward to utilizing these ideas.



Figure 25



Figure 26

CASE STUDY TWO

Jesuit Community Center at Fairfield University

Architect.....Gray Organschi Architecture
 The project type.....Community Center
 Location.....Fairfield, CT, USA
 Size.....20,000 Square Feet
 Year.....2009

Introduction / Description.....

The Jesuit Community Center was designed to be a center or area for students on the campus to gather. The space is used for gatherings as well as admin offices and priests residence. This design reflects the simplicity of the lifestyle that the campus and teachings provide. The architect provided a simplistic design and allowed for changing multi-use space configurations.

Research Findings Common / Uncommon.....

As all gatherings require different spaces this design allows for spaces to be configured to suit the needs. The chapel is where the main areas combine and create the setting for gathering.

This design also required private living spaces that are divided from the public gathering areas. The red areas are the common gathering spaces that allow for people to meet and simply get away from campus.

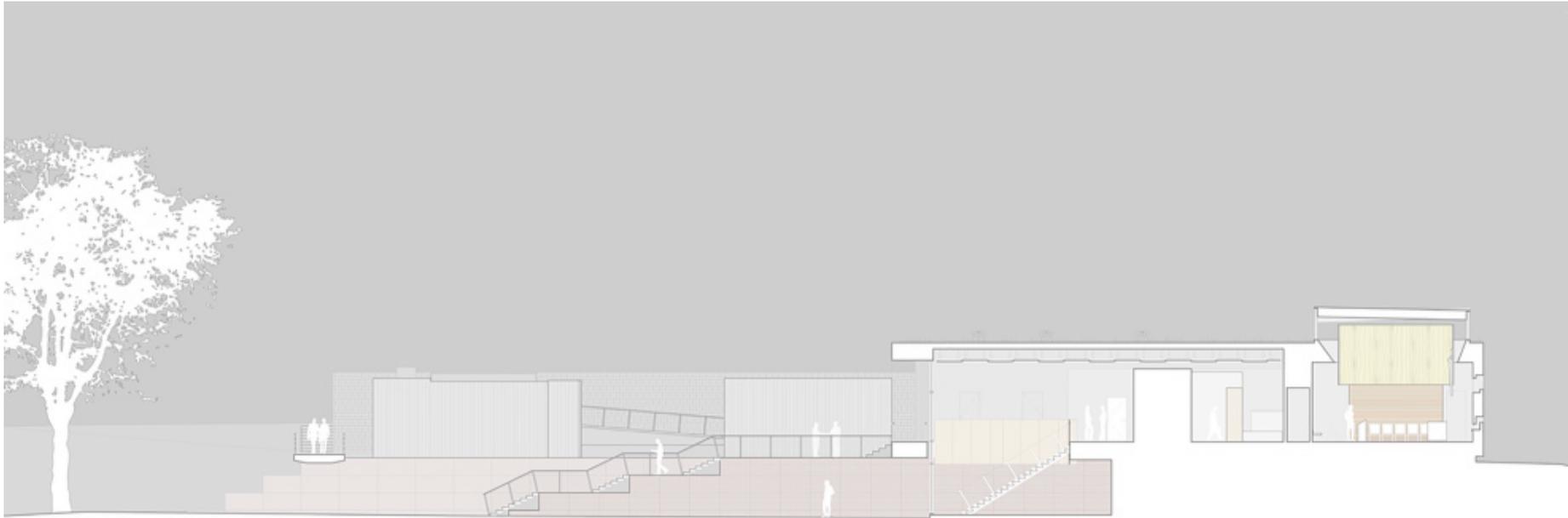


Figure 27

Architectural Information.....

Structure:

The structure is a mixture of concrete bearing walls as well as a steel super structure. This combination allows for large spans and limited interior column interruptions. This of course leads to a better layout of space on the interior space configuration. The structure itself is not exposed all members are hidden within the walls and ceiling areas.

Natural Light:

This space is designed for gathering, religious gatherings, and social interactions and as a result the spaces are designed with natural light in mind. The architect uses large north facing glazing panels, and large semi translucent glazing panels on the roof structure

Massing:

From the exterior there are three different finish materials used. Brick, wood ship lap siding, and corrugated metal siding. Using these three elements in different areas the design reflects how simple forms and materials can create very interesting buildings.

Circulation to Space:

The circulation consists of utilizing public and private spaces and creating a sequence of events. The sequence is that once you arrive the flow thru the spaces moves you from one to the other fluidly. By creating corridors that allow for views into the larger spaces this design really creates interest from wherever you are within it.

Geometry:

The geometry is rectilinear in some respects but it also has large square gathering spaces. The geometry reflects how the spaces are laid out and shows use where to go if we were inside. The entry and common space are relatively small in comparison to the large gathering space in the center. This massing really allows for valuable social gatherings.

Hierarchy:

Hierarchy in the plan is given to the large gathering/worship areas and this really creates a centered design. The worship center is located centrally and all the other spaces circulate around that.



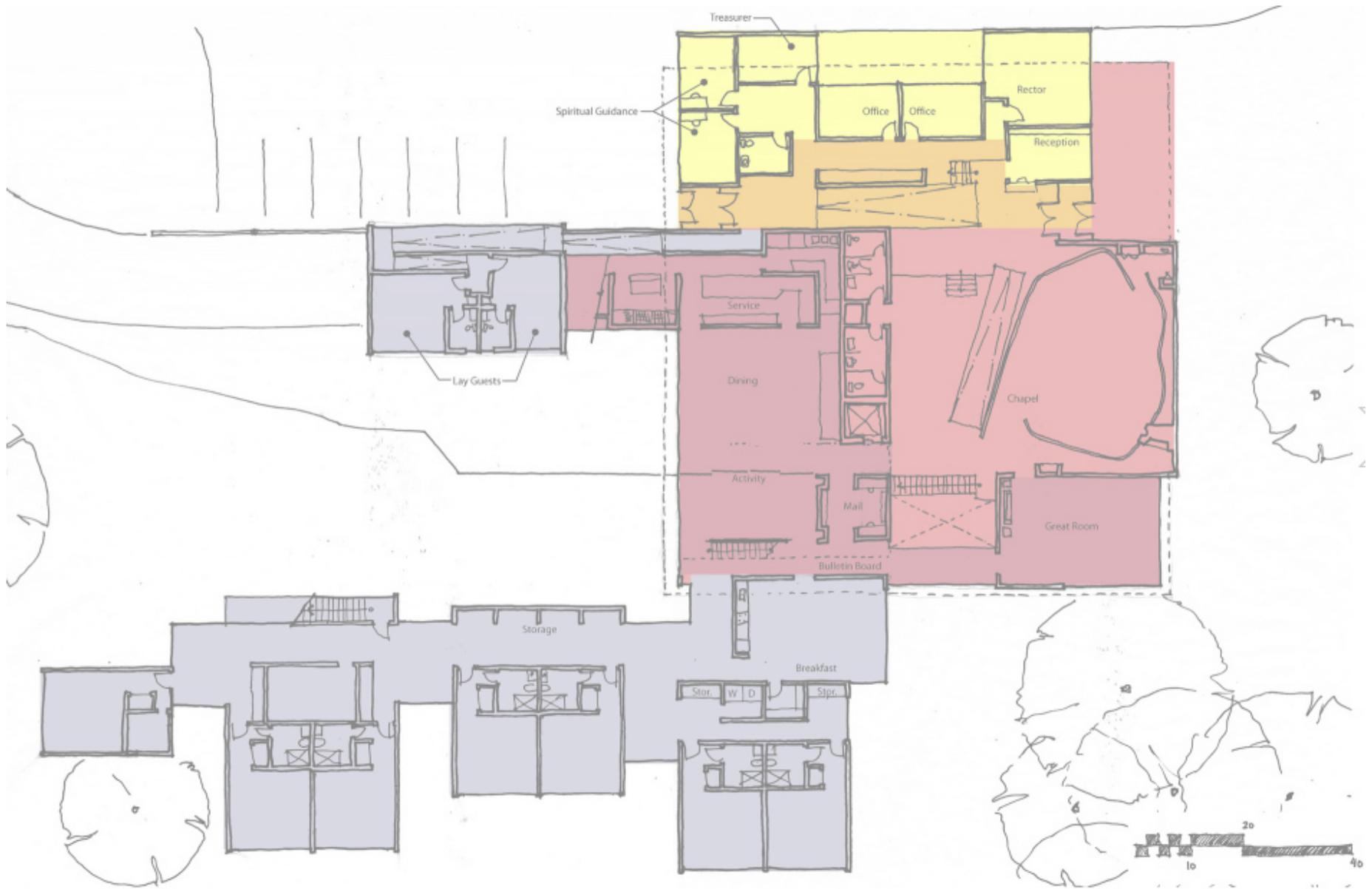


Figure 28



Figure 29

Response to Site.....

Environmentally:

This particular project is located on the campus, but it has a more rural feeling about it. The site is located in a large park like area north of the main campus and creates a sense of space because of that. The site has many large oak trees that add to the park like feeling. There is a small parking lot on the north side for visitors but most of the human traffic comes from people already on the campus. Thus the need to drive there is less and this really adds to the overall scenery of the project.

Socially:

This design is focused around community gathering and religious worship space. It's also located on a major campus so the environment allows for more of a social space. This combination of religion and university space really makes this a unique gathering space.

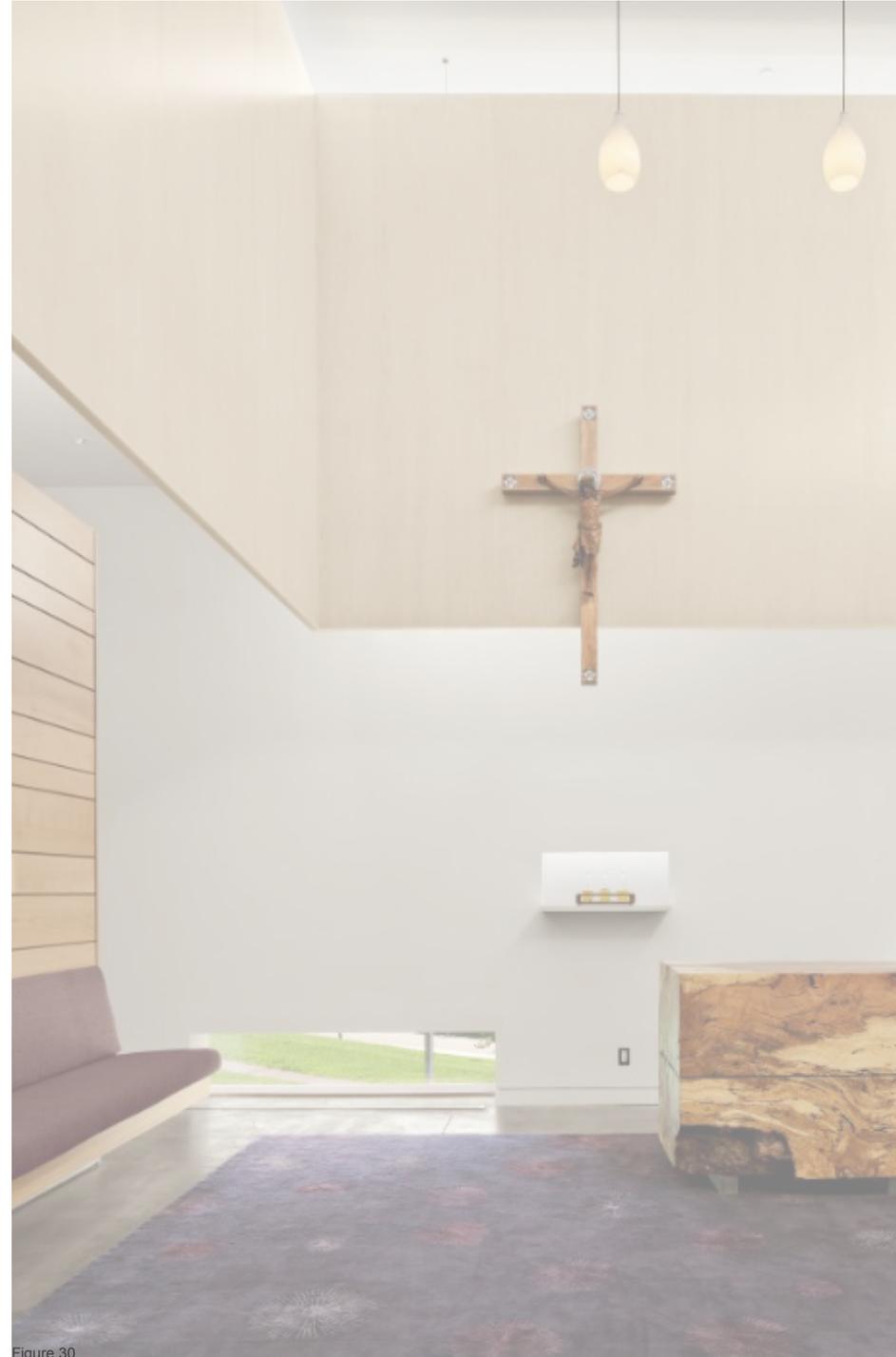


Figure 30





Figure 31

CASE STUDY THREE

Gleneagles Community Center

Architect.....Patkau Architects
 The project type.....Community Center
 Location.....West Vancouver, British Columbia, Canada
 Size.....32,000 Square Feet
 Year.....2010

Introduction / Description.....

This project design was influenced by the gently sloping site and the overall use for the building. The lot area is small so in order to give the owner the desired program the architect created a small foot print that has three levels. This multi-level space creates a really interesting design that allows users to see into different spaces on different levels.

Research Findings Common / Uncommon.....

This design was studied and created using a sectional view of how the spaces could interchange. By using three stories the architect was able to create a voluminous basketball court that has overlooking areas as the floors extend to the roof structure. By maximizing the height the spaces can be more relatable to the surrounding spaces. This makes the design very unique because most of these spaces don't have any recreational activities within the design.

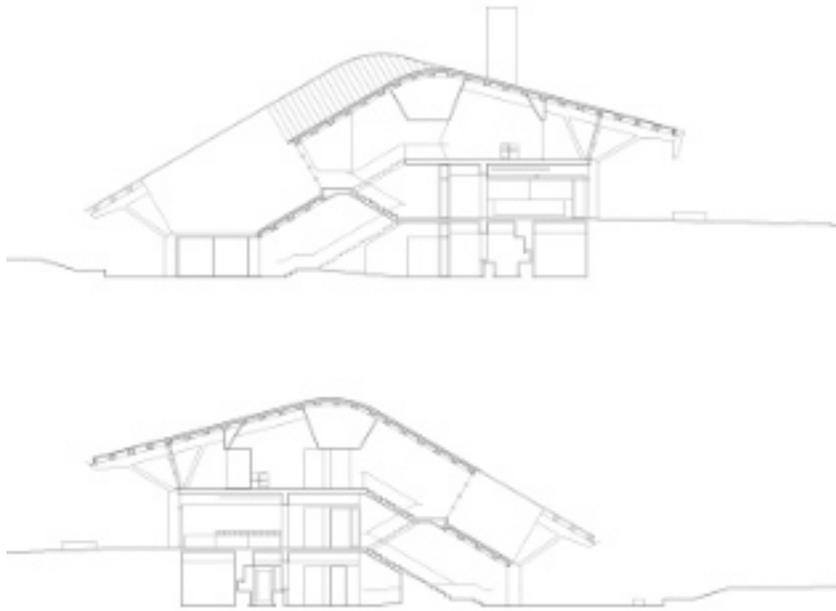


Figure 32

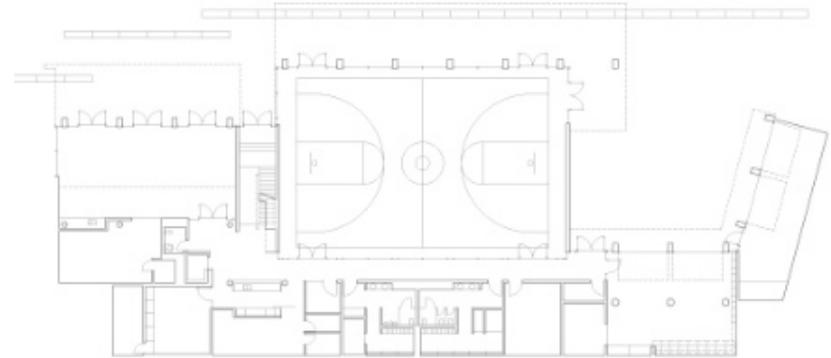


Figure 33

Architectural Information.....

Structure:

The Structure for this project consists of large structural wood members, with steel brackets and bracing, and concrete bearing walls. This combination allows for wide open, large volume spaces. The structural glue lam beams are exposed and create a very unique interior aesthetic.

Natural Light:

Natural Light comes from the large glazing panels both exterior and interior. The exterior panels all for large amounts of north light to enter the building thru the basketball court area. From there the light continues into the interior spaces thru another set of glazing panels. This space provides plenty of natural light, both directly and indirectly.

Massing:

The massing centers that large gathering space and provides access to all of the different spaces. Overall the massing is very long and allows for users to flow thru the building. The roof structure is curved in a way to limit its size relative to the building. The building is located on a walk-out type of site and as such the roof curves down to lower the actual impact of the building.

Circulation to Space:

The circulation consists of large gathering spaces mixed with smaller more intimate spaces that allow for small gatherings. The architect created a new sense of space by creating a three story building. Along with hang three stories the design can utilize large voluminous spaces.

Geometry:

The geometry is based off of the small lot size and the overall use for the building. The lot constraints made it impossible to fit the entire program on one level so the architect uses a multi story configuration and this in turn created the geometry.

Hierarchy:

The large gathering space is located on the first floor and allows for high ceilings and large groups. The other spaces are configured around the common gathering space and reflect how the space has priority over others.



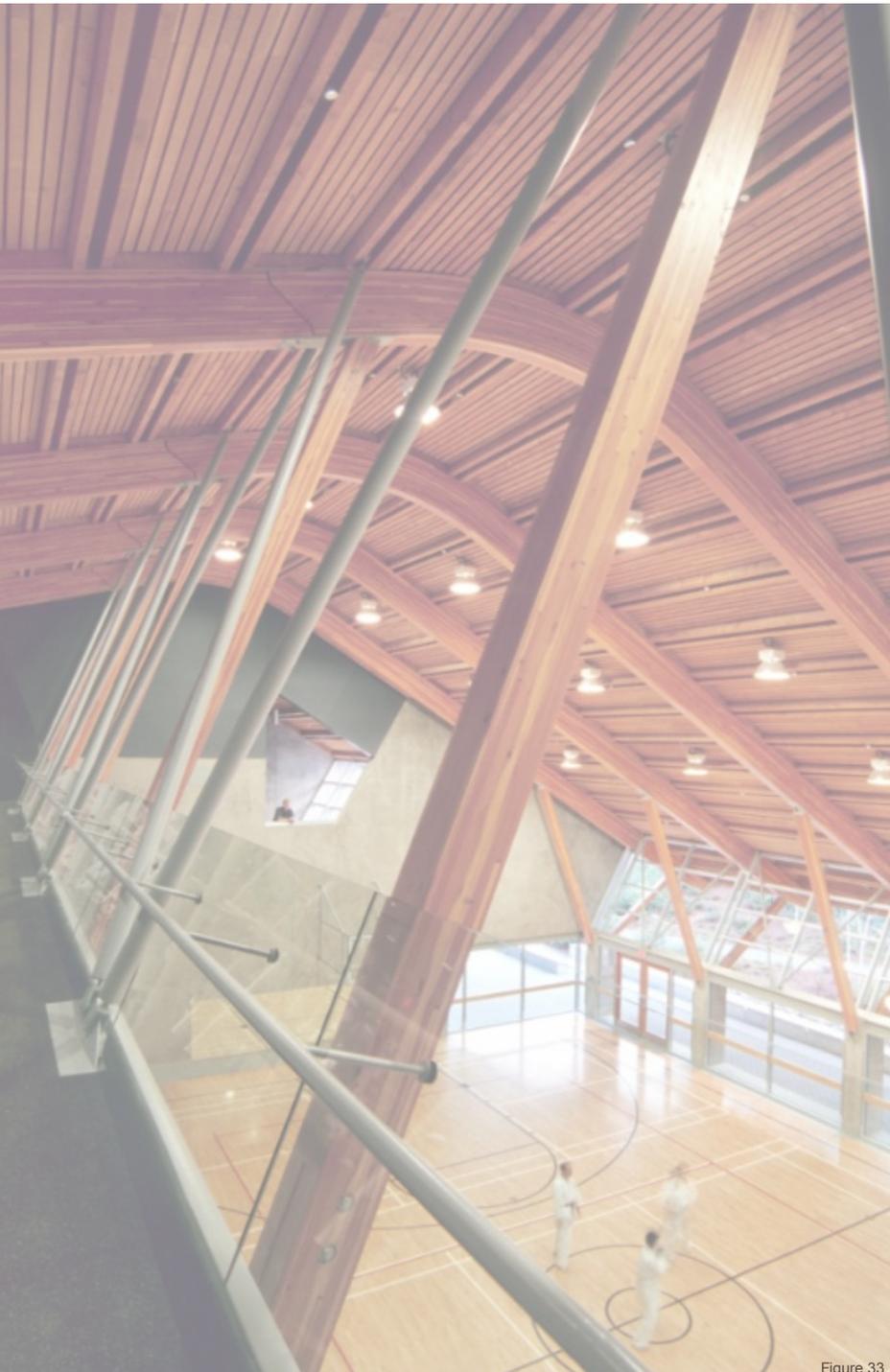


Figure 33



Figure 34

Response to Site.....

Environmentally:

Because of the site constraints this building sits on a very small site relative to the required space. So by using the three story layout the architect was able to create a green space surrounding the building and allows for great outdoor environments.

Socially:

This design is unique because it mixes the social aspects of gatherings with the recreational aspects of gym activities. These two activities are very different socially, however space wise they are very similar. Both activities need large volume spaces and need to be designed in a way that accounts for the flow of spaces.

CASE STUDY SUMMARY AND FINDINGS

Case Study One.....

This project shows how space and configuration can work in an overall design. By using different smaller spaces and large gathering spaces this design reacts to the needs exceptionally well. It's interesting to see how the space layout is handled by different firms and different owners. There is always an alternative for any given design situation. This plan also works very well with the site and incorporates many unique design features that are valuable in terms of usage. Overall this project is very impressive and creates a solution to the common design problem of community gathering space.

Case Study Two.....

This project is different from the rest because of the religious aspect that had to be incorporated into the design. This community was more religious based than the others, which creates an interesting dynamic. The space layout shows how the hierarchy of the spaces work in conjunction with the more private spaces. This particular design also features an apartment style living situation for the people working at the building, which is very unique to any gathering building I have researched. Overall this design creates a valuable gathering space that focuses around religious culture.

Case Study Three.....

This design is very unique in comparison to all other projects that I have seen. The architect and owner realized that both community and recreation can create a valuable building. This combination works very well and it's a simple yet effective solution for dealing with the amount of space required for gatherings. The most changeling issue about large gathering spaces is that they are typically empty. With the exception of large events these spaces sit vacant. So with this in mind the architect and owner thought it would be best to combine these two functions into one. Overall this is a great project and I really enjoyed analyzing it.



MAJOR PROJECT ELEMENTS

Figure 8

MAJOR PROJECT ELEMENTS

Project Elements Description.....

This design will examine the needs of the specific community and will address this by creating multiple different spaces that can be used in multiple different ways given the time of year. All elements will be designed using several different factors and lead to a creative and unique design. These elements will allow the proposed design to take a specific form given the space requirements. All spaces will be designed using specific and creative criteria that will be addressed. The list below shows the common elements that are being designed for:

- Tourism and Visitors
- Local Residents
- Common Water Access
- Bike Trials
- Existing Bridge (pedestrians)
- New Bridge (under construction)
- Boating Access
- Availability for Rental
- Farmers Market Location
- Gathering Space

Project Elements Listed.....

Based on all current known information about the site, the surrounding areas and all other requirements I have created a list of spaces that will be incorporated into my final design. This list shows the current spaces that will be required and a description of what they are.

Landscape and parking Farmers Market space

Using natural materials, previous paving, natural landscaping and prescriptive plant development we can create a design that is attractive and provides future growth. Parking will be adequate for the centers use and also rely on existing parking conditions. Using shared parking is a great way to cut down on pavement and utilize only what is needed without having waste. The design of the landscape would also form around a farmer's market area for weekend use. This would provide locals with locally grown produce and would be a much better option than the current parking lot the market meets at now.

Outdoor area for food truck vendors

Boat slips and docking services

Stillwater has a lack of boater to land traffic and access – this design will provide boaters/kayak/canoes and all other types of water sports, a place to go for land access. This access will not only help this building design it will also attract more people to visit the rest of the community.

Biking / hiking / trial users

This facility will allow for people to gather for biking and other activities. It could be used for the beginnings of a race or other gathering events.

Rentals

This faculty could have the ability to provide rentals of bikes, mopeds, boats, kayaks, hiking equipment, paddle boards, canoes, and even snow shoes for winter integration. This would be a way of getting people together and allow tourists to experience the area as well.

Rental storage/ offices

Restrooms Facility

Incorporated design for both indoor and outdoor users of the space

Interior gathering space

For colder days and rain this space would allow for inclement weather.

Roof Deck

Roof top gathering space for any event or gathering



Figure 9

USER / CLIENT DESCRIPTION

USER / CLIENT DESCRIPTION

Project Designed For.....

This proposed building project will be designed for the community. The people of the town and tourists both have wants, and needs. I will research and address the common needs for both locals and visitors and incorporate their needs into the design. Since this project would be a city owned building the client really becomes what the people need and what the people are currently lacking. In this case the project aims to fulfill the needs and address the current lack of boating slips, community gathering space, and other outdoor activities.

Project Owned By.....

The project itself would be owned by the City of Stillwater and would be operated using city funds and employees. The city could operate this building year round and offer different events depending on the season. The city already holds several different community events each year and will continue to do so. However with this proposed plan the city would no longer have to rent space to hold events.

User Groups and Requirements.....

Users will include people of the city and tourists – peak days will handle several thousand people staggered throughout the day depending on the event. Local events will add to the attendance for the building. This design will utilize the fact that there are four major seasons that affect what people do and how this building could potentially be used. Using this approach I can ensure that the project will take on a yearlong visitor season.

The project will allow for two different spaces both with the capacity of about 250 people for large scale events. This will leave options for users and have the ability to create a gathering space of 500 people without partitions.

Employees.....

2-3 for rental uses and other required maintenance
2-3 for event planning and coordinating
1-2 for dock side help

Tourism and Peak Usage.....

Stillwater has a very strong tourism industry in all seasons except winter. Downtown is where almost all of the tourism exists and this helps create the local economy. The reason why tourism is so strong in the community is because it has a small town feel and its only 25 miles away from the center of Minneapolis. Visitors from Minneapolis can travel 30 minutes by car and be in an entirely different environment. This area is known for its unique historical value and views of the scenic river valley. The peak usage for this proposed building would have to be the summer months from June to August. Spring and Fall also contribute, but the main traffic comes in the summer. I have had the opportunity to work downtown every summer for the past 6 years and its really unique, I can walk everywhere, and I can explore different places all the time. Summer time boating and kayaking in Stillwater is very popular and continues to be every year.

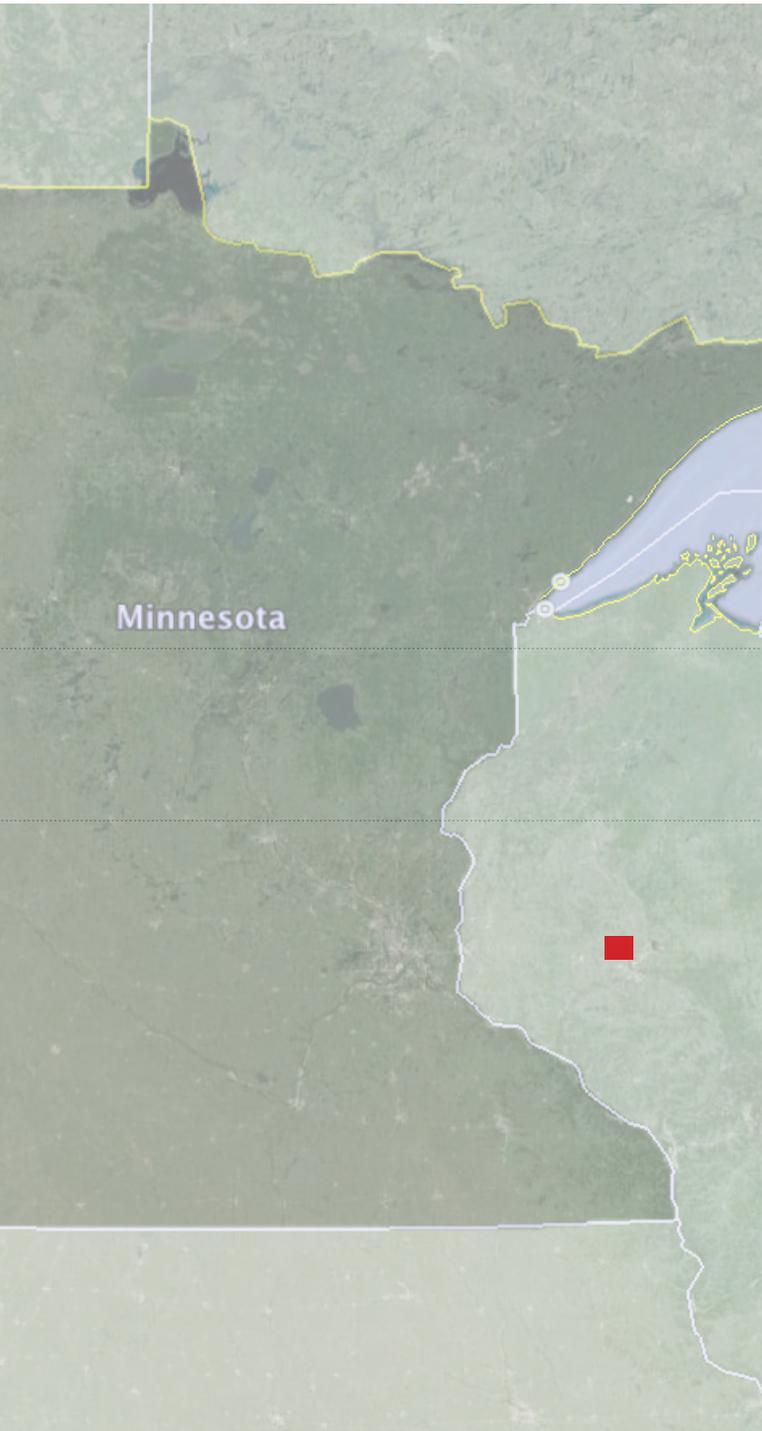
Parking Requirements and General Restrictions.....

A major issue and common problem in downtown Stillwater is the lack of parking. This city was not developed in a way that would allow for parking. Buildings are located using party walls and streets are narrow with on street parking in some areas. The city of Stillwater took notice of this issue and created a four level parking ramp on the east side of downtown. This parking lot is very useful and many use it everyday for parking and walking to their homes or apartments. My site is not immune to the parking issues and I will be developing a plan to incorporate parking in an efficient manor. Restrictions would include proximity to the river and using natural materials in the design. Stillwater is an historic city which requires a heritage preservation committee that meets and discusses all design related proposals.

Social / Cultural / Economy.....

This proposed design would help increase all three factors of social, cultural, and economical factors respectively. Socially this building will be used primarily for housing events and creating a sense of connection in the community. By using large unique spaces that can offer great views of the valley this event center would be the major place to meet in the future. Economically the proposed plan will increase the already diverse business in downtown Stillwater. Private and public events would be housed here as well as rental activities and boating slips that could have a fee based schedule.





SITE INFORMATION

Figure 10

SITE MAPS

201 Water Street North Stillwater, Minnesota 55082

Region.....

The proposed site is located in the Midwest region of the United States. Surrounded by Wisconsin to the East - separated by the St. Croix River. Located 25 miles from Downtown Minneapolis. The river is an important part of the city and connects to the largest river in the U.S. The river is used for all sorts of activities and boating, because of this my proposed design will address the concerns with the river and add access for all to enjoy.

City.....

The site is located in Stillwater near the twin cities and has an approximate population of 18,000 people. Stillwater is a very well known area to most Minnesotans. Stillwater is actually the birthplace of Minnesota and as such the area houses many old historical buildings. The area is very small and charming and has won numerous awards for being a very unique and historical place to see. Tourism is a very big part of the economy in the spring, summer and fall months. My proposed design will incorporate the fact that the building will need to cater to both locals and people visiting.

State.....

The site is located in Minnesota with a current approximate population of 5 million people, Minnesota is one of the largest states in the Midwest region. Overall Minnesota has a large variety of interesting site and attractions to visit and tour. Everything from the big city life to rural areas that offer incredible views. Minnesota has two major rivers one of which is flowing by my proposed site. The St. Croix is a large river that flows into the Mississippi and eventually ends up in the Gulf of Mexico.



Figure 11





Figure 12

Unique Features.....

Arguably The most iconic part about Stillwater is the current steel bridge. This bridge was designed for larger ships to sail thru so the middle section lifts vertically periodically to allow for large ships. The bridge itself and the action it creates is very unique to this place. My project will aim to provide views of the bridge and take certain design elements from the structure.

New Master Plan.....

Currently the city is creating a new highway style bridge on the southern part of the town. So with the new bridge, the current lift bridge will be converted into a common space and biking path in 2016

Along with the Stillwater lift bridged the area has another bridge used for train traffic only and instead of lifting the bridge rotates to allow for boating traffic to flow thru. Both bridges will really influence my design decisions and will help guide certain elements.



Figure 14

Figure 15



PROJECT EMPHASIS

Figure 16

PROJECT EMPHASIS

Introduction.....

My thesis project emphasizes how connections can be used to create a useable building for all. Using master planning techniques and evaluating current needs my proposed plan will allow for all types of interactions. By focusing on master planning the design will create a strong connection between water and land.

Connections.....

The emphasis on master planning and connection will start on the land side of the site. The site is currently located in a parking lot / city park – see site information for more detail. As for the plan the major elements include creating a parking / open space for a large farmers market, the main event and rental building, and extensions into the water for boats. The site borders a moderately traveled road and will account for a vehicle traffic conditions to provide safe access to the proposed building. The road may provide on street parking and help link the sidewalks to the building.

The main parking and open area will allow for adequate parking and space for temporary farmers markets. This space will integrate into the existing area and allow for pedestrian traffic over slow moving traffic. Between using brick paths and different materials the pedestrian paths will be made possible and add to the idea of connections. These paths will provide a path to the proposed building as well as connect to the existing sidewalks.

Water Access.....

Boat traffic is the other side to the master planning, both land and water traffic will be integrated into the proposed building. Current boat traffic will be assessed and will determine where the boat slips will be placed. Emphasizing efficient use of the water access will lead to a better design intent. Slips will be planned based on a number of factors and will be located to accommodate different sized boats. Along with boats the plan will include areas for kayaks and canoes. The master plan will account for both motorized and non-motorized boats in their respected areas. The proposed building will be placed on the site using an overall master plan for the area. Paths, building, and water will be used to create the design. Using master planning I will explore how the building and site can relate to both land and water.



Figure 17

GOALS OF THE THESIS PROJECT

GOALS OF THE THESIS PROJECT

Academic Goals.....

My goals in terms of academic activities are to create a design that uses all of my current knowledge and provides a solution to a problem. After five years of design school I'm looking forward to use all of my knowledge that I have gained while at NDSU. This design will take different examples from my previous work in school. I also want to make sure I create a solution that will work for this particular area. Using my architectural experience and knowledge of the area I feel I will be able to create a creative design that will solve the current lack of gathering space.

Professional Goals.....

My professional goals are to showcase my talent and show that I can work in a comprehensive matter that will lead to the solution. Architecture is very much based on problem solving and I feel that I have learned a lot about solving problems and creating solutions. After working at HAF Group since 2008 I have learned a lot about architecture and how business works. I started in 2008 making scans and copies of plans, helping the office administrators back up files, and any other non-skilled task. Now 6 years later I have my own clients, I meet with owners one on one, and I assist the owner in the day to day activities. The owner Mike Hoefler has helped me gain all of my current knowledge and allowed me to start from the bottom and work my way up. I plan on using this thesis project to showcase my talents and use it to continue in my professional career.

Personal Goals.....

This thesis project is set within my hometown and as such I'm excited to learn more about the area and create a program for the design. One of my passions is boating and Stillwater offers a great boating environment. I have always been connected to the river and I think it will be really interesting to see how I can incorporate boating and the river into my design. My program will be developed to meet the needs that the river and boaters require. Overall I'm excited to create a program that involves my passions and utilizes my architectural experience.

Social Goals.....

For this project will include linking people to each other and combining different activities in one area. Using the master plan for paths, building, water, this design will add to the social experience for all local people. The proposed plan really emphasizes a connection between land and water, but also a connection between people. Without a good social awareness this project would not be affective. Using design techniques and master planning this idea of "connecting" will be achievable. Large gathering spaces, exterior landscape and open areas will provide a link or passage to create a common space for all to enjoy. Academically this approach and goal will show the fact that I'm interested in how architecture can create a social setting for gathering.





Figure 18

PLAN FOR PROCEEDING

PLANS FOR PROCEEDING

Introduction.....

Moving forward I will continue to create and respond to design ideas and theoretical forms. Using a set schedule and a specific timeline I will proceed with developing the final product. The scheduling will be based off of all aspects of this proposed project. From research to analysis and other theoretical ideas I will create a design that will be affective. The following is a overview of the different aspects I will be covering in order to complete the proposed project.

Research Direction.....

As I stated earlier in the proposal the unifying idea for the proposal includes creating a space that can be used in multiple ways. Using the idea of creating a space for people to gather as a community is a very important piece to this thesis proposal. Connectivity is a common goal for specific types of architecture, as for proceeding I will examine different types of projects and determine elements that I can utilize.

Design Documentation.....

I have work best with hand drawings, so I have a lot of experience creating hand drawings and making them digital. All design process sketches will be stored and then scanned to ensure that they make a presence into the final design. My documents will be used to influence design ideas and will be safely stored. After all documents are produced I will make my information available on the NDSU Institutional Repository.

Design Methodology.....

My plan is to have continuous research throughout my project process. In the beginning stages I will conduct more research to create my program and design ideas. Using research will help make certain decisions and ultimately affect how the finished product is shown. I plan on researching specific architects as well as architectural typologies. The following list shows what I will research during the design process.

Project Typology

Historical Context

Theoretical Ideas

Site Analysis

Case Studies

Architectural Publications

Local Information

Local Master Plans

Using this list I will conduct different research and gather information to help me find the best solutions. Overall the research is an important part of the design process and I will utilize all information to the fullest potential





Figure 19

SCHEDULE / PLAN FOR PROCEEDING

SCHEDULE / PLAN FOR PROCEEDING

TASK	DAYS	COMPLETION
PROJECT DOCUMENTATION.....	119.....	05.11.2015
CONTEXT ANALYSIS.....	21.....	02.02.2015
CONCEPTUAL ANALYSIS.....	14.....	02.02.2015
SPATIAL ANALYSIS.....	7.....	02.09.2015
CONTEXT DEVELOPMENT.....	14.....	03.09.2015
STRUCTURAL DEVELOPMENT.....	7.....	03.09.2015
DIGITAL MODEL DEVELOPMENT.....	84.....	04.22.2015
FLOOR PLAN DEVELOPMENT.....	21.....	03.02.2015
ENVELOPE DEVELOPMENT.....	14.....	03.11.2015
MATERIAL DEVELOPMENT.....	7.....	03.11.2015
MIDTERM REVIEWS.....	7.....	03.13.2015
PROJECT REVISIONS.....	21.....	04.22.2015
RENDERING.....	14.....	04.15.2015
PRESENTATION LAYOUT.....	7.....	04.22.2015
PLOTTING.....	7.....	04.24.2015
EXHIBIT INSTALL.....	3.....	04.27.2015
THESIS EXHIBIT.....	20.....	05.15.2015
FINAL THESIS REVIEWS.....	8.....	05.07.2015
FINAL THESIS DOCUMENTATION.....	1.....	05.11.2015
COMMENCEMENT.....	1.....	05.16.2015





SCHEDULE

SCHEDULE / PLAN FOR PROCEEDING

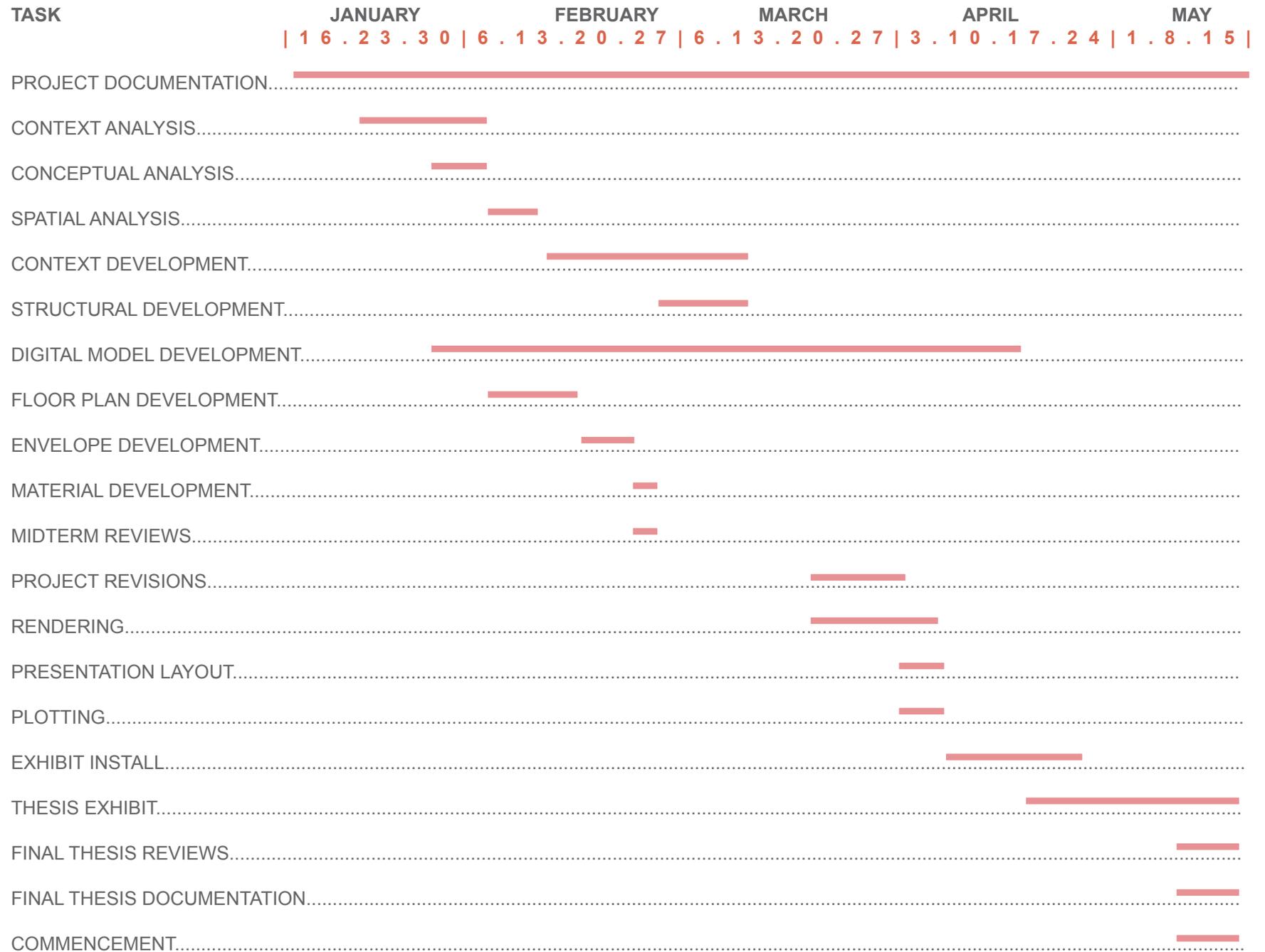




Figure 20

THESIS APPENDIX

REFERENCE LIST

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Figure 21

PREVIOUS STUDIO WORK

PREVIOUS STUDIO WORK

2nd Year (2011-2012).....

Fall 2011 – Adjunct Professor Rhet Fiskness

Tea House Project: Design of small building used for ceremonial tea use, created design plans using specific criteria of needs.

Spring 2012 – Professor Joan Voderbruggen

Dance Studio Project: Produced design documents and plans for a dance studio located on Concordia Moorhead's campus. Using different parti forms I created a design that was influenced by hip hop style dance.

Small Dwelling Project: Created a set of design plans using small sustainable ideas. Given a small existing foundation I created a small dwelling design that would house a younger couple in Cripple Creek Colorado.

3rd Year (2012-2013).....

Fall 2012 – Adjunct Professor Frank Kratky

United Methodist Church Remodel: Using the existing church located in Fargo North Dakota I developed a plan to expand the church. Meeting with the current church administrator I created a design that addressed the current needs for the church.

Spring 2013 – Professor David Crutchfeild

Folk Art Museum: Created Design Documents for a proposed museum located in Chicago Illinois. After visiting the site I created design plans that meet the current needs and functions for a proposed museum.

4th Year (2013-2014).....

Fall 2013 – Professor Bakr Aly Ahmed

High Rise Studio: Working together with a partner we created several massing models and 3d design models to create a sustainable tower design. Using advanced 3d software we created a design that functions as needed and exposes the exterior superstructure to add to the exterior appeal.

Spring 2014 – Professor Don Faulkner

Marvin Windows Design Competition: Using Marvin windows as a design guideline I found a suitable site in Fargo ND to develop a new multiuse building. The design incorporated apartments as well as office and retail. Using 3d software I developed and created design plans that were then judged. My design received an honorable mention being number 5 out of 25 students.

5th Year (2014-2015).....

Fall 2014 – Professor Mark Barnhouse

Water Research lab: Created a design that intergrates nature into the existing site and uses the water as a means for cleaning. Lab design was created after meeting with proposed owner and further designs.



THESIS PROGRAM





Figure 35



**RESULTS FROM THEORETICAL
PREMISE/UNIFYING IDEA RESEARCH**

Figure 36

UNIFYING IDEA RESEARCH

Introduction:

For the research aspect of this thesis I have discovered several different topics of interest in relation to my unifying idea. These premises have been researched with emphasis in culture, nature, contemporary architecture, materialism, historicism and regionalism. By researching these premises I have concluded the following information as it relates to my theoretical premise and unifying idea.





Figure 37

Research Results.....

Human Culture:

Human culture can vary widely throughout the world and will continue to do so in the future. The fact is that different countries will always have different belief systems and significant cultural differences. So as an architect it is important to relate your design strategies to reflect the local culture. By using the local culture you can create a design that fits within its given context. I found a journal article that describes the context of monuments and their significant architectural value. This explains a parallel idea of cultural significance in architecture and how that significance can change over time.

Research Results.....

Modern architecture, like modern painting and sculpture, had to start the hard way. It began by tackling the simpler problems, the more utilitarian buildings like low rent housing, schools, office buildings, hospitals, and similar structures. Today modern architects know that buildings cannot be conceived as isolated units, that they have to be incorporated into the vaster urban schemes. There are no frontiers between architecture and town planning, just as there are no frontiers between the city and the region. Correlation between them is necessary. Monuments should constitute the most powerful accents in these vast schemes.(Sert 2011)



Figure 38

Research Results.....

Contemporary Architecture:

One major common practice between all case studies that were researched is the use of contemporary design solutions. In the past architecture has been largely a rule following profession. Meaning that in the past the use of grids, equality, and overall using a set standard to create design. With contemporary design the architect has the ability to translate the social, cultural and historical context in to one design idea. This can lead to a better-suited building for the user, and ultimately create a better experience for the user. This thesis will approach the design ideas with a social context associated with it. Because of the given area there is a large amount of historical value that will also become apparent in the design.

Research Results.....

Leslie Sklair explains how modern architecture can influence architectural significance in different site applications. This explains the current value and need of contemporary architecture within growing areas.

My conclusion is that many global and aspiring global cities have looked to iconic architecture as a prime strategy of urban intervention, often in the context of rehabilitation of depressed areas. The attempt to identify the agents most responsible for this transformation, namely the TCC, and to explain how they operate, suggests that deliberately iconic architecture is becoming a global phenomenon, specifically a central urban manifestation of the culture-ideology of consumerism.(Sklair, 2005)



Figure 39

Research Results.....

Materialism:

In the past material decisions have been made without viewing the design as an example of the surroundings. I have found, thru research that material selections are crucial to the overall project. Designing in certain areas comes with restrictions and opportunities. Thru case study research I have found that currently material selection is among the most important aspects of design. These materials can range from copper to wood to stone to exposed masonry products. However certain materials have restrictions along with the decisions. This exposes materials for what they can be used for and allows the architect to design with a specific material in mind.

Research Results.....

Ruttico describes how materialism and technology are relative to each other. As technology advances so does material selections, this can lead us to more sustainable approaches to selecting materials.

With the emergence of a new materialism in architecture and as a result of the ongoing advancements in digital technologies, robotic fabrication is rapidly gaining popularity within the building construction industry. Robots and algorithmic programming allow us to create new construction systems and innovative designs that otherwise might not be possible. The aspiration is to achieve morphological complexity and performance in material constituents; an engineering computational design process that envisions a sustainable built environment, with higher-level functionality and higher-level integration between material system and environment. (Ruttico, 2014)



Figure 40

Research Results.....

Historicism:

When reviewing historical value of the area I realized there are several important points that can be addressed. Throughout history people have created design and architectural buildings in that time period. Architecture is a very current profession, its constantly changing and as such the history behind architecture is incredibly vast. Originally buildings were not designed to accommodate cars, large cities, vast amounts of people, large transportation systems and as a result we can see modifications to the evolution of design ideas. These premises of current changing values have continually been added to the design requirement of a structure.

Jayasuriya explains how globalization has evolved into a new cultural type. This explains how the historical view of architecture is now being brought to a global view. This is currently happening around the world with distinctive ideas and relationships between historical values and globalization of architectural design.

Research Results.....

Globalization is reconfiguring the modern state. Differences in types of co-ordination are pivotal to understanding the changing nature of the state. These changes are best captured in Scharpf's distinction between positive and negative co-ordination which can be used to explore the mutations of the state. In place of those state structures which provided a framework for bargaining - be it corporatism or the developmental state - it is argued that emergent forms of coordination of economic behavior provide a procedural foundation for the self-regulation of economic governance. (Jayasuriya, 2001)





Figure 41

Research Results.....

Research Summary:

My research topics explain how my theoretical premise and unifying idea related to each other. Using social, historical, materialism and other topics this research shows how I can prepare a design for this given site. I had several different ideas prior to the research investigation, some of which I found to be true, but some of which will not be used. The idea of social-historical value is very important to the thesis design. My main ideas are large community gathering spaces along with recreational auxiliary uses that can bring people together. By evaluating these specific ideas in my research I found that there are several main ideas that need to be addressed. Historical context, materialism, social context, natural context, and site-specific criteria are all apart of the unifying idea and premise.

Research Results.....

Research Summary:

I have learned that architecture is a continuous chain of events throughout history and can be used to tell different stories. Architecture has always been influenced by the current values and ideas of the time. Between current ideas and technological advances, architecture has become much more than just the design of the building. It almost becomes a way of life and a way to experience life. Together architecture and environment create a sense of community and explore how people will react to the design. My unifying idea centers on the idea of community and architectural value, in this case the environment is a driver for design.



Figure 42

Research Results.....

Research Summary:

I also found that tourism and architecture could be closely related. Although I wasn't searching specifically for architectural tourism I did find that the design could reflect on how visitors will perceive a place. The architectural value can even create tourism; in my specific project I hope this will be the case. Tourism is a huge part of the Stillwater community, its what allows a lot of small businesses to operate. So by creating another draw for tourism will be beneficial to all users and business owners alike. Architectural designs can lead people to a specific area and ultimately give the user something to remember that place by. Most of us can recognize Chicago or New York or other large cities and its not because of where they are located its because of the distinct architectural value they communicate. I found this to be especially interesting in terms of local and historical context and will lead my design to offer a tourism solution.



Figure 43

PROJECT JUSTIFICATION

PROJECT JUSTIFICATION

Introduction:

This project is important to me because I'm originally from Stillwater and this project idea has always been in my mind. I have seen a need for this type of project for years now and would love to have opportunity to create a design that would impact the town positively. I know that this project would have a large impact on the area because currently the town is lacking this type of space. There is also the issue of the lack of connection between downtown and the river, which I have personally experienced.





Figure 44

Project Importance.....

Growing up I was always very active and enjoyed going to different areas of the town. Stillwater is a small community, but has access to the large twin cities area for everything you could need. Since the town is smaller it's safer and as a child it was nice being able to walk anywhere freely. I grew up near the downtown area, so I would often walk downtown to see the various retailers and businesses. It was also a very common meeting space among all ages and this social activity still thrives today. Almost every time I visit the downtown area now I will see someone I know, which makes it a great place to live and grow.

Project Importance.....

I have always been surrounded by design and construction. Almost all of my summer jobs growing up involved helping with some type of construction or cleanup at a site. I was constantly surrounded by design and drawings for all types of buildings, and learned a lot just by seeing these plans.



Figure 45

Architectural Knowledge.....

Looking forward to the current thesis design I'm excited to see how my architectural skills can impact this town. Between creating a strong connection between land and river and creating dynamic spaces that allow for different activities. At the same time I want to be respectful to the existing environment of historically significant buildings. I fell this can be accomplished thru different design ideas and material selections that will make this design blend into it environment.

Architectural Knowledge.....

I have learned a vast amount about architecture and design at NDSU and will utilize all of my current knowledge to create a design that will work for this community. I will use my knowledge of different building types to encourage a sustainable design and choose the right structural materials as well. Stillwater has always been my home and if I can show a project that reflects what the current need is I will have done my job.



**HISTORICAL, SOCIAL AND CULTURAL
CONTEXT OF THE THESIS**

Figure 46

HISTORICAL, SOCIAL AND CULTURAL CONTEXT OF THE THESIS

Introduction.....

Stillwater MN has a rich cultural and social history that makes the city a unique place to be. One of the main historical values is that Stillwater became the birthplace of Minnesota in the late 1800's. Originally the town was a large logging town and thrived in the late 1800's and early 1900's. The St. Croix was used as a logging passage to the south, it allowed for huge volumes of logs to be transported quickly. The St. Croix was even busier than the Mississippi at that time because of the steady current and the fact that the St. Croix doesn't have any waterfalls. This was seen as an issue to loggers, however people of the time knew they could somehow harvest the energy of the waterfall to use in a factory setting. With this knowledge both Minneapolis and St. Paul emerged as large cities in the Midwest. They also created a large railway system that was used to connect the Twin Cities to Chicago. As the Twin Cities grew Stillwater began to decline in population as it became easier and faster to ship logs via railway. The rail was not only faster it was also a lot safer, many lumberjacks had lost their lives from logging in the river and this pattern could not continue. Now Stillwater remains, and every summer there is a celebration of the lumberjacks history to remind everyone that logging built this town.



Figure 47

Historical Sense of Projects.....

Throughout history people have had the need to meet with each other in a common space. In the early stages of this country people in small villages and towns would meet regularly so that everyone could have a voice. Now modern day lifestyles don't allow for all of us in the community to be active. Due to many different busy lifestyles we all have it becomes very difficult to have a sense of community while maintaining a schedule. City Halls have always been common meeting spaces, but today we live in a society that doesn't allow for everyone to be involved with decisions in the community. As we look to the future we can see that people will still want to become a part of a community and thrive, however there needs to be a common space for people to meet. Now it's becoming more common to use the idea of a community driven space that can serve to create a sense of community. The case studies shown relate to the current idea of community and use the ideas from the past to create a space that can allow for communication between all people.

Social Trends.....

As seen in the case study I can determine that the need for a community driven space is very strong and is important to the current society. The trend of social behavior has become more virtual than it ever has in the past. However with that being said there are still people that could benefit from a community space.

Minnesota has always been known as a very active state in comparison to other Midwestern states. This is why there is also a need to create a recreational space that can allow for active people. The combination of active, social and other gatherings are essential to the success of the community looking into the future.



Figure 48

Physical and Social Context.....

The physical context of this project is a site that has river access as well as access to the entire downtown area. Located on the St. Croix River this project will look at the social needs in the community while also adding the element of the river. The river can be used for different types of recreational and social activities. My project emphasis aims to create a dynamic relationship between land and river with an added idea of connection between members of the community. This combination of dynamic connections and social activities lend to the overall idea of community.

The social context of the project involves community driven design and allows for future expansions. Socially Stillwater is also a very active and will continue to be so. However currently there is no common space for the people of the community to gather and this can be improved. People want to be apart of this community and help improve the area. Throughout history this town has had a unique feeling that is unlike the twin cities, while remaining close to the cities. It has a smaller town feel that creates a more community driven place to live.



Figure 49

SITE ANALYSIS

SITE ANALYSIS

Narrative Introduction to the Site.....

This site is located in historic downtown Stillwater, directly near the St. Croix River watershed district. Currently the site is home to a local city owned park space that allows people to see the river and the nearby lift bridge. In this section I will discuss and evaluate the current site conditions as well as factual information that will describe how the site should be used. There are several main points that need to be addressed specifically in this site design. These main points will all be discussed in detail in the respected sections. Downtown Stillwater has always had a parking issue, because of this I will propose to solve that particular issue while being respectful to the historical location. Views are another very important detail not only views for the proposed building user, but also for the surrounding area. This building needs to maintain an aesthetic design that will improve the viewing corridors from the existing outlooks in the area. The last major component is the historical context (more information can be found in the historical context section). Stillwater has always been known for its rich history and this project will need to create a historical context that works with the existing structures. I will review and describe several other major components of this particular site in detail throughout this section of the book.



Figure 50

SITE ANALYSIS

Plan Information.....

Existing Grids:

Existing grids include the existing access and common sidewalk/service roadway. The east side of the site is composed of a concrete walking path that runs the entire distance of the site in the north-south direction. This walkway is located directly on the river and allows for people to walk along the river. There is currently a grid system of concrete barriers that have large-scale chain link rod that connects all of the barriers together. The site also features more sidewalk access from the downtown area (from the west).

Existing Textures:

Existing textures in plan include vegetation, concrete sidewalk, new asphalt paving in parking area, and gravel walkway connecting the adjacent parking lot (temporary). All textures that are existing will be addressed in the final proposed building design and allow for connections between the surrounding areas.

Geometric Relationships:

This site is currently a public parking lot for visitors and businesses from the surrounding area. Therefore this site has a relatively good geometric relationship between the surrounding areas. The site is long and rectilinear and is composed in the North-South direction, which allows for a good connection between the surrounding.



Figure 51



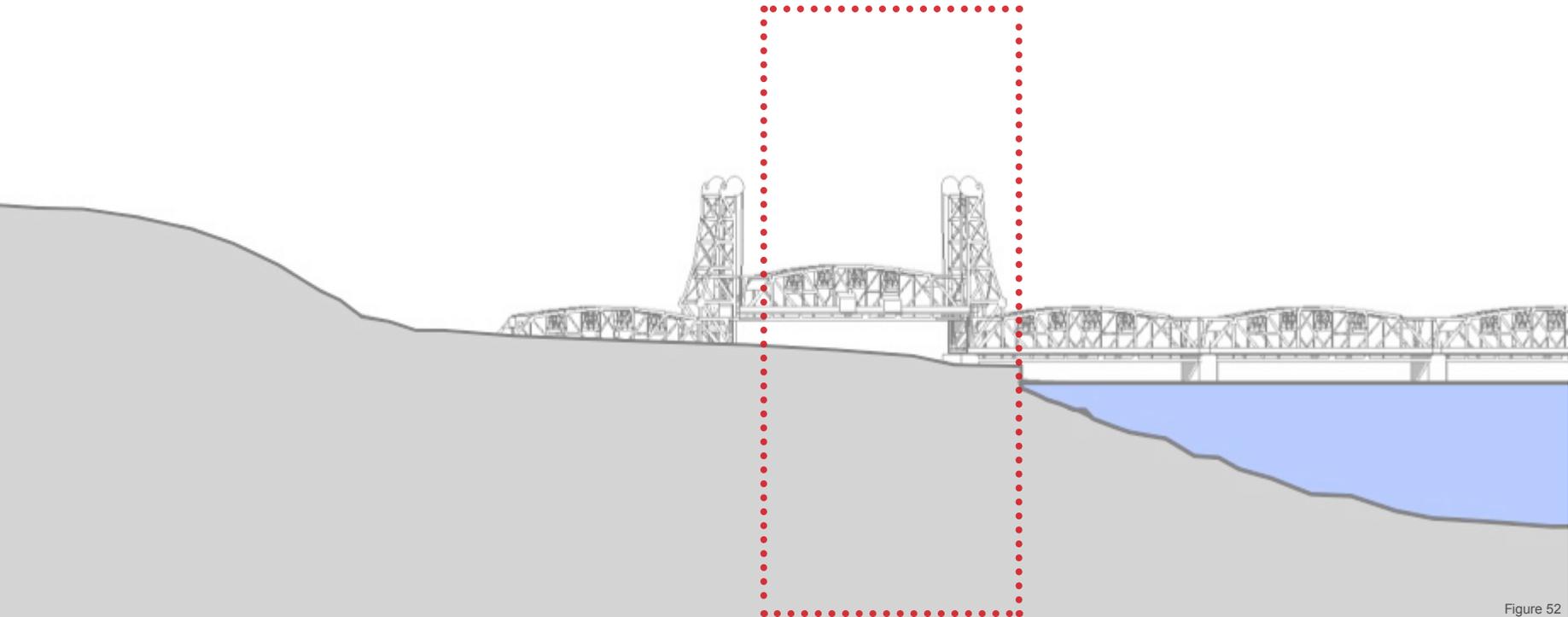


Figure 52

Section Information.....

Topography:

These two topography images show how the site interacts with the surrounding area. The site is relatively flat in comparison to the surrounding limestone cliff sections. The images show how the site is compared with the large slopes of the west side near this site. The approximate elevations of all four corners are as follows

NW.....	696 ft.
NE.....	690 ft.
SW.....	697 ft.
SE.....	690 ft.

Section Information.....

Topography:

By reviewing these spot elevations I have learned that the site has a fairly similar slope towards the east. The slope is approximately 6 – 7 feet in elevation over the width of the site (210 ft.). So overall the site has a very low sloping topography, which was expected. An interesting fact that I found is that the main elevation on Main Street (1 block to the west) is approximately 692 ft., which is slightly lower than a portion of this site. By evaluating the current heights and elevations of this site I can determine that it is a suitable site for almost anything and has great accessibility access.

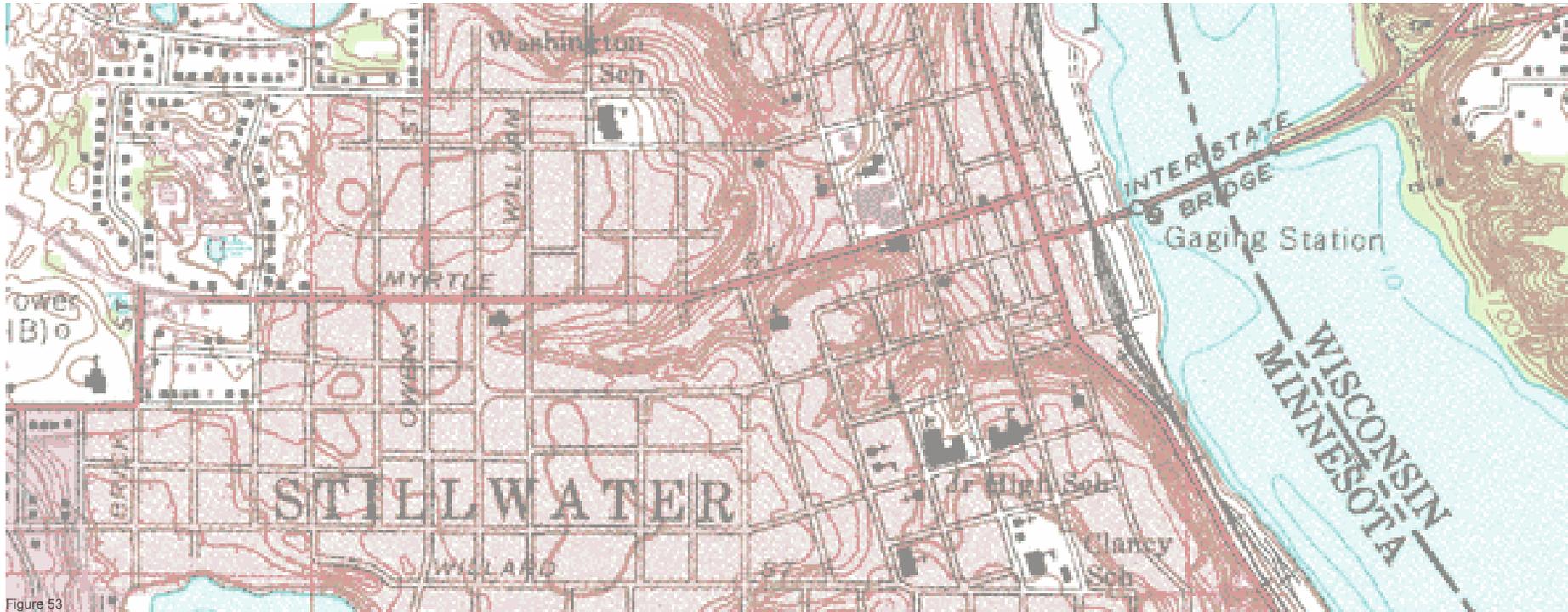


Figure 53

Section Information.....

Topography:

Evaluating the topographic heights I can determine that the surrounding building heights have been scaled in a way to provide views for all. The downtown buildings have specific criteria for the overall heights that can be used. This means that for this particular site the building can only be a maximum of two stories plus a roof access. By stepping the building heights the city can maintain views as well as shadow in the river valley. Shadows and reflections in buildings can be appropriate but for this site it should be addressed to reflect the historical value. This information has been helpful in determining the overall size and shape of the proposed design.



Figure 54

Section Information.....

Built Features:

Existing built features on the site include utilities buildings as well as paved paths and natural grass areas. Currently there is a small public restroom building located on the south side of the site. The building is used for restrooms as well as storage for marinating the park grounds. This building has all city water, sewer and electrical connections that can be extended to my proposed building. This structure was built in the late 1980's and is an eyesore to the surrounding area. There are two ways of dealing with this existing structure. The first would be to demolish the building but reinvent the space within the proposed design. The other option would be to leave the building alone and remodel the entire structure to resemble the new proposed design. Either option will work well with the site and the use of this building would continue regardless.

Section Information.....

Lighting:

The site receives both natural lighting during the day and electrical lighting at night. Since the site is an existing park space the exterior lighting has been designed to allow for lighting over walking paths. This design currently works well with the given walking paths. However with my proposed design, these paths will change in orientation, but lighting will be re-designed to accommodate those new paths. The building itself will also use exterior lighting for communication on the river between boats. This is essential for nighttime boating in order to see where to slip. The sun diagrams show how the site and city receive natural light throughout the year.



Figure 55

Section Information.....

Vegetation:

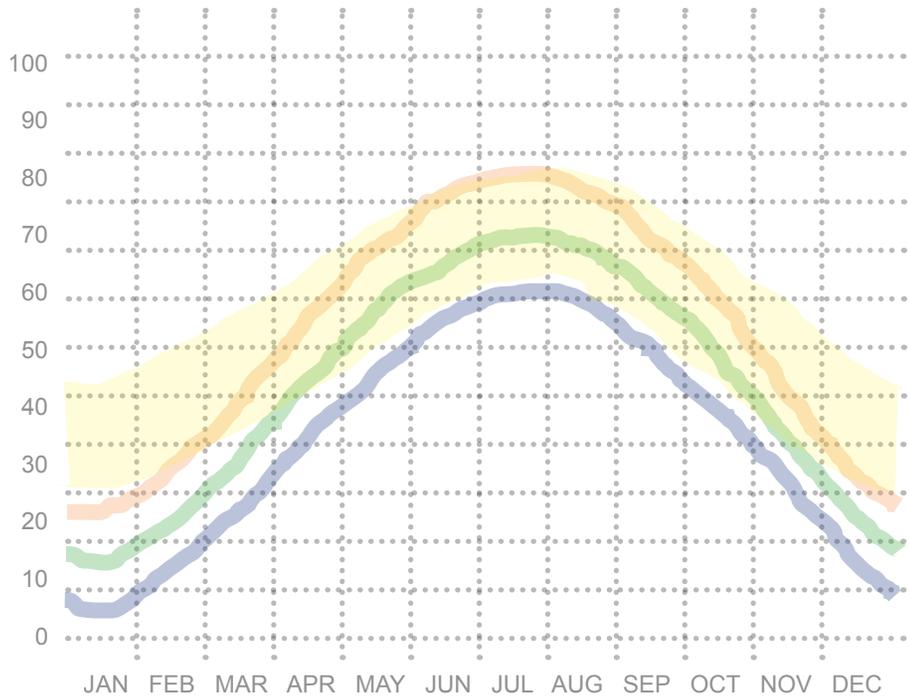
The existing site has a mixture of grass and small local plant cover in a small area on the south side of the site. Grass covers most of the site except where the current walking paths are located. There are several large caliper trees that will need to be accommodated for. The color of the vegetation changes depending on the season, however there are two white pines located on the north side of the site, that stay green all year round. The best time to visit the site is in the fall, the colors are vibrant and the river valley is very scenic that time of year. The proposed design will have a mixture of plant life and tree species to add more interest and draw people in to see the changing colors.

Section Information.....

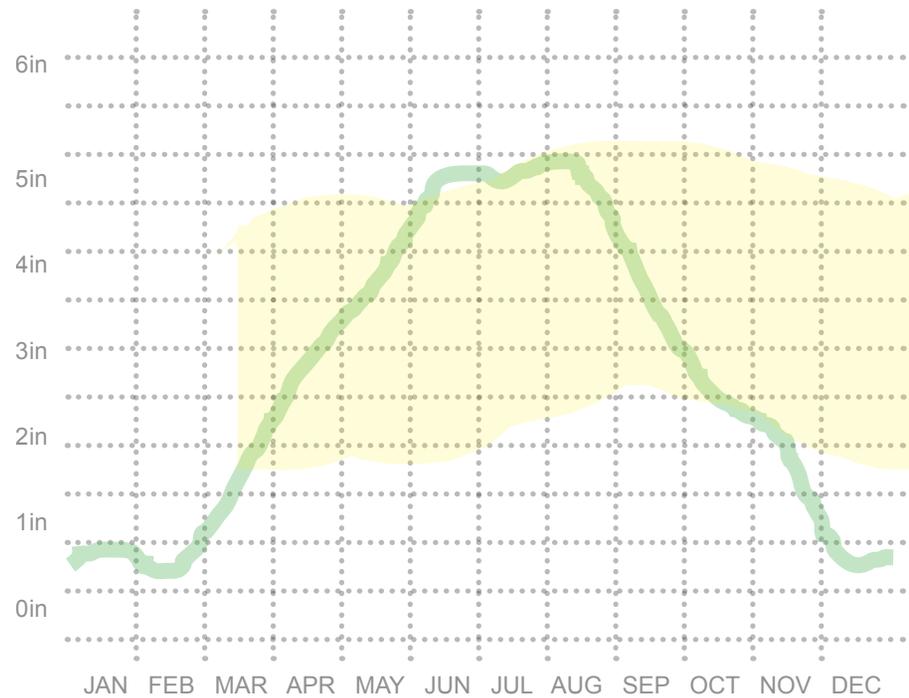
Water:

As mentioned in the previous section, the site is located on the St. Croix River. This river is a very active river for wildlife and recreational use. The water flows to the south and eventually combines with the Mississippi River about 20 miles south in Prescott, Wisconsin. The river is located in the wild and scenic watershed, which means all development on the river has to go thru a process to evaluate the intention. Smaller waterways connect with the St. Croix from north and south of downtown Stillwater. The water is clean depending on where exactly you are, if you are near the combination of the Mississippi, the water is very dirty. However this flow of water is constant and moves at a much faster rate than the red river in Fargo ND.

AVERAGE TEMPERATURE



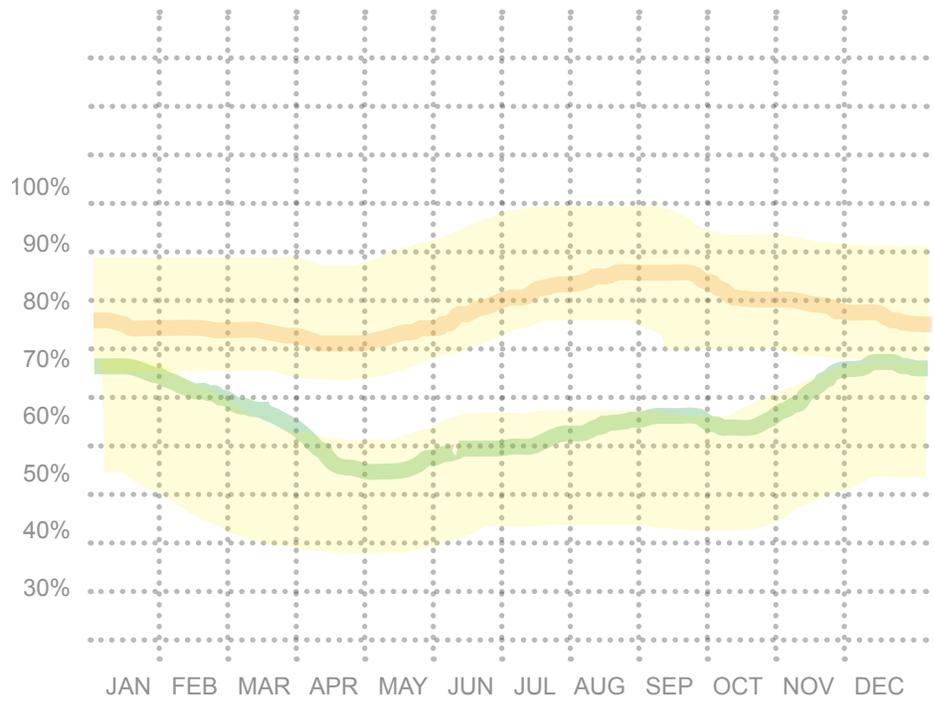
PRECIPITATION



- DAILY LOW
- AVERAGE
- DAILY HIGH
- U.S. AVERAGE

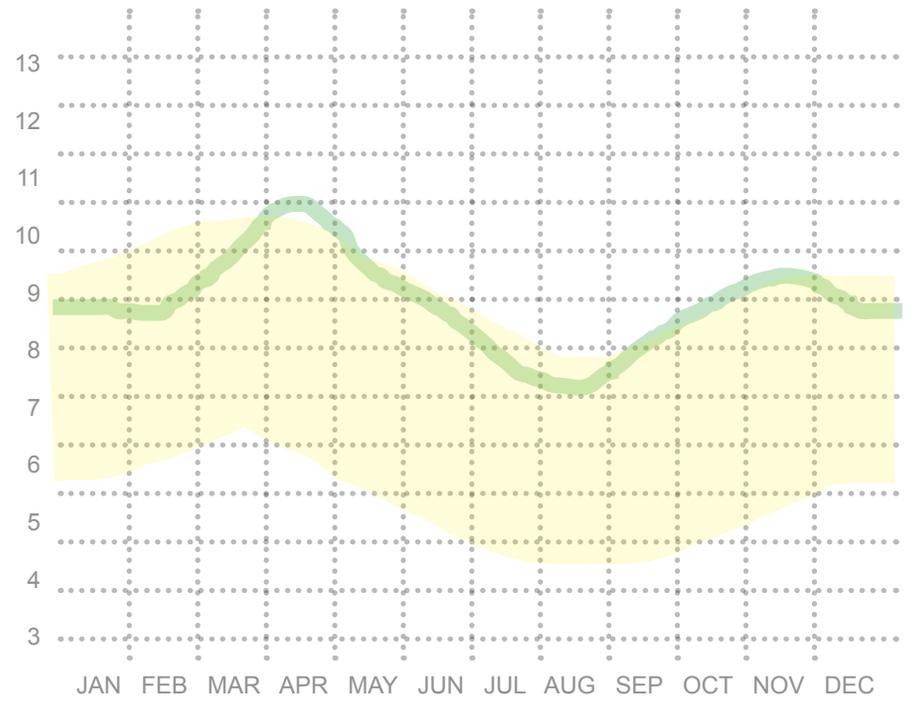
- CITY AVERAGE
- U.S. AVERAGE

HUMIDITY



- CITY AFTERNOON AVERAGE
- CITY MORNING AVERAGE
- U.S. AVERAGE MORNING / AFTERNOON

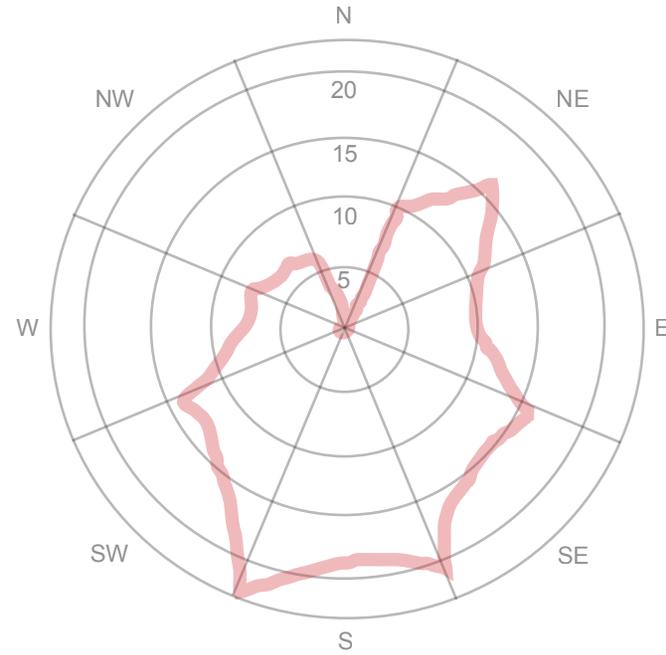
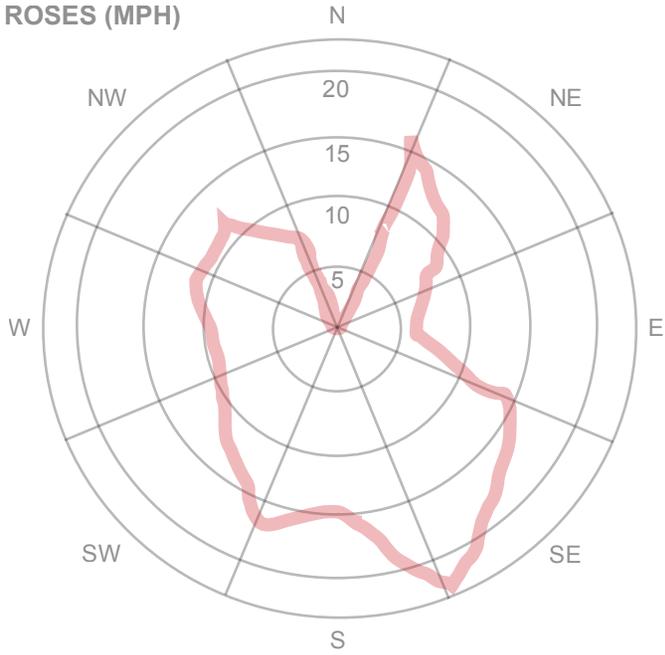
WIND SPEED (MPH)



- CITY AVERAGE
- U.S. AVERAGE



WIND ROSES (MPH)

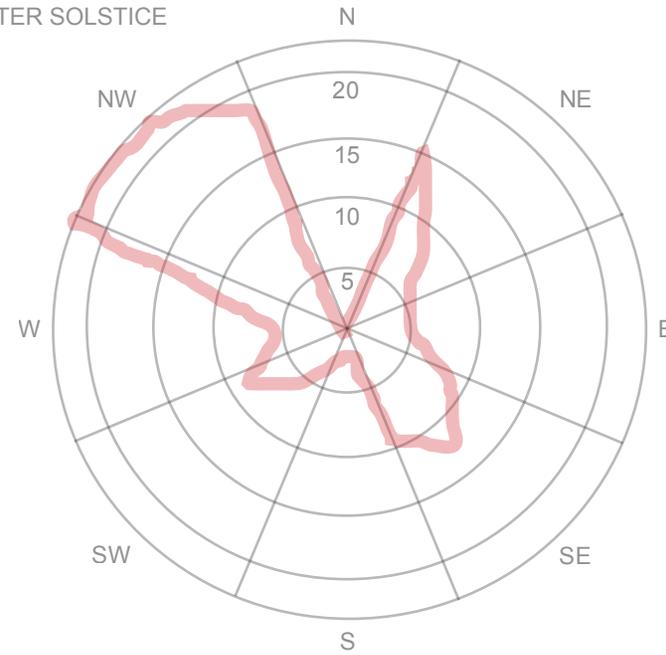
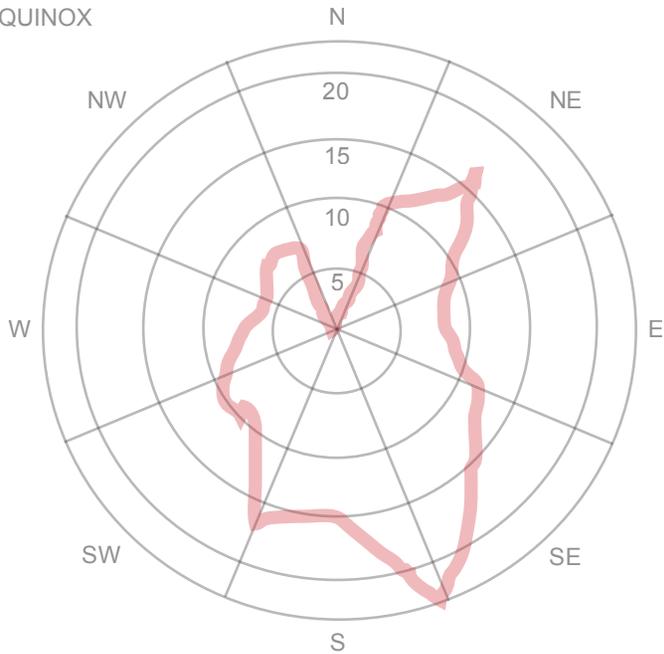


SPRING EQUINOX

SUMMER SOLSTICE

FALL EQUINOX

WINTER SOLSTICE



SUN PATH

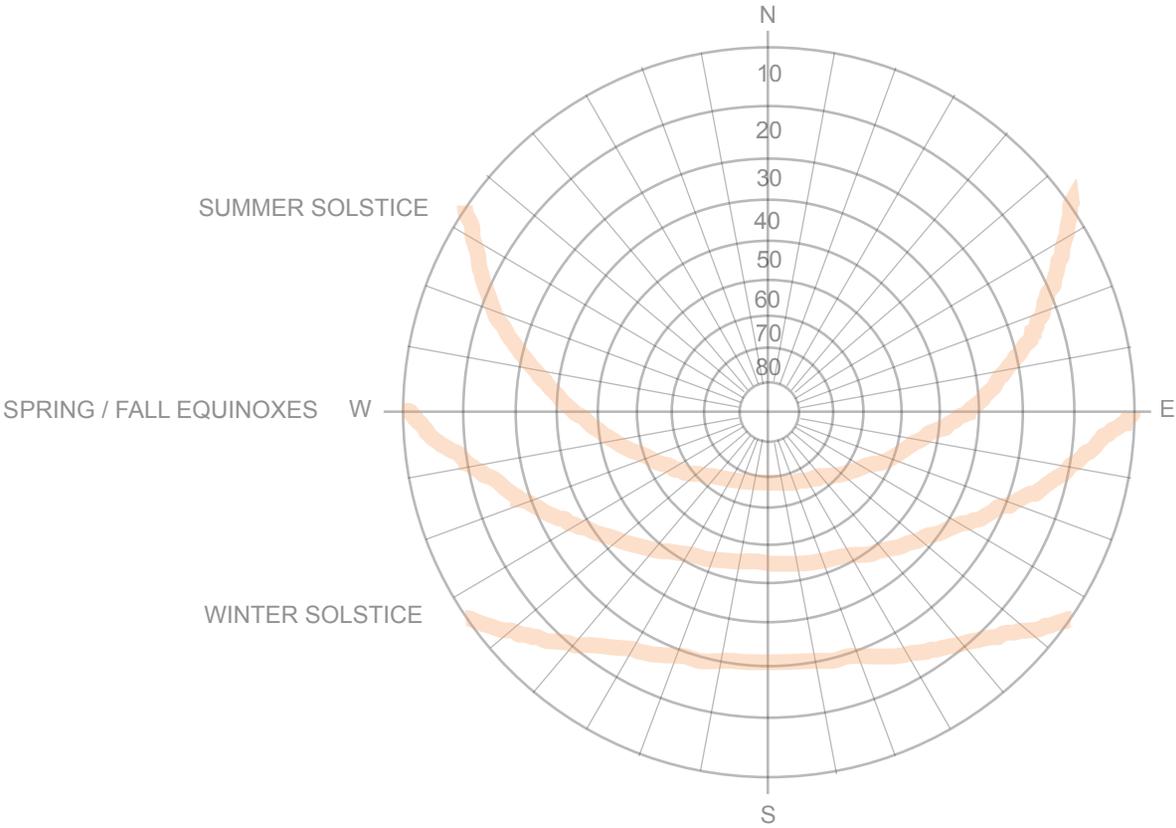




Figure 56

Site Information.....

Human Characteristics:

As stated previously the site is an improved site with all utilities present. Including gas, water, electric and sewer the site has all major components for building a structure. The use of the site is currently park space with an added restroom facility to the south. People from all of the metro area will drive to downtown Stillwater just to visit this park and the other amenities in the surrounding area. This thesis aims to give the users a welcoming and inventing space that can improve the users knowledge of the area. By creating a design that lends itself to a public audience this thesis program will create a space for all.

Site Information.....

Distress:

The site is a common place to be in the summer months, however in the winter the site is deserted. The walkways are not maintained to a standard for people to be able to walk on them. In certain years the river has flooded the site, but it's not a typical situation. The site is located above the flood plane and has a low chance of flooding, however if/ when the site would potentially flood it would have a negative impact on the existing vegetation. Flooding would cause major issue, so this thesis program will account for the 100-year flood plan and accommodate the building with protection against this issue. Overall the site is in good condition and there is little to no distress within the site or the surrounding area.



Figure 57

Site Information.....

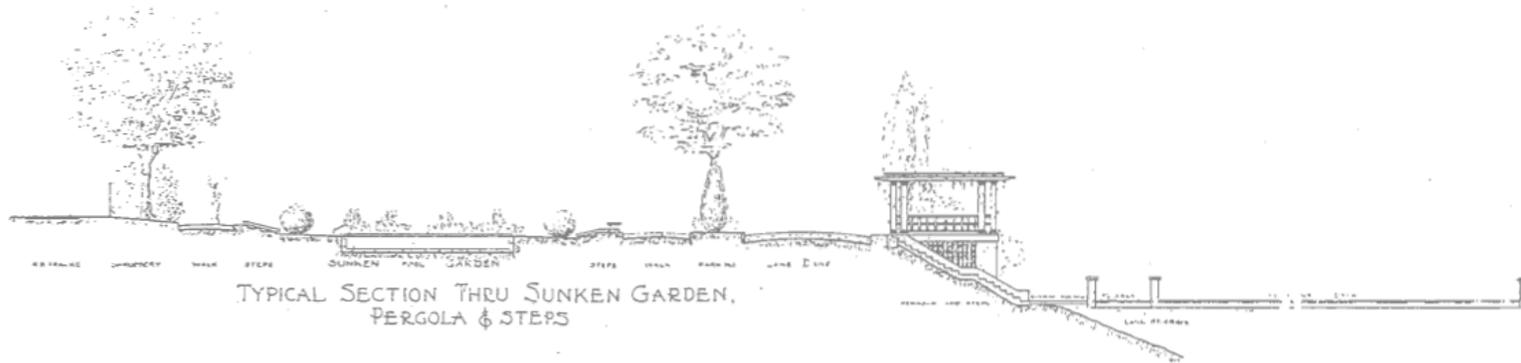
Soil Conditions:

The soil conditions at the site are not very applicable in a building situation. Currently the restroom facility was designed and built with typical sizing of the foundation system. In this case that solution works fine, however this proposed design has a much larger footprint and needs to have adequate bearing support. Since the site is so close to the river the overall soil conditions are poor for construction. The soil at the site would be considered muck in geotechnical terms. This means that the design will need to accommodate a grade beam system along with a micro pier system to anchor the building into the ground. This can be done fairly easily, however the cost implication is quite a bit more than traditional footing design. In this case I will determine the sizing and spacing of the micro pier system that will be used for the base of the building. This also means that there can only be a limited amount of basement space, this space can be used for the mechanical systems only.

Site Information.....

Water Table:

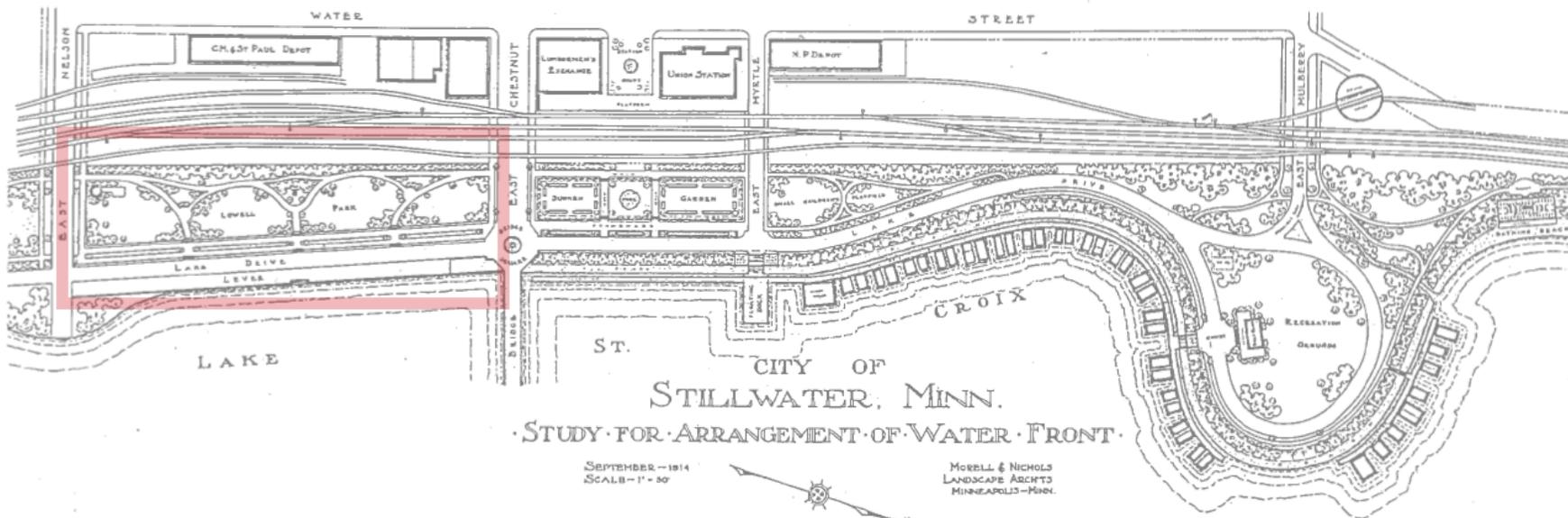
The water table at the site is very close to the surface. Getting water control access will not be a challenge, however maintaining structural stability will be. Stillwater is nestled in the river valley, which means there are several streams that run off into the river. Now most of these streams are located north and south of the city, however there are still a series of under ground streams. These underground streams are currently flowing from the top of the valley downward towards the river. There are evening commercial buildings near the site where you can physically see the stream flowing. Most of the towns' buildings were built at the beginning of the 1900's and as a result they didn't mind working with the poor soils and high water table. Because of this there are several buildings that have a basement structure. In these structures water is constantly flowing and there is always a need for pumping the water out. Overall the water table works with the poor soil conditions to determine the foundation system.



CITY OF STILLWATER, MINN.
SECTIONS

SCALE - 1" = 10'
SEPTEMBER - 1914
REVISED JUNE - 1916

MORRELL & NICHOLS
LANDSCAPE ARCHITECTS
MINNEAPOLIS, MINN.



Morrell and Nichols Plan for Lowell Park

Figure 58

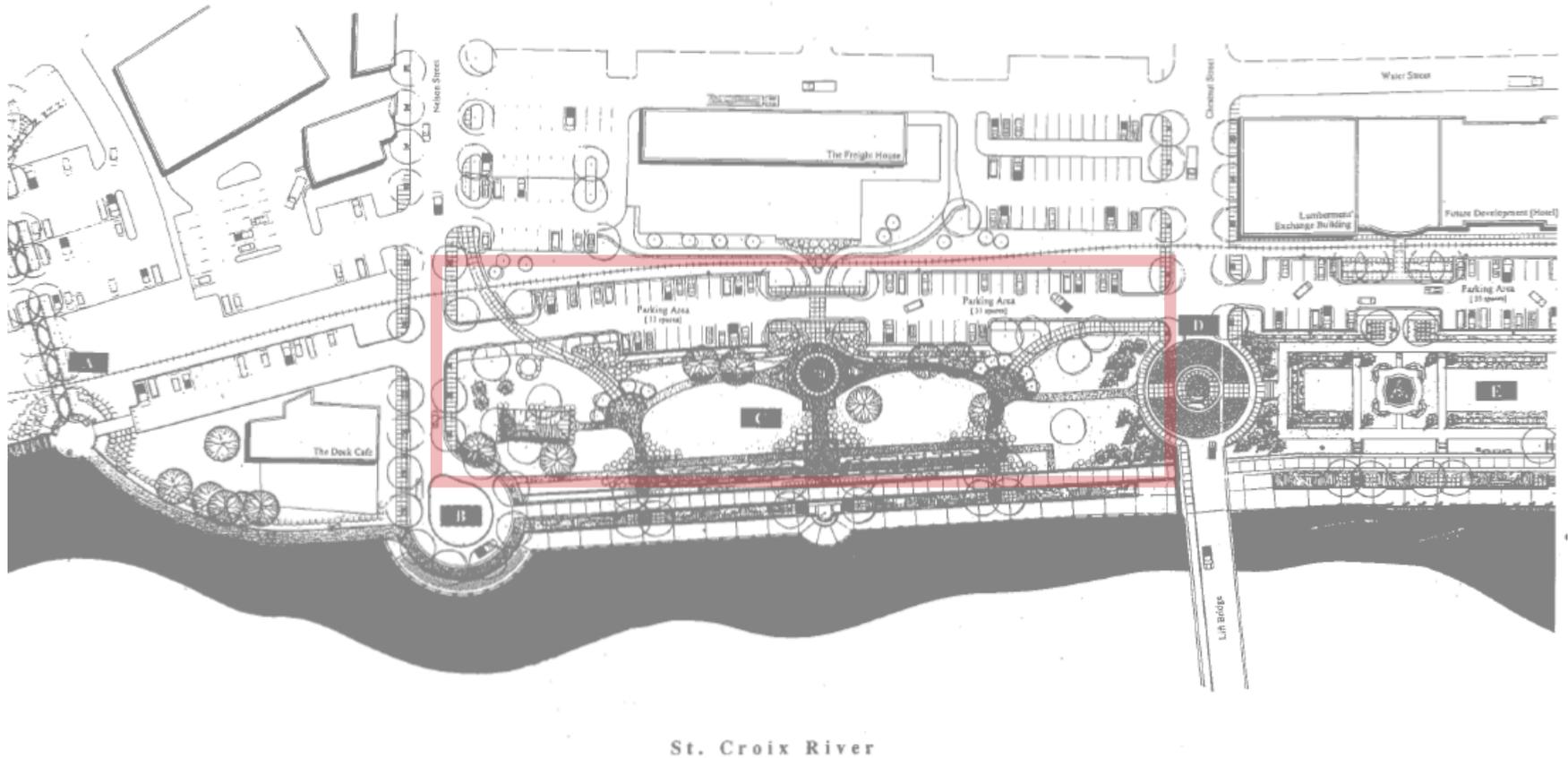


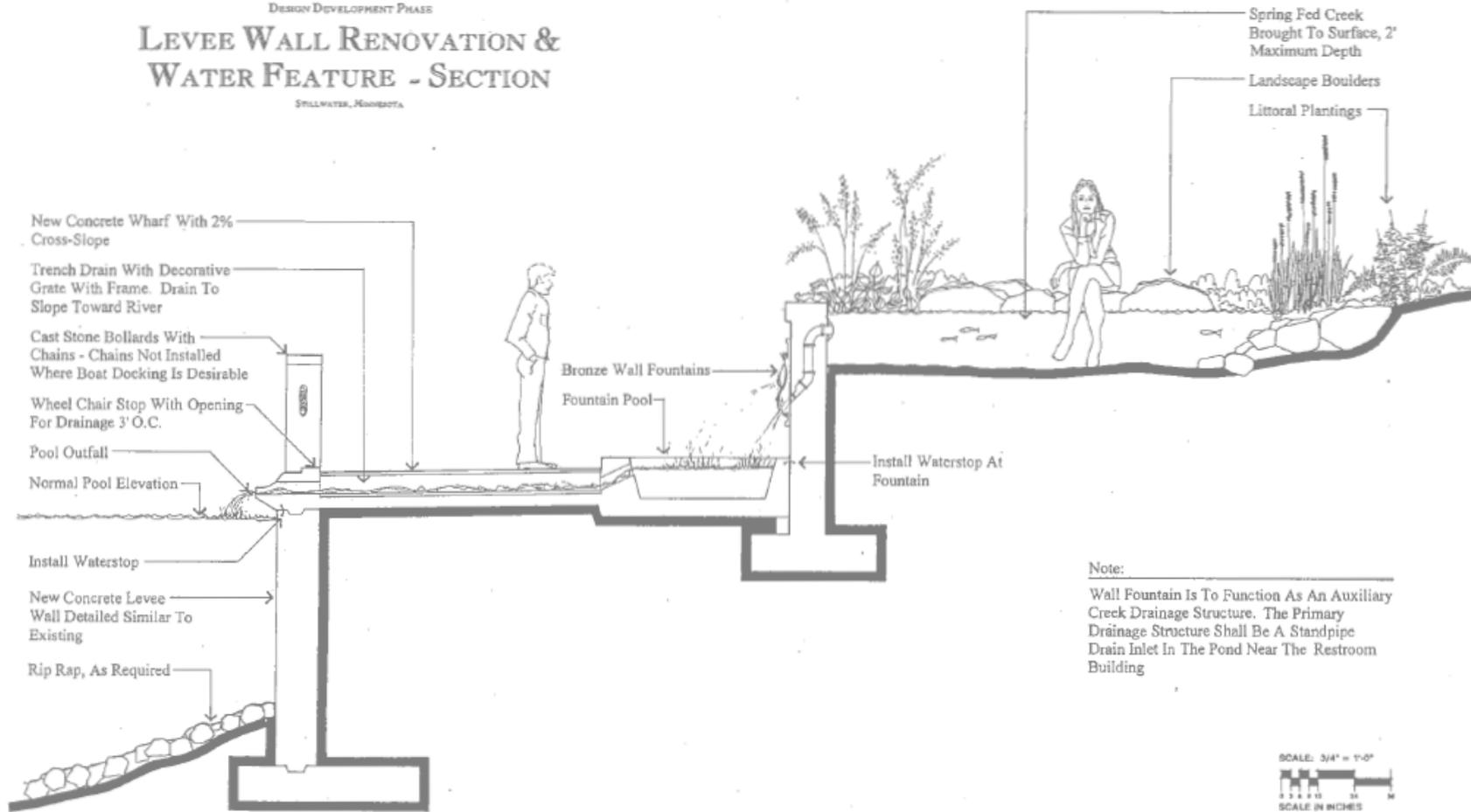
Figure 59

Site Information.....

1992 plans for redesigning the Lowell park north and south extensions. This project sadly was never completed or started. At the time it wasn't feasible for the city to redevelop the site, however the plans remain and show how the site could work. These plans were developed with the same idea of community and interaction.



DESIGN DEVELOPMENT PHASE
**LEVEE WALL RENOVATION &
 WATER FEATURE - SECTION**
 STILLWATER, MINNESOTA



Note:
 Wall Fountain Is To Function As An Auxiliary
 Creek Drainage Structure. The Primary
 Drainage Structure Shall Be A Standpipe
 Drain Inlet In The Pond Near The Restroom
 Building



Figure 60

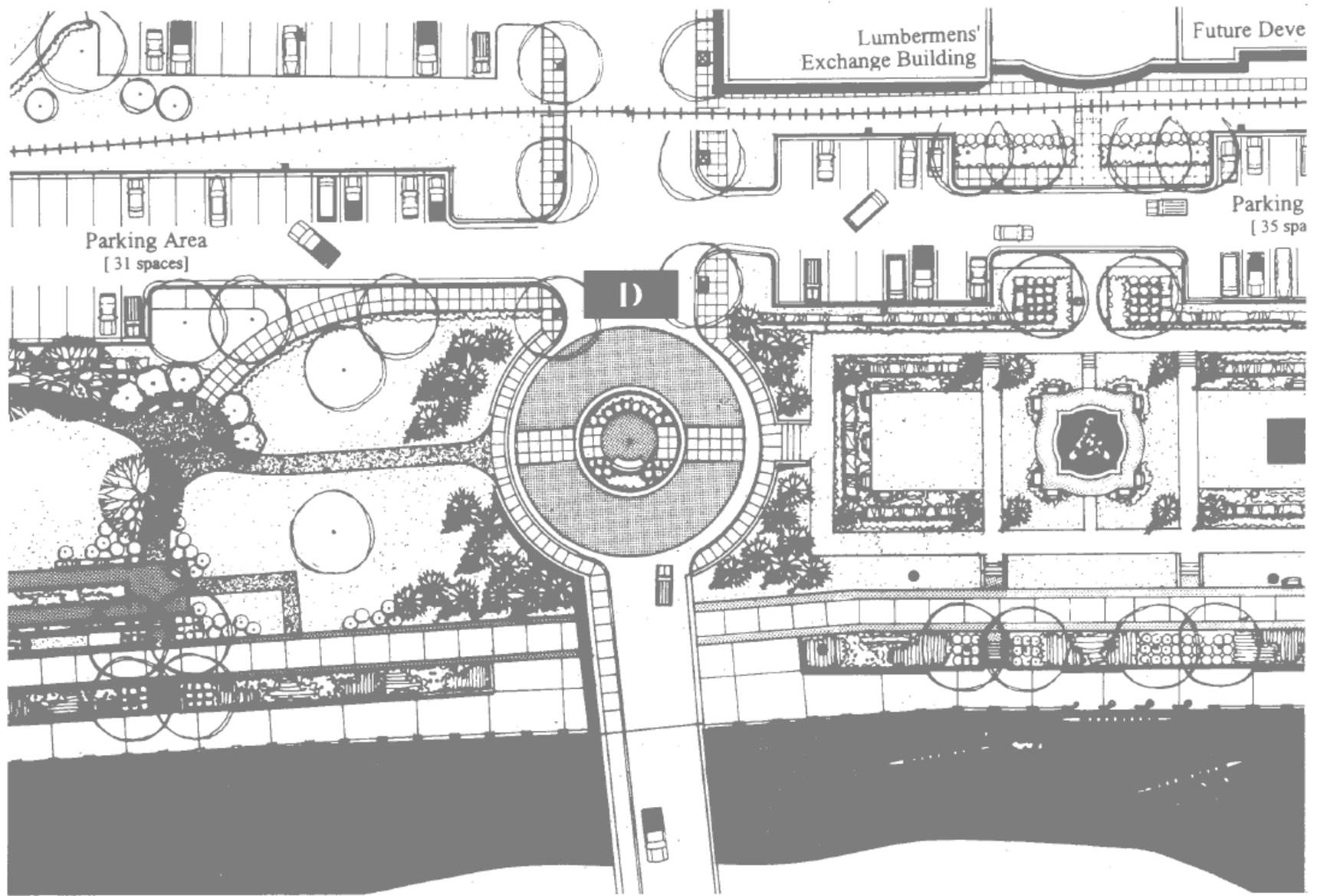


Figure 61

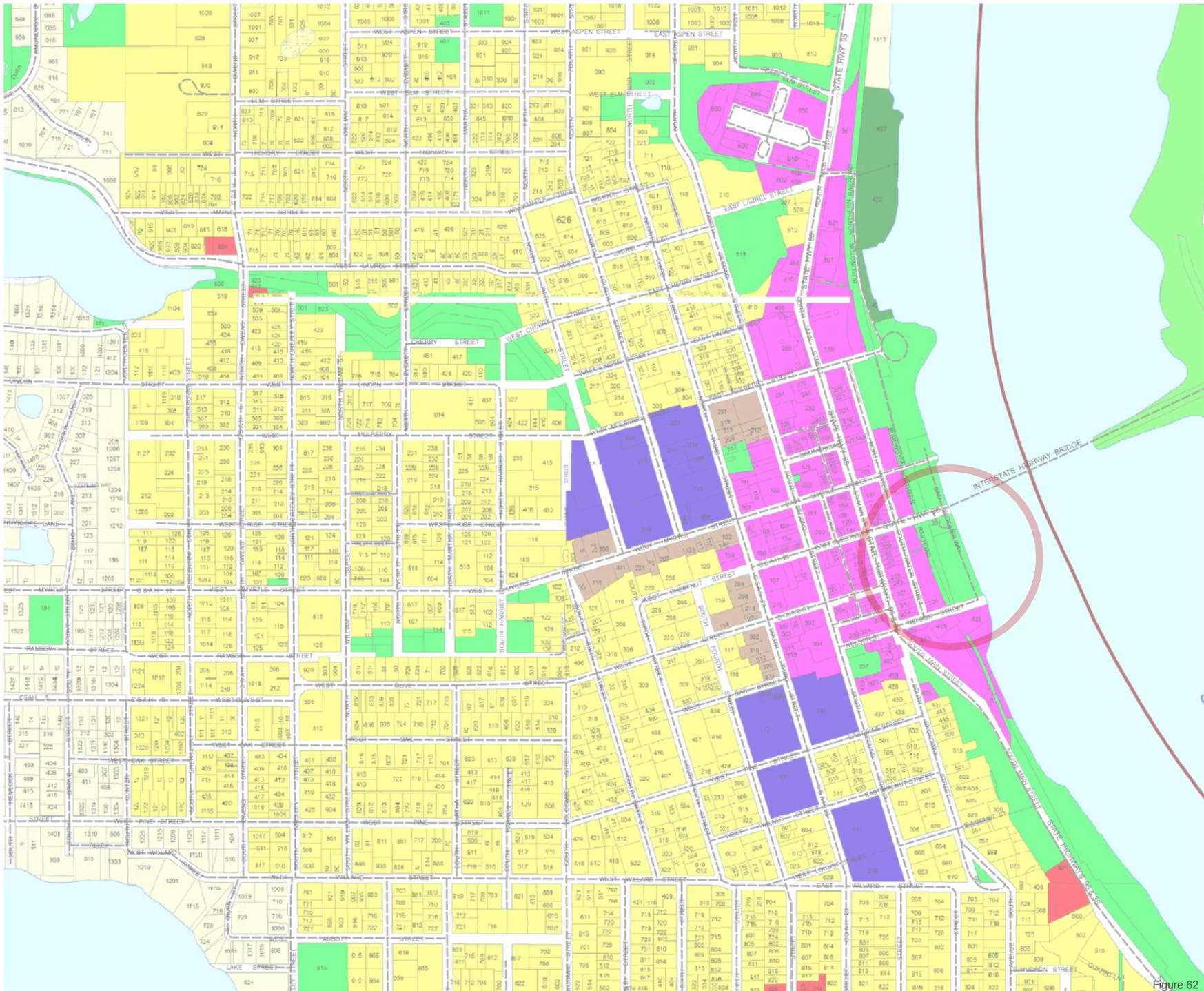


Figure 62

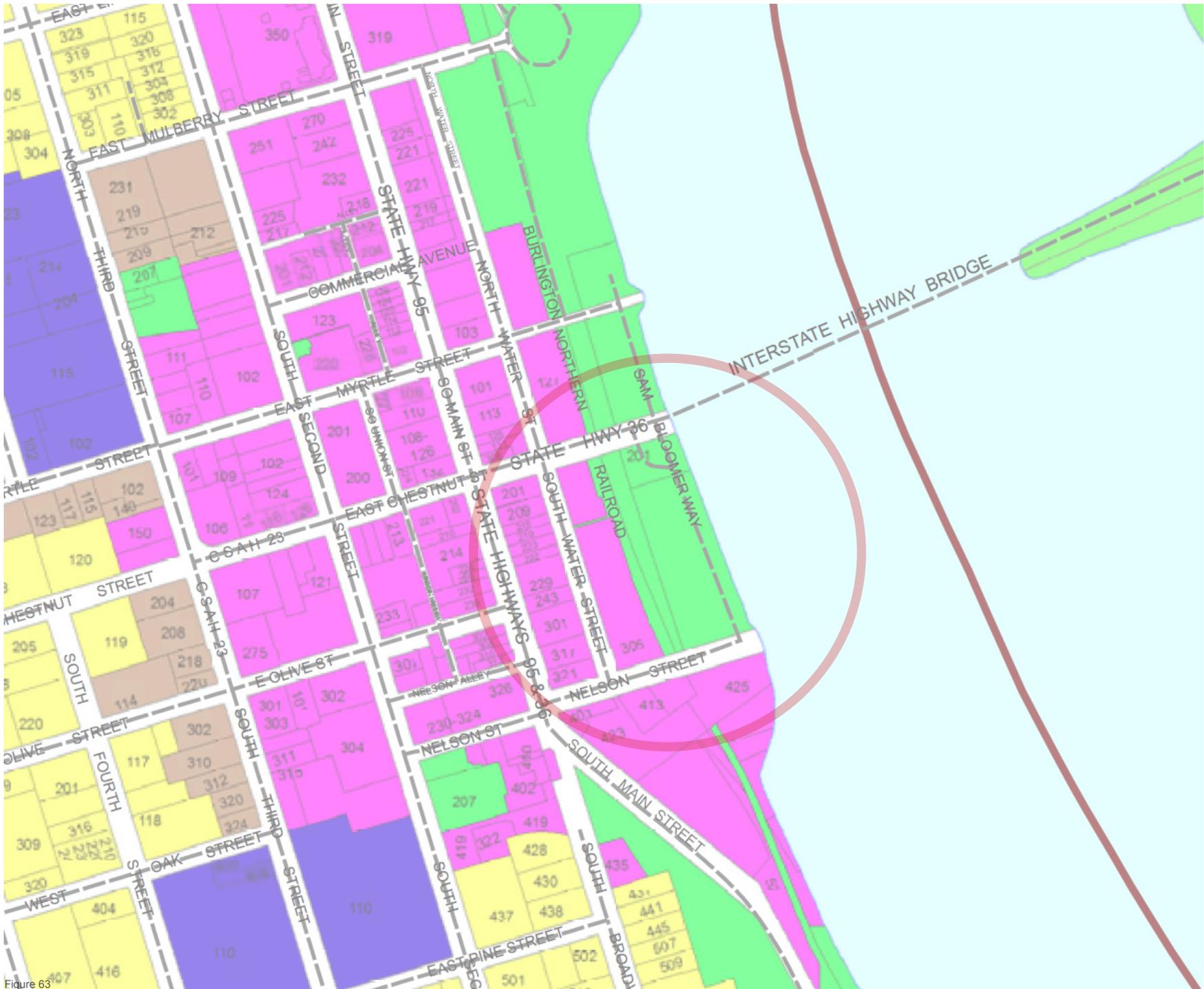


Figure 63



Figure 64

Site Information.....

Summary:

After evaluating the current capabilities and issues with the site I can determine a few main points that will need to be addressed. These points will help guide the design in a way that is effective and communicates strong architectural knowledge. The main points include:

Site Information.....

Summary:

- Soil conditions
- Water erosion control systems
- Foundation wall construction
- Micro Pier foundation system
- Existing grade changes
- Existing vegetation
- Proposed vegetation
- Site approach and context



Figure 65

Site Information.....

Summary:

These values summarize the overall ideas for the project and can be translated thru the design of the project. By utilizing my knowledge I have gain I will compose a design that reflects these current issues and ideas. All of these main points have been strongly researched to allow for a well-designed structure that meets the current needs.

The historical value of the site is very similar in nature to any small historic town across this country. By using materials, designing walkways and creating interest throughout the design will ultimately create a theoretical building plan. The current views are very special and unique, so the building must address the site lines on the site.



Figure 66

FINAL BUILDING PROGRAM

Introduction.....

This evaluation of space requirements is based off of the typological research and local research that has been conducted by myself. Based on what I have learned by researching other similar projects I will be developing a plan to create spaces that a required for a successful building. The local research will help further develop and focus my space allocation to create what is needed. Space allocation and development of design is the most important part when it comes to creating a successful design. Between these two different research types this design will incorporate all required spaces and sizing that would be needed.

There are several commonalties between all of the researched building types as well as my personal local research. By combining these two sets of ideas this thesis will aim to create a space that is designed appropriately. The current space allocation will be divided into three different categories including exterior, interior private, and interior public. Exterior spaces will be further developed in the future design process and will include a variety of different uses in different seasons. Interior spaces will be developed based on both research avenues as well as personal reference to the existing area.

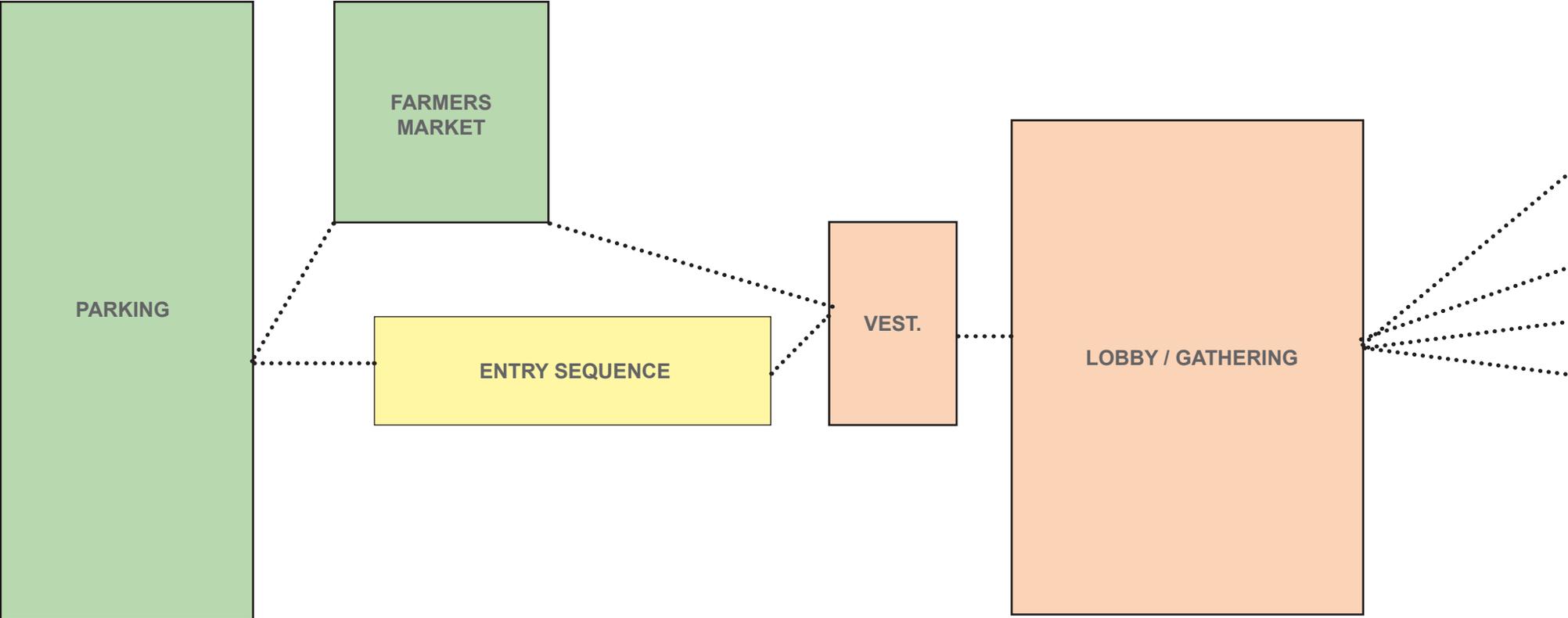
Introduction.....

Budget Overview:

This building project would be owned and rented by the City of Stillwater. However the rental and restaurant spaces would be privately owned and the City would build the building as a build to suite space. After completion of the project the restaurant and rental companies would purchase their respected spaces from the city. The overall square footage of the building will be in the 8,000 – 10,000 square foot area, which will allow for the multiple building uses. Typically the formula would be to take the square footage and multiply it by about 100 – 150 dollars per square foot. However this project needs to bring an architectural significance to the area and thus will add to that square footage pricing. I would determine the price per square foot to be around 200 – 250 dollars. So in this case the building budget would be approximately 1.6 million – 2.5 million dollars. This budget price would reflect the building cost and not the tenant improvement to the building. In this case the building tenant finishes would be budgeted at 800,00 to 1,000,000.

The overall cost of the building to be completed with all tenant space build outs and finishes could be 2.6 – 3.5 million dollars.

INTERACTION MATRIX



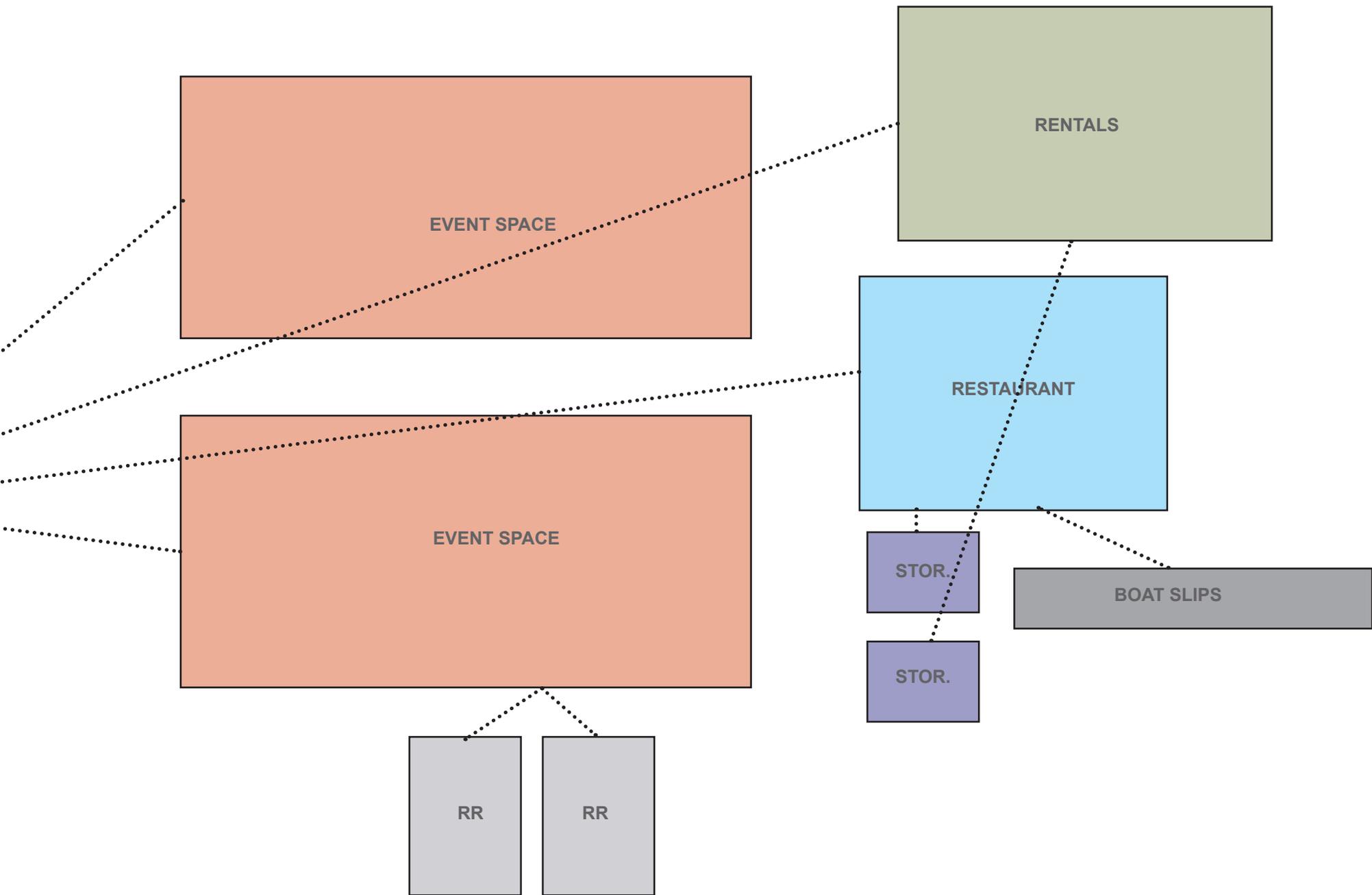




Figure 67

Exterior Spaces.....

Parking Lot:

Currently this lot is about 50% parking and 50% park (see site analysis). However the parking situation is currently lacking and this would need to be addressed by using shared parking from other local lots around the site. The parking availability will be adequately designed to accommodate this building type within the site boundaries. This may mean that some parking will need to be addressed via a ramp or similar types of parking design. With this building use there will be different levels of usage depending on the current need.

Exterior Spaces.....

Parking Lot:

Certain event times and peak hours will require a large amount of parking, however this can be addressed by sharing parking at peak times. This thesis has a emphasis on gatherings, activities, and recreation so in this case the public would be encouraged to travel to the building more sustainably. Bicycle, kayak, canoe, bus travel and other types of transportation would be strongly encouraged for all attendants. By creating parking, using shared parking, and encouraging more sustainable transportation this thesis project aims to help improve the downtown community and lessen the need for single car activity.



Figure 68

Exterior Spaces.....

Farmers Market Exterior Space Allocation:

Another emphasis to this thesis project is the integration of a farmers market. Currently the farmers market is held on the outskirts of the downtown area. For now this area works for the farmers, however it isn't centrally located within the town and therefore doesn't allow for people to localize around downtown. This thesis aims to create a space located centrally in the heart of the downtown area to allow people to travel to the building and be able to walk around all of the downtown area.

Exterior Spaces.....

Farmers Market Exterior Space Allocation:

Farmers' market space allocation will be designed to fit 25-30 trucks hauling all sorts of different fruits and vegetables. These spaces will be clearly identified using a different pavement system than the other pavement of the parking lot. The market will be designed around a central point with vendors surrounding and within the center. This will allow for a close communication between farmer and consumer that is important to the unifying idea of this project. The space will be designed to efficiently move consumers thru while maintaining a connection between the two parties.



Figure 69

Exterior Spaces.....

Exterior Amphitheater Space:

Summers can be very short especially in our climate, so it's important to create spaces that can be used specifically for this time. Gatherings and sense of community are main points in this thesis project, so it's important to carry that thru to the exterior spaces. An amphitheater will allow for large outdoor gatherings that can add to the sense of summer. Currently the city does show movies in the park in the summer time, however there isn't a dedicated space and outdoor space isn't designed for that use. This amphitheater space would be temporary, just for use in certain warmer months of the year. It will be designed to accommodate 200 – 300 guests and would have room for expansion if the need is there.

Exterior Spaces.....

Exterior Amphitheater Space:

It will be designed using a tier down system to create more interest and add to the exterior presence of the design. Another major emphasis in this thesis is the connection between land and river. This amphitheater will be designed to show the public from both land and river. The presence of the river adds another element to the exterior amphitheater and can really improve that connection. The amphitheater space along with the parking and market space will combine to create an interesting outdoor experience for everyone.



Figure 70

Interior Spaces.....

Vestibule:

There will be three main entry and exit spaces to allow for ingress and egress from the building. The multiple connections will be used to connect the land and river so the building becomes the “bridge” between these to environments. Vestibules are important to have in large gathering spaces, especially in this climate. The main entry vestibule will be designed with 3 double entry door systems on both sides of the vestibule. The added doors will allow for large groups to enter and exit with ease. The vestibules will also be designed with support spaces including coat storage (seasonal) and valet servicing. This combination of spaces and needs will allow for a seamless entry and exit point throughout the building.

Interior Spaces.....

Gathering area:

Once the entry vestibule is bypassed the user will enter a large gathering space that is used as a common connection between the different spaces. This space will also give users access to the public restrooms and other amenities. The gathering space will be approximately 1/3 of the total square footage of the building and will be a common gathering space for all building users. Lighting and natural lighting is very important to this space, so with a combination of natural and artificial lighting this space will be very welcoming. To allow constant natural lighting this space will use a series of clerestory and roof window systems. This space will also include large viewing windows to draw the user thru the space. Views of the river and views of the bridge will encourage people to stay and take in the natural surroundings as they enter.





Figure 71

Interior Spaces.....

Event Spaces:

This thesis project will define two separate event spaces with common access. Both spaces will allow for 300 guests and include access to the restaurant kitchen for catering opportunities. These event spaces can be used for all different types of gatherings including weddings, corporate meetings, smaller private gatherings and many others. Weddings are very common in the downtown area, however there is currently not a suitable wedding reception venue. This design would allow for weddings to take place in a local downtown church and the reception could be held at the event space.

Interior Spaces.....

Event Spaces:

Stillwater is close to several different large cooperate businesses including Anderson windows, 3M, Inimattion, Washington County government center and other large scale businesses. This design would attract businesses to rent these even spaces and use the water access as well. Currently Anderson Windows and 3M have yachts on the river located just North of the building site. By using this building these businesses could have their events and yachts in the same place and produce more relationships thru the connection.



Figure 72

Interior Spaces.....

Restaurant Space:

Currently Stillwater has a need for casual and semi formal dining services on the river. Since there is no public boating access to the downtown area this project aims to create a connection to the land, which can lead to restaurant opportunities. The restaurant space will have seating for 100 guests and be open to boaters and all other people. The roof deck would add another element of serving (see roof deck description). The restaurant is designed for smaller groups of people and would reflect the overall design of the building while respecting the historical context of the site. The space will be designed for casual and semi formal dining for lunch and dinner and will create a common relationship between the event spaces. With the combination of land, river and roof this restaurant would add to the overall sense of community this project aims to create.

Interior Spaces.....

Roof Deck:

This roof deck would allow the users to access the roof via a roof penthouse on the third floor. The design will allow for separate roof decks to separate the restaurant spaces from the common public spaces. The restaurant will have access to serve individuals on the roof and have bar service as well. While maintaining public and private spaces the roof could be rented out for certain gatherings and provide excellent views of the surrounding area. By using a mixture of concrete pavers and green roof sections this deck will provide interest and encourage users to stay and visit. The roof design will be developed using the combination in certain locations to provide user access and create a sustainable roofing system. The paver system will be set atop the roof membrane and leveled using a roof system leveler. Each paver will be placed and can be replaced with ease in case of damage. The green roof system will consist of roofing membranes and a series of trays and perimeter rock edges. The roof deck will ultimately give people another gathering area as well as incredible views of the surrounding river and downtown area.





Figure 73

Interior Spaces.....

Rental Area:

This space will be located on the ground level of the building and use a relatively large space. The rental service area will provide the user with the ability to rent all different types of equipment. Rentals will include boats, kayaks, canoes, paddleboards, bicycles, and winter rentals like skis, and snow shoes. All equipment that is rented will be used as a way of continuing the effort to provide access to healthy and fit lifestyles. Rentals will continue to emphasize the connection between land and river while maintaining a sustainable approach to living.

Interior Spaces.....

Boating Slips:

Currently Stillwater has four different marinas that offer a large variety of applications. The need for this project is to provide a place for boaters to park for a period of time and explore the downtown area. The boat slips will only e used for temporary use and will encourage boating enthusiast to explore the area rather than just pass thru the town via the river.



Figure 74

Interior Spaces.....

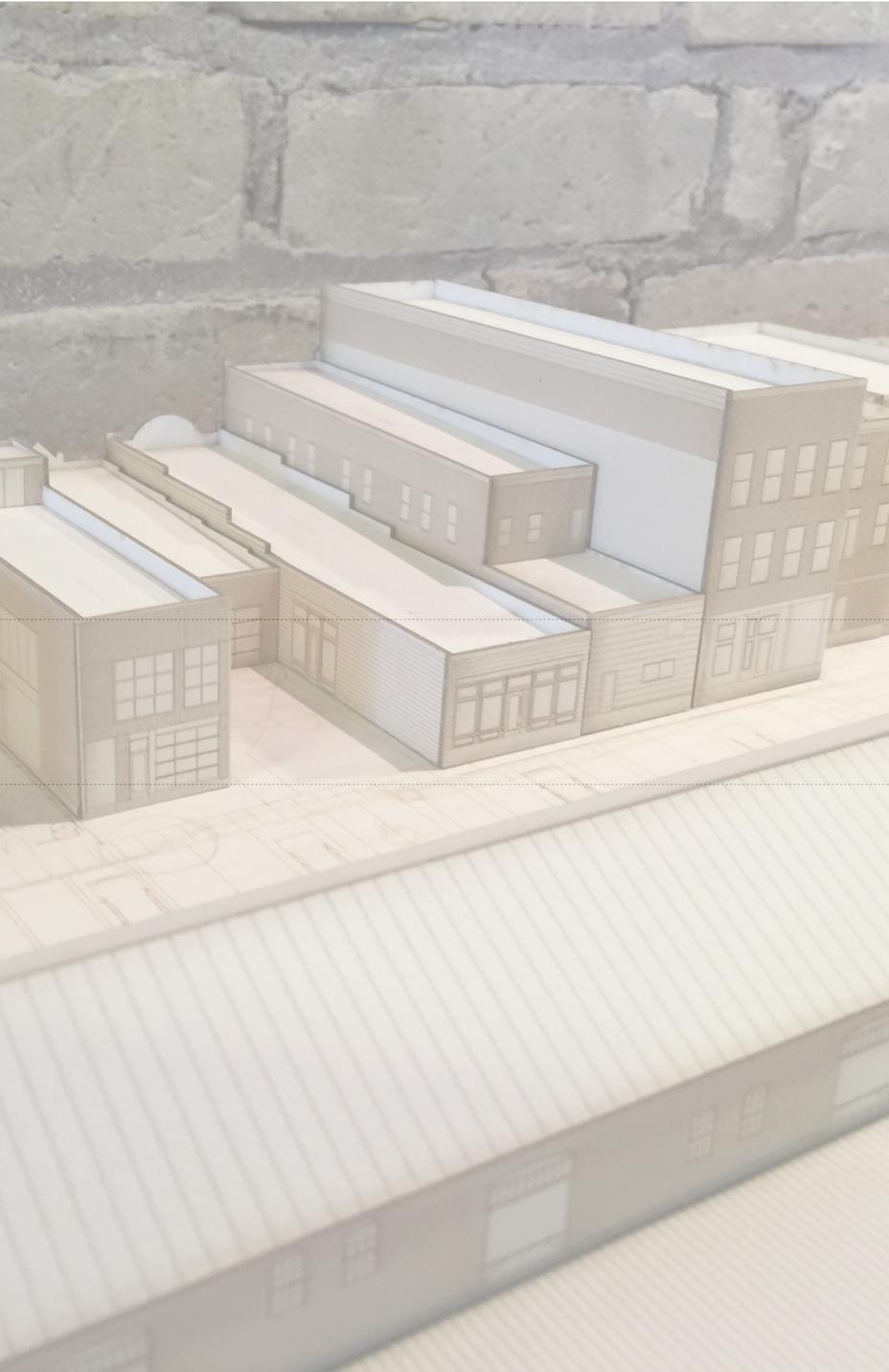
Restroom Facility:

The restroom facility will be designed to accommodate for public use and other uses like the restaurant. The restaurant will have separate restroom facilities that will accommodate all restaurant guests. These spaces will reflect the exterior design and will be provided with day lighting by the use of semi translucent glass. This glass system will only allow for natural light and no viewing, the system placed above all equipment in all restroom spaces. This will allow for privacy and natural light while still adding to overall exterior design. All fixtures will utilize a low flow system to limit the use of water being used. The fixtures will also be completely automated so that there is no need for touching anything. Water fountains will also be provided outside of the restroom facility and allow for people to fill any water bottle. Access to the restroom facilities will be determined by the overall hours of the building and be secured at those times.

Interior Spaces.....

Storage:

Storage is necessary for several different building functions. The storage spaces will house all event space furniture, different rentable items and all restaurant storage. These storage spaces will be controlled by user access and will have a secure passage to them. All storage spaces will provide adequate space to accommodate the necessary items. Janitor and mechanical spaces will also be housed in similar conditions as the storage spaces. The janitor closet will contain all necessary cleaning items and have enough space to store those items. The mechanical space will house all mechanical related fixtures and provide adequate space to accommodate large equipment.

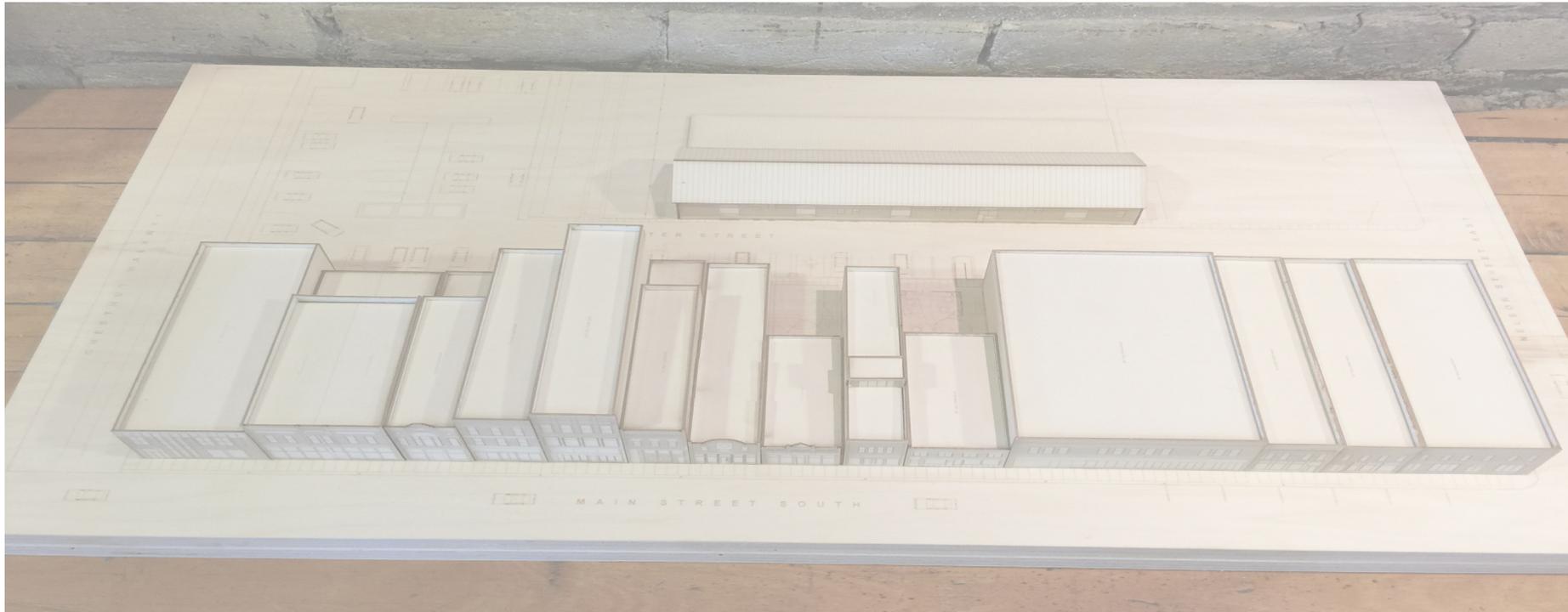


FINAL REVIEW AND PROCESS





PROCESS DOCUMENTATION



Process.....

I began with discovering the site plan for my site and using this as a tool to create the footprint of the building. By using the existing site I discovered that the site could be designed to allow for a more comprehensive idea. Using the existing grid from the buildings on Main Street I created the overall footprint and layout for the separate buildings.

Using the site as a guideline I modified the existing site around my site to create a better flowing space. This space allows for vehicles and pedestrian walkways.

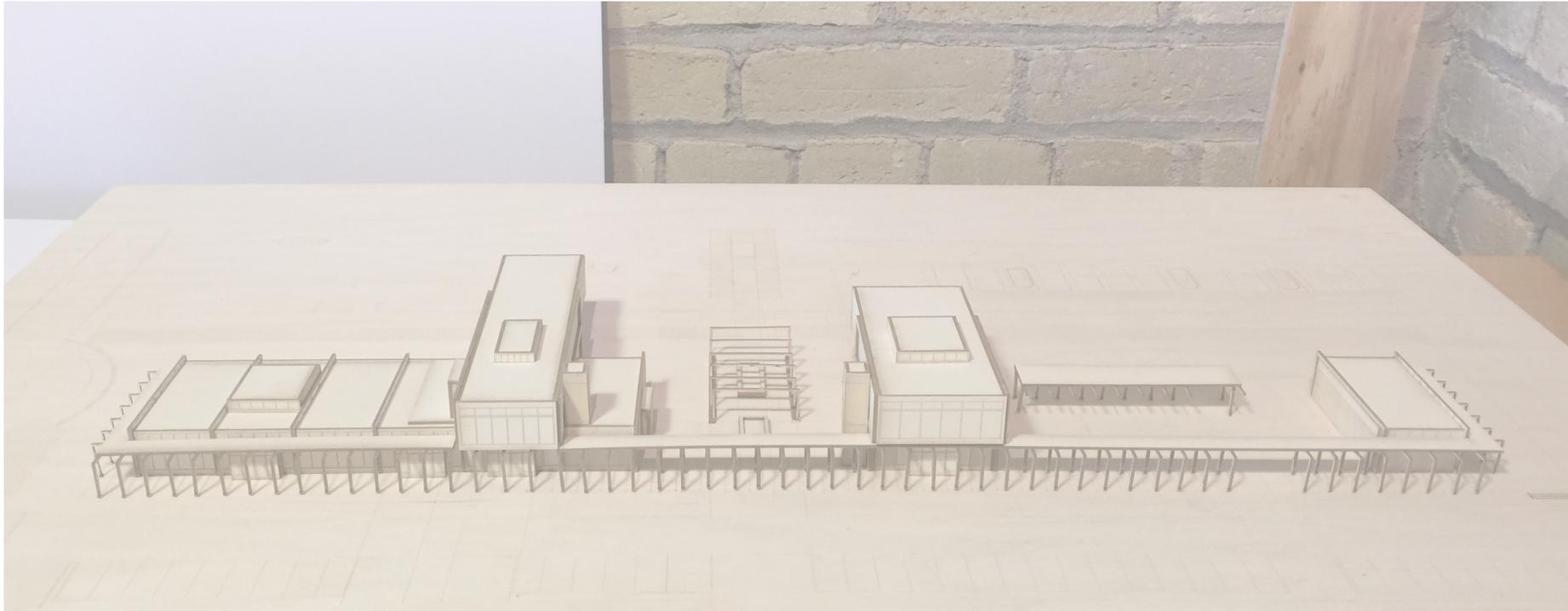
Process.....

The process also continued from several site visits that I did over the past 4 months. To see the site in different weather and seasons is very important to me. As I discovered any design that would be created for this site would be there for a long time and needs to be treated well. I decided to stick with existing materials from around the area to minimize the effects of the changing weather.





PROJECT SOLUTION



Project Solution.....

To solve the problems in the area I looked at what I had discovered initially and worked with my form to create a solution. The main problems were that there is currently nowhere to house large-scale event, there is a lack of community space and Lowell park is a under utilized area. So I created the spaces to accommodate all of the issues. I added a better connection to the water and to the town.

Project Solution.....

The combination of the connection between land and water and community creates an interesting form and leads to numerous possibilities. Overall this thesis really addresses the issues at hand and continues to show what can be done with this particular site.





PERFORMANCE RESEARCH



Performance Research.....

In my research I found the example of Palladio's Basilica in Italy. This project features a front Loggia style covered area around the entire existing structure. The loggia acts as a common walkway area that can be a nice buffer between the public outdoor spaces to the more private interior space. This style of architecture was very common in the middle ages and has since been forgotten. I feel as if I was able to recreate this type of architecture in my own thesis design.

Performance Research.....

Other influences came from local culture and architecture that I had noticed along my travels. I really wanted to create a building that talks with the existing site and existing buildings alike.





PERFORMANCE GOALS



Goals.....

I feel as if I was able to meet all of my goals and meet the comprehensive requirement for the thesis. I began with the site then moved into the program requirements, which lead me to discovering the true form of the building. Mixing historical value and proper scale and composition I created an overall design that meet my program and spatial needs.

Goals.....

Working with my studio professor and other faculty members I learned how to incorporate my ideas into a real design that reflects what I have been thinking about. After the physical model was created I was able to talk with others about what they thought and received great feedback to improve my design.

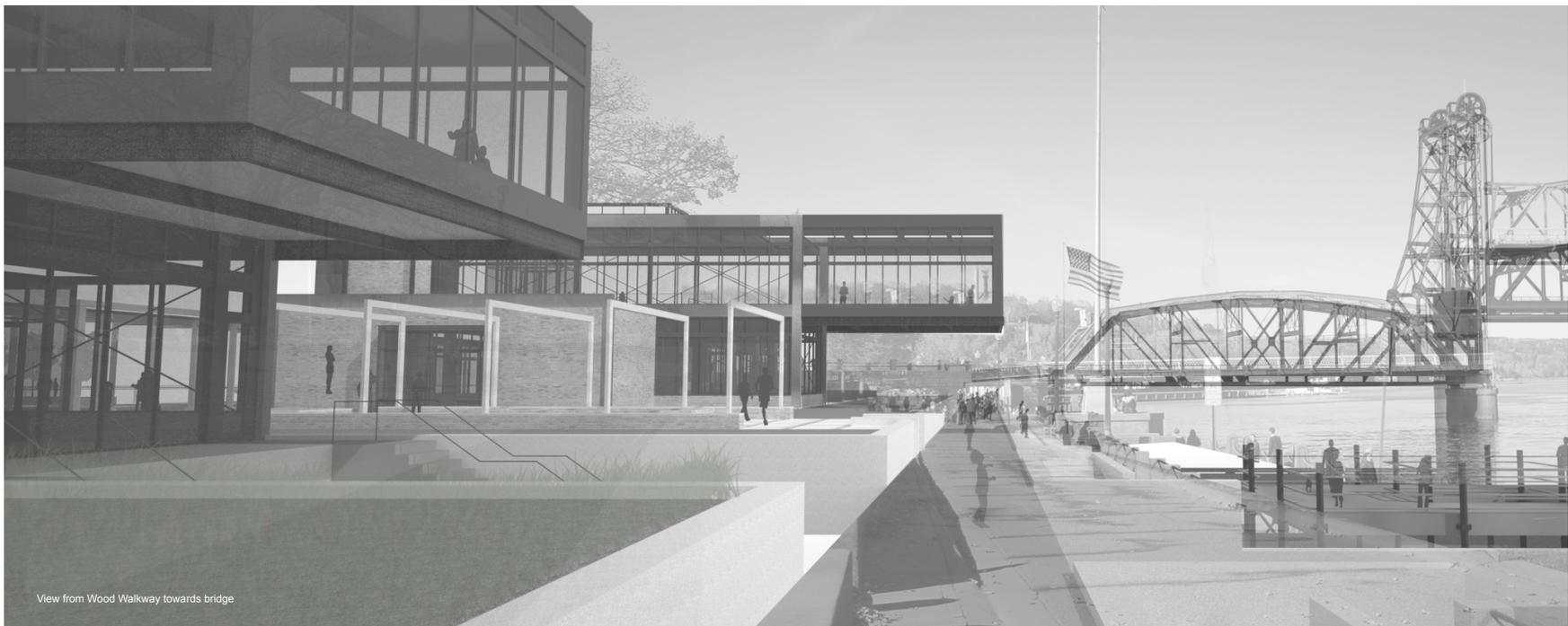


DIGITAL PRESENTATION

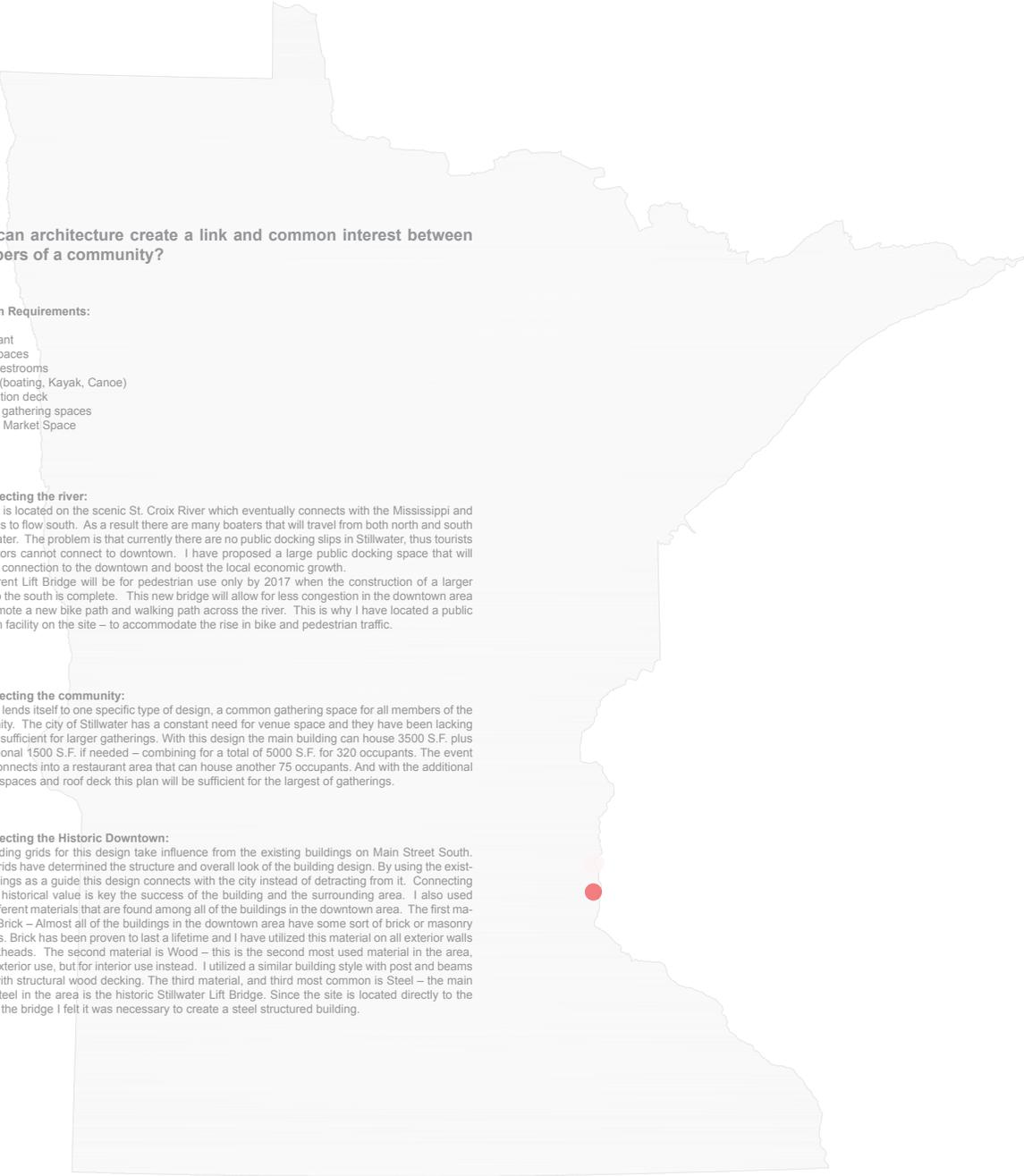




View from North West Corner



View from Wood Walkway towards bridge



How can architecture create a link and common interest between members of a community?

Program Requirements:

Restaurant
Event Spaces
Public Restrooms
Rentals (boating, Kayak, Canoe)
Observation deck
Outdoor gathering spaces
Farmers Market Space

Reconnecting the river:

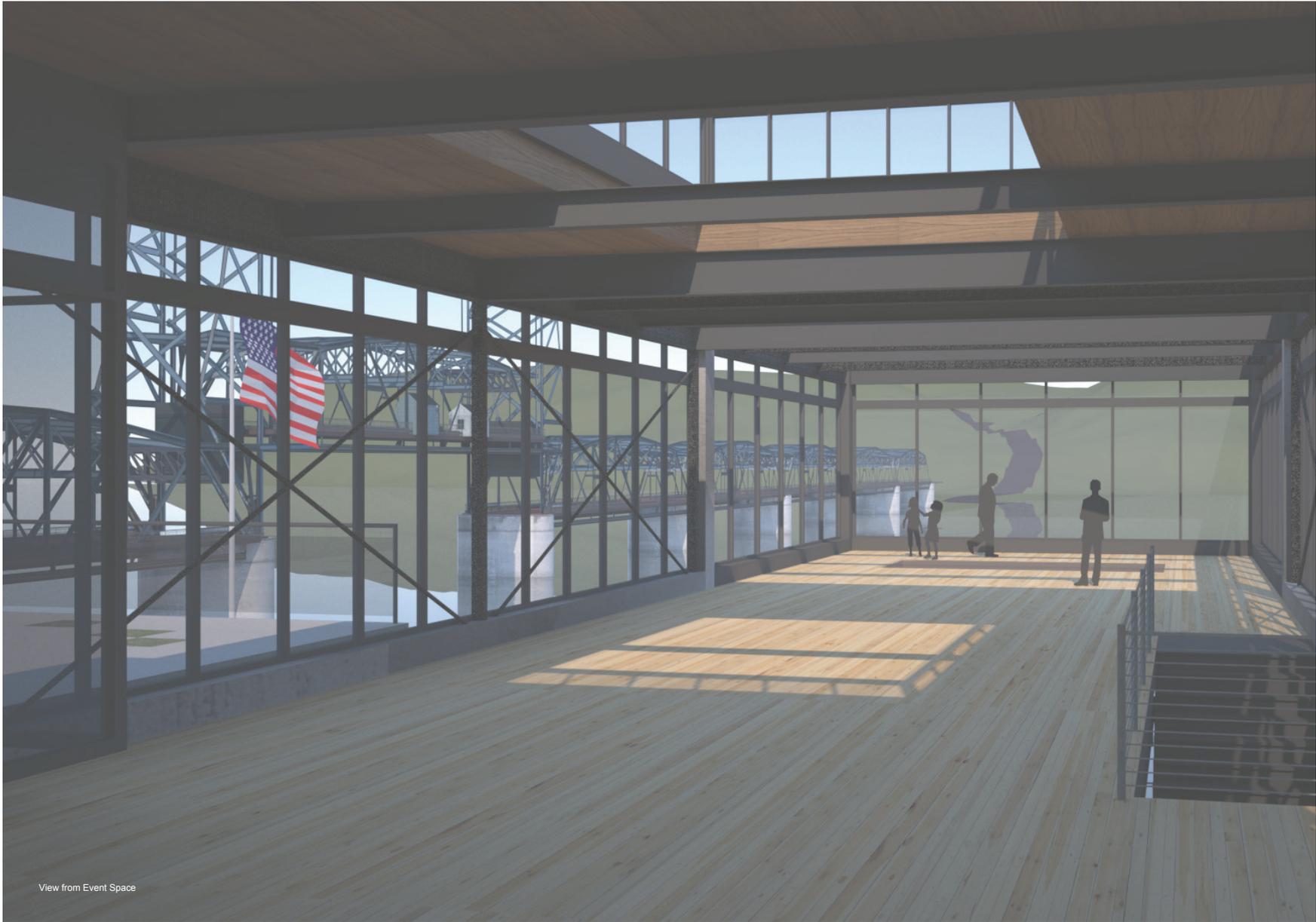
This site is located on the scenic St. Croix River which eventually connects with the Mississippi and continues to flow south. As a result there are many boaters that will travel from both north and south of Stillwater. The problem is that currently there are no public docking slips in Stillwater, thus tourists and visitors cannot connect to downtown. I have proposed a large public docking space that will create a connection to the downtown and boost the local economic growth. The current Lift Bridge will be for pedestrian use only by 2017 when the construction of a larger bridge to the south is complete. This new bridge will allow for less congestion in the downtown area and promote a new bike path and walking path across the river. This is why I have located a public restroom facility on the site – to accommodate the rise in bike and pedestrian traffic.

Reconnecting the community:

This site lends itself to one specific type of design, a common gathering space for all members of the community. The city of Stillwater has a constant need for venue space and they have been lacking a space sufficient for larger gatherings. With this design the main building can house 3500 S.F. plus an additional 1500 S.F. if needed – combining for a total of 5000 S.F. for 320 occupants. The event space connects into a restaurant area that can house another 75 occupants. And with the additional outdoor spaces and roof deck this plan will be sufficient for the largest of gatherings.

Reconnecting the Historic Downtown:

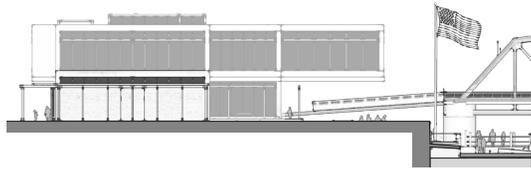
The building grids for this design take influence from the existing buildings on Main Street South. These grids have determined the structure and overall look of the building design. By using the existing buildings as a guide this design connects with the city instead of detracting from it. Connecting with the historical value is key the success of the building and the surrounding area. I also used three different materials that are found among all of the buildings in the downtown area. The first material is Brick – Almost all of the buildings in the downtown area have some sort of brick or masonry materials. Brick has been proven to last a lifetime and I have utilized this material on all exterior walls and bulkheads. The second material is Wood – this is the second most used material in the area, not for exterior use, but for interior use instead. I utilized a similar building style with post and beams (steel) with structural wood decking. The third material, and third most common is Steel – the main use of steel in the area is the historic Stillwater Lift Bridge. Since the site is located directly to the south of the bridge I felt it was necessary to create a steel structured building.



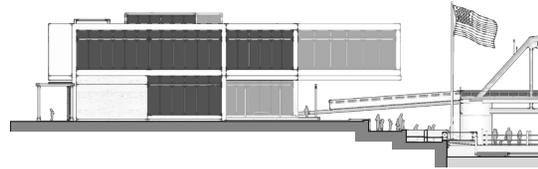
View from Event Space

Stillwater Community Center

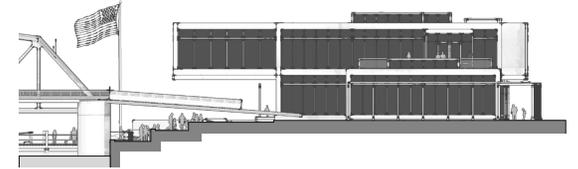
Proposed Community Center For Stillwater Minnesota
Thesis By: Matt Hoefler
Thesis Advisor: Regin Schwaen
May 2015
ARCH 772



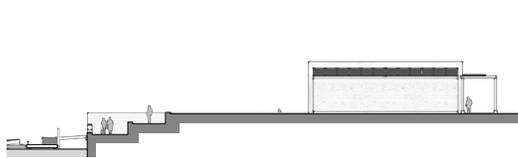
Exterior Elevation - Public Restroom - South
Scale: 1" = 20'-0"



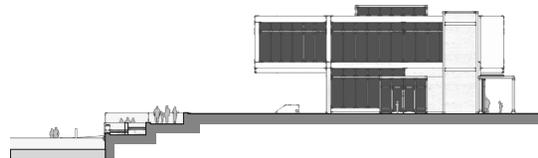
Exterior Elevation - Rental Building - South
Scale: 1" = 20'-0"



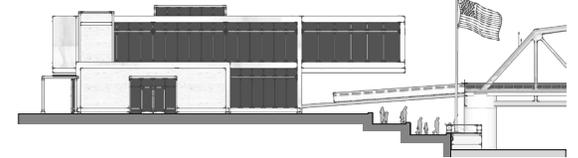
Exterior Elevation - Main Building - North
Scale: 1" = 20'-0"



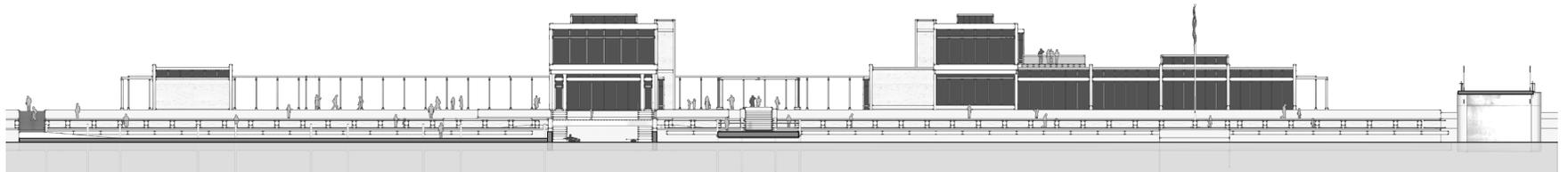
Exterior Elevation - Public Restroom - North
Scale: 1" = 20'-0"



Exterior Elevation - Rental Building - North
Scale: 1" = 20'-0"



Exterior Elevation - Main Building - South
Scale: 1" = 20'-0"



Exterior Elevation - West
Scale: 1" = 20'-0"



Exterior Elevation - East
Scale: 1" = 20'-0"

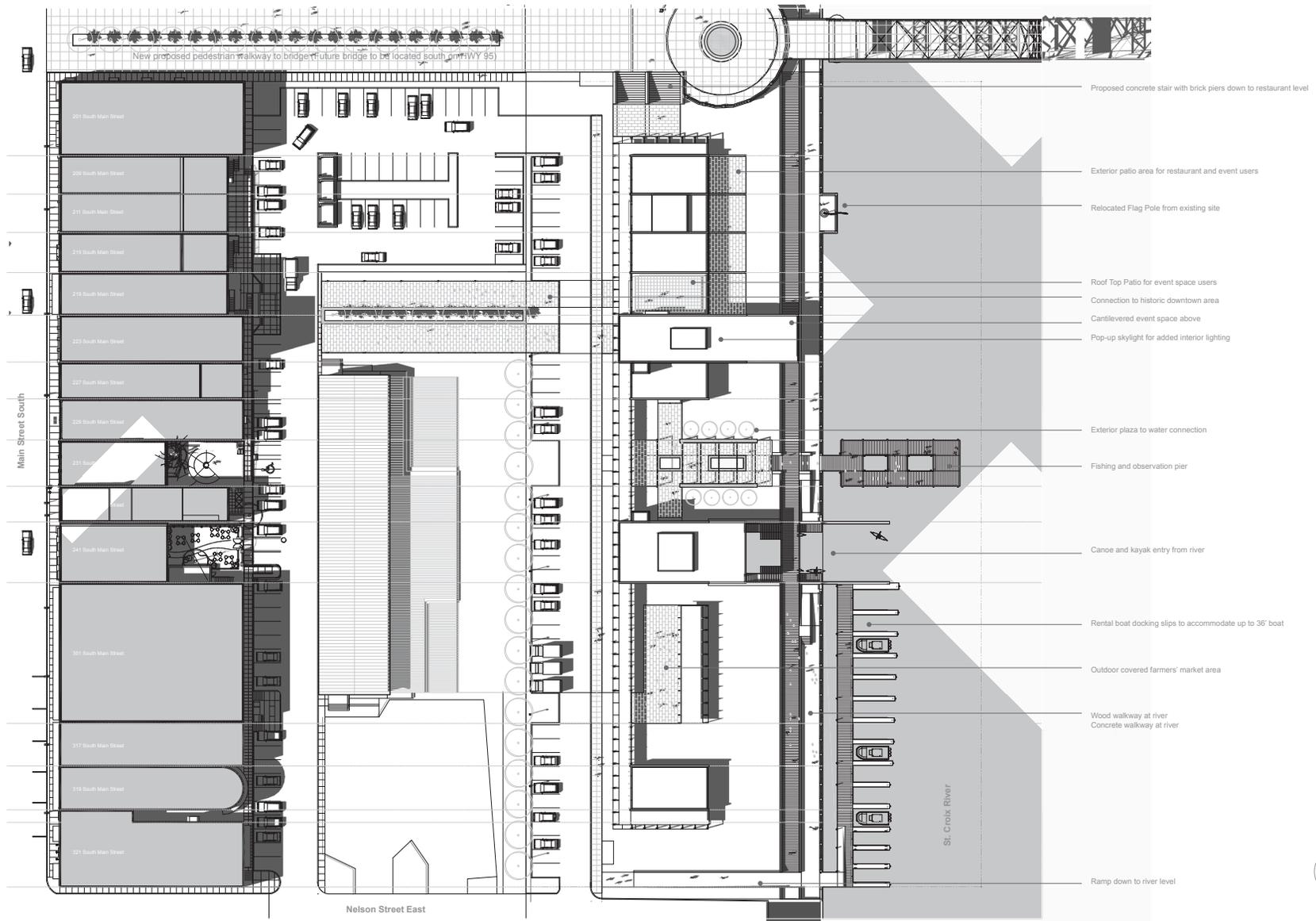


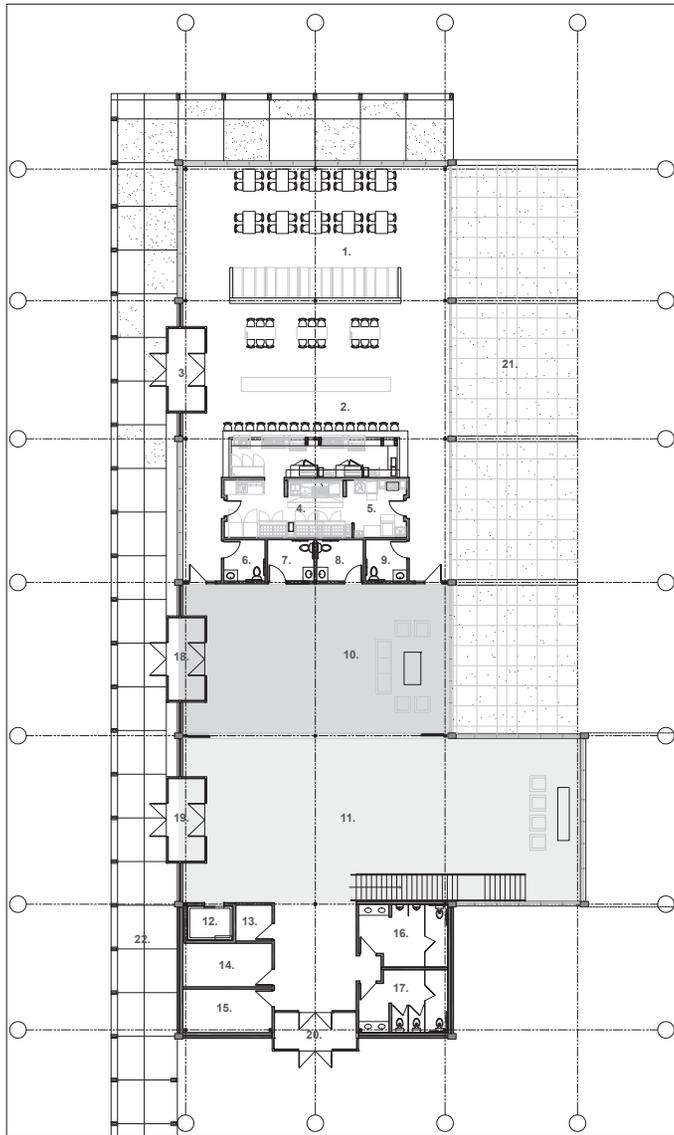


Overhead View from South West Corner

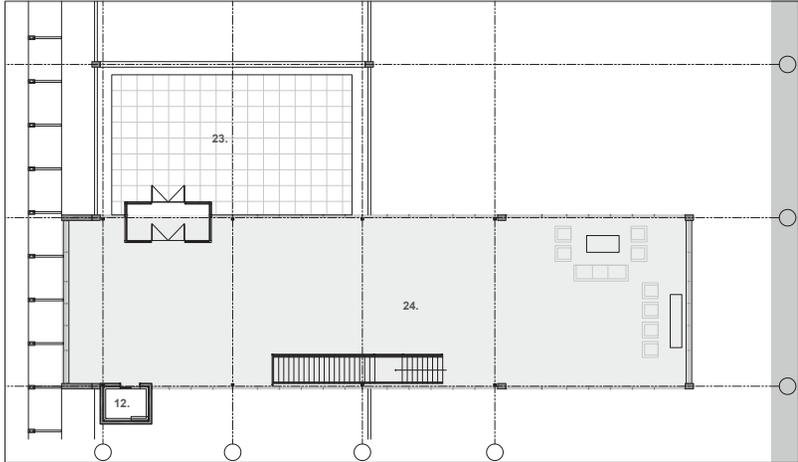


View from Farmers Market Area





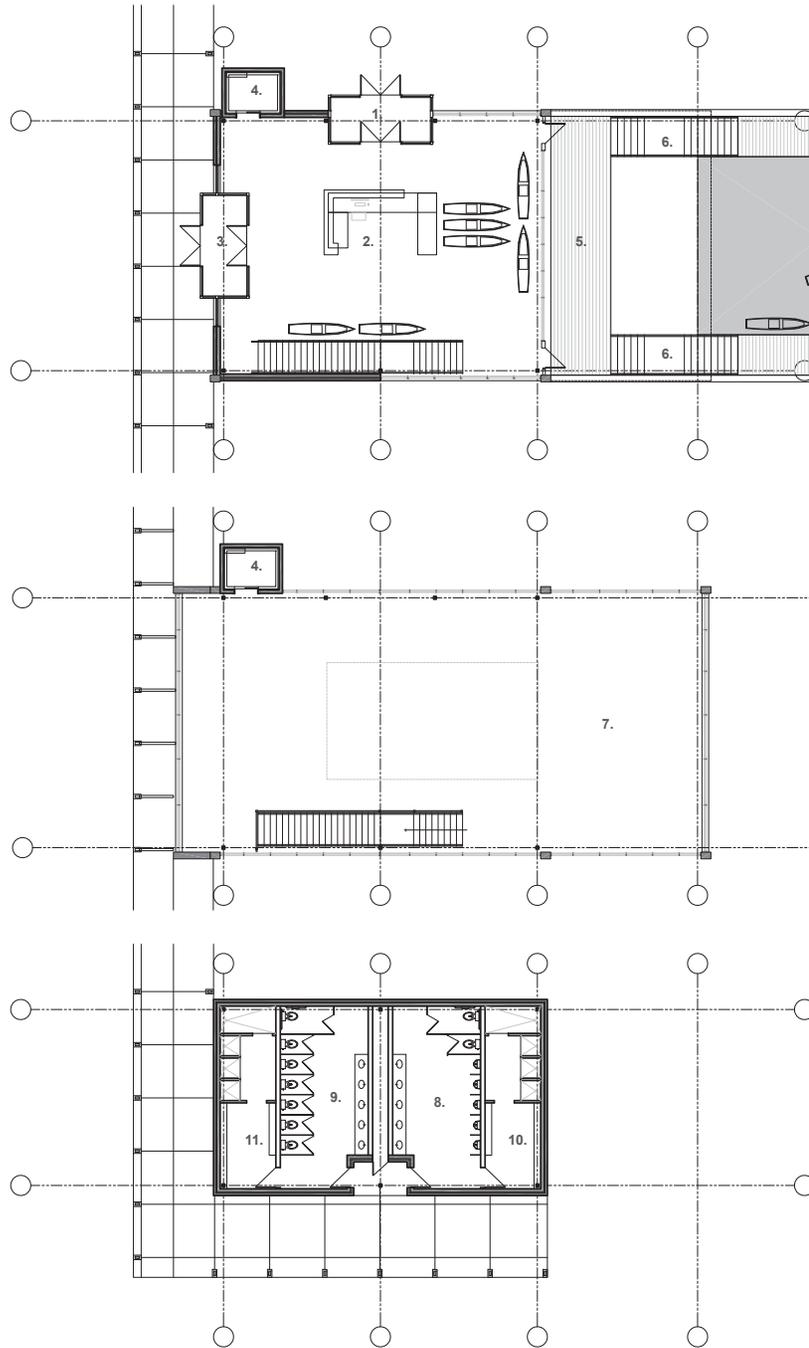
- 1. Dining Area
- 2. Bar Area
- 3. Entry Vestibule
- 4. Kitchen Area
- 5. Dish Area
- 6. Restroom
- 7. Restroom
- 8. Restroom
- 9. Restroom
- 10. Event Space 1 / multipurpose
- 11. Event Space 2 / multipurpose
- 12. Elevator
- 13. Mech.
- 14. Storage / multipurpose
- 15. Storage / multipurpose
- 16. Men's Restroom
- 17. Women's Restroom
- 18. Entry Vestibule
- 19. Entry Vestibule
- 20. Entry Vestibule
- 21. Patio Area
- 22. Covered Walkway
- 23. Roof Top Deck
- 24. Event Space 3 / Viewing Area



Upper Level Floor Plan - Main Building
Scale: 1/2" = 1'-0"

Main Level Floor Plan - Main Building
Scale: 1/2" = 1'-0"





1. Entry Vestibule
2. Rental Desk Area
3. Entry Vestibule
4. Elevator
5. Exterior Deck
6. Exterior Stair to River
7. Viewing Space and Retail
8. Mens Public Restroom
9. Womens Public Restroom
10. Locker room / showers
11. Locker room / showers

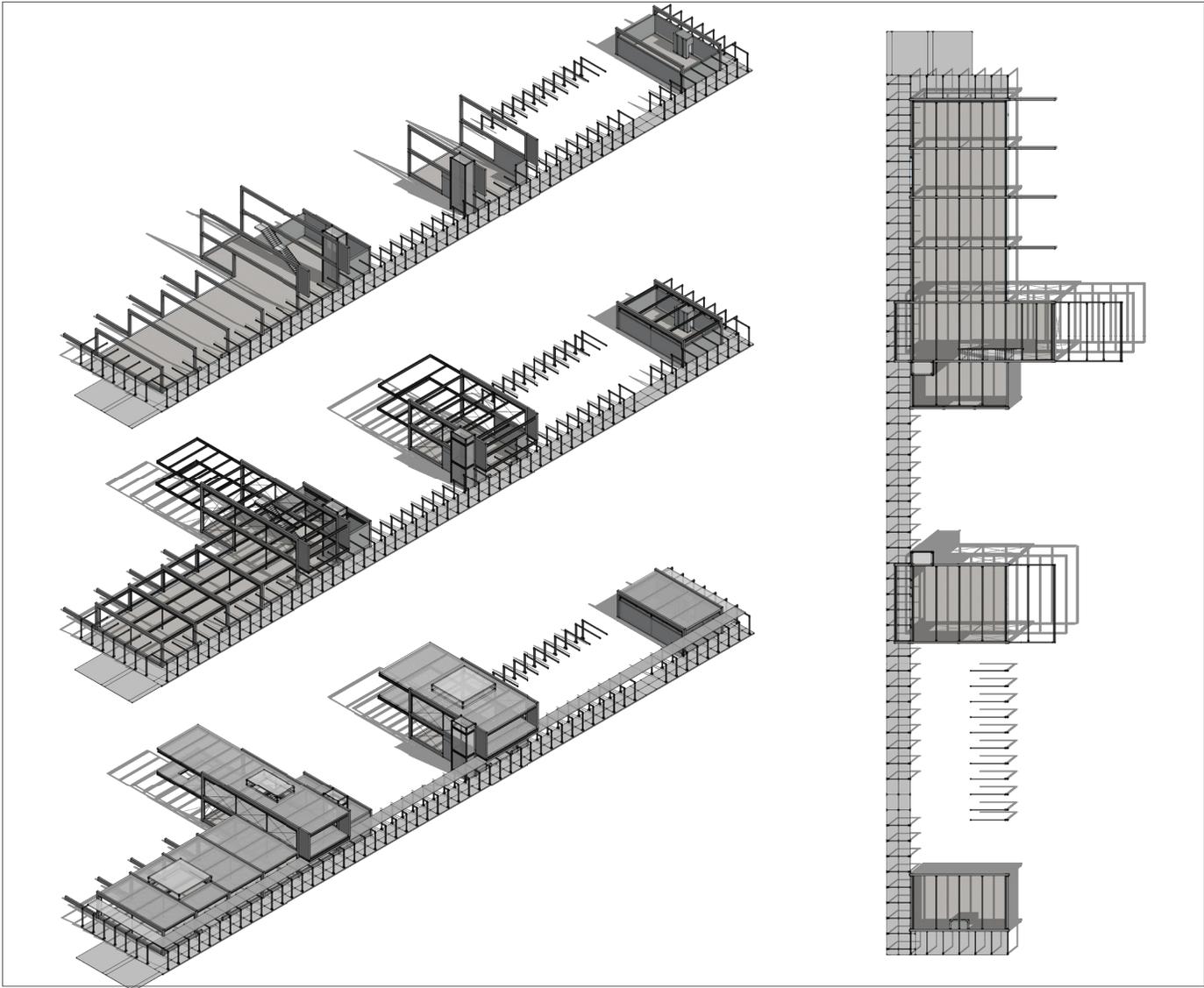




View from Restaurant



Section Thru Event Space



Structural Components Notes and Description

The Design utilizes three different materials:

- Brick
- Wood
- Steel

These materials are common to the area and will create a connection between buildings and material choices.

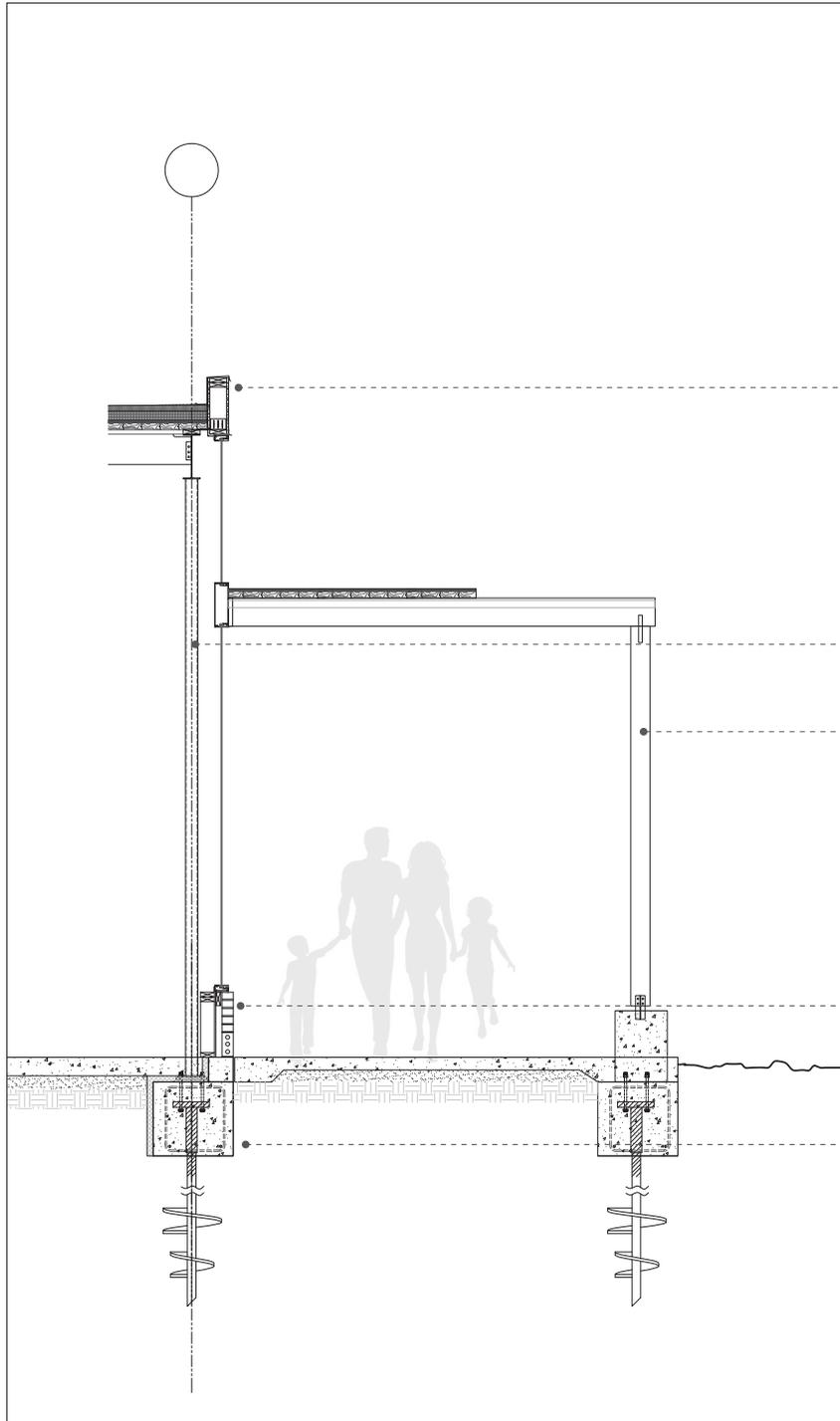
The structure for the three buildings utilized 6" steel tube columns center on grid with Steel Wide Flanged beams that carry the loads to the columns. The perimeter and main Wide flanges are located on the centerlines of the grids. The perimeter and main beams are W18x65 with the combination of W14x60 purlin beams that transfer the load between the beams.

Above the steel structure, of steel tubes and wide flanges, sits the 4" structural wood decking. This wood decking is keeping with a traditional building method that has been used throughout the 1900's. The decking spans 8' from purlin to purlin and is attached with a nailing strip above the beam.

To connect the wall with the structure I utilized a slip connection that connects the wall to the steel beams. This connection allows the structure and the wall to slide against each other when the steel beams deflect.

The covered walkway uses both concrete grade beams and wood structure to create the design. Starting from the bottom the helical piers stretch up to 60 feet into the earth and connect to the concrete grade beams above. The structural wood timbers connect to the concrete piers and to a header located in the exterior wall. This system also uses structural wood decking for the roof along with a roofing membrane.





Typical Wall Section Detail Notes

Typical Parapet and Roof Construction

Metal panel above all window openings
 1/2" exterior sheathing
 2x6 wood studs spaced 16" o.c.
 Spray foam insulation
 Slip connectors at every other stud
 5/8" sheathing

3" Structural wood decking
 3/4" roof sheathing
 4" rigid insulation R20 value
 3" sloped insulation R15 value
 EPDM roofing membrane and cap flashings

Typical Structural Frame Construction

5" Steel Tube column
 W18x60 perimeter and bearing beam
 W14x55 purlin support beams at deck

Typical Covered Walkway

4x8 wood posts at 8'-0" o.c. typ.
 4x8 wood joists at 8'-0" o.c. typ.
 3" structural wood decking with
 3/4" roof sheathing
 1" sloped insulation
 Steel tube at building to attach

Typical Wall Construction

5/8" Gyp. board.
 2x6 wood studs @ 16" o.c.
 1/2" plywood with building wrap
 2" Air space
 modular brick running bond

Typical Grade Beam Construction

2" Rigid Insulation @ perimeter typ.
 2'-0" x 2'-0" Concrete Grade Beam with rebar
 Waterproofing @ Perimeter
 4" Diameter Helical Piers at 10' o.c.
 Helical Piers to be set at bedrock 40' - 80'

Proposed Community Center For Stillwater Minnesota
 Thesis By: Matt Hoefler
 Thesis Advisor: Regin Schwaen
 ARCH 772
 Software Used: SketchUp, Autocad, Photoshop,
 Illustrator, Maxwell Render, Lumion 3D



Stillwater Community Center





Figure 22

PERSONAL IDENTIFICATION

PERSONAL IDENTIFICATION

Name.....Matt Hoefler

Address.....13987 Ozark Avenue North
Stillwater, MN 55082

Email.....matt@hafarchitects.com

Hometown.....Stillwater, Minnesota

Quote about NDSU: NDSU has been a very interesting experience to say the least.

STILLWATER COMMUNITY CENTER

A THESIS PROPOSAL FOR STILLWATER MINNESOTA - LOWELL PARK SOUTH

Matthew M. Hoefler